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Billie H. Hix
BILLIE H. HIX
Chief, Technical Systems Branch
The Albert F. Simpson Historical
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CONAD / NORAD

HISTORICAL SUMMARY

(UNCLASSIFIED)

JULY - DECEMBER 1957

VOLUME II

SUPPORTING DOCUMENTS

48 Through 98

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RM-58-4932

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11 OCT 57

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DE RJEDEV JC
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ACTION: 10710
INFO: 1700P
RTW/17-11906

FM CINCAL ELIENDORF AFB ALASKA ✓
TO RJEDEV/CINCNORAD ENT AFB COLORADO
INFO ZEN/CG USARAL FT RICH ALASKA
ZEN/COMNAHC ELIENDORF AFB AL

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ZEN/CG USARAL FORT RICHARDSON ALASKA
ZEN/COMAAC ELMENDORF AFB ALASKA
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ACTION: NOOPR
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NOELC
SUSPENSE: 18 OCT 1957
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Doc

UNCLASSIFIED FROM OPN 5348 SUBJECT IS COLOCATED ADDC-AAOC'S (JOINT DIRECTION CENTERS). TARGET OPERATIONAL DATE FOR FAIRBANKS AREA JOINT DIRECTION CENTER AT MURPHY DOME WILL BE OCTOBER 1958 PROVIDED JCS APPROVE ADDC-AAOC COLOCATION THERE. CINCAL HAS RECENTLY RECOMMENDED TO YOU THAT FIRE ISLAND BECOME THE ANCHORAGE AREA JOINT DIRECTION CENTER, ALSO WITH OCTOBER 1958 OPERATIONAL DATE. THIS DATE WAS SELECTED TO COINCIDE WITH EXPECTED OPERATIONAL DATE OF NIKE BATTALIONS IN ALASKA SO THAT COMMUNICATIONS BETWEEN NIKE UNITS AND JOINT DIRECTION CENTERS CAN BE PLANNED AND CONSTRUCTED IN FINAL FORM, COMPATIBLE WITH SEMIAUTOMATIC ENVIRONMENT, AND THUS ELIMINATE NEED FOR EXPENSIVE

PAGE TWO RJKDAG SC
TEMPORARY NETWORKS. IN ORDER THAT COMMUNICATION SUPPORT ITEMS MAY BE FUNDED IN THE CURRENT FISCAL YEAR AND CONTRACTS NEGOTIATED, YOUR AND JCS APPROVAL IS URGENTLY NEEDED NOW FOR MURPHY DOME AND FIRE ISLAND JOINT DIRECTION CENTERS. ARMY CHIEF SIGNAL OFFICER HAS INSTRUCTED CG USARAL THAT DETAILED SPECIFICATIONS FOR NIKE COMMUNICATIONS MUST BE SUBMITTED BY 1 NOV 57 TO MEET OCTOBER 1958 OPERATIONAL DATE.

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16/320Z OCT RJKDAG

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CONAD HIST FILE

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JOINT MESSAGEFORM SECURITY CLASS UNCLASSIFIED **50**

CONAD HIST FILE SPACE BELOW RESERVED FOR COMMUNICATION CENTER

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PRECEDENCE	TYPE MBG (Circs)	ACCOUNTING SYMBOL	ORIG OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION: ROUTINE	BOOK MULTI SINGLE			
INFO: ROUTINE				
FROM: CINCRAD	X	AF	X	

TO: Chief of Staff, USAF, WASH D C

INFO: CINCAL EMBERDORF AFB ALASKA

FROM: COOPR X 005

SPECIAL INSTRUCTIONS

A PARAPHRASE NOT REQUIRED EXCEPT FROM TO CATEGORY B EN RYPTION - PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE AND GROUP PRIOR TO DECLASSIFICATION

Chief of Staff, USAF, as Executive Agent for NORAD. Reference Part two of my SECRET message COOPR X-041, 9 Sep. This message in two parts. Part one. CINCAL recommends colocation of AAOC-ADDC at Fire Island for Anchorage Area, based on budgetary limitations. Fire Island will provide satisfactory operations though other sites surveyed are considered operationally preferable. The preferred sites, however, would require funds which are not now available or likely to become available. Part two. Recommend that the Joint Chiefs of Staff approve colocation of ADDC-AAOC at Fire Island for Anchorage Area. CINCAL has requested approval be expedited to permit utilization of currently available funds. Target date of operation of Fire Island and Murphy Dome Joint Direction Centers is 1 Oct 58.

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OCT	1957

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NR. OF PAGES: []

TYPED (or stamped) NAME AND TITLE: **R. E. GARVEY, JR.**
Major, USA
Asst Adjutant

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MEMORANDUM FOR RECORD:

1. CINCAL has previously notified this headquarters that a site selection survey for collocating the ADDC-AAOC in the Anchorage Area was expected to be completed by 1 October 1957 and recommendations would be made by 5 October 1957 (CINCAL message OPN 5222).
2. CONAD message COOPR X-041 informed the Executive Agent on the status of the Anchorage area site for colocation.
3. CINCAL message OPN 5346 makes the recommendation for collocating the AAOC-ADDC at Fire Island, which is the present location of the ADDC. CINCAL stated in OPN 5222 that "USAF Ad Hoc Committee for FY 59 MCP has disapproved inclusion of new Joint Direction Center in Anchorage area and has recommended that existing Fire Island ADDC be expanded to become Joint Center."
4. Since this requires only an expansion of existing facilities the expenditure of funds should be minimized by collocating at Fire Island.

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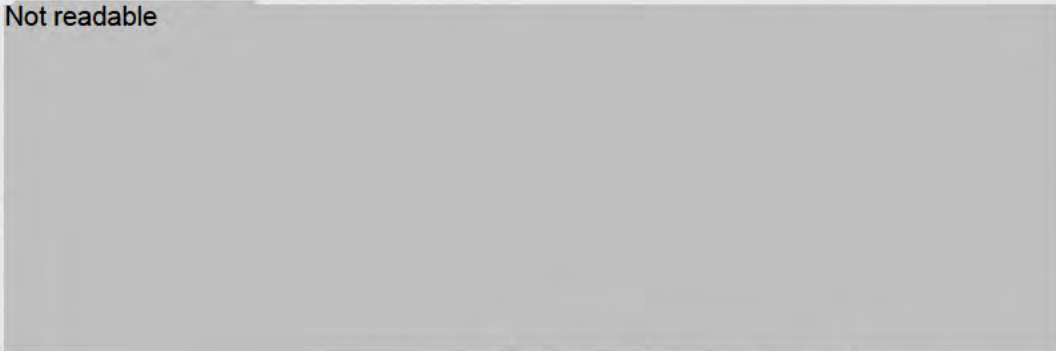
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TO RJEEDN RJKDAS
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TO RJEEDN/CINCPACFLT ENT AFB COLO
INFO RJKDAS/CINCPAC ELSENDORF AFB ALASKA
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32B Doc 51

ACTION: COOP
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OPN 2/4

26 Oct 1957

SUBJECT: (Unclassified) Semi-Automatic Ground Environment Systems

TO: Commander In Chief
North American Air Defense Command
Ent Air Force Base, Colorado

1. In the Isakan Command Air Defense Requirements Plan (ADRP 57-66) CINCAL stated a requirement for BADGE equipment and two AN/MSG-4 anti-aircraft fire direction systems, to be operational in FY 1960. You approved this requirement and submitted it, with others, to the JCS for approval.
2. This headquarters has been attempting to follow the AN/MSG-4 development program so that planning for its use in Alaska can be conducted properly. This planning includes arranging for the integration here of programmed BADGE equipment and the AN/MSG-4.
3. To determine the progress of AN/MSG-4 and BADGE development an officer of this headquarters recently visited the U. S. Army Signal and Electronic Laboratories, the U. S. Army Air Defense Board, Rome Air Development Center, and Hughes Aircraft Company. He was given the following information:
- The digital exchange of data between the BADGE system and the AN/MSG-4 under present designs is not feasible.
 - Each system (AN/MSG-4) and (BADGE) was developed with the capacity solely to provide operational-type data for its own basic mission. To correct this, a joint committee was established to make BADGE and AN/MSG-4 operationally integral, but the committee members had little guidance as to the tactical requirements of an integrated air defense system for missiles and interceptors and had no authority to direct integrated development.
 - The BADGE program is not firmly established and may be reoriented at an early date, delaying production beyond FY 1961.
 - The AN/MSG-4 total system has been delayed but its BOC component could be made available in FY 1959. The BOC component shows promise of materially increasing the effectiveness of battalion-size NIKE defenses, but the presently planned BADGE will not be able to exchange data with the BOC.

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Hq ALCON ltr GPN 2/4 to CINCPACAF, Subj: (U) Semi-automatic Ground Environment Systems (cont'd)

4. This headquarters was briefed recently by representatives of Martin Aircraft Corporation on a proposal for a "Missile Master Jr.", which is intended to perform the same functions as the AN/MSG-4 with the exception that it does not have a computation capability, a ROC sub-system, or an integral radar. The Missile Master Jr., however, is considerably less expensive.

5. Proper planning by this headquarters for equipping and operating joint direction centers in the Fairbanks and Anchorage areas is dependent upon our receipt of valid information concerning the semi-automatic systems discussed above, or others which may be allocated for the Alaska ground environment. Based on the limited information on semi-automatic systems which has been obtained to date, a concept for joint direction center technical operations has been evolved which attempts to take advantage of new equipments as they become available. Three progressive modes of operation are tentatively planned, in order to take advantage of new equipment as it becomes available:

a. Manual mode -- NIKE batteries will be controlled from the Joint Direction Centers at Fire Island and Murphy Dome by voice-telling over microwave links. Fighter-interceptor aircraft will be controlled by UHF A/G voice circuits from the direction centers or other DCI sites.

b. Semi-automatic mode using AN/MSG-18 and AN/GPA-37 -- The AA Battalion operations center will be a part of the joint direction center. NIKE batteries will be controlled by semi-automatic equipment of the AN/MSG-18 (ROC) over microwave links. Fighter-interceptor aircraft will be controlled by the data link portion of the AN/GPA-37 Radar Course Directing Group and/or UHF A/G voice circuits from the Direction Centers or DCI sites.

c. Semi-automatic mode using AN/MSG-4 and BADGE -- The weapons monitor center will be a part of the joint direction center. The AA battalion operations center will be at a remote location. Digital data will flow between components of BADGE and the AN/MSG-4 system. Weapons monitor center data will be transmitted to and from battalion operations centers by microwave links. Fighter-interceptor aircraft will be controlled by the data-link portion of the AN/GPA-37 Radar Course Directing Group and/or UHF A/G voice circuits.

d. This headquarters is in need of further information which will assist in planning for the location and eventual integration of Army

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Hq ALCOM ltr OPN 2/4 to CINCMORAD, Subj: (U) Semi-Automatic Ground Environment Systems (cont'd)

and Air Force semi-automatic ground environment equipment in joint direction centers. Such information is continually sought through the Army and Air service components and their departments in Washington. This headquarters has directed the Alaskan Air Command, in coordination with U. S. Army, Alaska, to arrange for technical compatibility of equipment in the preparation of joint plans for the preceding phases of implementation. This letter is intended for your information and to solicit any comment or guidance you consider appropriate.

FOR THE COMMANDER-IN-CHIEF:

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MEMORANDUM FOR THE RECORD:

This letter from CINCAL is on the subject of SAGE systems. In the Alaskan Command Air Defense Requirements Plan 57-66, CINCAL states a requirement for certain equipment and systems to be operational in FY 60. We approved this requirement and submitted to JCS for approval. CINCAL has been attempting to follow this up so planning for its use in Alaska can be conducted properly. This planning includes arranging for the integration of programmed BADGE equipment and the AN/MSG-1, to determine the progress, CINCAL sent an officer to the US Army Signal and Electronic Labs, the US Army Air Defense Board, Rome Air Development Center, and Hughes Aircraft Co. where he obtained certain information which apparently was discouraging. CINCAL also was briefed by representatives of the Martin Aircraft Corp. on a proposal for a "Missile Master Jr." which is intended to perhaps replace some other gear or system. CINCAL states that proper planning by them is dependent upon receipt of valid information and they list 3 progressive modes of operation tentatively planned in order to take advantage of new equipment as it becomes available. They need further information which will assist in planning for the collocation and eventual integration of Army and Air Force SAGE equipment in joint direction centers. Such information continually is sought through Army and Air Service components and their departments in Washington. CINCAL sent their letter for our information and to solicit any comment or guidance considered appropriate.

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10 September 1957

SUBJECT: Technical Plan-SAGE/Missile Master

TO: Chief of Staff, United States Air Force
As Executive Agent for COMAD
Washington 25, D. C.

1. References: Department of the Air Force letter, subject: Technical Plan-SAGE/Missile Master, dated 11 March 1957; and Inclosure 1, Secretary of Defense Memorandum for the Secretary of the Army and Secretary of the Air Force, dated 28 January 1957.

2. In accordance with the above references, the enclosed Test Program is submitted as the recommended procedure for testing SAGE/Missile Master integration. This Program was prepared with the direct advice and assistance of Service Department representatives.

3. Request comments by the Departments of the Army and the Air Force on the CONAD recommended program be obtained and provided to the Office of the Secretary of Defense concurrent with the submission of the Test Program to that office for approval.

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FOR THE COMMANDER-IN-CHIEF

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T-E-S-T P-R-C-G-R-A-M
FOR
CAGE/MISSILE MASTER INTEGRATION

5 September 1957

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SECTION I

OBJECTIVE

PART A TEST OBJECTIVE

A series of tests of an integrated SAGE/Missile Master System will be conducted to:

- a. Determine the optimum air defense doctrine, concept, tactics and techniques for the employment of a SAGE/Missile Master System under various modes of operation.
- b. Determine operational capability of the equipments used in the system.
- c. Determine the adequacy of the operational procedures employed.
- d. Determine the equipment, program and/or procedural modifications which may be required in the system, to insure that it meets CONAD operational requirements. These operational requirements, as currently defined, are stated in Section III.
- e. Accomplish those specific objectives outlined in the "Technical Plan for Integration of the Missile Master Into the Continental Air Defense Environment" which was provided with the 28 Jan 1957 Secretary of Defense Memorandum to the Secretaries of the Army and the Air Force.

SECTION II

BACKGROUND

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PART A MISSILE MASTER. The development and production of the Missile Master, the Antiaircraft Defense System AN/FSC-1, has resulted from the Army initiated Signal Corps Project 423C, and its forerunner Project 444A. Ten Missile Master Systems are in production, with delivery of the first item being scheduled in 1957 and the remainder during 1958-1959. These ten Systems are expected to be completely installed and operational by 1961.

PART B SAGE. The development and production of the SAGE System has resulted from an Air Force initiated Project "Lincoln Transition System" and various forerunners, including Project Charles. The SAGE System is in the process of installation. In all areas where the Missile Master is to be employed, the SAGE Direction Centers are expected to be operational by late 1960. Initially, SAGE equipment and associated computer program will not provide automatic target-to-AA fire unit assignments. By early 1960, SAGE is expected to have the capacity and capability to provide these assignments.

PART C OSD/CONAD ACTION.

1. In September 1956 CONAD recommended to the Secretary of Defense that ten Missile Masters be provided to the Continental Air Defense System. CONAD also recommended that these Missile Masters be co-located with USAF ADC (USAF Air Defense Command) Radar Sites. By memorandum dated 30 October, OSD (Office of Secretary of Defense) approved this recommendation. A recommended plan for the implementation of the ten co-located facilities has been prepared jointly by the USARADCOM (U. S. Army Air Defense Command) and the USAF ADC. This plan was approved by CONAD and forwarded on 2 May 1957 to the Chief of Staff, USAF, as Executive Agent for CONAD.

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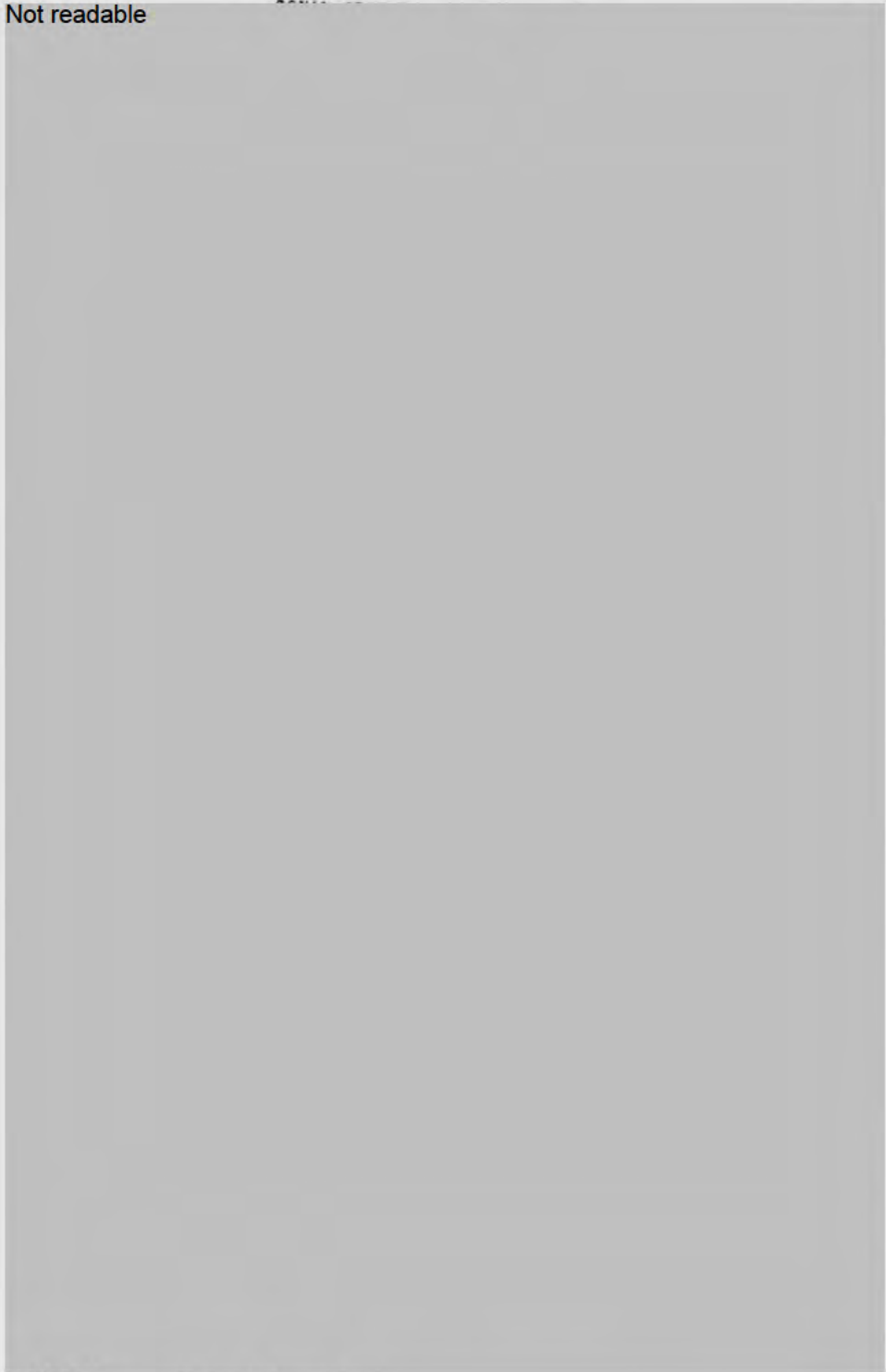
2. The OSD Memorandum of 30 October 1956 stated that a technical plan would be prepared by OSD Assistant Secretary for Research and Development for the integration of the Missile Master Systems into the CONAD Environment. The Plan was to be predicated on the operational concepts as proposed by CINCONAD. The plan was also to outline actions that must be initiated by contractors, the contracting agencies and operating agencies of the military departments, to achieve a timely and efficient adjustment of equipment development programs which would be affected. The technical plan was prepared and approved by OSD Memorandum dated 28 January 1957. This memorandum directed the USAF, as executive agent for CONAD, to request CINCONAD to prepare and submit an overall program for testing the integrated SAGE/Missile Master System.

3. On 11 March 1957, USAF requested CINCONAD to take the action outlined in the 28 January 1957 OSD Memorandum.

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SECTION III

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PART D

MODES OF OPERATION.

1. The COM'D Section must be

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responsibility for conducting the air battle will be assumed by JMDC's (Joint Manual Direction Centers) or Air Defense Direction Centers (Manual). Within their areas of responsibility these centers will assume full operational control, coordinate all air defense actions, make target assignments, and coordinate weapon commitment to the maximum extent consistent with the tactical situation.

d. MODE IV. In the event that any air defense weapon system or unit loses all contact with the Direction Center (SAGE, Joint Manual or Air Defense Manual) under whose control it was previously operating, it will at once go onto Mode IV. Under this mode all weapons systems and/or units will operate autonomously, under such local control as may be operative within the system or unit, and responsibility for control will be assumed by the local unit or weapons system commander.

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SECTION IV

DESCRIPTION OF SYSTEMS

PART A MISSILE MASTER. This system provides the electronic facilities for monitoring and/or controlling up to 24 NIKE batteries. The system provides for:

1. Automatic broadcast of SAGE and/or Missile Master generated reference data to all batteries on up to 48 targets, or direct battery-target designations by SAGE.

2. Transmission of battery tracking data from each battery to all other batteries in the system.

3. Transmission of battery tracking data to adjacent Missile Master Operations Centers and receipt of tracking data from the batteries of these Centers.

4. Monitoring and evaluating at the Missile Master Operations Center of both the SAGE reference data and battery action data.

5. Facilities at the Missile Master Operations Center permitting specific target-to-battery designations.

6. Generation of reference data from local radars and voice communications with adjacent JMD's or MDC's (Manual Direction Centers) when SAGE data is unavailable.

PART B SAGE. This system is defined as that portion of the air defense system which provides the means for the semi-automatic processing of data and weapon control, and consists of:

1. Those facilities required to process and transmit air-surveillance data from existing and planned data-gathering sources to SAGE Direction Centers.

2. The Direction Centers where air-surveillance data, by means of electronic computers, is processed, evaluated and developed into air situations at sector level from which threat evaluation, weapons assignment and appropriate weapons guidance orders are generated.

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3. Those facilities required to transmit situation data from SAGE Direction Centers to Combat Centers.

4. The Combat Centers, where situation data from the SAGE Direction Centers, by means of electronic computers, is processed, evaluated and developed into Division level air situations from which the utilization of weapon resources can be monitored and directed.

5. Those facilities required to transmit instructions from Combat Centers to SAGE Direction Centers.

6. Those facilities required to transmit the output data from the SAGE Direction Center to the input of the appropriate user's equipment, such as adjacent Direction Centers, Combat Centers, JMDC's, data-link transmitters, CAA Air Route Traffic Control facilities and individual Weapons Control Systems.

PART C

JMDC. A joint center at which the ADC Radar Direction Center and ARADCOM Missile Master Operations Center are co-located.

TEST AGENCIES AND ORGANIZATIONS

PART A

TEST AGENCIES.

1. Test Group. Management of the test actions will be accomplished by a special designated Joint Test Group. The Test Group will be composed of representatives of pertinent service agencies, and will convene periodically as specified by the Group Chairman. CCNAD will provide the Chairman and Secretariat for the group.

a. Mission. The Test Group will have the following responsibilities:

- (1) Initiating action to coordinate all existing schedules and plans for tests of SAGE/Missile Master.
- (2) Preparing, or initiating action to have prepared, detailed plans for all required tests, including the definition of specific test objectives.
- (3) Initiating action to have test plans approved and implemented.
- (4) "On-the-spot" monitoring of all tests.
- (5) Analysing and evaluating test results with regard to test objectives.
- (6) Recommending equipment, program and/or procedural modifications which may be required in the system, to insure that it meets CCNAD operational requirements.

b. Method of Operation. CCNAD will directly supervise the Test Group functioning. CCNAD, through the Chairman, will specify the dates and duration of each group meeting, and will also be responsible for providing such guidance as necessary. On matters which do not involve interservice disagreements or major policy, the Test Group will have the authority and responsibility for determining the action required, with representatives of the service commands or agencies concerned being responsible for appropriate follow-on action by their parent organizations. ~~For interservice disagreements as when action~~

matters, the group will recommend to CINCOMAD the action required. CINCOMAD will render decisions on those matters which fall within the purview of his assigned authority, and will forward other unresolved matters, with pertinent recommendations, to JCS (Joint Chiefs of Staff) for final decision.

c. Personnel. Estimated composition of the Test Group is as follows:

(1) Supervisory Echelon: Committee type action, part time duty.

Chairman	- CONAD	- Colonel
Ass't Chairman and Secretary	- CONAD	- Lt Colonel
Senior Army Member	- COMARC	- Lt Colonel or Major
Senior Air Force Member	- ARDC or APC	- Lt Colonel or Major

(2) Planning and Monitoring Section: Full time duty, starting approximately January 1958.

Three Operations Officers - 1 USARADCOM, 1 USAF ADC, 1 USAF APG - Lt Colonel or Major

Three Electronic Officers - 1 COMARC, 1 ARDC, 1 Signal Corps - Lt Colonel or Major

Two Analysts - 1 USAF, 1 USA - Lt Colonel, Major, or Civilian

(3) Test Site Teams. Full time duty upon initiation of tests.

Three Test Team Chiefs - 2 COMARC, 1 ARDC - Major

Six Test Site Officers - 3 COMARC, 3 ARDC - Captain or Lieutenant

(4) Data Reduction Section: Full time duty upon initiation of tests. Facilities and personnel will be required by civilian contract agencies for the task of data reduction. Appropriate contract action by Army and Air Force agencies will be required. It is estimated that two (2) each five (5) man shifts will be required to operate Electronic Accounting Machines (EAM).

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(5) Data Analysis and Evaluation. After data are collected and reduced, personnel of the Planning and Monitoring Section will perform the task of analysis and evaluation. CONAD has the responsibility for final evaluation but detailed actions in this respect will be accomplished by the Test Group. In performing this function, the Test Group will obtain the comments and views of appropriate service commands. Copies of any individual service analysis and/or evaluation reports are to be obtained and submitted with the Test Group report.

d. Training of Test Group Personnel. Test Group personnel must be completely familiar with both the SAGE and Missile Master Systems. It is to be expected that some specialized training of short duration will be required for individual members of the group. These needs must be determined on an individual basis after command representatives have been designated. Action to accomplish this training is to be taken by the command from which the representative is provided. Fort Meade, Maryland and Lincoln Laboratories, Lexington, Massachusetts will be the locations at which the majority of the training will be accomplished, but other facilities may be used if necessary (e.g. Martin Plant at Orlando, Florida; IBM Plant at Kingston, N.Y.).

2. Other Agencies.

a. The technical actions prior to actual test, and the conduct of the operational tests will be designated tasks for Army and Air Force Commands. The Test Group will be responsible for delineating these tasks, with specific Army and Air Force commands being responsible for accomplishing the required action. Appropriate service commands will advise and assist in the determination of the specific tasks to be accomplished.

the individual service commands and agencies as determined by the tasks designated by the Test Group. The organization and procedure within the service command to accomplish these tasks will be the command's prerogative; however, it is to be expected that special separate Army and Air Force project groups within such commands as CONARC, ARDC or APOC will be required to support this program.

PART B OPERATIONAL ORGANIZATION.

1. The USAF Air Defense Command will be responsible for the maintenance and operation of the designated SAGE Direction Centers and associated ADC Radar Sites, and the Air Force equipment employed at co-located Missile Master/Radar Sites.

2. The U.S. Army Air Defense Command will be responsible for the maintenance and operation of the designated Missile Masters and their associated fire units, and will also be responsible for manning Army positions in the SAGE Direction Center.

PART C LOGISTICAL ORGANIZATION.

1. Logistical procedures will be established in conformance with joint agreement by the Army and Air Force agencies involved. The Departments of the Army and Air Force will designate appropriate commands to prepare and implement such joint agreements.

2. The Department of the Army will be responsible for the design, procurement, installation, operation and maintenance of all necessary Army instrumentation for the test. The Department of the Air Force will have similar responsibility for Air Force instrumentation.

3. Logistic support of the Test Group will be provided by the nearest USARADCOM or USAF ADC unit.

PART D ADMINISTRATIVE PROCEDURES. Administrative procedures for the test group will be in accordance with USAF SOP's (as is now required for CONAD) with such modifications as necessary, to insure compatibility with the requirements of the Army agencies involved.

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PART B

REPORTS.

1. Partial reports of tests will be prepared by the test group as appropriate, but no less frequently than once each three months, beginning with the initiation of the tests. A final report of the tests will be prepared by the test group as soon as practicable after completion of the tests. Drafts of all reports will be coordinated with appropriate Army and Air Force agencies. All comments by these agencies, as a result of this coordination, will be included in an appendix to the report.
2. CINCONAD will forward all pertinent reports, to include conclusions and recommendations, to the Secretary of Defense for final approval.

TESTS

PART A

TEST SITE SELECTION.

1. A study of the JMDC and associated SAGE schedules (Tab A) has resulted in the conclusion that the CONAD operational tests should be held in the Detroit SAGE Sector with tie-in to the Detroit, Michigan and Pittsburgh, Pennsylvania JMDC's. This test site has the following advantages:
 - a. The SAGE DC may be tested with two JMDC's.
 - b. It avoids the complications associated with the earlier SAGE sectors located in the sensitive coastal areas.
 - c. It can employ realistic strikes from Canada.
 - d. It is a good location for testing the target hand-over problem.
 - e. It is one of the earliest available operational sectors.
2. According to the schedule shown in Tab A, initial CONAD operational tests may start in approximately September 1960, when the Detroit JMDC is scheduled to be available. The Pittsburgh JMDC may be integrated into the tests by December 1960. It is expected that the SAGE DC will have digital interconnection with the JMDC's and can send up to 48 reference tracks to each of these sites by the date at which the tests are initiated. By June 1960 the Detroit DC will have the additional capability of making target-to-battery assignments, and operational testing of this feature could begin.
3. It is essential that the SAGE-to-Missile Master digital interconnections be checked out and "debugged" prior to the operational tests. The earliest available sites for achieving this are the Fort Lee DC and the Fort Meade Missile Master sites. If the Computer Program which goes into the Fort Lee Sector in October 1958 has the capability for sending reference tracks

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from SAGE to Missile Master and the acceptance of status data from Missile Master, some of the integration and system testing of this feature can be overlapped with, or may be part of, the Western Electric Air Defense Engineering System (WE ADES) tests. During this period the equipment and program should be examined for weaknesses and the necessary corrections should be made. After the operational data of Fort Lee, the operating procedures can be examined during the normal operation of the sector.

4. The developmental testing of the September 1959 computer modification and program revision, prior to the time it goes to the operational sites, should be done in the Experimental Subsector (ESS) with a tie between the Boston Missile Master and ESS Computer. It would be desirable if this tie were made available in the Spring of 1959; however, the present schedule availability date of the Boston Missile Master System is October 1960. Utilization of the completed Boston System in ESS could not, therefore, start before that date. As developmental testing of the revised program with a Missile Master System is of major importance, all possible action must be taken to accomplish an earlier installation date for the Boston system.

PART B

ACTIONS REQUIRED PRIOR TO OPERATIONAL TESTS.

1. General. The Technical Plan provided with the OSD Memorandum of 28 January 1957 outlined "actions that must be initiated by contractors, the contracting agencies and other agencies of the Military Departments to achieve a timely and efficient readjustment of the equipment development programs affected." The test program outlined herein is based on the premise that the service departments concerned are taking all actions in this respect that were specified in the OSD Technical Plan. In addition, the questions posed in Section

Missile Master must be established and the order placed by 1 September 1957 if interconnection is to exist by the initial operational date for the Washington SAGE Sector.

(3) The decisions on SAGE/Missile Master message format must be made as soon as possible. Lincoln Laboratory and the U. S. Army Signal Engineering Laboratory (USASEL) are now formulating these decisions.

3. Missile Master Battery Data Link (BDL) Information to SAGE.

a. A study group, under Air Force cognizance, has been appointed to determine the operational desirability of transmitting Missile Master BDL information to the SAGE DC. It is required that the recommendations of this group and a final COMAD decision to implement or not be made by January 1958. If the final decision is to send BDL information to SAGE, equipment and program changes will be required.

b. Action Required. COMAD to make final decision on the method for transmitting BDL data to SAGE not later than January 1958. When this decision is made, the phasing of any required implementation actions will be determined.

4. Operational Procedures and Training.

a. Both ADC and WPARADCOM now have operator training programs for their respective SAGE and Missile Master Systems. Additional operator procedures and operator training is required with respect to features of the combined SAGE-JMDC System. This applies particularly to the special requirements caused by the combined operation, such as the procedures for the AA director at the SAGE DC. Inasmuch as October 1958 has been set as the target date for sending digital reference data from Fort Lee to the Fort Meade Missile Master, procedures should be defined so that trained operators can be available by October 1958. These procedures can be examined and revised, if necessary, during the period that the Washington Sector is under test.

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III of the Test Plan are considered a part of the basic guidance to be used in the development of specific objectives and detailed plans for individual operational tests.

Further study has shown that certain of the actions outlined in the OSD Technical Plan, plus others, are of critical importance. These must be accomplished as a part of the overall test program, and most must be completed prior to initiation of operational tests. To insure priority attention, those matters considered absolutely essential are enumerated in the following paragraphs.

2. Interconnections between SAGE and Missile Master at Fort Lee/Fort Meade.

a. The Missile Master at Fort Meade is scheduled to be operational December 1957. When the Washington SAGE Sector becomes operational, CONAD desires that the capability exist for the Fort Lee DC to pass, by data link, reference track data (track position and identification) to the Fort Meade Missile Master and the Missile Master to return status data. Check out of this capability is required prior to the scheduled Washington SAGE Sector operational date of February 1959. The currently approved computer programming plans for the Washington Sector do not provide for passing 48 reference tracks by digital data link or for the SAGE System to accept status data by February 1959. By study of various alternatives, it has been concluded that action must be taken to achieve the above capability in the Washington Sector by October 1958 as reflected in paragraph 3, Part A.

b. Action Required.

(1) Lincoln/RAND will take the necessary action to implement the above indicated computer programming by October 1958.

Missile Master must be established and the order placed by 1 September 1957 if interconnection is to exist by the initial operational date for the Washington SAGE Sector.

(3) The decisions on SAGE/Missile Master message format must be made as soon as possible. Lincoln Laboratory and the U. S. Army Signal Engineering Laboratory (USASEL) are now formulating these decisions.

3. Missile Master Battery Data Link (BDL) Information to SAGE.

a. A study group, under Air Force cognizance, has been appointed to determine the operational desirability of transmitting Missile Master BDL information to the SAGE DC. It is required that the recommendations of this group and a final CONAD decision to implement or not be made by January 1958. If the final decision is to send BDL information to SAGE, equipment and program changes will be required.

b. Action Required. CONAD to make final decision on the method for transmitting BDL data to SAGE not later than January 1958. When this decision is made, the phasing of any required implementation actions will be determined.

4. Operational Procedures and Training.

a. Both ADC and USARADCOM now have operator training programs for their respective SAGE and Missile Master Systems. Additional operator procedures and operator training is required with respect to features of the combined SAGE-JMDC System. This applies particularly to the special requirements caused by the combined operation, such as the procedures for the AA director at the SAGE DC. Inasmuch as October 1958 has been set as the target date for sending digital reference data from Fort Lee to the Fort Meade Missile Master, procedures should be defined so that trained operators can be available by October 1958. These procedures can be examined and revised, if necessary, during the period that the Washington Sector is under test.

for defining the necessary operational procedures and initiating action to insure that trained operators are available by October 1958.

5. SAGE/Missile Master System Integration.

a. Starting October 1958, the Fort Lee SAGE Sector and the Fort Meade Missile Master will be ready for system integration if all of the foregoing actions have been completed. The system will be tested in accordance with previously established criteria. The SAGE/Missile Master System will be examined for weaknesses and any necessary corrective action will be taken as a prelude to the CONAD operational tests in the Detroit Sector.

b. Action Required. CONAD will initiate action with the Departments of the Army and Air Force to insure that the specific plans for and the actual conduct of systems integration is accomplished within established schedules.

6. Facility for Developmental Testing of the 1959 Revision.

a. There must be a facility for developmental testing of the 1959 SAGE Computer revision as it applies to the SAGE/Missile Master combination. This must take place at a site where there is a Direction Center complete with radars, a Missile Master, and a representative number of AA fire units, all of which are in the same geographical area. Examination of the available facilities and schedules indicates that the best place for such testing is in the Experimental Subsector area with the Boston Missile Master. The required facilities are expected to be available in 1960.

b. Action Required.

(1) CONAD will initiate action to provide for the utilization of the Boston Missile Master Complex in the Experimental Subsector. This utilization is to be accomplished on the basis that the operational mission of that facility will not be impaired.

CONAD will examine the possibility of
advancing the operational date of the Boston Missile Master
and will initiate appropriate action.

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7. Future Development and Test Facilities for Missile Master.

a. The present SAGE/Missile Master Program is handicapped by the fact that there is not an experimental Missile Master System similar to those SAGE facilities provided by the Lincoln Laboratory Experimental Subsector. An experimental Missile Master should be provided for future development and test of such requirements as addition of new and larger quantities of weapons, counter countermeasures facilities, and other capabilities which will be needed for the post 1960 threat. Two possibilities have been examined for location of an experimental Missile Master; namely, the Boston ESS area and the Orlando, Florida area. Inasmuch as the Army is now planning a training Missile Master facility at Orlando, at the Contractor's (G. L. Martin Company) Plant, it is concluded that this site should be used for the Army development and test facility. In order to accomplish this, it is necessary to expand the training Missile Master System to a complete system which can be used for both training and experimentation. SAGE tie-in may be possible with the Gunter, Alabama SAGE Sector for test purposes. However, since the Gunter DC will be an operational site, and also since the Orlando training Missile Master will be weapon limited in the foreseeable future, it is recognized that some types of experimentation and testing will not be feasible at Orlando. An example is the check out of the revised Computer Program as cited in paragraph 6, Part A, above. In these cases, the Boston Missile Master Complex may be used with the Lincoln Laboratory ESS.

b. Action Required.

(1) CONAD will request the Department of the Army to take necessary action to expand the Orlando Missile Master training facility.

existing doctrine and regulations.

- (2) All defined modes of operation.
- (3) Target-to-weapon pairing by a JMDC with track reference data being provided by the SAGE DC.
- (4) Target selection at individual fire units based on reference data derived from the SAGE DC, the JMDC and BDL data.
- (5) Use of active and passive ECM (Electronic Counter Measures).
- (6) Both non-saturation and saturation conditions, through the combined usage of 'live' and synthetic tracks.
- (7) Weapons control where an AA defense has the capability to engage targets in two SAGE Sectors, i.e., fire across a sector boundary.
- (8) Conditions where weapons capability allows engagement of targets in adjacent sectors.

c. The Test Group will establish a set of criteria, prior to the initiation of the test, which can be used to determine the degree of operational capability of the system. These criteria will include a comparison of the number of successful penetrations versus the number of attacking aircraft.

d. An air defense operational capability in the Sector under test will be maintained during the test period.

4. Time and Location.

a. Tests will be conducted in the Detroit SAGE Sector with two JMDC's and will include the Syracuse Sector for cross-tell. The two JMDC's will be those in the Detroit and Pittsburgh complexes.


b. SAGE/JMDC System tests will take place after the operational date of facilities involved. It is expected that the tests will be initiated during the latter half of CY 1960.

5. Equipment Requirements.

a. Two co-located Missile Master/Radar Sites (JMDC) and associated fire units.

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capable of performing at minimum and high altitudes, will be required for specified test periods (estimated as being approximately two hours flight time per mission, within the test area).

(b) For certain tests, ECM equipped aircraft will be required.

(c) In the determination of the requirements for test aircraft, due consideration will be given to utilizing simulated aircraft targets and targets of opportunity, where feasible.

(d) The detailed employment of test aircraft will be specified in the plans for each test. This will include:

1. Type and number of raids.
2. Raid composition, by type and number of aircraft.
3. Flight profiles, including such specifics as speed, approach angle, altitude, time-over-target.

b. In the assignment of the task of preparing a program for the testing of SAGE/Missile Master integration, the OSD specified that a cost estimate be prepared. The desirability and economic feasibility of various methods of testing were studied. It was concluded that an example method of testing could be prepared and used as a basis for cost estimates for operational tests. This example is outlined below:

(1) Three (3) subsonic and three (3) supersonic bombers (jet type) on a guaranteed basis, would fly an average of twice a week until sufficient data is obtained. Approximately 5 months would be required for completion of testing. No allowance is given in this estimate for aircraft aborts, or for aircraft travel between the test area and the aircraft base.

(2) Strike aircraft would fly in groups of three (3). High altitude attack would be in stacked echelon formation, and low altitude attack would be abreast.

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(3) Simulated tracks supporting each strike mission would be 10, 25, 30 or 45, at the discretion of the Test Group. Tracks would be allocated in such a way that at the conclusion of testing, each target area would have been hit by the same number of strikes.

(4) Three fundamental strike tactics would be employed by test aircraft, high altitude, low altitude, and toss bombing.

(5) Flight paths for strike missions would be designed to permit each strike aircraft to attack both defended areas (Detroit and Pittsburgh).

(6) Intercepts by manned interceptors would be required for some tests. Interceptor aircraft from operational units would be used. This utilization of operational interceptors would be a part of normal unit training. Therefore, no additional flying hours for interceptors need be programmed.

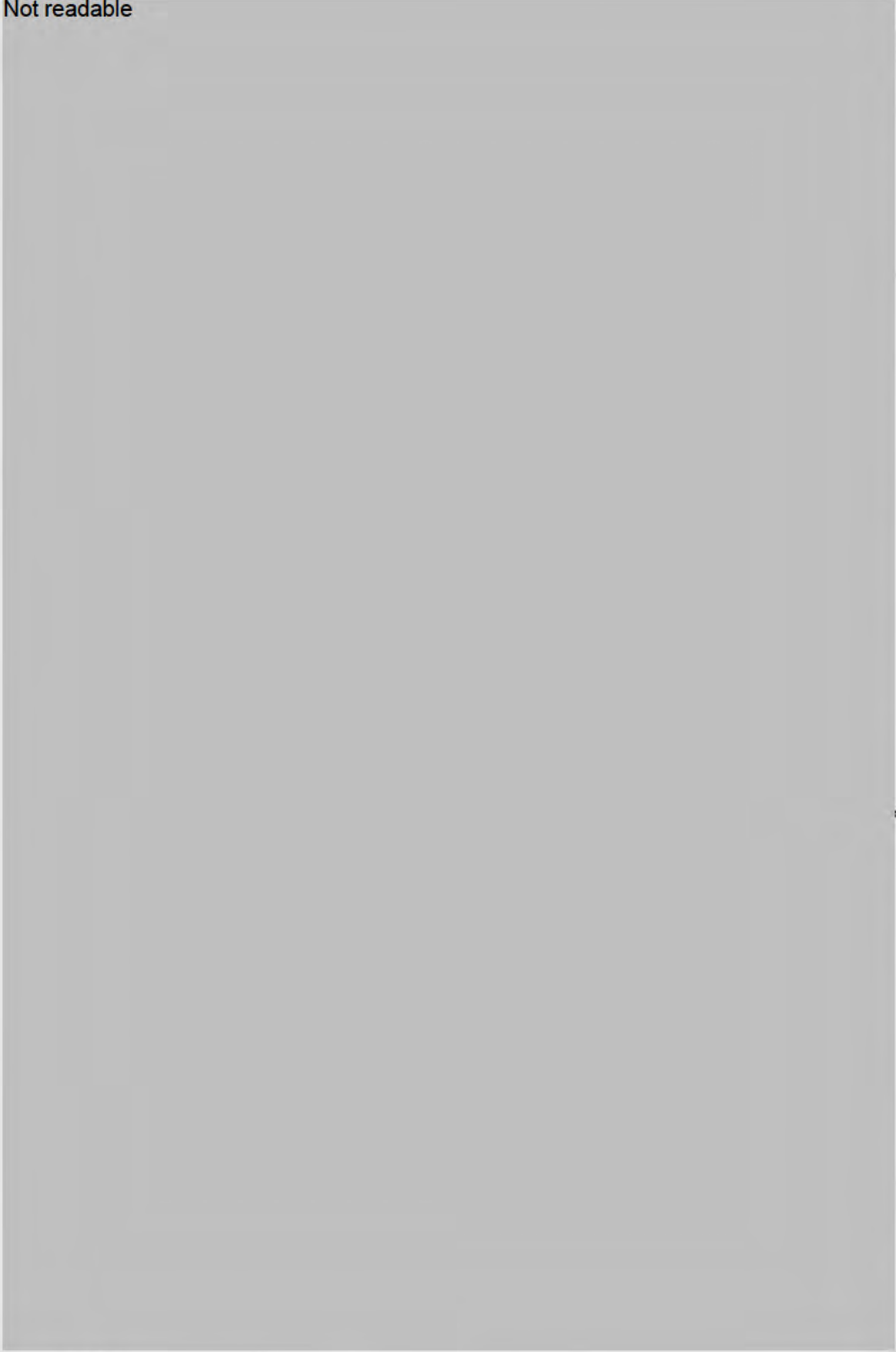
(7) Based on the preceding paragraphs (1) through (6), estimated aircraft requirements would be:

(a) Number and type of aircraft: 24 jet type medium and/or heavy bombers, on call basis.

(b) Total aircraft flying time: 600 hours; 500 for Detroit Sector tests plus 100 for Washington Sector testing. (Actual flying time during test - does not include enroute time to and from test area.)

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DEVELOPMENTAL TESTING SCHEDULE

	CY 1957	CY 1958	CY 1959	CY 1960
1. <u>Missile Master at Ft. Meade</u>				
Acceptance Test				
Engineering User Test				
2. <u>Equipment Program Test at Washington Sector (SAGE)</u>				
Data and Voice Service				
Missile Master Subsystem Test Specification				
Integration and Test				
Program Production and Inst. Ft. Lee (Missile Master Mod-1)				
3. <u>Examination of Operating Procedures of Comb. SAGE/Missile Master</u>				
4. <u>ESS/Boston Missile Master</u>				
Data and Voice Lines				
Subsystem Test				
Shakedown Tests with ESS				
5. <u>Operational Test, Detroit Sector</u>				
With Initial Program				
With Revised Program				

ESTIMATED COSTS, BY FISCAL YEAR FUNDING

(Figures in millions of dollars)

Item	Service Dept.	FY-58	FY-59	FY-60	FY-61	Total
Instrumentation (for data gathering)	Army	0	0.1	0	0	0.1
	AF	0	0.1	0	0	0.1
Modification of Equipment (facilities used during actual test)	Army	0.1	0.3	0.3	0.1	0.8
	AF	0.1	0.2	0.2	0	0.5
Aircraft Flying Time	AF	0	0.4	0.4	1.6	2.4
Contractor Service (for test planning, execution & analysis)	---	0.3	0.75	1.5	1.5	4.05
Test Group Administration (TDY, special training, administration)	---	0.05	0.1	0.1	0.1	0.25
TOTAL		0.55	1.95	2.5	3.3	8.3

*Note: It is expected that a joint USAF/Army agreement will be required as Contractor Services, and possibly Administration as well, will involve both Army and Air Force civilian contractors.

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Dec 55

23 Dec 1957

NOR001 DNBO01 TYD147HQB149
RR RJEDDN
DE RJEPHQ 901
R 231853Z
FM HEDUSAF
TO CINCNORAD
BT

57B Doc 55

2916

ACT: HOELC
INFO: NONCS

UNCLASSIFIED FROM AFDRD-AD 31626 EXECUTIVE AGENCY MESSAGE. FEUR
MSG NOESS-E 036. SUBJECT PLAN HAS BEEN REVIEWED BY BOTH HQ USAF
AND HQ USA WITH GENERAL ACCEPTANCE, BUT SOME RESERVATIONS ON
DETAIL. FURTHER INTER-SERVICE COORDINATION REQUIRED TO RESOLVE
DIFFERENCES. COORDINATED ARMY-AIR FORCE POSITION SHOULD BE FORWARDED
TO YOU BY 15 JANUARY 1958.

BT
23/1941Z DEC RJEPHQ

NOESS-E 036 PERTAINS TO REQUEST STATUS
OF APPROVAL AND IMPLEMENTING ACTION FOR TEST
PLAN SUBMITTED WITH OUR LETTER 10 SEPT 57, SUBJECT
TECHNICAL PLAN - SAGE / MISSILE MASTER

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(when filled in)

COPY OF INC NG CLASSIFIED MESSAGE

SEE CRYPTO SECTION BEFORE DECLASSIFYING.

READING FILE

302.1

CONO 001

HQA022
RR RJEDEN RJEDWP RJEPYB
DE RJEPHQ 117
R 101634Z
FM HQ USAF WASH DC
TO RJEDEN/COMAIRDEFCOM ENT AFB COLO
INFO RJEDWP/COMAMC WPAFB OHIO
RJEPYB/COMARDC BALTO MD
RJEDEN/CINCONAD ENT AFB COLO

COMIC

87-10807

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(FROM AFOAC-E/A 5012)

DUE TO STRINGENT FY-59 BUDGET LIMITATIONS AND THE URGENT REQUIREMENT TO PROVIDE AN IMPROVED ECCN CAPABILITY THROUGH THE USE OF FREQUENCY DIVERSITY RADARS, THE AN/GPA-27 PROCUREMENT WILL BE TERMINATED WITH FY-57 PROCUREMENT AND FREQUENCY DIVERSITY PROCUREMENT INITIATED IN FY-59. IN LINE WITH THIS ACTION AN/GPA-27 DEPLOYMENT IN THE CONTINENTAL U.S. IS TO BE REDUCED BY 24 SETS. REQUEST THIS READ-QUARTERS BE PROVIDED BY 25 SEPTEMBER 1957 A LIST OF THOSE SITES THAT WILL BE ELIMINATED FROM THE GPA-27 RADAR IMPROVEMENT PROGRAM. FOR YOUR INFORMATION IN PREPARING YOUR FY-59 PROGRAMS, PLANNED FY-59 PROCUREMENT REFLECTS THE FOLLOWING FREQUENCY DIVERSITY RADARS: 8 EACH AN/FPS-28'S, 8 EACH AN/FPS-35'S, 5 EACH AN/FPS-14'S AND 15 EACH AN/FPS-26'S.

BT

10/1706Z SEP RJEPHQ

A-- PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY 2 ENCRYPTION--
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME-GROUP
PRIOR TO DECLASSIFICATION

//ADVANCE COPY HAS BEEN DELIVERED TO COC//

READING FILE

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HEADQUARTERS
AIR DEFENSE COMMAND
ENT AIR FORCE BASE
COLORADO SPRINGS, COLORADO

58

OCT 8 1957

ADOCE-EG

SUBJECT: Deletion of AN/GPA-27's

TO: Commander-in-Chief
North American Air Defense
ATTENTION: NOEPR
Ent Air Force Base
Colorado Springs, Colorado

1. Reference is made to your confidential message NOEPR-R X004, 23 September 1957.
2. Headquarters USAF has directed that 24 AN/GPA-27's be deleted from ADC's Zone of Interior Radar Program. In deleting this number the high altitude triple radar coverage will not be available in some low priority areas in time to meet SAGE operational dates. However, this deficiency will be eliminated with the installation of the Frequency Diversity Radars.
3. A copy of ADC letter to Headquarters USAF on the deletion of GPA-27's and ADC's revised Frequency Diversity Plan is inclosed for your information.

FOR THE COMMANDER:

James H. Weiner

JAMES H. WEINER
Colonel, USAF
Director, Communications-Electronics

2 Incls

1. Cy of Ltr
Hq ADC to
Hq USAF,
subj as above
2. Cy of Ltr
Hq ADC to
Hq USAF,
subj: ADC
Frequency
Diversity Plan,
Revised

naR
File 3 Dec 57
W. Goodrich
11828

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HEADQUARTERS
AIR DEFENSE COMMAND
ENT AIR FORCE BASE
COLORADO SPRINGS, COLORADO

ADORQ-8

1 Oct 1957

SUBJECT: Deletion of AN/GPA-27s

TO: Director of Communications
Headquarters, United States Air Force
Washington 25, D. C.

1. References:

- a. ADC SECRET message, ADOCE-EG 00828, dated 26 March 1957.
- b. USAF SECRET letter, Subject: (U) ADC Frequency Diversity Plan, Paragraph 3, dated 11 June 1957.
- c. USAF SECRET message APOAC-E/A 50121, dated 10 September 1957.
- d. ADC SECRET letter, Subject: Radar Improvement Program Requirements dated 1 December 1954.
- e. SAGE Operational Plan, dated 7 March 1955.
- f. Lincoln Memo 6M3774-3A, Subject: Operation and Mathematical Specifications for Radar Data Inputs for Initial SAGE System, dated 1 April 1957.

2. Reference c indicates that, due to stringent FY58 budget limitations and the urgent requirement to provide an improved ECCM capability through the use of Frequency Diversity Radars (FD), the AN/GPA-27 procurement will be terminated with FY57 Procurement and FD procurement initiated in FY59. This results in the deletion of 24 GPA-27s from the Zone of Interior ground environment radar program.

3. The GPA-27s were initially deployed to provide the Air Defense Command with the capability of controlling weapons from 5000 to 60,000 feet, reference d. above. Subsequent to this date, a SAGE requirement for triple overlap coverage at all altitudes was accepted, with the corresponding increase in a number of programmed GPA-27s. Reference e and f above provide current guide lines for the deployment of our ground environment system in the SAGE Era; however, these references are not sufficiently specific to cover the triple radar coverage requirement. The latter requirement has come under much review

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ADORQ-E, Subj: Deletion of AN/GPA-27s, to Hq USAF

that improved radars of the Frequency Diversity family be provided at all sites listed in Paragraph 3 above. The priorities for these and other FD deployments will be submitted under separate correspondence to your Headquarters for approval.

FOR THE COMMANDER:

H. W. GRANT
Major General, USAF
Deputy for Operations

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ADOCE/ADQRQ

SEP 27 1957

SUBJECT: ADC Frequency Diversity Plan, Revised

TO: Director of Communications-Electronics
Headquarters USAF
Washington 25, D.C.

1. References:

- a. ADC Frequency Diversity Plan, dated 20 January 1957.
- b. USAF Secret letter AFGAC-E/A, 11 June 1957, subject: (U) ADC Frequency Diversity Plan.
- c. USAF Secret message AFGAC-E/A 50121, 10 September 1957.

2. Reference 1a and in accordance with 1b above, the Air Defense Command Frequency Diversity Plan, dated 20 January 1957, is revised to include priorities for installation at specific sites. These priorities are based on the concept of initial establishment of perimeter coverage for weapons control followed by development in depth. Wherever feasible, FD radars were deployed to meet radar operations dates for SAGE sectors.

a. 200-400 MC

<u>Priority</u>	<u>Site</u>	<u>Orl Date</u>	<u>Location</u>
1	P-30	6/59	Benton AFS, Pa.
2.	P-45	9/59	Montauk AFS, N.Y.
3	P-55	9/59	Quantico MB, Va
4	TM-197	9/59	Thomasville, Ala.
5	P-27	3/60	Fortuna AFS, Mich.
6	P-20	3/60	Selfridge AFS, Mich
7	M-130	6/60	Winston Salem, N.C.
8	P-13	6/60	Brunswick NAS, Ga.
9	P-19	6/60	Antigo AFS, Wis.
10	SM-132	9/60	Bandette, Minn.
11	P-29	9/60	Finley AFS, N. Dak
12	P-46	9/60	Blaine AFS, Wash.
13	M-100	7/60	Mount Hebo, Ore.
14	SM-150	9/60	Cottonwood, Ida.
15	TM-178	9/60	Lewiston, Mont.
16	M-118	12/60	Burns, Ore.
17	P-37	12/60	Point Arena AFS, Calif
18	M-96	12/60	Almaden, Calif
19	SM-156	12/60	Fallen NAS, Nev
20	P-59	12/60	Boron AFS, Calif
21	SM-162	12/60	Vincent AFB, Ariz
22	M-95	3/61	Las Cruces AFS, N. Mex.
23	M-114	3/61	Jacksonville NAS Fla.
24	M-93	3/61	Winalow AFS, Ariz
25	P-8	3/61	Tierra Amarillo AFS, N. Mex.

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<u>Priority</u>	<u>Site</u>	<u>Orl Date</u>	<u>Location</u>
26	M-89	3/61	Sweetwater AFB, Tex
27	F-75	3/61	Lackland AFB, Tex
28	M-125	6/61	England AFB, Tex
29	TM-190	6/61	Port Isabel, Tex
30	SM-165	6/61	Flintstone, Ga.
31	SM-139	6/61	Wilmar, Minn.
32	F-82	6/61	Fort Knox, Ky
33	F-85	6/61	Hanna City AFS, Ill
34	M-95	9/61	Texarkana, Ark.
35	M-97	9/61	Ellsworth AFB, S. Dak
36	SM-134	9/61	Lake Andes, S. Dak
37	F-72	9/61	Olathe AFB, Kans
38	C-16	12/61	Sioux Lookout, Ont, Can.
39	C-21	12/61	Saskatoon, Alberta, Can.
40	C-10	12/61	Ramore, Ont., Can.

b. 600 MC

<u>Priority</u>	<u>Site</u>	<u>Orl Date</u>	<u>Location</u>
1	M-126	9/60	Houma NAS, La.
2	P-25	9/60	Havre AFS, Mont.
3	TM-177	12/60	Dickinson, N. Dak
4	P-7	12/60	Continental Divide AFS, N. Mex
5	M-90	12/60	Walker AFB, N. Mex
6	TM-187	3/61	Ozona, Tex
7	P-49	3/61	Watertown AFS, N.Y.
8	TM-191	3/61	Rockport, Tex
9	TM-193	6/61	Lufkin, Tex
10	RP-62	6/61	South Park Military Reservati Pa.
11	M-121	6/61	Bedford, Va.
12	M-116	9/61	Cherry Point MCAS, N.C.
13	M-110	9/61	Bucks Harbor AFS, Va.
14	M-103	9/61	North Concord, Vt.
15	P-67	12/61	Fort Custer, Mich
16	P-73	12/61	Bellefontaine AFS, Ohio
17	P-81	12/61	Waverly, Iowa
18	SM-138	3/62	Grand Rapids, Mich
19	P-18	3/62	McChord AFB, Wash (Ft Lawton)
20	P-1	3/62	Chandler AFS, Minn.
21	TM-180	6/62	Klamath, Ore.
22	P-32	6/62	Condon AFS, Calif
23	SM-151	6/62	Geiger Field, Wash.
24	P-74	9/62	Madera AFS, Calif
25	RP-39	9/62	San Pedro Hill, Calif
26	M-128	9/62	Kingman, Ariz
27	M-113	12/62	North Charleston AFS, S.C.
28	TM-200	12/62	Cross City, Fla.
29	TM-198	12/62	Tyndall AFB, Fla
30	P-66	3/63	Sault Ste Marie AFS, Mich
31	M-111	3/63	Dobbins AFB, Ga

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<u>Priority</u>	<u>Site</u>	<u>Orl Date</u>	<u>Location</u>
32	M-127	3/63	Winnemucco, Nev
33	SM-144	6/63	Union City, Tenn
34	P-68	6/63	Fordland AFS, Mol
35	SM-153		Kamloops, B.C., Canada
36	P-47		Hutchinson NAS, Kans
37	C-15		Armstrong, Ont. Canada
38	N-24		Melville, Labrador
39	N-23		Stephenville, N.F.
c. 2000MG			
1	TM-195	6/61	Crystal Springs, Miss.
2	P-9A	6/61	Gibbsboro, N.J.
3	TT-4	9/61	Shoal (Unnamed)
4	P-50	9/61	Saratoga Springs AFS, N.Y.
5	TT-2	9/61	Georges Shoal AFS
6	M-117	12/61	Roanoke Rapids AFS, N.C.
7	P-65	12/61	Charleston AFS, Me
8	P-61	12/61	Fort Austin AFS, Mich
9	P-43	3/62	Guthrie AFS, W.Va.
10	RP-31	3/62	Williams Bay AFS, Wis (Arlington Hts)
11	P-69	3/62	Finland AFS, Minn
12	P-70	6/62	Belleville AFS, Ill
13	P-17	6/62	Wadena AFS, Minn
14	M-99	6/62	Gettysburg, S.Dak
15	M-98	9/62	Miles City AFS, Mont
16	P-57	9/62	Naselle AFS, Wash
17	P-33	9/62	Klamath AFS, Calif
18	P-24	12/62	Outbank AFS, Mont
19	P-40	12/62	Othello AFS, Wash
20	P-58	12/62	Mather AFB, Calif
21	P-15	3/63	Santa Rosa Island AFS, Calif
22	SM-163	3/63	Las Vegas, Nev
23	TM-181	3/63	Ajo, Ariz
24	M-94	6/63	West Mesa AFS, N. Mex
25	M-88	6/63	Amarillo AFB, Tex
26	SM-159	6/63	Aiken AFS, S.C.
27	P-60	9/63	Colville AFS, Wash.
28	TM-199	9/63	Bufile, Ala.
29	P-78	9/63	Duncanville AFS, Tex
30	P-79	12/63	Ellington, Tex
31	TM-138	12/63	Eagle Pass, Tex
32	P-71	12/63	Omaha AFS, Nebr
33	P-77	3/64	Bartlesville AFS, Okla
34	SM-145	3/64	Joelton, Tenn
35	M-119	3/64	Lowther, Ont., Canada
36	C-20	6/64	Baldy Hughes Mt Prince George BC, C
37	N-31	6/64	Frobisher, Baffin Island
38	N-29		Sagleg, Labrador
39	N-27		Cartwright, Labrador
40	N-25		Gander, Newfoundland

UNCLASSIFIED

ADOCE-ADORQ, H₁ ADC, Subj: ADC Frequency Diversity Plan, Revised

d. AN/FPS-7 Radar

<u>Priority</u>	<u>Site</u>	<u>Opri Date</u>	<u>Location</u>
1	P-35	11/58	Osceola AFS, Wis
2	P-44	12/58	Neah Bay AFS, Wash
3	P-12	1/59	North Bend AFS, Ore
4	SM-149	2/59	Baker, Ore
5	TM-179	5/59	Kalispell, Mont
6	SM-133	7/59	Hastings NAD, Nebr
7	TM-201	8/59	Sundance, Wyo
8	M-129	9/59	McDill AFB, Fla
9	P-9	10/59	Highlands AFS, N.J.
10	TM-196	10/59	Dauphin Island, Ala
11	P-34	11/59	Empire AFS, Mich
12	P-10	12/59	North Truro AFS, Mass
13	P-56	1/60	Cape Charles AFS, Vt.
14	P-14	2/60	St Albans AFS, Vt
15	M-115	2/60	Ft Fisher AFS, N.C.
16	P-80	3/60	Caswell AFS, Me
17	P-21	4/60	Lockport AFS, N.Y.
18	P-53	4/60	Rockville AFS, Ind
19	P-76	5/60	Mt Laguna AFS, Calif
20	P-2	6/60	Cambria AFS, Calif
21	P-38	6/60	Mill Valley AFS, Calif
22	SM-164	7/60	Tonopah AFS, Nev
23	P-26	8/60	Opheim AFS, Mont
24	P-42	8/60	Lake City AFS, Tenn
25	M-92	9/60	Mt. Lemmon AFS, Ariz
26	TM-186	10/60	Pyote AFB, Tex
27	TM-189	10/60	Zapata, Texas
28	P-52	11/60	Oklahoma City AFS, Okla
29	TM-194	12/60	Lake Charles AFB, La
30	SM-143	12/60	Walnut Ridge AFS, Ark
31	N-26	1/61	St Anthony, N.F.
32	C-17	2/61	Beausejour, Man, Can
33	N-28	2/61	Hopedale, Labrador
34	C-19	3/61	Williams Lake (Puntai mt) BC, Can
35	C-14	4/61	Pagwa River, Ont. Canada
36	N-22	4/61	St John, N.F.
37	C-34	5/61	Sydney, N.S.
38	M-102	6.61	Barrington, N.S. Canada
39	C-33	6/61	Clarke City (Moisie) Quebec

e. AN/FPS-20 or AN/FPS-3/GPA-27 equipments will be retained at the following locations:

<u>Site</u>	<u>Opri Date</u>	<u>Location</u>
P-6	2/58	Curlw AFS, Wash
P-16	9/57	Calumet AFS, Mich
P-28	9/58	Minot AFS, N. Dak
P-51	6/58	Merriarity AFS, N. Mex
*P-64		Kirksville AFS, Mo
M-112	9/58	Hunter AFB, Ga
SM-147	11/58	Malstrom AFB, Mont
*SM-157		Red Bluff, Calif
*TM-192		Gray AFB, Tex
*M-30		Resolution Island, Canada

ADOCE-ADORQ, Hq ADC, Subj: ADC Frequency Diversity Plan, Revised

58

<u>Site</u>	<u>Opri Date</u>	<u>Location</u>
TT-3	4/58	Nantucket Shoals

* Will be programmed from ADC assets made available by installation of new FD radars

31 Reference is made to paragraph 1b above and specifically to reduction of procurement of AN/FPS-6 height finders. The Air Defense Command requires two height finders at each heavy radar site. Our plans include deployment of one AN/FPS-26 height finder at each site to replace one AN/FPS-6. In line with this plan and provided that AN/FPS-26 height finders can become operational at the sites listed and on the dates specified, a reduction in procurement of 50 AN/FPS-6 height finders can be realized.

a. AN/FPS-26, 5000 MC Height Finder

<u>Priority</u>	<u>Site</u>	<u>Opri Date</u>	<u>Location</u>
1	TM-201	1/61	Sundance, Wyo
2	M-97	1/61	Ellsworth AFB, S. Dak
3	P-25	1/61	Havre AFS, Mont
4	P-26	1/61	Opheim AFS, Mont
5	SM-133	1/61	Hastings NAD, Nebr
6	P-24	2/61	Cutbank AFS, N. Dak
7	P-71	2/61	Omaha AFS, Nebr
8	TM-178	3/61	Lewiston, Mont
9	SM-165	3/61	Lake Andes, S. Dak
10	M-130	3/61	Winston Salem, N.C.
11	SM-165	4/61	Flintstone, Ga.
12	P-42	4/61	Lake City AFS, Tenn
13	SM-141	4/61	Malmstrom AFB, Mont.
14	SM-145	5/61	Joelton, Tenn
15	P-82	5/61	Pt Knox, Ky
16	M-113	6/61	N Charleston AFS, S.C.
17	M-111	6/61	Dobbins AFB, Ga
18	M-93	7/61	Winslow AFS, Ariz
19	M-112	7/61	Hunter AFB, Ga
20	SM-159	7/61	Aiken AFS, S.C.
21	P-43	7/61	Guthrie AFS, W.Va.
22	M-114	8/61	Jacksonville NAS, Fla
23	M-92	8/61	Mt. Lemmon AFS, Ariz
24	P-7	9/61	Continental Divide AFS, N Mex
25	M-94	9/61	West Mesa AFS, N. M.
26	P-51	10/61	Moriarity AFS, N.Mex
27	M-95	10/61	Las Cruces AFS, N.M.
28	M-90	10/61	Walker AFS, N.M.
29	P-6	11/61	Tierra Amarilla AFS, N.M.
30	M-88	11/61	Amarillo, Tex
31	M-89	11/61	Sweetwater AFS, Tex
32	P-52	11/61	Tinker AFB, Okla
33	P-78	11/61	Duncanville AFS, Tex
34	TM-186	12/61	Pyote AFB, Tex
35	TM-187	12/61	Ozona, Tex
36	P-75	12/61	Lackland AFB, Tex
37	TTM-192	12/61	Gray AFB, Tex
38	M-91	12/61	Texarkanan, Ark

ADDCE-ADQRQ, Hq ADC, Subj: ADC Frequency Diversity Plan, Revised

58

<u>Priority</u>	<u>Site</u>	<u>Opri Date</u>	<u>Location</u>
39	P-77	1/62	Bartlesville AFS, Okla
40	TM-188	1/62	Eagle Pass, Tex
41	TM-189	1/62	Zapata, Tex
42	TM-194	1/62	Lake Charles AFB, La
43	M-125	1/62	England AFB, La
44	TM-190	2/62	Port Isable, Tex
45	TM-192	2/62	Rockport, Tex
46	P-68	2/62	Fordland AFS, Mo.
47	P-79	3/62	Ellington AFS, Tex
48	TM-193	3/62	Lufkin, Tex
49	SM-143	4/62	Walnut Ridge, Ark
50	SM-144	4/62	Union City, Tenn.

4. Possible reduction of AN/FPS-6 equipment procurement by utilization of the AN/FPS-27 as a replacement for one AN/FPS-6 at locations specified in paragraph 2c was considered and rejected at this time. It was considered that development of the AN/FPS-27 had not proceeded far enough to permit a commitment as of this date. Our experience with the AN/FPS-7 influenced this decision. The AN/FPS-27 program as related to height finder programming will be re-examined at a later date.

5. This headquarters is preparing a Preliminary Operational Concept for Frequency Diversity Radars. This document will be submitted to your headquarters for approval not later than 30 November 1957.

FOR THE COMMANDER:

JAMES H. WEINER
Colonel, USAF
Director, Communications-Electronics

Memo for Record: The USAF letter of 11 June (Reference 1b) requested assignment of priorities to sites and some minor changes to our plan of 20 Jan 57. We were also requested to review our FPS-6 & GPA-27 requirements and advise Hq USAF of any possible reduction in quantities. A separate letter from this Hq covered our GPA-27 procurement reduction. Present plan provides earliest coverage in perimeter followed by deployment in depth. Considers SAGE Opz dates, and wherever feasible provides FD radar prior to SAGE.

59

JOINT MESSAGE FORM COMAD RST FILE SPACE BELOW RESERVED FOR 302.1 RECEIVED FILE		UNCLASSIFIED
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PRECEDENCE	TYPE MSG (Ar/et)	ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION ROUTINE	BOOK MULTI SINGLE	AF	AFCAC-E/A 50201	CONFIDENTIAL
INFO			11 Sept 57	
FROM: CINCNOBAC				SPECIAL INSTRUCTIONS:
TO: COMADC (COURIER)				

UNCLASSIFIED
 FROM NOEPR-R X004

MESSAGE AFCAC-E/A 50201, HQ USAF, DATED 11 SEPT 57, INDICATES TERMINATION OF GPA-27 PROCUREMENT WITH END OF FY57 PROGRAM. REQUEST THIS HQ BE INFORMED OF THE IMPACT OF THIS ACTION ON YOUR IKS' RADAR IMPROVEMENT PROGRAM. IF GPA-27's ARE BEING ELIMINATED, REQUEST WE BE ADVISED OF CRITERIA USED TO DETERMINE WHICH SITES ARE AFFECTED AND A LIST OF THOSE SITES CONCERNED IF LIMITATIONS ARE IMPOSED.

M/R Not required.
FILE NOELC

MAJ DL FAULKNER
 2040
 23 Sept 57
 N7-10841
 sc

RECEIVED FILE

DATE	TIME
23	1800z
MONTH	YEAR
SEPT	57

SYMBOL NOEPR-R WRITER TYPED NAME AND TITLE (Signature, if required) MAJ DL FAULKNER PHONE 2040 SECURITY CLASSIFICATION 30c	PAGES 1 NR. OF PAGES 1
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SIGNATURE TYPED (in stamped) NAME AND TITLE J. W. LEDOUX LCDR, USN Asst Adjutant
--

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COPY 60

ADCRQ-C, Hq ADC, 21 Nov 57, Subj: Deletion of 32 Gap Fillers

WCOOP-T 1st Ind 10 Jan 1958

Hq North American Air Defense Command, Ent Air Force Base, Colorado Springs, Colorado

TO: Commander, USAF Air Defense Command, Ent Air Force Base, Colorado Springs, Colorado

1. References:

a. Joint ARADCOM/ADC letter, subject: Plans for CONAD (Joint) Direction Centers at Ten (10) Locations, 30 April 1957.

b. ADC Long Range Limited Resources Plan '58-'67, dated 10 December 1957.

2. NORAD recognizes and accepts that two basic reasons exist for re-evaluation of the gap filler program for the Eastern and Western Interior ADIZ's. First, it is agreed that the development of the interior ADIZ's as now planned should be withheld in favor of early establishment of a Southern ADIZ. Second, current resource limitations for ground environment implementation necessitates some program realignment. It is believed, however, that these factors are not sufficient to justify deletion of program assets that are recognized as being inadequate in quantity as they now stand.

3. In this respect, it is noted that references 1.a. and 1.b. contain gap filler requirements that are not yet programmed. While such program deficiencies exist, it is considered more appropriate for your headquarters and the USAF to take action to re-allocate, redeploy, or defer implementation to later fiscal years of the 32 gap fillers listed in the basic communication, rather than to delete these facilities.

4. Therefore, it is requested that you reconsider this matter and take action in consonance with paragraph 3, above. Also, if your headquarters deems it necessary that the policies and concepts for low altitude coverage reflected in previously accepted gap filler criteria or requirements be changed, request NORAD be so advised.

FOR THE COMMANDER-IN-CHIEF:

M/R: Not Required

/s/t/ Col. Allen
2088

Retyped as per
recommendations &
proposed draft by C&E bkm
23 Dec 57
X7-13897

3 Incls
a/c

/s/t/ MARSHALL S. CARTER
Major General, USA
Chief of Staff

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ADORQ-C

HEADQUARTERS
AIR DEFENSE COMMAND
UNITED STATES AIR FORCE
BNT AIR FORCE BASE, COLORADO

TEL. MELROSE 2-5511
EXT. _____

NOV 1 1957

SUBJECT: Deletion of 32 Gap Fillers

TO: Commander-in-Chief
North American Air Defense Command
Bnt Air Force Base
Colorado Springs, Colorado

1. Reference is made to paragraph 4.c. of your letter to this Headquarters dated 27 September 1957, Subject: "Surveillance and Identification". With the possible deletion or reduction to standby of the Eastern and Western ADIZ's, we will no longer have a requirement for 300 foot coverage in those areas. Since many of the gap filler radar sites programmed to support this requirement cannot be built and put into operation before the establishment of a Southern ADIZ, it is proposed that we delete the following sites where construction has not yet started.

P-18C	M-99D	M-128F	SM-144A
P-68A	M-111C	SM-133A	SM-149A
P-68B	M-118B	SM-133B	SM-156B
P-68C	M-118C	SM-134A	SM-156C
P-71A	M-127B	SM-134C	SM-163D
P-71B	M-127B	SM-139D	SM-164A
P-71C	M-128A	SM-143A	SM-164C
M-99A	M-128B	SM-143B	SM-164D

2. Inclosed herewith are three charts which illustrate the gap filler situation.

3. a. Inclosure No. 1 shows the 300 foot coverage of the United States that will be obtained when all radars, presently programmed, become operational. The gap fillers listed above are indicated by red circles, the chart shows that their deletion will not affect the 300 foot coverage around the perimeter of the United States.

b. Inclosure No. 2 shows the 2,000 foot coverage of the United States that will be obtained when all radars presently programmed become operational.

c. Inclosure No. 3 shows the 2,000 foot coverage of the United States that will be obtained when all radars presently programmed, except the 32 listed above,

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READING FILE

3-3

CONC
HCAC11AGCC00
RR RJEDEN
DE RJKDAG 7C
R 270257Z
FM CINCAL ELMENDORF AFB ALASKA
TO CINCONAD ENT AFB COLO
INFO ZEN/COMAANT ELMENDORF AFB ALASKA

ACTION: COELC 27 JUL 57
INFO: COOPR, COOP
X7-9207

UNCLASSIFIED

INFORMAL ADVICE REACHING THIS HEADQUARTERS INDICATES SHORTAGES OF FUNDS WILL RESULT IN DEFERMENT OF ALL PROGRAMMED AN/GPA-27 EQUIPMENT FOR ALASKA BEYOND FY 55. REQUEST YOU TAKE NECESSARY ACTION TO INSURE THAT REPHASING PROVIDES SUFFICIENT AN/GPA-27 EQUIPMENTS FOR ALASKAN FPS-3 RADARS FOR ADEQUATE HIGH ALTITUDE COVERAGE BETWEEN CAPE LISBURNE AND KING SALMON CONCURRENT WITH OPERATIONAL DATE OF ALEUTIAN DEW LINE EXTENSION PAREN MARCH 1959 PAREN. THIS PROGRAM CONSIDERED ESSENTIAL TO PRESERVE OVERALL INTEGRITY OF DEW LINE HIGH ALTITUDE COVERAGE.

BT
27/0257Z JUL RJKDAG

A--PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION--
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME GROUP PRIOR
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GROUP IS QUOTE.
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302

CON004HQA008/SC005
RR RJEDEN
DE RJKDAG 1C
R 230005Z

ACTION: NO LIC
SUSP IN : 25 Oct 57
NY-12/94

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DUPLICATES

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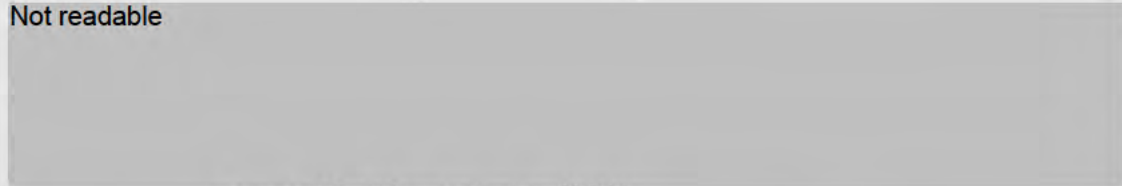
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SEE CRYPTO SECTION BEFORE DECLASSIFYING

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ADVANCE COPY SENT TO CDD/7

63

ROUTINE
ROUTINE
CINCOMAD

X AF CED 5278

UNCLASSIFIED

COFS USAF WASH DC

INFO:
CINCAL ELMENDORF AFB ANCHORAGE ALA
COMAAC ELMENDORF AFB ANCHORAGE ALA

UNCLASSIFIED
D

FROM COEPR 11/11/57

CHIEF OF STAFF, USAF, AS EXECUTIVE AGENT FOR COMAD.
FOLLOWING MESSAGE TO THIS HEADQUARTERS FROM CINCAL IS
QUOTED: QUOTE CED 5278. INFORMAL ADVICE REACHING THIS
HEADQUARTERS INDICATES SHORTAGES OF FUNDS WILL RESULT IN
DEFERMENT OF ALL PROGRAMED AN/GPA-27 EQUIPMENT FOR
ALASKA BEYOND FY 58. REQUEST YOU TAKE NECESSARY ACTION
TO INSURE THAT REPHASING PROVIDES SUFFICIENT AN/GPA-27
EQUIPMENTS FOR ALASKAN YPS-3 RADARS FOR ADEQUATE HIGH
ALTITUDE COVERAGE BETWEEN CAPE LISBURNE AND KING SALMON
CONCURRENT WITH OPERATIONAL DATE OF ALEUTIAN DEW LINE
EXTENSION PAREN MARCH 1959 PAREN. THIS PROGRAM
CONSIDERED ESSENTIAL TO PRESERVE OVERALL INTEGRITY OF

MAJ DLFAULKNER
2040
30 July 57

X7-9207
fc

30 2145
JULY 57

COEPR

COMBACK COELC
M/R not reqrd.

MAJ DLFAULKNER- Chf, Opnl Sqr Div

2040

1

2

30b

July 59

J. W. LEDOUX
LCDR, USN
Asst Adjutant

63

CINCOMAD

DEW LINE HIGH ALTITUDE COVERAGE. UNQUOTE. THIS INFORMATION, IF VERIFIED, CONSTITUTES A CONDITION OF IMMEDIATE CONCERN TO THIS HEADQUARTERS SINCE IT OBVIOUSLY WILL DEGRADE THE CAPABILITY TO PERFORM THE CONAD MISSION AS ASSIGNED BY JCS. REFERENCE RAPD MATERIEL PROGRAM RMP 57-1-2, TITLE: (U) AN/GPA-27, DATED 14 JUNE 1957. REFERENCED DOCUMENT INDICATED ALASKA AIR COMMAND'S FIRST GPA-27 WOULD MEET AN INSTALLATION SCHEDULE OF 2Q58 AND WAS NUMBER 44 ON A PRIORITY LIST OF 176 SETS TO BE PROCURED. AS EXECUTIVE AGENCY FOR CINCAL AND CONAD, REQUEST YOUR HEADQUARTERS PROVIDE THE REPLY TO CINCAL ON THE ABOVE QUOTED MESSAGE, WITH INFORMATION COPY TO THIS HEADQUARTERS.

CINCOMAD
 SECRETARY
 CHIEF OF STAFF
 CHIEF OF BUREAU
 CHIEF OF BRANCH
 CHIEF OF SECTION
 CHIEF OF UNIT
 CHIEF OF DIVISION
 CHIEF OF OFFICE
 CHIEF OF GROUP
 CHIEF OF SQUAD
 CHIEF OF TEAM
 CHIEF OF CELL
 CHIEF OF POST
 CHIEF OF STATION
 CHIEF OF POINT
 CHIEF OF PLACE
 CHIEF OF AREA
 CHIEF OF REGION
 CHIEF OF DISTRICT
 CHIEF OF PROVINCE
 CHIEF OF TERRITORY
 CHIEF OF STATE
 CHIEF OF NATION
 CHIEF OF WORLD

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15 August

ACTION COPY

TECHNOLOGICAL
RR RJKDAG RJEDE
RE RJEPMC 134
R 151902Z
FM HEDUSAF WASHDC
TO RJKDAG/CINCPAC ELMBRONX AFIL AL
INFO RJEDE/COMCONAD ENT 134 SOLO
RJKDAG/COMAFC ELMBRONX AFIL AL
RJEDE/COMAFC ELMBRONX AFIL AL

15 Aug 1964

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17-0110

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1/2 2. 0. 1

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65

COMAD TEST FILE MESSAGE FORM SECURITY CLASS **UNCLASSIFIED**

303
 A PHOTOCOPY FOR REQUIRED IDENTIFICATION CENTER
 TO CATEGORY B ENCRYPTION - PHYSICALLY
 REMOVE ALL INTERNAL REFERENCES BY **READING FILE**
 TIME GROUP PRIOR TO DECLASSIFICATION

RECEIVED OFFICE OF THE DIRECTOR	TYPE MSG (C/A)	ACCOUNTING	AFDAG-EA 50201	CLASSIFICATION
INFO	BOOK MULTI SINGLE	SRPOL	11 Sept 57	CONFIDENTIAL
FROM: CINCORAD				

TO: CINCAL EIMENDORF AFB ALASKA
 INFO: COMAAC EIMENDORF AFB ALASKA

UNCLASSIFIED
 D FROM NOEPR-R XCC3

REFERENCE USAF MESSAGE AFOAC-EA 50201, DATED 11 SEPT 1957, AND
 ACTION AAC. REQUEST THIS HEADQUARTERS BE FURNISHED A COPY OF AAC'S
 REPLY TO REFERENCED MESSAGE. FURTHER, DESIRE COMMENTS RELATIVE TO
 REDUCTION IN OPERATIONAL CAPABILITY CAUSED BY REDUCTION OF GPA-27'S
 WITHIN YOUR COMMAND.

M/R SUBJECT: GPA-27 Eliminations.
 Referenced USAF wire indicated four GPA-27's would be
 eliminated from AAC's program due to stringent FY'58
 budget limitations, and requested that AAC inform USAF
 of those sites to be eliminated.

FILE NOXL

MAJ DL FAULKNER
 2040
 23 Sept 57
 N7-10841
 sc

READING FILE

SYMBOL NOEPR-R	DATE	TIME
MAJ DL FAULKNER	23	1730Z
2040	SEPT	57
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SECURITY CLASSIFICATION		

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15 OCT 57

READING FILE

CON 011

A-268-16
R M 151930Z
FM COMDR RAFB GRIFFISS AFB NY
TO COMDR AAC ELMENDORF AFB ALASKA
INFO/CHIEF OF STAFF USAF WASH DC
CINCNORAD ENT AFB COLO

ACTION: NOELC
INFO: NOOOP
#7-12192

BT

UNCLASSIFIED

L//CITE HRSW1200 FOR: OC AFOAC-EA
YOUR OC-3306752 (CLASSIFIED) DATED 11 OCT 57
REGARDING AN-FPS-7 SLIPPAGE. THE AN/FPS-7 PROGRAM HAS BEEN DELAYED
BY FUNDS LIMITATIONS, RATHER THAN PRODUCTION SLIPPAGE. THE
ABOVE INFORMATION WAS RECEIVED AT THIS DEPOT FROM HEADQUARTERS USAF,
AFOAC-E/A.

BT

AC--PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION--
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME-GROUP PRIOR
TO DECLASSIFICATION--NO UNCLASSIFIED REFERENCES IF DATE-TIME-GROUP
IS QUOTED.

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1000-1

CONAD HIST FILE

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READING FILE

CON007
A-179-10
R 100005Z
FM COM AAC ELEMENDORF AFB ALA
TO COMDR RAFF GRIFFISS AFB NY
INFO COFS HQ USAF WASH DC
CINCNORAD ENT AFB COLO

ACTION: NOELC
INFO: BOOOP
N7-11984

DUPLICATE

BT
UNCLASSIFIED /FROM OC-3B 06752. EXTENDED SLIPPAGE OF AN/FPS-7
PRODUCTION HAS CAUSED CONSIDERATION OF OTHER POSSIBILITIES FOR
EARLIER SATISFACTION OF F-1 AND F-2 RADAR COVERAGE PROBLEMS.
LIMITED DATA AVAILABLE ON AN/FPS-7 MODIFICATIONS INDICATES A
POSSIBLE SOLUTION THROUGH USE OF HIGH GAIN ANTENNAS, IMPROVED
MTI, DUAL CHANNEL CAPABILITY, AND OTHER REFINEMENTS DESIGNED FOR
AN/FPS-7 OR "TRACER" DEVELOPED FOR CAA. REQUEST STATUS OF THESE
EQUIPMENTS, AND ESTIMATE OF AVAILABILITY FROM CURRENT OR
PLANNED PRODUCTIONS.
BT

AC--PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY 3 ENCRYPTION--
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W. H. Good

21 1657
607 1957

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JOINT MESSAGEFORM		SECURITY CLASSIFICATION UNCLASSIFIED	
SPACE BELOW RESERVED FOR COMM.			
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PRECEDENCE ACTION INFO	TYPE MSG (MULTI) BOOK MULT SINGLE	ACCOUNTING SYMBOL	ORIG OR REFERS TO
ROUTINE	X	AF	CRD 5358
FROM	CLASSIFICATION OF REFERENCE		
CINCPAC	CONF.		
TO:	SPECIAL INSTRUCTIONS		
CINCPAC ELMBORF AFB ANCHORAGE ALASKA			
INFO: COMAD EMT AIR FORCE BASE COLORADO SPRINGS COLO (COURIER)			
AAC ELMBORF AFB ANCHORAGE ALASKA			
UNCLASSIFIED	ESS-E XC26		
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SYMBOL		SIGNATURE	
NOSS-E		DEC 1957	
TYPED NAME AND TITLE (Signature if required)		TYPED (or stamped) NAME AND TITLE	
W.R. Goodrich, Jr., Ch. Elem. Div.		USA	
SECURITY CLASSIFICATION		Asst Adjutant	
Unclassified			

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CFEER, Hq CONAD Forces Eastern CONAD Region, Stewart AFB, NY 14
Oct 57, subj: Deployment of AEW&Con Aircraft & Picket Ships

NOOOP-T

3rd Ind

17 Dec 1957

Hq North American Air Defense Command, Ent Air Force Base,
Colorado Springs, Colorado

TO: Commander, Continental Air Defense Forces, Eastern CONAD
Region, Stewart AFB, Newburgh, New York

1. Attention is invited to preceding indorsement.
2. Your headquarters was authorized to deploy the AEW&Con aircraft and picket ships on stations other than as shown in CONAD OPLAN 9-57 for the purpose of conducting your test, by message NOOOP-T X068, this headquarters, 12 December 1957.

FOR THE COMMANDER-IN-CHIEF:

ROBERT S. DINGLE, JR.
Colonel, USA
Acting Director of Operations

(Re-written final preferred for
Col Jeffush signature)

DUPLICATE

/s/t Maj Reeves
2078
12 Dec 57

X7-12269-C
blm
12-071

M/R Not Required

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CFECCR, Hq CONAD Forces Eastern CONAD Region, Stewart AFB, NY 14 Oct 57, subj: Deployment of AEW&Con Aircraft & Picket Ships

ADCOOP-0

2d Ind

10 Dec 1957

HEADQUARTERS Air Defense Command, Ent Air Force Base, Colorado Springs, Colorado

TO: Commander-in-Chief, Continental Air Defense Command, Ent Air Force Base, Colorado Springs, Colorado

1. The attached study by Headquarters, CONAD Forces Eastern CONAD Region, has been reviewed.
2. Since there is insufficient data available to make a satisfactory evaluation of the advantages and disadvantages of the proposed deployment of the AEW&Con forces, it is recommended that CONAD Forces Eastern CONAD Region and Eastern Air Defense Force be authorized to conduct a test of these forces as requested in the attached study.
3. This headquarters is very interested in the development of factual data on the capability of the AEW&Con forces and will assist EADF in carrying out this test in every way possible. A requirement to install new radars in the RC-101D to improve its capability is in the hands of Headquarters USAF, but action is being held in abeyance pending the evaluation of an ANTI modification of the APS 20E search radar. It is understood that sufficient data will be available on this modification by the end of December 1957.

FOR THE COMMANDER:

1 Incl
n/c

/s/ HAROLD W. GRANT
Major General, USAF
Deputy for Operations

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CFEGR, Hq East CONAD Region, Subject: Deployment of AEW&Con Aircraft
and Picket Ships (Cont'd)

sufficient time to scramble additional AEW&Con aircraft or airships to
fill the surveillance gaps in the recommended deployment. Should the
validity of this concept be questioned, I strongly recommend that a
test be conducted as soon as possible to secure data in order to achieve
the optimum utilization of the present ground environment facilities.

5. This letter is classified SECRET in accordance with paragraph
30b (2)(b), AFR 205-1.

1 Incl:
Study re Deployment
of Seaward Extension
Elements

/s/t/ E. H. UNDERHILL
Major General, USAF
Commander

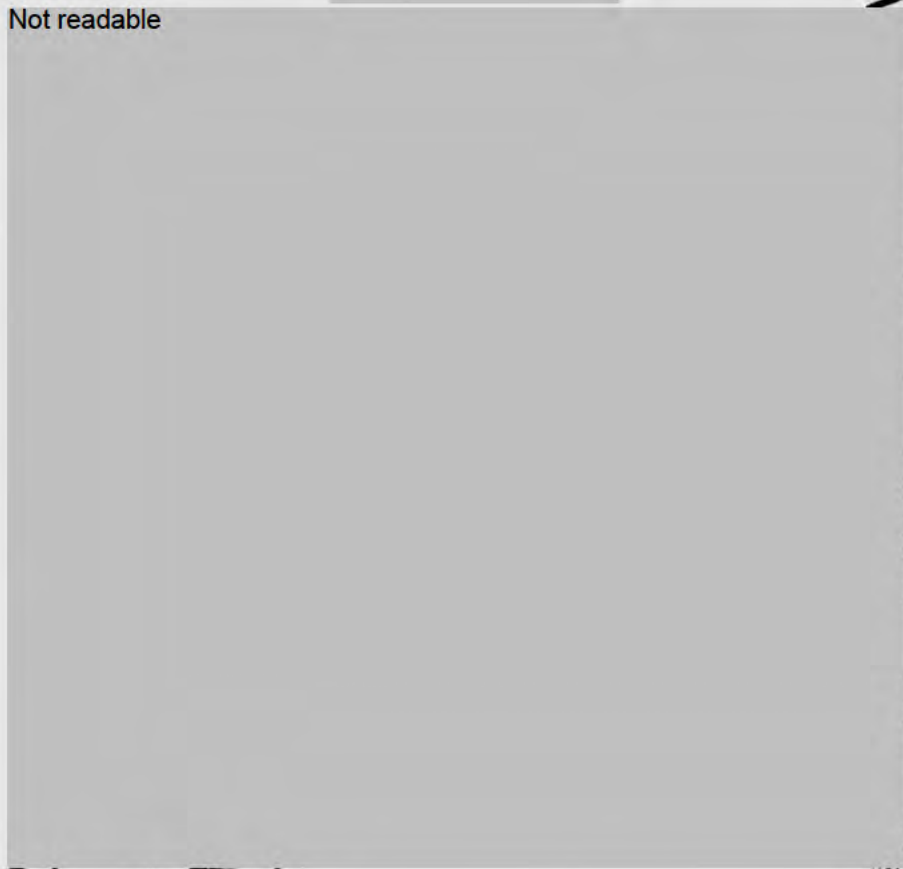
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HEADQUARTERS CONAD FORCES
EASTERN CONAD REGION
Stewart Air Force Base, New York

CFECR

SUBJECT: Deployment of AEW&Con Aircraft and Picket Ships

TO: Commander-in-Chief
North American Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. CONAD Operation Plan 9-57 establishes the present deployment of the Seaward Extension elements within the Eastern CONAD Region and is predicated upon the operational requirement to extend the contiguous radar coverage and weapons directing capability of the Air Defense Combat Zone farther to seaward. A majority of studies conducted on the required deployment have been based on the desired contiguous radar coverage concept and have neglected the weapons directing capability of the present manual air defense system. As recently as 1 July 1957, Operations Analysis Technical Memorandum No. 20, issued by Air Defense Command, recommended that stations be moved nearer the shore in order to achieve the maximum degree of possible contiguous coverage. The present capability of air-to-air weapons and the maximum combat radius of the F-89J and F-102 introduces the new operational concept of extending our control capability to the maximum limits of available weapons.

2. Attached hereto is a study concerning the deployment of the seaward extension elements which embraces both the radar surveillance and weapons directing concepts. In all instances, only theoretical ranges of airborne radar aboard Airborne Early Warning vehicles have been depicted. The study has not taken cognizance of the well recognized limitations of APS-20E radar and its unacceptable blip scan ratios which make the tracking of targets at very high or low altitudes very unlikely. Despite using theoretical ranges, it is apparent that it is impossible to provide a contiguous coverage, unless all elements are moved a considerable distance toward the target complexes. It is apparent from the "sea clutter" areas of AEW&Con radars that close controlled intercepts directed by this element against low altitude high speed targets are improbable at best; that if these intercepts could be conducted at all, they would take place in the immediate vicinity of the target complexes.

3. Recommend the seaward radar elements of the Eastern CONAD Region be deployed as depicted in Suggested Deployment #2; picket ships to remain on their present stations and AEW&Con stations to be approximately 140 miles east of the picket ship stations.

4. The basis for the present deployment was established prior to the existence of the facilities within the Remote Information Zone. Threat warning from the DEW Line and the Atlantic Barrier should allow

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HEADQUARTERS CONAD FORCES
EASTERN CONAD REGION
Stewart Air Force Base, New York

CFEOP

7 October 1957

MEMORANDUM FOR CHIEF OF STAFF

SUBJECT: Deployment of Seaward Extension Elements

PROBLEM:

1. To re-evaluate the deployment of the Seaward Extension elements of the eastern seaboard contiguous air defense system in order to exploit their air surveillance capability and their control capability to best advantage.

FACTORS BEARING ON THE PROBLEM:

2. The facts are:

a. The inherent line-of-sight characteristics of radar limits the low level detection capabilities of ground and shipborne radars (see Tabs A & B).

b. AEW&Con radars have a greater line-of-sight capability as a result of the altitude flown and therefore, a greater capacity for low level detection (see Tabs A & B).

c. AEW&Con radars, because of present equipment design, have a permanent echo area ("sea clutter") in which detection and tracking are impossible. The "sea clutter" displayed on AEW&Con radar scopes is dependent upon sea state; i.e., size of swells or waves, surface wind, and the altitude at which the mission is flown (see Tab C & D).

d. Radar coverages at altitudes of 10,000 feet and above are contiguous due to the overlap of coastal radars and picket ship radars in the areas where attack routes are most probable.

e. The destruction capabilities of new air-to-air defense weapons and the extended combat radii of the F-89J and F-102, together with the speed and altitude capabilities of modern bombers, dictate extension of our detection capability so that interceptors may be ordered off in time to attack well forward from target areas. These same factors dictate extension of control capability to maximum radius of available interceptors, because some airborne orders will be issued on the basis of Atlantic Barrier contacts.

3. It is assumed that the actual radar coverage provided by the seaward extension elements is less than the theoretical coverage as depicted.

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CFBOP, 7 Oct 57, Subject: Deployment of Seaward Extension Elements (Cont'd)

DISCUSSION:

4. There have been many suggestions for the redeployment of the seaward extension elements of the air defense radar system. Each of these suggestions has merit; each has limitations. However, before it can be determined which offers the greatest advantages to the conduct of the air battle, the mission of the seaward extension elements must be defined.

5. Enemy low level penetration poses a definite threat to the well being of this country and must be guarded against. Therefore, the connotation placed on the word "contiguous", when used in the placement of primary mission responsibility, must mean vertical as well as horizontal overlap coverage of the system's radars. Due to the inherent line of sight limitation of all radars, low level detection becomes the most difficult portion of the assigned mission to accomplish. As a result, this study is concerned with the low level detection capabilities of seaward extension radars and is also based on the promise that medium and high level coverage accrue as a by-product.

6. At this point in the development of radars, because of the line of sight limitations, low level detection must be a function of an airborne radar. The higher the radar platform is established, the further extended is the line of sight detection capability, and one radar set flown at 20,000 feet might feasibly do the same job as two flown at 10,000 feet. However, in the present AEW&Con equipment the sea clutter factor reduces the capability of its radar. It is possible to overcome the sea clutter limitation by equipping the AEW&Con radar with an electronic circuitry which eliminates all but moving targets from the scope display (AMTI circuitry).

7. In addition to considering the requirements for contiguous radar coverage, equal consideration must be given to the requirement for early warning surveillance necessary for timely issuance of scramble orders to insure intercepts well forward of the target area. Also, consideration must be given to the requirements for a control capability at the maximum combat radius of available interceptors. In any deployment certain factors must be sacrificed in order to achieve a more desirable goal. To extend the early warning capability and the control capability the contiguous radar coverage must be degraded. As a result of the above considerations, three plans for deployment have evolved. Each of the plans is evaluated below:

a. Present deployment (see Tab E & F). (NOTE: This deployment depicts the stations as outlined in COMAD Ops Plan 9-56 and does not take into account the slight modifications of this deployment contained in COMAD Ops Plan 9-57.) This deployment is designed to provide both high and low altitude radar coverage consistent with theoretical capabilities

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CFEOP, 7 Oct 57, Subject: Deployment of Seaward Extension Elements (Cont'd)

of the air defense equipment available. This deployment recognized the line-of-sight limitations of ground based and shipborne radars and sought to solve the problem by elevating the radar site and thus extending the line-of-sight capabilities. The limitation of this deployment lies in the equipment available to AEW&Con. The elevation of a radar site within an AEW&Con aircraft increases the permanent echo area in direct relation to the altitude flown (see Tab C). It therefore creates an area, as in any deployment, in which contiguous coverage is not possible.

(1) Advantages of the present deployment:

(a) It most nearly approximates contiguous radar coverage (see Tab F).

(b) It allows the utilization of clear channel UHF frequencies on two stations for forward telling. The saturation point of UHF is much higher than HF in terms of forward telling air defense data.

(2) The disadvantages of the present deployment are:

(a) It does not provide theoretical low level early warning beyond approximately 280 miles seaward. Thus, there are only approximately 30 minutes available from initial detection to bomb release point -- 30 minutes to establish a track, pass the information to the direction center, make the decision to scramble, scramble, set up and complete an intercept, and fire.

(b) It provides less early warning surveillance data than any of the suggested plans of deployment.

(c) Control capability at all altitudes is limited because of "sea clutter" areas of AEW&Con radars. Even if fighters were scrambled early enough, it is doubtful that fighter intercepts would be accomplished against low level high speed penetrating targets.

(d) It is possible for picket ships, AEW&Con, and coastal sites to be reporting the same penetrating track. As a result, duplicating and conflicting air defense data can confuse the tactical situation.

b. Suggested Deployment #1 (see Tab G and H).

(1) This plan redeploys both picket ships and AEW&Con stations. Picket ships are moved within 185 miles of the coastal radar sites. The AEW&Con stations are moved outboard of the picket ships by approximately 50 miles in such a position as not to exceed UHF range.

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CFEOP, 7 Oct 1957, Subj: Deployment of Seaward Extension Elements (Cont'd)

(2) Air defense data collected by the AEW&Con would be forwarded to the picket ship which would, in turn, forward tell filtered information to the coastal ADC. The design of this deployment is intended to more closely knit the picket ship and the AEW&Con stations.

(3) This deployment would be more vulnerable to communications breakdown and saturation in that two HF sets available to the AEW&Con aircraft would not be utilized when forwarding tracks to the picket ship.

(4) The advantages of suggested deployment #1 are as follows:

(a) It provides overlap radar coverage between coastal sites and the picket ships similar to the overlap coverage between perimeter coastal sites.

(b) Coastal direction centers would have fewer extension elements reporting air defense data. Picket ships would be responsible for filtering any duplicating air defense data provided by AEW&Con.

(c) UHF facilities between picket ships and AEW&Con would provide for a theoretical 100% communications capability between these two elements.

(d) Early warning surveillance and a limited control capability would be extended slightly seaward beyond the present deployment.

(5) The disadvantages of suggested deployment #1 are as follows:

(a) It does not provide semi-contiguous radar coverage in the seaward extension from the eastern seaboard seaward. A larger gap in the radar net would exist at low altitudes between the picket vessels and the coastal sites (see Tab H).

(b) The control capability would be non-existent at low altitudes in the area mentioned in paragraph (a) above.

(c) It would require more enroute time than the present deployment and, as a result, provide less on-station time per mission.

(d) The duplicating overlap coverages, obtained by the overall inward movement of the picket ship radars would result in an uneconomical use of these elements.

(e) It would not provide early warning surveillance data at high or medium altitudes to utilize the F-89J or F-102 at maximum combat radius.

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CPEOP, 7 Oct 1957, Subj: Deployment of Seaward Extension Elements (Cont'd)

c. Suggested Deployment #2. AEW&Con aircraft are deployed to a position approximately 140 miles east of the picket ships. Forward telling by the AEW&Con aircraft could be accomplished through either the picket ship or directly to the coastal sites.

(1) The intent of this suggested deployment is to extend the early warning and control capability of the seaward extension elements at all altitudes. It is enhanced, but not necessarily promised on the ability of an AEW&Con aircraft to scramble and take positions filling the gap created by the redeployment of the AEW&Con stations. (See Tab I).

(2) It is desired that under this deployment the Commander, CFEOP, would have two to four hours warning of an attack from one or a combination of several sources: intelligence, DEW Line; and/or the Atlantic Barrier. This warning would allow sufficient time for the scrambling of AEW&Con aircraft as the threat warning information was obtained and dead reckoned to point of penetration. F-89s would scramble for control by AEW&Con aircraft or the picket vessels if the airborne radars are unable to provide sufficient continuity of tracking of the enemy aircraft. (See Tab I).

(3) This deployment would result in a possible "kill" at the maximum combat radius of all inventory interceptors.

(4) Advantages of Suggested Deployment #2 are as follows:

(a) It extends the detection capability of the seaward extension elements at all altitudes, thus permitting timely fighter scrambles with intercepts conducted forward from the target areas.

(b) It allows the air battle to be fought at the maximum range of the interceptors provided threat warning is afforded by the Remote Information Zone (DEW Line, Mid-Canada Line, Atlantic Barrier) (see Tabs J & K).

(5) Disadvantages of Suggested Deployment #2:

(a) It does not provide a semi-contiguous radar net seaward prior to the air battle. At low altitudes a gap would be created in that area between the picket ships and the coastal sites.

(b) Destruction of a low level attack by interceptors under control of seaward extension elements would be dependent upon threat warning provided by the DEW Line and Atlantic Barrier -- to the extent that intercepts can be directed by AEW&Con aircraft because of "sea clutter".

(c) It would cause increased AEW&Con enroute times.

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CONCLUSIONS:

8. Low altitude surveillance and control should be the primary function of AEW&Con radars because of the inherent low altitude detection limitations of surface radars. Therefore, any suggested deployment of AEW&Con aircraft should be based upon theoretical low altitude radar coverages. However, "sea clutter" areas of AEW&Con radars render improbable close controlled intercepts of low altitude high speed targets.

9. Based on the existing limited knowledge concerning AEW&Con capabilities for either low or high altitude surveillance, the present deployment most nearly approximates a contiguous radar coverage; however, it does not provide true contiguous coverage.

10. The present location of AEW&Con stations with their low altitude capability does not provide a defense against a high speed low altitude attack. The time factor above renders controlled intercepts highly improbable.

11. Any redeployment of AEW&Con to a position outboard of the picket ships will result in more seaward enroute time and less on station time per scheduled mission.

12. Suggested Deployment #1 has the least merit of the 3 deployment plans under study. This plan would result in an inward movement and a "bunching" of the seaward extension elements and, as a result, provide less early warning surveillance. This deployment, if it were adopted, would result in a shortening of the seaward combat zone.

13. Suggested Deployment #2.

a. This plan has the most merit in that it extends seaward the medium and low level early warning surveillance capabilities of the seaward extension radars. In extending the early warning capability it also extends the medium and high altitude control capability, and interceptors can be utilized at the extent of their combat radii (see Tabs J & K.

b. Present deployment of AEW&Con aircraft does not provide a defense against high speed low altitude bombers. In the event threat warning is not provided by intelligence sources or the Remote Information Zone, suggested deployment #2 will at least provide sufficient warning to alert AA defenses and the populace.

c. Early threat warning provided by the Remote Information Zone (DEW Line, Atlantic Barrier, etc.) will afford semi-contiguous radar coverage seaward. The low level gap in the seaward extension radar that result from the eastward deployment of the AEW&Con stations would be filled by AEW&Con aircraft scrambled as a result of data received from the Remote Information Zone.

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CPEOP, 7 Oct 57, Subj: Deployment of Seaward Extension Elements (Contd)

71

RECOMMENDATIONS:

11. That deployment plan #2 of AEW&Con aircraft to new positions approximately 140 miles east of the picket ship be implemented.

/s/t/ DEAN W. DUTRACK
Lt.Col., USAF
AC/S Operations

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11 December 1957

(Date)

From: Hq ADC (2nd Ind) Dated: 10 Dec 1957
Classification: UNCLASSIFIED FF: X7-12269 Suspense: None
Action Office: COOP

SUMMARY: Basic letter from CFECR, 14 Oct 57, Subj: Deployment of AEW&Con Aircraft & Picket Ships. The Commander, Eastern CONAD Region forwards a study showing the deployment of AEW&Con aircraft and picket ship determined on the capability of the weapons directing mechanism rather than the inherent ability of the searching radar. This matter relates to CONAD Ops Plan 9-57.

1st Ind Hq NORAD dtd 29 Oct 57 signed by Maj Gen Alness to ADC, requested that ADC coordinate with COMNAVFORCONAD to determine the feasibility of implementing the recommendation contained in the basic communication, to be returned to this Hq NLT 18 Nov 57.

2nd Ind returned 10 Dec 57 states that since there is insufficient data available to make a satisfactory evaluation of the advantages and disadvantages of the proposed deployment of the AEW&Con forces, it is recommended that CONAD Forces, Eastern CONAD Region and EADF be authorized to conduct a test of these forces as requested in basic communication. This Hq is interested in the development of factual data on the capability of the AEW&Con forces and will assist EADF in carrying out this test in any way possible. A requirement to install new radars in the RC-121D to improve its capability is in the hands of Hq USAF, but action is being held in abeyance pending the evaluation of the ANTI modification of the APS 20E search radar. It is understood that sufficient data will be available on the modification by the end of December 1957.

SIGNED BY: Maj Gen H. W. Grant, USAF, Deputy for Operations, Hq ADC.
/s/t/

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CPEOP S Hq CPECR, 25 Sept 57, Subj: (Uncl) Report on Elements of the the Seaward Extension

NOOOP T

1st Inf

24 October 1957

Hq North American Air Defense Command, Ent Air Force Base, Colorado Springs, Colorado

TO: Commander, Air Defense Command, Ent Air Force Base, Colorado Springs, Colorado

1. For your information and necessary action.
2. Request that your headquarters accomplished the following actions:
 - a. Supervise and submit your recommendations to this headquarters on the study mentioned in paragraph 1 of basic communication.
 - b. Reference paragraph 3 of basic communication, it is the responsibility of component commanders to place under the operational control of CINCNORAD combat-ready forces. Therefore, in coordination with NAVFORCONAD, request that training requirements for picket ship and airship directors be established. It is realized that while picket ships are on station, ADC interceptors cannot provide profitable training for directors of picket ships while these ships are en route to and from their station.
3. Reference paragraph 4 of basic communication, Headquarters Strategic Air Command has been furnished coordinates of all picket stations and a blanket request has been made for SAC Fakers to tailor their tracks, whenever possible, to include these seaward element positions during NORAD-SAC exercised.

FOR THE COMMANDER-IN-CHIEF:

M/R Re-typed for administrative correction

1 Incl
N/C

HARVEY T. ALNE'S
Major General, USAF
DCS/Plans & Operations

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CFEOP-S

25 SEP 1957

SUBJECT: (Unc1) Report on Elements of the Seaward Extension

TO: Commander-in-Chief
North American Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. Attached hereto are two copies of a report by the Tactical Evaluation Directorate of Headquarters Eastern Air Defense Force. This headquarters does not necessarily concur with the recommendations contained in paragraph 4 of the basic report. However, a detailed study of this suggested deployment is being conducted jointly by personnel assigned Headquarters CONAF Forces, Eastern CONAF Region, and Headquarters Eastern Air Defense Force.
2. Some of the statements contained in the report are not entirely accurate and are based on observations by members of the Tactical Evaluation Team at the time of the exercise. As an example, your attention is invited to operation FISH BAIT in which the surveillance capability of the airship is given as complete coverage from sea level to 40,000 feet at a distance of 150 miles.
3. Reference recommendation Nr. 3 of FISH BAIT. This headquarters believes that firm requirements for the training of picket ship and airship directors should be established by your headquarters and that ADC interceptors should be made available for this training. It is imperative that intercepts be conducted as far from shore as possible if the East Coast is to be adequately defended. We are prepared to direct scrambles on Atlantic Barrier contacts to achieve this end. It follows that directors assigned to the seaward elements must receive continuous and adequate training. Recommendation Nr. 4 of this section has already been acted upon, and direct communications now exist between Lakehurst NAS and the Control Center at Roslyn, New York.
4. It was obvious to the observers that all elements of the seaward extension were enthusiastic concerning their participation in these evaluations and all elements desired additional exercises of this nature. We believe that future exercises should include realistic targets for the seaward elements provided by SAC units in order to arrive at more valid conclusions concerning the relative operational capabilities of these elements.

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5-CFOP-1987-57

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CFEOP-S, Hq East COMAD, Subject: (Uncl) Report on Elements of the Seaward Extension (Cont'd)

5. In reviewing the Tactical Evaluation report, it should be borne in mind that T-33 target aircraft were operating with IPF turned on.

6. This letter is classified SECRET in accordance with paragraph 30b(2)(b), AFR 105-1.

FOR THE COMMANDER:

1 Incl:
Rpt on Elements of
the Seaward Ext (S)
(2 cys)

Copy furnished:
26th CADD

JOHN E. MANNON
Major, USAF
Adjutant

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FILE NO.

SUBJECT

Request for records of the Seawind extension

TO: WOOD-T

FROM

W-274

DATE

10/27/2010
10/27/2010/2723/mv1

COMMENT NO. 2

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1 Incl
N/C

Kabir Khurshid
Special Agent in Charge
Control
Intelligence & Exercise Div

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OPS-5-1

COMMANDER NAVAL FORCES
EASTERN CONTINENTAL AIR DEFENSE REGION
STEWART AIR FORCE BASE, NEW YORK

FF5-10/East
A9/20
Serial: 009-57
1 October 1957

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PF5-10/East
A9/20

c. Operation "SEAGULL".

(1) The "normal radar search range" without IFF, based on one year's averages, has been 143 miles with maximum average ranges for high altitude targets (35-40,000') of 185 miles.

(2) It is unfortunate that all the electronic gear, which is normally operational, was not functioning on the TAGR used for this test.

(3) Communications Reliability Reports indicate 93% reliability (vice 80%) for H/F ship to shore circuits for ships on station during the past year.

(4) Air control training with Air Force interceptors has been nil during the past two years. Recently, the 20th CONAD Division has emphasized this requirement and aircraft are now scheduled for the ships on the days they leave or return to port. With proper supervision, this will be part of the answer to the problem.

(5) COMNAVEASTCONADREG concurs in the recommendations on pages 3 and 4 of this enclosure.

d. Operation "SUSIE".

(1) COMNAVEASTCONADREG will make no comment concerning this section of the report except that there is believed to be a requirement for H/F cross telling between picket ships and AEW aircraft and/or airships. This would have to be H/F due to ranges involved. It is not known what the H/F capability is for simultaneous operation of a telling circuit, a cross-telling circuit, and a director to director circuit for passing control of fighters to AEW/C aircraft.

e. Operation "FISHWAT".

(1) It is to be noted that the height finding radar (APS-62) is aboard but not operational. The delivery date of the height potentiometer from the prime contractor is not known.

(2) It is noted that "skin paints" on T-33 target aircraft were made intermittently at ranges to 150 miles and with IFF tracking, was solid to that range.

(3) ZW-1 - ACWRON H/F communications during time on station have been 92-94% reliable since 1 July 1957.

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FFS-10/East
A9/40

(4) Item 4 of the Recommendations has been accomplished. ZW-1 has a red phone to the 20th CONAD Division which can give him connection to the listed stations, as will any other unit in that network. Action is being taken to install an extension from the CINCLANTFLT red phone to the COMPAIRWINGSLANT Operations Center so that as ZW-1's Operational Commander, he will also be in this tactical network.

3. COMNAVEASTCONADREG GENERAL COMMENTS

a. The achievement of training of Navy air controllers in the methods of control, as given in ADC Manual 55-5, is of prime importance.

b. The height finding radar (AFS 62) is a highly desirable piece of equipment and effort should be directed toward the early procurement of the one lacking element (height potentiometer) needed to make the gear operational.

c. The potential of the AEW airship, especially with the capability of carrying a much larger search antenna, is indicated by their outstanding performance since 1 July 1957, when they became operational in the contiguous system.

4. COMNAVEASTCONADREG will

a. Continue to encourage picket ships and ZW 1 to send personnel to ACWRON's for cross training.

b. Re-submit requests for quotas in ADC controlled air controller courses.

c. Continue to maintain liaison with Headquarters, EADF and subordinate commands to insure maximum use of available Air Force interceptors for air control training.

d. Take whatever action is indicated to increase the utilization of the air defense potential inherent in the picket ships and AEW airships.

FRANK L. BAILES

- Distribution List:
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- COMPAIRSHIPWING ONE
- HQ, 26th CONAD DIV

- NAVDEP, 26th CONAD DIV
- COMYACRDIV 21
- YAGRDIV 21
- CO ZW-1 (3)
- NAVDEP 85th CONAD DIV
- NAVDEP 32nd CONAD DIV
- HQ, New York Air Defense Sector
- HQ, Boston Air Defense Sector

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16 Jul 57

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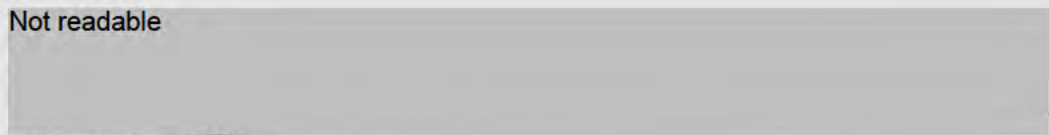
FM COMCFEER STEWART AFB NY
TO RJEDEH/CINCONAD EMT AFB COLO
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4 Incls:
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HAROLD W. GRANT
Major General, USAF
Deputy for Operations

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Sq Ldr Anderson/lmd

ADOCF-C

29 Nov 57

0060

H-44922

UNCLASSIFIED

From: Commander Naval Forces, Continental Air Defense Command
To: Commander in Chief, North American Air Defense Command

Subj: Relocation of Picket Ship Stations in the Contiguous System

Ref: a. CADOP 56-66

Encl: (1) Chart of Present East Coast Coverage
(2) Chart of Proposed East Coast Coverage
(3) Chart of Present West Coast Coverage
(4) Chart of Proposed West Coast Coverage

1. In view of budgetary reductions which resulted in the decisions by the Navy that force levels for the surface element of the Contiguous System are fixed at that level which is required to man five (5) stations off each coast, a preliminary study has been made attempting to achieve a higher return in the utilization of forces available. The study is based on an increase in detection capability as a result of the installation of the AN/SPS-17 search radar on YAGR types. Because of the limited low level surveillance capability of the picket ships, high altitude targets were considered to be the prime responsibility of the picket ships.

2. The extent of contiguous radar coverage required in the off shore areas as outlined in reference (a), placed a requirement of nineteen (19) picket stations as necessary to attain the desired coverage. Based on target altitude of 25,000 feet, it is believed that the proposed relocations will furnish approximately 85% of the required CADOP coverage off the West Coast, and 75% off the East Coast. Increases in target altitude will extend the detection ranges further to seaward but will not appreciably increase the lateral coverage along the coastline.

3. Commander, Operational Development Force final report "Evaluation of an AN/SPS-17 Radar" dated 3 July 1957, was used as a data source for SPS-17 performance. A detection range of 170 N.M. was used in stationing picket ships based on average detection range curves obtained by OpDevFor on single jet aircraft (F3D or TV-2) at altitudes from 17,000 to 42,000 feet. Unfortunately, aircraft were not available to investigate the altitudes above 42,000 feet. The theoretical coverage indicates this coverage extends above 60,000 feet. The 170 N.M. detection range utilized corresponds to a larger altitude of 25,000 feet.

75

4. In determining the proposed locations for picket stations, the axis of the picket line was located 100 miles inside the limits of the contiguous radar coverage required in reference (a). The interval between picket stations was fixed at 272 N.M. based on a desired coverage factor of 1.25 at target altitude of 25,000 feet. The coverage attained along the axis of the picket stations is the proposed relocation is as follows:

<u>Target Altitude</u>	<u>Coverage Factor</u>
15,000	1.01
20,000	1.14
25,000	1.25
30,000	1.34
35,000	1.45
42,000	1.61

Details of coverage attained by present and proposed stations are forwarded herewith as enclosures (1) through (4).

5. It is recommended that tests be initiated to test the validity of this station relocation concept. Should the concept prove sound it is further recommended that problem areas resulting from this relocation (particularly communications) will have been explored and resolved prior to July of 1958 so that the relocation of stations could be fully implemented at this time. On the East Coast the SPS-17 installation has already started and is scheduled to be completed by June 22, 1958, on all eight (8) YAGR. On the West Coast the installation the installations will start 1 November and will be completed 31 May 1958, on the four (4) YAGR now in commission and tentatively in June 1958, on the four (4) additional programmed YAGR conversions.

G. L. KOHR
Chief of Staff

UNCLASSIFIED

75

HEADQUARTERS
NORTH AMERICAN AIR DEFENSE COMMAND
ENT AIR FORCE BAZE
C/O SPRING BRIDGE C/O BRAD

OFFICE OF THE ASST SECY OF ADMINISTRATION

OFFICE OF IMPORTANT ECONOMIC CORRESPONDENCE

11 December 1957

TO: Chief of Staff _____
Assistant Chief of Staff _____

For your information, the following correspondence has been received:

From: ADC Dated: 10 Dec 1957
Classification: SECRET Enfold# X7-11299-C Dispense: None
Action Office: COOP

SUMMARY: Subject is relocation of picket ships in the contiguous system. With budgetary reductions in mind, a preliminary study was made in an attempt to achieve a higher return in use of forces available. Details of coverage attained by present and proposed picket stations were enclosed. It is recommended that tests be initiated to test the validity of the station relocation concept.

The 1st Ind by NORAD dtd 18 Oct 57, signed by M/Gen Alness to ADC, requested that appropriate deployment plans be submitted to the Hq for inclusion in Ops Plan o-57. (Seaward Extensions to the Contiguous Radar Coverage System dtd 1 Aug 57).

The return Ind from ADC states that COMNAVFORCONAD's proposal has been examined in conjunction with personnel from that force and the following comments are submitted on the proposed deployments on the East and West coasts: a. East Coast. Besides increasing the interval between stations to 272 NM, moves them between 100 NM and 300 NM farther to the EAST. These relocations seem reasonable except that Station 18 should be moved inboard as suggested in your indorsement. Major impact of this proposal on the current system concerns the utilization of the AEW&Con forces. If these forces are utilized as outlined in the current Ops Plan there is little change required, but if they are deployed outboard of the picket ships their enroute time to and from station will be increased considerably with a resultant decrease in en-station capability. b. West Coast. Proposed deployment of picket ships along the West Coast follows a more standard pattern with major emphasis being placed on extending the interval between stations to approximately 272 NM only. This deployment seems satisfactory and should have very little effect on the utilization of the AEW&Con forces in that area.

It is recommended that the proposed utilization of the picket ships be carried out as a part of CONAD Forces, Eastern CONAD Region's contemplated test of the AEW&Con forces in that region.

SIGNED BY: Maj General E. W. G. Lt. USAF, Deputy for Operations, Hq ADC.

NORAD SECRET UNCLASSIFIED

JOINT MESSAGEFORM

SECURITY CLASSIFICATION
UNCLASSIFIED

76

SPACE BELOW RESERVED FOR MESSAGE NUMBER

1

302.12

PRECEDENCE	TYPE MSG	ACCOUNTING SYMBOL	ORIG OR REFERENCE TO	CLASSIFICATION OF REFERENCE
ACTION: ROUTINE	BOOK: X	MULTI: SINGLE	AF	
FROM: SINGHORA				

TO: COMCOMB STANT AFB NEWBURGH NY

INFO: COMB AFB SLD AFB COLO (COMBIC)

COMNAVFORCOMAD INT AFB COLO (COMBIC)

UNCLASSIFIED

From N0001-T X008. Reference recent conversation between Colonel White, Lt. Colonel Intrack of your headquarters, and Colonel Jeffus of this headquarters pertaining to the redeployment of elements of the Contiguous Radar Coverage System. You are authorized to deploy the A&C aircraft and picket ships on stations other than as shown in COMAD OPLAN 9-57 for the purpose of conducting your test. Upon completion of the test, a report of your findings with recommendations will be forwarded to this headquarters.

24 Oct Acquired.

DATE	TIME
11	2330Z
MONTH	YEAR
Dec	57

SYMBOL N0001-T	SIGNATURE <i>Fred D. Reeves, Jr.</i>
TYPED NAME AND TITLE Major Fred D. Reeves, Jr.	NAME AND TITLE W. LINDOUX CDR, USN Adjutant
PHONE 2078	
PAGE NO. 1	
NR. OF PAGES 1	
SECURITY CLASSIFICATION UNCLASSIFIED	

DD FORM 173, MAY 55

REPLACES DD FORM 173, 1 OCT 48, WHICH WILL BE USED UNTIL EXHAUSTED

Not Readable

77

JOINT MESSAGEFORM

SECURITY CLASSIFICATION
UNCLASSIFIED

SPACE BELOW RESERVED FOR COMMUNICATION CENTER

PRECEDENCE	TYPE MSG (Check)			ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION PRIORITY	BOOK	MULTI	SINGLE	AF	0209	UNCLAS
INFO PRIORITY		<input checked="" type="checkbox"/>				

FROM: COMAID

TO: COM 4DF SFAAET AFB NY
COM 4DF HAMILTON AFB CALIF

INFO: CINCPACFLT 4TH AFW BULO SPRINGS BULO (COMAID)
COM 4R 551ST AIRWING 43 OTID AFB ILL
COM 4R 552ND AIRWING 43 OTID AFB ILL

SPECIAL INSTRUCTIONS

Not readable

UNCLAS

DATE 11 MONTH 1957

TIME 1057 YEAR 1957

SYMBOL AD00P-5		SIGNATURE	
TYPED NAME AND TITLE (Signature, if required) Capt Ingram/abg		TYPED (no stamp) NAME AND TITLE JOHN N. KENSKY Colonel, USAF Director of Operations Deputy for Operations	
PHONE 2602	PAGE 1	NR. OF PAGES 2	
SECURITY CLASSIFICATION UNCLASSIFIED			

Not Readable

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION
UNCLASSIFIED

77

FROM
COMADG

Not readable

SYN
ALOOB-S

DD FORM 173-
MAY 55

INITIALS

487234

JOINT MESSAGEFORM

SECURITY CLASS UNCLASSIFIED

782

PRECEDENCE	TYPE MSG	ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFIC. OF REFERS
ACTION ROUTINE	BOOK MULTI SINGLE	AP	ADCOOP-S 0098	SECRET
INFO ROUTINE	X		dtd 11 Sep 57	

FROM: COMDR ADC

SPECIAL INSTRU

TO:

- CINCONAD ENT AFB COLORADO SPRINGS COLO (COURIER)
- COMEADF STEWART AFB NY
- COMEADF HAMILTON AFB CALIF

INPC: COMDR 552ND AEW&CON WING MCCLELLAN AFB CALIF
COMDR 551ST AEW&CON WING OTIS AFB MASS

UNCLASSIFIED

FROM ADCOP-S 0099

Reference my message ADCOP-S 0098, dated 11 Sep 57. Subject: Flying Hours. This message in three parts. Part I. FOR ALL. In establishing the allocated flying hours for the AEW&Con units for the Second Quarter of FY 58, the EADF total of 2525 hours per month and the WADF total of 2610 hours per month were broken down as follows: A total of at least 2268 hours WADF and at least 2125 hours EADF will be spent on primary ADC missions. The balance of the time may be varied, but for planning was allocated as follows: Maintenance and test 70 hours, proficiency 150 hours, transition 105 hours, long range navigation and other: WADF 17 hours, EADF 75 hours. This LRN

A/205

DATE	TIME
11	2100
MONTH	YEAR
SEP	1957

SYMBOL: ADCOP-S

TYPED NAME AND TITLE (Signature if required): H. C. DEWEY, Captain, USAF

PHONE: 2680

SECURITY CLASS: UNCLASSIFIED

PAGE NO. 1 NR. OF PAGES 2

CLASSIFICATION: D

SIGNATURE

TYPED (OR HANDWRITEN) NAME AND TITLE: JOHN M. KONCSKY, Colonel, USAF, Director of Operations, Deputy for Operations

CONAD 77104

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION

UNCLASSIFIED

78

FROM

COMDR ADC

and other includes all time necessary to ferry aircraft to and from phase II modification at LANSO during second quarter. Part II. FROM RANF. AEMCon time that must be utilized to accomplish mandatory SAGE flight testing is to be taken from primary AOC hours. Part III. FROM COMAD. Enough flying hours have been allocated during the Second Quarter FY 57 to man only two AEMCon stations continuously on each coast. Request you advise this headquarters by 20 September 1957 how you would like this time utilized. Either (A) Used to cover the two highest priority stations on each coast continuously, (B) Used to cover the maximum number of stations on each coast during the hours of darkness, (C) Some other method.

UCL

Not Readable

UNCLASSIFIED

79

BOOK-1

20

SUBJECT: Reduction of Flight Hours for ANMAC Aircraft

TO: Commander
Air Defense Command
Fort Air Force Base
Colorado Springs, Colorado

1. References:

Not readable



DUPLICATE

UNCLASSIFIED

80

COMAD DIST T

REPLYING FILE

302.12

ACTION: PRIORITY
 FROM: CINCNOGAD
 SYMBOL: X
 REFERENCE: ADOP-S 0099
 SECURITY CLASSIFICATION: UNCLASSIFIED

TO: COMOPCEN STUART AFB NEWBURGH NY
 COMOPCEN HAMILTON AFB CALIF

UNCLASSIFIED

From ADOP-T X 009. Reference ADJ Secret

message ADOP-S 0099. CINCNOGAD does not concur in the reduction of AEW&Con Surveillance indicated in referenced message. This headquarters will request ADC to review proposed reduction of AEW&Con flying hours to determine if sufficient time cannot be restored to permit continuous AEW&Con coverage of currently manned stations; if this is not possible, to request that all flying time of AEW&Con aircraft be utilized on station with the elimination of all other flying, except essential engineering test flights to the extent necessary to insure continuous AEW&Con coverage of currently manned stations. In the event this capability cannot be fully restored, to request that available AEW&Con flying hours be utilized to insure

DATE	TIME
15	2000
MONTH	YEAR
Sep	1957

SYMBOL: MORG-T
 TYPED NAME AND TITLE: Col Allen
 PHONE: 2078/2
 SECURITY CLASSIFICATION: UNCLASSIFIED

SIGNATURE: [Blank]
 TYPED NAME AND TITLE: [Blank]

REPLYING FILE

80

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION

UNCLASSIFIED

FROM

CINCPACRAD

coverage of all currently manned stations during the hours of darkness and at such other times as the allocated flying hours will permit. Your comments with respect to the above are requested on or before 18 September 1957.

M/R Not required.

SYMBOL

UNCLASSIFIED

PAGE NR

2

NR OF PAGES

2

SECURITY CLASSIFICATION

INITIALS

UNCLASSIFIED

81

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COPY OF INCOMING UNCLASSIFIED MESSAGE

SEE CRYPTO SECTION BEFORE DECLASSIFYING

18 Sep 57

CONAD HIST FILE

READING FILE

CON0025 302.12
T

NBC170
PP RJEDEM
DE RJEPNB 255C
P 181846Z
FM COMCFEGR STEWART AFB NY
TO CINCPACFLT ENTP AFB COLO

ACTION: NOOOP
INFO: NOOPO
#7-11073

PRIORITY

UNCLASSIFIED

CFEOP-S 188. THIS MESSAGE IN 2 PARTS. PART I.
REFERENCE YOUR SECRET MESSAGE NOOOP-T X009, DATED 17 SEPT 57,
SUBJECT: REDUCTION OF AEWG SURVEILLANCE. THIS HEADQUARTERS CONCURS
WITH YOUR REQUEST TO ADC FOR REVIEW OF THEIR PROPOSED REDUCTION OF
AE

C FLYING HOURS. PART II. REFERENCE ADC MESSAGE, SECRET, ADOOP-S
0099, 12 SEPT 57, SUBJECT: FLYING HOURS. 25-5 FLYING HOURS PER
MONTH WOULD ALLOW CONTINUOUS MANNING OF STATIONS NBR 4 AND NBR 6 AND
PARTIAL MANNING OF STATION NBR 2 DURING DARKNESS HOURS WITH APPROX-
IMATELY 500 HOURS REMAINING TO ACCOMPLISH MANNING OF STATION NBR 8.
OCCASIONALLY, CONDUCTING ENGINEERING TESTS, DIRECTOR TRAINING,
SNOOPER MISSIONS, AND TRANSITION TIME.

BT
18/1900Z SEP RJEPNB

0
A-- PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION--
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME-GROUP
PRIOR TO DECLASSIFICATION

READING FILE

UNCLASSIFIED

FILE

COPY OF INCOMING CLASSIFIED MESSAGE

826

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SEE CRYPTO SECTION BEFORE DECLASSIFYING

19 Sept 5

302.17

READING FILE

CON 020 SBA1455BC059

PP RJEEN

DE RJUPSB 337C

P 192050

FM COMCFUR HAMILTON AFB CALIF
TO CINORAD ENT AFB COLO SPRINGS COLO

PRIORITY

ACTION: NOOOP

INFO: NOOFO

NOSEC

#7-11111

UNCLASSIFIED

FROM CUOOP7S-1132, REFERENCE YOUR NOOOP-T X009, DURING WINTER MONTHS PILOTS NEED INSTRUMENT APPROACH PRACTICE. PRACTICE GIVEN AT THE END OF A MISSION CONSUMES AS MUCH FLYING TIME AS SCHEDULED PROFICIENCY FLIGHTS DO. PROFICIENCY FLYING TIME IS A MUST. TRANSITION TRAINING FOR NEW PILOTS CAN BE STOPPED FOR 3 MONTHS. MAINTENANCE AND TEST CAN BE HELD TO A MINIMUM. IN VIEW OF THE ABOVE, THE FOLLOWING IS SUGGESTED: 1. THREE STATIONS CAN BE MANNED DURING HOURS OF DARKNESS PLUS, ON 18 DAYS, ONE STATION CAN BE MANNED AROUND THE CLOCK, 2. THREE STATIONS CAN BE MANNED LEAVING AN 8 HOUR OPEN PERIOD ON EACH STATION EACH DAY. THIS OPEN PERIOD CAN ROTATE ON A

PAGE TWO RJUPSB 337C

CLASSIFIED SCHEDULE. THIS WILL GIVE TWO STATIONS MANNED AT ALL TIMES. AIR ATTACKS AGAINST US TARGETS COULD NOT BE PLANNED TO PENETRATE AN UNMANNED STATION. SUGGESTION NUMBER 2 IS RECOMMENDED. THIS HEADQUARTERS HAS NO INDICATION OF THE EXTENT OF FLYING HOUR CUT FOR INTERCEPTOR AIRCRAFT FOR 2ND QUARTER FY58. ON RECEIPT OF THE INTERCEPTOR PROGRAM, ADDITIONAL HOURS OF RC-121 TIME MAY BE MADE AVAILABLE TO COVER 3 STATIONS.

BT
19/2054Z SEP RJUP

TO
A-- PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION--
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME-GROUP
PRIOR TO DECLASSIFICATION

READING FILE

UNCLASSIFIED

83

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SEE CRYPTO SECTION BEFORE DECLASSIFYING

302.12

19 Sep 57

READING FILE

ON02INBC162
PP RJEPMY RJEPMY RJEPMY
DE RJEPMY 297C
P R 191942Z

PRIORITY

ACTION: NOGCP
INFO: NOGFO
NOGEC
#7-11112

FM COMCFECR STEWART AFB NEW YORK
TO RJEPMY/COMDR 26CADD ROSLYN AFB NEW YORK
RJEPMY/COMDR 35CADD ANDREWS AFB WASHINGTON 25 DC
ZEN/COMNAVEASTCONADREG STEWART AFB NEW YORK
INFO RJEPMY/CINCHORAD ENT AFB COLORADO SPRINGS COLO
ZEN/COMDR EADF STEWART AFB NEW YORK
ZEN/COMDR 551ST AEW&C WING OTIS AFB MASS

UNCLASSIFIED

/CFEOP-U 192. SUBJECT IS MANNING OF STATION 8 BY
AEW AIRSHIP SQUADRON NO. 1. THIS MESSAGE IN FOUR PARTS. PART I.
COMMENCING 1000 HOURS Z ON 21 SEPT AEW AIRSHIP SQ 1 WILL REPLACE
THE 551ST AEW&C WING ON STATION 8 FOR A FOUR DAY PERIOD. PART II.
FOR 551ST AEW&C WING ONLY. PRIORITY WILL BE GIVEN TO MANNING STA-
TIONS FOUR AND SIX AROUND THE CLOCK FOR THE REMAINDER OF SEPTEN-
BER. REMAINDER OF FLYING HOUR ALLOCATION SHOULD BE UTILIZED FOR
THE MANNING OF STATION 2 DURING THE HOURS OF DARKNESS. PART III.
WHILE ON STATION 8 AEW AIRSHIP SQUADRON WILL TELL SURVEILLANCE
INFORMATION TO JITNEY IN ACCORDANCE WITH THE PROVISIONS OF AP-

PAGE TWO RJEPMY 297C

PENDIX ONE TO ANNEX INDIA, CFEOP OF PLAN 1-57. PART IV. FOR
COMNAVEASTCONADREG ONLY. REQUEST YOU DIRECT AEW AIRSHIP SQUADRON
NUMBER ONE TO FORWARD COPIES OF THEIR SURVEILLANCE LOGS FROM
21 TO 24 SEPT TO COMMANDER, 55TH CADD, ATTN: DIRECTOR OPERATIONS
AND TRAINING.

BT
19/2040Z SEP RJEPMY

A-- PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION--
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME-GROUP
PRIOR TO DECLASSIFICATION

READING FILE

COPY

89

JOINT MESSAGEFORM				SECURITY CLASSIFICATION UNCLASSIFIED		
SPACE BELOW RESERVED FOR COMMUNICATION CENTER						
PRECEDENCE		TYPE MSG (Check)		ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION	PRIORITY	BBCC	MULTY	SINGLE		
INFO	PRIORITY		X		AF	ADGCP-S 0099
FROM: COMDR ADC					SPECIAL INSTRUCTIONS	
TO: COMDR WADF HAMILTON AFB CALIF						
COMDR EADF STEWART AFB NY						
INFO: COMDR 552D AEW&CON WG MCCLELLAN AFB CALIF						
COMDR 551ST AEW&CON WG OTIS AFB MASS						
COMDR GPWCR HAMILTON AFB CALIF						
COMDR CPECR STEWART AFB NY						
UNCLASSIFIED FROM ADOOP-O 0119						
MY CLASSIFIED ADOOP-S 0099, 11 SEP 57, NOTAL, PART III. IN ANSWER TO OUR QUESTION, NORAD, IN THEIR SECRET LETTER DATED 20 SEP 57, STATED QUOTE: IN THE EVENT THIS AEW&CON CAPABILITY CANNOT BE FULLY RESTORED, THE ABSOLUTE MINIMUM AEW&CON ON-STATION TIME SHOULD BE AS INDICATED:						
A. EAST COAST						
STATION NO.		ON-STATION TIME				
2		DURING HOURS OF DARKNESS				
4		24 HOURS A DAY, 7 DAYS A WEEK BASIS				
SYMBOL		ADGCP-O		SIGNATURE		
TYPED NAME AND TITLE (Signature, if required)		MAJ KALLMAN/csl		TYPED (or stamped) NAME AND TITLE		
PHONE		2781		JOHN M. KONOSKY		
PAGE NR.		1		COLONEL, USAF		
NR. OF PAGES		2		DIRECTOR OF OPERATIONS		
SECURITY CLASSIFICATION		UNCLASSIFIED		DEPUTY FOR OPERATIONS		

UNCLASSIFIED

COPY

COPY

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION UNCLASSIFIED

84

FROM

COMDR ADC

STATION NO.	ON-STATION TIME
6	24 HOURS A DAY, 7 DAYS A WEEK BASIS
8	OCCASIONALLY
10	UNMANNED

B. WEST COAST

STATION NO.	ON-STATION TIME
1	UNMANNED
3	16 HOURS PER DAY
5	16 HOURS PER DAY
7	16 HOURS PER DAY
9	OCCASIONALLY

UNQUOTE. DESIRE YOU COMPLY WITH THE QUOTED PROVISIONS OF THE NORAD LETTER. A COPY OF THIS LETTER WILL BE FORWARDED BY MAIL FOR YOUR INFORMATION.

SYMBOL

AD00P-0

PAGE NR 2

NR OF PAGES 2

SECURITY CLASSIFICATION

UNCLASSIFIED

INITIALS

DD FORM 173-1 MAY 66

COPY

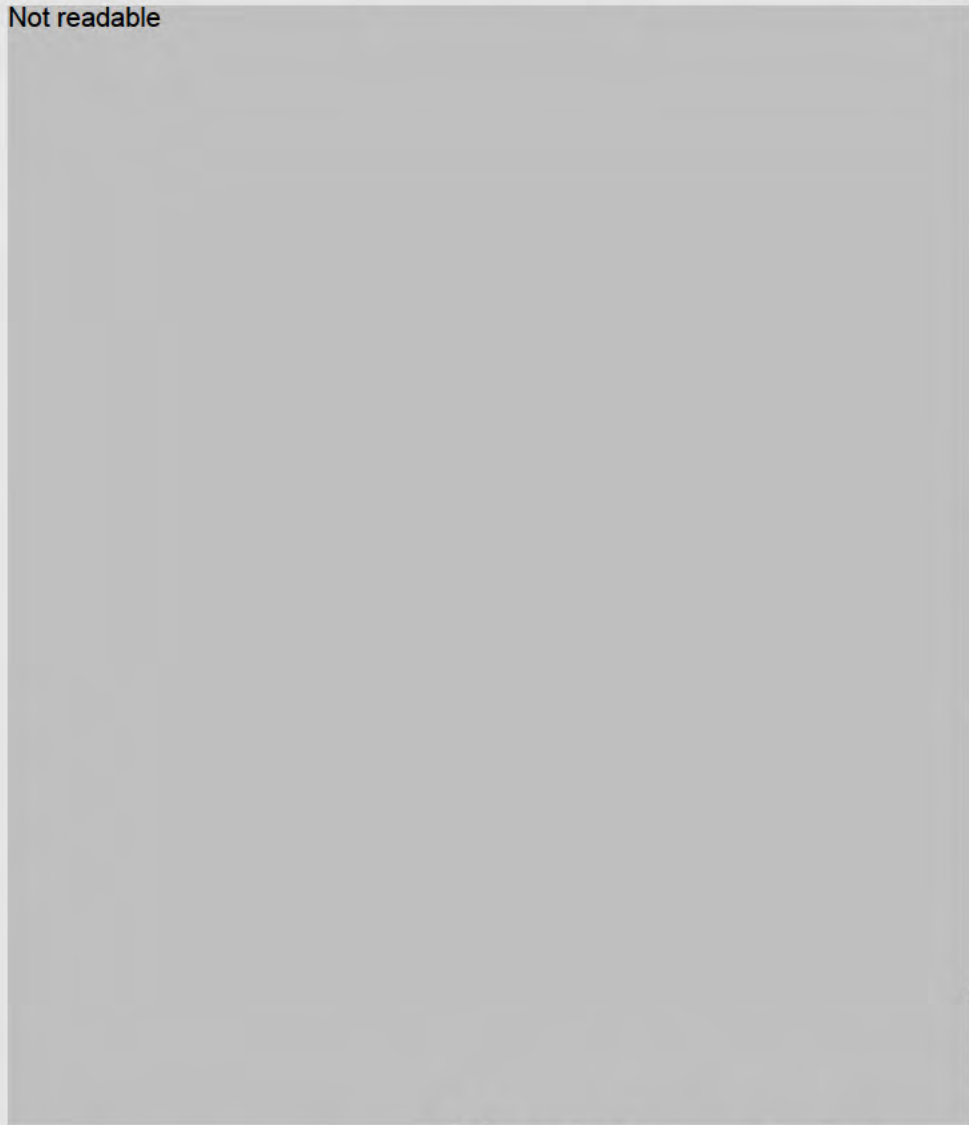
U. S. GOVERNMENT PRINTING OFFICE: 1955-081226

Not Readable

UNCLASSIFIED

85

Not readable



1 Incl
Cy msg ADOOP-O 0119,
26 Sep 57

Harold W. Grant, Big Bear
HAROLD W. GRANT
Major General, USAF
Deputy for Operations

12314

NORAD NZ-----

Not Readable

UNCLASSIFIED

86

Not readable

DUPLICATE

MARSHALL S CARTER
Major General, USA
Chief of Staff

UNCLASSIFIED

UNCLASSIFIED

87



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON 25, D. C.

22 OCT 1957

SUBJECT: Reduction of Flying Hours for AEW&Con Aircraft

TO: Commander-in-Chief
North American Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

UNCLASSIFIED

1. ^{ED} This is an Executive Agency Letter. Reference your letter of 27 September 1957 on the impact of flying hours reductions as they affect early warning coverage by AEW aircraft. The Chief of Naval Operations and Headquarters USAF are undertaking a review of flying time allocation in light of your expressed concern.

2. (UNCLASSIFIED). It is estimated that a final reply, to include the results of Air Force and Navy review of this matter, will be furnished to you on or about 31 October 1957.

3. (UNCLASSIFIED). The classification of this letter is Secret in accordance with para 30 b (2) (c) AFR 205-1.

FOR THE CHIEF OF STAFF:

Genl Martin

GUY W. MARTIN
Brigadier General, USAF
Deputy Director of Plans, DCS/P&P

UNCLASSIFIED

XPD10794Z 57

NORAD N7 12741

UNCLASSIFIED

when fil nt

COPY OF INCOMING CLASSIFIED MESSAGE

88

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302.12

ACTION COPY

CON004SBAG14N004
PP RJEDEN RJWPS3
DE RJWPS3 002C
P 302240Z

PRIORITY

ACTION: N000P
N7-11501

FM COMCFMCR HAMILTON AFB CALIF
TO RJEDEN/CINCNORAD ENT AFB COLO SPRINGS COLO
INFO RJEDEN/COMADC ENT AFB COLO SPRINGS COLO
RJWPS3/COMDR 552DMAEMIC WG MC CLELLAN AFB CALIF

UNCLASSIFIED

NOOP 7S-1142. REFERENCE ADC CLASSIFIED MESSAGE
N000P-00099 AND ~~N000P-00112~~. THIS MESSAGE IN FOUR PARTS. PART I.
MANNING STATIONS 3, 5 AND 7 INTERMITTENTLY WILL GIVE RADAR COVERAGE
TO THE SAN FRANCISCO TARGET COMPLEX ONLY. PART II. THE FOLLOWING
AEMIC STATION MANNING DURING REDUCED FLYING HOUR CAPABILITY IS
REQUESTED: MAN TWO STATIONS TWENTY-FOUR HOURS PER DAY. THE TWO
STATIONS RECOMMENDED ARE LOCATED AT 33-55N 120-40W AND 31-25N
124-30W. THESE LOCATIONS ARE AN EXTENSION OF THE PICKET SHIP LINE
AND WILL GIVE MAXIMUM EARLY WARNING REPORTING WITHIN OUR PRESENT
CAPABILITIES FOR THE SAN DIEGO, LOS ANGELES, SAN FRANCISCO AND

PAGE TWO DE RJWPS3 002C
SEATTLE TARGET COMPLEXES. PART III. MANNING THESE STATIONS WOULD
NOT BE SCHEDULED UNTIL 7 OCT BECAUSE OF A REVISED AEMIC SCHEDULE
FROM 1 OCT TO 7 OCT DUE TO THE 27TH AEW OBI. PART IV. REQUEST
AUTHORITY TO MAN THE TWO AEMIC STATIONS AS LISTED IN PART II
ABOVE.
3
C. 70124Z OCT RWPS.

ALL N000P-T X019

A - PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CRYPTIC--
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY D/ CRYPTIC--
PRIOR TO DECLASSIFICATION CRYPTIC--
//ADVANCE COPY HAS BEEN BELIEVED TO COC//

ACTION COPY

UNCLASSIFIED

Copies

Not Readable

89 3

JOINT MESSAGE FORM		SECURITY CLASSIFICATION		UNCLASSIFIED	
SPACE BELOW RESERVED FOR COMMUNICATION CENTER					
CONAD HIST FILE			READING FILE		
PRECEDENCE		TYPE MSG FILED		ORIG. OR REFERS TO	
ACTION PRIORITY		BOOK MULTI SINGLE		CWOOP 7S 1142	
INFO DEFERRED 302.12		X AF		30 Sep 57	
FROM: CINCPAC				CLASSIFICATION OF REFERENCE	
				SECRET	
SPECIAL INSTRUCTIONS					
TO: COMCFACR HAMILTON AFB CALIF					
INFO: COMDR ADC ENT AFB COLO (COURIER)					
UNCLASSIFIED From NOGOP-TV X 019					
Not readable					
<p>RECEIVED TO: [REDACTED] FROM: [REDACTED] DATE: 11/1/57 TIME: 11:00 AM MAKE SURE PRIOR TO DECLASSIFICATION</p>					
SYMBOL		SIGNATURE			
TYPED NAME AND SIGNATURE (if required)		TYPED (or stamped) NAME AND TITLE			
Major Reeves		H. B. QUINCY, JR.			
PHONE 2078		Major, USA			
PAGE NO. 1		Asst Adjutant			
NO. OF PAGES 1					
SECURITY CLASSIFICATION					

Not Readable

UNCLASSIFIED

(when filled in)

COPY OF INCOMING CLASSIFIED MESSAGE

90

CONAD HIST FILE

Knowledge in whole or in part is prohibited without approval of CONAD Adjutant
SEE CRYPTO SECTION BEFORE DECLASSIFYING

PRIORITY

802.12

READING FILE

8 OCT 57

ACTION: RCOOP
INFO: RCOOG
NOELC

Not readable

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READING FILE

Copy 56 of 6 Copies

0 2 1

UNCLASSIFIED

HEADQUARTERS
AIR DEFENSE COMMAND
BNT AIR FORCE BASE
COLORADO SPRINGS, COLORADO

3591

2760

4 NOV 57

ADCOF-0

SUBJECT: Manning AEW&Con Stations 2, 4 and 6

TO: Commander-in-Chief
North American Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. Attached is message FACOT-FW 1320 from Eastern Air Defense Force on manning of AEW&Con Stations 2, 4 and 6 during the period Texas Tower 2 is shut down for modification.

2. Because of the reduction in flying hour program during 2d Quarter, FY 58, this headquarters is unable to provide the additional flying hours requested. However, since Texas Tower 2 is within the radar coverage of AEW&Con stations 2 and 4, it is considered that the shut down of the tower can be compensated by the manning of the two mentioned stations in accordance with your latest desires for 2d Quarter, FY 58. This is not a desirable situation, but it is the best that can be suggested under the current flying hour restrictions.

3. Request you advise CFIOP of your decision on this matter with information copy to this headquarters.

FOR THE COMMANDER:

DUPLICATE

1 Incl
FAEF msg FACOT-FW
1320, 23 Oct 57
(Secret), 1 cy

JOHN M. KOWOSKY
Colonel, USAF
Director of Operations
Deputy for Operations

UNCLASSIFIED

ADCOF-C, Hq ADC, 4 Nov 57, Subj: Manning AB&Con Stations
2, 4 and 6

NO OP-T

1st Ind

7 NOV

Hq North American Air Defense Command, Ent Air Force Base,
Colorado Springs, Colorado

TO: Commander, Continental Air Defense Forces, Eastern CONAD
Region, Stewart AFB, Newburgh, New York

1. Attention is invited to provisions of paragraph 2 of
basic communication.

2. This headquarters informed Air Defense Command on
20 September 1957, that the absolute minimum AB&Con aircraft
on-station time for the East Coast would be as outlined in your
message CFROP-S 188, 18 September 1957.

3. This headquarters dispatched a letter to Chief of Staff,
USAF, as Executive Agent for NORAD, on 27 September 1957, stating
that the loss of on-station time by AB&Con aircraft, as a result
of a reduction in the flying hours program, was not concurred in
by this command. Recently NORAD was informed by USAF that the
impact of the flying hours reduction as affects the contiguous
radar coverage system was being reviewed by that headquarters.
The letter further stated that the results of the review would
be forwarded to this headquarters on or about 8 November 1957.
Your headquarters will be kept informed of further develop-
ments in this matter.

FOR THE COMMANDER-IN-CHIEF:

1 Incl
n/c
Copy furnished:
COM ADC

HARVEY T. ALNESS
Major General, USAF
DMS/Plans & Operations

91

AGO 012
A-375-24
R 251958Z
FM HQ EADF STEWART AFB NY
TO COMDR ADC
COMDR 26 AD ROSLYN AFB NY
COMDR 551ST AEW AND C WG OTIS AFB MASS
INFO CFECR STEWART AFB

*Act 11P
8737*

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EA00T-FW1320. SUBJECT: MANNING AEW AND C STATIONS 2, 4 AND 6. THIS MESSAGE IN 3 PARTS.
PART 1. FOR ADC. 26 AIR DIVISION TWX, SECRET, OCC 0600, 15 OCT 57, IS QUOTED FOR YOUR INFO: "SUBJECT: MANNING AEW AND C STATIONS 2, 4 AND 6. REFERENCE IS MADE TO PROPOSED SHUT DOWN OF TEXAS TOWER NBR 2 FOR 75 TO 90 DAYS ON OR ABOUT 17 OCTOBER 57 TO PERMIT INSTALLATION AND MODIFICATION OF C AND E EQUIPMENT. DURING THIS PERIOD TEXAS TOWER NUMBER 2 CANNOT PROVIDE ANY AIR DEFENSE RADAR COVERAGE. DAILY 24 HOURS MANNING OF STATIONS 2, 4 AND 6 IS

PAGE TWO A-375-24
CONSIDERED ESSENTIAL." PRESENT FLYING HOUR ALLOCATIONS DO NOT PERMIT REQUESTED COVERAGE. IF COVERAGE IS DEEMED DESIRABLE BY HQ WBRAD, REQUEST ADDITIONAL FLYING HOURS BE ALLOCATED 551. UNDER PRESENT OPERATING CONDITIONS, APPROXIMATELY 18 HOURS PER DAY IS REQUIRED. LOCAL CONVERSATIONS WITH COMAD EAST INDICATES REQUESTED COVERAGE BY 26 AIR DIVISION IS DESIRABLE.
PART 2. FOR 26 ADIV (DEF). ATTENTION IS CALLED TO PART 1. UNTIL FLYING HOUR PROBLEM IS RESOLVED, LITTLE, IF ANY, ADDITIONAL COVERAGE ON STATION NUMBER 2 CAN BE EXPECTED.
PART 3. FOR 551 AEW AND C WG. ANY AOC TIME SCHEDULED FOR STATION NUMBER 6 PLUS ANY AOC TIME SAVED BY RECENT EXTENSION OF NAVY BLIMP OPERATION THRU 25 OCTOBER WILL BE SCHEDULED ON STATION NUMBER 2. SCHEDULING OF THIS TIME SHOULD BE COORDINATED WITH 26 AIR DIVISION (DEF)
BT
A-- PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY 3 ENCRYPTION-- PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME GROUP PRIOR TO DECLASSIFICATION.

92

JOINT MESSAGEFORM

SECURITY CLASSIFICATION

UNCLASSIFIED UNCLASSIFIED 38

SPACE BELOW RESERVED FOR COMMUNICATION CENTER

PRECEDENCE ACTION DEFERRED	TYPE MBG (Check) BOOK MULTI SINGLE I	ACCOUNTING SYMBOL AF	ORIG OR REFERS TO 302.12	CLASSIFICATION OF REFERENCE
FROM: CINCNORAD				SPECIAL INSTRUCTIONS

TO: COMCFWR STEWART AFB NEWBURGH NY
COMCFWR HAMILTON AFB CALIF

UNCLASSIFIED From NCOOP-T 059. The following message was received from Comdr. ADC and is quoted for your information. Quote The flying hour restriction previously imposed on AWR&C operation is no longer a limiting factor through 31 December 1957 Unquote.

1/2 See attached message.

DATE	TIME
10	2315Z
MONTH	YEAR
Dec	1957

SYMBOL NCOOP-T	
TYPED NAME AND TITLE (Signature if required) Maj. Reeves	
PHONE 2078	PAGE NR. 1 NR. OF PAGES 1
SECURITY CLASSIFICATION UNCLASSIFIED	

SIGNATURE I. JR.
TYPED (or stamped) NAME AND TITLE

DUPLICATE

11 DEC 29 11 02 AM '57
DIR. COMM. HQ
AFSC/11

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FFG-10/302:dmm

A4-3

Ser: -37

100 100 100

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THIRD ENDORSEMENT on ADOGO-C, Hqs ADC ltr dated 22 May 1957

From: Commander Naval Forces, Continental Air Defense Command
To: Commander in Chief, Continental Air Defense Command

Subj: Navy AEWSCON Activities

1. By paragraph 2 of the Second Endorsement to the basic letter, COMNAVFORCONAD was requested to advise CNO of CONAD requirements for blimp operations which included an airship base on the East Coast which would allow coverage of Station 10 and an airship base on the West Coast which would allow coverage of Station 1.
2. The following information has been received from CNO relative to the above requirements of CINCONAD:
 - a. NAF Elizabeth City, North Carolina, will be decommissioned on 1 October 1957 and Lakehurst is considered to be the only station from which it will be practicable to operate ZW-1. Station 10 would be about 360 miles from Lakehurst and about 430 miles from NAS Glynnco, Georgia, and in view of the transit time involved it would appear to be unproductive to man Station 10 with airships. Furthermore, the manning of Station 10 would place the airships in an area from which there would be no readily accessible alternate in the event of emergency or unfavorable weather. It is therefore believed that ZW-1 would be utilized more effectively by assignment to Stations 6 or 8.
 - b. Certain assumptions contained in paragraph 1.c(1) of CONAD Operations Plan 9-36 are no longer valid. It is not currently planned to establish an LTA station on the West Coast nor to commission a ZW squadron for West Coast operations. Two of the presently scheduled total of four ZIG-3W will not become available for use until completion of service evaluation trials expected to be completed in the summer of 1960. Six of the ZIG-2W/3W airships are programmed for assignment to ZW-1 for operations in the contiguous system off the East Coast. The two remaining airships will be retained as back-up.

G. L. KOHR

UNCLASSIFIED

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ADOCO-C, Hq ADC, 22 May 57, Subject: Navy AEW&Con Activities

ADOCO-C

2nd Ind

Hq Air Defense Command, Ent Air Force Base, Colorado Springs, Colorado

THRU: Commander, Naval Forces for CONAD, Ent AFB, Colorado Springs, Colo.

TO: Commander-in-Chief, Continental Air Defense Command, Ent Air Force Base, Colorado Springs, Colorado

1. Coordination with NAVFORCONAD has resulted in the following actions being taken on the recommendations stated in paragraph 5, basic letter.

a. Reference paragraph 5a: As the Navy airships assume full operational status on 1 July 1957, insufficient time remains to effectively accomplish this action.

b. Reference paragraph 5b: Captain Bollinger, NAVFORCONAD, indicated that the Navy has recently decided to inactivate Weeksville NAS; therefore, this recommendation is no longer feasible.

c. Reference paragraphs 5c and 5d: AEW&Con elements on the East Coast are operationally under the control of Commander CONAD Forces, Eastern CONAD Region. They will man their stations as he directs. CONAD Operations Plan 9-57 (presently being published) establishes an alternate Station 10 for blimp operations if and when airship operations on this station become practical.

d. Reference paragraph 5e: Present indications are for the Navy airships to man Station 8 half the time each month. This is considered to be their maximum operational time available under normal conditions. It is considered feasible and the best type operation available at this time. Flying hour allocations will limit AEW&Con aircraft operations to approximately three and one-half stations on the East Coast. With Navy airship operation being most desirable at one end of the line, their coverage on Station 8 meets our present needs.

2. The Chief of Naval Operations should be advised of the CONAD requirements for blimp operations so that they may be included in future planning. This should include:

a. An airship base on the East Coast which will allow coverage of Station 10.

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Roy H. Lynn
ROY H. LYNN
Major General, USAF
Vice Commander

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For *Wm V. Stoughton*
MAJST P. ADJST
Major General, USAF
DTS Plans & Operations

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(when filled in)

COPY OF INCOMING (CLASSIFIED MESSAGE

94

REPRODUCTION OF THIS MESSAGE IN WHOLE OR IN PART IS PROHIBITED WITHOUT APPROVAL OF CONAD ADJUTANT
CONAD HIST FILE

SEE CRYPTO SECTION BEFORE DECLASSIFYING

18 Sep 57

302.12

CONAD SEC. 30
TO RUEJEDEN RUMBY
DE RUEJEDEN RUMBY
101657Z

READING FILE

FILE CONFEC STEWART AFB NY
TO RUEJEDEN GINCHORD ENT AFB WOLD
INFO RUM CONADNEASTCOM DREG STEWART AFB NY

ACTION: NCOPO
INFO: NCOOP
N7-11099

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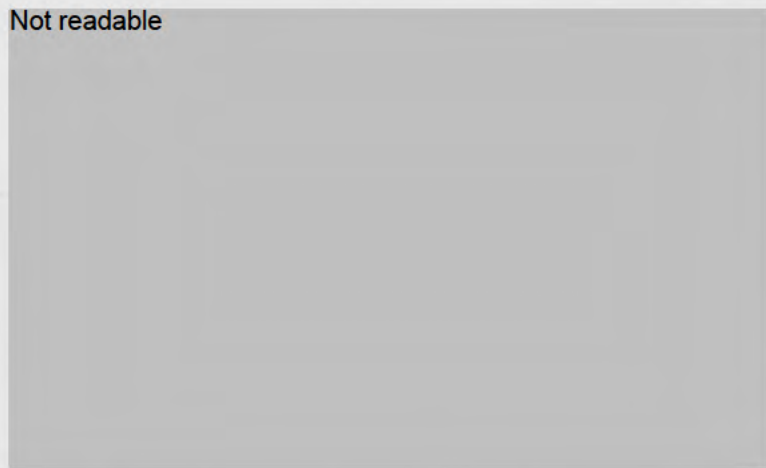


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1 Incl
Rept of Staff Visit
to YAGR Div 21, 22
Nov 57

ARROYO P. ALMEIDA
Major General, USAF
DSC/Plans & Operations

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Handwritten notes:
2000
2 Dec 57

Handwritten signature:
Arroyo P. Almeida

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HEADQUARTERS CONAD FORCES
EASTERN CONAD REGION
Stewart Air Force Base, New York

CPEBR-3

25 NOV 1957

SUBJECT: (U) Report of Staff Visit to YAGR Division 21

TO: Commander
North American Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. Inclosed are two copies of a report of a staff visit to YAGR Division 21 by personnel assigned this headquarters. Sufficient copies have been made for distribution to each of the picket ships as well as the CONAD divisions and ACWRNs associated with the Seaward Extension elements.


2. A majority of the statements concerning the present control capability of the picket made in the report corroborate the conclusions reached by the Tactical Evaluation Directorate of headquarters Eastern Air Defense Force as a result of exercise "Sea Gull" during July 1957. The importance of the picket ship in extending the weapons directing capabilities to seaward is emphasized in CPEBR Manual 55-1 and is being given additional stress in a revised edition to this document. Your headquarters has signified its interest in this problem by recently securing a quota of six spaces for picket ship directors to attend each controllers class at Tyndall Air Force Base, Florida.

3. It is encouraging to note that the 26th CONAD Division has been recently making a strong effort to provide interceptors for picket ship director training. It is the opinion of this headquarters that additional assistance is required by all of the ACWRNs associated with the picket ship in order to achieve the maximum control potential of this element of the Seaward Extension.

4. Upon withdrawal of inclosure, the classification of this letter will be cancelled in accordance with paragraph 37b, AFR 205-1.

FOR THE COMMANDER:

1 Incl:
Rpt of a staff visit to
YAGR Div 21, (S), 2 cys


JOHN E. MANNON
Major, USAF
Adjutant

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A7-14248

11-173

15 5-2908-57

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HEADQUARTERS CONAD FORCES
EASTERN CONAD REGION
Stewart Air Force Base, New York

CPEOP-6

22 October 1957

MEMORANDUM FOR CHIEF OF STAFF

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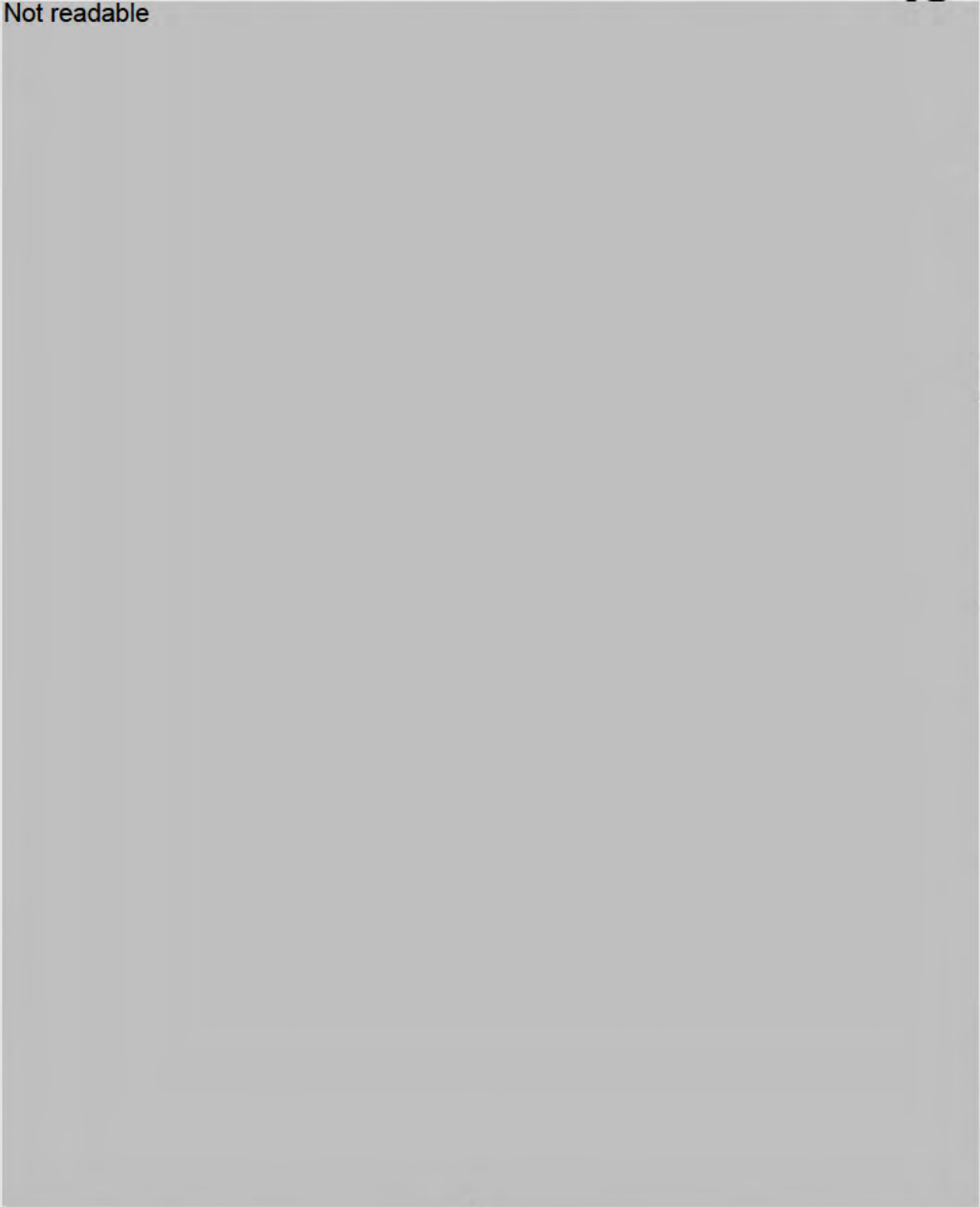
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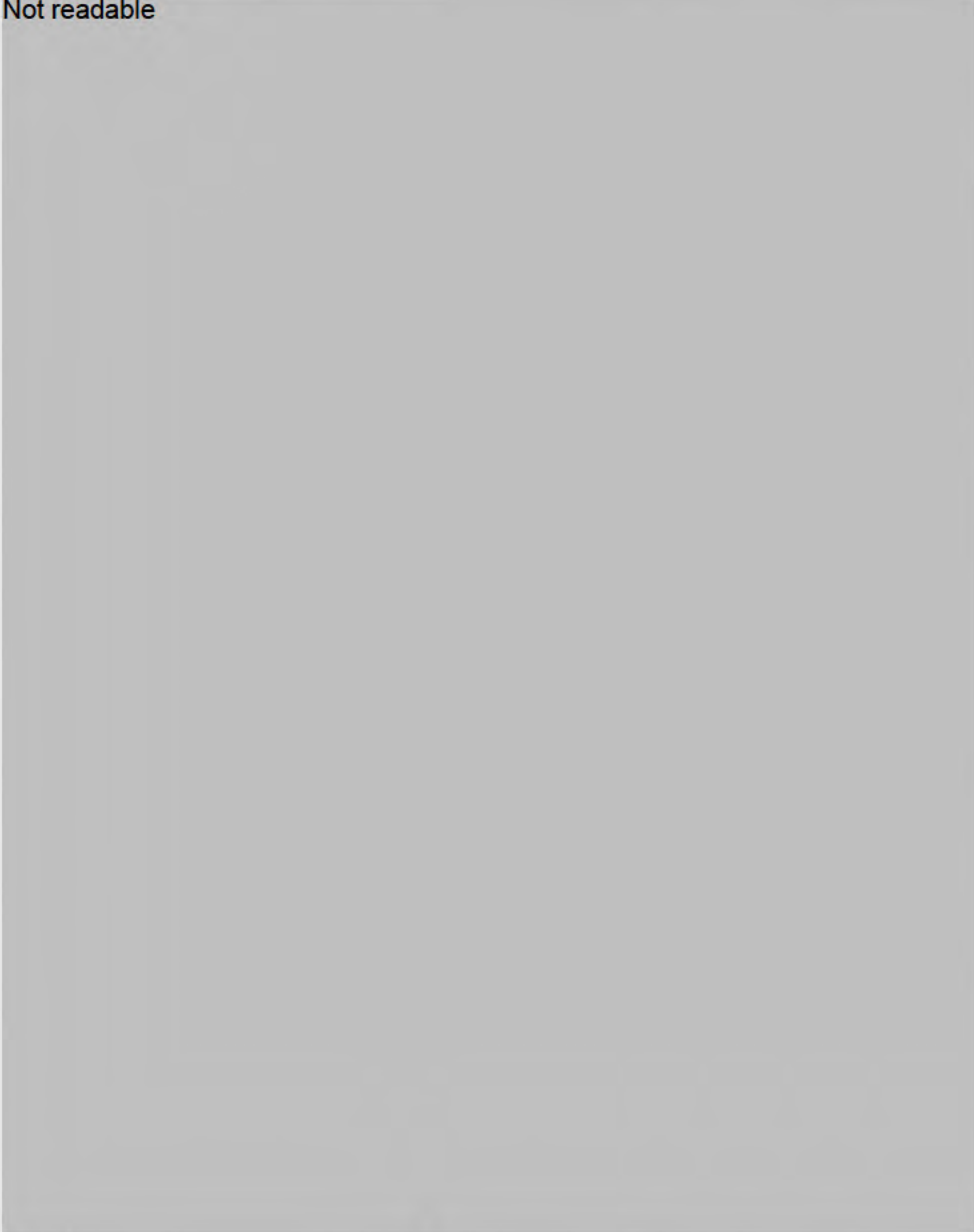


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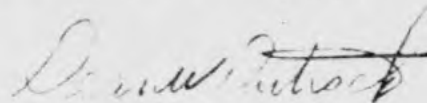
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CFEOP-S, Subj: Report of Staff Visit to YAGR Division 21 (Cont'd)

accomplished by CFEOP and COMNAVEASTCOMADREG. Directives have been amended with the intent of clarifying questions as to station phase-out reports and other status information required from the YAGRs.

5. Summary. CFEOP personnel are of the opinion that the YAGRs are providing the air defense system with close to the maximum amount of detection and warning against aerial attacks that can be achieved by these ships consistent with the limitations of their present equipment. In order to achieve the maximum potential of this element in respect to the weapons direction portion of their mission, YAGR Division 21 must receive considerably more assistance and interest from the associated ACWRONs, COMAD divisions, and higher headquarters.



DEAN W. DUTRACK
Lt. Colonel, USAF
AC/S Operations

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S-CFE 2908-57

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JOINT MESSAGEFORM		SECURITY CLASSIFICATION UNCLASSIFIED	
PRECEDENCE		CLASSIFICATION OF REFERENCE	
ACTION	TYPE MSG	ACCOUNTING SYMBOL	302-12
INFO: DEFERRED DEFERRED	BOOK MULTI PAGE		
FROM: CINCENCOM			INSTRUCTIONS
<p>TO: COMCENR SELWART AFB NE BURKE NY</p> <p>INFO: COMUSMACV ENT AFB COLO (COMRER)</p> <p>COMNAVFORCENAD (COMRER)</p> <p>N UNCLASSIFIED From N00CP-1 009. Request your headquarters prepare a plan for the cross-training of ACs and picket ship personnel. For guidance in the preparation your plan, CPWR plan on this subject was forwarded your headquarters several weeks ago.</p> <p>None required.</p>			
SYMBOL		SIGNATURE	
N00CP-1		TYPED NAME AND TITLE	
TYPED NAME AND TITLE (Secretary if required)		TYPED NAME AND TITLE	
PHONE NO. J. REGGCS	PAGE NO. 1	NR. OF PAGES 1	
SECURITY CLASSIFICATION			
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DUPLICATE

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON 25, D. C.

AFOAC-S/O

3 00, 1957

SUBJECT: (U) Contiguous Picket Ship Communications

TO: Commander-in-Chief
Continental Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. This is an Executive Agency Letter.
2. Reference:
 - a. CONAD letter COESS-E, subject as above, dated 21 February 1957.
 - b. CNO letter to USAF, Serial 003782P30, Subject: Contiguous Radar Coverage Ship/Shore Communications, dated 25 February 1957.
 - c. USAF Memorandum to CNO, AFOAC-S/O, Subject: Contiguous Radar Coverage - Ship/Shore Communications, dated 18 March 1957.
 - d. Director of Naval Communications memorandum to Director of Communications-Electronics, USAF, Serial 003812P30, dated 15 August 1957.
3. Reference a. requests guidance on an appropriate program to provide adequate Ship/Shore Contiguous Picket Ship Communications; reference b. withdraws previous Navy concurrence to provide both ship and shore radio stations; reference c. requests the Navy to reconsider the withdrawal of such concurrence; and reference d. states the Navy's inability to support the shore station requirement.
4. In view of the above the United States Air Force will provide the shore terminals for Direction Center - Picket Vessel communications and the United States Navy will provide the required shipborne terminals. Because of present and anticipated budgetary limitations, the operational requirement for Direction Center - Picket Vessel voice communications should be very carefully scrutinized. If the requirement is not fully justifiable your Operations Plan should be modified accordingly. Programming actions taken by the component commanders in accordance with their respective departmental regulations will, of course, be based on the operational requirements expressed in your Operations Plan. Necessary coordination as to operating data, equipment nomenclature, and equipment compatibility should be effected by your headquarters.

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NCRAD N7

11882

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Ltr to Commander-in-Chief, Continental Air Command, Ent AFB, Colorado
Subject: (U) Contiguous Picket Ship Communications (Cont)

5. The United States Navy has advised that they are presently operating a SSB Ship/Shore voice radio circuit. To date the operation of this circuit is highly satisfactory. Therefore, it is felt that arrangements for a pre-programming test of Direction Center - Picket Ship SSB communications is not necessary and would only cause further delay.

FOR THE CHIEF OF STAFF:

Bernard M. Wootton

4 Incls

1. COMAD Ltr, 21 Feb 57
2. CNO Ltr, 25 Feb 57
3. USAF Memo, 18 Mar 57
4. Dir NavCom Memo,
15 Aug 57

BERNARD M. WOOTTON
BRIGADIER GENERAL USAF
Deputy Director of Communications-Electronics

Copies furnished:

CNO
ADC
COMNAVFORCOMAD

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Op-3031/efm
Ser 003752P30

25 FEB 1957

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CORNAVY MCGRAD
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HASSELL E. NEAL
Major General, USAF
Head of Staff

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Op-3
Ser 003762F30
25 FEB 1967

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/s/ H. C. HEUTON
H. C. HEUTON
Rear Admiral, U. S. Navy
Director, Naval Communications
By direction

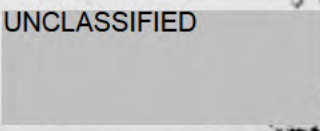
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CINCONAD
CINCLANTFLT
CINCPACFLT
COMNAVEASTCONAD
COMNAVWESTCONAD
COMWESTSEAFRON
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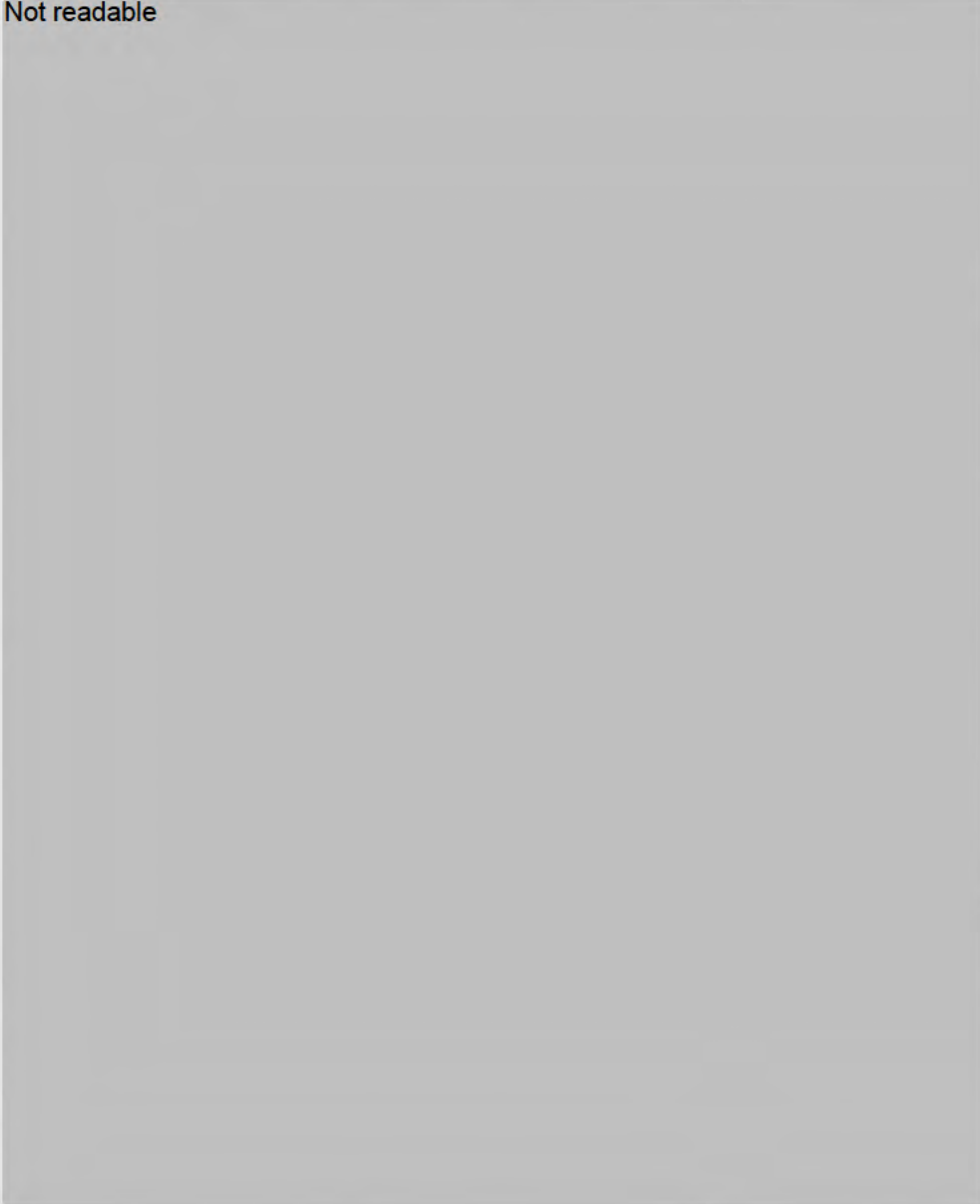
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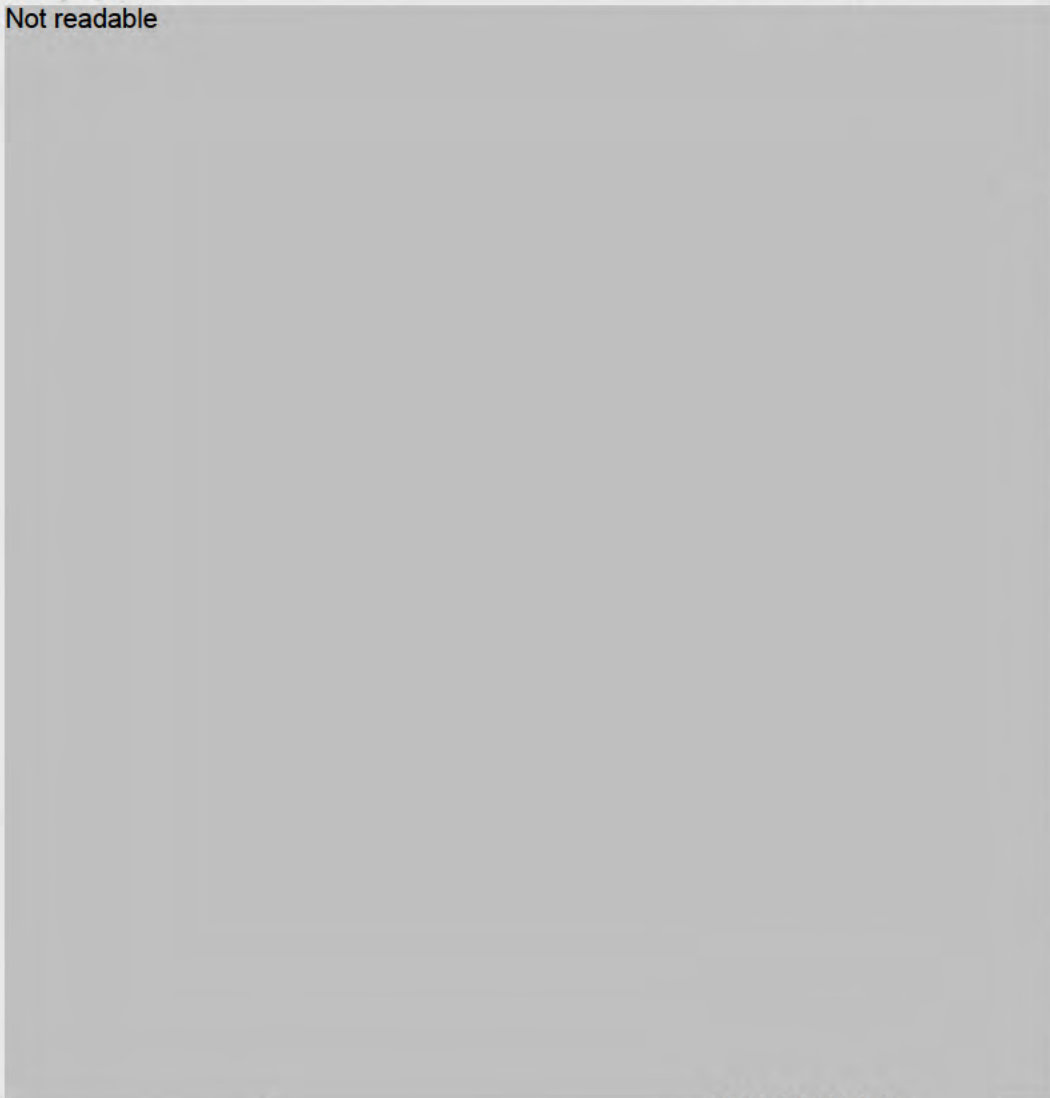
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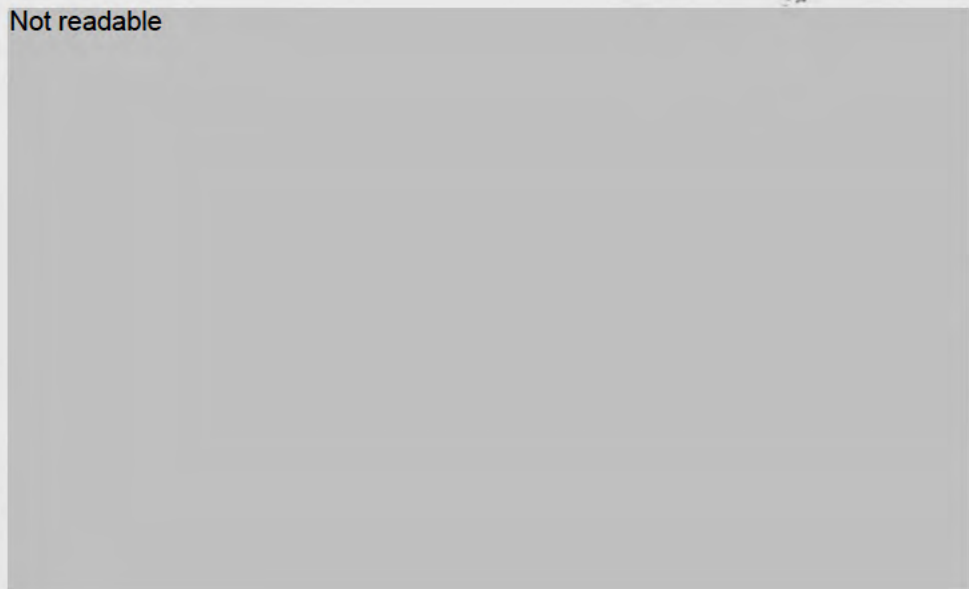
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H. G. BRUNER

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HEADQUARTERS
CONTINENTAL AIR DEFENSE COMMAND
Ent AF Base
Colorado Springs, Colorado

OFFICE OF THE ADJUTANT

NOTICE OF IMPORTANT INCOMING CORRESPONDENCE

8 October 1957
(Date)

TO: COMMANDER-IN-CHIEF _____
CHIEF OF STAFF _____
SECRETARY OF THE JOINT STAFF _____

For your information, the following correspondence has been received:

From: USAF _____ Dated: 3 Oct 57
Classification: UNCLASSIFIED _____
D _____ Panfold# N7-11882 Suspense 14 October 1957
Action Office: NOELC _____

SUMMARY. This is an Executive Agency letter on the subject of Contiguous Picket Ship Communications in which they reference a letter from us, dated 21 Feb 57 and an exchange of letters between CNO and USAF on the same subject. They enclose a copy of each of these communications. In our letter we requested guidance on an appropriate program to provide adequate ship/shore contiguous picket ship communications. On 18 Mar 57, Navy withdrew their previous concurrence to provide both ship and shore radio stations. On 18 March 57, Air Force asked Navy to reconsider their withdrawal of concurrence. On 15 Aug 57 Navy came back and said they were unable to support the shore station requirement. In view of this, AF will provide the shore terminals for Direction Center - Picket Vessel communications and Navy will provide required shipborne terminals. Because of present and anticipated money troubles they want us to carefully scrutinize the operational requirement for Direction Center-Picket Vessel voice communications and if we can't fully justify it, we should modify our Operations Plan. Programming action by component commanders will be effected accordingly. We should effect necessary coordination as to operating date, equipment nomenclature and equipment compatibility. The Navy's present ship/shore radio circuit is highly satisfactory, therefore it is felt that a preprogramming test of Direction Center-Picket Ship SSB communications is not necessary and would only cause further delay.

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(UNCLAS)SUMMARY C-E CONFERENCE 14 - 16 OCT 57

CONFEREES

Gen F. F. Uhrhane	Hq NCRAD	Lt Col S. T. Jacks	USARADCOM
Mr. Lee L. Glezen	" "	Maj F. L. Thomsen	"
Col Paul H. Long	" "	CDR R. C. Tripp	NAVFORCONAD
Col O. W. Miller	" "	LCDR J. E. Renn	"
Lt Col J. A. Gahr	" "	Col N. J. Brooks	Hq CRECR
Lt Col D. G. Roath	" "	Maj B. W. Lutz	" "
Lt Col M. S. Wardell	" "	Col S. K. Briggs	Hq CFCGR
Lt Col F. K. Nichols	" "	Col J. A. Bennett	Hq CFWCR
Lt Col K. N. Keyte	" "	Col D. S. Woods	Hq Alaska
LCDR F. DeVane	" "	Lt Col S. J. Maffei	Hq 64thCADD
Maj W. R. Goodrich	" "	C/C D. M. Gwinn	Hq ICAF
CWO R. L. Westfall	" "	W/C E. J. I. Gauthier	" "
CWO F. A. Benham	" "	S/L D. B. Birgs	" "
Lt Col J. Horvath	ADC		
Lt Col D. W. Camp	"		

Colonel Long welcomed all the conferees, stating he was pleased at the fine representation and was sure all present would benefit from the Conference. He informed them General Uhrhane, DCS/C&S, due to an unexpected call, would not be able to make the welcome and introduction address; however, would join them as soon as possible and spend as much time with them as he could.

As an introduction, Colonel Long said he would like to present the following information for the conferees' consideration:

a. CONAD, a joint headquarters, was organized a year ago the

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first of October. Almost a year to the day later, it was changed into a combined headquarters known as NORAD. Since the initial activation of COMAD, many organizational problems and methods of settling the operations of a large headquarters had come up which had not permitted personnel from the C-E office to visit the various headquarters to the extent desired. He believed that this Conference -- either through formal or informal contact -- would be productive from the standpoint that all would be able to become better acquainted.

b. NORAD, a combined headquarters presently staffed by the U. S. Army, U. S. Navy, U.S. Air Force and Royal Canadian Air Force, has two basic air defense missions -- that of operational control and broad planning. For the purpose of this Conference, it is desired that the conferees think of the problems which would be discussed from a combined operational control and broad planning aspect. In short, he said, "If you are wearing a service hat, please hang it on the outside and look at the problems with a question: 'What is best for air defense?'"

c. He further stated that in daily staff work and activities, everyone do all he possibly could to work closer and to be more responsive to the needs of operations. He believed that occasionally there had been the tendency of C-E shops to revert into a purely requirements shop and, for example, lease or buy circuits and put their feet on the desk. In short, the sole buying of circuits does not do the job. A specific feel for the operations at various headquarters must be developed, and everyone do all he can to work on a "hand-in-glove" basis with the operator. The job is to support the operator, and this must never be forgotten. Furthermore, staffs should

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constantly be thinking in terms of the operator's requirements, and should be vitally interested and completely familiar with the various C-E support which the operator requires to do his job. Furthermore, it should be seen that those C-E officers in lower echelons likewise work with the operator in accomplishing the overall air defense mission.

d. He further stated the main purpose of calling the Conference was to discuss in detail the proposed NORAD C-E Plan which the NORAD C-E staff had developed. Organizationally speaking, there had been no precedent as far as the Plan was concerned. Recognizing that it is the first effort and that it may have many holes, it was believed that through the active discussion which would be conducted, and the exchange of the many ideas which would be reflected (plus taking advantage of all the experience present), a C-E Plan for NORAD could be put into the field which all could be proud. During that portion of the Conference which dealt specifically with the Plan, all were encouraged to come forward with any ideas which they may have; therefore when completed, it would not be the C-E Plan for this Headquarters, but would be the C-E Plan for NORAD by the senior communicators in NORAD.

Colonel Long then stated that other important items were on the agenda in addition to the C-E Plan, and also a limited amount of free time had been allotted that could be spent on any items the conferees desired to discuss. In view of this, he suggested the meeting get underway and introduced the following items and speakers in turn:

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(UNCLAS) ITEM #1 OPEN DISCUSSION REFERENCE PROPOSED NORAD C-E PLAN

Presented by Lt Colonel D. G. Roath, DCS/C-E NORAD

Colonel Roath opened his presentation with a brief resume of why the Plan was necessary, the fact it was meant to be broad in scope, and would eventually be considered as a general support document to CADOP 56-66. The subject was then opened for discussion by the group.

The salient points discussed during this period were noted and will be incorporated into a new draft. This Plan will again be forwarded to all conferees for consideration and comments.

(UNCLAS) ITEM #2 VULNERABILITY OF LEASED-CIRCUIT COMMUNICATIONS SYSTEMS

Mr. C. E. Duncan, AT&T Representative

This presentation was made to the GINCNORAD and staff members, in addition to the conferees. Mr. Duncan discussed what AT&T was doing to make long-line circuitry more reliable, particularly with reference to sabotage, and destruction by bombing. He indicated the following actions were being taken.

a. Multiple routes are being set up for all long-line circuits with an express routing system available.

b. Long-line circuits are by-passing, where possible, areas of congestion and assumed target areas.

c. Ring-city routing will be employed around target areas and areas of congestion.

d. Long-line communications for military systems will be provided over two or more routes, thus preventing a complete black-out of communications in case of failure to one route.

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He further stated diversification is the keynote of the AT&T system. Mobile equipment is now available that can span breaks in open wire or cable and supply emergency additional communications when required. Reference the effects of strikes on the system, AT&T is handicapped during these periods, but attempts to maintain military communication at the same level of efficiency.

(UNCLAS) ITEM #3 REVIEW OF ENGINEERED MILITARY CIRCUITS

Presented by Lt Col Roath, DCS/C-E NORAD

Lt Col Roath presented for conference review a proposed NORAD regulation on the call-up and employment of Engineered Military Circuits. He prompted discussion on the use of EMC's in general, asking that each conferee review each EMC under his control for adequacy of terminal arrangements, speed of service, and basic need. The suggestion was made that, in certain cases, other facilities may prove more satisfactory and economical. In conclusion, while cost was not the primary consideration, certainly our operational requirements must be met by facilities which are timely and economically within reasonable limits.

(UNCLAS) ITEM #4 COMMUNICATION SYSTEMS OF NORAD

Presented by Lt Col F. K. Nichols, DCS/C-E NORAD

Lt Col Nichols summarized functions of NORAD personnel as applicable to C-E systems. These include advice and assistance in development of plans and requirements; monitoring C-E systems performance; and the cognizance and monitoring of designated specific projects. Examples in illustration include the Missile Master program, communications with overseas EOC's, and use of TV between air defense headquarters.

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Particular emphasis was made that NORAD C-E personnel must be familiar with all Army, Navy, and Air Force C-E systems employed in air defense that are utilized in their particular division or region. The NORAD C-E officer's job is associated with the task of insuring that maximum operational effectiveness is being achieved, whereas the component C-E officer's task is to insure that the facilities are made available.

Lt Col Kenneth N. Keyte addressed the group on a specific communications project, "Improving Communications of the NORAD COC," which has been undertaken at NORAD Headquarters. It was emphasized that the C-E officer at all NORAD echelons should maintain full cognizance of the status of COC and/or CC facilities to insure effective operation. It was pointed out that communications systems concepts and plans must be applied to all COC's if effective air defense is to result.

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ITEM #5 REPORT ON AIR DEFENSE INCIDENT 20 SEP 57

Presented by Maj W. R. Goodrich, DCS/C&E, NORAD

Major Goodrich outlined an air defense incident which occurred 20 September, involving stations within the Eastern CONAD Region, relative to pickup of targets traveling at several thousand knots velocity. The incident was investigated by a team from NORAD Hq by visiting the sites concerned and the 26th Air Division Hq. A report of the incident was prepared in which it was concluded that the incident probably resulted from interference between radars. If similar situations arise in the future, direct and on-the-spot investigation by region and division NORAD personnel is to be accomplished.

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ITEM #6 BRIEF ON MISSILE MASTER

Presented by Maj F. L. Thomsen, Deputy Signal Off, Hq USARADCOM

Major Thomsen stated the overall contract with the Glenn L. Martin Company calls for the installation and manufacture of ten Missile Master systems. The Pilot Model had been installed at Fort Meade, Maryland, and is presently undergoing a performance acceptance test. It is expected to be operational by 1 Dec 57.

Systems #2 through 10 were originally scheduled to be delivered and installed one each per month starting in March 1958; however, there has been some slippage in the program. System #2 has been completed and is presently in storage. System #3 will be completed in March or April 1958. In view of the above, it is expected that delivery of Systems #4 through 10 will commence in October or November 1960 and will be installed one each per month thereafter. It appears likely that it will be April or May 1961 before the entire program will be completed.

The first priority for installation is at site P-9, Highland, N.J.; P-9A, Gibbsboro, N.J.; and P-20, Selfridge AFB, Michigan. Plans for the remaining six sites have been completed and are currently being staffed in ADC and NCRAD.

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ITEM #7 BRIEF ON STATUS OF SAGE

Presented by Lt Col Ogan, BCS/ADC

The current status of SAGE technical facilities shows that only San Francisco, Reno and Los Angeles DC's are approved in the 58 MCP, with reclama action for the next five facilities awaiting Congressional

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approval in January of 1959 for inclusion in the 58 MCP. It is assumed that facilities will be funded at the rate of one every two months starting with July 1958 through the end of the schedule. This will result in a stretch-out of the entire SAGE program.

It is anticipated a new SAGE Schedule #7 will be forthcoming by mid-November of this year, due to the stretch-out indicated above. Minor changes through facilities #18 will result in the schedule due to radio sites and radio sites becoming operational after the scheduled operational date of their parent DC. This will result in a slippage of the DC operational date of one to four months.

USAF has currently approved the new SAGE sector and division boundaries as outlined in the 3 Aug 1957 SAGE Development Review. Firm planning action and coordination with the RCAF, with new boundaries, are progressing. It is anticipated the results of this planning action will be forwarded to USAF by 15 December, this year.

(UNCLAS) ITEM #8 LEASED COMMUNICATIONS FACILITIES

Presented by Capt B. L. Shelton, DC&E/ADC

He stated the FY'57 Pl2.6 program requirement was 28.8 million dollars. The hard-core figure for FY'57, 17.8; this represents those items of a recurring nature that had to be carried into FY'58. He pointed out that our dollar available figures for current FY come from the ADC/DCS Comptroller and the Comptroller, 4600th AB Group.

He further stated that for FY'58 there was a program requirement dollar of 28.5 million, and that USAF had said that they would meet that program dollar. The estimated hard-core for FY'58 was 26.4 million dollars, and this figure represents that figure which must

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be carried over to FY'59. For FY'59 in Project 482 there is programmed 48.9 million dollars. Captain Shelton further explained that for FY'58, Headquarters USAF was doling the Project 482 money out by quarters, and that we are extremely close to the statutory obligation figure limitations. In conclusion he stated that in view of the increased austerity, it certainly behooves all of us to evaluate carefully any new or increase in requirements we might have.

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ITEM #9 PHASE I TESTING OF DEW LINE

Presented by Mr. J. F. Morrison, Bell Laboratories

By specific request of NORAD Headquarters, a representative of Bell Laboratories, Mr. J. F. Morrison, presented a summary of the results of the Phase One testing of the DEW Line which was accomplished during June and July 1957. These tests indicated highly satisfactory performance of the radar equipment installed on the line. The tests also indicated satisfactory performance of the communications facilities provided for lateral communications. Both the test and the current operations reveal serious problems relative to the rearward communications from the DEW Line into the existing NORAD communications facilities. In addition, it is evident that corrective steps are required to clarify the responsibilities of the various agencies associated with DEW Line operations. In essence, facilities provided on the DEW Line itself are satisfactory; however, the organizational and rearward communications problems are of such magnitude that it cannot be concluded that the DEW Line project can be considered completed.

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(UNCLAS) ITEM #10 WAR GAMES

Presented by Col E. H. Callahan, DCS/P&O, NORAD

Col Callahan's presentation depicted an attack by an aggressor nation on the North American Continent. It pointed out the requirement for an active, complete air-surveillance system as part of air defense, and gave a good insight on the C&E problems involved.

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ITEM #11 NORAD ECM - ECM CONCEPTS

Presented by Lt Col Michael E. Wardell, DCS/C&E, NORAD

Colonel Wardell stated that proposed NORAD ECM policy, based on Hq USAF policy, will be published as Annex 4 to the NORAD C-E Plan. The electronic warfare threat facing us from behind the Iron Curtain has the potential to interfere seriously with the air and ground weapons of the North American defense system. It could be crippling if maximum effort in the area of operator training and in the retrofitting program of our present radars is not effectively carried out. It is apparent that we will have to fight the next war with the men then in uniform and with the weapons in the field. Electronic warfare is an across-the-board problem and must influence our every action. The potential enemy has the capability to use "brute force" electronic jamming as well as the capability to use sophisticated types of deceptive jamming, decoys and chaff. Recent JCS directives will result in ECM-controlled and instrumented air defense exercises, starting in the spring of 1958, to test the vulnerability of all air and ground weapons of the components of NORAD. CINCNORAD will use the above to formulate a priority list of all air and ground weapons and radars of

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the four services. They will recommend a priority of effort and funds for the above weapons and radars that are in the category of air defense. GCI radars in air defense will be primarily in the "L" band, with the 400-mcs radar to be the first frequency diversity radar added to the surveillance system.

NORAD ECM exercises of the past nine months strongly point up the fact that personnel at AOC&W sites and NIKE installations do not realize the extent which ECM can degrade their effectiveness. "Burst" and random chaff tactics were very effective in "breaking lock," capturing "Gates," and accounting for many false targets. "S" band electronic jamming against GCI radars has frequently been very effective.

The future of the B-29 radar evaluation flights of ADC is in jeopardy. Hq USAF has proposed to direct SAC to supply all ECM training for ADC, ARADCOM and RCAF. Radar evaluation would be performed by Air National Guard B-47 and B-57 Squadrons, using technical personnel of the radar evaluation flights. These technical people would be transferred to the C-E staff of the air defense forces headquarters. Another solution proposed by Hq USAF is to substitute T-29 or B-47 aircraft in the radar evaluation flights for the B-29's. It appears that the B-57's previously scheduled as replacement aircraft are definitely out of the picture. Both Air Defense Command and USARADCOM have plans to improve their ECM training. Air Defense Command is planning to improve the ECM portion of the STP. USARADCOM is issuing out new ECM jamming equipment at battalion and battery level to cover S, L, and X bands. The new Missile Master systems installation is programmed to have a complete system for ground-based ECM training.

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He further stated that we, in C-E business, must take an active interest in electronic warfare; to push operator training in counter-measures to the maximum; to encourage the organization of an integral air defense system using Canadian, Air Force, Army, and Navy weapons; and to do whatever is possible to reduce procurement time on new hardware.

The Conference ended at noon on the 16th of October. General Uhrhane thanked all present for their fine cooperation. It was his opinion, and also the opinion of his staff, that many important matters had been discussed during the Conference. He hoped, that for some of our problems, we were on the way to a solution.

As a precaution, he had informed his staff to stay out of the nuts and bolts business as much as possible. If anyone believed we were unnecessarily in their business, he desired they so inform him. However, at the same time, he would take such action whenever he believed it necessary for NORAD to do so.

In his opinion, it appeared our overall schedule for the conference was a bit tight, and suggested in future sessions that more time be allotted. He again thanked the conferees and suggested another C-E meeting such as this be held within six months. This, in general, appeared to be in agreement with all present.

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Director Research Studies Institute Attn: Archives Branch Maxwell AFB, Alabama	REF ID: XXX Vol. <u>II</u> July - Dec. 1957 K410.01-8A
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CONAD / NORAD

HISTORICAL SUMMARY

(UNCLASSIFIED)

JULY - DECEMBER 1957

VOLUME III

SUPPORTING DOCUMENTS

99 Through 131

~~Excluded from General Declassification Schedule~~

RM-58-4933

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24 NOV 1957

READING FILE

CONAD HIST FILE
306

CONC14
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CR RJEY3 RJEDR RJEDN
DE RJPHQ 133
R 292206Z
FM HQ USAF WASH DC
TO RJEY3/COMARDC BALTO MD
ZEN/COMAPGC EGLIN AFB FLA
RJEDR/CINCSAC OFFUTT AFB OMAHA NEBR
RJEDN/COMAIRDEFCOM ENT AFB COLO
ZEN/DEMPG 229 CHURCH ST NYC
ZEN/RCAF ADC ST HUBERT CANADA
RJEDN/CINCONAD ENT AFB COLO

ACTION: COELC
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CITE AFDRQ-AD/C. 53415 THIS IS AC CATEGORY MSG
REF HQ USAF MSG CITE AFCAV 52342 DATED 2 NOV 57, CONTINUATION
OF OPERATIONAL TEST INITIATED AS APGC EAST PROJECT NO. APG/ADA/1260A
IS DESIRED AS INDICATED.
REF APGC MSG DCS/O-TR-AS 0960C, 16 SEPT 57, THIS HEADQUARTERS
APPROVES ESTABLISHMENT OF 1 APRIL 1958 AS STARTING DATE FOR PART III
EMPLOYMENT AND SUITABILITY TEST OF DEW LINE, PROJECT APG/ADA/1260A.
REQUEST THAT ALL PARTICIPATING AND SUPPORTING AGENCIES INITIATE
NECESSARY PLANNING ACTION TO INSURE TIMELY COMPLETION OF THIS TEST.
BT
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PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME-GROUP PRIOR TO
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JOINT MESSAGE FORM

SECURITY CLASSIFICATION UNCLASSIFIED

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FROM	FROM: AFB DC			

TO: COMAFPC EGE IN AFM FLA

INFO: COFFS USARF AFB DC

CI CSAC CHEST AFB NEBR

CHF DEW PROJECT OFFICE 220 CHURCH ST NY

SEC UNAIRDEF RCAF STA ST HUBERT QUE CANADA

CINCPAC B-52 AFB COLO (CONTINUED)

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MONTH	YEAR
DEC	1957

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				JOHN W. MURPHY, COL, USAF DIRECTOR OF OPERATIONS
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This hq is in receipt of a copy of the Canadian Department of Transport's Air Navigation Order, Series V, No. 14, "Security Control of Air Traffic Order", 13 November 1957, which contains the rules for the distant early warning Identification Zone. Request confirmation that action has been taken to insure that all information pertaining to these rules is being published in all appropriate aeronautical publications. Request confirmation also that action has been taken with the CAA and the Canadian Department of Transport to insure that the AMIS Sections serving the DEW Line are capable of forwarding all flight plans on all air traffic penetrating the DEW Line to the appropriate Main Station Data Centers.

9 2240Z

JAN 1958

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Anderson/umd

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1 1 JOHN M. KOMOSKY, COL, USAF
DIRECTOR OF OPERATIONS

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WRITER (and typist's initials) OFFICE CODE DATE FILE NO. FANFOLD NUMBER AND SUSPENSE DAT

102

DEPARTMENT OF NATIONAL DEFENCE
Royal Canadian Air Force

St Hubert, Que, 19 Dec 57.

Commander,

- 5 Air Division, RCAF, Vancouver, B.C.
- 4th Air Division, USAF, Fort Pepperell, Nfld.
- 1st Air Division, USAF, Minneapolis, Minn.
- 23 AC&W Sqn, USAF, Hopedale, Lab.

Sector Commander,


- 1 ADCC, Lac St Denis, Que.
- 2 ADCC, St Margarets, N.B.
- 3 ADCC, Edgar, Ontario

Commanding Officer,

- RCAF Station Dawson Creek, B.C.
- RCAF Station Stoney Mountain, Alta.
- RCAF Station Bird, Man.
- RCAF Station Cranberry Portage, Man.
- RCAF Station Inisk, Ont.
- RCAF Station Knob Lake, Que.
- RCAF Station Grest whale, Que.

Info: → Cdr, USAF ADC, Colorado Springs, Colo
Cdr, CADF, Grandview, Missouri
CWO, AFHQ, Ottawa, Ont.

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D. J. Winn
(D. H. Winn) G/C.
for ACC. ADC.

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Canadian Air Defence Identification Zone
Security Identification Zone

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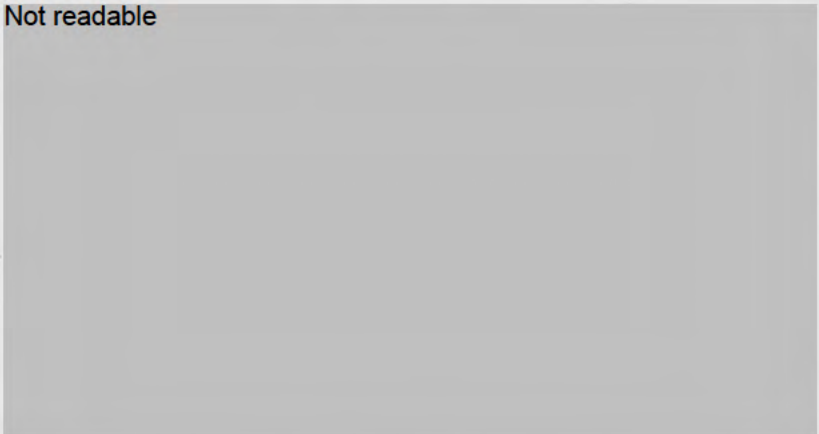
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THE CANADA GAZETTE PART II
VOLUME 91

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VOLUME 91

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VOLUME 91

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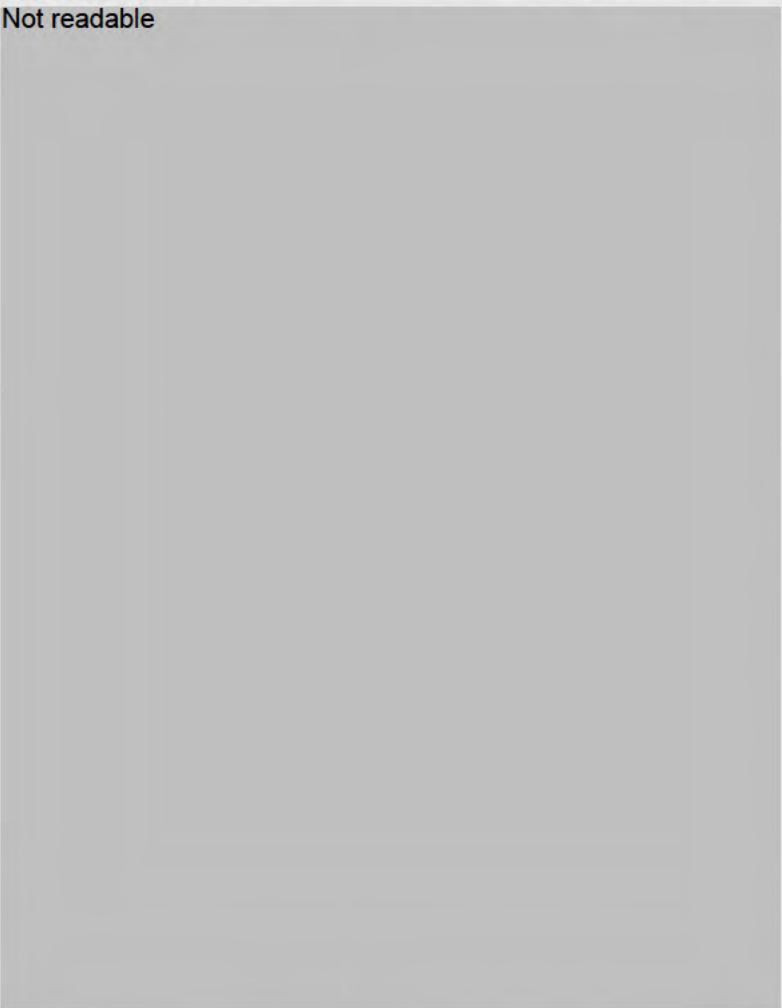
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VOLUME 91

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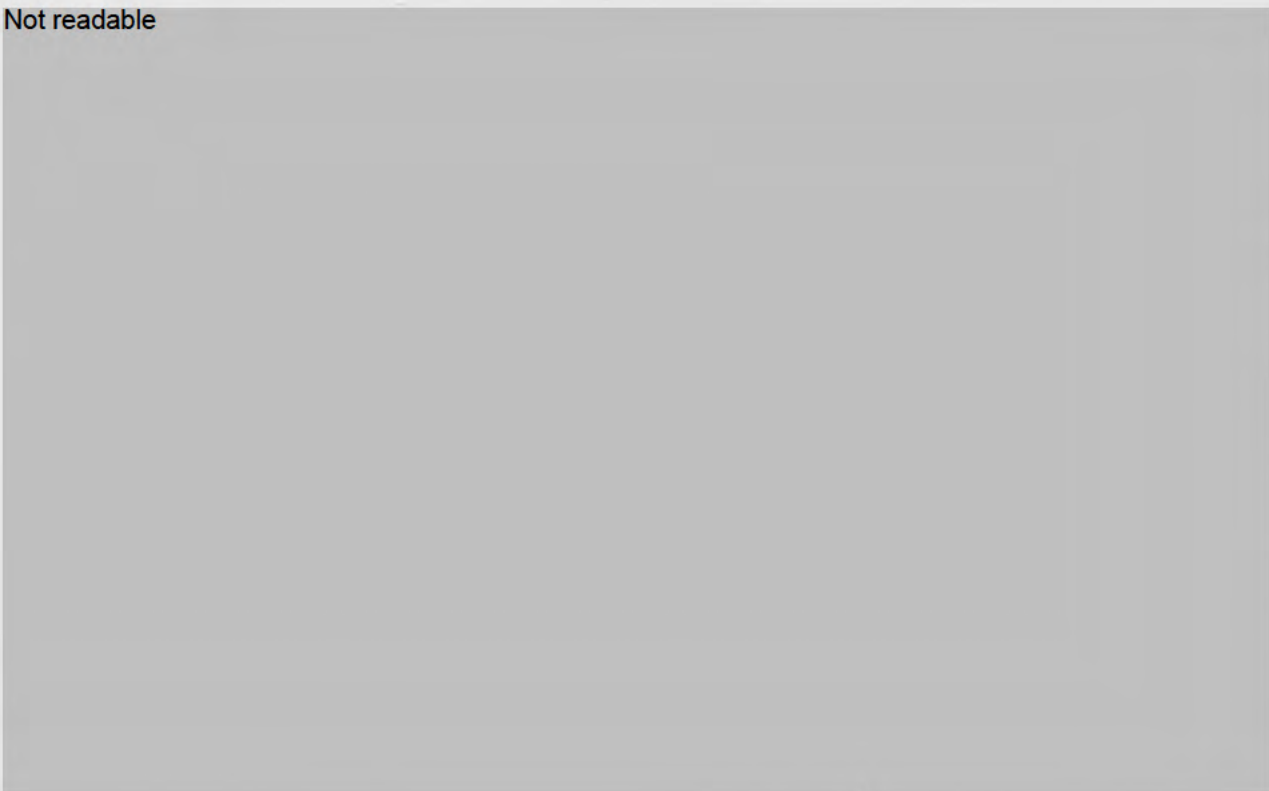


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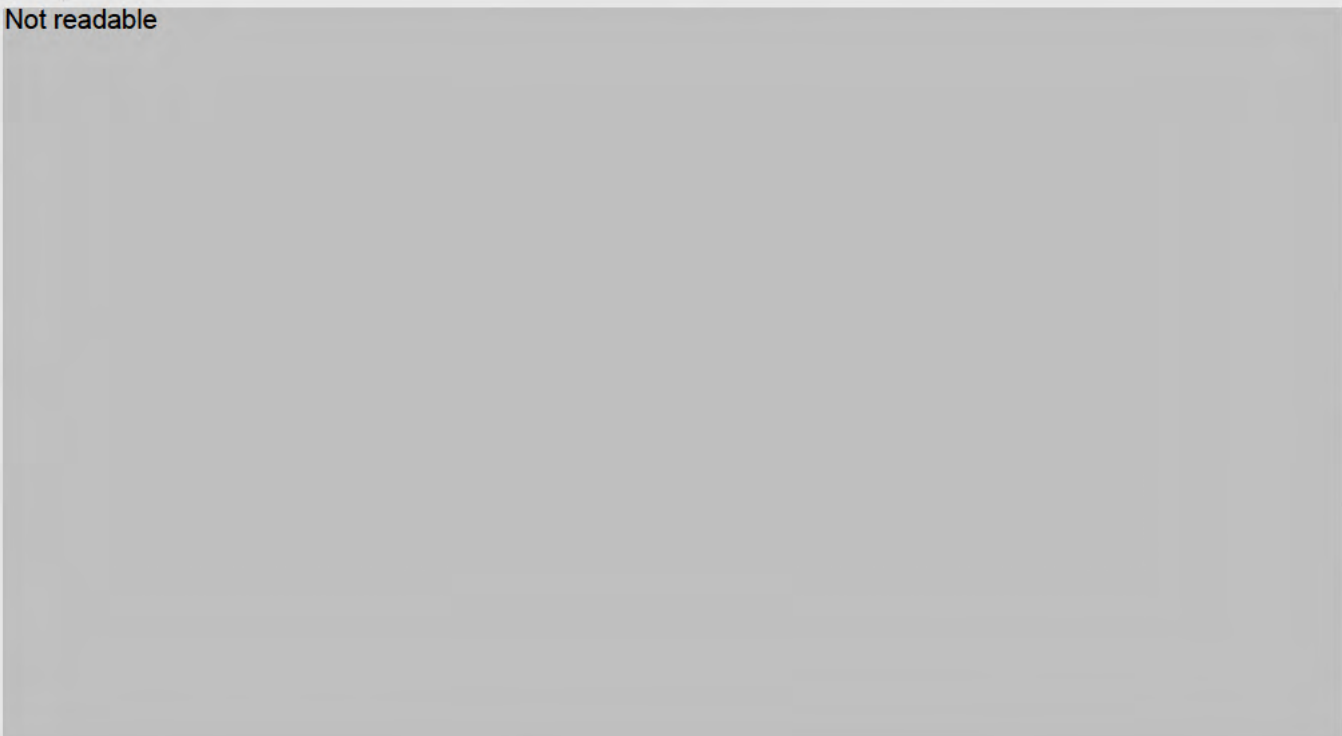
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DEPARTMENT OF THE AIR FORCE
OFFICE OF THE CHIEF OF STAFF
UNITED STATES AIR FORCE
WASHINGTON, D. C.

17 January 1958

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cc: RCAF
RCAF-ADC
CINCPAC
A/C
DE/PO

JACOB E. SMART
Major General, U. S. Air Force
Assistant Vice Chief of Staff

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SUMMARY OF EWOWG RECOMMENDATIONS
EWOWG MEETING, 19-22 NOVEMBER 1957

1. The requirement for an ionospheric communications link for the Aleutian Segment of the DEW Line as an alternate communications facility, which was previously established by the EWOWG, be met as soon as possible. (Ref. page 3, Minutes, 19 Nov 1957)
2. The USAF Air Defense Command be requested to submit a proposed change to the DEW-MCL Operations Plan to provide for the operations of the Greenland Extension of the DEW Line. (Ref. page 8, Minutes, 19 Nov 1957)
3. A "read-back" capability between DEW Base Stations and DEW Mains be authorized for installation as soon as possible. (Ref. page 6, Minutes, 20 Nov 1957)
4. The responsibility for logistical support and operations follow the same organization; further, that one organization be given overall responsibility for the operation and maintenance of the land-based DEW Line to be responsive to NORAD's requirements. (Ref. page 3, Minutes, 21 Nov 1957)
5. The USAF Air Defense Command be designated to resolve operational problems that do not change the concept of operations of the land-based DEW Line. (Ref. page 3, Minutes, 21 Nov 1957)
6. The approved directional beacons be installed on the air strips along the Aleutian Segment. (Ref. page 4, Minutes, 21 Nov 1957)
7. As an interim measure, recommendations for Operations Plan changes be submitted by operational commands to the USAF Air Defense Command for resolution. (Ref. page 1, Minutes, 22 Nov 1957)
8. The EWOWG be dissolved at such time as NORAD is prepared to accept the present EWOWG responsibilities and that Hq USAF take appropriate action on this matter after the NORAD Terms of Reference are approved. (Ref. page 5, Minutes, 21 Nov 1957)

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EARLY WARNING OPERATIONS WORKING GROUP (EWOWG)MINUTES OF 19-22 NOVEMBER 1957 MEETING

<u>Name</u>	<u>Rank</u>	<u>Hq or Organization</u>
Luther W. Hough, Jr.	Lt Col, USAF	Hq NORAD - Chairman, EWOWG
B. W. Clinger	Major, USAF	Hq ADC - Secretariat, EWOWG
Richard E. Holcombe	Lt Col, USAF	Hq USAF
Dean G. Roath	Lt Col, USAF	Hq NORAD
J. D. Crisp	Lt Col, USAF	DEW Project Office, NYC
T. F. Warns	Lt Col, USAF	DEW/WA Project Office (ARDC)
P. J. Cunniff	Lt Col, USAF	Hq CINCAL, Alaska
W. S. Quint	W/C, RCAF	Hq ADC (RCAF)
H. F. Marcou	W/C, RCAF	Hq RCAF
C. V. Walton	Major, USAF	Hq AAC
P. Pelak	Major, USAF	Hq ADC
R. J. Lloyd	Major, USAF	Hq 64th Air Div
Robert W. Ewell	Major, USAF	Hq USAF
C. W. McKelvie	Major, USAF	Hq ADC
H. J. Tiernan	Major, USAF	Hq 64th Air Div
D. H. Blakely	Major, USAF	Hq USAF
D. Briggs	S/L, RCAF	ADC/RCAF, Colorado Springs
W. R. MacWilliam	F/L, RCAF	Hq RCAF
E. H. Egli	Capt, USAF	ICSAL AAC
Lee L. Glezen	Civilian	Hq NORAD
L. L. Knudsen	Civilian	Hq ADC

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<u>Name</u>	<u>Rank</u>	<u>Hq or Organization</u>
J. R. Ducrest	Civilian	CAA, Washington, D. C.
D. W. Mitchell	Civilian	Dept of Transport, Canada
G. C. Olason	Civilian	Dept of Transport, Canada
F. E. Demaree	Supt, Trans Eng	Western Electric Co. (WECO)
H. C. Harris	Asst Supt	WECO Eng. (Trans.)
J. G. C. Swinney, Jr.	Engineering Manager	Federal Electric Co. (FECCO)
K. C. Wilson	Civilian	FECCO
L. W. Dyer	Civilian	FECCO
J. H. Westlake	Civilian	FECCO
J. R. Kelley	Civilian	FECCO
R. J. Dorn	Civilian	FECCO
H. F. Hafenmaier	Civilian	FECCO
R. L. Marks	Civilian	Hq RADC/RCVO
H. W. Albrecht	Civilian	WECO Trans. Engr.
T. S. Sullivan	Civilian	WECO Trans. Engr.
R. H. Wollman	Civilian	WECO Operating Methods
K. R. Grinn	Civilian	Bell Telephone Lab.
R. B. Alexander	Civilian	WECO
O. W. Kammerer	Civilian	WECO
C. G. Teeter	Civilian	AT&T Co. Def. Comms., Kansas City
P. E. Groome	Civilian	AT&T Co. Def. Comms., Kansas City
H. W. Foss	Civilian	Bell Tel. Co. of Canada
G. E. Broomhall	Civilian	Bell Tel. Co. of Canada
K. B. Clarke	Civilian	WECO

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MINUTES OF EWOWG MEETING

19 NOVEMBER 1957

The Chairman, Lt Col Luther W. Hough, Jr., convened the EWOWG at 1000 hrs at 220 Church Street, New York, on 19 November 1957. He outlined the general purpose of the meeting as to discuss and act on: a. changes to the plan relative to the Aleutian Segment; b. NORAD's communication requirements for Rearward and Lateral DEW Circuitry; c. the future status and responsibilities of the EWOWG; and, d. planning for incorporating the Greenland extension of the DEW Line.

Lt Col Hough first presented a resumé of events that took place at the previous meeting. He mentioned the present DEW Line identification system (basically flight plan correlation) and indicated that Hq USAF had approved this identification system as an interim measure because the code word and maneuver system, as written in the plan, could not be implemented in time to meet the operational date of the DEW Line. Lt Col Hough briefly discussed the NORAD communications proposal, which would provide for improving reliability and flexibility of DEW Line communications. He also stated that NORAD had been confronted with an operational requirement from SAC that makes it necessary to alter the present DEW Line operational concept. He indicated that many times data being received at the NORAD COC from the DEW Line had been unreliable and unusable. To present these points in detail, the Chairman introduced Lt Col Dean Roath, DCS/C&E,

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Hq NORAD, who briefed the Group on communications improvements in the DEW System that were believed necessary in order to meet present and future NORAD operational needs. He specifically emphasized a SAC requirement for a voice recall capability to all Main Stations. Lt Col Roath explained NORAD's proposed regional breakdown of the North American Air Defense area indicating it may have a supporting bearing on the NORAD Communication proposal.

He then discussed specific items of the NORAD proposal: First, the augmentation and improvement of White Alice to the DEW System. He stated that NORAD needs adequate communications from the White Alice System in Alaska to the DEW Stations, LIZ and BAR. The addition of repeaters from White Alice Stations to either and/or both of these DEW Stations would provide a high quality communications system.

His next subject was the augmentation of Alaskan Long-Line facilities to the Zone of Interior. He stated that communications from the ZI to Skagway, Alaska are considered adequate and that the communications system in Alaska southward to the Anchorage area is satisfactory, but that the connecting link between Skagway and Anchorage is an open wire type and considered inadequate. He discussed this rearward route and recommended that the construction of a "tropo" link connecting White Alice to the submarine terminal at Skagway be favorably considered by the EWONG as a requirement.

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Lt Col Holcombe, Hq USAF, stated that the EWOWG should not act on this as a requirement, but should determine whether it was technically feasible and economically advisable.

A discussion followed. The Group agreed that it would be best to approve this and other NORAD communications requirements only from a technical aspect.

Lt Col Roath, Hq NORAD, discussed the construction of alternate communications facilities from Aleutian DEW to the Alaskan mainland. He stated that a modest ionospheric type reporting system between Umanak and King Salmon should be installed, primarily so that surveillance data could be re-routed for transmission over this link if any of the island segments failed. He emphasized the importance of this link becoming operational by the time Project "Stretchout" is completed. Lt Col Roath mentioned the possible future tie-in of the Pacific Barrier to the Aleutian Segment of DEW, stating that the Umanak to King Salmon link also could serve as an alternate means to relay Pacific Barrier data.

Lt Col Holcombe, Hq USAF, stated that this had been discussed at an earlier EWOWG Meeting and the Group felt that a requirement existed for the Pacific Barrier tie-in and that a requirement for the ionospheric link between Umanak and King Salmon had been established by the EWOWG previously. However, Hq USAF had not funded for this link because of limited funds. The Group agreed that the ionospheric link should be reiterated to Hq USAF as a requirement to be met as soon as possible.

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Lt Col Roath, Hq NORAD, then discussed the installation of repeat-back equipment on the DEW ionospheric rearward telling circuits. He stated that much of the data received at the NORAD COC from the DEW Stations was not usable. He felt that the radio portions of rearward air surveillance circuits should be duplexed providing a repeat-back capability. By providing this facility, at least some of the errors now being experienced could be corrected. Discussion followed. It was determined that this facility could be acquired economically and that it was technically feasible. Lt Col Roath discussed the establishment of a communication control point at Dawson Creek. The Dawson Creek control point would monitor operations of the DEW System, direct queries on failed communications and monitor quality of surveillance data going rearward. Major Ewell, Hq USAF, asked why NORAD had selected Dawson Creek in preference to Fort Nelson. Lt Col Roath stated that Dawson Creek was an MCL terminal station and that it appeared to be a logical point for localizing trouble areas and servicing faulty data. Also being tied into an MCL station, lateral alternate communications facilities could be made available more readily in the event they are needed. Lt Col Roath further stated that if this system is established, a new primary radio link between Fort Nelson and Dawson Creek would be required to increase reliability of this link.

The improvement of Pole-vault to DEW Communications Systems was next covered by Lt Col Roath. He stated that this system should be

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made more reliable and that the 64th should have a voice capability with any Main Station on the DEW Line. This would in turn give NORAD and SAC the same capability through Pole-vault as through White Alice.

Lt Col Roath discussed NORAD's reason for supporting a tropo system, through the Mid-Canada Line to the DEW Line. He stated that the ICEM threat dictates a requirement for a micro or tropo link to the FOX-CAM area and that such a system would provide higher channel capacity and reduce total dependence on Pole-vault and White Alice. He indicated that all NORAD's requirements were now before the Group for consideration.

Major Lloyd, Hq 64th Air Division, asked if NORAD had submitted their communications requirements to the Operating Commands. Lt Col Roath said that this was his purpose in presenting the requirements to the EWOWG, as all affected Commands were represented in the Group.

Major Walton, Hq AAC, asked if Command responsibilities had to be changed if the NORAD communication requirements were approved. Lt Col Holcombe, Hq USAF, informed the Group that if NORAD's communications requirements were realized, it would require a change in command responsibilities as well as in DEW operational concept.

A discussion followed.

Lt Col Hough, Hq NORAD, the Chairman, adjourned the Group for lunch at 1145.

Afternoon session:

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The Chairman asked the Secretariat for a resumé on events that were covered during the morning session, after which he opened the meeting to further discussion of NORAD's communications requirements.

Mr. Marks, RADC, asked how it was being contemplated to extend communication from Cape Lisburne and Barter Island to Ft. Yukon. Lt Col Roath indicated that the installation of a repeater between Ft. Yukon and Barter Main and by using the lateral system from Lisburne to Barter Island would provide this communications link.

S/L Biggs asked what parts of the DEW Line operations are to be serviced at Dawson Creek providing this facility becomes an agreed communications focal point. Lt Col Roath stated that all DEW surveillance information would be serviced at Dawson Creek. He then summarized NORAD's DEW Line communications requirements again emphasizing need for immediate action to improve DEW communications in order to meet the operational requirement.

Major Lloyd, Hq 64th AD, asked what specific action was being taken to augment Pole-vault. Major Blakely, Hq USAF, stated that plans are now in effect to improve the voice capability of the Pole-vault system between Cape Dyer and Goose Bay. Major Lloyd indicated that there appeared to be a requirement for a considerable increase in number of channels feeding through pole-vault, and that the present system would certainly have to be augmented to accomplish this capability. The Group agreed.

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W/C Quint, RCAF-ADC, stated the Group had been presented several proposals and asked how it affected the EWOWC. Discussion followed and it was determined that the DEW operational concept must be changed before any action could be taken by the Group.

Major Walton, Hq AAC, stated that the DEW System was in much need of a detailed operations manual which would be a guide to provide systematic control over and standardized procedures for the entire line. Major Lloyd indicated that Hq 64th AD favored this, but that operational responsibilities would have to be more clearly defined before this could be done. The Chairman indicated that NORAD should be given operational control over the entire land-based DEW System and that ADC would be the most likely organization to carry out monitoring of the system in accordance with NORAD's requirements. Lt Col Cunniff, Hq CINCAL, said that if this were the case it appeared that CINCAL would be taking instructions from ADC. Lt Col Holcombe stated that ADC was a subordinate command and that it didn't appear to him that ADC would be involved with CINCAL on such matters. Lt Col Hough then requested that further discussion of the subject be continued later after the EWOWC discussed other agenda items.

Lt Col Hough asked Lt Col Holcombe to brief the Group on the status of the Greenland extension to the DEW Line. He stated that siting surveys will be delayed four to five months, but that of the four sites which are now agreed upon, two will be installed at an early date. Major Lloyd asked what Hq USAF was planning for

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communications to facilitate the Greenland extension. USAF representatives indicated that this was a NORAD problem. The Group agreed that ADC would work with 64th to determine communications and operational details for this system and submit a proposed change to the Plan.

Major Lloyd questioned concept as to operational control. Lt Col Roath stated that until NORAD's terms of reference are "jelled," only assumptions can be made. However, he stated that he believed the entire DEW Line should be under the control of one agency. Mr. Glezen, Hq NORAD, stated that on two separate occasions the NORAD COC had lost contact with the DEW Line for long periods. He emphasized that if surveillance control were under one agency, specifically monitored at Dawson Creek, the communication problems could be detected and resolved more easily.

Lt Col Hough then asked the Group to favorably consider the NORAD communications requirement. Lt Col Holcombe said that under the present Terms of Reference, the EWOWC could not take such action. However, he said that the Group could go so far as to determine if the NORAD requirements are technically feasible. Discussions followed, but no decision was reached.

Lt Col Cunniff stated that CINCAL had submitted a letter to Hq USAF requesting additional circuitry in AAC to satisfy ACS and other operational requirements and that Hq USAF had not favorably considered the requirements. He further indicated that many of

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CINCAL's communications requirements parallel those presented by NORAD.

After a break, the Chairman asked the AAC representative to discuss FPIS circuit requirement for the Aleutian Segment. Major Walton stated the circuitry from Umnak to King Salmon was necessary to provide alternate routing of surveillance data from the Aleutian Segment.

Mr. Grimm of BTL suggested establishing an identification point on either end of the Aleutian Segment, "stretch out," in place of COB, a Center Line Main. He felt this would give a more reliable service if lateral communications were lost. This suggestion was not favorably considered by the Group. The Group agreed with Major Walton's earlier statement concerning FPIS circuitry from Umnak to King Salmon.

The Chairman suggested that the reliability of the entire rearward circuitry from DEW Line to Colorado Springs be discussed further. S/L Biggs stated that in planning rearward circuitry for DEW and MCL data, it was determined that this circuitry would need to be 98% reliable. If the circuitry meets this criteria, then he could see no reason for duplexing. Mr. Alexander, Western Electric Co., said that rearward links to the base stations have met this reliability and that the Air Force had received what they contracted for. Lt Col Roath stated that if this were the case, the trouble must be rearward from base stations.

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Mr. Broomhall, Bell of Canada, stated there were many different commercial companies involved in the rearward route through Canada and that a lack of systemized maintenance procedures may be a source of trouble. Mr. Groom, AT&T, said that AT&T and Bell of Canada were working out a system to get together on this problem. He further stated that a requirement for frequent tests of rearward circuitry beyond the DEW base stations was in the making. Lt Col Roath indicated that a read-back capability from the NORAD COC to the Line was the only logical cure to the present problems. S/L Biggs indicated that he was not convinced that this was the solution or that Canada would apply money toward such a service. Mr. Groom then stated that he had been to a meeting in Montreal, the purpose of which was to describe problems connected with land line communications rearward of DEW mains. He believed, as did Mr. Broomhall, that the number of commercial communications companies involved in this rearward circuitry was a large factor in the problem area. He said the problem can be alleviated through cooperation and the development of a systemized line check and maintenance procedures. Major McKelvie, Hq ADC, said that evaluation of data received from the DEW Line had shown considerable improvement during the last few weeks. He stated that means to improve the reliability of this data was an Air Defense Command responsibility.

A discussion followed.

The Chairman adjourned the Group at 1630 to be reconvened at 0930 the next day.

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MINUTES OF EWOWG MEETING

20 NOVEMBER 1957

The Chairman convened the EWOWG at 1000 hours, 220 Church Street, New York. He asked Major Clinger, Secretariat, to give a resumé of events of the previous day's meeting. Lt Col Hough requested the Group to actively participate in the discussion concerning NORAD's communications requirements, as he felt the EWOWG should reach a position regarding these communications proposals.

Lt Col Holcombe disagreed with the Chairman. He stated that based upon present joint agreed DEW system concept, the EWOWG had already planned a sound communications system for the DEW and MC Lines. He indicated that a change in communications as outlined by NORAD should only be considered if a change in the operations concept had been made.

The Chairman stated that a change in the operations concept was expected. A discussion followed and it was determined that NORAD submit their major proposals to the C/S, USAF, as Executive Agent for NORAD, in the form of a communications study.

Lt Col Roath then asked for a definition of major proposals.

Major Blakely, Hq USAF, said that major proposals were those proposals which require additional funding and/or programming of equipment.

Lt Col Roath stated that a repeat-back capability between Base Stations and DEW Mains was not a major proposal, and he asked the Group to discuss this facility.

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Mr. Swinney, FEEO, stated that a simple repeat-back capability could be implemented immediately at no cost, because necessary system equipment is available as spare equipment.

Major Lloyd, Hq 64th AD, said that using spare equipment for an additional function would affect back-up capability.

Lt Col Roath then stated that NORAD was willing to take this risk to insure that intended messages were getting through to the base stations.

Mr. Swinney indicated that installing a message composer (Model 19) on the send-side of the rearward circuit and a page type teletypewriter (Model 15RO) on the "repeat back" side would provide the DEW Line a highly responsive communications system.

Major McKelvie, Hq ADC, said he would favor a message composer installed at each data center on the DEW Line.

Major Walton, Hq AAC, indicated concurrence and stated controllers at main stations are not experienced or efficient in teletype operation. Therefore, normally they could not prepare rearward surveillance reports in the 20-second time period allowed for each particular message. He stated that AAC had forwarded a study to ADC, NORAD, and other agencies outlining a requirement for a message composer and recommending procedures which would reduce operational functions at main stations.

Mr. Alexander, WECO, said that over the past two years the installation of a message composer was fully covered by WECO and BTL

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people, but it was determined that a composer could not be developed and installed in time to meet 31 July 1957 operations date of the DEW Line. He recommended that the Group favorably consider Mr. Swinney's suggestion regarding this facility.

The Chairman asked how long it would take to develop and install a message composer at DEW main stations.

Mr. Swinney said he estimated it would require one to two years.

Lt Col Roath said he felt this was too long, as NORAD needed reliable data from the DEW system and could not wait two years to get it.

Major McKeivie said he understood that the Model 15 RO teletype-writer could be modified to accomplish both message composing and read-back features. This would save considerably in time.

Mr. Glezen, Hq NORAD, indicated that immediate repeat-back capability from base stations to the DEW Line was fine but what NORAD really wanted was a read-back from the NORAD COC to the DEW Mains.

Lt Col Holcombe said this was understood and he suggested that all major proposals be submitted to the C/S, USAF. He stated that a full capacity "read-back" feature would undoubtedly require considerable additional funding and communications equipment programming.

Mr. Alexander indicated that WECO had received a letter from AT&T through ADC complaining about data being received at Colorado Springs. He stated that Lt Col Roath had mentioned that a high percentage of surveillance data being received at the NORAD COC was

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defective and useless. He felt that the trouble was not between the DEW mains and base stations but at other points.

Major Lloyd stated that the 64th AD was in favor of message composers at their stations on the DEW Line. However, he did not believe that "read-back" would be operationally desirable. He felt it would be too restrictive if traffic were heavy, and also, it might cause unacceptable confusion at Main Stations.

Major Ewell, Hq USAF, indicated that "read-back" from base to main stations would cause confusion. He mentioned an "alarm system" at several relay points, pointing out that when messages were garbled, the alarm system would be alerted.

Mr. Sullivan, WECO, said that the alarm system would not be activated if a message were garbled in the center of its text.

Mr. Grimm, BTL, discussed rearward testing of FPIS circuits, and indicated these circuits were as good as their design characteristics. He was in favor, however, of accomplishing a repeat-back facility.

Lt Col Holcombe stated that if the FPIS circuits were as good as their design characteristics, then the system was 98% reliable and he saw no reason for a repeat-back facility. Lt Col Holcombe believed the trouble, if there were trouble in this section of the communication link, was with the operators. He did not feel that any new requirements or changes should be made until the operators were evaluated.

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Major Walton said there is no doubt that a good share of the trouble stemmed from inability of the controllers to perform functions of a teletype operator.

Lt Col Roath asked Lt Col Holcombe if he would agree to a two week test using the simple read-back facility outlined earlier in the meeting.

Lt Col Holcombe said that he had no objections to any test providing it didn't require additional funding. He stated that before any additional equipment or requirements are supported, the problem areas should be isolated and presented to a group of technical advisors for resolution.

Lt Col Roath said he thought the EWOWG had this capability.

W/C Quint read several items in the Terms of Reference for the EWOWG, indicating that unless the Terms were changed, it would not make any difference whether or not the capability existed within the Group. He stated that improvement proposals for communications of the DEW System should be handled as recommended earlier.

The Chairman requested the Group to come to a conclusion on the subject concerning read-back capability. He stated the Group was fortunate to have highly technical engineering individuals present and that these technicians jointly agreed that a read-back capability is technically feasible and will not cost any additional money. He suggested the EWOWG accept the read-back proposal.

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Major Walton stated that it was not only a problem of being technically feasible, but one of determining whether it was an operational requirement.

Lt Col Holcombe reiterated his desire that operators' techniques be explored before changes in circuitry were ordered.

Lt Col Roath stated that Lt Col Holcombe had earlier agreed to a two week test. Lt Col Holcombe stated he had no objections to a read-back test but still felt the problem was operational. Discussion followed.

The Chairman asked the ADC member for his position on the read-back facility. Major Clinger stated the Air Defense Command supports the proposal for read-back between base and main stations.

Lt Col Holcombe then stated that USAF would support the proposal.

The EWONG agreed to support the read-back proposal and recommended that the DEWPO authorize it to be installed as soon as possible. Further, that after two weeks of test a full report be submitted by operating commands to DCS/C&E NORAD for evaluation.

Lt Col Roath asked the Group to discuss the establishment of a communications control point at Dawson Creek.

Lt Col Holcombe stated that he had no objections to discussing this proposal but felt the proposal, along with others indicated by NORAD, was an effort to remedy deficiencies which would not exist if the requirements of the Plan were met. He clarified this by saying

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the Plan premised its concept on 98% reliable circuitry. If this were being realized, there would be no problem.

Mr. Alexander objected, stating that the WECO part of DEW Line communications met design characteristics.

Mr. Groome stated that he was not clear on how a control point at Dawson Creek would function. He indicated that AT&T had a control office at Denver that deals directly with the NORAD COC. He mentioned that there were 16 groups involved in the communications system between Colorado Springs and the DEW Base Stations. He stated that if the Air Force control point were moved from Colorado Springs to Dawson Creek, AT&T would have no industry there. He asked whether AT&T would have to tie-in with Dawson Creek, Denver and Colorado Springs.

Lt Col Roath indicated that the unit at Dawson Creek would be military and that AT&T would deal with Colorado Springs as before.

Lt Col Holcombe stated that he would like to hear the basis for NORAD proposals, i.e., the communications improvements indicated beyond the communications requirements presently outlined in the Operations Plan.

The Chairman stated that he would submit the concept after lunch and adjourned the Group at 1145 until 1315.

The meeting was resumed at 1315. The Chairman presented the concepts that established the basis for NORAD's communication proposals. They were:

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1. A NORAD requirement for high quality data flow from the DEW Line.
2. A SAC requirement to permit contact with SAC aircraft at the line via voice circuitry.
3. The use of DEW circuitry to permit ICBM warning data to be relayed at a faster rate than present communications facilities will permit.

Lt Col Holcombe questioned the first statement.

Mr. Glezen stated that in order to support items 2 and 3 above, NORAD needed two-way voice communications with all Main stations to be backed up with teletype. The voice circuits to be "hot lines," i.e., direct without "switching."

Discussion followed and the Group agreed that these and other major proposals be packaged, substantiated and submitted by NORAD to C/S USAF, as Executive Agent for NORAD, for necessary action.

Mr. Glezen said it was necessary to have voice capability from one end of the DEW Line to the other without time-consuming "patching" or switching.

Major Blakely stated that USAF has some money available to handle this function providing it was operationally necessary. He mentioned other improvements to the DEW system that were under way. Specifically, he mentioned providing additional reliability to the Pole-Vault system.

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Major Blakely indicated that a requirement was going to be placed on NORAD to come up with a complete channel requirement in the DEW Lateral, in DEW rearward circuits, Pole Vault, and DEW East, i.e., to include air defense requirements, SAC requirements, RCAF and DOT requirements. All requirements would be exclusive of White Alice which CINCAL would be requested to provide. He stated that when these requirements are received, they would be turned over to a dependable engineering agency to determine a means to meet the requirements.

The Chairman asked the 64th AD member how reliable the communications were between the 64th and Dye and Fox.

Major Lloyd stated they were 95 to 99% reliable but they were experiencing signalling difficulty.

The Chairman asked the AAC representatives if any communication difficulties were being encountered in their portion of the DEW Line.

Captain Egli, AAC, indicated that on lateral circuitry they had noise problems and also signaling difficulty. He believed the noise problem was worse between LIZ 2 and LIZ 3 and thought the reason was due to bad propagation pathing.

The Chairman asked the AAC representatives how long it took to contact Dye Main Station from AAC COC.

Captain Egli stated that he could not give the exact time but that it would be considerable in that patching between mains enroute was necessary.

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Mr. Wollman, WECO, stated that the basic operations plan for the DEW Line required voice call from main to main. To provide an immediate voice capability from either command along the full length of the DEW Line would require special engineering and channelization.

A discussion followed, and it was determined that immediate voice capability along the entire DEW Line from either or both operational commands was technically feasible. The cost and reliability could only be determined by study and test.

The Chairman adjourned the group at 1715 hours to meet the following day at 0900.

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MINUTES OF EWOWG MEETING

21 NOVEMBER 1957

The Group was convened at 1015 hours. At the request of the Chairman, the Secretariat gave a resumé of the previous day's meeting. The Chairman then stated that he wanted the Group to review and correct Change One to the DEW Ops Plan to include operations of the Aleutian Segment ("Stretch Out").

Maj Clinger stated that the EWOWG had prepared and submitted the original Change One to Hq USAF over six months ago and asked Lt Col Holcombe what had happened to the Change One.

Lt Col Holcombe stated that CAA had not signed off on the Change but that he had sent a copy of the Change to the DEW Project Office for their guidance.

Maj Clinger stated that he saw no reason why CAA took objection to the Change, stating that CAA had a representative at the meeting when the Change was prepared.

A discussion followed, and the Group agreed to resubmit a corrected Change One to Hq USAF for approval.

The Chairman assigned a working group under Major Walton to prepare the corrected Change One. Mr. Wellman and Mr. Grimm were to help in preparing Figure 3A to Change One (Figure 3A is the communications layout of "Stretch Out").

Lt Col Hough asked Lt Col Holcombe to give the Group a resumé on organization and command responsibilities for the DEW Line.

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Lt Col Holcombe said that present plans give operational control of the line to AAC and NEAC. He stated that recent changes within the U.S. air defense organizations have caused ADC to assume, through 64th AD, operational control of those parts of the DEW Line assigned to NEAC and have caused AAC to be responsive to CINCAL and CONAD for air defense responsibilities. He added that the assignment of the M&O contract administration to ADC, which will occur on 15 February 1958, causes the command channels to differ between operational control, logistic support, and operations of the DEW Line.

Lt Col Holcombe recommended that the operational control be assigned to the USAF ADC to be responsive to NORAD's requirements; further, that, as an interim measure, AAC and 64th AD forward recommended changes to the present USAF-RCAF DEW-MCL Ops Plan or recommendations for more detailed operational procedures to the USAF ADC. He stated that the USAF ADC should coordinate these recommendations and obtain RCAF-ADC approval prior to changing the Plan and that such changes need not be forwarded to the respective Air Force organizations for approval unless a joint USAF ADC and RCAF-ADC position cannot be obtained. He also stated that technical equipment changes should be handled in the same manner but should be forwarded to the DEWPO for implementation after joint RCAF-ADC and USAF ADC approval. The EWOWG agreed, with the exception of AAC and CINCAL representatives, who took exception to the USAF ADC having operational control of the DEW

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Line now assigned to AAC. Further, Lt Col Hough did not agree to Lt Col Holcombe's proposal to give operational control of the land-based DEW Line to ADC and stated that NORAD should be given this operational control.

Mr. Swinney stated the FECCO would prefer operating under one system or agency. This would simplify personnel and administration problems and would result in a better overall operation.

Following a discussion, the EWOWG recommended that:

a. The responsibility for logistical support and operations follow the same organization; further, that one organization be given overall responsibility for the operation and maintenance of the land-based DEW Line to be responsive to NORAD's requirements.

b. The USAF Air Defense Command be designated to resolve operational problems that do not change the concept of operations of the land-based DEW Line.

Maj Walton discussed communications requirements for the Aleutian Segment, specifically making reference to an FPIS circuitry from Umnak to King Salmon. He mentioned the need for directional beacons at Stations along the Aleutian Segment.

Lt Col Holcombe suggested that beacons be placed at strips, not at the stations, as it is on the DEW Line.

Lt Col Crisp, DEWPO, stated that communications improvements approved for the main DEW Line would most likely be incorporated in the Aleutian Segment. However, requirements for beacons, their recommended locations, etc., should be made known to him as soon

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as possible. The Group agreed and recommended that approved directional beacons should be installed on the air strips along the Aleutian Segment.

The Group recessed for lunch at 1130 hours.

The Group reconvened at 1300 hours.

The Chairman asked Maj Walton for the status of Change One. Major Walton indicated that he would have the Change completed by 1700 hours but that Figure 3A would be corrected and submitted to the Group the following morning for approval.

Lt Col Hough asked Lt Col Holcombe what he thought the future status of the EWOWG would be. Lt Col Holcombe said the EWOWG was originally formed to write an operational requirement plan for the land-based portion of the Distant Early Warning System. The Group was formed to speed up the normal staff method of planning since there were so many major commands concerned. He said that changes in U.S. service organization and the completion of ARDC and AMC responsibilities have reduced the number of major commands responsible for the DEW system. He stated further that when the Terms of Reference for NORAD are approved, NORAD should have the capability of handling all responsibilities presently assigned to EWOWG. Therefore, he recommended the EWOWG be dissolved at such time as NORAD is prepared to accept the present EWOWG responsibilities and that Hq USAF take appropriate action on this matter after the NORAD Terms of Reference are approved.

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A discussion followed. The EWOWG agreed with Lt Col Holcombe's recommendation and that it be stated as a recommendation of the EWOWG. The Chairman adjourned the Group at 1630 hours to be reconvened at 1000 hours Friday.

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MINUTES OF EWOWG MEETING

22 NOVEMBER 1957

The Chairman convened the Group at 1000 hours. He asked Major Walton the status of Change One and Figure 3A. Major Walton turned in the corrected Change One, but stated Figure 3A was still being worked on. The EWOWG approved the corrected Change One and the forwarding of the corrected Figure 3A along with the corrected Change One to Hq USAF for approval.

The Chairman asked the Group if they had any comments to make regarding changes to the basic Ops Plan. Mr. Swinney stated that the DEW Line was not being operated in accordance with the basic Plan. Lt Col Holcombe said the basic Plan was not intended to be sufficiently detailed to handle all operations procedures, that the operational commands along with FECCO should prepare detailed SOP's, etc. Mr. Swinney mentioned time checks varied from procedures established in the Plan. He submitted a complete listing of actual problem areas being encountered since FECCO has taken over operation of the DEW Line. He consolidated the problem areas into four points: (1) Communications, (2) Surveillance, (3) Weather, AMIS and Identification, (4) Security and Equipment Status Reports.

Discussion followed. The Group recommended that, as an interim measure, these and other similar problems or recommendations for Ops Plan changes be submitted to the operational commands, who, in turn, will submit their recommendations to USAF ADC for joint approval and necessary action.

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(The EWONG agreed in the previous day's meeting that, as an interim measure, recommended changes to the present USAF-RCAP Ops Plan be submitted to the USAF ADC for joint USAF ADC and RCAF-ADC approval and necessary change action. Further, if joint agreement could not be reached, such should be referred to Hq USAF for resolution by Hq USAF and Hq RCAF.)

Lt Col Crisp stated that the operating contractor was encountering a great deal of confusion because of numerous call signs being used on the line. He recommended that the EWONG support the use of a single and uniform system of call signs and publish them in the radio facility charts for the Far North.

Discussion followed. The Group agreed to support this idea and indicated that the operational commands should send these recommendations to the USAF ADC for joint approval and necessary action.

Maj Lloyd presented 64th AD's problem areas. These were similar to those presented by FECCO. It was determined that these too be submitted to the USAF ADC for resolution and necessary action.

Maj Pelak, Hq ADC, stated that ADC had forwarded a message to Hq USAF requesting concurrence on USAF KAC-1 Air Ground Authentication Area Code, KAC-13 ADC Regional Status Reporting Code, KAC-26 NORAD Point to Point Authentication Code, and KAC-72 SAC Air Ground Authentication Area Code for use on the DEW Line. He said that the systematic use of these codes on the DEW Line would

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greatly alleviate problems being encountered on the DEW Line. USAF representatives indicated they would trace the status of the ADC request.

The EWONG agreed that if the code systems were utilized on the DEW Line, the USAF ADC should fully coordinate the systems with all interested agencies prior to implementing action.

Mr. Swinney stated that intermediate sites "I" should be provided navigational aids similar to the low frequency beacon, Wilcox 99C, now employed at Main and Auxiliary Stations. He said that these sites are visited at least once per week and much difficulty is being encountered in navigation to and from these sites.

Lt Col Holcombe said that FECCO should have anticipated such problems when they "bid" on the operations contract. He would not favor "pushing" tasks for operations personnel at this time. Lt Col Holcombe discussed background evaluation that lead the EWONG to determine that Nav-aids at "I" sites were not necessary. Specifically, he stated that "I" sites are to be eventually unmanned; that there are sufficient beacons in the area (within 50 miles); and that trips to these stations can be adjusted to be made in good weather. He said that if bad weather existed, it would be doubtful that an aircraft could land at an "I" site without a "let down" procedure, and ground air communications for clearance.

A discussion followed.

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The EMCWG agreed with Lt Col Holcombe and stated that procedures should be worked out if possible for satisfactory navigation, deliveries, etc., without additional cost to the U.S. for navigational aids.

The Chairman summarized the meetings over the past three days and then asked for additional comments or questions. There being none, he adjourned the Group at 1200 hours.

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PROPOSED CHANGE #1
TO OPERATIONS PLAN FOR
DISTANT EARLY WARNING AND MID-CANADA LINES

1. To incorporate the operation of the Aleutian segment of the DEW Line into the Operations Plan for the Northern portion of the system, the following changes are to be made to the Operations Plan, Distant Early Warning and Mid-Canada Lines:

a. Section I.

(1) Paragraph 2, Lines 3 & 4, after Canada, add: "and the Aleutian Segment which extends between Port Heiden, Alaska, and Nikolski on Unak Island" and for that--.

b. Section II.

(1) Page 3, Paragraph 6, line 5, after "1 July 1957" delete last sentence and add: "Plans have also been made to extend the land based portion of the DEW System from Cape Lisburne westward around the perimeter of Alaska where it will tie into the Pacific Sea Flank and eastward from Cape Dyer where it will tie into the Atlantic Sea Flank. Approval has been given to construct that portion of the land segment along the Aleutian chain which ties into the Pacific Sea Flank."

c. Section VI.

(1) Page 9, Paragraph 1.a., third line, after "Canada", add: "and along the Aleutian chain from Port Heiden to Nikolski." Fourth line, before "DEW Line", insert: "Northern portion of the".

(2) Same paragraph, second from last sentence, after "flutter", insert: "The Aleutian segment will be similar to the

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above with the exception that there will be no 'flutter' equipment installed and, therefore, no requirement for Intermediate stations. There will be one (1) Main station with three (3) Auxiliary stations on the west side of the Main, and two (2) on the east side of the Main for a total of five (5) Auxiliary stations."

(3) Page 10, after paragraph 1.f., add: "NOTE: Low altitude coverage of the Aleutian Segment is 200 feet over water and 500 feet over land."

(4) Page 10, paragraph 1.g.(4). Change total personnel required to: "Military, 42 - 0; Civilians, 679."

(5) Page 11, paragraph 2.a.(2). After "receiver units," add: "(Nil on Aleutian Chain)."

(6) Page 11, paragraph 2.b.(4). After "10KW" add: "and FRC-39 on Aleutian segment."

(7) Page 12, paragraph 2.d.(10)(b). After "East, West flutter link," add: "(Nil on Aleutian segment)."

(8) Page 13, paragraph 3.a.(2). After "Receiver units" add: "(Nil on Aleutian segment)."

(9) Page 17, paragraph 5.g., second line, after "10KW", insert: "or FRC-39."

(10) Same paragraph, line 13, after "24", insert: "or more."

d. Section VII.

(1) Page 27, paragraph 1.d.(1), line 6, after "East" insert: "The Alaskan ADIZ will be extended to include the coverage

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of the Aleutian chain." The extent of the DEMIZ - - - -.

e. Section VIII.

- (1) Page 34, paragraph 1.a., line 5. For "Six (6)" Operational Sectors, read "Seven (7)" Operational Sectors.
- (2) Page 34, paragraph 1.b.(1)(a), line 2, after "From", insert: "Nikolski to Port Heiden" and from "LIZ - - - -."
- (3) Page 34. Change Pov Sector to read paragraph 1.b.(1)(a)2., and insert new paragraph 1.a.(1)(a)1.:

1. Cold Bay (COB) Sector: That area East of Nikolski 168°51'20"W to Port Heiden 158°37'36"W, including stations:

<u>Station</u>	<u>Type</u>	<u>Location (lat. and long.)</u>	
Nikolski	COB 1 A (Modified)	52°58'25"W	168°51'20"W
Driftwood Bay	COB 2 A "	54 00 46 N	166 45 15 W
Cape Sarichef	COB 3 A "	54 35 35 N	164 52 36 W
Cold Bay	COB 4 M "	55 30 51 N	162 52 24 W
Port Moller	COB 4 A "	55 58 00 N	160 29 48 W
Port Heiden	COB 5 A "	56 58 55 N	158 37 36 W

- (4) Pages 34 and 35. Change numbering of 1.b.(1)(a) 2, 3, 4, to read 1.b.(1)(a)3, 4, 5, respectively.
- (5) Page 37, paragraph 1.c.(2)(a)3. After "from" insert "COB".
- (6) Page 37, paragraph 1.c.(3)(b), line 3. After "within" insert "COB".
- (7) Page 38, paragraph 1.c.(5)(b), delete present paragraph (b) and insert new paragraph (b):

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(b) Data on "Friendly", "Unknown" and "Hostile" airborne objects from POW and BAR Sectors will be transmitted to the 11th Air Division ADCC and from COB Sector to the 10th Air Division ADCC. Drops will be provided to Indian Mountain GCI Station on the POW Main Station surveillance circuit and to Fort Yukon GCI station on the BAR Main Station surveillance circuit to the 11th Air Division, and to the King Salmon Direction Center in the COB Main Station surveillance circuit to the 10th Air Division. The information which is transmitted from the BAR Main and POW Main Stations to the 11th Air Division, and from COB Main Station to the 10th Air Division, regarding "Friendly", "Unknown" and "Hostile" airborne objects will be subjected to RTT selector action which will allow through transmission of "Unknown" and "Hostile" data to AAC, CONAD and RCAF ADC COC's.

(8) Page 38. To paragraph 1.c.(5)(c), add the following: "and from the 10th Air Division to the COB Main Station. A voice operational circuit will be provided from the COB Main Station to the King Salmon ADCC."

(9) Page 38. To paragraph 1.c.(5)(f), add: "and from the 10th Air Division to COB Main Station Data Center."

(10) Page 39, paragraph 1.f.(1) for "three (3)" AMIS's read "four (4)" AMIS's. Line 4, after "Fairbanks" insert "Anchorage".

(11) Page 39, paragraph 1.f.(2), line 3, after "Fairbanks" insert "Anchorage".

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(12) Page 40, after paragraph 1.f.(4)(e), insert new paragraph 1.f.(4)(f):

(f) Anchorage AMIS to COB.

1. Provide all flight plans in the COB Sector to COB.

(13) Page 40, paragraph 1.f.(5), add the following sentence: "In the case of communications failure between COB and Anchorage AMIS, Anchorage will route flight plan data through King Salmon Direction Center."

(14) Page 40, paragraph 1.g.(1). Add the following sentence: "Along the Aleutian chain, the Alaskan coastal ADIZ will be extended to include the radar coverage of COB Sector."

(15) Page 43, paragraph 1.i.(1) Delete sentence one, and add new sentence one: "Time checks will be initiated every 24 hours by voice communication from the 10th Air Division COC to COB, the 11th Air Division COC to BAR, and the Goose Bay ADDC to DYE."

(16) Page 56, paragraph 3.b.(a), AAC region, insert before POW Sector:

<u>Station</u>	<u>Designation</u>	<u>Block No.</u>
COB (Sector)	EZ	1-14
COB-1 Sub-sector	EU	15-28
COB-2 Sub-sector	EV	29-42
COB-3 Sub-sector	EW	43-56
COB-4 Sub-sector	EX	57-70
COB-5 Sub-sector	EY	71-85

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(17) Page 62. Add to paragraph 4.a.: "When conditions prohibit COB-4 and/or COB-5 from reporting to COB by primary teletype, alternate surveillance voice to 705th AC&W Squadron will be used."

f. Section X.

(1) Page 82, paragraph 1, add: "and Figure 3a" after "See Figure 3".

(2) Page 82, paragraph 1.a.(1), renumber to read paragraph 1.a.(1)(a).

(3) Add paragraph 1.a.(1)(b): "On the Aleutian Segment this circuit will terminate in the operations room of the Alaskan Air Command AC&W Station at King Salmon."

(4) Page 82, paragraph 1.a.(2), add: "COB to King Salmon".

(5) Page 82, paragraph 1.b.(2), add: "COB to King Salmon".

(6) Page 82, paragraph 1.c.(1), after Cape Lisburne, add: "and King Salmon".

(7) Page 82, paragraph 1.c.(2), add:

COB-1 to COB-2
COB-2 to COB-3
COB-3 to COB
COB to COB-4
COB-4 to COB-5
COB-5 to King Salmon

(8) Page 83, paragraph 1.d.(2), add:

COB-1 to COB w/drops at:

COB-2
COB-3

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COB to King Salmon w/drops at:

COB-4
COB-5

(9) Page 85, paragraph 1.e.(2), add:

COB to COB-1
COB to COB-2
COB to COB-3
COB to COB-4
COB to COB-5

(10) Page 85, paragraph 1.f.(2), add:

COB to King Salmon

(11) Page 86, paragraph 1.h.(2), add:

COB-1 to COB
COB-2 to COB
COB-3 to COB
COB-4 to COB
COB-5 to COB

(12) Page 87, paragraph 1.j.(2), add:

COB to:

COB-1
COB-2
COB-3
COB-4
COB-5

(13) Page 88, paragraph 1.k.(2), add:

COB-1 to COB
COB-2 to COB
COB-3 to COB
COB-4 to COB
COB-5 to COB

(14) Page 89, paragraph 1.n.(1)(b), add:

Paragraph 5. AAC multipoint connecting COB, 10th
ADCC and King Salmon ADCC.

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- (15) Page 90, paragraph 1.n.(2)(b), add:
COB to COB-1: COB-1 rearward to Anchorage.
- (16) Page 90, paragraph 1.n.(3)(c), add: COB.
- (17) Page 91, paragraph 2.a.(2) add, after Resolution Island, Canada: "A UHF tropospheric scatter circuit from COB to King Salmon where it will enter the White Alice network."
- (18) Page 91, paragraph 2.a.(3) add, after Cape Lisburne: "King Salmon and Anchorage, etc."
- (19) Page 92, paragraph 2.b.(1)(b) add, after 11th Air Division: "From COB at King Salmon ADDC and 10th Air Division."
- (20) Page 93, paragraph 2.b.(2), add:
Addressed to:
1
C
T
H
A
D
- (a) After POW, add: "COB, XF under 10th Air Division, X under CONAD, X under RCAF, X under AAC, X under WADF, X under 5th AD.
- (b) Under "Primary Routing" COB to King Salmon to 10th AD to AAC to Dawson Creek to (A) Edmonton to Winnipeg to RCAF ADDC (B) 5th AD to Tacoma to WADF to CONAD.
- (c) Under "Alternate Routing" COB to COB-1 to 10th AD to King Salmon and AAC and same as primary from AAC.
- (21) Page 97, add paragraph 2.b.(3)(i):

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(1) Circuit 8. This is a one-way teletype circuit for transmitting surveillance data to 10th Air Division with a drop at King Salmon ADCC, AAC COC, 5th Air Division (Canada), WADF, RCAF, ADC COC, and CONAD COC. This information shall combine with other surveillance data at AAC COC, Dawson Creek, Edmonton, Winnipeg, Tacoma, and WADF and be routed through sequencing equipment. At AAC it will be routed through sequencing equipment and over existing facilities to Dawson Creek. At Dawson Creek it will:

1. Branch and continue over a commercial one-way teletype circuit to Edmonton where it will be routed through sequencing equipment. At Edmonton it will continue over a commercial one-way circuit to Winnipeg where it will be routed through sequencing equipment. At Winnipeg it will continue over a commercial one-way teletype circuit to RCAF ADC COC.

2. Be routed through sequencing equipment and over existing facilities to 5th Air Division (Canada) to Tacoma to WADF to CONAD.

(22) Page 97, paragraph 2.c.(1), line 3, after Fairbanks, add: "Anchorage,".

(23) Page 98, add paragraph 2.c.(1)(g):

(g) Circuit 7. COB to Anchorage will be over FPTS.

(24) Page 98, add paragraph 2.c.(2):

(2) A voice line from COB to AMIS (CAA) Anchorage is provided due to density of commercial traffic along the Aleutian Segment of the DEW Line.

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(25) Page 98, add paragraph 2.d.(2)(d):

(d) A voice party line from 10th Air Division through
King Salmon to COB.

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105

JOINT MESSAGEFORM		SECURITY CLASSIFICATION UNCLASSIFIED	
SPACE BELOW RESERVED FOR ADMINISTRATIVE USE (ENTER)			
UNCLASSIFIED FILE			
PRECEDENCE	TYPE MESSAGE BOOK TELETYPE SINGLE	ACCOUNTING SYMBOL	ORIG. OR REFERS TO
ACTION INFO ROUTINE	X	AF	
FROM:	CINCNORAD		SPECIAL INSTRUCTIONS
TO:	COMADC ENT AFB COLORADO SPRINGS COLO (COUFIER)		
INFO:	CANAIRDET ST HUBERT QUEBEC CANADA		
	COMCFCEK STEWART AFB NEW YORK		
	COMCFCCP RICHARDS-GEBAUR AFB MO		
	COMCFWCR HAMILTON AFB CALIFORNIA		
	CINCAL ELMENDORF AFB ANCHORAGE ALASKA		
	COM64CADD PEPPERRELL AFB NEWFOUNDLAND		
UNCLASSIFIED FROM NOESS-C X008			
EXTREME DIFFICULTIES ARE BEING ENCOUNTERED IN COMMUNICATIONS OUTAGES AND RECEIPT OF EXCESSIVE NUMBER OF GARBLED MESSAGES AT NORAD COC FROM DEW LINE. AS PRINCIPAL ADVISOR AND AGENT FOR NORAD ON AIR FORCE MATTERS, REQUEST YOU INITIATE NECESSARY ACTION, IN COORDINATION WITH OTHER PERTINENT AIR FORCE COMMANDS, TO INVESTIGATE AND RESOLVE THESE PROBLEMS. FOR INFO ADDRESSEE: FURTHER CORRESPONDENCE ON THIS SUBJECT IS BEING DISSEMINATED BY ADC. REQUEST ASSISTANCE BE PROVIDED TO ADC. CANUSESECURITY. (OPER TOP MEMO FOR RECORD)			
SYMBOL		SIGNATURE	
NOESS-C		VDC	
TYPED NAME AND TITLE (Signature, if ready)		TYPED (or Initials) NAME AND TITLE	
DEA I Col F.K. Nichols, Dir Systems		J. W. LEDOUX	
FILE NO. 2029		LCDR, USN	
SECURITY UNCLASSIFIED		Staff Adjutant	

DUPLICATE

DD: [unclear]

105

M/R: There are serious organizational problems concerning the
responsibilities of individual companies for corrective action in
DEW Line areas. It is a problem of jurisdiction and the
purpose of requesting ADC is to be the principal agent for coordinating
the efforts of the various agencies involved. This matter has been
discussed in detail with representatives of the various agencies and
they are in agreement.

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CONAD HIST FILE

306

READING FILE

PRIORITY

COM 011V

1139-01

F 060100Z

FM CONDR 11 AIR DIV WPT LADD AFB MS
TO COMDR AAC ELMENTORP AFB ALA
INFO CONDR 11T AFB COLO

ACTION: NOCC

INFO: NOIC

NOOP

SUSPENSE: 10 OCT 1957
N7-11870

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FROM 11 COM/CS KO464-10. FOLLOWING MESSAGE RECEIVED FROM DE. LINE MILITARY COMMAND AT PLE. MAIL STATION IS QUOTED FOR YOUR INFORMATION AND/OR ACTION: "REAR END SURVEILLANCE CIRCUIT IS OPERATING FOR ESTABLISHED PERIODS. EXTENDED RANGE HAS SUSPENDED AT 1100Z ON OCTOBER 3-4 OCTOBER. SURVEILLANCE MESSAGES BY AIRMAIL THROUGH 0400Z. REQUEST ACKNOWLEDGMENT OF RECEIPT OF SURVEILLANCE MESSAGES FROM THE AT AND, 0000Z, 04 OCTOBER (CONAD OPERATIONS CENTER) IN QUOTE."

10--PARAPHRASE NOT REQUIRED FROM PRIOR TO CATEGORY 2 DECRYPTION -- PHYSICALLY REMOVE ALL INTERNAL REFERENCES ON DATE-TIME GROUP PRIOR TO DECLASSIFICATION -- NO UNCLASSIFIED REFERENCES IF DATE-TIME GROUP IS PRESENT.

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CON011

CON011
A-37-02
R 012035Z
FM COMR J4ADIV (D) PEPPERRELL
TO COMR ADC ENT AFB COLO
INFO COMR CINCPACENT ENT AFB COLO
COFS USAF WASH DC
COMR AACS ANDREWS AFB MD

READING FILE

CONAD EST

ACTION: COSIC

INFO: COCOC X7-13078

UNCLASSIFIED

// CITE OCC 5206. REFERENCE YOUR MESSAGE
ADOC-1P 3255 AND MY MESSAGE OCC-5202 NOTAL. TVE VOICE CIRCUIT
CONNECTED AND OPERATIONAL THROUGH J4AD (D) CONAD COC SWITCHBOARD
EFFECTIVE 31 OCTOBER 1957.

BT

AC--PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY 3 ENCRYPTION
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME-GROUP PRIOR
TO DECLASSIFICATION--NO UNCLASSIFIED REFERENCES IF DATE-TIME-GROUP
IS OBTED.

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2 NOV 57

READING FILE
CONAD HIST FILE
57

CCNDGANC/OXAC0003
MI RJEJRON
DE RJKDAS IC
M020200Z
FM CINCAL ELMENDORF AFB ALASKA
TO RJEJEN/CINCRCRAD ENT AFB COLO
INFO/COMFAC ELMENDORF AFB ALASKA
BT

ACTION: COELC
INFO: OOOOP, SUSPENSE 7 Nov 57
17-13079

UNCLASSIFIED FROM CDP 5588

INFORMATION HERE INDICATES BAR-ACEX FPIS CIRCUIT CONTINUES TO BE UNSATISFACTORY AND ATTEMPTS TO BRING CIRCUITRY TO ACCEPTABLE CONDITION UNSUCCESSFUL. IN VIEW APPARENT UNSUCCESSFUL CONTRACTOR ATTEMPTS TO BRING CIRCUIT TO ACCEPTABLE OPERATIONAL EFFICIENCY, AND IMPORTANCE OF THIS AIR DEFENSE CIRCUIT, CONSIDER PROBLEM OF SUFFICIENT IMPORT TO WARRANT YOUR ADVISING US/OF UNSATISFACTORY OPERATION AND RECOMMENDING THAT DEUPC BE REQUESTED TO EXPEDITE ACTION TO BRING CIRCUIT TO SATISFACTORY OPERATIONAL EFFICIENCY

BT
02/0200Z FM NCV RJEJPHC RJKDAS

T DKZZ
A-- PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY 3 ENCRYPTION--
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME-GROUP
PRIOR TO //ADVANCE COPY SENT TO COC//

DECLASSIFICATION
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EXCLUDED

JOINT MESSAGEFORM

UNCLASSIFIED

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READING FILE

COMAD HIST FILE

57

PRECEDENCE	TYPE MSG (CA-2)	ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION PRIORITY	BOOK MULTI SINGLE	AF	COM 5388	CONF.
INFO	I			

FROM: CINCPAC

SPECIAL INSTRUCTIONS

TO: COPS USAF WASH DC

INFO: COMADC (COURIER)

UNCLASSIFIED ~~FOESS-C~~ X014 . COPS, USAF, AS EXECUTIVE AGENT FOR NORAD. SUBJECT IS UNSATISFACTORY FPIS CIRCUIT

BAR-AGEX. IN VIEW OF APPARENT UNSUCCESSFUL CONTRACTOR ATTEMPTS TO BRING CIRCUIT TO ACCEPTABLE OPERATING EFFICIENCY AND IMPORTANCE OF THIS NORAD CIRCUIT, REQUEST DSWPO TO EXPEDITE ACTION TO BRING CIRCUIT UP TO SATISFACTORY OPERATIONAL EFFICIENCY.

DUPLICATE

FOR TRACK TOWLS

W/At: At W/MAIL suggestion, requesting DSWPO, as Executive Agent for NORAD, to direct DSWPO to expedite necessary improvement of BAR-AGEX FPIS circuit.

~~AF~~ - PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION - PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME GROUP PRIOR TO DECLASSIFICATION ~~GROUP~~ CLASSIFIED REFERENCE IF DATE-TIME GROUP ~~CLASSIFIED~~

DATE	TIME
8	2030Z
MONTH	YEAR
NOV	1957

SYMBOL
FOESS-C

TYPED NAME AND TITLE (Signature if required)
Lt. Col. K.M. Keyte, Chief, Comm. Div.
PHONE 2039

SECURITY CLASSIFICATION
UNCLASSIFIED

SIGNATURE

TYPED NAME AND TITLE
K. GARVER
USAF
Area Accountant

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(when filled in)

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CONRAD HIST FILE

57

READING FILE

POR
NOR010HQAO14
MM RJEDDN
DE RJEPHQ 250
M 152204Z
FM HQ USAF WASHDC
TO ZEN/CHIEF DEWPO 220 CHURCH ST NY NY
INFO RJEDDN/CINCORAD ENT AFB COLO
RJEDDN/COMAIRDEFCON ENT AFB COLO
BT

ACTION: COFLC
X7-13646

15 NOV 64

UNCLASSIFIED /FROM AFOAC-S/E 52864

"NO UNCLASSIFIED REFERENCE IF THE DTG IS QUOTED"
THE FOLLOWING MESSAGE FROM CINCORAD IS QUOTED. QUOTE. CONFIDENTIAL
NOESS-C X014. COFS, USAF AS EXECUTIVE AGENT FOR NORAD. SUBJECT IS
UNSATISFACTORY FPIS CIRCUIT BAR-AGEX. IN VIEW OF APPARENT UN-
SUCCESSFUL CONTRACTOR ATTEMPTS TO BRING CIRCUIT TO ACCEPTABLE
OPERATING EFFICIENCY AND IMPORTANCE OF THIS NORAD CIRCUIT, REQUEST
DEWPO TO EXPEDITE ACTION TO BRING CIRCUIT UP TO SATISFACTORY
OPERATIONAL EFFICIENCY. UNQUOTE. ADVISE THIS HEADQUARTERS AND
CINCORAD PROBLEMS ENCOUNTERED WITH THIS CIRCUIT, AND ACTION BEING
TAKEN OR RECOMMENDED ACTION TO IMPROVE THIS CIRCUIT.

BT
15/2320Z NOV RJEPHQ

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5 Dec 1957

CON011HQ012
MM RJEDDN
DE RJKDAG 2C
M 05/0

READING FILE

COMAD TEST FILE
57

HQA012
AGC005

ACTION: COOP
INFO: DECLASS. COC, COINT,

17-14449

MM RJEDDN
DE RJKDAG 2C
M 05/0250Z
FM CINCAL ELMENDORF AFB ALASKA
TO RJEDDN/CINCNORAD ENT AFB COLO
INFO ZEN/COMAAC ELMENDORF AFB ALASKA

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BT
FROM ALCOM CED 3444
REF MY MSG CITE CED 5388. ACTION BY FAPUSJCEC REDUCED VHF FREQ ASGMT
AT BARTER ISLAND. THE AAC REQUESTED DEWPO TO REINSTALL HIGH FREQ
CAPABILITIES AT BARTER AND AGEV AS BACKUP FOR FPIS. IN VIEW OF THE
IMPORTANCE OF THIS AD CIRCUIT IT IS STRONGLY RECOMMENDED THAT CIN-
NORAD SUPPORT THE AAC REQUEST.

BT
05/0307Z DEC RJKDAG

4--PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION--
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//ADVXXXXXXXXXXXXXXXXXXXX

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NOR017HQA015

RR RJEDDN RJKDAG RJEPFF

DE RJEPHO 216

R 032134Z

FM HQ USAF WASHDC

TO RJEDDN/CINCNOBAD ENT AFB COLO

INFO RJKDAG/CINCAL ELMENDORF AFB AL

RJKDAG/COMAAC ELMENDORF AFB AL

ZEN/CHIEF DEWPO 220 CHURCH ST NY NY

RJEPFF/COMAACS ANDREWS AFB CP SPRINGS MD

BT

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FROM AFOAC-1 54675 "CATEGORY AC"

REFERENCE NOESS-C X-28 NOTAL. THIS IS AN EXECUTIVE AGENCY MESSAGE IN THREE PARTS. PART I. THIS HEADQUARTERS CONCURS IN PROPOSAL TO PROVIDE HIGH FREQUENCY BACK-UP TO THE BARTER ISLAND-ANCHORAGE DEW-REAR CIRCUIT, ON AN INTERIM BASIS. PART II. FOR CINCAL AND COMAAC. SUGGEST YOU DETERMINE IF REQUIRED EQUIPMENT CAN BE LOCATED IN THEATRE IN AACS OR AAC RESOURCES AND ADVISE IN ORDER THAT PROGRAMMING CAN BE EFFECTED. IN REGARD TO FREQUENCIES, SUGGEST YOU CONSIDER FREQUENCIES FORMERLY USED ON BARTER-ANCHORAGE (WOL CIGR01) AND THOSE RECENTLY DEACTIVATED ON AACS OPERATED ELMENDORF-REAR ISLAND

5 JAN 1958

READING FILE

ACTION: COSIC
XO-113

57

PAGE TWO RJEPHO 216
CIRCUIT. SUBMIT FREQUENCY PROPOSAL TO THIS HEADQUARTERS. PART III. FOR ALL. DESIGNATION OF OPERATIONAL DATE AND ENGINEERING-INSTALLATION AGENCY WITHHELD UNTIL RECEIPT OF INFORMATION CONCERNING ABILITY TO INSTALL THIS CIRCUIT WITH LOCAL RESOURCES. ALL ACTIONS MUST BE COORDINATED WITH CHIEF DEWPO. OTHER ACTIONS BEING CONTEMPLATED FOR EARLY IMPLEMENTATION SHOULD DRASTICALLY IMPROVE RELIABILITY OF OUR ARCTIC COMMUNICATIONS SYSTEMS. THEREFORE, THIS HIGH FREQUENCY BACK-UP IS APPROVED FOR INTERIM OPERATION ONLY.

BT

03/2253Z JAN RJEPHO

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T
AC-PARAPHRASE NOT REQUIRED EXCEPT PRI & TO CATEGORY 3 DECRYPTION--
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE TIME GROUP PRIOR
TO DECLASSIFICATION--NO UNCLASSIFIED REFERENCES IF DATE TIME GROUP
IS QUOTED.

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NCEPR

11 December 1957

SUBJECT: Review of North American Long-Lines Facilities Related to Air Defense

TO: Chief of Staff, United States Air Force
As Executive Agent for NORAD
Washington 25, D. C.

1. The inclosure to this letter proposes several changes to military communications systems in the North American area. The proposals are the direct result of their capability to support the NORAD requirements as they exist now and are expected to exist in the foreseeable future.

2. Subjectively, seven recommendations evolve from the review and these may be summarized as follows:

- a. Improvement of White Alice to DEW communications.
- b. Augmentation of Alaskan long-lines communications.
- c. Construction of alternate facilities to Aleutian extension of DEW Line (Project Sretchout).
- d. Installation of repeat-back equipment to DEW rearward telling circuits.
- e. Establishment of communications monitor and control point in Dawson Creek area.
- f. Improvement of Pole Vault to DEW communications.
- g. Support of proposed Fox-Churchill tropospheric system (DEW to WCL).

3. The recommendation set forth in paragraph 2 d is being implemented on a test basis. It is included as a part of this correspondence because of its relationship to other proposals for improvement of current operations.

4. The concern of this Headquarters for a secure, timely and reliable communications throughout the period of the projected threat to our security has prompted this study. It is considered vital to the progressive improvement of air defense through the remaining life of the air-breathing threat and basic to the communications required in transition to the ICBM time period. It is requested that the proposals contained herein be approved and that the engineering studies necessary to their accomplishment be initiated.

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NOEPR, Hq NOAD, subj: Review of North American Long-Lines
Facilities Related to Air Defense (Contd).

5. Inasmuch as this is a systems plan and coordination of the
separate elements to the entire system is required, it is requested
that we be kept advised of follow-on actions pertinent to this subject.

1 Incl
Subj: as above (dup)

E. E. PARTRIDGE
General, USAF
Commander-In-Chief

Copies furnished
RCAF/ADC
CINCAL

M/R Not required.

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A REVIEW OF NORTH AMERICAN LONG-LINES
FACILITIES RELATED TO AIR DEFENSE

1. The NORAD staff has reviewed the Distant Early Warning Communications System requirements necessary to enable CINCNORAD to perform his mission. The study has involved the requirements for telephone, telegraph and data communications:

- a. As they appear at this time.
- b. As they need improvement to strengthen the present system, including needs for the foreseeable future, and
- c. As they will undoubtedly require change in the ICBM era when time will be of the utmost importance.

2. This study has been made on the basis of an overall system concept and from the standpoint of the degree of continuous reliability required to assure the NORAD mission. The proposals presented herein anticipate the re-alignment of the NORAD regions, the direction of the proposed NORAD northern region from St. Hubert, and further extension of the communications network to the Aleutians and to the Greenland areas.

3. The attached map shows, in general, the present communications system, together with the areas where improvement and additions are required to effect an integrated communications system. Seven proposals are made on the basis of the needs of the various military forces,

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including the Canadian complex, insofar as they concern the Distant Early Warning Air Defense and directly related Strategic Air Command missions. The numbered items correspond to the numbers indicated on the attached map as follows.

No. 1 - Improvement of White Alice to DEW communications.

No. 2 - Augmentation of Alaskan Long Lines communications.

No. 3 - Construction of Alternate facilities to Aleutian Extension of DEW Line (Project Stretchout).

No. 4 - Installation of Repeat-Back Equipment to DEW Rearward Telling Circuits.

No. 5 - Establishment of Communications Monitor and Control Point in Dawson Creek Area. This involves:

(1) Multi-point teletype loops to DEW main stations.

(2) Full duplex teletype to NORAD HQ.

(3) A tropospheric radio link between Fort Nelson and Dawson Creek.

(4) Connection to the Mid-Canada line.

No. 6 - Improvement of Pole Vault to DEW Communications.

No. 7 - Support of Proposed Cox-Burchill Troposphere Systems (DEW to MCL).

In addition to these seven main points consideration must be given to adding equipment to the Mid-Canada line to provide additional lateral circuits to permit connections

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between the DEW Line extensions and the Mid-Canada line at Dawson Creek, Waterways, Bird and Amery (or Knob Lake). Also, additional equipment will be required to increase the lateral circuit capacity of the DEW Line between Liz and Dye.

4. It should be noted that these proposals all concern facilities north of the Mid-Canada line. Further consideration is required concerning the facilities south of this line, to assure adequately safeguarding the Early Warning network system through the southern Canadian and U.S. regions. This is being done by the NORAD staff as time permits.

5. The existing communication system has been generated largely on the basis of communications flowing southward from the land based DEW Line utilizing telegraph for passing surveillance information to the NORAD COC. Experience to date indicates the need for a flow northward to assure reliable message checks and to enable supervision of the functioning of the communications network. In addition to the surveillance information, it is becoming more and more apparent that voice communications will be required both to and from the DEW Line and St. Hubert, NORAD, and alternate command post locations. In addition, other voice requirements may be necessary to support SAC in its EWP mission (Fail Safe). In order to provide the communications network in this northern region, a two, three or more years implementation

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period must be allowed. Because of this time lag it seems important to anticipate as much as possible the communications facilities that undoubtedly will be required in transition to the ICBM era. In the ICBM time period the main consideration undoubtedly will be automatic data processing and transmission to eliminate the delays always injected by manual operations. This means that some form of data transmission will be required between the DDM system and the MI. For this purpose high-quality voice type circuits will be required. Both voice and data-type circuits will require four-wire type facilities throughout their length to assure the grade of transmission needed for the length of circuits involved. This requirement is anticipated in the seven proposals covered above.

6. These proposals have considered the overall basic communications system requirements without regard to the number of individual channels (telegraph, voice, or data) required in each section of the system. After acceptance of these seven general proposals, it will be necessary for a single activity to ascertain and consolidate the individual circuit requirements of all agencies concerned. It will then be necessary to evolve a circuit routing plan before the detailed engineering of the individual projects can be undertaken. NORAD should be represented on these activities.

7. These seven proposals involve expenditures which must be ascertained as the detailed engineering of each

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project is completed. Preliminary rough estimates of the probable cost of completing these seven proposed projects indicate that somewhere in the order of 50 to 70% of the money already expended for the CW line and related projects will be required. In other words, somewhere in the order of 50 to 70 million dollars is required. This seems to be reasonable in view of the sums already expended for distant early warning which will approximate about one billion dollars. The costs of the proposed east and west extensions of the warning system are not included. However, for these extensions to be considered reliable and effective, the seven projects discussed above must, in general, be provided.

8. In presenting these proposals an overall system concept has been the first consideration, taking into account the needs not only of air defense but of those requirements of other related activities. The attached tabs, 1 through 7, describe in more detail these seven proposals and give rough estimates of the cost of providing the improvements. For ready reference the following cost estimates are involved:

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Tab 1 -	\$21,000,000
Tab 2 -	12,000,000
Tab 3 -	4,000,000
Tab 4 -	(Only incremental)
Tab 5 -	3,000,000
Tab 6 -	8,000,000
Tab 7 -	<u>10,000,000</u>
Total	\$63,000,000

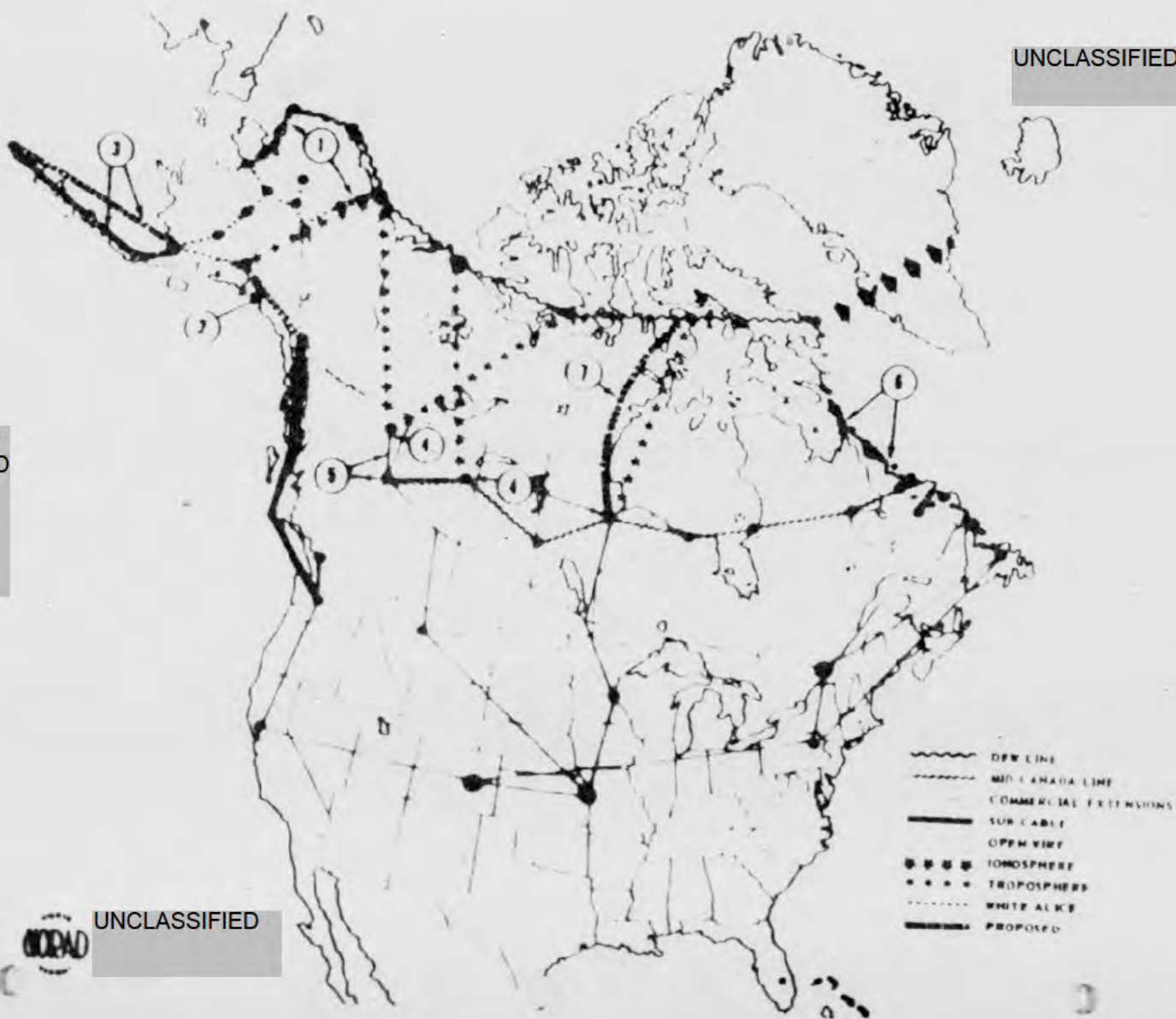
Attached:
Map and
Tabs 1 through 7

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100 1

IMPROVEMENT OF WHITE ALICE TO DEW COMMUNICATIONS

1. The DEW Line proper terminates at Lisburne, Alaska. The nearest station of the White Alice system to the DEW Line is at Kotzebue. A tropospheric scatter link is provided between these two stations to provide interconnection between the two systems. The distance between these stations is near the maximum for satisfactory transmission. While tests are under way to evaluate the performance over this long link, a repeater station may be required about halfway between the two to get the grade of transmission required for full reliability. Because of location and the need to provide complete installation a very rough estimate of four million dollars may be required to do this work.

2. In order to provide a second access link between White Alice and the DEW Line, it is proposed to provide a tropospheric scatter link between Ft. Yukon and Barter Island (BAT). It is felt that this link should be provided to assure the degree of reliability necessary for the functioning of the DEW system. Due to the difficult terrain of the Brooks Range of mountains, it may be necessary to locate a repeater station on the Canadian side of the Alaskan line in order to skirt the Brooks Range. This undoubtedly will require negotiations with the Canadian Government. It is estimated that this link between Ft. Yukon and Bar will cost in the order of 20 million dollars.

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The proposed new line between the 1000 and 1001 line and the 1002 line between Island 1001 link will enable voice and teletype services on the 1001 line and to stations 1002, 90W (Point View A), (Car and 1001 (the Party) with more than the main station link requires laterally on the 1002 line. This considerably strengthens the reliability of communications in the western area of the 1001 line. It will be necessary to provide some additional equipment at the 1001 line stations to give the additional channel capacity required. The amount of this equipment must be determined when all circuit requirements have been generated.

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TAB 2.

AUGMENTATION OF ALASKAN LONG LINE COMMUNICATIONS

1. Communications from the White Alice system and, in turn, the DEW line system to the FI is now provided by open-wire lines between Anchorage and Inisbanks to Tok Junction, and from Tok Junction by a single open-wire line to Skagway via Whitehorse and by submarine cable to Seattle. These open-wire lines are extremely vulnerable to weather, snow slides, atmospheric disturbances, and other hazards, and provide a very weak linkage from the White Alice system to the submarine cable between Skagway and Seattle. It is proposed that a tropospheric scatter radio link be provided from Boswell Bay to Skagway thus providing the same high-quality facility as the rest of the White Alice system. This route should then be used as the primary route for circuits from the DEW and White Alice systems to the States, the open-wire lines being used as an alternate route.

2. A preliminary study has been made by the White Alice Project Office of the Western Electric Company and a rough estimate made of the cost. About 12 million dollars would be required to provide the transmission facilities necessary for this system. This proposal recognizes that CAA now has a 12-channel VHF radio system between Boswell Bay and Skagway and all channels of the system are in use. It has been proposed that 12 additional channels be added to this system

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TAB 2 (Cont'd)

to be used as an alternate route from White Alice to the submarine cable. However, it is felt that this proposal does not provide the degree of reliability necessary for strong linkage from the White Alice system to the ZI. The real estate and some other facilities of the CAA system can be utilized for the proposed tropospheric scatter radio system which would require repeater stations at Yakataga, Yakutat, and Gustavus. The requirements of CAA could be met by allocation of appropriate channels of this system.

3. With the provision of link between Beswell Bay and Juneau the open-wire lines from Anchorage and Fairbanks via Tok Junction to the Ft. Nelson and Dawson Creek become an alternate route.

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TAB 3.

CONSTRUCTION OF ALTERNATE FACILITIES FOR EXTENSION
OF DEW LINE (PROJECT STRETCHOUT)

1. The Stretchout Project contemplates extending the White Alice system by tropospheric scatter from the King Salmon station of White Alice along the Aleutians to about Unalakleet. This project does not include an alternate return to the mainland. Conditions along the Aleutian chain are more hazardous than in most areas due to earthquakes, land slides, etc. Consequently, it is felt that this Stretchout extension is subject to more hazards than similar stations in the White Alice system, and that some alternate route from the western terminus of the Stretchout back to the mainland should be provided. It is proposed that an ionospheric scatter radio system be provided for this purpose. It is estimated that this extension might cost as much as four million dollars.

2. It is understood that the Navy has an ionospheric scatter system terminating at Adak in the Aleutian channel. Coordination of the Navy and Stretchout systems should be effected, possibly terminating both systems at the same station.

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TAB 4.

INSTALLATION OF READ-BACK EQUIPMENT TO DEW LINE AND TELLING CIRCUITS

1. Non-secure scatter radio systems have been provided from Bar. Pin, Cam, and Fox on the DEW Line to Anchorage, Ft. Nelson, Gateway, and Bird in the Mid-Canada area (except for Anchorage). Surveillance information from the DEW Line is now forwarded over these southerly extensions on a simplex basis. In consequence, the operators on the DEW Line transmit information in the blind, and have no way of telling how satisfactory their communications are being received at the southerly terminals.

2. It is proposed that a connection be made at the above-mentioned southerly terminals to connect the received information at these terminals back to the DEW Line originating stations. The equipment and channel facilities are available and only wiring changes need to be made to provide this read-back facility. Only a few minor costs are involved to accomplish this work.



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TAB 5.

ESTABLISHMENT OF COMMUNICATIONS MONITOR AND CONTROL POINT
IN DAWSON CREEK AREA

1. Dawson Creek is the westerly terminal of the Mid-Canada line. The ionospheric scatter extensions of the DEW Line terminate at stations along the Mid-Canada line. No interconnection has been provided between these southerly extensions and the facilities of the Mid-Canada line. In some cases these southerly extensions are on the same real estate and interconnection to the Mid-Canada line would not be a major problem. Providing equipment on the Mid-Canada line to increase the channel capacity would permit routing circuits from the southerly extension terminals of the DEW Line along the Mid-Canada line to southerly commercial circuits to St. Hubert and the States. Because of the long distances from the States to the DEW Line, it seems desirable to have a control station located somewhere in the Mid-Canada area to permit supervising information flow, to act as a control point for trouble location and to facilitate rearrangement and supervision of traffic between the DEW Line and U.S. terminals.

2. By establishing Dawson Creek as a control point, the above objective could be met by providing monitoring facilities at Dawson Creek from teletype relaying equipment at the southern terminals of the DEW Line extensions. In

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order to coordinate the NORAD and Dawson Creek operations, a full duplex teletype facility would be required between the NORAD COC and Dawson Creek.

3. Since two of the southerly extensions from Bar and Cam terminate at Ft. Nelson and only an open-wire line is provided between Ft. Nelson and Dawson Creek, it is proposed that a tropospheric scatter radio link be provided between these latter two stations to provide the degree of reliability required in this section. This, together with increased channel capacity along the Mid-Canada line, would provide strength to St. Hubert and the States and would permit routing circuits to other commercial facilities south of the Mid-Canada line.

4. Because both Canadian and U. S. military facilities are involved in this proposal, it will be necessary to work out full agreement between the Canadian and American forces.

5. Establishment of the control point in itself involves a comparatively minor expense. However, the Ft. Nelson--Dawson Creek link is required for full reliability and it is estimated that in the order of five million dollars will be required to implement this plan.

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TAB 6

IMPROVEMENT OF POLE VAULT TO DEW COMMUNICATIONS

1. The present Pole Vault system in the Goose Bay area to Resolution Island has a 12-channel voice capacity. The antenna structures and equipment are not as reliable as required for the NORAD mission. Ruggedizing of these facilities is required and the circuit channel capacity must be increased. Further improvements are required in the Hopedale-Dye area consisting essentially of additional tropospheric scatter repeater stations. The channel capacity of this line should be increased. An even greater channel capacity will be required over the Pole Vault to DEW Line system if the extension from Fox to Churchill is not provided as discussed under Tab 7. The estimated cost of these improvements is about eight million dollars.

2. These improvements are discussed in the DEW System Improvement Plan Final Report, dated 31 October 1956, prepared under Contract AF 18(600)-652-Task 6.

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TAB 7

SUPPORT OF PROPOSED FOX-CHURCHILL TROPOSPHERE SYSTEMS
(DEW TO ECL)

1. Because of the weakness of the Pole Vault system and the need for strength into the DEW Line, it has been proposed that a tropospheric radio system be provided between Fox and Knob Lake where it will join the commercial communications systems through Canada to the States and to the Goose Bay area. Another proposal has concerned a Fox-Churchill tropospheric system. This particularly is required for SAC operations. To be useful in the overall communications system the terminal at Churchill would need to be extended to the Mid-Canada line at Amery. With increased channel capacity built into the Mid-Canada line, this would permit a strong communications path from the DEW Line at Fox into Canada and to the States. In view of the SAC requirements this would be a more advantageous route than the Fox-Knob Lake route, although from an overall system concept one or the other appears to be a necessity. With this southern outlet from Fox, and with increased channel capacity provided between Fox and Dye, junction can be made to the easterly extension of the DEW Line proposed across Greenland.

2. Referring to Tab 1, and considering the extensions south from Fox, voice and teletype communications could

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then be had to any main station on the DEW Line between Liz and Dye without extending beyond the distance between adjacent main stations. With these southerly extensions joining the Mid-Canada line, and in turn extended to St. Hubert and the States, total failure of any station on the DEW Line (Liz to Dye) will disrupt only that portion of the system between the failure and either adjacent main station. This should materially increase the reliability of the entire DEW Line system.

3. Depending upon whether the Fox-Churchill or Fox-Knob Lake extension is provided, it is estimated that between six and ten million dollars will be required.

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JOINT MESSAGEFORM		SECURITY CLASSIFICATION UNCLASSIFIED		114	
<p>306</p> <p>COMMUNICATIONS FILE</p>					
PRECEDENCE ACTION PRIORITY		TYPE MSG BOTH HALF SINGLE		ACCOUNTING SYMBOL	
INFO		X AF		CLASSIFICATION OF REFERENCE	
FROM: CINCORAD				SPECIAL INSTRUCTIONS	
TO: CANAIRDEP ST HUBERT QUEBEC CANADA					
<p>UNCLASSIFIED RCM 4024R <u>X013</u>. CANSECURITY.</p> <p>PUR 1/C WINISK. THIS MESSAGE PERTAINS ARTS. PART I. REFERENCE TELEPHONE CONVERSATION WITH LT COL RUTH, THIS HQ. WE CONCLUDES AT THE FORTHCOMING EWOMG MEETING HUSBANDS A REQUIREMENT FOR ADDITIONAL COMMUNICATIONS TO THE NEW LINE FROM COLD AND SPRINGS. SPECIFICALLY, WE PLAN TO ASK FOR A FULL-DUPLEX CIRCUIT TO THE DANSON CREEK AREA, AND ALSO FOR HALF-DUPLEX TELETYPE COMMUNICATIONS FROM THAT AREA TO THE DEN MAIN STATIONS BRANCHING WEST AND EAST FROM DAW AND CAN OVER SPARES NOW AVAILABLE ON NEW REAR LONG-DURABLE SYSTEMS. IN ADDITION WE PROPOSE A FULL-PERIOD VOICE CIRCUIT BETWEEN DANSON CREEK AND COLORADO SPRINGS.</p> <p>PART II. A STUDY OF THE USAF ROCAF OPS PLAN REVEALS MID-CANADA LINE LATERAL COMMUNICATIONS SYSTEM AND TROPO SYSTEM LEADING SOUTH FROM WINISK WITH CONSIDERABLE SHARED CHANNEL CAPACITY. REQUEST YOU ADVISE FEASIBILITY OF PROVIDING THE PROPOSED CIRCUITRY THROUGH USE OF (WINISK-NORTH BAY TROPO AND MCL NIGHT WAVE) CAPABILITY OR EXPANDING</p>					
				DATE	TIME
				01	2330 Z
				MONTH	YEAR
				2V	57
SYMBOL		SIGNATURE			
TYPED NAME AND TITLE (FORM 1)		<p>RECEIVED</p> <p>RELEASED</p>		TYPED NAME AND TITLE	
LT COL DG RUTH					
PHONE		PAGE NR. 1 NR. OF PAGES 2			
SECURITY CLASSIFICATION		UNCLASSIFIED			

JOINT MESSAGE FORM - CONTINUATION SHEET

SECURITY UNCLASSIFIED

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FROM

THIS SERVICE TO U.S. COMMERCIAL SYSTEMS AND ESTIMATE OF DATE SERVICE
COULD BE AVAILABLE IF U.S. - CANADIAN ARRANGEMENTS TO DO SO WERE FIRM.
PART III. THIS IS A PART OF OVERALL REVIEW OF DEW REARWARD COMMUNI-
CATIONS AND OPERATIONAL RESPONSIBILITIES NOW BEING CONDUCTED AT THIS
HEADQUARTERS. SERVICE IN QUESTION WOULD PROVIDE MEANS OF SERVICING
AIR SURVEILLANCE DATA, WOULD ALSO PROVIDE SUITABLE COORDINATION
FACILITY FOR USAF SAC ACTIVITIES WITH WHICH YOUR HQ IS FAMILIAR.

FILE NO: 10110

M/R Not required.

CAHAI/DEF is authorized to receive classified material, and the material is releasable to Canada. 2019 4 Nov 57

LT COL DO ROSTH

Lt Col DO Rosth

sc

PHYSICALLY
REFERENCES BY DATA
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BELL TELEPHONE LABORATORIES
INCORPORATED

WHIPPANY LABORATORY
WHIPPANY, NEW JERSEY
TUCSES 7-1000

October 28, 1957

MR. L. L. BLEZEN, Chief Scientist
Headquarters, NORAD
DCS/CE
Box 70
Ent Air Force Base
Colorado Springs, Colorado

Dear Mr. Blezen:

This letter accompanies a Memorandum for File concerning your recent briefing on DEM-Line conditions here at Whippany. We hope you enjoyed your visit as much as we did and look forward to repetitions of it.

Very truly yours,

E. A. Cushman
E. A. CUSHMAN
Military Communication Systems
Engineering Department

WH-4131-RAC-RRY

Att.
Memorandum dtd 10/23/57
by E. A. Cushman - classified Secret
#26973-W3-1340-2

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20973-W3-1340

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Briefing L. L. Glezen, Room, on Conditions of Dow-Line
Cases 20973-24, 25 and 26

October 23, 1957

MEMORANDUM FOR FILE

On Thursday, October 17, 1957, Mr. L. L. Glezen, Chief Scientist to the Deputy Chief of Staff/Communications and Electronics of the North American Air Defense Command (NORAD), telephoned SAC Whiting on the above subject. This was held at WTL, Whiting, on Wednesday, October 23. Besides Mr. Glezen, the following met in Mr. H. P. Booth's office:

Messrs. J. E. Matthews
W. C. Arnold
R. A. Cushman
J. F. Morrison
C. A. Smith
A. R. Grimm
R. M. Hawekotte

The Strategic Air Command has set up a requirement to talk with aircraft flying over the Dow-Line chiefly for recall purposes, it is understood.

1. SAC would prefer to talk from Whana directly to the airplane, two-way.
2. Lacking the above, SAC would like to telephone a message to main stations on the Dow-Line. The nearest main station would repeat the message by radio-telephone to the airplane and obtain its acknowledgement.
3. A more immediately feasible plan would be to teletype to main stations on the Dow-Line and then radio-telephone to the airplane as above.

It is understood that for administration purposes a full duplex teletypewriter circuit exists from a point in the East to all main stations on the Line. For an interim communications facility, SAC would like to suggest that this facility be shared with SAC.

1. SAC Whiting, 10/23/57
2. SAC Whiting, 10/23/57
3. SAC Whiting, 10/23/57
4. SAC Whiting, 10/23/57
5. SAC Whiting, 10/23/57
6. SAC Whiting, 10/23/57
7. SAC Whiting, 10/23/57
8. SAC Whiting, 10/23/57
9. SAC Whiting, 10/23/57
10. SAC Whiting, 10/23/57

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Mr. Glezen said he would like to have a clear picture of the current ability to provide a telephone connection to DeW-Line stations from either the east or the west end. Mr. Smith said that complete circuits and equipment from LIZ-1 to RES-1 at Resolution Island are installed, but not arranged for three thousand mile talking. The engineering requirement called for high quality speech from main station to main station only (500 to 600 miles). This was the system that WECO was committed to and did provide. The consensus of the people present seemed to be that refining terminal equipment to take out losses would satisfy the conditions.

A discussion of means to establish full duplex teletype on all five ionospheric circuits brought out the fact that the necessary equipment has already been installed. All that is required is assignment in the form of circuit orders, and some rewiring. Incidentally, each base station has full duplex mechanical repeaters for amplifying and reshaping teletype signals. The Collins predicted wave system is in current use between the DeW-Line and the mid-Canada base stations. The reliability of these circuits is unknown, but it is believed to be similar to the test circuit used by the Bell System some time ago.

As an aside, a subject of interest to BTL DeW-Line people was injected. As things now stand, all surveillance messages leaving the line are unacknowledged; one or more may even be lost, but no check is available. A loop-back acknowledgement was discussed as a means of proof that messages are correctly received at the base station. It might be well to extend this loop-back further.

Mr. Glezen expressed himself as well satisfied with the information brought out in the conference.

WH-4131-RAC-RRY

RAC
R. A. CUSHMAN

Copy to
Mr. L. L. Glezen, NORAD, Colorado Springs

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JOINT MESSAGEFORM

SPACE BELOW RESERVED FOR COMMUNICATION CENTER

READING FILE

PRECEDENCE	TYPE MEG (Check)	ACCOUNTING SYMBOL	ORIG OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION	BODY	MULTI	SINGLE	
Priority				
INFO		X	AP	306 AFCIN-54281 CONF
FROM:	SPECIAL INSTRUCTIONS			
KINCORAD				
TO:	COFS USAF WASH D C			

UNCLASSIFIED FROM NOIRE-X 016 . FOR AFCIN. Re your message 54281.

Not readable

Not readable

	READING FILE
SYMBOL	DATE
NOIRE-X	23
	2300Z
	MONTH
	YEAR
	Dec 1957
TYPED NAME AND TITLE (If required)	TYPED (or stamped) NAME AND TITLE
ALFRED J. ROMAN, LT COL, GS	W. J. ...
PHONE 2745	LT Col USAF
SECURITY CLASSIFICATION	Adjutant
UNCLASSIFIED	

DD FORM 1 MAY 55 173 REPLACES DD FORM 173, 1 OCT 49, WHICH WILL BE USED UNTIL EXHAUSTED

Not Readable

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SECRETARY	HCR
ASST. SECRETARY	HCS
SECRETARY	SEC
ASST. SECRETARY	SAC
SECRETARY	SAA
ASST. SECRETARY	SPL
SECRETARY	SPR
ASST. SECRETARY	SPS

PKB

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MA

This document is classified as follows: Secret, Restricted, Confidential, Unclassified

7-353

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RAND

August 12, 1954

L-14290

Not readable

Frederic C. Keith
Operations Department

PCK:md
Encl. (2)

Not Readable

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Not readable

2 Incls
n/c

Paul Henry
P. F. UPRANE
Brig General, USA
DCS/Comm and Elect

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2 Incls
n/c

JAMES H. WEINER
Colonel, USAP
Director, Communications-Electronics

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READING FILE

CONO 10
 HRA022
 RR RJEDEN RJEDUP RJEDMI
 DE RJEPHQ 90
 R 031638Z
 FM HQ USAF WASH DC
 TO RJEDEN /COMAIRDEFCOM ENT AFB COLO
 RJEDUP/COMAIRC WPAFB OHIO
 INFO RJEDEN/CINCONAD ENT AFB COLO
 ZEN/CINCLANFLT NORFOLK VA
 RJEDMR/CINCSAC OFFUTT AFB OMAHA NEBR
 ZEN/CHIEF DEV PROJ OFFICE 220 CHURCH ST NEW YORK NY
 ZEN/COMAIRDIV SIXTY FOUR PEPPERRELL AFB NFDL
 ZEN/USAF INSTALLATION REPR OFC NORTH ATLANTIC REGION FEDERAL OFFICE
 BLDG RH 1205 90 CHURCH NY
 ZEN /COMAFEIGHT WESTOVER AFB MASS
 ZEN /COMICEAIRDEFOR KEFLAVIK ICELAND

ACTION: COOPR
 INFO: COOOP
 COOPO
 COELC
 X7-10406

UNCLASSIFIED / FROM AFOOP-OC-F/3 59852

RE: NICE MESSAGE THIS HEADQUARTERS, AFOAC-E/A 56995, 7 JUNE 1957.
 NOTAL. SUBJECT: GREENLAND EXTENSION DEV LINE. DESIRE FOLLOWING
 CHANGES FOR PLANNING PURPOSE IN CONCEPT OF GREENLAND EXTENSION DEV
 LINE: A. HOLSTEINDORF, FORMERLY DESIGNATED MAIN STATION SHOULD BE
 DESIGNATED AND CONSTRUCTION AS AUXILIARY STATION COMPARABLE IN
 SCOPE TO IKATER AND KANGEK. B. EXISTING DEV MAIN STATION AT CAPE DYER
 SHOULD SERVE AS THE COLLECTION, EVALUATION AND IDENTIFICATION CENTER
 FOR ALL GREENLAND STATION EXCEPT KANGEK.
 C. PLANNING SHOULD CONSIDER SONDERSTROM AS SUPPLY AND MAINTENANCE BASE
 FOR ALL GREENLAND DEV STATION. IN THIS CONNECTION ALL FACILITIES,
 HOUSING, POL STORAGE, ETC) MUST BE CONSIDERED ADDITIONAL REQUIREMENTS
 AS BASE HAS NO EXISTING FACILITIES TO SUPPORT DEV FUNCTION.
 BT
 03/1632Z AUG RJEPHQ

A-- PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY D ENCRYPTION--
 PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME-GROUP
 PRIOR TO DECLASSIFICATION
 //ADVANCE COPY HAS BEEN DELIVERED TO COC//

READING FILE

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HEADQUARTERS
AIR DEFENSE COMMAND
UNITED STATES AIR FORCE
ENT AIR FORCE BASE, COLORADO

ADLAN-C

TELETYPE MESSAGE 2-151
EXT 2183

31 8 1957

SUBJECT: Distant Early Warning Line Programming Change

TO: Commander-in-Chief
North American Air Defense Command
ATTN: DCS/Plans and Operations
Ent Air Force Base
Colorado Springs, Colorado

1. The following message is quoted for your information and comment: From USAF to WPAFB. (CONFIDENTIAL) From AFMFP-AJ-1 50106 COMAMC pass to MOPRE, Chief, ESDS pass to DEWPO. Confirming advice to DEW Project Office representatives in 2 August 1957 Eastward Extension-DEW line meeting at this headquarters. Fund limitations have forced this headquarters to plan on the basis of funding only a two-station increment of the five-station complex in FY-58 with respect to equipment. FY-58 military construction funds in the amount of \$20 million have been appropriated for this project. Equipment (P-230) FY-58 funds in the amount of 7.6 million are presently allocated to Eastward Extension-DEW line. Also, 2.2 million of 437 funds for systems engineering and path loss testing have been authorized for FY-58. It is highly unlikely that there will be any increased funds made available in FY-58; therefore, your planning should proceed with due recognition of these limitations. In order that investment in this program be minimized until feasibility is firmly established, it is desired that contractual action for a system contractor be limited at this time to the task of systems engineering. This does not preclude the insertion of an option for the remainder of the system contractors task; however, the exercise of the option will be held in abeyance pending specific approval by this headquarters.

Prior to the completion of the systems engineering task, it is necessary that construction planning proceed upon the basis of the best information available. It is therefore desired that design criteria be provided to the air force installation representative, North Atlantic Region at the earliest practicable date and not later than 1 December 1957 based upon the assumption that the AN/FPS-30 radar will be the primary search equipment, that the AN/FRC-47 tropo equipment will be used for over-water links and that the AN/FRC-39 tropo equipment will be employed for isocap links.

DUPLICATE

UNCLASSIFIED

119

ADLAN-C, Hq ADC, Subj: Distant Early Warning Line Programming Change

The above cited design criteria will be the basis for construction contractual action; therefore, the most definitive information available must be supplied. It is recognized that minor changes may be required upon completion of the systems engineering action. However, any radical changes which in the judgment of the air force installation representative, North Atlantic Region, would jeopardize the initiation of construction in the CY-58 construction season will require prior approval of this headquarters. Such changes should be addressed ATTN: AFQIE-OS.

It is requested that you evaluate and report to this headquarters ATTN: AFMPP-EQ-1 not later than 30 Sept 57 the feasibility, cost, and operational impact of proceeding in line with the above fund limitations. Specifically, it is requested that a comparison be made of the following alternatives:

- a. Procure a two-station increment in FY-58. The balance in FY-59 with installation to be accomplished in CY-60 and CY-61.
- b. Procure only a minimum quantity of such long lead-time equipment, e. g., AN/FPS-30 as is absolutely essential in FY-58, the balance in FY-59 and install the entire five-station complex during 1961.

In preparing the above comparisons, coordination will be effected with the air force installations representative, North Atlantic Region to insure compatibility of construction and installation schedule. Also request this headquarters, ATTN: AFMPP-EQ-1 be furnished a copy of the draft work statement for study in relation to requirement for revised guidance and for review leading to suggestions as to any revision of the work statement. Further request a copy of the phasing chart used in 21 August 1957 meeting be inclosed."

2. Since this headquarters will assume responsibility for the operation and maintenance of the DEW line in the near future, your concurrence is requested in advising Headquarters USAF that it would be operationally desirable to proceed with the first proposed alternative, that of installing two stations immediately, with the remainder to follow as funding permits. In this way it would appear that the DEW line in the affected area would have at least limited capability earlier than if the second course were followed.

FOR THE COMMANDER:

EDGAR B. CRAVETTE
Colonel, USAF
Director of Plans

UNCLASSIFIED

Not Readable

Not readable

HARVEY T. ALNESS
Maj Gen, USAF
DCS/Plans & Operations

CONFIDENTIAL

M/R: Self explanatory

2437 44
23 Oct 57

N7-11913

bh

30c

0280

119

HEADQUARTERS
CONTINENTAL AIR DEFENSE COMMAND
Ent AF Base
Colorado Springs Colorado

OFFICE OF THE ADJUTANT

NOTICE OF IMPORTANT INCOMING CORRESPONDENCE

8 October 1957
(Date)

TO: COMMANDER-IN-CHIEF _____
CHIEF OF STAFF _____
SECRETARY OF THE JOINT STAFF _____

For your information, the following correspondence has been received:

From: ADC Dated: 8 Oct 57

Classification: UNCLASSI Enfold# AI-11913 Suspense: 21 Oct 57

Action Office: NOGPO

SUMMARY: Subject is DISTANT EARLY WARNING LINE PROGRAM CHANGE. ADC quotes to us for our information and comment, a Confidential message that USAF sent to WPAFB. This is a lengthy, detailed message, in which USAF offers two alternatives: (a) Procure a 2-station increment in FY-58. The balance in FY-59 with installation to be accomplished in CY-60 and CY-61. (b) Procure only a minimum quantity of such long lead-time equipment, the balance in FY-59 and install the entire 5-station complex during 1961. Since ADC will assume responsibility for the operation and maintenance of the DEW line in the near future, they ask our concurrence in advising USAF that it would be operationally desirable to proceed with the first alternative.

J. W. LEDOUX
LCDR, USN
Asst Adjutant

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When filled in

COPY OF [REDACTED] CLASSIFIED MESSAGE

120

SEE CRT TO SECTION BEFORE DECLASSIFYING.

6 SEP 57

COMO30HQ031
PP RJEJHH RJEJEM
DE RJEJHQ 162
P 062033Z
FM HQ USAF WAFYDC
TO RJEJHH/CINCSAC OFFUTT AFB OHIO 1800
RJEJEM/CINCONAD ENT AFB COLO
ZEN/COMAFIGHT WESTOVER AFB MASS
ZEN/COMDR 64TH AB PEPPERRELL AFB ST JOHN'S NEWFOUNDLAND
INFO ZEN/CHIEF DEWPO 220 CHURCH ST WYK

ACTION: C0004
INFO: C0000
X7-10690

UNCLASSIFIED

[REDACTED] FROM AFOOP-08-T 50042

REFERENCES: 64TH AIR DIVISION MESSAGES AFOOP 5641, 1 JUL 57; CONAD
C0004, 1 SEPT 57; USAF HEADQUARTERS MESSAGES AFGAC-E/A 56995, 7 JUN 57;
AFOOP-08-T 47001, 8 JUL 57; AFOOP-08-T 59845, 2 SEPT 57; ETH AF MSG
00010 30631, 26 AUG 57. DUE TO THE HAZARDS TO PERSONNEL AND AIRCRAFT,
THE REQUIREMENT TO AIRLAND A GROUND SURVEY PARTY ON THE GREENLAND
ICE CAP DURING FALL OF 1957 IS CANCELLED. DESIRE AN ADDITIONAL AERIAL
SURVEY FLIGHT BE CONDUCTED AS SOON AS POSSIBLE TO ASCERTAIN SITE
LOCATION FACTORS DISCUSSED IN CONFERENCE, ATTENDED BY REPRESENTATIVES
OF ETH AF AND 64TH AIR DIVISION, HELD AT THIS HEADQUARTERS ON 5 SEPT
57.

BT
06/2100Z SEP 57 RJEJHQ

AN PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION---
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PRIOR TO DECLASSIFICATION

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(when filled in)

COPY OF INCOMING CLASSIFIED MESSAGE

121

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SEE CRYPTO SECTION BEFORE DECLASSIFYING 30 Dec 1987

READING FILE

CONFIDENTIAL
307

H
NOR014
A-528-31
M 302041Z
FM CNO
TO USNMR SHAPE
INFO CINCLANT
CINCNELM
CINCNOB
SACLANT NORVA
HQ USAF

ACTION: COOPR
INFO: COOP, COOC, COINT, COELC
X7-15608

UNCLASSIFIED REFERENCE CONFERENCE ASD (R AND D) SHAPE SADTC NORAD CNO
CINCLANT JSC USAF SACLANT REPS WASH 5 DEC. SHAPE REQUESTED
SACLANT/CINCLANT COMMUNICATION REQUIREMENTS IN FAROES TO PROVIDE
EARLY WARNING INFO AND COORDINATION BETWEEN SHAPE AIR DEFENSE
SYSTEM AND EASTWARD EXTENSION US DEW LINE. CINCLANT REQUIREMENTS
FROM FAROES ONE HALF DUPLEX CIRCUIT FOR TRANSMISSION RAW DATA
TO BARCOM ICELAND. PROVISION SHAPE CHANNEL FAROES-UK AND AUTOMATIC
RELAY UK-ICELAND IN US. FACILITIES WOULD MEET THIS OPERATIONAL

R
EQUIREMENT. CROSS TELLING COORDINATION FAROES RADAR WITH ADJACENT
PICKET SHIP AND AIRCRAFT STATIONS ESSENTIAL TO INTEGRITY OF COMPLETED
DEFENSE SYSTEM. CONTINGENCY PLANNING INDICATES POSSIBLE REQUIREMENT
TROPIC LINK FAROES-ICELAND. RECOMMEND CONSIDERATION THESE REQUIREMENTS
IN SHAPE ENGINEERING STUDY FAROES FACILITIES.

BT

A--PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY "B" ENCRYPTION--
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//ADVANCE COPY SENT COC//

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122

SEE CRYPTO SECTION FOR UP TO DATE DECLASSIFY

READING FILE

CONAD HIST FILE

30-7

TH

Code
77-11202 27 Aug 57

CONG10 A-353-2
R 272130Z
FM ADMINO CINCLANT
TO CNO
CINCONAD
INFO COMNAVFORCOMAF
COMASDEFORLANT
COMNAVFORLANTCOMAF
COMARLANT

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U

READING FILE

COND 38
EMALSSLYAO

UNCLASSIFIED

123

1 TPA07SBT271

FM RJEEDEN
DE RDEPU 36B
M 122204Z
BT
TO CINCLANTFLT
CINCPACFLT
COMNAVAIRLANT
COMNAVAIRPAC
COMBANTLANT
COMBANTPAC
INFO CINCONAD
BT

1918

12 Sep 57

Act: NonFo
Info: Notes
Hoops
Hoops
Hoops

FOLLOWING HAS BEEN USED TO ANSWER PRESS QUERIES CLN
THE NAVY IS REDUCING THE NUMBER OF AIRCRAFT SQUADRONS ASSIGNED TO
BARRIER PATROL BY TWO - ONE IN THE ATLANTIC AND ONE IN THE PACIFIC
X THE FOUR REMAINING SQUADRONS-TWO IN EACH OCEAN- WILL BE BROUGHT UP
TO FULL STRENGTH X
EVEN WITH THIS REDUCTION THE NAVY WILL MAINTAIN A FULLY ADEQUATE
BARRIER PATROL X MAJOR REASONS FOR THE REDUCTION ARE TWO CLN (1) THE
NAVY HAS NOW DETERMINED AFTER HAVING ACTUAL EXPERIENCE IN FLYING
BARRIER PATROLS THAT IT CAN FULLY CARRY OUT ITS MISSION WITH LESS AIR-
CRAFT THAN WERE ORIGINALLY ASSIGNED TO THE MISSION SINCLN

DUPLICATE

PAGE TWO RDEPU 03B
(2) REDUCTIONS IN OPERATING FUNDS REQUIRE CERTAIN REDUCTIONS IN THE
NUMBER OF AIRCRAFT TO BE OPERATED AND IN THE NUMBER OF PERSONNEL ON
ACTIVE DUTY DURING THIS FISCAL YEAR X SINCE BUT TWO SQUADRONS ARE
REQUIRED IN EACH OCEAN IT BECOMES PRACTICAL TO INACTIVATE THE EXTRA
SQUADRONS NOW BEING UTILIZED ON BARRIER PATROLS
IN THE ATLANTIC ONE SQUADRON WILL BE KEPT ON STATION AT ARGENTIA AND
WILL ROTATE WITH ONE AT PAUTUXENT RIVE MD UNTIL NECESSARY HOUSING
FACILITIES FOR TWO SQUADRONS AT ARGENTIA ARE COMPLETED X THE NAVY
FULLY EXPECTS TO OPERATE ITS BARRIER PATROLS THIS WINTER AT NO LESS
TEMPO THAN WERE OPERATED LAST WINTER

BT
CN (1) (2)
12/2204Z SEP RDEPU

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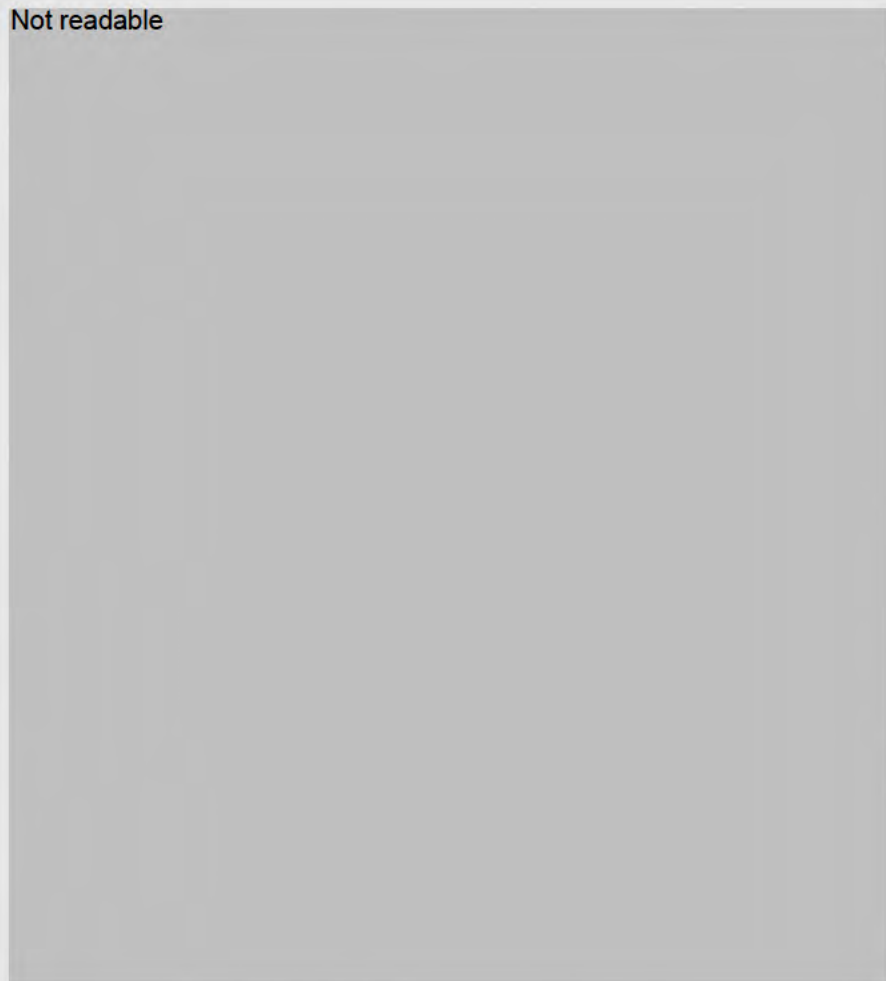
JOINT MESSAGEFORM		SECURITY CLASSIFICATION		UNCLASSIFIED		124	
SPACE BELOW RESERVED FOR COMMUNICATION CENTER							
READING FILE							
PRECEDENCE		CONRAD HIST FILE		CLASS COUNTING		ORIG. OR REFERS TO	
ACTION ROUTINE		BOOK MULTY SINGLE		SYMBOL X AF		CLASSIFICATION OF REFERENCE	
FROM: CINCPACRAD		57				SPECIAL INSTRUCTIONS	
TO: CINCAL ELMENDORF AFB ANCHORAGE ALASKA							
UNCLASSIFIED FROM NOEPR X010		Not readable					
DUPLICATE		[REDACTED]					
REQUIRE PROMPT PRIORITY		FILE NO/LOC		30		TIME 1515Z	
REMOVE ALL ORIGINAL REFERENCES BY DATE		M/R		OCT		YEAR 57	
SYMBOL NOEPR		M/R Not necessary.					
TYPED NAME AND TITLE (Signature, if required)		TYPED NAME AND TITLE					
LT COL DG ROATH		J. W. LEDOUX					
PHONE 2019 - 2010		LCDR, USN					
SECURITY CLASSIFICATION UNCLASSIFIED		Asst Adjutant					
D		308					

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UNCLASSIFIED

125

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957

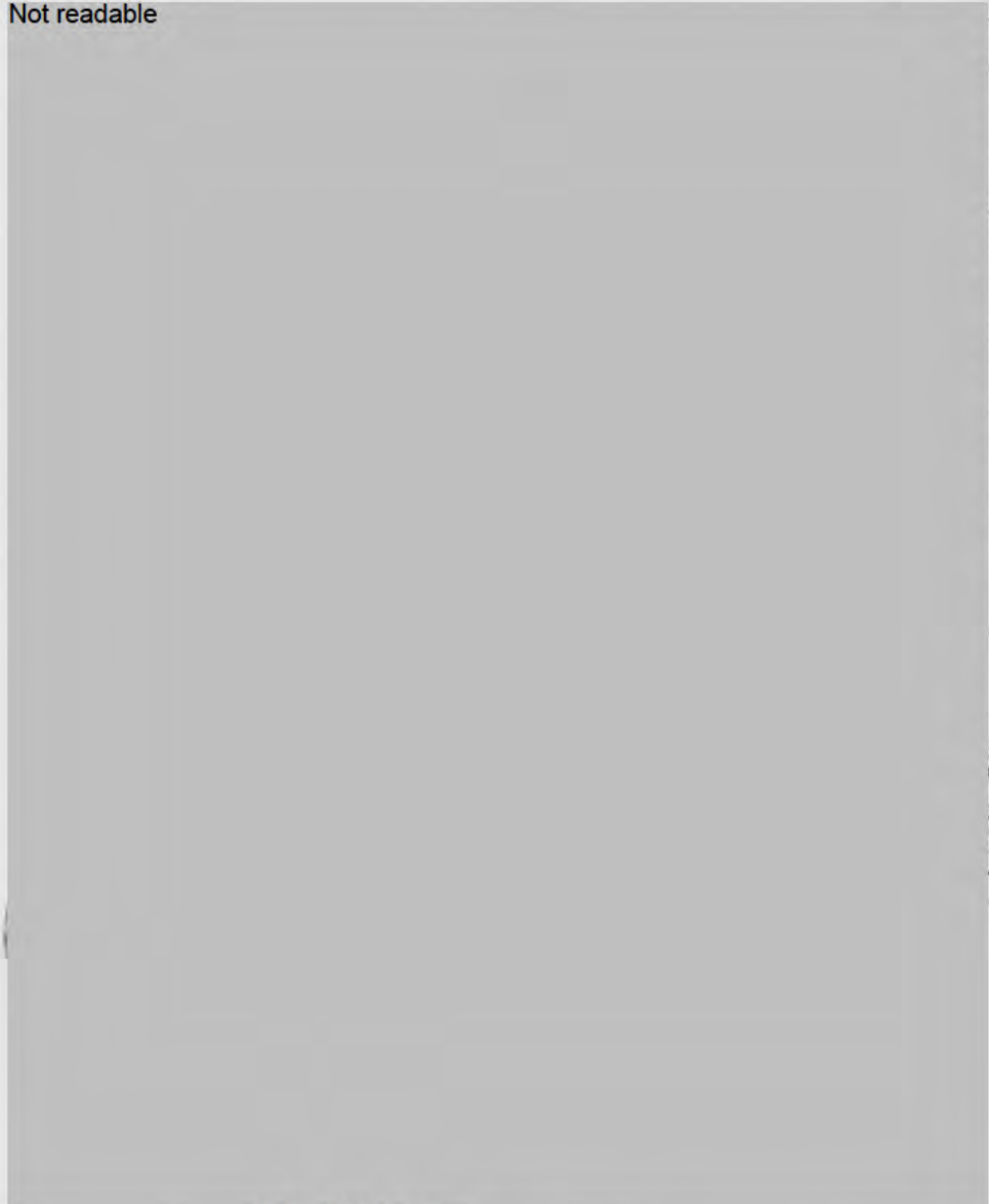
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NCR
HCS
SEC
SAC
SAY
SPH
MFO
EII
EA
EPP
EIA
HAI
HAT
HBI
HDI
DPL
DPA
DOP
DPA
DIA
DCA

UNCLASSIFIED

F. F. URRANE
Brig Gen, USA
DCS/Com and Fleet

Copy furnished:
CINCAL

G 1219 RMC
G 1218 CMC

UNCLASSIFIED

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~~NOFORN~~

A-232-10

N 100322Z

FM CINCPACFLT

TO CENCOMAD

INFO CNO

COFS DEPTAF

CINCPAC

COMBARPAC

COMNAVFORCOMAD ENT AFB

COMDR ADC ENT AFB

CENCOMAD

CHICAL

COMCRUDESPAC

BT

UNCLASSIFIED

CENCOMAD ENT AFB 092015Z MAY. CITE COOPR-R MY
021 PASSED BY CINCPAC ADMINO 110515Z MAY BOTH NOTAL. CINCPACFLT
PLAN FOR ADJUSTING PACIFIC SEWARD EXTENSION DER LINE FROM 1 JUL
58 UNTIL ALEUTIAN SEGMENT DER LINE OPERATIONAL APPROVED BY CNO
AS FOLLS: A. FORCES AVAIL 1 JUL 58. 15 DER AND 25 UV 2. CONTINUED
DER TULL-UP TO REACH 18 ABOUT APR 59. PLAN 5 DER STATIONS IN
NORTHERN SECTOR COMMENCING ABOUT 5 30 NORTH 15 615 WEST THEN SW
TOWARD MIDWAY. SPACING ABOUT 200 MI. UV 2 OPER OUT OF MIDWAY IN
FACE TRACK PATTERN TO OVERLAP DER LINE ABOUT 400 MI. PLAN OCCUPY
MAY BE DER STATIONS AT ALL TIMES COMPATIBLE WITH NR DER AVAIL.

READING FILE

ACTION: COOPR
INFO: COOP
COCOC
COINT
COELC
COOEV

X8-525

10 Jan 1958
126

PAGE TWO A-232-10

OPERATING ON 1 TO 1 AT SEA REPORT RATION AND MAX 24 DAYS AT SEA
ANY ONE TIME. PRESENTLY EXPECT AVG 4 DER ON STATION. AVG 4-PLUS
UV 2 ON STATION WITH RANRONTIME/DIST GAPS BETWEEN ACFT. ACTUAL
DER LINE ORIGIN, STATION SPACING AND UV 2 TRACK TO GIVE MAX
DETECTION PROBABILITY SUBJ RESULT COMBARPAC TRAINING BARRIER OPNS
BEING CONDUCTED UP TO 1 JUL 58. B. WHEN ALEUTIAN SEGMENT OPERATIONAL
WILL SHIFT NORTHERN END WEST MAINTAINING 5 DER ON STATION BETWEEN
MIDWAY AND UNIAK (PROVIDING 18 DER AVAIL AT THAT TIME) WITH AVG
4 PLUS UV 2 KK FACE TRACK PATTERN MAKING CONTACT WITH LAND BASED
RADAR COVERAGE AT NORTH END. BOTH INTERIM AND ULTIMATE BARRIERS
CAN BE AUGMENTED IN EMERGENCY.

BT

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30 Dec 1957

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COMMUNICATIONS

308

PRIORITY

NOR002
 BV002
 PP RFUVSY RJEDNG RJEDDN RJWPSB RJWPD.I RJENFX
 DE RFEMVB 17/30
 RJWPD.M-T-RFUVSY
 RJENFX-T-RFEQDK
 P 301510Z
 FM CANAIRDEF
 TO RFUVSY/CANAIRVAN
 RJEDNG/31 AIR DIV SNELLING AFB MINN
 RJEDDN/NORAD ENT AFB COLO
 RJEDDN/USAF ADC ENT AFB COLO
 RJWPSB/MAAF HAMILTON AFB CALIF
 RJENFX/64TH AIR DIV PEPPERRELL AFB Nfld
 RFEQDK/HOPEDALE
 ZEN/CANAIRDEF
 ZEN/SECTOR EDGAR
 ZEN/SECTOR LAC ST DENIS
 ZEN/SECTOR ST MARGARETS
 ZEN/STN KNOB LAKE
 ZEN/STN WINISK
 ZEN/STN GREAT WHALE RIVER
 ZEN/STN BIRD
 ZEN/STN CRANBERRY PORTAGE
 ZEN/STN STONEY MOUNTAIN
 ZEN/STN DAWSON CREEK
 ZEN/CANAIRDEF/COC

ACTION: COOOP
 INFO: COGOC
 COELC
 COOPO
 X7-25598

UNCLASSIFIED

AC579 30 DEC

EFFECTIVE 0001Z 1 JAN 58 THE STATUS OF MID-CANADA LINE UNITS IS CHANGED FROM LIMITED OPERATIONS TO FULL OPERATIONS

BT
30/1647Z

NNNN FFFKA-PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY 3 ENCRYPTION- PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE TIME GROUP PRIOR TO DECLASSIFICATION

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4 NOV 57

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308

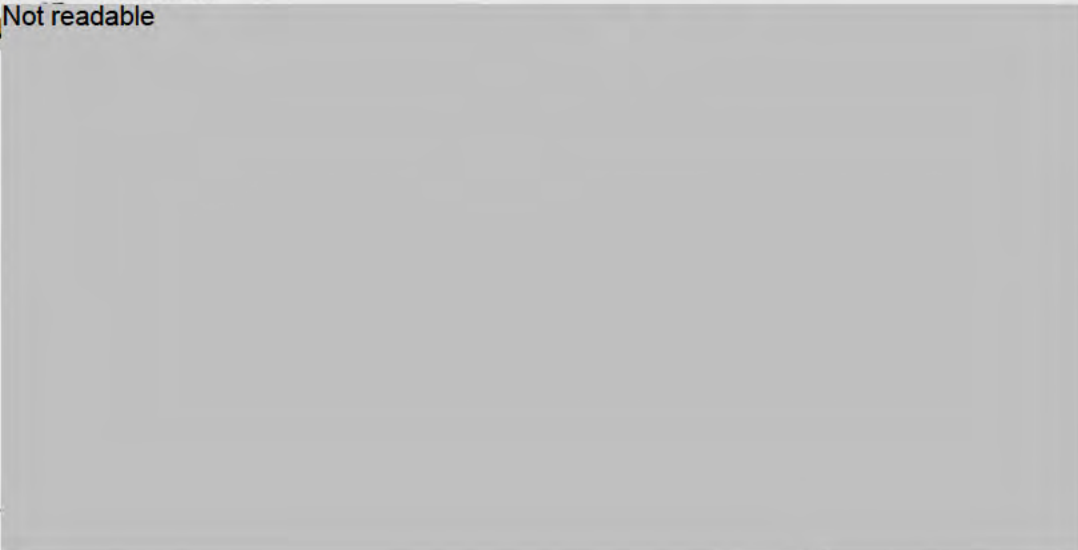
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PRIORITY

CONAD-
L-53-04
P 041012
FM CANADIAN
TO VANDERBILT SECUR ST MARGARETS STATION WOOD LAKE
COMER ABC
COMPR MORAN
GATH ADIV
041 ACW COOSE BAY
125 ACW HOPETALE
INFO 0-10502

ACTION: COOP
INFO: COOP
SUSPENSE: 8 Nov 57
N7-13168

UN Not readable



DUPLICATE

Not Readable

UNCLASSIFIED
HIST FILE
308

129

MESSAGE
TO: HQ AF/ADJ/STAFF
30 Sep 57

CO: 007 V0004
PR: RIEDEN/RJEDMG
DE: RFEW/16/70
P: 302043Z
FM: CANAIRDET
TO: RIEDEN/USAF/ADJ/STAFF
RJEDLN/COMAD
ZEN/CANIRDET
ZEN/3
ZEN/VIKICK
ZEN/RCAF WARD
INFO: RJEDMG/51 AIR DIV ENHELLING AFB NEDL
ZEN/RCAF GREAT WYALE
ZEN/CANAIRDET/CCO

ATTN: HQ AF/ADJ/STAFF
REF: RFEW/16/70
7-11499

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PRIORITY

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PRIORITY CONAD HIST FILE

308

CONO 014 V
A-376-24
P 1545Z
FM CANAIRDEF
TO CANAI
A-376-24
P 231545Z
FM CANAIRDEF
TO CANAIRDEF USAF
AIC ENT AFB
NORAD ENT AFB
3 SECTOR
2 SECTOR
KNOB LAKE
INFO GREAT WHALE
64 AIR DIV
923 ACWY SCN HOPEDAVE
BT

ACTION: N OODP
INFO: NOCCO, NOELC, NOOBO

H7-12541

DUPLICATE

UNCLASSIFIED

AC569 23 OCT

EFFECTIVE 0001Z 25 OCT 57 THE KNOB LAKE SECTION OF THE MCL WILL COMMENCE LIMITED OPERATIONS ON A 24 HOUR BASIS PD DATA HANDLING WILL BE IN ACCORDANCE WITH USAF/RCAF OPS PLAN DATED 1 JUNE 56 PD SINCE CERTAIN FACILITIES WILL NOT BE AVAILABLE BY 25 OCT 01M IDENTIFICATION PERFORMED BY KNOB LAKE WILL NOT BE OF THE HIGH CALIBRE ENVISIONED IN THE ABOVE MENTIONED OPS PLAN PD NORMAL PROBLEMS WITH NEW EQUIPMENT MAY CAUSE SOME DETERIORATION IN QUALITY OF DETECTION SUCH AS FALSE ALARMS BEING REPORTED AS LIVE PENETRATIONS PD IN VIEW OF ABOVE C/M YOU ARE REQUESTED TO EXERCISE CAUTION IN THE INITIATION OF TACTICAL ACTION BASED ON MCL TRAFFIC UNTIL ADVISED THAT OPERATIONS ON MCL HAVE BECOME STABILIZED AND ALL FACILITIES ARE AVAILABLE PD FOR 2 SECTOR ONLY PD YOUR AC2-8 DATED 22 OCT REFERS BT

AC-PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY 3 ENCRYPTION-- PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME GROUP PRIOR TO DECLASSIFICATION--NO UNCLASSIFIED REFERENCES IF DATE-TIME GROUP IS QUOTED.

Copy 6 of 7 Copies

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23 OCT 57

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CONSIDV 002
PP DJEDEN
DE RECEIVED
P 201450Z
FM CAHAIRDEF
TO DJEDEN/USAF/ADW/AF 47-1752
DIJEDEN/USAF
ZEN/CAHAIRDEF
ZEN/CDTOR EDGAR
ZEN/STN GREAT BRITAIN
INFO ZEN/STN NIKEL
ZEN/STN KING LAKE

PRIORITY

ACTION: GROUP
INFO: RUCUC & NOCHO

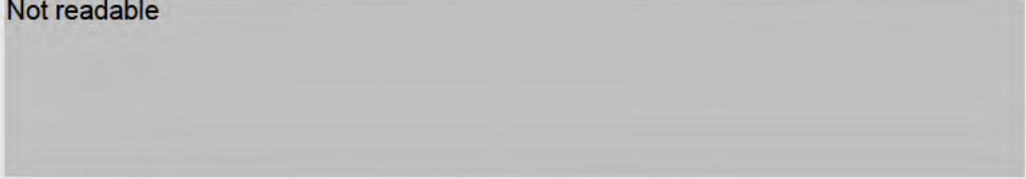
CONAD HIST FILE

308

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NOBAD SECTY FORM 14

UNCLASSIFIED

Excluded from General Declassification Schedule

Director
Research Studies Institute
Attn: Archives Branch
Maxwell AFB, Alabama

RETURN TO:

K410.01-84
July-Dec, 1957
Vol. V

CONAD / NORAD

HISTORICAL SUMMARY

(UNCLASSIFIED)

JULY - DECEMBER 1957

VOLUME IV

SUPPORTING DOCUMENTS

132 Through 182

Excluded from General Declassification Schedule

RM-5 4934

UNCLASSIFIED

4-2186-5

132

UNCLASSIFIED

PRIORITY X AF X

COMDR ADC

DIR STAT SVCS USAF WASH D C 5004

UNCLASSIFIED ADCST-0 8000 FOR AFASC-6C. The

ED following 1-AF-V14 as of 30 Dec 57.

- 2 FI SQ/Suffolk/F-102A/26/12/2/12/1-1/0/0/32/1/
- 5 FI SQ/Suffolk/F-102A/25/12/1/12/1-1/0/0/27/0/
- 11 FI SQ/Daluth/F-102A/17/11/0/6/0-0/0/0/25/5/
- 13 FI SQ/Stoux City/F-86L/24/13/0/11/0-0/0/0/31/22/
- 14 FI SQ/Stoux City/F-86L/23/12/0/11/0-0/0/0/32/27/
- 15 FI SQ/Davis-Menthan/F-86L/20/10/1/6/3-0/3/3AJQ/33/25/
- 18 FI SQ/Wurtsmith/F-102A/8/0/3/5/0-0/0/0/28/0/
- 445 FI SQ/Wurtsmith/F-89J/25/16/4/5/0-0/0/0/27/0/
- 27 FI SQ/Griffiss/F-94C/1/1/0/0/0-0/0/0/0/0/
- 27 FI SQ/Griffiss/F-102A/22/11/2/9/0-0/0/0/29/0/
- 465 FI SQ/Griffiss/F-89J/26/16/0/8/2-0/0/0/30/24/

3 1900Z

Jan 58

ADCST-0

MAJ O. A. CARROLL/jb
2621 1

RM-4934

4-2186-5

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

32

COMDR ADC

- 29 FI SQ/Malmstrom/F-89H/13/6/1/6/0-0/0/0/28/23/
42 FI SQ/Greater-Pitts/Negative due to inactivation.
46 FI SQ/Dover/F-94C/23/17/1/5/1-1/1/1AJQ/30/18/
98 FI SQ/Dover/F-89J/25/17/6/2/0-0/0/0/29/0/
47 FI SQ/Niagara Falls/F-86L/28/15/1/12/0-0/0/0/29/22/
48 FI SQ/Langley/F-102A/25/11/6/8/4-4/0/0/39/0/
49 FI SQ/Hanscom/F-86L/25/14/4/7/0-0/0/0/26/11/
54 FI SQ/Ellsworth/F-89J/7/0/2/1/7-3/7/7ALPQ/24/0/
56 FI SQ/Wright-Pat/F-86L/28/19/0/7/2-0/2/2AJQ/39/32/
58 FI SQ/Otis/F-89J/24/16/5/3/0-0/0/0/29/23/
60 FI SQ/Otis/F-94C/28/16/3/9/0-0/0/0/34/30/
59 FI SQ/Goose/F-89J/29/18/7/2/2-0/0/0/21/15/
61 FI SQ/Truax/F-102A/25/15/2/8/10-10/0/0/19/0/Increase due
to assignment of crews.
325 FI SQ/Truax/F-102A/25/15/1/9/10-10/0/0/26/4/
62 FI SQ/O'Hare/F-86L/17/10/3/4/0-0/0/0/45/32/
63 FI SQ/O'Hare/F-86L/17/9/3/5/0-0/0/0/0/0/Reassignment of
aircrews.
64 FI SQ/McChord/F-102A/24/6/0/18/0-0/0/0/30/0/
318 FI SQ/McChord/F-102A/25/7/0/18/0-0/0/0/31/9/
65 FI SQ/Richards-Gebaur/No aircraft and/or aircrews assigned.
66 FI SQ/Canard/No aircraft and/or aircrews assigned.

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71 FI SQ/Selfridge/F-86L/28/21/1/6/0-0/0/0/36/26/
94 FI SQ/Selfridge/F-86L/28/21/1/6/0-0/0/0/29/24/
74 FI SQ/Thule/F-89D/11/11/0/0/0-0/0/0/16/16/
75 FI SQ/Presque Isle/F-89H/28/18/0/10/1-1/0/0/26/23/
76 FI SQ/Pinecastle/F-89H/28/10/6/12/0-0/0/0/26/0/
82 FI SQ/Travis/F-102A/24/15/0/9/8-8/8/0/29/0/
83 FI SQ/Hamilton/F-86L/18/12/1/5/1-1/0/0/25/19/
84 FI SQ/Hamilton/F-89J/28/20/1/7/1-1/0/0/30/23/
85 FI SQ/Scott/F-86L/25/14/1/10/0-0/0/0/35/29/
86 FI SQ/Youngstown/F-102A/19/5/9/5/8-8/0/0/45/0/
87 FI SQ/Lockbourne/F-86L/28/13/2/7/6-0/0/0/36/29/
93 FI SQ/Kirtland/F-86L/9/4/3/2/0-0/0/0/29/21/
95 FI SQ/Andrews/F-86L/14/7/1/6/0-0/0/0/36/23/
319 FI SQ/Bunkerhill/F-89J/26/14/3/9/0-0/0/0/28/21/
321 FI SQ/Paine/F-89J/28/19/0/9/0-0/0/0/26/20/
321 FI SQ/Paine/F-89H/2/1/0/0/1-0/1/1AJQ/0/0/
322 FI SQ/Larson/F-86L/23/16/0/6/1-0/1/1AJQ/33/30/
323 FI SQ/Harmon/F-102A/25/17/6/0/2-0/0/0/25/12/
324 FI SQ/Westover/F-86L/24/17/1/5/1-0/0/0/28/25/
337 FI SQ/Westover/F-86L/24/17/2/4/1-0/0/0/25/7/
326 FI SQ/Richards-Gebaur/F-102A/24/9/4/10/1-0/1/1AJQ/25/24/
327 FI SQ/George/F-102A/18/14/2/2/2-2/0/0/22/20/

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COMDR ADC

329 FI SQ/George/F-86L/24/21/1/2/0-0/0/0/32/28/
330 FI SQ/Stewart/F-86L/25/17/0/8/0-0/0/0/39/16/
331 FI SQ/Stewart/F-86L/25/16/1/8/0-0/0/0/37/24/
332 FI SQ/McGuire/F-102A/28/4/9/15/0-0/0/0/29/0/
539 FI SQ/McGuire/F-86L/23/10/2/11/1-1/0/0/29/19/
354 FI SQ/McGhee-Tyson/Negative due to inactivation.
432 FI SQ/Minn-St. Paul/F-89H/1/0/0/1/0-0/0/0/8/4/
433 FI SQ/Minot/No aircraft and/or aircrews assigned.
437 FI SQ/Oxnard/F-89H/6/5/1/0/1-1/0/0/0/0/
437 FI SQ/Oxnard/F-89J/24/19/0/5/0-0/0/0/29/25/
438 FI SQ/Kinross/F-102A/23/16/0/7/0-0/0/0/26/21/
444 FI SQ/Charleston/F-86L/28/21/3/4/0-0/0/0/34/28/
456 FI SQ/Castle/F-86L/27/19/0/8/0-0/0/0/31/23/
460 FI SQ/Portland/F-89D/23/15/0/8/0-0/0/0/28/25/
482 FI SQ/Seymour Johnson/F-102A/19/13/2/4/0-0/0/0/19/0/
484 FI SQ/K. I. Sawyer/No aircraft and/or aircrews assigned.
497 FI SQ/Geiger/F-86D/28/17/2/9/0-0/0/0/31/27/
498 FI SQ/Geiger/F-102A/22/11/0/11/0-0/0/0/29/19/
518 FI SQ/Klamath/No aircraft and/or aircrews assigned.
538 FI SQ/Larson/F-86L/21/13/4/4/1-1/0/0/29/24/
551 AEW WG/Otis/RC-121/31/13/0/18/18-18/0/0/47/44/
552 AEW WG/McClellan/RC-121/32/12/1/14/12-7/0/0/57/57/
ADCST-0

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COMDR ADC

4677 REV FT/Hill/Misc/6/3/0/3/0-0/0/0/5/5/

4713 REV FT/Griffiss/Misc/10/4/1/5/0-0/0/0/8/8/

4739 REV FT/Goose/No aircraft assigned pending reassignment.

4754 REV FT/Hamilton/Misc/8/5/1/1/1-0/0/0/5/5/

17 TOW SQ/Vincent/Misc/23/20/0/3/3-3/0/0/36/29/

23 TOW SQ/Tyndall/Misc/15/12/2/1/0-0/0/0/24/24/

37 FI SQ/Ethan Allen/F-102A/4/3/0/1/0-0/0/0/0/0/

37 FI SQ/Ethan Allen/F-86D/8/7/0/1/0-0/0/0/31/20/

This report reflects complete coverage. Following supplemental information correction to 2-AF-VI4 as of 23 Dec 57.

64 FI SQ/McChord/F-102A/25/9/1/15/30/0/

76 FI SQ/Pinecastle/F-89H/28/12/6/10/26/0/

322 FI SQ/Larson/F-86L/24/18/0/5/34/31/

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133

402x403

READING FILE

20 Sep 57

CON0006HQAO 16
 RR RJEDEN RJEDWP RJEDWH IJEPFF
 DE RJEPHQ 110
 R 201337Z
 FM HEDUCAF WASH DC
 TO RJEDEN/COMAIRDEFCON ENT AFB COLO
 ZEN/COMCONAC MITCHEL AFB NY
 RJEDWP/COM11AC UPAFB OHIO
 INFO RJEDWH/CINCSAC OFFUTT AFB NEBR
 RJEPFF/COM11ATS ANDREWS AFB MD
 RJEDEN/CINCONAD ENT AFB COLO
~~IT UNCLASSIFIED~~
 FROM AFCAV 50534.

NONFO-H

ACTION: HOOOP
 INFO HOOPO
 N7-11125

MESSAGE IN FOUR PARTS. PART I. REFERENCE IS MADE TO MESSAGE, THIS
 HEADQUARTERS, AFAPR 1348/57 TO ALMAJCOM DATED 23 AUGUST 1957. PART
 II. (A) NEW CASTLE AFB, DELAWARE - 95TH, 97TH FIGHTER-INTERCEPTOR
 SQUADRONS AND 82D FIGHTER GROUP (AIR DEF) INACTIVATE JANUARY 1958.
 BASE INACTIVATE JANUARY 1958. (B) MINNEAPOLIS-ST. PAUL, 432D FIS AND
 475TH FIGHTER GROUP (AIR DEF) INACTIVATE JANUARY 1958. BASE TRANSFERS
 TO COMAC JANUARY 1958. (C) MCGHEE-TYSON - 354TH, 469TH FIS AND
 355TH FIGHTER GROUP (AIR DEF) INACTIVATE JANUARY 1958. BASE UTILI-
 ZATION TENTATIVELY PROGRAMMED BY AIR NATIONAL GUARD BEGINNING 2/58.

CLASSIFICATION Changed from
 SECRET to UNCLASSIFIED

AUTH: ~~UNCLASSIFIED~~ H. USAF MSG: AFMOR 49815, dtd 4 Oct 57
 7 Oct 57

Signature
J. W. LEDOUX
 LCDR, USN
 Asst Adjutant

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(Reproduction of this

SECRET MESSAGE

of (CHAD Adjutant)

PAGE TWO RJEPHQ 110
 YOUR MESSAGE ADC ADLPH 7010 20 AUGUST 1957, PREVIOUS SPAIN
 COMMITMENT OF 459TH BEING FILLED BY USAF. PART III. IN ORDER
 TO EFFECT MAXIMUM ECONOMY IN O&M FUNDS FOR FY 58, FLYING HOURS WILL
 BE SUBSTANTIALLY REDUCED IN THE QUARTER PRECEDING THE INACTIVATION
 DATE. OFFICER PERSONNEL BECOMING SURPLUS TO COMMAND REQUIREMENTS
 WILL BE REPORTED TO THIS HEADQUARTERS UNDER PROVISIONS OF PARAGRAPH
 15E, PART 5, CHAPTER 5, AFM 35-112. SEPARATE INSTRUCTIONS WILL BE
 ISSUED ON DISPOSITION OF WARRANT OFFICERS AND AIRMAN PERSONNEL.
 SECRETARIAL FINDING TO PERMIT SECOND PCS IN A FISCAL YEAR WILL BE
 OBTAINED PRIOR TO MOVE OF INDIVIDUALS CONCERNED. REQUEST FOR SECRE-
 TARIAL FINDING WILL BE FORWARDED TO THE DIRECTOR OF MILITARY PERSON-
 NEL, DCS/P, THIS HQ. EVERY EFFORT WILL BE MADE BY YOUR COMMAND TO
 ALLEVIATE ANY PERSONNEL HARDSHIPS THAT MAY RESULT FROM THIS ACTION.
 IN ACCORDANCE WITH PARAGRAPH 7, PART I, CHAPTER I, AFM 35-11D, AT
 LEAST 30 DAYS ADVANCED NOTICE WILL BE GIVEN TO PERSONNEL RECEIVING
 PCS ASSIGNMENTS. INSTRUCTIONS ON DISPOSITION OF AIRCRAFT MADE
 EXCESS BY THESE ACTIONS WILL FOLLOW SEPARATELY. LOGISTIC SUPPORT
 FUNCTIONS OF ABOVE BASES IN SUPPORT OF AC&U STATIONS WILL BE RE-
 VIEWED AND THIS HQ ADVISED OF DESIRED CHANGES AT THE EARLIEST
 PRACTICABLE DATE FOR INCLUSION IN FUTURE PROGRAMMING DOCUMENTS.

PAGE THREE RJEPHQ 110
 PART IV. YOUR RECOMMENDATION CONCERNING INACTIVATION OF THE 75TH AT
 PRESQUE ISLE AND CLOSURE OF THE BASE IS NOT FAVORABLY CONSIDERED.
 THIS HEADQUARTERS IS OF THE OPINION THAT ADEQUATE AIR DEFENSE
 CAPABILITY IS ESSENTIAL AND SHOULD BE MAINTAINED IN THE NORTHEAST.
 YOUR RECOMMENDATION CONCERNING O'HARE IS STILL UNDER STUDY. YOU
 WILL BE ADVISED.

BT
 201349Z SSP RJEPHQ

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25 OCT 51

READING FILE

CONAD HIST FILE

403 x 402 ✓

CON001
HCA049
RR RJEDEN RJEDWP RJEDBR
DE RJEPHQ 195
R 252016Z 7NJ
FM HEJUSAF WASH DC
TO RJEDEN/COMAIRDEFCOM ENT AFB COLO
INFO RJEDEN/CINCNORAD ENT AFB COLO
~~2520~~ COMCONAC MITCHELL AFB NY
RJEDWP/COMAMC WPAFB OHIO
RJEDBR/CINCSAC OFFUTT AFB NEBR

OTION: ~~11618~~ NOCOP
INFO: NOCOP
N7-12689

Not readable

Not readable

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CONAD HIST FILE

FILE

409

CONOOC
HQADOCG
RZ JEDEN/COMNAV/COMNAV
DE JEDEN/COMNAV
RZ JEDEN/COMNAV
FM HQ USAF WASH DC
TO RZ JEDEN/COMNAV/COMNAV
INFO RZ JEDEN/COMNAV/COMNAV
ZEP/COMNAV/COMNAV MITCHELL AND
RZ JEDEN/COMNAV/COMNAV MITCHELL AND
RZ JEDEN/COMNAV/COMNAV MITCHELL AND
RZ JEDEN/COMNAV/COMNAV MITCHELL AND

ACTION: NCSAB
N7-11917

20257

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FROM AFDP-OP-42 01285

THIS MESSAGE IN IV PARTS. PART I. REFERENCES MADE TO MESSAGE THIS HEADQUARTERS AFDP 1345/87 TO ALHJCO, DATED 13 AUGUST 1987. PART II. THE 63RD FIGHTER INTERMEDIATE SUPPORT (AIC DET) O'HARE INTERNATIONAL AIRPORT, CHICAGO, ILL. WILL BE DEACTIVATED JANUARY 1988 (3/88). IN CHANGE IN BASE STATUS. PART III. TO EFFECT WITHIN ECONOMY IN SAN FUNDS FOR FY 88, FLYING HOURS FOR THE ABOVE UNIT WILL BE SUBSTANTIALLY REDUCED DURING THE TRANSITION PERIOD. THE INACTIVATION, INSTRUCTIONS ON DISPOSITION OF AIRCRAFT AND ACCESS BY THIS ACTION WILL FOLLOW SEPARATELY. OPERATIONAL PLANNING TO PERMIT SECOND

PAGE TWO RZJEDEN/COMNAV
PCS IN A FISCAL YEAR WILL BE OBTAINED PRIOR TO MOVE OF INDIVIDUALS CONCERNED. REQUEST FOR SECRETARIAT SERVICES WILL BE FORWARDED TO THE DIRECTOR OF MILITARY PERSONNEL, DCS/P, THIS HEADQUARTERS. OFFICER PERSONNEL BECOMING SURPLUS TO COMNAV REQUIREMENTS WILL BE REPORTED TO THIS HEADQUARTERS UNDER PROVISIONS OF PARAGRAPH 10E, PART 3, CHAPTER 3, AFM 39-11E. DISPOSITION INSTRUCTIONS FOR AIRCRAFT OFFICERS AND AIRMAN PERSONNEL ARE CONTAINED IN ALHJCO, AFDP 15577, DATED 10 SEPTEMBER 1987. EVERY EFFORT WILL BE MADE BY YOUR COMMAND TO ALLEVIATE ANY PERSONNEL HARDSHIPS THAT MAY RESULT FROM THIS ACTION. IN ACCORDANCE WITH PARAGRAPH 7, PART 1, CHAPTER 1, AFM 39-11E, AT LEAST 60 DAYS ADVANCE NOTICE WILL BE GIVEN TO PERSONNEL RECEIVING PCS REASSIGNMENTS. PART IV. YOUR RECOMMENDATIONS CONCERNING REDUCING ACTIVE STATUS OF GROUND TIS AND O'HARE AFD ARE UNDER STUDY AT THIS TIME. YOU WILL BE ADVISED. IN CONNECTION WITH PART III ABOVE, THE PROVISIONS OF HEADQUARTERS USAF MESSAGE AFDP 102718, DATED 10 SEPTEMBER 1987, ARE APPLICABLE

06/117Z OCT 87 RZJEDEN

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COOP

24 July 1957

SUBJECT: USAF Air Defense Command Reprogramming to Adjust to
Deficient Fiscal Year 1958 Funds

TO: Chief of Staff, United States Air Force
as Executive Agent for COMAD
Washington 25, D.C.

1. The USAF Air Defense Command has advised this headquarters that the approved USAF Fiscal Year 1958 OLM Appropriation Financial Plan provides the Air Defense Command with a FY 58 OLM budget which is approximately 96 million below stated requirements. To absorb this reduction in funds, the Air Defense Command plans to place at least five currently operational fighter interceptor squadrons on a non-operational basis. In addition, certain vital air defense programs are being recommended for deferment, at least through FY 58.

2. The force reductions and program deferments being recommended by the Air Defense Command cannot be concurred in by this headquarters. CADOP 56-66 establishes a requirement for immediate expansion of our national air defense forces to a level necessary to counter the current and projected threat. The proposed action will result not only in a failure of Air Force elements to meet this program, but will, in fact, effect a serious current reduction in the combat readiness of the Air Defense Command and of the Continental Air Defense Command.

3. In the interests of national security, it is presently recommended that the Air Defense Command be provided with adequate OLM funds with which to support at least currently established forces.

E. E. PARTRIDGE
General USAF
Commander in Chief

COPY Form ADC

M/R Not Required

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137

18 OCT 57

General Thomas D. White
Chief of Staff
United States Air Force
The Pentagon
Washington 25, D.C.

Dear Tommy:

Less than a month ago the Air Defense Command recommendations with respect to the ADC Fighter Program through fiscal year 1961, were delivered to your headquarters personally by the Commander, General Atkinson. These recommendations included two alternative proposals with respect to the improvement of our air defense atomic capability. The first involved increased production of F-101 aircraft, the second a retrofit of the F-102 to provide it an atomic capability. Comments with respect to the latter proposal are offered.

In 1955 the National Security Council directed that an atomic air defense capability be provided as a matter of priority. Two vehicles were considered, the F-89 and the F-102. To meet time scales established by General Fanning, the F-89 was selected. To the credit of all concerned, this capability was established on schedule. Although today the F-89 is our most effective destruction system, the aircraft has certain performance limitations. Repeated efforts have been made to develop an atomic capability on the F-102 while this aircraft was still in production. These efforts have failed. The F-102 has been in an operational inventory for nearly a year and it is still not yet an effective weapons system. Recommendations by the Air Defense Command to retrofit the F-102 with the A-1 have gone unheeded. Money problems, technical difficulties and force reduction considerations have mitigated against a favorable decision.

Conclusions of the Stanford Research Institute with respect to program slippages, and our experience with the F-102 and F-104 delays have convinced us that we cannot expect quantitative F-101 and F-106 forces until perhaps 1961 or 1962. In the meantime, quantities of atomic armament are being produced at the cost of hundreds of millions of dollars. To make effective use of this armament, we will be forced to have an obsolete fighter interceptor weapons system through this time period for the lack of the few millions required to modify the F-102. The F-89, performance-wise, is barely able to cope with today's subsonic

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CONTINENTAL AIR DEFENSE COMMAND

7 January 1957

MEMORANDUM FOR: DCS/Plans and Operations

SUBJECT: Conversions from One Type of Aircraft to Another

1. As far as I know CONAD Headquarters has never expressed any policy on how conversions of units should be handled either insofar as anti-aircraft or fighters are concerned. Perhaps this is a deficiency, and in any event I should like for you to give the matter your attention.

2. This subject is brought to mind because of my inquiries regarding the F-102 conversions at George AFB. This change-over was started about April of last year and the first aircraft of the 102 type arrived at George about the first of May. By now some 8 or 9 months have passed and the conversion is not yet completed. In fact, in my opinion, I won't stay in the Air Force long enough to see the day when any F-102 unit will be fully operational. The aircraft itself seems to be a great improvement over the types we have previously used but there is a critical shortage of supporting equipment and I doubt that this situation can be remedied in the life of the aircraft.

3. In spite of these deficiencies it is possible for the first squadron; i.e. the 327th at George, to operate some of its airplanes and in fact on the 15th of January, they are going to undertake the alert duty with the 102. Even the aircraft available are, in my opinion, non-operational. The weapons have never been fired by the people at George and there is no assurance that they could hit anything if they did shoot them. Nevertheless, I concur in placing this squadron on alert because I believe it is expedient for them to get the practice necessary to find out what the aircraft can do in an operational situation.

4. However, we are continuing to convert from operational to non-operational, aircraft in other squadrons throughout the country, and I am not sure that we should allow this to continue. It occurs to me that our operational capability is decreasing at a great rate and that we might want to put on the brakes in order to force the Air Force to meet its obligations insofar as support of the F-102 program is concerned.

/s/v/ E. E. PARTRIDGE
General, USAF
Commander-in-Chief

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27 January 1958

General Thomas D. White
Chief of Staff, USAF
Headquarters USAF
Washington 25, D.C.

Dear Tommy:

In my letter of 18 October 1957, I informed you of General Atkinson and my feelings on the urgency to provide the F-102A with a nuclear capability. In your reply of 6 January 1958, you stated you did not feel that the F-102A should be modified to give it an MB-1 capability. On 28 December 1957, General LeMay indicated in a personal letter to General Atkinson that an F-102A/MB-1 modification would not be accomplished, but that a nuclear capability for the F-102A might be possible by equipping it with nuclear Falcons.

As a result of an ARCD study and presentation given to ADC and my staff a few days ago and subsequent evaluation, I am impressed with the potential capabilities of the proposed GAR-1Y and GAR-3Y missiles.

The GAR-1Y proposal appears to provide the only practical approach to fulfilling the nuclear requirement for the F-102A at an early date and at a minimum cost. Further, the GAR-1Y and GAR-3Y proposals are favored over other proposed air-to-air guided nuclear missiles being considered for the F-101 and F-106 aircraft respectively. Because these nuclear Falcons are basically improved Falcons, their introduction into the air defense system will have a minimum impact on interceptor modifications at a relatively low cost. Also, these missiles can be introduced into the air defense inventory by mid-1960, providing an early approval of these Falcon proposals is made by your headquarters.

For your personal information, I have been informed that ARDC will present the nuclear Falcon evaluation to your staff on 30 January 1958.

I therefore urge that your headquarters support the development of GAR-1Y and GAR-3Y nuclear Falcon proposals for the F-102, F-101, and F-106 aircraft so that these weapons may be introduced into the air defense system at the earliest possible date.

Sincerely,

E. E. PARTRIDGE
General, USAF
Commander-In-Chief

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140

JOINT MESSAGEFORM		SECURITY CLASSIFICATION UNCLASSIFIED	
SPACE BELOW RESERVED FOR COMMUNICATION CENTER			
COVER LIST FILE		FILE	
PRECEDENCE ACTION ROUTINE INFO	402X 303	TYPE MSG (1/2/3) BOOK MULTI SINGLE I	ACCOUNTING SYMBOL AF
FROM: CIRCORAD	TO: AOC CEMAIRDEF ST HUBERT QUEBEC CANADA		SPECIAL INSTRUCTIONS
UNCLASSIFIED from NCOOP-T XC36			
<p>For Canadian addressee only. CANUSECURITY.</p> <p>Following information requested by L/Col. Brady SPlansSO, your headquarters. Coordinates of AC&W Sqd., 10th Air Division, Alaska. WAC Chart 118; Fire Island 610915013, Sparrevohn 610715536. WAC Chart 119 Cape Romansoff 614616552 Bethel 604716154. WAC Chart 135 Cape Newenham 583816204. WAC Chart 136 King Salmon 584215640; Homer 594315132. WAC Chart 137 Middleton Island, 592614619. Fighter Interceptor Squadrons are 31st and 317th at Elmendorf F-102A aircraft and 449th at Ladd F-89J aircraft.</p>			
READING FILE		DATE 1 1700Z MONTH YEAR	Rev. 57
SYMBOL NCOOP-T	TYPED NAME AND TITLE (Signature if required) Maj. Schiebel		SIGNATURE R. E. GRADVEY, JR. Major, USA Asst Adjutant
PHONE 2088	PAGE NR 1	NR OF PAGES 1	
SECURITY CLASSIFICATION UNCLASSIFIED			

ENCLOSURE

CONRAD NIST FILE

141

13 OCT 1958

General Thomas D. White
Chief of Staff, USAF
Headquarters USAF
Washington 25, D. C.

Dear Tommy:

I have just returned from an interesting tour of Alaska and while there, noted a weak link in our Air defense system which is of great concern to me and which I wish to bring to your attention.

Recent permanent construction under the Fiscal Year 1957 and 1958 Military Construction Program at King Salmon Air Force Station has provided modern alert shelters, barracks, a new PCL system, and GAR missile buildings, but has failed to provide a useable runway for year-round operations. This means that King Salmon is currently limited to winter operations for F-102 aircraft and, in fact, the fighter complement of 102's was flown into King Salmon from Elmendorf on the 15th of December, the earliest date at which the existing runway would take them. The present runway will not withstand continued operation with the heavy tire pressures unless the field is frozen, and this means that solely because of lack of suitable runways, the F-102's must be withdrawn to Elmendorf for six to eight months of the year.

The location of King Salmon makes it one of the key air defense positions in Alaska. Without this base we have limited area defense within Alaska and no intercept-identification capability for the Aleutian extension to the DEW Line. Since one of the most likely routes for enemy attack through that area lies across the eastern end of the Aleutian radar chain, this deficiency in intercept-identification capability is a crucial one. Furthermore, lacking interceptor aircraft at King Salmon on a year-round basis, the GCI site at this station and the GCI

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100-100-1000
OCT 14 1958
OFFICE OF THE
SECRETARY OF DEFENSE

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CONAD HIST FILE

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General White
Page 2

sites at Bethel which will soon be operational will be in only limited use during the summer months.

The runway project at King Salmon Airport has been changed from the Military Construction Program to a 1958 M&O Project (Number Elmendorf 177-8). The 1959 program provides for a 1,000 foot extension to the runways plus over-runs. I am not in a position to evaluate the adequacy of these proposals, but I do know that the present situation is unsatisfactory from many points of view. The Air Force has a great deal of money invested in support facilities at King Salmon, yet has failed to provide for a suitable runway and, as a result, we not only are failing to keep our GCI sites in that area at a high level of effectiveness during part of the year, but we also have a major hole in the defenses which could be readily plugged by the expenditure of a relatively modest amount of money.

I strongly recommend that the King Salmon runway project be given a priority of such a nature that early favorable funding action may be accomplished.

Sincerely,

Gen Partridge
3201
4 Jan 58

E. E. PARTRIDGE
General, USAF
Commander-in-Chief

M/R not required

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12 Dec 57

COH1026V

VR001
OO RVEDDH RVEDKF RVEDND
DE RFEHVB 10/12
O 121450Z

FM CANAIRDEF COC
TO RVEDDH/NORAD ENT AFB COLORADO
RVEDND/CFCGR COC NEWBURGH NY
RVEDKF/CFCGR COC RICHARDS GEDAUER AFB GRANDVIEW MO 27-11895

ACTION: C0000

READING FILE OPERATIONAL IMMEDIATE

UNCLASSIFIED // AC769 12 DEC

RCAF FIGHTER STATUS A 121430Z
5 AD 3 SECTOR 1 SECTOR 2 SECTOR 64 AD
OR 5/0 YB 13/0 HU 12/0 CH 0/4 JT 8/0
OV 13/0 DG 7/0 YR 8/0
TL 13/0

TT
12/1509Z

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CON020BV002

SECRET

OO RJEDDN RJEPNB RJEDKF
DE RFEMVB 4/01
O 011530Z

ACTION COCCO
X8-11

FM CANAIRDEF COC
TO RJEDDN/NORAD COC ENT AFB COLORADO
RJEPNB/CFECR COC NEWBURGH NY
RJEDKF/CFCCR COC RICHARDS GEBEUR AFB GRANDVIEW MO

ORIGINAL SOURCE MEDIA

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AC730 1 JAN

RCAF FIGHTER STATUS A 011530Z
5 AD 3 SEC 1 SEC 2 SEC 64 AD
QQ 15/0 YB 22/0 HU 21/0 CH 0/4 JT 10/0
OW 29/0 BG 13/0 YR 13/0
TL 5/0

BT
1/1614Z

A-PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY 5 ENCRYPTION--
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE TIME GROUP PRIOR
TO DECLASSIFICATION

///.ADVANCE COPY OF THIS HAS BEEN DELIVERED TO COC ///
QRU FKE

DUPLICATE

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144

15 Jan 58

REGIST RED MAIL
CONFIDENTIAL

FROM: Commander Naval Forces, Continental Air Defense Command
TO: Chief of Naval Operations

Subj: Status and Location of Naval Forces Fighter Aircraft Report:
forwarding of

Encl: (1) Copy of subject report

1. Enclosure (1) is the latest status and location of Naval Forces Fighter aircraft based ashore in the United States.
2. Totals of Available aircraft of combat units only, excluding aircraft aboard carriers, R&D aircraft, pool aircraft and Naval Bases aircraft.
3. This letter may be downgraded to unclassified upon removal of enclosure (1).

COPY TO:
CINCONAD

G. L. KOHR
Chief of Staff

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144

DATE JAN 16, 1958 NAVAL FORCES AUGMENTATION AIRCRAFT

LOCATION	ALL WEATHER		DAY FIGHTER										OTHER	TOTAL	REMARKS	
	F-4	F-8D	F7H-1A	F8D	F104	F4U-7B	F. 12A	F7D-3	F7M-3	F7M-3A	F7M-3B	F7M-3C				
EASTERN																
AKRON																
ATLANTIC CITY																
DEGUL FIELD																
CHERRY POINT	29	16		6	5											
CHINCOTEAGUE		22		21	55								26	6		17
COLUMBUS					38	16										129
DUNNEW															13	85
GLINDO																
JACKSONVILLE					35											
KEY WEST																38
MEMPHIS		15			28								10	6		24
MIAMI																16
NEW YORK																
NIAGARA FALLS					16	47										
NORFOLK					22											67
OCEANA																22
QUINSET	26	19														
SANFORD					27	48	25									
SHEPHERD FIELD													36			181
SOUTH Weymouth																
WILLOW GROVE					18											
WENTON					29											13
WHEELER					12											12
W. W. CRAWFORD																
TOTAL	38	56	24		57	32	292	87					10	67	46	696
WESTERN																
ALAMEDA	6	4														
BROWN FIELD																
CHINA LAKE																10
EL CENTRO																
EL TORO																
LOS ALMITOS		14														
MIRAMAR						17	6						2			8
MOFFETT FIELD	38					19	7	20					25			86
MOJAVE						18		20								20
NORTH ISLAND																81
OAKLAND																18
POINT MUGU																
SPOKANE																
FALCON																
TOTAL	41	14	4			37	7	57	38				26			225
CENTRAL																
CHASE FIELD																
CORPUS CHRISTI																
DALLAS																86
DENVER																34
KINGSVILLE																30
LINCOLN																18
MINNEAPOLIS																39
OLATHE																18
ST LOUIS																89
MEMPHIS																8
																60
																16
TOTAL																16
GRAND TOTAL	96	49	39			320							8	10	67	90

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Approved by [Signature]

Release to [Signature] NOT BE PREDETERMINED

PRIORITY ROUTINE

OGA/TGCOM INT/FR COLO

DCBONIDA 141103
INFO: OGA/TGCOM INT/FR COLO (Courier)

604

OGCL. a. DA 932772. b. DA 931678 Oct. NOTAL

a. My ADCEL 589. NOTAL

1. Examination of the proposed package output schedule transmitted by reference a reveals that:
 - a. Only two-thirds of the ATAF/TGCOM units planned for conversion under FY 1959 force structure contained in reference b will be operational by 30 June 1959 and, of the nine FY 59 HERCULES battalions programmed for new areas, only the battalion for Thule AB will be operational at end FY 59.
 - b. By end FY 59, one half of the operational US Army HERCULES battalions will be overseas.
 - c. Alaska, Greenland, Okinawa and Europe are given priority for HERCULES deployment over CONUS high-value metropolitan areas. This is in apparent conflict with stated policies of the Joint Chiefs of Staff.

2. In consideration of the limited availability of HERCULES ATGOL

J. L. YAMMILL, Colonel, GS
134 1 3

DAVID HUGHES
CWO, W-4, USA
Asst AdJ Gen

REGARDING DATA CANNOT BE PREDETERMINED

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X7-13854

S 3539-57

COMBAT DOCUMENTARY COPY

world-wide under the reduced FY 59 force structure SAC bases in Alaska, Greenland and Okinawa would not, in the opinion of this headquarters, warrant HERCULES defense ^{before} ~~over~~ critical CONUS targets. However, because of the early completion of construction, reduction in other air defense means and the need for air defense of these areas, this headquarters recommends that interim defenses consisting of battalions minus two firing batteries be provided these areas until the effectiveness levels of existing defenses in CONUS are raised to a minimum acceptable level. It should be noted that small vital target areas in CONUS such as SAC bases will thru FY '61 be provided defense by a battalion minus two firing batteries.

3. In accordance with the above, the following output schedule for active Army HERCULES packages is recommended:

1	July 1958	1 Conversion
1	Aug	1 Conversion, 1 Greenland
1	Sept	1 Alaska
2	Oct	2 Conversion
1	November	1 Conversion
1	December	1 Europe
2	Jan 1959	2 Conversions
3	Feb	2 Conversions, 1 Okinawa
3	March	3 Conversions
2	April	2 Conversions
1	May	1 Conversion, 1 Greenland

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OGARADCOM INTAFB COLO

1	June	1 Europe
1	July	1 Conversion, 1 New
1	Aug	1 Conversion, 2 New
2	Sept	2 New
4	Oct	2 New, 1 Alaska, 1 Okinawa
2	Nov	1 Conversion, 1 New

4. As stated in reference c, conversion to HERCULES of 18 equivalent COMUS battalions in FY 59-61 is considered inadequate. Reevaluation of non-tactical allocation of HERCULES equipment appears necessary in view of the apparent overall reduction in the HERCULES program.

5. NORAF concurs in our recommendations in paragraph 3 above, as far as Greenland and Alaska are concerned. NORAF has, however, expressed concern over the planned deployment of HERCULES to Europe and Okinawa prior to deployment at critical new areas as approved by the JCS and as recommended to the JCS by NORAF.

*WJ
copy
info?*

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A
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NOOOF

57

SUBJECT: NICK BATTERIES FOR THE WAREHOUSES

TO: Chief, Civil Defense
The War Relocation Authority
Washington, D. C.

On 102-50-21 Defense 1-6, established the plan for the Fiscal Year 1950 (later COMAD) for the Fiscal Year 1950 period, but with a limitation of nuclear warheads for NICK BATTERIES.

The U. S. Army Defense Command has informed this command that the NICK BATTERIES are planned to be delivered to the field operational before the end of Fiscal Year 1950. The NICK BATTERIES are to be used against it is requested that the War Relocation Authority Fiscal Year 1950 plan be amended for NICK BATTERIES to all nuclear warheads for these NICK BATTERIES batteries. Specific type, quantity and desired distribution are contained in paragraph 2 below.

These batteries will defend the critical industrial and population centers listed below. This fact emphasizes the need for a vigorous effort in providing these units with atomic warheads. If the warheads requested have been distributed to other commands in the line of Presidential authority, it is suggested that sufficient numbers from the JCS reserve stock be provided to the battery locations listed as an interim measure.

In event the above requested amendment to DS 102-50 is approved, it is further requested that these warheads and nuclear supplies be provided as follows:

DEFENSE AREA	TYPE BATTERY	TYPE NUCLEAR CAPSULES	NUMBERS
New York City	MK 7 MOD 2E	190-DE	7
		170-DE	0
Chicago	MK 7 MOD 2E		1
		190-DE	7
		170-DE	6
			1

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ABC

<u>DEFENSE AREA</u>	<u>TYPE WARHEAD</u>	<u>TYPE NUCLEAR CAPSULES</u>	<u>NUMBER</u>
Philadelphia	MK 7 MOD 2E	190-DE	7
		170-DE	1
			1
Washington-Baltimore	MK 7 MOD 2E	190-DE	7
		170-DE	6
			1

5. The ratio of nuclear to non-nuclear warheads in the basic load of a HERCULES battery is 1 to 3. The ratio of one medium to six small yield nuclear warheads shown in paragraph 4 above will provide each battery with an atomic capability using medium yield weapons against massed formations at long range as well as a similar capability against single aircraft when using the small yield warhead. In addition, the small yield warhead will be available for use against relatively low-altitude targets.

6. It is emphasized that this request is over and above the allocations contained in SA 102,106.

FOR THE COMMANDER-IN-CHIEF:

MARSHALL W. CASPER
Major General, USA
Chief of Staff

Approved for release by NSA on 05-08-2014 pursuant to E.O. 13526

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HEADQUARTERS
CONTINENTAL AIR DEFENSE COMMAND
Ent Air Base
Gunnery Square, Colorado

OFFICE OF THE ADJUTANT

NOTICE OF IMPORTANT INCOMING CORRESPONDENCE

30 September 1957
(Date)

TO: COMMANDER-IN-CHIEF _____
CHIEF OF STAFF _____
SECRETARY OF THE JOINT STAFF _____

For your information, the following correspondence has been received:

From: ADCAA-12800 USARADCOM Dated: 30 Sep 1957

Classification: UNCLASSIFIED Reference: 7-11476 Suspense: None
D

Action Office: MOOP

SUMMARY. USARADCOM is concerned because SM-1025-56 does not allocate to NCRAD any nuclear warheads for NINE HERCULES missiles for FY 58. They request we initiate action to have the 4th qtr FY 58 allocation of nuclear warheads amended to provide the warheads and nuclear capsules required for operational on-site NIKE Hercules missiles. They list what they think is necessary by number and models and explain why.

J. W. L. IX
LTCJG USN
Adj. Adjutant

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HEADQUARTERS
ARMY ANTI-AIRCRAFT COMMAND
Fort St. Vrain Army
Colorado Springs, Colorado

30 SEP 1957

ADAAA-PARCD 471.94

SUBJECT: Allocation of NIKE HERCULES Warheads (U)

TO: Commander-in-Chief
North American Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. References:

- a. SM-1025-56.
- b. SM-74-57.

2. Reference 1a does not allocate to NORAD nuclear warheads for NIKE HERCULES missiles for FY 1958.

3. NIKE HERCULES is planned to be operational by end FY 1958 at four battery sites which will require a total of 28 nuclear warheads. These sites will be located in the New York, Washington-Baltimore, Chicago, and Philadelphia defense areas. The number of nuclear warheads is based on the number of NIKE HERCULES missiles which will initially be deployed at sites selected to receive NIKE HERCULES.

4. It is requested that your headquarters initiate action to have the fourth quarter FY 1958 allocation of nuclear warheads (reference 1a) amended to provide the following warheads and nuclear capsules which are required for operational on-site NIKE HERCULES missiles:

		<u>Number</u>
Warheads	MK 7 Mod 2E	28
Nuclear capsules	170-DE	24
	170-DE	4

5. The distribution of capsules is based on a six-to-one ratio of small to medium yield warheads. This ratio will provide each battery with one medium yield warhead and six small yield warheads. The medium yield warhead will provide a capability against massed formations at

FORM 7-57
STANDARD FORM NO. 64

RECEIVED

SEP 30 1957

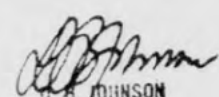
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ADAAA-P&RCD 471.94
SUBJECT: Allocation of NIKE HERCULES Warheads (U)

long range, as well as providing an enemy weapon kill potential at long range. The small yield warheads will provide a capability against single aircraft at all ranges, enemy weapon kill potential at shorter ranges, and will allow the use of atomic warheads against low-altitude targets.

FOR THE COMMANDER:


W. S. JOHNSON
Brig Gen, GS
Chief of Staff

Copy furnished:
DCSOPS, DA

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147

PRIORITY
ROUTINE
CGARADCOM ENTAFB COLO

RECORDING DATA CONTINUED
BY 10/17/57

AUG 16 1957

DCSOPSDA WASHDC
INFO: CGUSCONARC FTMONROE VA
CINCONAD (Courier)
CG1RAADCOM FITOTTEN NY
CG2RAADCOM FTMEADE MD
CG5RAADCOM FTSHERIDAN ILL
CG6RAADCOM FTBAKER CALIF
CG4RAADCOM RICHARDSGEBBAURAFB MO

430 ADOAA-3 P&O. Your DA 927877. *NOTAL*

1522287 AUG 57

1. Following is inactivation schedule in order of priority.
 - a. Gun battalions to be inactivated on 31 December 1957:
69th New York, 518th Hanford, 550th Norfolk, 749th New York, 606th Buffalo-Niagara, 77th Los Angeles, 501st Hanford, 35th Washington-Baltimore, 701st Pittsburgh. Units become nonoperational 15 November.
 - b. Gun battalions to be inactivated on 30 June 1958:
41st New York, 70th Washington-Baltimore, 16th Boston-Providence,

ADOAA-3 P&O
Col Iarnall/svg
2134

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CONAD X7.....

EDWARD MADIAS
CWO W-4, USA
Asst Adj Gen

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20th Seattle, 12th New York, 519th Hanford, 196th Chicago, 33rd Savannah River. Units become nonoperational 15 May 1958.

a. Skysweeper battalions to be inactivated 30 June 1958: 425th and 478th Savannah River, 8th Sault Ste Marie. Units become nonoperational 15 May 1958.

2. Reference message not considered to include Gun battalion and Skysweeper batteries in Greenland, in accordance with information received in message Major Hindman, DCB:PCFI and Major Semmens, this headquarters, 13 August 1957.

3. Considered essential to augment appropriate group and brigade headquarters tables of organization with qualified personnel to furnish training support to National Guard on-site and M-Day units. Specific augmentation will be requested by separate message.

4. This headquarters is concerned over public reaction to withdrawal of all Army air defense units at Sault Ste Marie and Savannah River, where defenses are required and have existed for considerable periods of time. Recommend retention in FY 59 force structure of 8th Skysweeper battalion at Sault Ste Marie and 33rd Gun battalion at Savannah River. A minimum of two NIKE AJAX batteries would be deployed at each of these areas during FY 59. Personnel of the two units mentioned, together with school trained technicians assigned to ARADCOM who are not eligible for HERCULES conversion training, would see NIKE AJAX equipment to be made

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OJARADCOM ENTAFB GOLD

available in June and August 1958 by programmed AJAI to HERCULES conversions. Field type emplacements on government owned or leased land would be used. Modified emergency housing is available at Savannah River and existing troop housing at Sault Ste Marie ^{can be} UTILIZED ~~adequate~~ pending construction of facilities for planned FY 60 WIKK deployment.

5. Recommend early press release and declassification of inactivation schedule.

6. This message coordinated with CINCOMAD.

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COMAD HIST
5021003

13 Sep 57

REGRADING DATA CAN
BE PREDETERMINED

ROUTINE
ROUTINE

CGARADCOM ENTABE COLO

DCSOPSDA WASHDC

INFO COMSECWARP FTMONROE VA

CGINCOMAD ENTABE COLO (COM 1-8)

CG1RAADCOM FTOTTUM NY

CG2RAADCOM FTWADE MD

467

ADCAA-3 P-0. By LEO ADCAA-3 P-0, August.

1. Request paragraph 1 of referenced message be changed to indicate proposed inactivation dates of the 16th AAA Battalion to be 31 December 1957 and the 35th AAA Battalion to be 30 June 1958.
2. The 16th AAA Battalion is a M + 10 High Priority and STRAC Unit. The 35th AAA Battalion is a M + 31 High Priority and STRAC Unit. Special missions assigned to the 16th Battalion should be assigned to the 35th Battalion.
3. Requested change in activation dates due to termination of site lease on 31 December 1957 of Battery C, 16th AAA Battalion.

132148ZSEP57

ADCAA-3 P-0

K. L. YARDALL, Colonel/sd
2134

1 1

T. F. HORN
CWO, W-3, USA
Asst Adj Gen
A-9-

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ADCAA-3 P&O 322, Hq USARADCOM, 18 Sep 57, Subj: Replacement Units
for STRAC and High Priority Units (U)

MOOPR

1st Ind

30 September 1957

Hq North American Air Defense Command, Ent Air Force Base, Colorado
Springs, Colorado

TO: Commanding General, U. S. Army Air Defense Command, Ent Air
Force Base, Colorado Springs, Colorado

This headquarters concurs in the assignment of National Guard
replacement units for high priority and STRAC units as outlined in
Inclosure 1 to basic communication.

FOR THE COMMANDER-IN-CHIEF:

1 Incl
a/c

MARSHALL S. CARTER
Major General, USA
Chief of Staff

COPI FOR CHIEF OF STAFF

Lt Col O E Grist
2845
25 Sep 57

rg



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N7-11094-B

57-1904

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MEMORANDUM FOR RECORD

1. References in basic communication:

a. Letter ADOAA-3, P&O 322, USARADCOM, 14 August 1957, subject, "Deployment of Army Air Defense Units to Overseas Areas (U)" lists the ARADCOM units assigned High Priority and Strategic Army Corps (STRAC) missions.

(1) High Priority units are placed in preferential status to insure their readiness for deployment early in a general war, or to meet an emergency short of a general war.

(2) STRAC units are in Ready Force A (30-Day) and Western Hemisphere Reserve and maintained in high degree of readiness to meet a limited emergency short of general war.

b. JCS 1899/327 establishes procedures for the Services to coordinate with CONAD on deployment of CONAD forces to overseas areas to counter local aggression.

c. Letter ADOAA-3, P&O 322, USARADCOM, 27 August 1957, subject, "Revised FY 58 Force Structure for USARADCOM" schedules the inactivation of Regular Army Gun and Skysweeper units in two increments (31 December 1957 and 30 June 1958). ARADCOM has since informally advised this office that D/A was directing that all these Gun and Skysweeper units would be inactivated by 31 December 1957, which means they will become nonoperational during October 1957.

2. ARADCOM has advised this office, informally, that D/A plans for National Guard Gun and Skysweeper units to be relieved from their operational mission on 30 September 1957 to start Nike training.

3. The proposed substitution of National Guard units for Regular Army units sent overseas in an emergency is sound and desirable for accomplishing of NORAD's mission. Therefore this headquarters should concur. If the National Guard Gun and Skysweeper units become nonoperational in September 1957 and the Regular Army Gun and Skysweeper units become nonoperational in October 1957, the significance of this correspondence will soon be negated.

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18 September 1957

ADAAA-3 P&O 322

SUBJECT: Replacement Units for STRAC and High Priority Units (U)

TOP Command-in-Chief
Continental Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. References:

- a. Letter ADAAA-3 P&O 322, this headquarters, 14 August 1957, subject: "Deployment of Army Air Defense Units to Overseas Areas". (U)
- b. JCS 1899/327
- c. Letter ADAAA-3 P&O 322, this headquarters, 27 August 1957, subject: "Revised FY 1958 Force Structure for USARADCOM" (U)

2. Reference 1a notified your headquarters of active Army ARADCOM units designated either to the Strategic Army Corps (STRAC) or that have been assigned a High Priority mission. Units involved are the same except that one High Priority Unit, the 23d AAA Group is not listed in STRAC.

3. National Guard units have been designated by Department of the Army as on-site replacements for STRAC Units, (See Inclosure 1). All units have been designated Special Security Forces (SSF) except as noted in Inclosure 1. Deployment of ARADCOM STRAC Units would result in the designated National Guard replacement unit reporting on-site.

4. In the event an ARADCOM Unit is deployed overseas because of its High Priority mission, this headquarters will request that the STRAC National Guard replacement unit be ordered into Federal Service and assigned to that defense. In the case of the 23d AAA Group, it is planned to recommend to Department of the Army that the 212th AAA Group, New York National Guard, be designated as the replacement unit.

5. As indicated in reference 1c, AAA gun units assigned to this command will be inactivated by 30 June 1958. The provisions of this letter will then no longer apply.

6. Request your concurrence.

FOR THE COMMANDER:

1 Incl
STRAC NG Replace-
ment List

/s/t/ D. B. JOHNSON
Brig Gen
Chief of Staff

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STRATEGIC ARMY CORPS

National Guard Replacement Units (U)

AAA Group, HHB

UNIT

211th, Mass
212th, N.Y.
234th, Calif

DEFENSE

Boston-Providence
New York
Los Angeles

AAA Det (Opr)

173d, Mass

Boston-Providence

AAA Bn (90mm Gun)

156th, Del
210th, N H
286th, Wash **
337th, Pa
685th, Mass
713th, S C
744th, N H

Washington-Baltimore
New York
Seattle
Pittsburg
Boston-Providence
Washington-Baltimore
New York

AAA Bn (75mm Gun)

300th, Mich
464th, Ala **
950th, Ga

S S Marie
Savannah River
Savannah River

Slg Det (RM) Type E

116th, Ia
123d, Del
151st, Va
156th, Ala **
157th, Ala *
356th, Mass
373d, Pa
405th, Wash
420th, Ga

Washington-Baltimore
Washington-Baltimore
Norfolk
New York
S S Marie
Boston-Providence
Pittsburg
Seattle
Savannah River

* Recommended Units
** Non SSF

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DISPOSITION FORM

14

NO.	SUBJECT	SECURITY	CLASSIFICATION (If any)
Chief of Staff	FROM	DATE	COMMENT NO. 1

1. This Headquarters has been advised that the following information was received from 27th AFHQ, Saigon, on 20 December 1957:

2. The message directed the reorganization of the 1st Airborne Division, now located at Saigon, by the transfer of the 1st and 2nd Skyweeper Battalions to the 27th AFHQ, Saigon, on 20 December 1957.

3. USARADCOM's plan to accomplish this reorganization is as follows:

- a. Seventh Air Force will transfer the 1st and 2nd Skyweeper Battalions to the 27th AFHQ, Saigon, on 20 December 1957.
- b. The 1st and 2nd Skyweeper Battalions will be transferred to the 27th AFHQ, Saigon, on 20 December 1957.
- c. The 1st and 2nd Skyweeper Battalions will be transferred to the 27th AFHQ, Saigon, on 20 December 1957.
- d. The two Skyweeper Battalions located at Saigon, Vietnam, are being transferred to COMAR, and will be transferred to the 27th AFHQ, Saigon, on 20 December 1957.

4. USARADCOM is also planning the transfer of the 1st and 2nd Skyweeper Battalions to the 27th AFHQ, Saigon, on 20 December 1957.

5. Plans Division has noted with interest the USARADCOM's plan to accomplish the reorganization of the 1st Airborne Division. Plans Division has noted that the 1st and 2nd Skyweeper Battalions are being transferred to the 27th AFHQ, Saigon, on 20 December 1957. Plans Division has noted that the 1st and 2nd Skyweeper Battalions are being transferred to the 27th AFHQ, Saigon, on 20 December 1957. Plans Division has noted that the 1st and 2nd Skyweeper Battalions are being transferred to the 27th AFHQ, Saigon, on 20 December 1957.

LARRY G. ALLEN
Major General, USAF
27th AFHQ, Saigon

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COPY

Quote Ref your 197 AFDA-3 740 100AL.

1. (UNCLAS) Vol 1 ARACOM units are relieved of STRAC man eff 4 Oct 57:

a. 12, 16, 20, 33, 35, 41, 69, 70, 77, 500, 606, 701 and 719
AAA Bns, 900th Gun.

b. 406, 501, 518, and 519th AAA Bns, 1200th Gun.

2. (UNCLAS) Units listed para 1 will be inactv eff 20 Dec 57.
Confirming orders fol.

3. (UNCLAS) Item contained in para 2, ref msg, is under study.
You will be notified of decision by separate msg. Pending final decision
no rpt no action will be taken concerning AAA Bns, 750th Gun.

4. UNCLASSIFIED ED 11 ARACOM units are relieved of STRAC man with the
exception of the fol units which will remain, temporarily, asg to STRAC

1st AAA Gp, 117B

AAA Bn, 750th Gun

425 AAA Bn, 750th Gun

478 AAA Bn, 750th Gun

515 AAA Ops Det

61 Sig Det Radar Maint

25 Sig Det Radar Maint

5. (UNCLAS) Request DA be furnished prior to 9 Oct 57 the desired
composition of the AN/TW-13 Radar Sec of inactv units, and the desig
of Sig to which the Radar Sec will be asg Unquote

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Quote Ref your L97 AFDA-3 TWO LOCAL.

1. (UNCLASS) Vol 1 ARACOM units are relieved of Spn Man eff 6 Oct 57:

a. 12, 16, 20, 33, 35, 41, 69, 70, 77, 510, 606, 701 and 719
AAA Bns, 90th Gun.

b. 106, 501, 510, and 519th AAA Bns, 120th Gun.

2. (UNCLASS) Units listed para 1 will be inactv eff 20 Dec 57.

Confirming orders fol.

3. (UNCLASS) Rem contained in para 2, ref msg, is under study. You will be notified of decision by separate msg. Pending final decision no rpt no action will be taken concerning AAA Bns, 75th Gun.

4. (UNCLASSIFIED) All ARACOM units are relieved of STRAC man with the exception of the fol units which will remain, temporarily, asg to STRAC

15 AAA Bn, 117B

AAA Bn, 75th Gun

425 AAA Bn, 75th Gun

478 AAA Bn, 75th Gun

515 AAA Ops Det

61 Sig Det Radar Maint

25 Sig Det Radar Maint

5. (UNCLASS) Request DA be furnished prior to 9 Oct 57 the desired composition of the AN/TWS-1D Radar Sec of inactv units, and the design of Sig to which the Radar Sec will be asg (inquote

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COPY

151

COARADCOM ENTAFB COLO

2. This headquarters will furnish Department of the Army the information requested in paragraph 5 of above quoted message. Therefore, no repeat no action by your command on paragraph 5 is requested.
3. That part of my 504 ADOCR pertaining to non-operational status of Skyweeper battalions is rescinded pending resolution of proposals in my 497 ADOAA-3 WFO.

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HEADQUARTERS
CONTINENTAL AIR DEFENSE COMMAND
Ft. Air Force Base
Colorado Springs Colorado

AFMCL 395

22 NOV 57

SUBJECT: Elimination of National Guard M-Day Gun and Skysweeper Units
from the CONUS Air Defense Task Organization (S)

TO: Commander-in-Chief
Continental Air Defense Command
Ft Air Force Base
Colorado Springs, Colorado

1. The enclosed draft letter, subject: Elimination of National
Guard M-Day Gun and Skysweeper Units from the CONUS Air Defense Task
Organization (S), has been prepared for forwarding to Department of
the Army.

2. Your concurrence in the recommendations listed in paragraph
7 of the draft letter is requested.

FOR THE COMMANDER:

DUPLICATE

1 Incl
Draft ltr, Subj.
Elimination of
National Guard
M-Day Gun and
Skysweeper Units
from the CONUS
Air Defense Task
Organization (S).

D. B. JOHNSON
Brig Gen. GS
Chief of Staff

152

ADGCL 125, Hq USARACOM, [unclear] Subj: 2 [unclear] [unclear]
Guard M-Day Gun and Sky-sweeper Units from the CONUS Air Defense Task
Organization (S)

NOOPN [unclear] 14 November 1957

Hq North American Air Defense Command, Ent Air Force Base, Colorado

TO: Commanding General, United States Army Air Defense Command,
Ent Air Force Base, Colorado

This headquarters concurs with the recommendations listed in
paragraph 7 of the attached draft letter, subject, 2 [unclear] of
National Guard M-Day Gun and Sky-sweeper Units from the CONUS Air
Defense Task Organization (S).

FOR THE COMMANDER-IN-CHIEF:

1 Incl
/s/

MARSHALL S. CARTER
Major General, USA
Chief of Staff

MEMORANDUM FOR RECORD:

- 1. Recommended in paragraph 7 of the attached draft letter that:
- a. National Guard M-Day Gun and Sky-sweeper Units be transferred from the CONUS Air Defense Task Organization to the [unclear]
- b. National Guard M-Day Gun and Sky-sweeper Units be supported and maintained as required in support of the revised Department of Army M-Day Gun and Sky-sweeper Plan for the CONUS Air Defense Task Organization.
- 2. Concurred in the decision outlined in the attached draft letter; a copy of which is attached to this M/R.

OFFICE OF THE ASSISTANT CHIEF OF STAFF
FOR AIR DEFENSE
NORTH AMERICAN AIR DEFENSE COMMAND
WASHINGTON, D. C.

OFFICE OF THE ASSISTANT CHIEF OF STAFF

FOR AIR DEFENSE

22 November 1957

TO: Chief of Staff
Assistant Chief of Staff

For your information, the following correspondence has been received:

From: USARADCOM Date: 22 Nov 57

Classification: SECRET File No: 37-13942 Response: 6 Dec 57

Action Officer: [redacted]

SUMMARY:

USARADCOM prepared a draft letter, Subject: Elimination of National Guard M-Day Gun and Skysweeper Units from the CONUS Air Defense Task Organization (S), for forwarding to DA. The have asked for our concurrence in the recommendations listed in paragraph 7 of the draft letter. These recommendations are:

- (1). National Guard M-Day gun and Skysweeper units to be eliminated from the CONUS Army air defense task organization.
- (2). National Guard group and brigade headquarters and supporting units or detachments not required in support of the revised Department of Army Mobilization Plan to be eliminated from the CONUS Army air defense task organization.

UNCLASSIFIED

152

HEADQUARTERS
UNITED STATES ARMY AIR DEFENSE COMMAND
Ent Air Force Base
Colorado Springs, Colorado

ADOCL 325

SUBJECT: Elimination of National Guard M-Day Gun and Skysweeper Units
from the CONUS Air Defense Task Organization (S)

TO: Deputy Chief of Staff for Military Operations
Department of the Army
Washington 25, D. C.

1. References:

- a. Letter NG-AROT 325-A (AAA) dtd 7 Sep 1955, Subject: Task Organization for National Guard AAA Units w/changes 1, 2, 3, 4, 5.
- b. DA, Mobilization Troop Program (U) of the Army, Fiscal Year 1957, dtd 1 Sep 1956.

2. The missions presently assigned National Guard M-Day gun and Skysweeper units are to provide replacement for active Army gun and Skysweeper units, to augment established defenses, or to establish new defenses. All CONUS active Army gun units will be deactivated by 20 December 1957 and therefore the National Guard M-Day units are no longer needed as replacements for active Army gun units.

3. It is the opinion of this headquarters that the National Guard M-Day gun and Skysweeper units will not contribute sufficiently to the air defense effort to warrant the expenditure of funds and manpower required to maintain them for the following reasons:

152

ADGCL 305

SUBJECT: Elimination of National Guard M-Day Gun and Skysweeper Units from the CONUS Air Defense Test Organization (S)

- a. The addition of gun units to a NIKE defense would increase the effectiveness of these defenses only slightly against the modern threat and then only at lower altitudes.
- b. In the establishment of new defenses, guns and/or Skysweepers will provide inadequate defense against modern enemy aircraft or missiles. At most, such weapons serve only to reduce the accuracy of bombers.
- c. The time required for an M-day unit to attain an on-site operational capability after alert is too great to permit the units to participate in the critical phase of the air battle.
- d. It is recognized that it may be desirable for the National Guard to retain certain gun or Skysweeper battalions, where suitably located geographically, for the purpose of providing organizational integrity until later conversion to missile units. The detailed deployment plans on which the National Guard can base this determination are now under preparation by this headquarters.
- e. In view of the recent directive to inactivate all ARADCOM gun battalions in the Continental United States, it appears that the Department of Army Mobilization Plan requires a revision to indicate a greatly decreased number of gun battalions to be redeployed overseas on HSI and HSR. Such revision will also lead to a considerable setback in the scheduled redeployment overseas of ARADCOM group and brigade headquarters.

UNCLASSIFIED

152

ADGCL 325

SUBJECT: Elimination of National Guard M-Day Gun and Skysweeper Units from the CONUS Air Defense Task Organization (S)

which, in turn, decreases the requirement for National Guard group and brigade headquarters in being on M-Day.

6. Although not specifically a part of this problem, a related item is the training support for National Guard units. The deactivation of all active Army gun units has eliminated the ARADCOM source of personnel for training support of any National Guard gun units. Such personnel would have to be provided to this command by Department of the Army. The relief of National Guard gun and Skysweeper units from the Continental Air Defense task organization would eliminate the requirement for ARADCOM training support.

7. In view of the foregoing it is recommended that:

a. National Guard M-Day gun and Skysweeper units be eliminated from the CONUS Army air defense task organization.

b. National Guard group and brigade headquarters and supporting units or detachments not required in support of the revised Department of Army Mobilization Plan be eliminated from the CONUS Army air defense task organization.

8. ^{NOA90} CINCOSMAD concurs.

FOR THE COMMANDER:

Copy furnished:
CINCPAC
CNSC ^{NOA90}

153

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31 Aug 27

502 x 503 READING FILE

CON021 HQA009AGC012
FR RJEDEN
DE RJKDAG 12C
R 310320Z
FM CINCAL ELMENDORF AFB ALASKA
TO RJEDEN/CINCONAD ENT AFB COLORADO
ZEN/COMAAC ELMENDORF AFB ALASKA

CTION: COOP
INFO: COOP: & COOPD
X7-10377

BT
UNCLASSIFIED // FROM OPN 5309.
PART I X D/A HAS INFORMED THIS HQ THAT TENTATIVE AUTHORIZED STRENGTH OF US ARMY ALASKA WILL BE REDUCED TO 12023 BY END FY 58 X PRESENT AUTHORIZED STRENGTH IS 15960 X PHASED REDUCTION OF ARMY FORCES IS PLANNED TO BEGIN OCT 57 X ANTIACRAFT FORCES NOW 2640 X PLANNED REDUCTION WILL REDUCE THESE FORCES TO 1200 X AA REDUCTION WILL BE ACCOMPLISHED BY INACTIVATION OF TWO AAA BATTALIONS (75MM SKYSWEEPER) OCT 57, ONE AAA BATTALION (120MM GUN) FEBRUARY 58, AND TWO AAA GROUP HEADQUARTERS APRIL 58 X AAA REMAINING IN ALASKA AFTER PLANNED REDUCTION WILL CONSIST OF TWO 120 MM GUN BATTALIONS: ONE AT ELMENDORF AND ONE AT EIELSON X D/A PLANS REPLACEMENT OF THESE TWO 120MM BNS

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PAGE TWO RJKDAG 12C
 WITH TWO NIKE BNS BY NOV 58 X DYA ~~PLAN NOW DELETED~~ THIS NIKE BN WHICH
 WAS PROGRAMMED TO OCCUPY SITES ~~LOVE FOX AND SUGAR~~ IN DEFENSE
 OF LADD AFB IN NOV 59 X CINCAL CONCURS IN PLANNED REDUCTION IN ALASKA,
 WITH ONE EXCEPTION: NIKE SITE LOVE NU OF LADD SHOULD BE CONSTRUCTED
 TO COMPLEMENT THE FOUR NIKE SITES AT EIELSON AFB X ONE NIKE BTRY AT
 SITE LOVE WILL RAISE LEVEL OF EIELSON DEFENSES TO ACCEPTABLE STANDARD
 OF 10 AIRCRAFT KILL PROBABILITY X LADD-EIELSON DEFENSES WERE
 ORIGINALLY DESIGNED AS AN INTEGRATED DEFENSE X ELIMINATION OF
 SITE LOVE WOULD SERIOUSLY DEGRADDE EFFECTIVENESS OF SITES AT EIELSON X
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REPTING ABOVE AND ALL AFTER
 SITE LOVE WOULD SERIOUSLY DEGRADE EFFECTIVENESS OF SITES AT EIELSON X
 SIRE LOVE AND THE FOUR EIELSON SITES WILL PROVIDE ALL THE AA DEFENSE
 APPROPRIATE FOR LADD UNDER CURRENT AND FORESEEN BUDGETARY CONDITIONS X
 PART II X SUMMARIZED BELOW IS AA FORCE STRUCTURE RECOMMENDED FOR
 ALASKA BY CG USARAL AND CONCURRED IN BY THE CINCAL:

- 1. FY 5C
 - A. ELMENDORFNAFB
 - 1 120 MM GUN BN
 - 1 OPERATIONS DET.
 - 1 RADAR MAINT DET.
 - 1 RCAT DET
 - B. EIELSON AFB AREA
 - 1 120 MM GUN BN
 - 1 OPERATIONS DET
 - 1 RADAR MAINT DET
- 21 SPACES REQUIRED FOR NIKE CONVERSION

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when fit in)

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PAGE THREE RJKDAG 12C

2. FY 59 (NOV 58)

A. ELMENDORF AFB AREA

1. AAA BN HQ (AUGMENTED)

1 OPNS DET.

1 RCAT DET.

1 NIKE BATTERY, DUAL, (AUGMENTED)

2 NIKE BATTERIES, SINGLE, (AUGMENTED)

B. EIELSON AFB AREA

1. AAA BN HQ (AUGMENTED)

1 OPNS DET.

4 NIKE BATTERIES, SINGLE (AUGMENTED)

3. FY 60 (NOV 59)

ADD 1 NIKE BTRY TO EIELSON BY (SITE LOVE NW OF LADD) X

PART III. X REQUEST YOUR APPROVAL OF FORCE STRUCTURE CONTAINED IN

PART II X THIS STRUCTURE SUPERSEDES THAT SHOWN IN ADRP 57-66X

BT

31/0322Z AUG RJKDAG

A-- PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION--
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME-GROUP
PRIOR TO DECLASSIFICATION

//ADVANCE COPY HAS BEEN DELEVERED TO COC//

154

23

ROUTINE
ROUTINE

X

AF

OPN 5309

SECRET

CINCPAC

CINCPAC ELMENDORF AFB ANCHORAGE ALASKA

INFO: CHIEF OF STAFF, USAF, WASH D C

CG USARADCOM ENT AFB COLORADO SPRINGS COLO (C/ARIDEN)

SECRET FROM HQOPR 1001

Chief of Staff, USAF, as Executive Agent for HQAF. Reference CINCPAC message OPN 5309, 31 August. This message in three parts. Part I.

Considering threat, 55 per cent reduction of AA forces against 19 per cent reduction of other USARAL forces considered disproportionate.

Part II. Concerns in Part III based on understanding that

Department of Army plans third Nike battalion to be operational in FY 61 rather than FY 60. If not correct this headquarters recommends

in deletion of third Nike battalion. Part III. This headquarters

will concur with CINCPAC's proposed plan following USARAL force

reduction outlined in reference message to: A. Inactivate two

sky-sweeping battalions and one of three gun battalions in February 56.

B. Inactivate two Group Headquarters in April 56. C. Convert two

13 2130

SKP 1977

HQOPR

LT COL O E GRIEST

2845

1

2

J W LINDOX
LCDR, USN
Asst Adjutant

This correspondence is classified in accordance with the AFM 70-1, in its unprocessed state.

Record Evaluation: Present, Long Term Value, Temporary Only

13 September 1957

MEMORANDUM TO GENERAL PERSH

SUBJECT: Reduction of Army Forces in Alaska

1. KING's message of 11 September 1957 and his proposed reply were shown to ARBODM. In addition, the following general comments were received:

a. ARBODM agreed that the reduction of our forces by 15% was disproportionate to reduction of 20% for other Army Forces in Alaska.

b. ARBODM did not agree with remainder of KING's reply.

(1) ARBODM did not consider it necessary or appropriate for NORAD to concern with detailed force structure as requested in Part II of KING's message. This office believes that there is no harm done by ARBODM commenting on this item and we should not encourage subordinate commands consulting NORAD, since we are usually not consulted when we consider we should comment.

(2) ARBODM does not believe that we should conduct with any of force reduction studies that would require 1500 requires three gun battalions and 1000 requires 1000 requires three gun battalions. There is no harm done by ARBODM commenting on this item and we should not encourage subordinate commands consulting NORAD, since we are usually not consulted when we consider we should comment.

JAMES B. STANWELL

Chief, Plans Division

DISPOSITION FORM

SECURITY CLASSIFICATION (if any)

FILE NO.

SUBJECT

Reduced Army Strength in Alaska

TO

C/S

FROM

DCS/PSO

DATE 9 Sep 57

COMMENT NO. 1

Lt Col Griest/rg/2845

1. This headquarters has received a message from CINCAL (OPN 6309 at Tab A) which states that CINCAL plans the following Army force reductions in accordance with Department of Army's tentative authorized strength for U.S. Army Alaska by the end of FY 1958:

	Total U.S. Army Alaska	AA Forces	Other Army Force
Present Strength	15,960	2,640	13,320
Proposed Strength	12,023	1,200	10,823
Proposed Reduction	3,937	1,440	2,497
Percent of Reduction	24.66%	54.5%	18.7%

2. In accordance with these strength reductions, CINCAL plans:
 - a. The two Skysweeper battalions inactivated in February 1958.
 - b. One of the three 120mm Gun battalions inactivated in February 1958.
 - c. The two Corps Headquarters to be inactivated in April 1958.
3. The remaining two 120mm Gun battalions (one at Elmendorf, one at Eielson) are planned for conversion to Nike battalions by November 1958. CINCAL states that I/A plans are to delete the third Nike Battalion programmed to occupy sites in Ladd AFB area in November 1959. Headquarters USARADCOM has learned informally from DIA that plans are to program this third Nike Battalion in FY 1961 rather than FY 1960. CINCAL concurs, except for recommending that LOVE site of the third Battalion be constructed and manned, probably as a fifth battery for the Nike Battalion at Eielson AFB (Tab B).
4. The Joint Chiefs of Staff in JCS 1499/298, 19 November 1956, approved three Nike Battalions for Alaska to be operational by 1960.
5. CADOP 56-56 establishes a requirement for three Nike Battalions in Alaska. Two battalions (one at Elmendorf and one at Ladd-Eielson) to be operational in FY 1959 and the third battalion at Ladd-Eielson to be operational in FY 1960.

SUBJECT Reduced Army Strength in Alaska

TO C/S

FROM DCS/P&O

6. At Tab C, for approval, is a proposed reply to CINCAL which concurs with CINCAL's proposed plan and the resulting force structure (Part II, CINCAL message OPN 5309 at Tab A) if the Department of Army plans for the third Nike Battalion to be operational in FY 61, but nonconcurs in the "deletion" of the third Nike Battalion.

HARVEY T. ALNESS
Major General, USAF
DCS/Plans & Operations

FM CINCAL ELMENDORF AFB ALASKA
TO RJEDEB/CINCONAD ENT AFB COLORADO
ZEN/COMAAC ELMENDORF AFB ALASKA

UNCLASSIFIED

FROM OPN 5309.

PART I. D/A HAS INFORMED THIS BQ THAT TENTATIVE AUTHORIZED STRENGTH OF US ARMY ALASKA WILL BE REDUCED TO 12023 BY END FY 58. PRESENT AUTHORIZED STRENGTH IS 15960. PHASED REDUCTION OF ARMY FORCES IS PLANNED TO BEGIN OCT 57. ANTLAIRCRAFT FORCES NOW 2640. PLANNED REDUCTION WILL REDUCE THESE FORCES TO 1200. AA REDUCTION WILL BE ACCOMPLISHED BY INACTIVATION OF TWO AAA BATTALIONS (75MM SKYSWEEPER) OCT 57, ONE AAA BATTALION (120MM GUN) FEBRUARY 58, AND TWO AAA GROUP HEADQUARTERS APRIL 58. AAA REMAINING IN ALASKA AFTER PLANNED REDUCTION WILL CONSIST OF TWO 120MM GUN BATTALIONS; ONE AT ELMENDORF AND ONE AT EIELSON. D/A PLANS REPLACEMENT OF THESE TWO 120MM BNS WITH TWO NIKE BNS BY NOV 58. D/A PLAN NOW DELETES THIRD NIKE BN WHICH WAS PROGRAMMED TO OCCUPY SITES GEORGE, LOVE FOX AND SUGAR IN DEFENSE OF LADD AFB IN NOV 59. CINCAL CONCURS IN PLANNED AA REDUCTION IN ALASKA, WITH ONE EXCEPTION: NIKE SITE LOVE NW OF LADD SHOULD BE CONSTRUCTED TO COMPLEMENT THE FOUR NIKE SITES AT EIELSON AFB. ONE NIKE BTRY AT SITE LOVE WILL RAISE LEVEL OF EIELSON DEFENSES TO ACCEPTABLE STANDARD OF 10 AIRCRAFT KILL PROBABILITY. LADD-EIELSON DEFENSES WERE ORIGINALLY DESIGNED AS AN INTEGRATED DEFENSE. ELIMINATION OF SITE LOVE WOULD SERIOUSLY DEGRADE EFFECTIVENESS OF SITES AT EIELSON. SITE LOVE AND THE FOUR EIELSON SITES WILL PROVIDE ALL THE AA DEFENSE APPROPRIATE FOR LADD UNDER CURRENT AND FORESEEN SECURITY CONDITIONS. PART II. SUMMARIZED BELOW IS AA FORCE STRUCTURE RECOMMENDED FOR ALASKA BY CC USARAL AND COVERED IN BY THE CINCAL:

COPY

154

1. FY 58

A. ELMENDORF AFB

- 1 120MM GUN BN
- 1 OPERATIONS DET.
- 1 RADAR MAINT DET.
- 1 RCAT DET

B. EIELSON AFB AREA

- 1 120MM GUN BN
- 1 OPERATIONS DET
- 1 RADAR MAINT DET

21 SPACES REQUIRED FOR NIKE CONVERSION

2. FY 59 (NOV 58)

A. ELMENDORF AFB AREA

- 1 AAA BN HQ (AUGMENTED)
- 1 OPNS DET.
- 1 RCAT DET.
- 1 NIKE BATTERY, DUAL, (AUGMENTED)
- 2 NIKE BATTERIES, SINGLE, (AUGMENTED)

B. EIELSON AFB AREA

- 1 AAA BN HQ (AUGMENTED)
- 1 OPNS DET.
- 4 NIKE BATTERIES, SINGLE (AUGMENTED)

3. FY 60 (NOV 59)

ADD 1 NIKE BTRY TO EIELSON BY (SITE LOVE NW OF LADD). PART III. REQUEST
YOUR APPROVAL OF FORCE STRUCTURE CONTAINED IN PART II. THIS STRUCTURE SUPER-
SEDES THAT SHOWN IN ADRP 57-66X

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CLASSIFIED MESSAGE

155

CONAD Adjutant

29 Aug 57

READING FILE

CONAD HIST FILE
502 x 512

PRIORITY

ACTION: ~~XXXX~~ COOP

INFO: COORU

47-10264

CONO1AHCA006GCOO
PP RJEDEN
PE RJKDAG 50
P 290300Z
FM CINCAL ELMENDORF AFB ALASKA
TO ZEN/CG USARAL FOR RICHARDSON ALASKA
INFO ZEN/COMAAC ELMENDORF AFB ALASKA
RJEDEN/CINCONAD ENT AND GOLF
BT

UNCLASSIFIED FROM OPN 5308
YOU ARE AUTHORIZED TO RELIEVE THE 450TH AAA BN
(75 MM GUN) AND THE 867TH AA BN (75 MM GUN) AT ALL
AIR DEFENSE MISSIONS IN ALASKA IMMEDIATELY TO PERMIT
THEIR PREPARATION FOR INACTIVATION.
BT
29/0308Z AUR RJKDAG

A-- PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION--
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME-GROUP
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ACTION COPY

19 Oct 1957

PRIORITY

NORO 012

A-337-15
P 190300Z

FM CINCAL ELIENDORF AFB ALASKA
TO USRA/ FT RICHARDSON ALASKA
INFO CINCNORAD ENT AFB COLO
COM AEC ELIENDORF AFB ALASKA
BT

UNCLASSIFIED

ACTION: 11000P
INFO: 11001G
17-12358

FM OPN 5354. YOU ARE AUTHORIZED TO RELIEVE THE
3RD BATT BN (120 MM GUN) OF ALL AIR DEFENSE MISSIONS IN ALASKA
IMMEDIATELY TO PERMIT PREPARATION FOR INACTIVATION.
BT

AC--PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY "3" ENCRYPTION-
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME-GROUP PRIOR
TO DECLASSIFICATION--NO UNCLASSIFIED REFERENCE IF DATE-TIME-GROUP
IS QUOTED.

leg
V. Rye
W. Rye

ACTION COPY

JOINT MESSAGEFORM

SECURITY CLASSIFICATION UNCLASSIFIED
D

157

APPROPRIATE ABBREVIATIONS FOR SYMBOLS AND REFERENCES

[Redacted Box]

420

PRIORITY	TYPE MSG RORR MULT SINGLE	SYMBOL	CLASSIFICATION OF REFERENCE
ACTION INFO FROM	ROUTINE		
			SECRET INSTRUCTIONS

TO: AEC CANADIAN STAFF JEREB OTTAWA

INFO: CMC CEN COORDINATING STAFF OTTAWA ONTARIO CANADA

CANADIAN OTTAWA ONTARIO CANADA

UNCLASSIFIED

NY 000P-1 X 055 . SECURITY. This message in two parts. Part I. Reference NY 000P-1 X03-19 Mar 57. In addition to the two bases mentioned in referenced message Part I, the following bases now have MB-1 capabilities: Griffiss AFB NY, Otis AFB Mass, Dover AFB Del; Bunker Hill AFB Ind, Paine AFB Wash; and Ladd AFB Alaska. Part II. Previous operational restrictions pertaining to the employment of the MB-1 rocket are rescinded effective this date. MB-1 may now be flown in the U. S. during condition of CONAD Air Defence Readiness or higher conditions of alert at the discretion of CONAD Division or higher commanders and will be employed in accordance with CONAD Regulation 55-6 quote Rules of Engagement unquote. Pending further agreements between U.S.-Canada, the MB-1 will be employed

DUPLICATE

DATE	TIME
27 NOV	1600
NOV	57

SYMBOL	SIGNATURE
NY 000P-1	[Signature]
TYPED NAME AND TITLE	TYPED NAME AND TITLE
PHONE	
NAME	
SECURITY CLASSIFICATION	
UNCLASSIFIED	

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION

157

FROM

CINCPAC

in or over Canada only during periods of Air Defense Warning Yellow or Red. All Commanders have been advised to use extreme caution in employing the MB-1 below 5000 feet to minimize damage and hazard to ground installations and personnel.

XXXXXXXXXXXXXXXXXXXX

M R Letter received from the Chief of Staff USAF re: Subj (Confidential) Authorization for Employment of the MB-1 Rocket dated 18 Nov 57, Pamphlet C-7-2634 signed by Lt Gen G. H. ... USAF Deputy Chief of Staff, Plans and Programs, authorized the removal of previous restrictions relative to use of the MB-1. Previous restrictions were: Scrambled against known hostile A/C only employed against known hostile A/C only not to be fired below 5000 feet above the ground. This letter advises that the JCS have been informed of this authority given CINCPAC.

SYMBOL

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INITIALS

JOINT MESSAGEFORM

SECURITY CLASSIFIC

UNCLASSIFIED

158

SPACE IS TO BE RESERVED FOR COMMUNICATION CENTER

420

PRECEDENCE	TYPE MSG (1-4)	ACCOUNTING	ORIG OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION ROUTINE	BOOK MULTI SINGLE	SYMBOL		
INFO ROUTINE				
FROM CINCORAD				

SPECIAL INSTRUCTIONS

TO:

- COMUSMACV BMT AFB COLO (COURIER)
- COMAFFOR STEWART AFB NEWBURGH NY
- COMAFOR HAMILTON AFB CALIF
- COMAFOR Richard S. Brown #86 (Cincinnati) - 1111*
- INFO: OJFS DEAF WASH DC
- CINCSAC OFFUTT AFB NEBRASKA
- CINCPAC ELIZABETH AFB ANCHORAGE ALASKA
- CINCPAC PEARL HARBOR HI
- CINCLANT NORFOLK VIRGINIA
- (C-USAERADCOM BMT AFB COLO (COURIER)
- COMNAVFORCOWAD (COURIER)
- COMSACADD PEPPERWELL AFB NEWFOUNDLAND
- ~~COMSACADD RICHMOND-GEORGE AFB ORTHOVIER MD~~ *1111*
- COMSACADD MCCORD AFB WASH
- COMSACADD ROSLYN AFB ROSLYN NY
- COMSACADD NORSTUE AFB CALIF
- COMSACADD HAMILTON AFB CALIF
- COMSACADD WILLOW BUN AIRPORT BELLEVILLE MISS
- COMSACADD SHELBY AFB ST PAUL MISS

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COMMUNICATION CENTER
15 DEC 68

DATE	TIME
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MONTH	YEAR
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TYPED NAME AND TITLE (Members of staff)

PHONE **Maj Stiebel** PAGE NR. NR OF PAGES

SECURITY CLASSIFICATION

SIGNATURE

TYPED (or printed) NAME AND TITLE

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158

COM32CADD
COM58CADD
COM WURTSMITH
COM HAMILTON
COM OXNARD
COM DOVER
COM MAMSTROM
COM GRIFFISS
COM ELLSWORTH
COM OTIS
COM PAINE
COM BUNKER HILL

UNCLASSIFIED

SECRET FROM NOOP-T X 056 . For Chief of Staff, USAF, as Executive Agent for NORAD. Previous operational restrictions as contained in Para 3b(2), Annex E, ADUS 1-57, with respect to use of MB-1 rockets are rescinded effective this date. In lieu thereof the following instructions apply. MB-1 weapons will be flown on fighter interceptor A/C only during conditions of Air Defense readiness or higher conditions of alert at the discretion of the CONAD Division Commander or higher authority and will be employed in accordance with CONAD Regulation 55-6, Quote Rules of Engagement Unquote. for destruction of hostile targets. Pending receipt of further authority from Canada, the flight of A/C armed with MB-1 weapons over Canada will be only during periods of Air Defense Warning Yellow or Red. All commanders are directed to exercise extreme caution in employing the MB-1 below 5000 feet to minimize damage and hazard to ground installations and personnel.

M/R Letter received from the Chief of Staff USAF ref Subj dated 19 Nov 57, Fanfold #C7-2654 signed by L/Gen Gerhart USAF Dep Chief of Staff, Plans & Programs, authorized the removal of previous restrictions relative to use of the MB-1. Previous restrictions were: Scrambled against known hostile A/C only, employed against known hostile A/C only, not to be fired below 5000 ft. above the ground.

UNCLASSIFIED

UNCLASSIFIED

159

28 October, 1957.

NR010

SUBJECT: Employment of the MB-1 Air-to-Air Rocket in NORAD Operations

TO: Chief of the Air Staff, RCAF
as Executive Agent for NORAD
Ottawa, Canada

1. Reference is made to the Inbaris Overflight Agreement dated 28th June, 1957, between Canada and the United States, regarding the terms and conditions under which the MB-1 air-to-air rocket may be carried by United States military aircraft over Canadian territory. The present agreement is effective until 1 July, 1958.

2. Since the MB-1 entered the inventory such experience has been gained over the past eight months in employment of this weapon. Scientific advisory discussions and studies have been carried out and the results of various tests conducted regarding contamination and decontamination in case of an accident involving the MB-1 have been reviewed. The conclusions of all this effort have been highly satisfying and no evidence has emerged which reflects doubt on the effectiveness of the weapon or the safety of its handling and operation, subject to safety precautions now in effect.

3. F-89A aircraft at present comprise the MB-1 defensive force, and increasing numbers of MB-1 armed aircraft are steadily coming into service. When the above-mentioned agreement was negotiated the USAF MB-1 equipped aircraft were concentrated mainly in the territory bordering on the Great Lakes and this fact was mentioned in the Agreement. Now, however, MB-1 equipped squadrons are being deployed throughout the continental United States and Alaska, including the territory extending along the Canada - United States international boundary. Consequently, it is now desired to obtain Canadian agreement to the operation by NORAD of USAF aircraft in the territory bordering the entire length of the international boundary. In accordance with the present agreement, MB-1 armed aircraft will be flown only on the declaration of a state of Air Defense Readiness and thus would enter Canadian air space only in the event of a Yellow or Red Warning.

DUPLICATE

[Handwritten signature]
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- 2 -

4. NORAD also now desires that Canadian approval be given for the USAF air defense squadron of F-89J fighters based at Goose Bay in Labrador to be armed with the MB-1 rocket. This request is made because of the availability now of MB-1 armed aircraft to defend this highly important northern base which is particularly vulnerable to air attack due to its isolated location beyond the contiguous air defense combat zone. It is pointed out that the RCAF Air Defense Commander exercises operational control over this USAF air defense fighter squadron at Goose Bay, the operational employment of which is in accordance with NORAD agreed procedures. It is also pointed out that storage facilities for atomic weapons already exist at Goose Bay in connection with USAF Strategic Air Command operations already agreed between Canada and the United States.

5. This Command fully appreciates the natural sensitivity with respect to the employment of atomic weapons in or over Canadian territory, but this request is advanced with confidence based on the adequate and satisfactory experience now accumulated with the MB-1 weapon, not only with respect to its high degree of effectiveness generally but also with respect to its safety. In short, to arm the USAF air defense aircraft at Goose Bay with the MB-1 rocket will significantly increase the security of this important operational base, to the common interests of Canada and the USA in the air defense of North America.

6. With the creation of the North American Air Defense Command recently by Canada and the USA, it is the hope of this Command that the matters raised in this letter can be finalized directly with the Canadian military authorities rather than by resort to the Canadian External Affairs - US State Department channels previously followed.

7. Your early consideration of this request would be much appreciated by the Commander-in-Chief.



G.R. SEEMAN
Air Marshal, RCAF
Deputy Commander-in-Chief

cc: C/S, USAF
as Exec Agent for NORAD

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HEADQUARTERS
UNITED STATES ARMY AIR DEFENSE COMMAND
Ent Air Force Base
Colorado Springs, Colorado

OPERATIONS DIRECTIVE
NUMBER 6

19 April 1957

STATES OF ALERT

1. Purpose. To supplement states of alert instructions published by Continental Air Defense Command.

2. General. Continental Air Defense Command has established states of alert which apply to all air defense units. This directive delineates the states of alert and establishes their application to specific antiaircraft units.

3. Definitions. a. INCREASED INTELLIGENCE WATCH -- A condition of command alertness directed by the Commander-in-Chief, CONAD (CINCONAD), when closer scrutiny and evaluation of intelligence is required.

b. States of Preparedness.

(1) NORMAL PREPAREDNESS - A degree of preparedness specified in current operations orders whereby measures are taken to provide a sustained air defense potential.

(2) INCREASED READINESS - Any degree of preparedness greater than NORMAL PREPAREDNESS but less than AIR DEFENSE READINESS whereby measures are instituted to provide increased air defense potential against an unknown or doubtful threat.

(3) AIR DEFENSE READINESS - The maximum degree of preparedness whereby all available forces are placed in a state of immediate combat readiness for a relatively short period of time.

c. AIR DEFENSE EMERGENCY - Any state of events which indicates to CINCONAD, or higher authority, that hostile action is in progress or is imminent or is sufficiently probable as to require, in the interest of national security, the implementation of any portion of approved plans and agreements for the defense of the United States. AIR DEFENSE EMERGENCY provides the legal authority for implementation of approved plans and agreements and, once established, will remain in effect for the duration of hostilities or until terminated officially by appropriate authority. Within the legal framework of AIR DEFENSE EMERGENCY, imminence of attack will be specified by conditions of air defense warning.

d. Conditions of Air Defense Warning.

Revises Operations Directive Number 7, this headquarters, 20 May 1953.

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Operations Directive Number 6

19 April 1957

(1) WARNING YELLOW - Attack by hostile aircraft is probable. (This means that hostile aircraft are enroute toward an air defense sector, or that unknown aircraft suspected to be hostile are enroute toward or are within an air defense sector.)

(2) WARNING RED - Attack by hostile aircraft is imminent or is taking place. (This means that hostile aircraft are present, or are within the immediate vicinity of an air defense sector, with a high probability of entering the sector.)

(3) WARNING WHITE - Attack by hostile aircraft is improbable. (All Clear.) NOTE: The initial declaration of an AIR DEFENSE EMERGENCY will automatically establish a condition of WARNING WHITE for purposes of Security Control of Air Traffic (SCATER), provided no higher degree of warning has been specified.

e. States of Alert. Annexes 1, 2 and 3 define, in detail, the states of alert for NIKÉ, gun and skysweeper units, respectively.

(1) RELEASED. A status that indicates that an interceptor or fire unit has been released from an air defense commitment.

(2) 3-HOUR ALERT. A degree of preparedness that requires an interceptor or fire unit to be capable of coming to "Battle Stations" alert within three hours of receipt of an alert, warning, or order.

(3) 1-HOUR ALERT. A degree of preparedness that requires an interceptor or fire unit to be capable of coming to "Battle Stations" alert within one hour of receipt of an alert, warning, or order.

(4) 30-MINUTE ALERT. A degree of preparedness that requires an interceptor or fire unit to be capable of coming to "Battle Stations" alert within thirty minutes of receipt of an alert, warning or order.

(5) 15-MINUTE ALERT. A degree of preparedness that requires an interceptor or fire unit to be capable of coming to "Battle Stations" alert within fifteen minutes of receipt of an alert, warning, or order.

(6) 5-MINUTE ALERT. A degree of preparedness that requires an interceptor or fire unit to be capable of accomplishing a tactical scramble or an effective engagement within five minutes of receipt of an alert, warning, or order.

(7) BATTLE STATIONS. A degree of preparedness that requires

19 April 1957

an interceptor or fire unit to be capable of immediately initiating a tactical scramble or an effective engagement.

- h. Procedures. a. The state of alert for individual antiaircraft fire units will be prescribed by the antiaircraft defense commander, except that the CONAD division commander concerned may direct the antiaircraft defense commander to bring antiaircraft fire units to BATTLE STATIONS upon declaration of WARNING RED. Commanders will exercise sound judgment to preclude maintaining, unnecessarily, an excessive number of fire units at the higher states of alert. The antiaircraft defense commander is authorized to prescribe varying states of alert within the AA defense depending upon the air defense situation. (For example, 25% might be at BATTLE STATIONS, 25% might be at 5-MINUTE ALERT, and 50% at 15-MINUTE ALERT.) Where practicable, fire units equipped with similar type weapons and at like states of alert should form a balanced defense.
- b. The state of alert "BATTLE STATIONS" will be used only in the event an actual attack is imminent or in progress.
- c. The state of alert of AN/TPS-1D (AN/FPS-36) radars will be as prescribed by the antiaircraft defense commander. Adequate radar coverage will be maintained from midnight to daylight. During other periods, a sufficient number of these radars to provide adequate radar coverage will be maintained on a 15-MINUTE ALERT status. In event of a declaration of an increased state of preparedness or an INCREASED INTELLIGENCE WATCH, a sufficient number of AN/TPS-1D (AN/FPS-36) radars will be maintained "on-the-air" to provide adequate radar coverage. Upon declaration of WARNING YELLOW or WARNING RED, the number of AN/TPS-1D (AN/FPS-36) radars "on-the-air" should be increased to provide overlapping radar coverage and to increase the traffic handling capacity of the system.
- d. Detailed manning requirements will be as prescribed by ARAFCON regional commanders; the prime requisite is that fire units must be capable of accomplishing the assigned mission within the time limits specified.
- e. In event of communication failure between a fire unit and its AOC, the fire unit commander will assume an appropriate state of alert commensurate with the tactical situation.
- f. Antiaircraft units at firing ranges, or away from the on-site positions for other non-tactical purposes, will be ordered to return to their tactical on-site positions, in the most expeditious manner upon declaration of an AIR DEFENSE READINESS, AIR DEFENSE EMERGENCY or a WARNING RED. Antiaircraft units may be ordered to return to their tactical

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Operations Directive Number 6

19 April 1957

on-site positions at the discretion of the ARADCOM regional commander upon declaration of a lesser state of air defense preparedness.

g. On-site National Guard Special Security Force antiaircraft units normally will be maintained at 4-HOUR ALERT until ordered in Active Federal Service. Thereupon, these units will be directed to assume the appropriate state of alert.

5. ARADCOM-CONAD Actions

ARADCOM Action

CONAD Action

Maintain states of alert prescribed in present directives and increase intelligence watch as per implementing directives.

INCREASED INTELLIGENCE WATCH

Maintain states of alert prescribed in present directives.

NORMAL PREPAREDNESS

30-MINUTE ALERT*

INCREASED READINESS

15-MINUTE ALERT*

AIR DEFENSE READINESS

5-MINUTE ALERT*

AIR DEFENSE EMERGENCY

30-MINUTE ALERT*

WARNING WHITE

5-MINUTE ALERT*

WARNING YELLOW

BATTLE STATIONS**

WARNING RED

*-After the nature of the tactical situation is ascertained, the antiaircraft defense commander may order an appropriate number of fire units to a lesser state of alert, if such is warranted.

**--After the nature of the tactical situation is ascertained and, with the concurrence of the CONAD division commander, the antiaircraft defense

Operations Directive Number 6

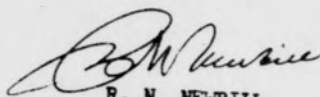
19 April 1957

commander may decrease an appropriate number of fire units to a lesser state of alert, if such is warranted.

FOR THE COMMANDER:

OFFICIAL:

D. B. JOHNSON
Brig Gen, GS
Chief of Staff



R. N. NEWBILL
Major, AGC
Asst Adjutant General

- 3 Annexes
1. States of Alert for NIKE
Fire Units
 2. States of Alert for Gun
Units
 3. States of Alert for
Skysweeper Units.

DISTRIBUTION: B, N, NG & X
CGUSCONARC (2)
Dept of State & Def, Mil Info
Control Committee, DA (20)
CGUSARAL (5)
Each NIKE, 90mm, & 120mm
Btry (3)
Each 75mm Btry (12)

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Annex 1
Operations Directive Number 6

19 April 1957

STATES OF ALERT FOR NIKE FIRE UNITS

1. RELEASED: Fire units in this state of alert are those which are temporarily released from air defense commitment; for example, units at firing ranges of participating in local disaster relief activities. Appropriate local security of the area will be maintained. Communications to AAOC (sector of defense) need not be manned. Estimated time of return to an air defense commitment will be included in the report of units in this status.
2. 3-HOUR ALERT: All fire control and launcher control equipment is operable, or capable of becoming operable within three hours. Communications to AAOC (sector or defense) are manned. NIKE ready missiles are in the magazine. Unit is prepared to assume BATTLE STATIONS within three hours.
3. 1-HOUR ALERT: All fire control and launcher control equipment is operable, or capable of becoming operable within one hour. Communications to AAOC (sector or defense) are manned. NIKE ready missiles are in the magazine. Unit is prepared to assume BATTLE STATIONS within one hour.
4. 30-MINUTE ALERT: All fire control and launcher control equipment is operable. Communications to AAOC (sector or defense) are manned. NIKE ready missiles are in the magazines. Unit is prepared to assume BATTLE STATIONS within thirty minutes.
5. 15-MINUTE ALERT: WHITE STATUS - All fire control and launcher control equipment is energized. Intrabattery communications and communications to AAOC (sector or defense) are manned. Radars are prepared for operation (low voltage only) and periodically checked. WHITE STATUS requirements are completed in the LcC area. YELLOW STATUS requirements are completed in the launcher area. Unit is prepared to assume BATTLE STATIONS in fifteen minutes.
6. 5-MINUTE ALERT: YELLOW STATUS - All communications, fire control and launcher control equipment is manned and in operation. YELLOW STATUS requirements are completed. Unit is prepared to assume BATTLE STATIONS within five minutes.
7. BATTLE STATIONS: BLUE STATUS (ON DECK) - All communications, fire control and launcher control equipment is manned and in operation. NIKE ready missiles are completely prepared for launching. BLUE STATUS requirements are completed. Unit is prepared to fire within 30 seconds.

Annex 1

19 April 1957

STATES OF ALERT FOR GUN FIRE UNITS

1. RELEASED: Fire units in this state of alert are those which are temporarily released from air defense commitment; for example, units at firing ranges and units participating in local disaster relief activities. Appropriate local security of the area will be maintained. Communications to AAOC (sector or defense) need not be manned. Estimated time of return to an air defense commitment will be included in the report of units in this status.
2. 3-HOUR ALERT: All gun and fire control equipment is operable or capable of becoming operable within three hours. Communications to AAOC (sector or defense) are manned. Ready ammunition is in revetment. Unit is prepared to assume BATTLE STATIONS within three hours. (On-site National Guard Special Security Force units will not be required to man AAOC communications and will be permitted a four-hour time limit for their initial alert in event they are called to Federal Service.)
3. 1-HOUR ALERT: All gun and fire control equipment is operable or capable of becoming operable within one hour. Communications to AAOC (sector or defense) are manned. Ready ammunition is in the revetment. Unit is prepared to assume BATTLE STATIONS within one hour.
4. 30-MINUTE ALERT: All fire control equipment and guns are operable. Communications to AAOC (sector or defense) are manned. Ready ammunition is in the revetment. Unit is prepared to assume BATTLE STATIONS within thirty minutes.
5. 15-MINUTE ALERT: All fire control equipment is energized (low voltage only) and periodically checked. Communications to AAOC (sector or defense) are manned. Ready ammunition is in the revetment. Unit is ready to assume BATTLE STATIONS within fifteen minutes. (Units equipped with SCR-584 will man fire control platoon communications.)
6. 5-MINUTE ALERT: All guns, fire control equipment and communications equipment are manned and in operation. Ready ammunition is in the revetment. Unit is prepared to assume BATTLE STATIONS within five minutes.
7. BATTLE STATIONS: All guns, fire control equipment and communications are manned and in operation. Ready ammunition containers are open and rounds partially withdrawn. Unit is prepared to engage target immediately.

19 April 1957

STATES OF ALERT FOR SKYSWELPER FIRE UNITS

1. RELEASED: Fire units in this state of alert are those which are temporarily released from air defense commitment; for example, units at firing ranges and units participating in local disaster relief activities. Appropriate local security of the area will be maintained. Communications to AAOC (sector or defense) need not be manned. Estimated time of return to an air defense commitment will be included in the report of units in this status.
2. 3-HOUR ALERT: Gun and fire control equipment is operable or capable of becoming operable within three hours. Communications to AAOC (sector or defense) are manned. Ready ammunition is in the revetment. Unit is prepared to assume BATTLE STATIONS within three hours.
3. 1-HOUR ALERT: Gun and fire control equipment is operable or capable of becoming operable within one hour. Communications to AAOC (sector or defense) are manned. Ready ammunition is in the revetment. Unit is prepared to assume BATTLE STATIONS within one hour.
4. 30-MINUTE ALERT: Gun and fire control equipment is operable. Communications to AAOC (battery or defense) are manned. Ready ammunition is in the revetment. Unit is prepared to assume BATTLE STATIONS within thirty minutes.
5. 15-MINUTE ALERT: Gun and fire control equipment is energized (low voltage only) and periodically checked. Communications to AAOC (battery or defense) are manned. Ready ammunition is in the revetment. Unit is prepared to assume BATTLE stations within fifteen minutes.
6. 5-MINUTE ALERT: Gun, fire control equipment and all communications are manned and in operation. Ready ammunition is in the revetment. Unit is prepared to assume BATTLE STATIONS within five minutes.
7. BATTLE STATIONS: Gun, fire control equipment and all communications are manned and in operation. Gun ammunition racks are loaded. Unit is prepared to engage target immediately.

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HEADQUARTERS
UNITED STATES ARMY AIR DEFENSE COMMAND
Ent Air Force Base
Colorado Springs, Colorado

CHANGE 1
OPERATIONS DIRECTIVE
NUMBER 6

12 August 1957

STATES OF ALERT

Operations Directive Number 6, 1957, is changed as follows:

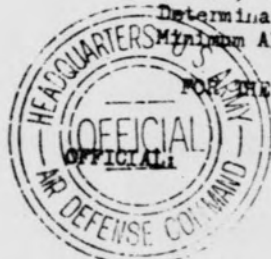
5. ARADCOM-CONAD Actions (superseded) A guide for determination of minimum antiaircraft alert requirements for varying conditions is attached as Annex 4.

3 Annexes

* * * * *

4. (Added) Guide for
Determination of AA
Minimum Alert Requirements

FOR THE COMMANDER:



D. B. JOHNSON
Brig Gen, GS
Chief of Staff

J. A. PONGONIS
Colonel, AOC
Adjutant General

1 Incl
Guide for Determination
of AAA Min Alert Rqr

DISTRIBUTION: B, N, NG & I
CGUSCONARC (2)
Dept of State & Def, Mil Info
Control Committee, DA (20)
CGUSARAL (5)
Each NINE, 90mm, & 120mm
Btry (3)
Each 75mm Btry (12)

GUIDE FOR DETERMINATION
of
MINIMUM ANTI-AIRCRAFT ALERT REQUIREMENTS

AIR DEFENSE EMERGENCY	AIR DEFENSE WARNING			States of Preparedness		States of Alert						States of Weapons Control				
	Red	Yellow	White	Normal	Increased Readiness	Air Defense Readiness	BS	5 Min	15 Min	30 Min	1 hr	3 hr	Weapons Tight	Weapons Free	Hold Fire	Discreet Fire
				X					25% (1)	25% (2)		75%	X		(3)	(3)
					X			25%		25%	25%	25%	X			
						X		25%	25%	50%			X			
X	X					X	100%							X		
X		X				X		25%	50%	25%			Prior to SCATER	After SCATER		
X			X	X					25% (1)	25% (2)		75%	X			
X			X		X			25%	25%	50%						
X			X			X		25%	25%	50%						

NOTE 1 Applies to missile units in Loring, Bos-Prov, Hart-Brid, New York, Wash-Balt, Norfolk, Fairchild, Hanford, Seattle, San Francisco, Travis, Los Angeles.

NOTE 2 Applies to missile units in Mia-Buf, Pitts, Cleveland, Detroit, Chicago, Milwaukee, Ellsworth, also all gun units.

NOTE 3 As appropriate.

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SECURITY CLASS UNCLASSIFIED

CONAD HIST FILE
512X503
REF ID: A66000

ACTION INFO	PRECEDENCE PRIORITY	TYPE MSG REQ. BY: MULT. BY: REF. BY:	ADDITIONAL SYMBOL X AP	ORIG. OR REFERS TO OTD 14071/X OPLO 12468	CLASSIFICATION OF REFERENCE SECRET
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FROM CINCONAD

TO CINCUSAFE LINDSEY AB, WIESSBADEN GERMANY

DUPLICATE

UNCLASSIFIED on COOUP-T X0154. Reference your message OTD 14071/X dated 23 August 1957. This message in four parts. Part I. On site experience by USAHADCUM units has proven the capability of the NIKE-AJAX system to effectively operate over extended periods of time. ARADCOM units have been on-site with their original equipment for over three years and these same units are effectively contributing to the present air defense role. Experience factors are available on the failure rate of various components of the NIKE-AJAX system; however, these failures are no different than those encountered in other electronic equipment. Part II. ARADCOM Operations Directive Number 6 prescribes the states of alert for the NIKE units of this command and is in consonance with COMADR 55-8 (States of Alert). Both of these publications will furnish guidance on the alert status for NIKE batteries.

SPECIAL INSTRUCTIONS

DATE	TIME
11	1530z
MONTH	YEAR
Sept	1957

SYMBOL COOUP-T
 TYPED NAME AND TITLE Major Kumpf
 PHONE 2078
 PAGE 1 OF 2 PAGES 2

SIGNATURE
 TYPED NAME AND TITLE J. W. LEDOUX
 LCDR, USN
 Asst Adjutant

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JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION

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CINCONAD

The ARADCOM directive is a workable one and provides maximum time for maintenance and training. It should be noted that with an Air Defense Warning Red, 100 percent of the NIKE units are placed on a state of alert of Quote Battle Stations Unquote. This immediate action status can be maintained over prolonged periods of time provided sufficient personnel are available for crew relief and time is made available for periodic maintenance of the system. However, to preclude personnel fatigue and excessive wear on the system components, it is desirable that a lesser status of alert be maintained whenever the air situation will permit. Part III. In view of the close similarity between the NIKE-AJAX and the NIKE-HERCULES systems, the planning factors used for the AJAX are considered valid for HERCULES. Part IV. Reference your message OPLO 12468. We are sending under separate cover a number of directives which may be of interest to you, including copies of CONAIR 55-8 (States of Alert) and ARADCOM Operations Directive Number 6 (States of Alert) which implements CONAIR 55-8.

NOTE: This message gives special instructions concerning prolonged states of alert for your attention in answer to a message received from [unclear].

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NR OF PAGES 2

SECURITY CLASSIFICATION

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COPY OF INCOMING CL. IFIED MESSAGE

162

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SEE CRYPTO SECTION BEFORE DECLASSIFYING

6 Dec 1957

CON0037

BV001

RR RFENGK RJEDDN RJEPNB

DE RFEMVB 09/07

R 061400Z

FM CANAIRDEF

TO RFENGK/USAF 64TH AIR DIV

ZEN/STN UPLANDS

ZEN/STN BAGOTVILLE

ZEN/STN SAINT HUBERT

ZEN/STN CHATHAM

ZEN/STN NORTH BAY

ZEN/STN COLD LAKE

ZEN/STN COMOX

ZEN/CANAIRVAN

ZEN/STN LAC SAINT DENIS

ZEN/STN ST MARGARETS

ZEN/STN EDGAR

INFO RJEDDN/CINC NORAD

RJEPNB/CFECD

ZEN/CANAIRHED

ZEN/SPLANSO OC-COC

READING FILE

CONAD HIST FILE

420

ACTION: CCOQP

INFO: CCGOC

X7-14591

UNCLASSIFIED

7A378 06 DEC

THE OPERATIONAL READINESS STATES FOR AIR DEFENCE FIGHTER ORCES WILL BE ALTERED FROM THE STATES SPECIFIED IN ADC OPS PLAN 2 SLANT 57 PD THE STATES SPECIFIED IN ADC OPS PLAN 1 SLNT 58 CMM EFFECTIVE 0001 HOURS Z 1 JAN 58 ARE CLN

- A. TWO SQN STATIONS PAREN RCAF PAREN WILL MAINTAIN CLN
- (1) TWO CF100 AIRCRAFT AT TEN MINUTES READINESS PD
 - (2) TEN CF100 AIRCRAFT AT SIXTY MINUTES READINESS PD
- B. COMOX WILL MAINTAIN CLN
- (1) ONE CF100 AIRCRAFT AT TEN MINUTES READINESS PD
 - (2) FIVE CF100 AIRCRAFT AT SIXTY MINUTE READINESS PD

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when filled

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SEE CRYPTO SECTION BEFORE DECLASSIFYING

PAGE TWO RFEMVB 09/07

- C. STATION CHATHAM WILL MAINTAIN FOUR SABRE AIRCRAFT AT SIXTY MINUTES READINESS FROM DAWN TO DUSK PD
 - D. 64TH CONAD DIVISION WILL MAINTAIN TWO AIRCRAFT AT FIVE INUTES READINESS AT EACH BASE AND THE MAXIMUM NUMBER OF TRMAINING AIRCRAFT AT SIXTY MINUTES PD
 - E. STATION COLD LAKE WILL MAINTAIN SIX CF100 AIRCRAFT AT THREE HOUR READINESS PD RCAF ADC AW FIGTER TWO SQN STATIONS WILL MAINTAIN A MINIMUM OF SIX AIRCRAFT CMM LOADED BUT UNARMED CMM CMM IN EXCESS OF THE TEN MINUTE AIRCRAFT PD A ONE SQN STATION WILL MAINTAIN A MINIMUM OF THREE AIRCRAFT CMM LOADED BUT UNARM
- IN EXCESS OF THE TEN MINUTE AIRCRAFT PD AIRCRAFT CMM WITH THE EXCEPTIC OF THOSE AT TEN MINUTE READINESS CMM MAY BE EMPLOYED FOR SQN TRAINING

BT

06/2200Z DEC RFEMVB

A--PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION--
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME-GROUP PRIOR TO
DECLASSIFICATION

//ADVANCE COPY OF THIS MSG HAS BEEN DELIVERED TO COC //

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JOINT MESSAGEFORM

UNCLASSIFIED

SPACE BELOW RESERVED FOR COMMUNICATION CENTER

READING FILE

403
409

PRECEDENCE		TYPE MSG (Check)		ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION	ROUTINE	BOOK	MULTI	SINGLE		
INFO				X	AF	I
FROM:	CINCOMAD		SPECIAL INSTRUCTION			

TO: COM64CADD PEPPERRELL AFB NEWFOUNDLAND

UNCLASSIFIED From COOCP-T 2104

DUPLICATE

This message in two parts: Part One. Following message was sent to ADC and to ADC CANAIRDEF with info/COMCFECP. Quote USAF Headquarters has developed a schedule for the modernization of the F-89Ds in the 64th COMAD Division area to F-89Js. These aircraft being modernized under Project Quote Bell Boy Unquote are scheduled into the aircraft production line at Northrop Aviation, Hawthorne, Calif. on a predetermined schedule to meet factory input requirements. This schedule requires that aircraft be furnished from the three 64th Air Division squadrons during the period March thru October 1957. The aircraft availability at Thule and Goose will be reduced; however, these units will still be capable of meeting their established alert commitments. The Harmon Squadron is scheduled to lose aircraft to Project Bell Boy through October, at which time they are programmed

DATE	TIME
11	1800Z
MONTH	YEAR
Jul	1957

SYMBOL
COOCP-T

TYPED NAME AND TITLE (Signature, if required)
Maj Knott/wjm

PHONE
2088

SECURITY CLASSIFICATION
UNCLASSIFIED

PAGE NO. 1

NO. OF PAGES 2

READING FILE

TYPED NAME AND TITLE
J. W. LEDOUX
LCDR. USN
Asst Adjutant

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JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION
UNCLASSIFIED

FROM

LINGONAD

to receive the F-102 aircraft. The monthly loss of the F-89Ds prior to receipt of operationally ready F-102s at Harmon will prohibit this unit from meeting its present scheduled alert commitments for a period of approximately 45 days commencing 1 October 1957. The 64th CONAD Division, by message to ADC, has stated that they cannot meet the Project Bell Boy schedule and maintain alert commitment concurrently. In order to modernize the forces at earliest practicable date, the established schedules for aircraft input to the factory must be met. This Headquarters is willing to accept a reduced air defense capability in the 64th area during the aforementioned phasing period. Commander, 64th CONAD Division is being directed to coordinate with you to establish mutually agreed upon plans for alert commitments during this phasing period. Commander CONAD Forces ECR will be apprised of the reduced alert commitments during the phasing period by Commander, 64th GADL. Unquote. Part Two: Commander 64th CONAD Division will coordinate with AOC CANAIRDEF as outlined in Part One above and will keep the Commander, CONAD Forces Eastern CONAD Region apprised of the resulting alert commitments.

M/R See reverse side.

UNCLASSIFIED

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2

SECURITY CLASSIFICATION

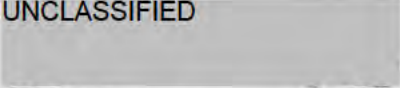
INITIAL

UNCLASSIFIED

M/R Part One of the message repeats to the Comdr, 64 CONAD Div, the information sent to the AOC RCAF/ADF and CFEGR. (Following M/R was attached to message: "Capt Colling, ADC aircraft Distribution Section, brought a copy of the attached message from 64th CONAD Division to us seeking our assistance. The schedule of aircraft input to the factory under project Ball Boy, must be set. USAF established the schedule and the factory is geared to the established input. ADC must provide the aircraft and by this message to AOC RCAF/ADC, we can tell him of reduced aircraft availability at Harmon during the phasing period until combat ready F-102s are available. The 59th at Goose merely exchange aircraft in the modernization project while the 51st at Harmon lose the aircraft completely and must wait for the arrival of the F-102s.

Part Two. Places the responsibility for coordination with AOC RCAF/ADC and CFEGR on the 64th CONAD Division commander.

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(when filled in)

COPY

164

CONO21
VB002

SEE CRYPTO SECTION BEFORE DECLASSIFYING

ACTION COPY

PP RJEFT RJEDEH RFEPFZ
DE RFETVD 14/21

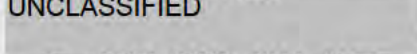
P21155Z
FM CANAIRDEF

PRIORITY

ACTION: COOP
INFO: COPO
17-9981

TO RJEFT/COMDR 64 AIR DIV PEPPERDELL AFB NFLD
INFO RJEDEH/CINCOMAD ENT AFB COLO
RFEPFZ/CANAIRDEF

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APR2 21 AUG 57

DUPLICATE

23 JUL 57 PD TEMPORARY RUNDOWN OF COMBAT CAPABILITY AT HARRISON DESCRIBED IN YOUR SIGNAL CAN BE AVOIDED BY DEPLOYMENT OF OPERATIONAL ELEMENT OF ONE CF100 SQN TO THAT BASE PD THIS WOULD PROBABLY INVOLVE 10 TO 12 AIRCRAFT CMI 24 AIRCREWS AND SUFFICIENT GROUND CREW FOR LINE SERVICING AND MINOR MAINTENANCE ONLY TOGETHER WITH NECESSARY SUPPORTING EQUIPMENT PD SUCH AN EXERCISE WOULD BE MUTUALLY BENEFICIAL FOR A NUMBER OF REASONS PD UNLESS THERE IS SOME OVERRIDING DIFFICULTY UNKNOWN AT THIS HQ CMI PROPOSE MEETING AT YOUR

PAGE TWO RFETVD 14/21
HQ AND/OR HARRISON AT EARLY DATE TO EXAMINE ADMINISTRATIVE CMI
TECHNICAL AND OPERATIONAL PROBLEMS AND TO PREPARE DRAFT OPERATIONS
ORDER FOR EXERCISE PD ADVISE PD PARA 2 PD FOR AFHQ PD TELECOM AOC
CAOPS REFERS
BT
21/1630Z AUG RFETVD

A

A-- PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY

ACTION COPY

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(when file.)

COPY OF INCOMING CLASSIFIED MESSAGE

166

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SEE CRYPTO SECTION BEFORE DECLASSIFYING

PAGE THREE RUMBLE 12
 AIR DEFENSE SCRAMBLES WERE ACCOMPLISHED; (1) BARR FIGHT SORTIES
 WERE ACCOMPLISHED; AND (2) ONLY PARTICIPATED IN FOUR AIR DEFENSE
 SYSTEMS EXERCISES EMPLOYING HIGH ALTITUDE, HIGH WGT, MULTIPLE
 TARGETS. CANSECURITY.
 BT
 04/20817 N.V. RUMBLE

A-- PARAPHRASE OF EQUIPMENT COPY PRIOR TO CATEGORY 1 ENCRYPTION--
 PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME-GROUP
 PRIOR TO DECLASSIFICATION
 //ADVANCE COPY WAS BEEN DELIVERED TO C.C//

UNCLASSIFIED

when fill n)

COPY OF INCOMING CLASSIFIED MESSAGE

167

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SEE CRYPTO SECTION BEFORE DECLASSIFYING

4 OCT 51

CONAD MUST FILE
420
CONC THRA 11 MAGC 215
RR RJEDEN
DE RJKDAG 9C

READING FILE

R 042222Z
FM CINCAL ELMENTORF AFB ALASKA
TO CINCHORAD ENT AFB COLO
BT

ACTION: NOOOP
INFO: NOOOC
W7-11646

UNCLASSIFIED

FROM OPN 5335

REFERENCE YOUR NOOOP-120/18 X THE ALASKAN AIR COMMAND IS MAINTAINING ONE F-89J ON 15-MINUTE ALERT LOADED WITH ONE MD-1 ROCKET AND ONE F-89J ON 15 MINUTE ALERT READY FOR INSTANT LOADING WITH ONE MD-1 X THIS IN EFFECT PROVIDES TWO F-89J'S ON 15 MINUTE ALERT WITH MD-1'S AND IS IN RESPONSE TO ALASKAN COMMAND REGULATION 55-11 CRE DATED 16 SEPTEMBER X

BT
042242Z OCT RJKDAG

LGV
A-- PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION--
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME-GROUP
PRIOR TO DECLASSIFICATION

//ADVANCE COPY HAS BEEN DELIVERED TO COC//

READING FILE

Copy 4 of 8 Copies

168

DECLASSIFYING
CLASSIFYING
PARAPHRASE NOT REQUIRED

25 JAN 1957

AL, 1011 CU

AGSS
A-933-23
HQASST 1230
RR RJDEN
DE RJKDAG HC
R 230107
FM CINCAL FEMENDORF AFB ALASKA
TO CINCPACFLT AFB SOLO

Action Coop
Info Coop
X7-1313

23 Jan 57
20451

UNCLASSIFIED FROM OPN 5035 YOUR COOP SIX ZERO FOUR FIVE EIGHT D
ZERO FOUR TWO THREE ZERO ZERO ZULU SUBJECT CONDITIONS OF ALERT PD
THIS MESSAGE IN ADDITION TO OUR RECENT MESSAGE OPN FIVE FIVE ONE
D THE CONDITIONS OF ALERT REQUIRED FOR ANA WEAPONS IN THE ALASKA
COMMAND AREA ARE AS FOLLOWS ONE ONE SLANT TWO OF ALL ONE TWO ZERO
MIN GUNS ON TWO ZERO MINUTE STATUS AND ONE SLANT THREE OF ALL
WEAPNEERS ON TWO ZERO MINUTE STATUS PD

23/2215Z JAN RJKDAL

A--PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY 3 ENCRYPTION--
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME GROUP PRIOR
TO DECLASSIFICATION.

10/1		SEE TO COC//
	28 Jan 57	17-1313
CINCPAC FEMENDORF AFB	23 Jan 57	msg
	Secret	

1 of msg OPN 5035

CAC

23 Jan 57 21 Jan

NEAR Box 7-6

CONAD RIST FILE

420

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UNCLASSIFIED

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ACTION	ROUTINE	CLASSIFICATION	AP 47
INFO			
FROM	CINCOMAD		

TO: LOC CANAIRDEF ST HUBERT QUEBEC CANADA

UNCLASSIFIED From COOP-T 0136. CANSECURITY.
 Reference your AP 47. Publishing of Annex B of CONAD Regulation 55-0 is not possible at this time. The subject of signals to be used to force an intercepted aircraft to change course or land has been under discussion between this headquarters and other interested agencies for over two years. Adoption and occurrence of these signals by all concerned has not been obtained. Presentation of this subject as an off-agenda item will be made at the next SCAT Board Meeting at this headquarters 24-25 September 1957. Additional information on this subject may be available subsequent to this meeting. Consideration of incorporating these signals into any CONAD regulations on Rules of Engagement promulgated in the near future should be made. Your headquarters will be kept advised.

DATE	TIME
10	1630Z
MONTH	YEAR
Aug	1957

SYMBOL	COOP-T	SIGNATURE	
TYPED NAME AND TITLE	Maj Schiebel	NAME AND TITLE	
PHONE	2078		
SECURITY CLASSIFICATION	UNCLASSIFIED		

UNCLASSIFIED

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M/R Major Schiebel talked with G/C Weiser regarding the signals to force an aircraft to change course or land. G/C Weiser advised us that their signals that are a part of ASI2/5 have not been accepted by the Dept of Transport or by Civil Aviation agencies and therefore signals should be deleted until such time as both CONAD and RCAF/ADC and/or NORAD obtain DOT and CAA or ICAD concurrence of the signals. CONAD has been unable to obtain concurrence of CAA on these signals and the necessity of having signals is continually under study. This subject to be presented to the SCAT board meeting 24-25 Sept 57.

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NOOOP-1

SUBJECT: Rules of Engagement - Guided Missiles

TO: Air Officer Commanding
Air Defence Command
RCAF Station, St. Hubert
Province of Quebec, Canada

1. Reference is made to your letter ~~86-126~~ (SP/ass 30) 8 October 1957.

2. The NORAD staff is conducting a study of Operational RCAF/ADC Air Staff Instructions and COMAD regulations to determine pertinent instructions or regulations to be reissued as NORAD regulations.

3. The suggestion as outlined in your paragraph 2 is well met and is being considered for inclusion under 'Rules of Engagement' in the new series of NORAD regulations. Prior to publication of these regulations, coordinated action will be taken with your headquarters.

4. As an interim measure, it is requested that appropriate instructions be issued to your subordinate commanders authorizing engagement of unidentified missiles in the same manner as an aircraft witnessed committing a defined hostile act. Similar instructions are being sent to all subordinate NORAD Commanders, specifying an implementation date of 15 November 1957.

FOR THE COORDINATOR-IN-CHIEF:

DUPLICATE

Major Prymire
2078
Nov 57

NY-12067
win

M/R The ~~aim~~ of JINCHUBAL and his staff documented guidance for air defense vigilance of all air defense forces. there is a threat from sub-orbit satellite-launched missiles along our coast lines. If this be the case, our operating directives should mention this threat and clearly state force responsibilities in this regard. The Canadians merely state in their letter that our Rules of Engagement directives do not provide authority for the most subordinate forces to immediately engage a missile in the same manner that they are authorized to engage a recognized hostile aircraft. As an interim measure, to insure vigilance on the part of our forces and to immediately correct a weakness in our operating directives, we must make arrangements for missile engagement to be accomplished in the same manner as hostile aircraft. To wait until a revised regulation is published may be too late.

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IN REPLY PLEASE QUOTE
5836-126 (SP)



CANADA

Department of National Defence

Royal Canadian Air Force

St Hubert, Que., 8 Oct 57.

Commander-in-Chief,
North American Air Defence Command,
Ent Air Force Base,
Colorado Springs,
Colorado, U.S.A.

Rules of Engagement - Guided Missiles

1 As a result of intelligence reports providing the enemy with a capability for attack by sea-launched guided missiles, consideration is being given to the desirability and feasibility of amending the rules of engagement which apply. At the present time, both AFI 2/5 and COMAIR 11-5 provide for engagement authority of such weapons, but at a level of command which requires time-consuming communication between an interceptor crew reporting a visual identification and the command level possessing authority to order destruction. Because of the possibility that missile cruising speeds would be higher than that of manned fighter aircraft and because missiles could be launched from positions relatively close to coastal target areas, it is possible that the time consumed in the communications mentioned above would appreciably compromise the process of interception and destruction.

2 One method which has been suggested as a solution involves the classification of sea-launched guided missiles into the same category as manned fighter aircraft witnessed committing a defined hostile act. In the latter case, such an aircraft is liable to destruction without a requirement for the witnessing aircrew to seek further authority to act. It is understood that such a classification for missiles would have to be limited to avoid, for example, our own test missiles being inadvertently engaged. It might be necessary to limit aircrew engagement authority to missiles sighted within a coastal AFI and inland toward a target area.

3 Prior to further consideration of this matter at this HQ, your comments on the necessity and feasibility of amending the present rules of engagement would be appreciated. If you consider that such amendment action is required, it is suggested that co-ordinated action between our HQs be undertaken so that related amendments can be issued simultaneously.

William
For AOC, SAC.

cc: AFHQ

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JOINT MESSAGEFORM		SECURITY CLASSIFICATION		UNCLASSIFIED	
SPACE SET/IN RESERVED FOR ORIGINAL MESSAGE					
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> RECEIVED 13 X 420 </div>					
PRECEDENCE		TYPE MSG (1-3)		CLASSIFICATION OF REFERENCE	
ACTION INFO: ROUTINE		BOOK MULTI SINGLE: A		13 X 420	
FROM: CINCUSMACV		SPECIAL INSTRUCTIONS			
TO: COMUSMACV (INFO) NAVSIBURG 3 Y COMUSMACV RICHMOND-DEBARK AFB VA COMUSMACV HAMILTON AFB CALIF INFO: CINCUSMACV (INFO) NAVSIBURG 3 Y COMUSMACV RICHMOND-DEBARK AFB VA COMUSMACV HAMILTON AFB CALIF COMUSMACV RICHMOND-DEBARK AFB VA (COMUSMACV) COMUSMACV HAMILTON AFB CALIF (COMUSMACV) COMUSMACV RICHMOND-DEBARK AFB VA (COMUSMACV)					
UNCLASSIFIED ED [redacted] from RAMP-1 <u>X039</u> . For Comdier addressee only, COMSECURITY. Reference made to COMUSMACV message regulation 30-6, Rules of engagement dated 13 May 67. Subject regulation under study for revision. As an interim measure, and as a necessity to meet the present sub or ship-launched missile threat in coastal areas, advise that hostile classification and engagement of visually sighted missiles by interceptor crews be accomplished in the same					
SYMBOL		SIGNATURE		DATE	
RAMP-1		[redacted]		4	
TYPED NAME AND TITLE		NAME AND TITLE		MONTH	
Major Payne		[redacted]		Nov	
PHONE		NR OF PAGES		TIME	
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DUPLICATE

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION

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CINCNOBAD

~~XXXXXXXXXXXXXXXXXXXX~~

manner as if it were hostile aircraft without committing
 defined hostile act. These provisions exclude those missiles
 operating in authorized missile ranges, or missiles for which
 provisions have otherwise been made. This procedure in no
 way changes command policy issued in our message COMOP-
 01974 14 8 pt 6 which is quoted in part: Quote Commanders
 of Components of COMAD will not repeat not participate in
 any inter-service or intra-service agreements concerned with
 destruction or supporting destruction of launched objects
 by friendly services. Unquote. Desires should be prepared
 to implement the aforementioned interim procedures ^{ON} 1,
 November 1974.

M/R The aim of CINCNOBAD and his staff is to provide the documented guidance
 for Air Defense operation and inspire a sense of ~~NECESSARY~~ vigilance by all
 air defense forces. Our intelligence estimates states that there is a threat
 from sub and/or surface launched missiles along our coast lines. If this be the
 case, our operating directives should mention this threat and clearly state force
 responsibilities in this regard. The Canadians have stated in a letter that our
 Rules of Engagement directives do not provide authority for the most subordinate
 forces to immediately engage a missile in the same manner that they are authorized
 to engage a recognized hostile aircraft. As an interim measure, to insure vigilance
 on the part of our forces and to immediately correct a weakness in our operating
 directives, we must make arrangements for missile engagement to be accomplished
 in the same manner as hostile aircraft. To wait until a revised regulation is
 published may be too late. Our COMAD Regulation 55-6 Rules of Engagement is under
 study for revision as a NORAD Directive to be also applicable to Canadian forces.

SYMBOL	PAGE NR	NR OF PAGES	SECURITY CLASSIFICATION	INITIALS
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*ALCOM SUPPLEMENT #2 TO
CONAD REGULATION 55-6,
dated 8 October 1955

HEADQUARTERS ALASKAN COMMAND
APO 942, Seattle, Washington
29 April 1957

OPERATIONS

Rules of Engagement and Recognition Procedures for Interceptors In Air
Defense for the Purpose of Alaska is Changed as follows:

Rules of Engagement for Aircraft Assigned or Attached to the Alaskan Command and Operating in a Coastal ADIZ Prior to a Declaration of War.....	Paragraph 1
Reports.....	2

1. RULES OF ENGAGEMENT FOR ALL AIRCRAFT ASSIGNED OR ATTACHED TO THE
ALASKAN COMMAND AND OPERATING IN A COASTAL ADIZ PRIOR TO A DECLARATION
OF WAR.

a. Prior to a declaration of a state of war, aircraft bearing
military insignia of the Soviet Union (U.S.S.R.) operating within the
Alaskan Coastal ADIZ and not committing an act of a hostile aircraft will
not be considered hostile solely because said U.S.S.R. aircraft bears the
insignia thereof. (SECRET)

b. The general policy for all aircraft under control of the
Alaskan Command, operating in the Alaskan coastal ADIZ, will be to avoid
aggressive action. If U.S.S.R. or unidentified aircraft perform obvious
identification maneuvers, aircraft will be tracked but not (repeat not)
fired upon unless specifically instructed by the Air Division Commander
(defense) or higher authority. However, when said United States aircraft
are intercepted by U.S.S.R. or unidentified aircraft and engagement appears
unavoidable, the following action by the aircraft commander will be taken.
(SECRET)

(1) Alert fire control system to operational ready. (SECRET)

(2) Take necessary evasive action. (SECRET)

(3) Should the intercepting U.S.S.R. or unidentified air-
craft take up the position to perform a firing pass and close to within
firing range, and there is no other alternative to safeguard the aircraft,
the aircraft commander is only then to engage the interceptor with the
intent to destroy. (SECRET)

*This Supplement supersedes ALCOM Supplement #2 dated 12 Apr 57, to CONAD
Regulation 55-6 dated 8 Oct 56.

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ALCOM SUPPLEMENT #2 TO
CONAD REGULATION 55-6,
dated 8 October 1956

2. REPORTS. Immediately upon attack a MAYDAY report will be transmitted on a prescribed emergency channel, relating particulars as time allows. Immediately upon landing, a flash report, with full particulars, will be transmitted to the Commander-in-Chief, Alaska, exempt from Reports Control under provisions of paragraph 7 c (3), AFR 174-1A. (UNCLASSIFIED)

BY ORDER OF THE COMMANDER-IN-CHIEF:

OFFICIAL:

T. R. STOUGHTON
Brigadier General, USA
Chief of Staff

John S. Linn
JOHN S. LINN
Major, USAP
Dep Adj Gen

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AAC - 2
J-3, ALCOM - 2
CONAD - 2
AG File - 1

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*ALCOM SUPPLEMENT
CONAD REGULATION
dated 13 May 1957

HEADQUARTERS ALASKAN COMMAND
APO 3-7, Seattle, Washington
13 November 1957

REGULATION

Rules of Engagement

CONAD Regulation 45-6, 13 May 1957, is supplemented for the Alaskan Theater as follows:

a. DETERMINATION OF HOSTILE AIRCRAFT.

b. (1) (UNCLASSIFIED) Is on a course which, if continued, would fly to within three miles of any Alaskan land mass area of responsibility. (NOTE: Is that the Little Diomed Island (U.S.) and the Big Diomed Island (USSR) are only two and three-quarters miles apart, the above applies over the Little Diomed or within three miles to the North, South, or East of that island.)

c. ENGAGEMENT OF HOSTILE AIRCRAFT.

b. (1) (SECRET) Prior to a declaration of a state of war, aircraft bearing military insignia of the Soviet Union (USSR) operating within the Alaskan Coastal ADIZ and not committing an act of a hostile aircraft will not be considered hostile solely because said USSR aircraft bears the insignia thereof.

(2) (SECRET) The general policy for all aircraft under control of the Alaskan Command, operating in the Alaskan Coastal ADIZ, will be to avoid aggressive action, unless specifically instructed by the Air Division Commander (Defense) or higher authority. If, however, said United States aircraft are intercepted by Soviet Union (USSR) or unidentified aircraft and engagement appears unavoidable, the following action by the aircraft commander will be taken:

(a) (SECRET) Alert fire control system is operational and ready.

(b) (SECRET) If the USSR or unidentified aircraft performs obvious identification maneuvers, aircraft will be tracked but not (repeat not) fired upon.

(c) (SECRET) An aircraft commander is responsible to make every effort to safeguard his aircraft and crew by avoiding an engagement. If, however, the intercepting USSR or unidentified aircraft takes up the position to perform a firing pass and closes to within firing range, and there is no other alternative to safeguard the air crew, the aircraft commander is only authorized to engage the intercepter with the intent to destroy.

*This Supplement supersedes ALCOM Supplement 1, 1957, to CONAD Regulation 45-6, 13 May 1957.

2103

11-13-57

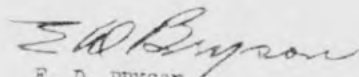
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AICOM SUPPLEMENT #1 to
CONAD REGULATION 55-0
dated 13 May 1957

7. (UNCLASSIFIED) Reports submitted in accordance with CONADR 200-2
will be immediately relayed by telephone to the Commander-in-Chief, Alaska,
Eliendorf extension 29104, 23100 or 24204.

FOR THE COMMANDER-IN-CHIEF:

OFFICIAL:



E. D. BRYSON
Major, AGC
Adjutant General

T. R. STOUGHTON
Brigadier General, USA
Chief of Staff

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J-3, AICOM - 5
AG - 1

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HEADQUARTERS
64TH AIR DIVISION (DEFENSE)
UNITED STATES AIR FORCE
APO 862, NEW YORK, NEW YORK

ADCOV

22 MAR 1957

SUBJECT: Rules of Engagement and Recognition Procedures, Thule Air
Defense Complex

TO: Commander in Chief -
Continental Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. Inclosed herewith for your review, approval and/or concurrence is a copy of the "Rules of Engagement and Recognition Procedures" for the Thule Complex, 64th Air Division (Defense).
2. Letter authority, Headquarters, Northeast Air Command, dated 29 December 1953, tentatively authorizes adoption and execution of these "Rules of Engagement" on a temporary basis. However, as far as can be determined by my headquarters, final negotiations at Department of State level have never been resolved and concluded.
3. Due to limited and unreliable communication facilities with the Thule Complex, the Commander, 931st Aircraft Control and Warning Squadron has been designated as Deputy Commander, 64th Air Division (Defense), for the Thule Complex. This designation includes delegation of authority to execute these "Rules" after every possible attempt to contact the Division Commander, has been exhausted within a reasonable time period.
4. The scheduled disestablishment of Headquarters, Northeast Air Command, 1 April 1957, and the ultimate retirement of official records, will negate the authority for these "Rules of Engagement".
5. In view of the above, request your approval of the "Rules", at least on a temporary basis, or until such time as State Department negotiations can be finalized.
6. Pending your concurrence, or until additional instructions are received from your Headquarters, the "Rules" as currently prescribed will continue as authorities for engagement and employment of weapons in the Thule Complex.
7. The classification of Secret on this letter will be cancelled when Inclosure #1 is withdrawn.

1 Incl
Rules of Engagement
Recog Pro, Thule Air
Defense Complex

Charles W. McClellan
CHARLES W. MCCLELLAN
Colonel, USAF

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HEADQUARTERS, 64TH AIR DIVISION (DEFENSE)
APO 862, New York, New York
1 February 1957

ANNEX "D"

THULE RULES OF ENGAGEMENT AND RECOGNITION PROCEDURES
PRIOR TO THE DECLARATION OF A STATE OF EMERGENCY

1. Purpose: This Annex establishes the interceptor procedures and rules of engagement to be followed in the Thule Area, prior to the declaration of a military emergency.
2. Scope: This directive applies to all forces participating in air defense operations under the operational control of the Commander, 64th Air Division (Defense) *Command Division*.
3. Responsibility: The commanders of all organizations participating in air defense operations are responsible for insuring that:
 - a. All personnel concerned with the contents of this directive are fully aware of its provisions and understand the extent of their authority.
 - b. Interceptor and AAA crews gain maximum possible proficiency in recognition (including national markings) of multi-engine and jet aircraft, civil and military, of the United States, Canada, Britain, Western Europe, Russia, and Russian satellite nations.
 - c. Training and proficiency of personnel is such that, within the capabilities of available equipment, hostile aircraft are prevented from reaching their targets and at the same time friendly aircraft are not inadvertently engaged.
4. Definitions: The following definitions are established for the purpose of this directive.
 - a. Engage: This term is defined as action taken against hostile aircraft by means of interceptors, anti-aircraft artillery, or other ground-to-air weapons, and includes destructions.
 - b. Close Control: The control of intercepting aircraft when the target and the fighter interceptor positions are known to the director and radio contact can be effected between the director and the interceptor crew.
 - c. Identification: The determination of an aircraft's friendly or enemy characteristics by any means or combination of means including

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visual recognition, flight plan correlation, electronic interrogation, track behavior, etc.

d. Simultaneous Engagement: Engagement of enemy aircraft by both interceptors and anti-aircraft weapons at the same time.

e. Recognition: The visual determination of the type, nationality, ownership, serial number, registration number, markings, behavior and/or number of aircraft in an intercepted target.

5. Engagement:

a. An aircraft will be engaged under the following conditions:

(1) The aircraft conducts mine-laying operations, releases bombs or fires armament at any target other than recognition weapons ranges, provided notification has not been received that such actions are scheduled within the specific area and time in which they occur.

(2) The aircraft bears the national markings of a nation which is considered a potential aggressor (USSR and members of the Soviet bloc including Communist China, North Korea, Poland, Czechoslovakia, Hungary, Rumania, Bulgaria, Albania, and Soviet controlled Austria and Germany) and notification has not been received that the flight has been properly cleared.

(3) When ordered to engage unknown aircraft by the ^{CONAD} Division Commander.

b. Aircraft may be engaged by direct authority of the Commander, 931st ACWRON under the following circumstances:

(1) The patterns or actions of incoming unknown aircraft indicate beyond a reasonable doubt that a hostile raid is in progress or current intelligence is available which indicates that aircraft are airborne and enroute towards Thule Air Base, the Goose or Harmon complexes, or the United States with the obvious intention of attacking targets within those areas.

(2) Authority to engage will be directed by the Commander, 931st ACWRON only after every possible attempt to contact the Division Commander, or his appointed deputy, has been exhausted within a reasonable time and prior to the arrival of the probable hostile aircraft at the bomb release line.

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c. The authorities contained in paragraph 5a and b above are cumulative at each succeeding higher level of command and may be delegated in writing by the commanders concerned to their appointed representatives at the same level of command.

6. Interception and Recognition: Any aircraft which cannot be identified by the ACW system within prescribed time limits will be intercepted for recognition purposes. Practice intercepts will not be conducted against known civilian aircraft. The following procedures will be observed during intercepts:

a. Interceptors will fly no closer to the intercepted aircraft than is necessary for positive recognition.

b. At night or during conditions of restricted visibility, interceptions conducted by E-4, E-5 and E-6 fire control system equipped aircraft for identification purposes will be in accordance with current operating instructions.

c. Every effort will be made by the fighter-interceptor pilots to prevent startling the intercepted aircraft aircrews or passengers. The effect desired is one which assures personnel in the intercepted aircraft that the fighter-interceptor is making a routine investigation in the interests of properly conducting the mission of this command.

d. The identification by inter-plane communications will not be attempted by fighter-interceptor pilots.

e. The fighter-interceptor pilot will keep the direction center advised of marginal conditions of visibility.

(1) When visibility at intercept on altitude is less than two miles, but more than one mile, the interception will be completed only when the fighter-interceptor is under close control or has AI contact with the unidentified aircraft.

(2) When the visibility is less than one mile, the interceptor must have AI contact.

(3) Under exceptional circumstances in which identification is deemed mandatory, the Commander, 931st ACW may waive limitations imposed in (1) and (2) above. The authority to waive limitations will be exercised only after every reasonable attempt to contact the Division Commander or his appointed deputy has failed.

f. When more than one fighter-interceptor is employed on an interception, only one pilot will effect recognition. The remaining aircraft will maintain surveillance from a position where attack could

HQ 64TH AD(D)
ACW 931
1 Feb 57

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be made against the intercepted aircraft. One such surveillance aircraft will, where possible, record the recognition particulars as transmitted by the pilot effecting recognition.

g. The fighter-interceptor pilot effecting recognition, or the other member of the element, will immediately report the identity, type, nationality, ownership, and any unusual behavior of the intercepted aircraft (or leader of an unidentified formation) to the Direction Center director. Aircraft serial numbers will be obtained and reported only when considered necessary by the director to effect identification and the pilot is so notified.

h. If the intercepted aircraft is positively identified as friendly, the fighter-interceptors will withdraw immediately, unless previous arrangements have been made for simulated attacks against the specific aircraft.

i. If the intercepted aircraft cannot be positively identified as friendly, the interceptor will maintain surveillance and await further instructions from the Direction Center director. During this period, the provisions of paragraph 5a(1) above will apply.

j. The Direction Center director, when unable to identify an aircraft through information passed by the interceptor, will immediately notify the Control Center giving all relevant information.

k. Aircraft under the control of this Command may overfly the Canadian sector when such action is required for identification or engagement purposes. Under these circumstances, Canadian rules of engagement as outlined in Annex "F" will apply. (ASI 2/5)

l. The employment of anti-aircraft weapons will follow the principle of simultaneous engagement in the destruction of hostile aircraft and/or missiles. Inner defense areas will not be designated. The only limiting factor will be the range of the anti-aircraft weapon.

HQ 64TH AD(D)
A/CES "G"
1 Feb 57

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M/R Letter authority, Hq. NEAC, dated 29 Dec 1953, tentatively authorized adoption and execution of the attached "Rules of Engagement" for the Thule Complex, 64th Air Division. With the inclusion of the 64th CONAD Division into CINCONAD's operational chain of command, it has become apparent that no U.S. - Denmark agreement at Department of State level exists which authorizes the engagement and employment of weapons in Greenland.

This letter is being initiated to request JCS concurrence with the "Rules of Engagement" on a temporary basis until U.S.-Denmark agreement can be obtained.

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DEPARTMENT OF THE AIR FORCE
OFFICE OF THE CHIEF OF STAFF
UNITED STATES AIR FORCE
WASHINGTON, D. C.

1 July 1957

SUBJECT: (Unclassified) Rules for Engagement Within Areas not
Sovereign to the United States

TO: Commander-in-Chief
Continental Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. This is an Executive Agency letter in answer to your letter, subject as above, dated 16 May 1957.
2. Headquarters USAF does not have the authority to approve the "Rules of Engagement," for the Thule Complex included in the above referenced letter. Present approved "Rules of Engagement" provides authority for the interception, identification, and engagement of aircraft within the boundaries of territory over which the United States exercises rights of sovereignty and the coastal Air Defense Identification Zones (ADIZ's).
3. The Department of Defense and the Department of State are currently working on a set of negotiating instructions which, when completed, will be submitted to the Danish Government for consideration. Approval of these instructions by the United States and Danish Governments will provide the authorization needed by COMAD for implementation of the "Rules of Engagement" in the Thule area.
4. This Headquarters will continue to monitor current action pertaining to negotiations with Denmark in an effort to obtain early approval of the Danish Government for establishment of an Air Defense Identification Zone (ADIZ) in the Thule complex.

Jacob E. Smart

JACOB E. SMART
Major General, U. S. Air Force
Assistant Vice Chief of Staff

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DISPOSITION FORM

UNCLASSIFIED

FILE NO. _____ SUBJECT _____

TO: JONES FROM: [Signature] DATE: 20 Jul 57

COMMENT NO. 1

1. During the time period when the 1st JNA Division was under the Northeast Air Command, they were to be controlled under "Rules of Engagement" for the Tule, Greenland Complex, which had not been approved by the United States State Department, nor by the comparable agency of the Danish Government.
2. Now that the 1st JNA Division is under the operational control of COMAD, the Commander of COMAD Division has requested COMAD's concurrence of the "Rules" that were in effect in the past, on a temporary basis until or until State Department negotiations could be finalized (Incl 1 & 2).
3. This Headquarters could not approve the tentative rules submitted by the 1st JNA without JCS or DOD approval. Joint Chiefs of Staff concurrence was requested until official agreements between the two countries could be finalized. (Incl 2).
4. Executive Agency letter from Department of the Air Force (Incl 3), in answer to COMAD's letter, indicated that USAF could not approve the rules on a tentative basis, and that DOD and Department of State were working on an agreement to submit to the Danish Government for their consideration.
5. In that USAF could not, or would not, concur in the "rules" and no interim guidance has been furnished, COMAD has no engagement authority in Greenland until official agreements are finalized. It is therefore proposed that another letter be sent to USAF as Executive Agent for COMAD requesting interim guidance for possible engagements in the Tule Complex until inter-governmental agreements are finalized. Proposed letter is attached as Incl 4 for your recommendations and concurrence.

- 4 Incls:
1. Ltr 1st JNA, subj: Rules of Engagement and Recog. of, Tule Air Defense Complex, w/ l.a. Rules of Engagement draft, 27 Mar 57.
 2. COMAD ltr, Subj: Rules of Engagement Within Areas of Sovereignty, 16 Mar 57.
 3. Hq USAF ltr 1 July 1957.
 4. Hq COMAD proposed draft to Chief of Staff, USAF.

Henry M. Aless
 HENRY M. ALESS
 Major General, USAF
 DCS/Plane & Operations

*Did not get
 post from Mr. Conner of
 Hq. Pacific Dept. -
 P. Suggests to
 send ltr to
 outlining info to
 JCS. - Aless
 directing
 20 Jul 57*

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JOINT MESSAGEFORM

SECURITY CLASSIFICATION UNCLASSIFIED

SPACE BELOW MESSAGE FORM TO BE USED BY INFORMATION CENTER

READING FILE

CONAD HIST FILE
420

PRECEDENCE	TYPE MSG (Class)			ACCOUNTING SYMBOL	ORIG OR REFERS TO	CLASSIFICATION OF REFERENCE
	BOOK	MULTI	SINGLE			
ACTION: ROUTINE						
INFO: ROUTINE		I		AF		
FROM: CINCONAD						

SPECIAL INSTRUCTION

TO: COM64CADD PRPPERRELL AFB NEWFOUNDLAND
INFO: COFS USAF WASH D C

UNCLASSIFIED from COOP-T X0134

Chief of Staff, USAF, as Executive Agent for CONAD. Reference letter 64th Air Division (Defense) ADOOW, to CINCONAD, Subject: Rules of Engagement and Recognition Procedures, Thule Air Defense Complex dated 22 March 1957. As previously indicated, CINCONAD does not have the authority to approve rules of engagement for Greenland. CINCONAD requested the Chief of Staff USAF as Executive Agent for CONAD to obtain approval. (Reference CONAD letter COOP-T to C/S USAF as Executive Agent for CONAD, Subject: Rules of Engagement Within Areas not Sovereign to the United States, dated 16 May 1957). The Assistant Vice Chief of Staff, USAF, has advised that Headquarters USAF could not approve your rules of engagement and that negotiations were in progress through the Department of State to obtain the

DATE	TIME
22	160
MONTH	YEAR
Aug.	195

SYMBOL COOP-T		SIGNATURE	
TYPED NAME AND TITLE (Signature, if required) Maj. Schiebel		TYPED NAME AND TITLE J. W. I. DEAN LCDR, USN Asst AG	
PHONE 2038	PAGE NR 1	NR. OF PAGES 2	
SECURITY UNCLASSIFIED			

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JOINT MESSAGEFORM - CONT. ACTION SHEET

SECURITY CLASSIFICATION

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FROM
CINCOMAD

concurrence of the Danish Government (Reference Hq USAF Letter to CINCOMAD, Subject: Rules of Engagement Within Areas not Sovereign to the United States, dated 1 July 1957). Until your proposed rules of engagement are formally approved, in the absence of interim instructions from the Joint Chiefs of Staff, you are directed to continue in force as an interim measure, the Rules of Engagement and recognition procedures for the Thule Air Defense Complex as outlined in your above referenced letter.

SYMBOL

COOOP-T

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AIR DEFENCE COMMAND
AIR STAFF INSTRUCTIONS

2/13

AIR RAID WARNING

Purpose

1. This instruction defines the conditions of Air Raid Warnings, outlines circumstances under which these warnings are to be initiated, establishes procedures for notification of appropriate agencies, and specifies action to be taken.

Scope

2. This instruction is applicable to all units of Air Defence Command and Northeast Air Command in accordance with joint agreements, other agencies under the operational control of Air Defence Command, and is for the guidance of other commands having collateral responsibilities including the USAF Continental Air Defense Command and Alaskan Air Command.

Responsibilities

3. It is the responsibility of commanders of all units of this command to ensure compliance with applicable provisions of this instruction.

Definitions

4. A State of Air Raid Warning is a state of air attack probability relative to an Air Defence Sector and is limited to one of the following:

- (a) "Air Raid Warning Red" - Attack by "hostile aircraft" is imminent. (This is interpreted to mean that "Hostile Aircraft" or "Unknown Aircraft Manifestly Hostile in Intent" are within or in the immediate vicinity of an air defence sector with a high probability of entering the subject sector).
- (b) "Air Raid Warning Yellow" - Attack by "Hostile Aircraft" is probable. (This is interpreted to mean that "Hostile Aircraft" are en route toward the air defence sector, or unknown aircraft suspected to be hostile, are within the air defence sector).
- (c) "Air Raid Warning White" - Attack by "Hostile Aircraft" is improbable. (This is interpreted to mean that no "Hostile Aircraft" or unknown aircraft, suspected to be hostile, are known to be within or en route toward the air defence sector).

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1. NOTE:

Hostile Aircraft. An aircraft may be classified as "Hostile" if it commits a hostile act as defined in ADC ASI 2/5 (App "A" para 1 (h)).

Aircraft Manifestly Hostile in Intent. Aircraft may be classified "Manifestly Hostile in Intent" when the patterns or actions of incoming unknown aircraft indicate beyond a reasonable doubt that a hostile raid is in progress or, when current intelligence is available which indicates that aircraft are airborne and en route toward Canada. Aircraft will be declared "Manifestly Hostile in Intent" only by the Air Officer Commanding, Air Defence Command, or representatives specifically appointed by him.

Operational Procedures

3. These procedures are to be followed upon the declaration of states of air raid warnings for the Initial Attack and Subsequent Attack phases:

(a) Initial Attack - Air Defence Procedures. The initial attack procedure is based on the principle that this attack will be simultaneously joined to the limit of the enemy's capability against principal targets throughout Canada and the United States. The first "Air Raid Warning Red or Yellow" will be initiated only by the AOC ADC or his appointed representative. In this regard, the commission of a hostile act by an aircraft does not in itself constitute authority for a Sector Commander to declare an Air Raid Warning; in such instances, the Sector Commander is to be guided by ASI 2/14. During the initial attack phase, the following procedures will be adhered to:

(Includes USAF
Div Commanders
with Area in
Canada)

(i) When one Air Defence Sector is directed to initiate an "Air Raid Warning Red", all other Sectors will institute a warning of not less than an "Air Raid Warning Yellow".

(ii) When one Air Defence Sector is directed to initiate an "Air Raid Warning Yellow", all other Air Defence Sectors will initiate a warning of not less than an "Air Raid Warning Yellow".

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(1) An "Air Raid Warning White" may be used to release all agencies from an "Air Raid Warning Red" or an "Air Raid Warning Yellow". However, when an "Air Raid Warning Red" or an "Air Raid Warning Yellow" has been instituted in accordance with (a) (i) and (ii) above, an "Air Raid

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2/13

Warning White" will not be declared until authorized by the Air Officer Commanding Air Defence Command or his appointed representative, who will determine when the initial attack phase is completed.

(Includes USAF
Div Commanders
with area in
Canada)

- (b) Subsequent Attack Procedures. After the initial attack phase has been declared over by the Air Officer Commanding, Air Defence Command or his appointed representative, Air Defence Sector Commanders are to initiate the appropriate air raid warning at their own discretion depending upon the air defence situation within or in the immediate vicinity of their respective sectors, except when otherwise directed by higher authority.

Alerting Procedures

6. The following alerting procedures will be adhered to upon the declaration of an air raid warning:

- (a) ADCHQ CQC will notify by the most expeditious communications available:
- (i) #1 ADCC.
 - (ii) #2 ADCC.
 - (iii) #3 ADCC.
 - (iv) #5 Air Division Headquarters.
 - (v) Headquarters Northeast Air Command. AC#7) (6th Air Division)
 - (vi) Headquarters USAF Continental Air Defense Command.
 - (vii) Air Force Headquarters (AFHQ will notify all other commands and services).
- (b) ADCCs will notify by the most expeditiously communications available:
- (i) All Air Defence units within their Sector including AC&W Squadrons, Fighter Squadrons, Ground Observer Corps units and Filter Centres.
 - (ii) ADCHQ CQC, if the Air Raid Warning is initiated by the ADCC.
 - (iii) Adjacent RCAF and USAF Sectors.
 - (iv) Civilian Air Defence Warning key points.
 - (v) The associated Department of Transport Area Control Centre(s).
 - (vi) COMELRAD Alerting Stations.

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- (c) In addition, ~~the~~ ADCC is to notify the Maritime Commander Atlantic, Halifax, N. S.

Action Required Upon Initial Declaration of an Air Raid Warning

7. Appropriate Commanders are to take action to attain maximum combat potential with forces available for air defence. Such actions are to include any or all of the measures outlined below:

- (a) Place all available fighter-interceptor aircraft on a state of alert consistent with the operational situation.
- (b) Place all operational ACMW facilities on maximum operational status (only emergency maintenance should be performed on AC&W equipment).
- (c) Cancel all training of operational interceptor squadrons.
- (d) Order in appropriate Emergency Communications Networks.
- (e) Activate the COBC on a full time basis.
- (f) Deploy forces as required.
- (g) Co-ordinate with the appropriate Area Air Traffic Controller at DOT ATC Centres to ensure the most effective utilization of interceptor aircraft and implementation of approved plans. Implement the Emergency Security Plan AL #7
- (h) ~~Institute strict internal security measures as required.~~
- (j) Where applicable, request immediate augmentation of forces available from the Navy.
- (k) Institute such other administrative, operational, and logistical procedures as are deemed advisable.

General

8. When an "Air Raid Warning White" is declared for the purpose of terminating an "Air Raid Warning Red or Yellow", action taken by units of Air Defence Command will be dictated by the existing situation. The following measures will be effected as required:

- (a) As directed, maintain operational preparedness at a degree whereby maximum sustained combat potential is realized.
- (b) Ensure that maximum maintenance is performed on fighter-interceptor aircraft and AC&W equipment consistent with the operational situation.

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- (c) Redeploy forces.
- (d) Maintain strict internal security.
- (e) Analyze enemy capabilities, tactics, and techniques and disseminate recommended counter-measures to operational units.
- (f) Institute such other administrative, operational, and logistical procedures as are deemed advisable.

Communications

9. Direct communication is authorized between appropriate agencies for the purpose of coordination and implementation of procedures outlined herein.

1 Dec 56

/s/ (L.E. Wray) A/V/M,
Air Officer Commanding,
Air Defence Command.

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2/14

AIR DEFENCE COMMAND

AIR STAFF INSTRUCTIONS

AIR DEFENCE READINESS

Purpose

1 This instruction prescribes measures for increasing the preparedness of the Air Defence System prior to hostilities, and establishes procedures for notification of appropriate agencies.

Scope

2 This instruction is applicable to all units of Air Defence Command and 64th Air Division in accordance with joining agreements, other military agencies under the operational control of Air Defence Command, and is for the guidance of other commands having collateral responsibilities including the USAF Continental Air Defense Command and Alaskan Air Command.

Responsibilities

3 It is the responsibility of the commanders of all units of this command to ensure compliance with applicable provisions of this instruction.

Definitions

4 Air Defence Readiness is a state of preparedness in which the Air Defence System is brought to maximum operational capability.

Operational Procedures

5 Air Defence Readiness may be declared by the Air Defence Commander or his appointed deputy as defined in ASI 2/5, Appendix "A", paras 1 (a) and 1 (b).

Alerting Procedures

6 The following alerting procedures will be followed upon the declaration of an Air Defence Readiness:

- (a) AECHEQ COC will notify by the most expeditious communications available:
 - (1) #1 ADCC.
 - (11) #2 ADCC.

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- (iii) #3 ADCC.
 - (iv) #5 Air Division Headquarters.
 - (v) Headquarters 64th Air Division AL # 7
 - (vi) Headquarters USAF Continental Air Defense Command.
 - (vii) Air Force Headquarters.
- (b) When Air Defence Readiness is declared by the AOC, ADG or by a Sector Commander for his own Sector, the ADCC shall notify the following units by the most expeditious communications available:
- ~~(i) ADGER-000 (if declared by Sector Commander).~~
 - (i) ~~(ii)~~ All Air Defence units within their Sector including AC&W Squadrons, Fighter Squadrons, Ground Observer Corps units and Filter Centres.
 - (ii) ~~(iii)~~ Adjacent RCAF and USAF Sectors.
 - (iii) ~~(iv)~~ The associated Department of Transport Area Control Centre(s).

NOTE: Air Defence Readiness is only to be used for alerting military formations concerned with air defence, and is not to be disseminated to civilian agencies, other than DOT Area Control Centre(s).

Actions Required Upon a Declaration of Air Defence Readiness

7 Appropriate Commanders are to take action to attain maximum combat potential of forces available for air defence. Such actions are to include any or all of the measures listed below:

- (a) Place additional fighter aircraft on 2 minutes runway alert.
- (b) Recall fighter aircraft from special missions (gunnery, tests, etc).
- (c) Cancel training activities that effect combat potential
- (d) Place all other available fighter aircraft on readiness states consistent with the operational situation.

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- (e) Activate the GOBC for the period required.
- (f) Place all radar and communications facilities on maximum operational status.
- (g) Co-ordinate with appropriate Area Traffic Controller at DOT AIC Centres to ensure the most effective utilization of interceptor aircraft.
- (h) ~~Institute strict internal security measures.~~
Implement the Emergency Security AL #7
- (j) Institute such other administrative, operational, or logistical procedures as may be deemed advisable consistent with the existing air and/or intelligence situation.

Communications

8 Direct communications is authorized between appropriate agencies for the purpose of co-ordination and implementation of procedures outlined herein.

1 Dec 56

/s/t/ (L.E. Wray) A/V/M,
Air Officer Commanding,
Air Defence Command.

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CONADR 55-2

CONAD REGULATION)
55-2)

HEADQUARTERS CONTINENTAL AIR DEFENSE COMMAND
Ent AFB, Colorado Springs, Colorado
11 September 1957

OPERATIONS

SCATER

1. Purpose. This Regulation establishes CONAD policies and responsibilities for appropriate CONAD military authorities and provides general instructions for planning and implementation of the Department of Defense/Department of Commerce Plan for the Security Control of Air Traffic and Electromagnetic Radiations during an Air Defense Emergency -- Short Title: SCATER. (See Attachment 1.)

2. Scope.

a. This Regulation applies to all echelons of CONAD, including the air defense forces of the Alaskan Command and provides guidance for the 64th Air Division and other agencies having air defense responsibilities to CINCONAD.

b. CAA Air Defense Liaison Officer (CAA ADLO) participation described herein is for informational purposes and is consistent with directives issued by the Civil Aeronautics Administration (CAA).

3. Definitions. Terms used herein are defined in paragraph 1 of Attachment 1.

4. General.

a. Attachment 1 (SCATER) is designed to establish individual responsibilities of the Administrator of Civil Aeronautics and appropriate military commanders for the security control of civil and non-tactical military air traffic, air navigation radio aids and aeronautical communications (civil and military) during an Air Defense Emergency.

b. For the purpose of this Regulation, appropriate military commanders are defined as all designated CONAD commanders.

c. CINCONAD will develop and recommend military plans and regulations as required to implement Attachment 1 (SCATER).

d. CINCONAD, in coordination with CAA has published a CONAD/CAA SCATER Plan. This Plan consists of Department of Defense/Department of Commerce (DOD/DOC) SCATER Plan and CONAD/CAA unclassified supplements. The unclassified supplements contain amplifying instructions relative to the movement of priority civil and non-tactical military air traffic. Appendices and Attachments to these supplements will be developed jointly by CONAD Regions and CAA Regions as prescribed in the supplement and will contain specific data on prior approved movements of air traffic, local flying areas (military and civil) and other pertinent instructions deemed necessary by the CONAD Region commanders.

e. Procedures and operating instructions related to the movement of tactical air traffic and certain requirements for the control of air navigation radio aids and/or aeronautical communications, authentication and other requirements of a classified nature will be published in a separate CONAD/CAA classified SCATER Plan. Appendices and/or attachments to this Plan will be developed jointly by CONAD Region and CAA Regions as prescribed in the Plan.

f. To insure standardization, no deviation will be made in the content or format prescribed in the CONAD/CAA SCATER Plan and classified SCATER Plan without prior approval by CINCONAD. Headquarters CONAD will coordinate any recommended changes in format with CAA.

5. Responsibilities.

a. Commanders CONAD Regions will:

- (1) Insure compliance with this Regulation by all units of their command.
- (2) Coordinate with appropriate military and CAA agencies on all matters pertaining to military and CAA participation in SCATER actions.
- (3) Insure that necessary classified appendices to the CONAD classified SCATER Plan relative to Emergency War Plans (EWP) traffic and other preplanned tactical traffic are prepared, coordinated, and distributed to all interested agencies.
- (4) Develop procedures for the periodic review of all appendices and attachments developed by the CONAD Region or Division to insure adequacy of instructions contained therein.
- (5) Effect coordination with other Department of Defense agencies and commands within their Region, to insure adequacy of compliance and participation with the SCATER requirements.
- (6) Designate a SCATER officer at CONAD Region and CONAD Division level to work in collaboration with the CAA Air Defense Liaison Officer (ADLO) in order to fulfill SCATER requirements. (Due to the effect SCATER action has on the over-all air defense capability, and the requirement for the SCATER officer to deal with civil agencies and other major service commands, it is considered desirable that the SCATER officer be well versed in all aspects of the Air Defense System.)

6. SCATER Tests.

a. SCATER Testing will be accomplished as follows:

(1) Communications Tests.

- (a) SCATER Communications Tests will be initiated by the CONAD Combat Operations Center (COC) through the CONAD Region and CONAD Division Control Centers to the Air Route Traffic Control Centers (ARTC). These tests will not exceed one a week or less than one a month and will not be disseminated beyond the ARTC Centers.
- (b) The CONAD Division will log the time the test messages are received from the CONAD Region COC and the time the ARTC Centers respond and authenticate the message. Reasons for delay of more than two minutes, for transmission of the message to the ARTCC and the ARTCC response and authentication, will be recorded with comments on corrective action taken. A copy of this information will be forwarded to the CONAD Division CAA ADLO within 24 hours.
- (c) Similar reports will be forwarded to the CAA ADLO by the ARTC Centers for consolidation into monthly SCATER communications test reports. A copy of this report will be forwarded to the CONAD Division commander, CONAD Region COC, CONAD GOC, CAA Region, and CAA Washington offices.

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CONADR 55-2

(2) Operational Tests.

(a) SCATER Tests will be conducted in connection with CONAD National, Regional, or Division Exercises whenever practicable or may be initiated at other times by a CONAD Division. Normally, no more than six tests will be conducted during any one calendar year. SCATER tests will not be scheduled oftener than every 60 days, except that a test may be held in conjunction with a national exercise less than 60 days after a regional or division test. Tests will include completion of fan-out notice by ARTC Centers to CAA and military towers, communications stations, air carrier operations, state aeronautical facilities and other participating organizations, estimated time required for simulating grounding or diverting known air traffic, and estimated time required to shut down radio navigational aids. SCATER tests will not involve the actual grounding or diverting of aircraft nor the shutdown of radio navigation aids. Actual contact with air traffic and actual shutdown of navigation aids will only be accomplished during preplanned national air defense exercises and only when fully coordinated by CINCONAD and the Administrator of CAA, prior to those exercises. To insure maximum participation of air defense and aeronautical facility personnel, each test will be conducted in three phases -- a phase for each eight-hour tour of duty (0001-0800; 0800-1600; 1600-2400 local time). Each phase will be terminated after sufficient time has elapsed for the participating facilities to perform all test actions.

(b) Aeronautical facilities will participate in tests except where such participation will affect the safety of air traffic. In the event an ARTC Center is unable to participate, the ARTC Center will notify the Division Control Center "UNABLE TO PARTICIPATE." In such cases, the phase or phases of the test affected will be re-scheduled for the corresponding period the following day.

(c) SCATER Test Reports from participating aeronautical facilities (civil and military), will be submitted to the CONAD Division CAA ADLO on the standard SCATER test report card. The ADLO will evaluate the reports and prepare an analytical report of the test. A copy of this report will be provided the CONAD Division commanders, CONAD Region COC, Headquarters CONAD, and CAA Region and CAA Washington offices.
(NOOPO)

FOR THE COMMANDER-IN-CHIEF:

OFFICIAL:

MARSHALL S. CARTER
Major General, USA
Chief of Staff

W. J. Birmele

W. J. BIRMELE
Lt Col. USAF
Adjutant

DISTRIBUTION:
A, B, F, & CAA

1 Attachment
DOD/DOC SCATER Plan dtd 7 May 1957

U. S. DEPARTMENT OF DEFENSE

U. S. DEPARTMENT OF COMMERCE

Plan for the Security Control of Air Traffic and Electromagnetic Radiations During an Air Defense Emergency

Short Title: SCATER

This plan supersedes "Plan for the Security Control of Air Traffic During a Military Emergency" approved by the Secretary of Commerce and Secretary of Defense July 15, 1952

Foreword

This "Plan for the Security Control of Air Traffic and Electromagnetic Radiations During an Air Defense Emergency" has been prepared jointly by Headquarters, United States Air Force, and the Civil Aeronautics Administration in cooperation with the Civil Aeronautics Board and Department of the Navy. In the preparation of this plan, the suggestions, recommendations, and opinions submitted by representatives of the interested aviation organizations have been utilized to the maximum extent possible consistent with the capabilities of the defending forces to accomplish their assigned mission. In addition to the foregoing, maximum consideration has been given to the acknowledged contribution of nonmilitary aviation to the overall defense effort.

The development of this plan does not indicate the existence of an Air Defense Emergency nor does it forecast the probability of such an emergency. Therefore, it is imperative that all agencies involved in preparing for or undertaking the implementation of any part of this plan assure that their activities are not construed by the general public as cause for alarm or conjecture.

This plan establishes the individual responsibilities of the Administrator of Civil Aeronautics and the appropriate military authorities for the security control of civil and nontactical military air traffic, and air navigation radio aids and aeronautical communications (civil and military) during an Air Defense Emergency. This plan applies to all United States areas;* however, it may be modified by the responsible commanders of oversea commands established by the Joint Chiefs of Staff to meet their specific requirements. For purposes of clarity, the language of this plan refers to the Commander in Chief, Continental Air Defense Command (CINCONAD), and his subordinate echelons as the appropriate military authority.

Maximum utilization of aircraft under this plan will be accomplished in the following manner:

1. Limiting restrictions on air traffic to the absolute minimum consistent with the dictates of currently evaluated military intelligence.
2. Incorporating specific provisions for orderly processing of friendly air traffic. (Under cer-

tain conditions, portions of the air defense system might become saturated because of the quantity of flight activity, friendly and hostile. These circumstances, if permitted to exist, would dictate that a large portion of air defense capabilities be absorbed in distinguishing between friendly nontactical and hostile flights. To preclude this ineffective utilization of available forces, special provisions have been included for the orderly processing of friendly operations.)

From the suggestions and recommendations submitted by representatives of the civil aviation industry and military authorities a rating system based on the *purpose of flight* and *communications capabilities* has been developed for civil and nontactical military aviation. (See attachment 1.) This rating system will be utilized for the purpose of providing maximum operations and establishing priority for such operations when system capacity is reached.

In implementing this plan, it must be realized that routine arrangements for local types of flight activities (training, crop dusting, etc.) will generally be accomplished through the CAA Regional Organization.

The CAA will solicit the cooperation of State aviation agencies and local airport authorities in processing a request for such flight activities. Requests for special consideration will be submitted to the appropriate regional facility or office of the CAA for processing through established military and civil channels.

Execution of this plan will require certain immediate implementing actions by the Commander in Chief, Continental Air Defense Command, and the Administrator of Civil Aeronautics prior to an actual Air Defense Emergency. In view thereof, such actions which have been taken, in accordance with existing plans, will be subject to immediate review and/or modification.

The Plan

1. Definitions

For the purpose of this plan, the following definitions apply:

- a. *Air Defense Emergency*. A condition called by CINCONAD when his evaluation indicates that hostile action is in progress or is imminent, or is suffi-

*United States areas are defined in 1.0.

ciently probable as to require in the interest of national security the nationwide and continuing implementation of emergency air defense measures.

b. Air Defense Warning Conditions.

(1) **Warning Red**—When hostile aircraft (includes missiles) are within a CONAD Division area or are in the immediate vicinity of a CONAD Division area with a high probability of entering the area.

(2) **Warning Yellow**—When hostile aircraft (includes missiles) are en route toward a CONAD Division area, or unknown aircraft suspected to be hostile are en route to, or are within a CONAD Division area.

(3) **Warning White**—When during a state of Air Defense Emergency an attack by hostile aircraft (includes missiles) is not considered immediately probable or imminent.

c. Continental Air Defense Command (CONAD) Region. A major geographical subdivision of the continental United States which delineates the area of air defense responsibility of a CONAD Region Commander. (Example: WESTERN CONAD REGION).

d. CONAD Division. A geographical subdivision of a CONAD Region and those CONAD Forces within the Division area.

e. Air Defense Identification Zone (ADIZ). The airspace of defined dimensions designated by the Administrator of Civil Aeronautics within which the ready identification, location, and control of aircraft is required in the interest of national security.

f. CAA Region. Area of responsibility of a CAA Regional Administrator.

g. Security Control of Air Traffic. Includes recognizing, requiring identification procedures, directing, diverting, restricting, prohibiting, or grounding of civil and nontactical military air traffic in the interest of national security.

h. SCATER. The short title for the joint Commerce/Defense Department plan for the security control of air traffic and the control of air navigation radio aids and aeronautical communications.

i. SCAT. The short title for the security control of air traffic. Current SCAT Rules are included in Part 620, Regulations of the Administrator. Emergency SCAT Rules are included in this plan.

j. CONELRAD. The short title for the program for the control of electromagnetic radiations. (However, the control of air navigation radio aids and aeronautical communications is included in this plan.)

k. Tactical Air Traffic. Military flights actually engaged in operational missions against the enemy, flights engaged in immediate deployment for a combat mission, and preplanned combat and logistical support flights contained in Emergency War Plans.

l. Nontactical Military Air Traffic. Military flights other than tactical air traffic, such as administrative, logistical, and training.

m. Defense Area. Airspace of defined dimensions designated by the Administrator of Civil Aeronautics within which the ready control of aircraft is required in the interest of the national security during an Air Defense Emergency.

n. Open Area. An area within the continental United States not designated as an ADIZ or Defense Area.

o. United States. The several States, the District of Columbia, and the several Territories and posses-

sions of the United States (including areas of land or water administered by the United States under international agreement), including the Territorial waters and the overlying airspace thereof.

p. Security Control Clearance. Authorization for an aircraft to proceed in accordance with security control instructions during an Air Defense Emergency.

2. Purpose

The purpose of this plan is to establish responsibilities, procedures, and general instructions for the security control of civil and nontactical military air traffic, air navigation radio aids and aeronautical communications during an Air Defense Emergency which will provide maximum utilization of aircraft by military and civil agencies engaged in essential operations.

3. Authority

a. Joint Chiefs of Staff directives which outline the United States Air Force responsibilities for the development of plans and policies in concert with the CAA for the establishment of a system for identification and security control of air traffic within the continental United States.

b. Public Law 778, 81st Congress, which authorizes the Civil Aeronautics Board and the Secretary of Commerce to undertake security measures relating to the regulation and control of air commerce, and for other purposes.

c. Notice published by the Secretary of Commerce on January 4, 1951, in 16 F. R. 99 delegating to the Administrator of Civil Aeronautics authority with respect to security control of air traffic (Public Law 778).

d. Executive Order 10312, December 10, 1951, which provides for emergency control over certain Government and non-Government facilities engaged in radio communications or radio transmission.

e. Subpart 9, Rules of Federal Communications Commission, concerning the alerting and operation of all radio stations in the aviation services.

4. Scope

This plan prescribes the joint action to be taken during an Air Defense Emergency by appropriate military authorities and the CAA:

a. To effect security control of civil and nontactical military aircraft entering, departing, or moving within the United States and the coastal approaches thereto and

b. To effect control of air navigation radio aids and aeronautical communications as may be required.

5. General Provisions

a. Efficient security control of air traffic will be achieved by effective air surveillance, the identification and recognition of aircraft, the air discipline of combat air units engaged in the interception and destruction of enemy airborne weapons, the close coordination between military and civil agencies and the cooperation of all airspace users.

b. In carrying out assigned missions, the CONAD Division Commander will, based on the requirements of the existing military situation, direct the extent of security control of civil and military aircraft other than those engaged in tactical operations and the

control of air navigation radio aids and aeronautical communications.

c. This plan is not applicable to military aircraft engaged in tactical operations with the exception that CONAD Division Commanders may advise and recommend rerouting of tactical air traffic for short distances to circumnavigate a battle or threatened area, during an Air Defense Emergency. Tactical operations will be coordinated with the CONAD Division Commander(s) concerned so as not to delay combat operations.

d. Under certain conditions of alert, in specific areas, the CONAD Division Commander may require a security control clearance for civil and nontactical military aircraft prior to takeoff. Such security control clearance is different from and not to be confused with an operational or air traffic clearance. It will serve normally to insure that the pilot is informed of the current condition of alert and that his operation is of sufficient priority if any capacity restrictions are in effect.

e. Minimum interference to normal air traffic will be planned consistent with the requirements for effective operation of the air defense system.

f. The CONAD Division Commanders, in collaboration with the Civil Aeronautics Administration Regional Administrators, will supplement this plan, as required, with agreements to provide less restrictions for special nontactical military and civil air traffic operations within CONAD Division areas. In developing these agreements, they will take into consideration the peculiar requirements of organized civil defense and disaster relief flights, agricultural and forest-fire patrol flight operations and other essential civil air operations to the end that maximum utilization of these aircraft, consistent with air defense requirements, will be made. With respect to civil aviation, these supplemental agreements will be made through the CAA Regional Administrators.

6. Responsibilities

a. The Commander in Chief, Continental Air Defense Command, will—

(1) Develop and recommend military regulations which contain rules and procedures to implement this plan.

(2) Coordinate with the Administrator of Civil Aeronautics regarding the institution of procedures for accomplishment of SCATER.

(3) Establish the military requirements for SCATER in designated areas dependent upon the existing military situation.

(4) Issue amended directives or instructions for SCATER when the military situation permits relaxation of existing controls.

b. The Administrator of Civil Aeronautics will—

(1) Promulgate the necessary civil regulations to implement this plan.

(2) Coordinate with the Commander in Chief, Continental Air Defense Command, prior to the establishment of procedures for SCATER.

(3) Administer SCATER in accordance with requirements established by the Commander in Chief, Continental Air Defense Command.

(4) Advise the civil aviation industry of the requirements for SCATER.

c. The CONAD Division Commanders will—

(1) Direct the control of all air navigation radio aids and aeronautical communications facilities

in their areas, as required. (This will normally be accomplished through CAA.)

(2) Issue security control instructions to appropriate CAA agencies as necessary to insure efficient performance of the air defense mission.

(3) Maintain liaison with appropriate CAA Regional Administrators.

(4) Conduct tests of SCATER in collaboration with the CAA.

(5) Collaborate with the CAA Regional Administrators in making supplemental agreements to this plan.

d. The CAA Regional Administrators will—

(1) Participate with the CONAD Division Commanders in the development of procedures for the implementing and testing of SCATER in the CONAD Division areas.

(2) Insure proper dissemination of SCATER instructions to civil and military aeronautical facilities (including aircraft, airport operators, and State fanout systems) within their areas of responsibility.

(3) Place in effect SCATER procedures in accordance with requirements established by the CONAD Division Commanders.

(4) Maintain liaison with the appropriate CONAD Division Commanders.

(5) Assist the CONAD Division Commanders in making supplemental agreements to this plan.

7. Air Defense Emergency Actions

In an Air Defense Emergency, the following actions will be taken with respect to the CONAD Division area:

a. The CONAD Division Commander, dependent upon the situation in his area, will notify the appropriate CAA Regional Administrator(s) (this will normally be done by direct contact between the CONAD Division Control Center and the appropriate air route traffic control centers):

(1) That a state of Air Defense Emergency exists, and the current condition of Air Defense Warning;

(2) The extent of implementation of this plan that is desired; and

(3) The air traffic capacity of the air defense system and the maximum altitude permitted under the specified conditions.

b. CAA Regional Administrator(s), consistent with the information received from the CONAD Division Commander, will, to the limit of facilities available, impose any or all of the following conditions on air traffic (an air route traffic control center, with the approval of the CONAD Division Commander, has the prerogative to exempt certain categories of aircraft operations from compliance with one or more of these provisions):

(1) *ADIZ Operations*

(a) Require point-to-point flights entering, departing, or moving within the ADIZ, regardless of altitude, be equipped with functioning two-way radio and to conduct either an IFR operation or a DVFR operation, with the additional requirement that a continuous watch be maintained on an appropriate radio frequency. (Operators of agricultural and industrial aircraft, which normally operate in a localized area, may be exempted through an air route traffic control center from compliance with the two-way radio requirement while moving to a new base of operations.)

(b) Restrict point-to-point air traffic entering or operating within ADIZ's to the capacity of the air defense system.

(c) Require commanders of flights to make such additional position reports as considered essential. Reporting points will be determined by local coordination between the CONAD Division Commanders, other appropriate military commanders, and the CAA Regional Administrators.

(d) Place into effect authentication codes and approach and identification procedures, and designate landing points for aircraft prior to entry into the continental limits of the United States when procedures are established and forwarded by the CINCONAD.

(e) Require DVFR flights to operate below a specified maximum altitude. This maximum altitude will normally be stated as 15,000 feet above terrain.

(2) *Defense Area and Open Area Operations*

(a) Limit VFR and DVFR point-to-point flights to a maximum altitude. This maximum altitude will normally be stated as 15,000 feet above terrain. (All IFR flights will be identifiable and identified.)

(3) *All Areas of Operation*

(a) Divert and control air traffic to permit immediate takeoff and employment of military aircraft engaged in immediate tactical operations.

(b) Divert and/or ground flights as soon as possible after diversion and/or grounding instructions are received.

(c) Place into effect plans established in accordance with Executive Order 10312 for control of electronic emissions and/or radiations as directed by the CONAD Division Commander.

(d) *Local Operations*—Restrict all local nonmilitary air traffic to designated local area, or, if no local area has been designated for such flights, to within ten (10) miles to takeoff point and to an altitude of not more than 1,500 feet above the terrain. Such flights will be conducted in such a manner as to permit ready recall within time limits prescribed by the CONAD Division Commander. These restrictions will be enforced except as determined by the CONAD Division Commander who may, under certain conditions, restrict all local nonmilitary air traffic in certain areas, or may increase limits as stated above as allowed by Air Defense requirements. Local flying areas will be designated by the appropriate Regional Administrators after coordination with the CONAD Division Commander, and will encompass the areas normally required for such local operations as flights to and from outlying training fields, crop dusting, and other industrial operations in the local areas. Local military flights will be restricted as provided for in the military directive for the Security Control of Military Aircraft.

(e) Place in effect any other restrictions or limitations on air traffic found necessary to assist the CONAD Division Commander to accomplish his mission. (Any such supplemental restrictions or limitations will be by direction of a CONAD Region Commander or higher authority.)

c. In the event of an Air Defense Emergency the following emergency rules for the security control of air traffic (short title, Emergency SCAT Rules) shall apply immediately to aircraft operated anywhere in the United States or within the coastal ap-

proaches thereto. These rules shall remain in effect for the duration of the Air Defense Emergency unless superseded by revisions to Part 620, Regulations of the Administrator of Civil Aeronautics.

(1) *General Rules*

General. Aircraft shall be operated at all times in compliance with the following general rules and also in compliance with the Additional ADIZ Rules when applicable:

(a) No person shall operate an aircraft unless the aircraft is equipped with an operable radio receiver and a continuous watch is maintained on an appropriate radio frequency to insure receipt of any special security control instructions which may be issued, except that an ARTC center may exempt aircraft operated on point-to-point flight in the United States outside of an ADIZ, or on local flight anywhere in the United States, from compliance with this rule, provided that the flight is—

(1) Confined to altitudes, areas, and time limits prescribed by the appropriate ARTC center, or

(2) Conducted in such a manner as to permit visual recall within time limits prescribed by the appropriate ARTC center.

NOTE: Altitudes, areas, and time limits will be as specified by the appropriate CONAD Division.

(b) No person shall operate an aircraft contrary to security control instructions in effect at time of takeoff or any additional security control instructions issued while the aircraft is airborne.

(c) No person shall operate an aircraft into the continental United States, except from departure points designated by the Administrator, and except in conformity with identification procedures established by the Administrator.

(d) No person shall operate an aircraft in an area of the United States or the coastal approaches thereto in which "Full SCATER" has been implemented unless the flight is ordered by or coordinated with the appropriate CONAD Division.

NOTE: Normally, nontactical operations will be coordinated with the appropriate CONAD Division through a CAA air route traffic control center. The CONAD Division will effect coordination with other CONAD Divisions as required.

(e) No person shall operate an aircraft in an ADIZ without a security control clearance, if such clearance is required by the appropriate ARTC center.

(f) *Emergency situations.* In emergency situations which require immediate decision and action for the safety of the flight, the pilot in command of the aircraft may deviate from the provisions of these rules to the extent required for such emergency. When a deviation is exercised, the pilot in command shall report such deviation to an appropriate aeronautical facility immediately.

NOTE: This report is for security control purposes to determine location of the flight. This report may be in addition to reports required by Civil Air Regulations Part 60.

(g) *Radio failure.*

(1) *IFR flights for which an air traffic clearance is required.* Normal IFR procedures will apply.

(2) *VFR, DVFR, or IFR flights for which an air traffic clearance is not required.* The pilot in command of the aircraft shall land as soon as practicable.

(2) *Additional ADIZ Rules*

(a) *Point-to-point flights.* No person shall operate an aircraft into or within an Air Defense Identification Zone on point-to-point flights in violation of the following additional rules:

(1) *Flight plan.* An appropriate flight plan containing the information required by Part 620, Regulations of the Administrator of Civil Aeronautics, shall be filed with an appropriate aeronautical facility.

(2) *Radio requirements for DVFR flights.* Aircraft shall be equipped with functioning two-way radio.

(3) *Routing restrictions.* No person shall operate an aircraft into, within, or out of an ADIZ, except in approved corridors if and when such corridors have been established.

(4) *Radio communications.*

(i) *IFR operations on an air traffic clearance.* Normal reporting procedures will apply.

(ii) *DVFR operations and IFR operations for which air traffic clearance is not required.* The pilot in command of the aircraft shall insure that a continuous watch is maintained on the appropriate radio frequency and shall report by radio as soon as possible the time and altitude of passing a reporting point specified for security control purposes prior to entering an ADIZ and every reporting point specified for security control purposes within an ADIZ along the route of flight. Every such position report shall include an estimate over the next specified reporting point within the ADIZ.

(5) *Adherence to flight plans or air traffic clearances.* The pertinent provisions of Part 620, Regulations of the Administrator of Civil Aeronautics, will apply.

(b) *Local nonmilitary flights.* Aircraft shall not be operated on a local nonmilitary flight into or within an ADIZ, outside of a local flying area designated by the appropriate Regional Administrator, or if no local area has been designated, more than ten (10) miles from the point of takeoff and more than 1,500 feet above the terrain.

(c) *Local military flights.* Aircraft shall not be operated on a local military flight into or within an ADIZ, outside of the local flying area designated by the appropriate military authority.

(3) *Exceptions*

(a) An ARTC center may exempt certain aircraft operations from compliance with any or all of these emergency rules. Flights which may be exempted, after approval has been obtained from CONAD Division Commanders, are: (1) local flights, (2) flights wholly within the boundaries of an ADIZ, (3) flights from points within an ADIZ to points outside thereof, (4) flights not currently of significance to the air defense system, or (5) military flights which are conducted in accordance with special procedures prescribed by CONAD Division Commanders. Flights may be exempted individually or by category.

(4) *Violations*

(a) The penalty provisions of Part 620, Regulations of the Administrator of Civil Aeronautics, will apply. Regardless of the penalty provisions of Part 620, it is imperative that all operators under-

stand the tremendous importance of strict compliance with the provisions of this plan. Compliance lends itself to a higher degree of national security and also self-preservation. Ignorance of these rules could not only cause diversion of much-needed air defense weapons from a hostile threat, but also could cause destruction of friendly aircraft. It is primarily for these two specific reasons that these rules are written.

8. *Implementing Procedures*

In the event of an Air Defense Emergency,

a. Each CONAD Division will instruct the appropriate CAA ARTC center to accomplish one of the following:

(1) *Apply Emergency SCAT Rules:* These rules are the continuous restrictions applicable to the movement of civil and nontactical military aircraft during an Air Defense Emergency. They will be automatically in effect from the original establishment of an Air Defense Emergency, and will remain in effect for the duration of an Air Defense Emergency, regardless of the changing requirements when "Full SCATER" is implemented or terminated.

(2) *Implement Full SCATER:* This will entail the grounding and/or diversion of air traffic and the shutting down of navigation aids and aeronautical communications. This action will normally be taken when hostile aircraft are en route to the continental United States or have penetrated the air defense system.

(3) *Terminate Full SCATER:* This will terminate the extreme restrictions imposed under Full SCATER. This action will normally be taken when an attack phase is considered over and the resumption of operations is authorized under the Emergency SCAT Rules.

(4) If ARTC centers are told to "Apply Emergency SCAT Rules," the CONAD Division will include, as necessary—

(a) Routing restrictions on flights entering any portion of an ADIZ within the CONAD Division area.

(b) Limitations on air traffic in any portion of an ADIZ within the CONAD Division area to the identification capability of the system.

(c) Altitude limitations on DVFR and VFR operations within the CONAD Division area, and

(d) Any other special instructions required by the immediate military situation.

b. CAA Air Route Traffic Control Centers will—

(1) Disseminate over the CAA communications system the instructions received from the CONAD Division.

(2) Apply Emergency SCAT Rules, imposing whatever restrictions are specified by the CONAD Division.

(3) Direct the landing or diversion of nontactical air traffic and the shutdown or controlled operations of air navigation radio aids and aeronautical communications when instructed to "Implement Full SCATER."

(4) Upon receipt of "Terminate Full SCATER," authorize resumption of air traffic in accordance with Emergency SCAT Rules.

c. Civil and military control towers and aeronautical communications stations (including licensees of air navigation radio aids) will—

(1) Maintain the current SCATER ACTION Form for that facility at appropriate operating positions.

(2) Upon receipt of "Implement Full SCATER," "Terminate Full SCATER," or "Apply Emergency SCAT Rules," take the actions indicated on the facility's SCATER ACTION Form.

(3) Comply with any special SCATER instructions issued by the appropriate notifying agency as shown on the SCATER ACTION Form.

d. It is desired that the several States participate in SCATER by disseminating SCATER instructions to airports and other aeronautical facilities not served by the CAA communications system.

9. Testing Procedures

To insure that implementing actions can be taken expeditiously, SCATER Tests will be conducted periodically in accordance with procedures developed by CONAD and CAA.

a. Federal civil and military aeronautical facilities will participate in such tests.

b. Non-Federal civil aeronautical facilities, including licensees of air navigation radio aids, will be requested to participate in such tests.

10. Communications

Direct communication is authorized between appropriate agencies, and units, for the purpose of coordination and implementation of the procedures outlined herein.

Attachment 1

APPROVED:

C. E. WILSON,
Secretary of Defense.

SINCLAIR WEEKS,
Secretary of Commerce.

DATE: 7 May 1957.

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ATTACHMENT I

Consolidated Priority Listing of all Nontactical
Military and all Civil Air Traffic

GENERAL

Listings within Category I are of equal priority. Listings within Categories II through V are in order of priority as shown. Aircraft in distress are in a special category and may be assigned any priority at the discretion of the appropriate air defense commander as the seriousness of the tactical situation and the aircraft emergency warrant.

Listings herein are applicable to all aircraft, civil or military, large or small, single or multiengine. The mission itself, and not the aircraft or the ownership, determines the priority which is applicable.

I

A. The air transport of military commanders, their representatives, and key civilian personnel which is of utmost importance to the national security, or which will have an immediate effect upon combat operations of the Armed Forces.

B. Flight operations necessary to ensure the effectiveness of the Plan for Security Control of Air Traffic and Electromagnetic Radiations During an Air Defense Emergency, including flight inspection of air navigation facilities.

C. Flight operations in connection with the activities of Federal, State, or local government agencies whose immediate flight is *essential* to the defense effort.

D. Transportation to, from, and within disaster areas of personnel, equipment, material, and supplies whose immediate movement by air is essential to the prevention, reduction, or alleviation of the effects of disaster.

E. Flight operations whose immediate flight involves the saving of human life in other than disaster areas, including air-sea rescue, hurricane reconnaissance, air evacuation, and the transporting of medical personnel, equipment, and supplies.

F. Evacuation of tactical aircraft (including appropriate Civil Reserve Air Fleet) for their protection.

G. International flights originating overseas that have reached the point of no return.

II

A. The air movement of aircraft, personnel, equipment, and supplies for forces other than those immediately deploying for, in direct support of, or actually engaged in combat operations against the enemy which is essential to the timely accomplishment of assigned missions of vital necessity to the prosecution of the war effort. This includes AIR CARRIER transportation of persons, mail, and cargo essential to the defense effort.

B. Evacuation of nontactical aircraft for their protection.

C. Ferrying of AIR CARRIER flight equipment between operational stations.

D. Administrative flights of vital necessity to the prosecution of the war effort, but not bearing on the immediate conduct of combat operations against the enemy, including transportation of personnel, equipment, material, and supplies, whose expeditious movement by this means is essential to the maintenance of sound air carrier operations.

E. Flight operations essential to the development, production, and delivery of equipment, materials and supplies, essential to the defense effort, including transportation of personnel, equipment, material, and supplies whose expeditious movement by this means is essential to the above; prospecting activities in connection with mineral or other natural resources, whose development or exploitation is essential to the above.

F. Flight operations essential to the maintenance of facilities for the transmission of light, heat, power, and communications.

III.

A. Operational testing of air carrier aircraft and equipment or flight testing wherein the objective is the testing or development of new or modified equipment. This is applicable only to those organizations responsible for the testing, development, or modification of aircraft systems and equipment. The flight test priority for other than such organizations will be governed by the priority assigned to the type of flying being conducted by those organizations. For example, a flight test for a unit conducting operational training would be of the same priority as the transition or gunnery flights normally conducted by that organization.

B. Flight operations in connection with the maintenance of production of food-stuffs, critical fibers, and essential wood products.

C. Flight operations in connection with the activities of Federal, State, or local government agencies not essential to the defense effort.

D. Operational training flights of a tactical unit, such as transition, formation, gunnery, bombing, reconnaissance, navigation, instrument, and target towing, including ferrying of aircraft for units engaged in operational training.

E. Student training flights, the primary objective of which is the instruction and training of pilots and crews engaged in a formal course of instruction, including flight operations in connection with civil flight training.

F. Ferrying of aircraft for units engaged in student training.

IV

A. Administrative and logistical flights in support of assigned missions other than those of exceptionally high priority which are in I A., or II D., Categories.

B. Reserve flying training wherein the objective is the training of reservists not on extended active duty.

C. Ferrying of aircraft to and from organizations engaged in reserve flying training.

D. Air evacuation wherein the saving of life or material is not involved.

E. Flight operations in support of the maintenance of the national economy, such as transportation of personnel, materials, equipment, and supplies whose expeditious movement by this means is an aid to the development, production, and distribution of civilian goods, supplies, material, equipment or services, essential to the maintenance of the national economy.

V

A. Ferrying of aircraft not included in paragraphs II A., II C., III F., and IV C. above.

B. Individual training wherein the objective is the attainment or maintenance of flying proficiency as specified by the respective military services, or civil agencies.

C. The transportation of nonpriority persons or goods.

D. All other flight operations not specifically listed above.

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**Plan for the
SECURITY CONTROL OF AIR TRAFFIC
AND ELECTROMAGNETIC RADIATIONS
during an
AIR DEFENSE EMERGENCY**

SHORT TITLE: SCATER

11 SEPTEMBER 1957



**CONTINENTAL AIR DEFENSE COMMAND
(CONAD)**



**CIVIL AERONAUTICS ADMINISTRATION
(CAA)**

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FOREWORD

This document, known as CONAD/CAA SCATER Plan, consists of the Department of Defense/Department of Commerce SCATER Plan (hereafter referred to as Basic SCATER Plan) signed by the Secretaries of Defense and Commerce on May 7, 1957, and Supplements thereto developed by CONAD and CAA.

Appendixes and/or Attachments to these Supplements will be developed and distributed by CONAD Regions and/or Divisions, as prescribed in these Supplements.

This Plan is effective at 0001 Greenwich Time, October 1, 1957, and supersedes the Department of Defense/Department of Commerce SCAT Plan dated July 15, 1952: Air Division (Defense) SCATER Plans, and all other SCATER instructions previously issued.

CAA and CONAD have distributed limited copies of this Plan to appropriate national organizations and commands. The CAA Air Defense Liaison Officer (ADLO) at each CONAD Division will, in collaboration with the Division Commander, distribute additional copies to all facilities, agencies and offices within the CONAD Division area concerned with SCATER actions. The CAA ADLO will also distribute SCATER Actions Forms and SCATER Test Report Forms to appropriate agencies within the CONAD Division area.

Particular attention is invited to the following major changes in the Basic SCATER Plan.

1. The term "Air Defense Emergency" has been substituted for "Military Emergency."

2. Air Defense Warning Conditions "Red", "Yellow" and "White" will no longer be disseminated for the purpose of initiating SCATER actions. Such actions will be effected by specific SCATER instructions to "IMPLEMENT FULL SCATER," "TERMINATE FULL SCATER" or "APPLY EMERGENCY SCAT RULES," as prescribed in the SCATER Actions Form.
3. SCATER Test Instructions have been made an integral part of the Basic SCATER Plan. Simulated Air Defense Warnings "APPLE JACK," "LEMON JUICE," "SNOWMAN," and "FADE OUT" will no longer be employed for such tests. SCATER Test Instructions and reporting procedures are prescribed in the SCATER Actions Form and Supplement V this Plan.
4. Emergency SCAT Rules have been established and are incorporated therein. The degree of application of Emergency SCAT Rules required in each CONAD Regional or Division area, depending upon the tactical situation, will be published by Air Defense Emergency NOTAM.

The importance of SCATER actions that may have to be performed in the event of an Air Defense Emergency cannot be over-emphasized. Therefore, it is incumbent on each supervisor to insure that all personnel under his jurisdiction are thoroughly indoctrinated in and capable of performing all required actions.

SCATER
CONAD/CAA
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Appendixes to be distributed only on an immediate operational-need-to-know basis as prescribed in appropriate Supplement. Recipients should list Appendixes in INDEX above, where appropriate.

EFFECTIVE: 1 October 1957

SCATER
CONAD/CAA

RECORD OF AMENDMENTS

AMENDMENT NO.	DATE	RECORDED BY	DATE
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AMENDMENT NO.	DATE	RECORDED BY	DATE
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U. S. DEPARTMENT OF DEFENSE

U. S. DEPARTMENT OF COMMERCE

Plan for the Security Control of Air Traffic and Electromagnetic Radiations During an Air Defense Emergency

Short Title: SCATER

This plan supersedes "Plan for the Security Control of Air Traffic During a Military Emergency" approved by the Secretary of Commerce and Secretary of Defense July 15, 1952

Foreword

This "Plan for the Security Control of Air Traffic and Electromagnetic Radiations During an Air Defense Emergency" has been prepared jointly by Headquarters, United States Air Force, and the Civil Aeronautics Administration in cooperation with the Civil Aeronautics Board and Department of the Navy. In the preparation of this plan, the suggestions, recommendations, and opinions submitted by representatives of the interested aviation organizations have been utilized to the maximum extent possible consistent with the capabilities of the defending forces to accomplish their assigned mission. In addition to the foregoing, maximum consideration has been given to the acknowledged contribution of nonmilitary aviation to the overall defense effort.

The development of this plan does not indicate the existence of an Air Defense Emergency nor does it forecast the probability of such an emergency. Therefore, it is imperative that all agencies involved in preparing for or undertaking the implementation of any part of this plan assure that their activities are not construed by the general public as cause for alarm or conjecture.

This plan establishes the individual responsibilities of the Administrator of Civil Aeronautics and the appropriate military authorities for the security control of civil and nontactical military air traffic, and air navigation radio aids and aeronautical communications (civil and military) during an Air Defense Emergency. This plan applies to all United States areas;* however, it may be modified by the responsible commanders of oversea commands established by the Joint Chiefs of Staff to meet their specific requirements. For purposes of clarity, the language of this plan refers to the Commander in Chief, Continental Air Defense Command (CINCONAD), and his subordinate echelons as the appropriate military authority.

Maximum utilization of aircraft under this plan will be accomplished in the following manner:

1. Limiting restrictions on air traffic to the absolute minimum consistent with the dictates of currently evaluated military intelligence.
2. Incorporating specific provisions for orderly processing of friendly air traffic. (Under cer-

tain conditions, portions of the air defense system might become saturated because of the quantity of flight activity, friendly and hostile. These circumstances, if permitted to exist, would dictate that a large portion of air defense capabilities be absorbed in distinguishing between friendly nontactical and hostile flights. To preclude this ineffective utilization of available forces, special provisions have been included for the orderly processing of friendly operations.)

From the suggestions and recommendations submitted by representatives of the civil aviation industry and military authorities a rating system based on the *purpose of flight* and *communications capabilities* has been developed for civil and nontactical military aviation. (See attachment 1.) This rating system will be utilized for the purpose of providing maximum operations and establishing priority for such operations when system capacity is reached.

In implementing this plan, it must be realized that routine arrangements for local types of flight activities (training, crop dusting, etc.) will generally be accomplished through the CAA Regional Organization.

The CAA will solicit the cooperation of State aviation agencies and local airport authorities in processing a request for such flight activities. Requests for special consideration will be submitted to the appropriate regional facility or office of the CAA for processing through established military and civil channels.

Execution of this plan will require certain immediate implementing actions by the Commander in Chief, Continental Air Defense Command, and the Administrator of Civil Aeronautics prior to an actual Air Defense Emergency. In view thereof, such actions which have been taken, in accordance with existing plans, will be subject to immediate review and/or modification.

The Plan

1. Definitions

For the purpose of this plan, the following definitions apply:

- a. *Air Defense Emergency*. A condition called by CINCONAD when his evaluation indicates that hostile action is in progress or is imminent, or is suffi-

*United States areas are defined in 1.0.

ciently probable as to require in the interest of national security the nationwide and continuing implementation of emergency air defense measures.

b. Air Defense Warning Conditions.

(1) **Warning Red**—When hostile aircraft (includes missiles) are within a CONAD Division area or are in the immediate vicinity of a CONAD Division area with a high probability of entering the area.

(2) **Warning Yellow**—When hostile aircraft (includes missiles) are en route toward a CONAD Division area, or unknown aircraft suspected to be hostile are en route to, or are within a CONAD Division area.

(3) **Warning White**—When during a state of Air Defense Emergency an attack by hostile aircraft (includes missiles) is not considered immediately probable or imminent.

c. Continental Air Defense Command (CONAD) Region. A major geographical subdivision of the continental United States which delineates the area of air defense responsibility of a CONAD Region Commander. (Example: WESTERN CONAD REGION).

d. CONAD Division. A geographical subdivision of a CONAD Region and those CONAD Forces within the Division area.

e. Air Defense Identification Zone (ADIZ). The airspace of defined dimensions designated by the Administrator of Civil Aeronautics within which the ready identification, location, and control of aircraft is required in the interest of national security.

f. CAA Region. Area of responsibility of a CAA Regional Administrator.

g. Security Control of Air Traffic. Includes recognizing, requiring identification procedures, directing, diverting, restricting, prohibiting, or grounding of civil and nontactical military air traffic in the interest of national security.

h. SCATER. The short title for the joint Commerce/Defense Department plan for the security control of air traffic and the control of air navigation radio aids and aeronautical communications.

i. SCAT. The short title for the security control of air traffic. Current SCAT Rules are included in Part 620, Regulations of the Administrator. Emergency SCAT Rules are included in this plan.

j. CONELRAD. The short title for the program for the control of electromagnetic radiations. (However, the control of air navigation radio aids and aeronautical communications is included in this plan.)

k. Tactical Air Traffic. Military flights actually engaged in operational missions against the enemy, flights engaged in immediate deployment for a combat mission, and preplanned combat and logistical support flights contained in Emergency War Plans.

l. Nontactical Military Air Traffic. Military flights other than tactical air traffic, such as administrative, logistical, and training.

m. Defense Area. Airspace of defined dimensions designated by the Administrator of Civil Aeronautics within which the ready control of aircraft is required in the interest of the national security during an Air Defense Emergency.

n. Open Area. An area within the continental United States not designated as an ADIZ or Defense Area.

o. United States. The several States, the District of Columbia, and the several Territories and posses-

sions of the United States (including areas of land or water administered by the United States under international agreement), including the Territorial waters and the overlying airspace thereof.

p. Security Control Clearance. Authorization for an aircraft to proceed in accordance with security control instructions during an Air Defense Emergency.

2. Purpose

The purpose of this plan is to establish responsibilities, procedures, and general instructions for the security control of civil and nontactical military air traffic, air navigation radio aids and aeronautical communications during an Air Defense Emergency which will provide maximum utilization of aircraft by military and civil agencies engaged in essential operations.

3. Authority

a. Joint Chiefs of Staff directives which outline the United States Air Force responsibilities for the development of plans and policies in concert with the CAA for the establishment of a system for identification and security control of air traffic within the continental United States.

b. Public Law 778, 81st Congress, which authorizes the Civil Aeronautics Board and the Secretary of Commerce to undertake security measures relating to the regulation and control of air commerce, and for other purposes.

c. Notice published by the Secretary of Commerce on January 4, 1951, in 16 F. R. 99 delegating to the Administrator of Civil Aeronautics authority with respect to security control of air traffic (Public Law 778).

d. Executive Order 10312, December 10, 1951, which provides for emergency control over certain Government and non-Government facilities engaged in radio communications or radio transmission.

e. Subpart 9, Rules of Federal Communications Commission, concerning the alerting and operation of all radio stations in the aviation services.

4. Scope

This plan prescribes the joint action to be taken during an Air Defense Emergency by appropriate military authorities and the CAA:

a. To effect security control of civil and nontactical military aircraft entering, departing, or moving within the United States and the coastal approaches thereto and

b. To effect control of air navigation radio aids and aeronautical communications as may be required.

5. General Provisions

a. Efficient security control of air traffic will be achieved by effective air surveillance, the identification and recognition of aircraft, the air discipline of combat air units engaged in the interception and destruction of enemy airborne weapons, the close coordination between military and civil agencies and the cooperation of all airspace users.

b. In carrying out assigned missions, the CONAD Division Commander will, based on the requirements of the existing military situation, direct the extent of security control of civil and military aircraft other than those engaged in tactical operations and the

control of air navigation radio aids and aeronautical communications.

c. This plan is not applicable to military aircraft engaged in tactical operations with the exception that CONAD Division Commanders may advise and recommend rerouting of tactical air traffic for short distances to circumnavigate a battle or threatened area during an Air Defense Emergency. Tactical operations will be coordinated with the CONAD Division Commander(s) concerned so as not to delay combat operations.

d. Under certain conditions of alert, in specific areas, the CONAD Division Commander may require a security control clearance for civil and nontactical military aircraft prior to takeoff. Such security control clearance is different from and not to be confused with an operational or air traffic clearance. It will serve normally to insure that the pilot is informed of the current condition of alert and that his operation is of sufficient priority if any capacity restrictions are in effect.

e. Minimum interference to normal air traffic will be planned consistent with the requirements for effective operation of the air defense system.

f. The CONAD Division Commanders, in collaboration with the Civil Aeronautics Administration Regional Administrators, will supplement this plan, as required, with agreements to provide less restrictions for special nontactical military and civil air traffic operations within CONAD Division areas. In developing these agreements, they will take into consideration the peculiar requirements of organized civil defense and disaster relief flights, agricultural and forest-fire patrol flight operations and other essential civil air operations to the end that maximum utilization of these aircraft, consistent with air defense requirements, will be made. With respect to civil aviation, these supplemental agreements will be made through the CAA Regional Administrators.

6. Responsibilities

a. The Commander in Chief, Continental Air Defense Command, will—

(1) Develop and recommend military regulations which contain rules and procedures to implement this plan.

(2) Coordinate with the Administrator of Civil Aeronautics regarding the institution of procedures for accomplishment of SCATER.

(3) Establish the military requirements for SCATER in designated areas dependent upon the existing military situation.

(4) Issue amended directives or instructions for SCATER when the military situation permits relaxation of existing controls.

b. The Administrator of Civil Aeronautics will—

(1) Promulgate the necessary civil regulations to implement this plan.

(2) Coordinate with the Commander in Chief, Continental Air Defense Command, prior to the establishment of procedures for SCATER.

(3) Administer SCATER in accordance with requirements established by the Commander in Chief, Continental Air Defense Command.

(4) Advise the civil aviation industry of the requirements for SCATER.

c. The CONAD Division Commanders will—

(1) Direct the control of all air navigation radio aids and aeronautical communications facilities

in their areas, as required. (This will normally be accomplished through CAA.)

(2) Issue security control instructions to appropriate CAA agencies as necessary to insure efficient performance of the air defense mission.

(3) Maintain liaison with appropriate CAA Regional Administrators.

(4) Conduct tests of SCATER in collaboration with the CAA.

(5) Collaborate with the CAA Regional Administrators in making supplemental agreements to this plan.

d. The CAA Regional Administrators will—

(1) Participate with the CONAD Division Commanders in the development of procedures for the implementing and testing of SCATER in the CONAD Division areas.

(2) Insure proper dissemination of SCATER instructions to civil and military aeronautical facilities (including aircraft, airport operators, and State fanout systems) within their areas of responsibility.

(3) Place in effect SCATER procedures in accordance with requirements established by the CONAD Division Commanders.

(4) Maintain liaison with the appropriate CONAD Division Commanders.

(5) Assist the CONAD Division Commanders in making supplemental agreements to this plan.

7. Air Defense Emergency Actions

In an Air Defense Emergency, the following actions will be taken with respect to the CONAD Division area:

a. The CONAD Division Commander, dependent upon the situation in his area, will notify the appropriate CAA Regional Administrator(s) (this will normally be done by direct contact between the CONAD Division Control Center and the appropriate air route traffic control centers):

(1) That a state of Air Defense Emergency exists, and the current condition of Air Defense Warning;

(2) The extent of implementation of this plan that is desired; and

(3) The air traffic capacity of the air defense system and the maximum altitude permitted under the specified conditions.

b. CAA Regional Administrator(s), consistent with the information received from the CONAD Division Commander, will, to the limit of facilities available, impose any or all of the following conditions on air traffic (an air route traffic control center, with the approval of the CONAD Division Commander, has the prerogative to exempt certain categories of aircraft operations from compliance with one or more of these provisions):

(1) *ADIZ Operations*

(a) Require point-to-point flights entering, departing, or moving within the ADIZ, regardless of altitude, be equipped with functioning two-way radio and to conduct either an IFR operation or a DVFR operation, with the additional requirement that a continuous watch be maintained on an appropriate radio frequency. (Operators of agricultural and industrial aircraft, which normally operate in a localized area, may be exempted through an air route traffic control center from compliance with the two-way radio requirement while moving to a new base of operations.)

(b) Restrict point-to-point air traffic entering or operating within ADIZ's to the capacity of the air defense system.

(c) Require commanders of flights to make such additional position reports as considered essential. Reporting points will be determined by local coordination between the CONAD Division Commanders, other appropriate military commanders, and the CAA Regional Administrators.

(d) Place into effect authentication codes and approach and identification procedures, and designate landing points for aircraft prior to entry into the continental limits of the United States when procedures are established and forwarded by the CINCONAD.

(e) Require DVFR flights to operate below a specified maximum altitude. This maximum altitude will normally be stated as 15,000 feet above terrain.

(2) *Defense Area and Open Area Operations*

(a) Limit VFR and DVFR point-to-point flights to a maximum altitude. This maximum altitude will normally be stated as 15,000 feet above terrain. (All IFR flights will be identifiable and identified.)

(3) *All Areas of Operation*

(a) Divert and control air traffic to permit immediate takeoff and employment of military aircraft engaged in immediate tactical operations.

(b) Divert and/or ground flights as soon as possible after diversion and/or grounding instructions are received.

(c) Place into effect plans established in accordance with Executive Order 10312 for control of electronic emissions and/or radiations as directed by the CONAD Division Commander.

(d) *Local Operations*—Restrict all local nonmilitary air traffic to designated local area, or, if no local area has been designated for such flights, to within ten (10) miles to takeoff point and to an altitude of not more than 1,500 feet above the terrain. Such flights will be conducted in such a manner as to permit ready recall within time limits prescribed by the CONAD Division Commander. These restrictions will be enforced except as determined by the CONAD Division Commander who may, under certain conditions, restrict all local nonmilitary air traffic in certain areas, or may increase limits as stated above as allowed by Air Defense requirements. Local flying areas will be designated by the appropriate Regional Administrators after coordination with the CONAD Division Commander, and will encompass the areas normally required for such local operations as flights to and from outlying training fields, crop dusting, and other industrial operations in the local areas. Local military flights will be restricted as provided for in the military directive for the Security Control of Military Aircraft.

(e) Place in effect any other restrictions or limitations on air traffic found necessary to assist the CONAD Division Commander to accomplish his mission. (Any such supplemental restrictions or limitations will be by direction of a CONAD Region Commander or higher authority.)

c. In the event of an Air Defense Emergency the following emergency rules for the security control of air traffic (short title, Emergency SCAT Rules) shall apply immediately to aircraft operated anywhere in the United States or within the coastal ap-

proaches thereto. These rules shall remain in effect for the duration of the Air Defense Emergency unless superseded by revisions to Part 620, Regulations of the Administrator of Civil Aeronautics.

(1) *General Rules*

General. Aircraft shall be operated at all times in compliance with the following general rules and also in compliance with the Additional ADIZ Rules when applicable:

(a) No person shall operate an aircraft unless the aircraft is equipped with an operable radio receiver and a continuous watch is maintained on an appropriate radio frequency to insure receipt of any special security control instructions which may be issued, except that an ARTC center may exempt aircraft operated on point-to-point flight in the United States outside of an ADIZ, or on local flight anywhere in the United States, from compliance with this rule, provided that the flight is—

(1) Confined to altitudes, areas, and time limits prescribed by the appropriate ARTC center, or

(2) Conducted in such a manner as to permit visual recall within time limits prescribed by the appropriate ARTC center.

NOTE: Altitudes, areas, and time limits will be as specified by the appropriate CONAD Division.

(b) No person shall operate an aircraft contrary to security control instructions in effect at time of takeoff or any additional security control instructions issued while the aircraft is airborne.

(c) No person shall operate an aircraft into the continental United States, except from departure points designated by the Administrator, and except in conformity with identification procedures established by the Administrator.

(d) No person shall operate an aircraft in an area of the United States or the coastal approaches thereto in which "Full SCATER" has been implemented unless the flight is ordered by or coordinated with the appropriate CONAD Division.

NOTE: Normally, nontactical operations will be coordinated with the appropriate CONAD Division through a CAA air route traffic control center. The CONAD Division will effect coordination with other CONAD Divisions as required.

(e) No person shall operate an aircraft in an ADIZ without a security control clearance, if such clearance is required by the appropriate ARTC center.

(f) *Emergency situations.* In emergency situations which require immediate decision and action for the safety of the flight, the pilot in command of the aircraft may deviate from the provisions of these rules to the extent required for such emergency. When a deviation is exercised, the pilot in command shall report such deviation to an appropriate aeronautical facility immediately.

NOTE: This report is for security control purposes to determine location of the flight. This report may be in addition to reports required by Civil Air Regulations Part 60.

(g) *Radio failure.*

(1) *IFR flights for which an air traffic clearance is required.* Normal IFR procedures will apply.

(2) *VFR, DVFR, or IFR flights for which an air traffic clearance is not required.* The pilot in command of the aircraft shall land as soon as practicable.

(2) *Additional ADIZ Rules*

(a) *Point-to-point flights.* No person shall operate an aircraft into or within an Air Defense Identification Zone on point-to-point flights in violation of the following additional rules:

(1) *Flight plan.* An appropriate flight plan containing the information required by Part 620, Regulations of the Administrator of Civil Aeronautics, shall be filed with an appropriate aeronautical facility.

(2) *Radio requirements for DVFR flights.* Aircraft shall be equipped with functioning two-way radio.

(3) *Routing restrictions.* No person shall operate an aircraft into, within, or out of an ADIZ, except in approved corridors if and when such corridors have been established.

(4) *Radio communications.*

(i) *IFR operations on an air traffic clearance.* Normal reporting procedures will apply.

(ii) *DVFR operations and IFR operations for which air traffic clearance is not required.* The pilot in command of the aircraft shall insure that a continuous watch is maintained on the appropriate radio frequency and shall report by radio as soon as possible the time and altitude of passing a reporting point specified for security control purposes prior to entering an ADIZ and every reporting point specified for security control purposes within an ADIZ along the route of flight. Every such position report shall include an estimate over the next specified reporting point within the ADIZ.

(5) *Adherence to flight plans or air traffic clearances.* The pertinent provisions of Part 620, Regulations of the Administrator of Civil Aeronautics, will apply.

(b) *Local nonmilitary flights.* Aircraft shall not be operated on a local nonmilitary flight into or within an ADIZ, outside of a local flying area designated by the appropriate Regional Administrator, or if no local area has been designated, more than ten (10) miles from the point of takeoff and more than 1,500 feet above the terrain.

(c) *Local military flights.* Aircraft shall not be operated on a local military flight into or within an ADIZ, outside of the local flying area designated by the appropriate military authority.

(3) *Exceptions*

(a) An ARTC center may exempt certain aircraft operations from compliance with any or all of these emergency rules. Flights which may be exempted, after approval has been obtained from CONAD Division Commanders, are: (1) local flights, (2) flights wholly within the boundaries of an ADIZ, (3) flights from points within an ADIZ to points outside thereof, (4) flights not currently of significance to the air defense system, or (5) military flights which are conducted in accordance with special procedures prescribed by CONAD Division Commanders. Flights may be exempted individually or by category.

(4) *Violations*

(a) The penalty provisions of Part 620, Regulations of the Administrator of Civil Aeronautics, will apply. Regardless of the penalty provisions of Part 620, it is imperative that all operators under-

stand the tremendous importance of strict compliance with the provisions of this plan. Compliance lends itself to a higher degree of national security and also self-preservation. Ignorance of these rules could not only cause diversion of much-needed air defense weapons from a hostile threat, but also could cause destruction of friendly aircraft. It is primarily for these two specific reasons that these rules are written.

8. Implementing Procedures

In the event of an Air Defense Emergency,

a. Each CONAD Division will instruct the appropriate CAA ARTC center to accomplish one of the following:

(1) Apply Emergency SCAT Rules: These rules are the continuous restrictions applicable to the movement of civil and nontactical military aircraft during an Air Defense Emergency. They will be automatically in effect from the original establishment of an Air Defense Emergency, and will remain in effect for the duration of an Air Defense Emergency, regardless of the changing requirements when "Full SCATER" is implemented or terminated.

(2) Implement Full SCATER: This will entail the grounding and/or diversion of air traffic and the shutting down of navigation aids and aeronautical communications. This action will normally be taken when hostile aircraft are en route to the continental United States or have penetrated the air defense system.

(3) Terminate Full SCATER: This will terminate the extreme restrictions imposed under Full SCATER. This action will normally be taken when an attack phase is considered over and the resumption of operations is authorized under the Emergency SCAT Rules.

(4) If ARTC centers are told to "Apply Emergency SCAT Rules," the CONAD Division will include, as necessary—

(a) Routing restrictions on flights entering any portion of an ADIZ within the CONAD Division area.

(b) Limitations on air traffic in any portion of an ADIZ within the CONAD Division area to the identification capability of the system.

(c) Altitude limitations on DVFR and VFR operations within the CONAD Division area, and

(d) Any other special instructions required by the immediate military situation.

b. CAA Air Route Traffic Control Centers will—

(1) Disseminate over the CAA communications system the instructions received from the CONAD Division.

(2) Apply Emergency SCAT Rules, imposing whatever restrictions are specified by the CONAD Division.

(3) Direct the landing or diversion of nontactical air traffic and the shutdown or controlled operations of air navigation radio aids and aeronautical communications when instructed to "Implement Full SCATER."

(4) Upon receipt of "Terminate Full SCATER," authorize resumption of air traffic in accordance with Emergency SCAT Rules.

c. Civil and military control towers and aeronautical communications stations (including licensees of air navigation radio aids) will—

(1) Maintain the current SCATER ACTION Form for that facility at appropriate operating positions.

(2) Upon receipt of "Implement Full SCATER," "Terminate Full SCATER," or "Apply Emergency SCAT Rules," take the actions indicated on the facility's SCATER ACTION Form.

(3) Comply with any special SCATER instructions issued by the appropriate notifying agency as shown on the SCATER ACTION Form.

d. It is desired that the several States participate in SCATER by disseminating SCATER instructions to airports and other aeronautical facilities not served by the CAA communications system.

9. Testing Procedures

To insure that implementing actions can be taken expeditiously, SCATER Tests will be conducted periodically in accordance with procedures developed by CONAD and CAA.

a. Federal civil and military aeronautical facilities will participate in such tests.

b. Non-Federal civil aeronautical facilities, including licensees of air navigation radio aids, will be requested to participate in such tests.

10. Communications

Direct communication is authorized between appropriate agencies, and units, for the purpose of coordination and implementation of the procedures outlined herein.

Attachment 1

APPROVED:

C. E. WILSON,
Secretary of Defense.

SINCLAIR WEEKS,
Secretary of Commerce.

DATE: 7 May 1957.

ATTACHMENT 1

Consolidated Priority Listing of all Nontactical Military and all Civil Air Traffic

GENERAL

Listings within Category I are of equal priority. Listings within Categories II through V are in order of priority as shown. Aircraft in distress are in a special category and may be assigned any priority at the discretion of the appropriate air defense commander as the seriousness of the tactical situation and the aircraft emergency warrant.

Listings herein are applicable to all aircraft, civil or military, large or small, single or multiengine. The mission itself, and not the aircraft or the ownership, determines the priority which is applicable.

I

A. The air transport of military commanders, their representatives, and key civilian personnel which is of utmost importance to the national security, or which will have an immediate effect upon combat operations of the Armed Forces.

B. Flight operations necessary to ensure the effectiveness of the Plan for Security Control of Air Traffic and Electromagnetic Radiations During an Air Defense Emergency, including flight inspection of air navigation facilities.

C. Flight operations in connection with the activities of Federal, State, or local government agencies whose immediate flight is *essential* to the defense effort.

D. Transportation to, from, and within disaster areas of personnel, equipment, material, and supplies whose immediate movement by air is essential to the prevention, reduction, or alleviation of the effects of disaster.

E. Flight operations whose immediate flight involves the saving of human life in other than disaster areas, including air sea rescue, hurricane reconnaissance, air evacuation, and the transporting of medical personnel, equipment, and supplies.

F. Evacuation of tactical aircraft (including appropriate Civil Reserve Air Fleet) for their protection.

G. International flights originating overseas that have reached the point of no return.

II

A. The air movement of aircraft, personnel, equipment, and supplies for forces other than those immediately deploying for, in direct support of, or actually engaged in combat operations against the enemy which is essential to the timely accomplishment of assigned missions of vital necessity to the prosecution of the war effort. This includes AIR CARRIER transportation of persons, mail, and cargo essential to the defense effort.

B. Evacuation of nontactical aircraft for their protection.

C. Ferrying of AIR CARRIER flight equipment between operational stations.

D. Administrative flights of vital necessity to the prosecution of the war effort, but not bearing on the immediate conduct of combat operations against the enemy, including transportation of personnel, equipment, material, and supplies, whose expeditious movement by this means is essential to the maintenance of sound air carrier operations.

E. Flight operations essential to the development, production, and delivery of equipment, materials and supplies, essential to the defense effort, including transportation of personnel, equipment, material, and supplies whose expeditious movement by this means is essential to the above; prospecting activities in connection with mineral or other natural resources, whose development or exploitation is essential to the above.

F. Flight operations essential to the maintenance of facilities for the transmission of light, heat, power, and communications.

III.

A. Operational testing of air carrier aircraft and equipment or flight testing wherein the objective is the testing or development of new or modified equipment. This is applicable only to those organizations responsible for the testing, development, or modification of aircraft systems and equipment. The flight test priority for other than such organizations will be governed by the priority assigned to the type of flying being conducted by those organizations. For example, a flight test for a unit conducting operational training would be of the same priority as the transition or gunnery flights normally conducted by that organization.

B. Flight operations in connection with the maintenance of production of food-stuffs, critical fibers, and essential wood products.

C. Flight operations in connection with the activities of Federal, State, or local government agencies not essential to the defense effort.

D. Operational training flights of a tactical unit, such as transition, formation, gunnery, bombing, reconnaissance, navigation, instrument, and target towing, including ferrying of aircraft for units engaged in operational training.

E. Student training flights, the primary objective of which is the instruction and training of pilots and crews engaged in a formal course of instruction, including flight operations in connection with civil flight training.

F. Ferrying of aircraft for units engaged in student training.

IV

A. Administrative and logistical flights in support of assigned missions other than those of exceptionally high priority which are in I A., or II D. Categories.

B. Reserve flying training wherein the objective is the training of reservists not on extended active duty.

C. Ferrying of aircraft to and from organizations engaged in reserve flying training.

D. Air evacuation wherein the saving of life or material is not involved.

E. Flight operations in support of the maintenance of the national economy, such as transportation of personnel, materials, equipment, and supplies whose expeditious movement by this means is an aid to the development, production, and distribution of civilian goods, supplies, material, equipment or services, essential to the maintenance of the national economy.

V

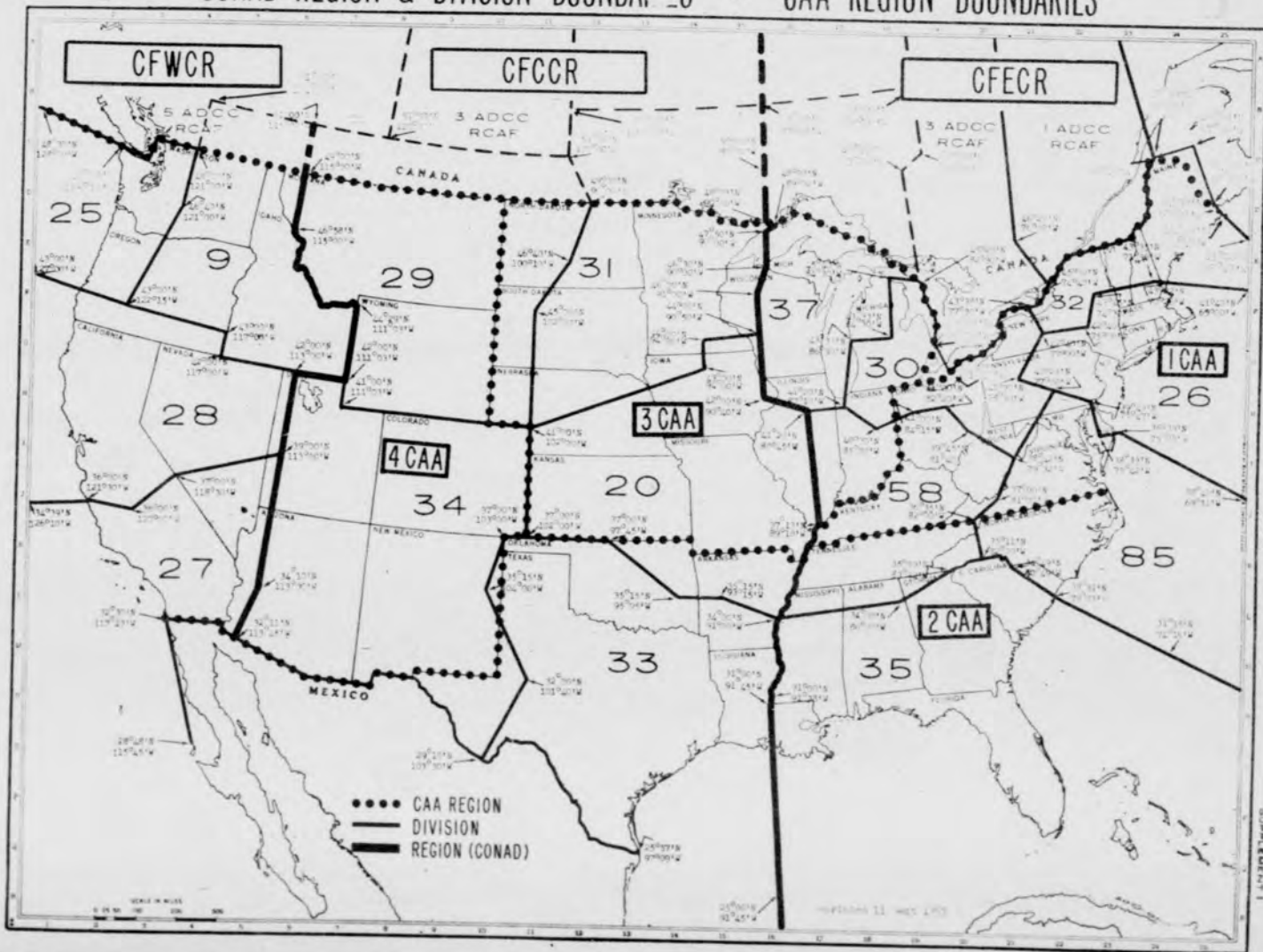
A. Ferrying of aircraft not included in paragraphs II A., II C., III F., and IV C., above.

B. Individual training wherein the objective is the attainment or maintenance of flying proficiency as specified by the respective military services, or civil agencies.

C. The transportation of nonpriority persons or goods.

D. All other flight operations not specifically listed above.

CONAD REGION & DIVISION BOUNDARIES • CAA REGION BOUNDARIES



SCATER
CONAD/CAA
SUPPLEMENT II

MOVEMENT OF PRIORITY CIVIL AND NON-TACTICAL MILITARY AIR TRAFFIC
WHEN FULL SCATER HAS BEEN IMPLEMENTED

1. General.

a. Civil or military agencies having a known requirement of sufficient importance to operate aircraft when Full SCATER has been implemented may obtain prior approval from the appropriate CONAD Division Commander. Prior approval will be granted, insofar as practicable, for pre-planned operations essential to the immediate protection of personnel, property and national resources such as bomb damage assessment; ground traffic control; urgently needed medical supplies and equipment; forest fire, pipe line and other national resources patrols; border patrols, etc. The requests for prior approval of such pre-planned operations, containing details of operations, should be forwarded through normal military channels, State Civil Defense Directors, State Directors of Aeronautics, or other governmental agencies, as appropriate, to the CONAD Division Commander for consideration.

b. Other priority civil and non-tactical military flights, such as hurricane evacuation; evacuation of key personnel; airlifting of supplies and equipment; evacuating of transport fleets from probable target areas, etc., may be approved by the CONAD Division Commander if the immediate air defense situation permits. Requests for such approval will be by filing appropriate flight plan, including the purpose of operations and appropriate priority category as prescribed in Attachment I, SCATER, with the ARTC Center controlling the airport of departure.

c. Approval of civil and non-tactical military flights will generally be limited to VFR operations at minimum safe altitudes above the terrain, so as to provide maximum identification. Navigation aids will not normally be available for such movements. In addition, flights will be conducted at pilot's discretion, as there can be no assurance that aircraft will not be inadvertently subject to anti-aircraft and/or airborne defense fire.

d. Where nationwide standardization of prior approved movements is possible, appendixes are prepared as CONAD/CAA Appendixes. Prior approved movements of a more localized nature will be published as CONAD REGION or CONAD DIVISION Appendixes, as appropriate.

2. Distribution. Appendixes to this Supplement will be distributed only to the agency involved and to the air defense and air traffic control facilities/offices concerned.

EFFECTIVE: 1 October 1957

SCATER
CONAD/CAA
U. S. BORDER PATROL APPENDIX I
TO SUPPLEMENT II

PRIOR APPROVED U. S. BORDER PATROL OPERATIONS

1. General.

a. Prior approval is hereby granted to the Assistant Regional Commissioner for Enforcement, U. S. Immigration and Naturalization Service, Department of Justice, having areas within the CONAD Regions for the movement of U. S. Border Patrol aircraft when Full SCATER has been implemented, with the following understanding:

- (1) This approval is limited to flights necessary for:
 - (a) Air surveillance of that portion of the U. S. Border within the CONAD Regions CONAD Divisions.
 - (b) Apprehending aliens, saboteurs and/or enemy agents, including occupants of downed enemy aircraft.
 - (c) Assisting the military forces in the rescue of occupants of downed friendly aircraft.
- (2) Flights will be made only upon direction of the appropriate Assistant Regional Commissioner for Enforcement.
- (3) Aircraft so used will bear appropriate U. S. Border Patrol markings for visual identification, and be equipped with a functioning two-way radio.
- (4) All movements will be conducted in accordance with VFR, and at an altitude of not more than 1000 feet above the terrain.
- (5) NavAids will not be made available for these operations.
- (6) Flight plans will be filed prior to departure. The aircraft identification will be prefixed with "U. S. Border Patrol," and estimated elapsed time to specific geographical points (towns, etc.) approximately every fifty (50) nautical miles along the route of flight will be specified in the "Remarks." Where operations are conducted from locations not served by an aeronautical facility, flight plan will be filed by telephone with the nearest CAA aeronautical facility. In such cases, departure must be made within five (5) minutes of the filed proposed departure, and the actual departure time reported to the CAA aeronautical facility as soon as air/ground communications can be established. Flight plans will be cancelled

SCATER
CONAD/CAA
U. S. BORDER PATROL APPENDIX I
TO SUPPLEMENT II
(Continued)

with the aeronautical facility serving the airport of landing or, if there is no aeronautical facility, with the nearest CAA facility by radio immediately prior to landing, or by telephone immediately after landing.

- (7) Flights will be conducted at pilot's discretion, as there can be no assurance that aircraft will not be inadvertently subject to defense fire.
- (8) For the purpose of receiving recall or other instructions from ADC radar or CAA facilities, aircraft will monitor on 121.5-mcs. and will maintain communications with U.S. Border Patrol mobile and fixed ground units. In the event of radio failure, aircraft will be landed at the nearest available airport.
- (9) Deviations of more than five (5) nautical miles on either side of the route of flight and/or more than five (5) minutes in elapsed time to a geographical point specified in the flight plan will require flight plan amendment.
- (10) Position reports and other identifying information will be provided only when requested by a CAA aeronautical facility or air defense radar.
- (11) Aircraft will assist and/or provide information, within operational limitations, pertinent to paragraphs (1) (b) and (c) above, when requested by air defense radar or CAA aeronautical facility.
- (12) Prior approved operations may be suspended within a CONAD Division area by the CONAD Division Commanders when required by the immediate air defense situation. This will be accomplished by notifying the appropriate Assistant Regional Commissioner for Enforcement, U.S. Immigration and Naturalization Service, Burlington, Vermont (Northeastern Region); Richmond, Virginia (Southeastern Region); St. Paul, Minnesota (Northwestern Region); and/or San Pedro, California (Southwestern Region), through the CAA tower at those locations, that: "PRIOR APPROVED BORDER PATROL OPERATIONS WITHIN CONAD DIVISION AREA ARE SUSPENDED UNTIL FURTHER ADVISED." Upon receipt of this notification, appropriate Assistant Regional Commissioners for Enforcement will direct airborne aircraft to land immediately at the nearest available airport. This approval may subsequently be reinstated by the CONAD Division notifying the Assistant Regional Commissioner(s) concerned that: "PRIOR APPROVED BORDER PATROL OPERATIONS WITHIN CONAD DIVISION AREA MAY BE RESUMED."

SCATER
CONAD/CAA
U. S. BORDER PATROL APPENDIX I
TO SUPPLEMENT II
(Continued)

(13) The Assistant Regional Commissioners for Enforcement will provide appropriate CAA Control Tower at Burlington, Vermont; Richmond, Virginia and St. Paul, Minnesota with a current list of person or persons and appropriate telephone numbers for forwarding the notification specified in (12) above. The Assistant Regional Commissioners for Enforcement at San Pedro, California, will provide the Long Beach, California CAA Control Tower, the nearest CAA facility, with similar information.

(14) This approval does not constitute authority to operate aircraft contrary to applicable Civil Air Regulations.

b. Request for approval of required movements not listed in 1a(1) above, or when this approval has been suspended, will be as prescribed in paragraph 1b, Supplement II.

c. All concerned are to be notified by a copy of this Appendix, as specified in 2 below, that flights authorized by this approval may be required to operate as prescribed herein.

2. Distribution.

a. Two (2) copies of this Appendix to each air defense and air traffic control facility/office within the CONAD Division area.

b. Assistant Regional Commissioners for Enforcement may effect reproduction and distribution to other Immigration and Naturalization Service Offices, as required.

DISTRIBUTION:

SCATER
CONAD/CAA
APPENDIX II
TO SUPPLEMENT II

PRIOR-APPROVED PRIORITY CIVIL DEFENSE OPERATIONS

1. General.

a. Prior approval is hereby granted to Directors of Civil Defense of those states having areas lying within the CONAD Regions and CONAD Division Area for the movement of a sufficient number of aircraft when Full SCATER has been implemented to fulfill pre-planned operations essential to the immediate protection of personnel, property and national resources, with the following understanding:

- (1) This approval is limited to flights necessary to fulfill immediate requirements for bomb damage assessment; ground traffic control; fire detection and control; forest, pipe line and other national resources patrols; airlifting of urgently needed medical supplies and equipment, and the emergency evacuation of civil defense aircraft to avoid radio-active fall-out.
- (2) Flights will be made only upon direction of a responsible Civil Defense official.
- (3) Aircraft so used will be equipped with a functioning two-way radio.
- (4) All movements will be conducted in accordance with VFR, and at an altitude of not more than 1000 feet above the immediate terrain.
- (5) NavAids will not be made available for these operations.
- (6) A continuous listening watch will be maintained on the assigned Civil Defense frequency. In the event of radio failure, aircraft will be landed immediately at the nearest available airport.
- (7) Flights will be conducted at pilot's discretion, as there can be no assurance that aircraft will not be inadvertently subject to defense fire.
- (8) To preclude congestion of communications and other facilities essential to the immediate air defense requirements, flight plan and position reports will not be filed unless specifically requested by the CONAD Division Commander.

SCATER
CONAD/CAA
APPENDIX II
TO SUPPLEMENT II
(Continued)

- (9) Prior approved operations may be suspended within a CONAD Division Area by the CONAD Division Commander when required by the immediate air defense situation. This will be accomplished by notifying the appropriate State Director(s) of Civil Defense that "PRIOR APPROVED CIVIL DEFENSE OPERATIONS WITHIN CONAD DIVISION AREA ARE SUSPENDED UNTIL FURTHER ADVISED." Upon receipt of such notification, appropriate Civil Defense officials will direct airborne aircraft in the Defense Area concerned to land immediately at the nearest available airport. This approval may subsequently be reinstated by the CONAD Division notifying the State Director(s) of Civil Defense concerned that "PRIOR APPROVED CIVIL DEFENSE OPERATIONS WITHIN CONAD DIVISION AREA MAY BE RESUMED."

- (10) This approval does not constitute authority to operate aircraft contrary to applicable Civil Air Regulations.

b. Request for approval of required movements not granted herein or when this approval has been suspended will be as prescribed in paragraph 1b, Supplement II.

c. All concerned are to be notified by a copy of this Appendix, as specified in 2 below, that these flights authorized by this approval may be expected to operate without further notification.

2. Distribution.

a. Two (2) copies of this Appendix to each air defense and air traffic control facility/office, State Director of Civil Defense and State Director of Aeronautics within the CONAD Division Area.

b. State Directors of Civil Defense may effect reproduction and distribution to other Civil Defense offices, as may be required.

DISTRIBUTION:

SCATER
CONAD/CAA
SUPPLEMENT III

CORRIDORS AND REPORTING POINTS

1. The Commander-in-Chief, Continental Air Defense Command (CINCONAD), may establish the requirement for corridors and reporting points to be used by approved air traffic to enter the United States or designated areas within the United States when Emergency SCAT Rules are in effect. The description and requirements of any such corridors and reporting points established within the CONAD Regions will be issued by NOTAM, and specific operating instructions for air defense and air traffic control personnel will be published by CONAD Region Appendixes to this Supplement.
2. Distribution. Appendixes to this Supplement will be distributed only to air defense and air traffic control facilities/offices within the CONAD Division Area.

SCATER
CONAD/CAA
SUPPLEMENT IV

LOCAL OPERATIONS

1. General.

a. When Emergency SCAT Rules are in effect and Full SCATER has not been implemented, local air traffic will be confined to the following local operating areas:

- (1) Civil Operations. Ten (10) nautical mile radius of the take-off point and to an altitude of not more than 1500 feet above the terrain, unless a larger local area has been approved, as prescribed in 1.c below.
- (2) Military Operations. An area designated by the Military Base Commander after coordination with the appropriate CONAD Division Commander.

b. Local operations will not be conducted when Full SCATER has been implemented.

c. Where normal local operations cannot be accomplished within an area as defined in 1.a above, a larger local area may be designated by the appropriate CAA Regional Administrator, after coordination with the CONAD Division Commander concerned. Request for larger local operating areas must include the details of operation and area required. Where the operations to be conducted will not permit maintaining a continuous listening watch on an appropriate aeronautical frequency, or involve aircraft not equipped with at least a functioning radio receiver, a visual signal for the recall of aircraft in the event Full SCATER is implemented must be available.

d. Airport Managers and Military Base Commanders are requested to post a description of the designated local area and, where applicable, location and function of the visual recall signal at conspicuous locations.

e. A description of military local operating areas as specified in 1a(2) above, and civil local areas designated as specified in 1c above, within each CONAD Division Area will be listed in CONAD Division Appendix 1 and Appendix 2, respectively, to this Supplement.

2. Distribution. Appendixes to this Supplement will be distributed only to air defense and air traffic control facilities/offices within the CONAD Division Area.

SCATER
CONAD/CAA
SUPPLEMENT V

SCATER TESTING PROCEDURES*

1. To insure that SCATER actions can be taken expeditiously, SCATER tests will be conducted as follows:
 - a. SCATER tests will be conducted in connection with CONAD National, Regional, or Division Exercises whenever practicable or may be initiated at other times by a CONAD Division. Normally, no more than six (6) tests will be conducted during any one calendar year. SCATER tests will not be scheduled oftener than every 60 days, except that a test may be held in conjunction with a national exercise less than 60 days after a regional or division test. To provide for maximum personnel participation, each test will be conducted in three (3) phases-- a phase for each 8-hour period of operations (0000-0800; 0800-1600; 1600-2400 local time). Each phase will be terminated after sufficient time has elapsed for participating facilities to complete all test actions.
 - b. All Federal facilities concerned with SCATER actions will participate in SCATER tests, except where such participation will involve the safety of aircraft. Nonfederal facilities concerned with SCATER are requested to participate. In the event an ARTC Center is unable to participate, the phase or phases involved will be rescheduled for the corresponding period of the following day.
 - c. Participation and reporting will be in accordance with procedures prescribed in Section D, SCATER Actions Form, and CONAD Division Combat Center and ARTC Center Implementing Instructions.
 - d. Participation or nonparticipation will be reported by use of the self-addressed SCATER Test Report Postcard supplied by the CONAD Division CAA ADLO. CONAD Divisions and ARTC Centers will report participation by use of the report form contained in the appropriate Implementing Instructions.
 - e. A separate test report is to be submitted for each phase of the test. All items of the test report must be completed. Where the action item is either not received or not applicable, the abbreviation "NR" or "NA", as appropriate, is to be listed in lieu of the action time. Where a facility is unable to participate, the reasons for nonparticipation should be recorded on the test report.
 - f. The CONAD Division CAA ADLO will evaluate all test reports and prepare an analytical report of participation within the CONAD Division Area. This report will contain the number of SCATER action facilities, by category; list of non-participating facilities; action times; general review of any discrepancies noted, and recommended corrective actions. Specific discrepancies will be reported to the facility concerned by separate correspondence.

SCATER
CONAD/CAA
SUPPLEMENT V
(Continued)

g. A copy of the analytical report will be submitted to the CONAD Division Commander; CONAD Forces and Headquarters CONAD, CAA Region and Washington Offices.

* Although it is not mandatory that nonfederal facilities participate in SCATER tests, participation is requested to insure that appropriate action will be taken when actual implementation is necessary.

UNCLASSIFIED

Excluded from General Declassification Schedule

Director
Research Studies Institute
Attn: Archives Branch
Maxwell AFB, Alabama

RETURN TO:

K410.01-84
July-Dec, 1957
Vol. VI

CONAD / NORAD

HISTORICAL SUMMARY

(UNCLASSIFIED)

JULY - DECEMBER 1957

VOLUME V

SUPPORTING DOCUMENTS

183 Through 233

Excluded from General Declassification Schedule

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SECRET FILE
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COOP-T

Jul 25 1957

SUBJECT: Revised Plan for the Security Control of Air Traffic
During A Military Emergency (SCATER)

TO: Commander, each CONAD Region

1. The Plan for the Security Control of Air Traffic during a Military Emergency (SCAT), dated 15 July 1952, has been superseded by the Plan for the Security Control of Air Traffic and Electro-magnetic Radiations During an Air Defense Emergency (SCATER). This Plan was approved by the Secretary of Commerce and Secretary of Defense on 7 May 1957.

2. Principal features of the revised Plan are:

a. It is a consolidation of the former SCAT Plan and the basic Air Division (Defense) SCATER Plans.

b. It applies to all areas of United States jurisdiction.

c. It outlines the sequence of SCATER implementation actions and the related responsibilities of CONAD and the CAA in more detail. Particular attention is invited to the following:

(1) SCATER actions will no longer be initiated by use of Air Defense Warning conditions "Red", "Yellow", or "White", but by specific "AIR DEFENSE INSTRUCTIONS" to "IMPLEMENT FULL SCATER" OR "TERMINATE FULL SCATER", or "APPLY EMERGENCY SCAT RULES." This change, however, does not preclude aeronautical facilities from being notified of these warning conditions from civil defense or other sources. SCATER actions will not be taken on such notification except as prescribed in the instructions in parenthesis under "A" of the SCATER Actions Forms.

(2) Simulated warning conditions "Applejack", "Lemon Juice", "SPOMMAN" and "Fadeout" will no longer be used for SCATER tests. Tests will be initiated and terminated by the use of "THIS IS A SCATER TEST" or "TERMINATE SCATER TEST."

d. It contains Emergency Rules for the Security Control of Air Traffic.

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COOP-T, Subject: Revised Plan for the Security Control of Air Traffic During a Military Emergency (SCATER)

e. It directs Federal civil and military aeronautical facilities to participate in periodic tests of the SCATER Plan in accordance with procedures developed by CONAD and CAA.

f. It substitutes the term "Air Defense Emergency" for "Military Emergency."

3. The following implementing actions on the part of CONAD and CAA are necessary, and are being accomplished as expeditiously as possible.

a. Develop a CONAD/CAA SCATER Plan. This Plan will consist of:

(1) The Department of Defense/Department of Commerce SCATER Plan.

(2) CONAD/CAA Supplements developed jointly by Headquarters CONAD and CAA. These Supplements will contain basic instructions and information which are applicable throughout the CONAD area of responsibility and will prescribe format and content for Appendices and/or Attachments to be developed on a CONAD Region or Division basis, as required.

(3) Issue revised classified SCATER material in a CONAD/CAA classified SCATER Plan. This Plan will be disseminated by Headquarters CONAD under separate cover. Appendices and/or Attachments to this Plan will be developed by CONAD Regions and/or Divisions as prescribed in the Plan.

b. Prepare and issue revised SCATER Actions Forms to all civil and military aeronautical facilities and airport managers.

c. Distribute SCATER Tests Report Post Cards to all recipients of SCATER Actions Forms.

d. Publish a CONAD regulation delineating responsibilities of CONAD Commanders for SCATER Plan preparation and execution. Headquarters CONAD will also request that AFR 60-24, Control of Air Traffic During an Air Defense Emergency (SCATER), be superseded by a joint AF-Army-Navy regulation which will specifically direct the compliance by the forces of each of the military Services with emergency SCATER requirements and for participation in periodic SCATER tests.

4. Copies of the Department of Defense/Department of Commerce SCATER Plans, SCATER Actions Forms and SCATER Test Report Post Cards

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COPY

UNCLASSIFIED

COOP-T, Subject: Revised Plan for the Security Control of Air Traffic During A Military Emergency (SCATER)

have been supplied to the CONAD Division CAA ADLO. Copies of CONAD/CAA Supplements will be forwarded to the CONAD Divisions under separate cover.

5. SCATER Actions Forms and detailed instructions for participation in tests will be completed by the CONAD Division CAA ADLO. These instructions and copies of the CONAD/CAA SCATER Plan will be distributed by the CAA ADLO in collaboration with the CONAD Division Commanders.

6. SCATER testing will consist of the following:

a. Periodic SCATER communications tests will be conducted not to exceed once each week. Those tests will originate in the CONAD COC through the Region and Division Control Centers to the ARTC Center. The tests will terminate at the ARTC Center.

b. SCATER tests will be conducted approximately every 60-90 days. Such tests will be initiated by the CONAD Divisions in collaboration with national, regional or division air defense exercises, wherever practicable. To insure full participation of all facility personnel, each test will be conducted in three phases a phase for each eight hour tour of duty (0000-0800, 0800-1600, 1600-2400 local time). Each phase will be terminated after sufficient time has elapsed for participating facilities to perform all test actions. Aeronautical facilities will participate in SCATER tests except where such participation will involve the safety of air traffic. In the event an ARTC Center is unable to participate, the Division Control Center will be advised, "Unable to participate." In such instances, the test phase or phases involved will be rescheduled for the corresponding period of the following day.

7. Although the Department of Defense/Department of Commerce SCATER Plan has received general distribution, CONAD/CAA requirements cannot be implemented or tested until all supplementary instructions and other material referred to above have been prepared and distributed. This headquarters, in coordination with CAA, has agreed that such material will be available at the CONAD Divisions in sufficient time to be effective on 1 October 1957. In the interim, SCATER actions will have to be implemented by use of instructions contained in existing SCATER plans and SCATER Actions Forms.

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COOP-T, Subject: Revised Plan for the Security Control of Air
Traffic During A Military Emergency (SCATER)

8. Similar instructions will be issued by CAA to all CAA
facilities.

FOR THE COMMANDER-IN-CHIEF:

Copy furnished:
CAA Liaison Office,
DCS/O, ADC
COCOC

/s/t/ HARVEY T. ALNESS
Major General, USAF
DCS/Plans & Operations

/s/t/ Major Fuss
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18 Jul 57
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daily as DVFR flight plans or IFR flight plans when aircraft are penetrating air defense identification zones as stipulated in current Air Force and CAA instructions. CAA has issued specific instructions for guidance of all interested agencies, which are contained in their manual of operations, revised 1 March 1956, titled, "Standard Operating Procedures for Security Control of Air Traffic." This document was prepared by the Airways Operating Division of the Civil Aeronautics Administration. USAF guidance for security control clearances is as contained in AFR 60-22.

7. Reference paragraph 3c(1) and (2). As stated in paragraph 7b(2)(a) of the SCATER Plan, maximum altitude will normally be stated as 15,000 feet above terrain. This does not restrict the Division Commander from establishing a lower altitude or a higher altitude above terrain as the air defense situation may dictate. The word "identifiable" is intended to mean that IFR traffic will insure that they are on a proper flight plan and that CAA can identify this traffic to the radar at any time.

8. Reference paragraph 3c. Although the DOD/DOC SCATER Plan provides procedures and/or restrictions which may be applied to air craft operating within an ADIZ, Defense Area, and/or Open Area, this does not make the entire country an ADIZ when SCATER action has been taken. It is true that the entire air route traffic control system will, in effect, perform an ADIZ function in the event of SCATER actions; however, aircraft allowed to operate in open or defense area under Emergency SCAT Rules are still bound by ADIZ rules in addition to those restrictions established by the Division Commander. The implementation of SCATER and actions required by COMAD Commanders will be in accordance with the provisions of the DOD/DOC SCATER Plan as further amplified by NORAD regulations and plans pertaining thereto.

9. Reference paragraph 4a. This headquarters believes that sufficient basic ground rules for operation under SCAT Rules are contained in the SCATER Plan and amplifying NORAD directives. It is the intent to standardize to the degree that the Division Commanders will be denied full freedom of action in applying Emergency SCAT Rules. These procedures should be used as a guide and should not restrict the Division Commander in his decisions relative to the degree of control desired when these rules are implemented.

10. Reference paragraph 4b. It is not the intent of this headquarters to establish hard and fast rules which will force a COMAD Division Commander to implement SCAT Rules simply because an adjacent Division has done so. Direction and guidance of this nature should rest with the Region Commander. However, under the initial condition of Air Defense Warning Yellow or Red, wherein one Division implements Full SCATER, adjacent Divisions will follow suit. This procedure will make the implementation of Full SCATER compatible with procedures contained in COMAD Regulation 55-3.

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11. Reference paragraph 5. The interpretation of paragraph 8a(2), reference a, is essentially correct; however, as stated in this paragraph, Full SCATER will be placed in effect during an Air Defense Emergency, normally when hostile aircraft are enroute to the United States or have penetrated the air defense system. It is not the intent to restrict the Division Commander from implementing Full SCATER, at his discretion, during an Air Defense Emergency. This headquarters foresees no requirement for implementing SCATER under any condition less than a state of Air Defense Emergency.

FOR THE COMMANDER-IN-CHIEF:

HARVEY T. ALBES
Major General, USAF
DC/Plans & Operations

M/R Numerous questions were proposed by the 34th CONAD Division with regard to interpretations of the DCB/DOC SCATER Plan dated 7 May 57. The above indorsement answers each specific question in sufficient detail to provide necessary guidance to the Commander, 34th, and to the CAA ADIO of that division.

CINCPAC	HCP
C-45	HCS
SECRETARIAT	SEC
4-107	SAC
4-107	SAV
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INFO SERVICES	WFO
DCI-DM	YUC
DCI-AM	ESS
DCI-AS	EPH
DCI-AT	ELM
DCI-E	WT
DCI-F	HC
DCI-G	HS
DCI-H	IS
DCI-I	IT
DCI-J	MC
DCI-K	MS
DCI-L	NS
DCI-M	OS
DCI-N	PS
DCI-O	SS
DCI-P	TS
DCI-Q	US
DCI-R	VS
DCI-S	WS
DCI-T	XS
DCI-U	YS
DCI-V	ZS
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Hq 34th COMAD Division, Subj: DOD/DOC SCATER Plan, 31 July 57

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1st Ind

1600 - 8 AUG 57

Hq COMAD Forces, Central COMAD Region, Richards-Gebaur Air Force Base, Missouri

TO: Commander in Chief, Continental Air Defense Command, Ent Air Force Base, Colorado Springs, Colorado

1. Questions raised in paragraphs 2 and 3 of basic letter appear valid, but answering them will require interpretation of DOD/DOC SCATER Plan dated 7 May 1957. Because of the far reaching result such interpretation may create, it is felt that your headquarters should make such decisions as may be appropriate to answer these questions.

2. Reference paragraph 4, this headquarters does not concur with the recommendations in paragraphs 4a and b since the tactical situation will probably vary widely from one division to another and the recommended standardization could well prove detrimental to a COMAD Division Commander in fulfilling his obligation to permit the maximum flow of non-tactical air traffic consistent with the accomplishment of his primary mission.

FOR THE COMMANDER:

Incl: n/c

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HEADQUARTERS
34TH CONTINENTAL AIR DEFENSE DIVISION
(CONAD DIVISION)
Kirtland Air Force Base, New Mexico

SUBJECT: DOD/DOC SCATER Plan

TO: Commander
CONAD Forces, Central CONAD Region
Richards Gebaur Air Force Base, Missouri

1. References:

a. U.S. Department of Defense, U.S. Department of Commerce, Plan for the Security Control of Air Traffic and Electromagnetic Radiations During an Air Defense Emergency. (Short Title: SCATER).

b. Air Force Regulation 60-22 dated 24 Oct 55.

c. Hq 34th AD(D) letter, subject: Proposed Concept of Operation-Identification Readiness, dated 28 December 1956. (2nd Indorsement attached.)

2. The new SCATER Plan (Reference a) has provoked several questionable areas within this headquarters. The following comments and/or queries are made in the interest of resolving outstanding problem areas.

a. Emergency SCAT Rules: Do Division Commanders possess authority to impose restrictions on civil and non-tactical military air traffic to include grounding of aircraft? If so, does this policy apply to "open area" as well as ADIZ operations?

b. Full SCATER Rules:

(1) SCATER Rules as opposed to Emergency SCAT Rules by definition (Reference a) implies the basic difference could possibly be only the added control of Electromagnetic Radiation devices. Is this correct?

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HQ 34TH CONAD Div, Kirtland AFB, NMex, PO&R, SUBJ: DOD/
DOD SCATER Plan .

Emergency SCAT Rules. It is recommended that the basic ground rules for operation under SCAT be standardized for all CONAD Divisions. This would to some degree lessen the confusion of Inter-Division air traffic.

b. Further, it is recommended that when one (:) CONAD Division implements Emergency SCAT rules or Full SCATER all other Divisions do the same. Again, this recommendation is made in the interest of Inter-Division control and to facilitate movement of air traffic.

5. Pending your answer and/or supporting plan to Reference a, this headquarters envisions only the implementation of Full SCATER in the event of an Air Defense Emergency in accordance with paragraph c. a. (2), Reference a. Should this action not receive favorable consideration (for the interim) request this headquarters be advised.

1 Incl
a/s

Walter T. Carter
WALTER T. CARTER
Colonel, USAF
Deputy for Plans and Operations

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UNCLASSIFIED

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HQ 34TH CONAD Div, Kirtland AFB, NMex, PO&R, SUBJ: DOD/
JCC SCATER Plan

(2) Do Division Commanders possess authority to implement Full SCATER without prior approval or direction of higher headquarters?

3. Specific:

a. Reference a. para 1.k: Is the assumption that "military flights" include civil aircraft under military contract on tactical support missions correct?

b. Reference a. para 1.n: This definition does not appear to coincide with paragraph 3.b. of reference b.

c. Reference a. para 1.g., 1.p. and 5.d: Although the purpose of a Security Control Clearance is generally described, no guidance is provided for specific CONAD Division and/or CAA responsibilities.

d. Reference a, para 7.b. (2)(a):

(1) May Division commanders restrict VFR and DVFR traffic to less than 15,000 feet above the terrain?

(2) What is the meaning of the word, "identifiable"?

e. Throughout reference a, various procedures and/or restrictions are described or applied to aircraft operation within an ADIZ, Defense Area and Open Area. Air Defense Command has stated, "In the event of an emergency, SCATER takes effect and the whole country in fact becomes an ADIZ. The entire ARTC system then performs an AMIS function". (Reference para 2., HQ ADC, 2nd Indorsement to reference c.) Your attention is invited to date (25 Feb 1957) of subject indorsement and request clarification of its applicability under provisions of reference a.

4. Recommendations:

a. Rules applying to the restriction of air traffic are fairly clear when operating under Full SCATER as opposed to

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CWDPL, HQ CFWCR, 12 Sep 57, Subj: Evacuation Under SCATER

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1st Ind

27 Sep 1957

Hq North American Air Defense Command, Ent Air Force Base,
Colorado Springs, Colorado

TO: Commander, Continental Air Defense Forces Western CONAD Region
Hamilton Air Force Base, California

1. The problem referred to in the basic communication has been discussed with Headquarters USAF, and this headquarters has been advised that the Director of Operations, Headquarters USAF, is preparing a document for JCS action, limiting the number of priority missions which may fly during a military emergency. It is anticipated that the USAF paper will be forwarded to the JCS within the next fifteen days. Until receipt of information relative to actions taken by the JCS on the USAF recommendations, any action by this headquarters regarding tactical air traffic of this nature is being held in abeyance.

2. As a matter of information, this headquarters is proposing to the Chief of Staff, USAF as Executive Agent for NORAD, that only SAC and Navy anti-submarine warfare aircraft be allowed unrestricted operations and that all other traffic regardless of category, be controlled through the Air Defense System.

3. Your headquarters will be advised when resolution of this problem has been effected.

FOR THE COMMANDER IN CHIEF:

JOHN H. HEPFUS
Colonel, USAF
Director of Operations

M/R Major of USAF recently visited NORAD Headquarters and was made aware of the problem. His office is presently preparing the correspondence to JCS establishing priorities to be used in conjunction with SCATER.

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HEADQUARTERS
CONTINENTAL AIR DEFENSE COMMAND FORCES
WESTERN CONAD REGION
HAMILTON AIR FORCE BASE, CALIFORNIA

CMDPL

SUBJECT: Evacuation under SCATER

TO: Commander-in-Chief
Continental Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. (UNCLASSIFIED) Reference is made to letter this headquarters, subject as above, 21 May 1957, and interim reply, your headquarters, 29 May 1957.

2. (CONFIDENTIAL) This headquarters has indirectly learned that aircraft factories in additional areas are planning on evacuating combat type aircraft from factories in an emergency. Such evacuation of factory products is contrary to the understanding of this headquarters regarding SCATER, and appears to be of sufficient volume to pose a serious threat to our identification capability and to the safety of these aircraft.

3. (UNCLASSIFIED) Request that resolution of this serious problem be expedited and this headquarters advised as soon as possible.

4. (UNCLASSIFIED) This letter is classified CONFIDENTIAL in accordance with paragraph 30c(2)(f), AFR 205-1.

FOR THE COMMANDER:

ELMAN L. WOODMAN
Lt Col, USAF
Adjutant

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UNCLASSIFIED

JOINT MESSAGEFORM

SECURITY CLASSIFICATION

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SPACE BELOW RESERVED FOR COMMUNICATION CENTER

PRECEDENCE	TYPE MSG (Check)			ACCOUNTING SYMBOL	CRIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION PRIORITY	BOOK	MULTI	SINGLE			
INFO		X		AF	X	
FROM: CINCONAD						SPECIAL INSTRUCTIONS

TO: COMCFBR STEWART AFB NEWBURGH NY
 COMCFGR RICHARDS-GEBAUR AFB GRANDVIEW MO
 COMCFWR HAMILTON AFB CALIF

INFO: CAA W500 WASHINGTON 25 DC

UNCLASSIFIED From COOP-T _____.

Subject is SCATER. Supplemental information and classified annexes to the DOD/DOC SCATER Plan dated 7 May 57, will be published by this Headquarters. Target date for completion of above actions is 1 October 57. CONAD Regions will not take action to amend or supplement the plan pending receipt of instruction from this Headquarters. In the interim, SCATER actions will be implemented in accordance with instructions contained in the 7 May plan and existing SCATER annexes. Amplifying instructions will be contained in my CONAD letter to be dispatched at an early date.

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11	1630Z
MONTH	YEAR
July	1957

SYMBOL	COOP-T	SIGNATURE
TYPED NAME AND TITLE (Signature, if required)	Major Fues/dll	TYPED (for stamp) NAME AND TITLE
PHONE	2088	Major Fues, USA Asst Adjutant
SECURITY CLASSIFICATION	UNCLASSIFIED	

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1 M/R The new SCAM Plan was received on 5 July 1957. This Headquarters in conjunction with CAA is preparing appropriate implementing instructions. It appears that 1 October will be the earliest date this info can be sent to the field and adequately distributed to insure that all agencies, Civil and Military, are informed of new procedures. This message will be followed by a letter giving specific interim and implementing instructions.

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CONADR 55-18

CONAD REGULATION)
55-18)

HEADQUARTERS CONTINENTAL AIR DEFENSE COMMAND
Ent AFB, Colorado Springs, Colorado
8 August 1957

OPERATIONS

Memorandum of Understanding Between CONAD and the CAA

1. Purpose. The purpose of this Regulation is to inform all echelons of the Memorandum of Understanding between the Continental Air Defense Command and the Civil Aeronautics Administration.

2. Scope. This Regulation applies to all echelons of CONAD and military agencies under the operational control of CINCONAD except the 64th CONAD Division and the air defense elements of the Alaskan Air Command, and is for the guidance of other commands having collateral responsibilities in the conduct of air defense.

3. Responsibility. CONAD commanders will insure compliance with the contents of this agreement.
(COOP-T)

FOR THE COMMANDER-IN-CHIEF:

OFFICIAL:

MARSHALL S. CARTER
Major General, USA
Chief of Staff

W. J. Birmele
W. J. BIRMELE
Lt Col, USAF
Adjutant

DISTRIBUTION:
A, B, F & CAA

1 Attachment
Memorandum of Understanding
Between CONAD and CAA

MEMORANDUM OF UNDERSTANDING

CONAD and CAA

GENERAL

The Continental Air Defense Command (CONAD) is a joint command established under the Joint Chiefs of Staff charged with the mission of defending the Continental United States, Alaska, and the Northeast Area against air attack. The Commander-in-Chief, Continental Air Defense Command (CINCONAD) exercises operational control over the United States Air Force Air Defense Command, the United States Army Air Defense Command and Naval Forces, Continental Air Defense Command and the forces assigned, attached, or otherwise made available to these commands or made available to him by the Joint Chiefs of Staff or other proper authority.

The authority and responsibilities of the Civil Aeronautics Administration (CAA) are stated in the Civil Aeronautics Act of 1938, as amended, Public Law 778, and pertinent Executive Orders. By law, the CAA is charged with the responsibility for the establishment and operation of the common system of air navigation and air traffic control.

In accordance with the Joint Chiefs of Staff directive, CONAD is responsible for the development of plans and policies jointly with the CAA for establishment of a system for the identification and security control of aircraft and the control of air navigation aids.

The cooperation and active participation of the CAA is essential to the air defense of the country. Close coordination between CONAD, its component forces, and the CAA is imperative to carry out air defense requirements efficiently without undue restrictions to civil and non-tactical military aviation.

Contributing to the effectiveness of the air defense system and the CAA air traffic control system, are plans for the integration of CAA and CONAD radars and the possible future application of SAGE to air traffic control. Both agencies will continue to explore the possible joint use of these and other future electronic environments which will contribute to mission accomplishment.

PURPOSE

It is the purpose of this paper to set forth mutually agreed arrangements regarding responsibility, functions, and working relationships of the CAA and CONAD to insure that the air defense mission is accomplished in accordance with existing laws and directives.

RESPONSIBILITIES

CONAD - In carrying out his mission, CINCONAD will:

1. Coordinate with the Federal Civil Defense Administration, State Civil Defense Agencies, and other nonmilitary agencies on matters of participation in air defense.

Attachment #1

2. Coordinate with appropriate military, governmental and non-governmental agencies in the development of policy and broad plans for the security control of air traffic, the control of electromagnetic radiations and the control of illumination and, when appropriate, initiate implementing actions therefor in the defense of the Continental United States, Alaska and the Northeast area against air attack. (These policies and plans will be made known to the CAA through the Department of the Air Force, as Executive Agency for CONAD, and through CONAD membership on the SCAT Board.)

CIVIL AERONAUTICS ADMINISTRATION - The CAA is responsible for:

1. The operation of the Federal Airways System.
2. The development and implementation of plans for the security control of air traffic as may be necessary in the interest of national security, to include the designation of zones or areas in which it may be necessary to prohibit or restrict flights of aircraft. Such actions will be requested by the Air Force in accordance with mutually agreed plans and procedures and in conformance with the provisions of Public Law 778, 81st Congress, dated 9 September 1950.
3. The development and implementation of plans consistent with air defense requirements to control electromagnetic radiations pertaining to radio aids, to air navigation, and to CAA communications in accordance with Executive Order 10312.
4. The development of plans for CAA and other civil agencies' participation in the SCATER phases of air defense exercises.

LIAISON

The CAA will provide liaison with CONAD Headquarters, the Eastern, Western and Central CONAD Region Headquarters, and with the headquarters of each CONAD Division. The duties of the Liaison Officers at any of the CONAD levels include:

1. Advise the appropriate headquarters of the operational capabilities and limitations of the Federal Airways System with respect to participation in air defense functions.
2. Advise the appropriate headquarters of current policies and procedures originating with the Office of Air Traffic Control.
3. Assist the appropriate headquarters in the formulation of requests for services to be performed by the CAA.
4. The coordination with the appropriate offices of the CAA on air defense activities.

5. When, and as requested by CONAD or subordinate echelons, participate in the coordination of air defense activities with civil and military agencies.

6. When, and as requested by CONAD or subordinate echelons, participate in conferences dealing with air defense matters.

Liaison Officers on duty with CONAD Division will also be responsible for:

1. The preparation of detailed Division plans for the security control of air traffic and control of electromagnetic radiations in cooperation with the Division Commander.

2. The development of procedures to implement such plans.

3. The development of plans for CAA and other civil agencies' participation in the SCATER phases of air defense exercises.

4. Assistance to the Division in the development of interceptor scramble and recovery procedures, including the necessary coordination with CAA regional offices and air traffic control facilities as required.

5. Coordination with the CONAD Division Commander of requests for exemptions of the CAA Administrator's Regulations 620.

In the event of an air defense emergency, the CAA Liaison Officer assigned to any CONAD Headquarters level, or a suitable replacement therefor, will be readily available on a 24-hour basis. These personnel will be subject to military security regulations. The CAA will provide Headquarters CONAD with the degree of security clearance of personnel involved.

SECURITY CONTROL OF AIR TRAFFIC

The CAA is the primary source of available aircraft movement data. In order to facilitate the identification of aircraft, the CAA will:

1. Gather, process, and furnish such data to appropriate air defense facilities in accordance with mutually acceptable procedures.

2. Whenever an intercept results in determination that an apparent violation of military or civil regulations for the security control of air traffic has occurred, the CAA Air Route Traffic Control Center concerned will attempt to determine the reason for the alleged incident, and will prepare supporting documentary evidence when justified.

3. When requested, the CAA Air Route Traffic Control Centers will serve as a central agency for the collection, evaluation, and dissemination

of movement data for all flights of civil and military aircraft operations requiring identification in ADIZ's and in such other areas and under such conditions as may be agreed upon between CAA and CONAD.

REQUEST FOR SERVICE

Resources made available by CAA for air defense purposes may not provide for all the services required which may arise from unforeseen circumstances. Requests for services for air defense purposes which require additional CAA personnel, equipment and/or communications for which military funds must be provided will be directed to Headquarters CONAD for approval, who in turn will forward to Headquarters ADC for negotiation with CAA and USAF.

FISCAL AND ADMINISTRATIVE CONTROL

The CAA will pay all salaries and expenses of Liaison Officers.

The CAA will be reimbursed by ADC upon request by CONAD for AMIS and other special services, related equipment, and communications required in support of the air defense mission when such services have been requested by CONAD.

Administrative control of CAA personnel and facilities engaged in providing the required services shall remain with the CAA.

CONAD Headquarters, and Headquarters CONAD Regions and CONAD Divisions, will provide Liaison Officers with suitable office space and equipment.

Each CONAD unit to which a Liaison Officer is assigned as outlined herein will issue invitational letter orders authorizing necessary transportation (including travel in military aircraft), messing, billeting, and medical facilities, where available, normally accorded civil service personnel while on duty with CONAD units.

APPROVED:

/s/Earle E. Partridge
EARLE E. PARTRIDGE
General, USAF
Commander-in-Chief, CONAD

APPROVED:

/s/ James T. Pyle
JAMES T. PYLE
Administrator
Civil Aeronautics Administration

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Posted 11/15/57

CONADR 55-7

CONAD REGULATION)
55-7)

HEADQUARTERS CONTINENTAL AIR DEFENSE COMMAND
Ent AFB, Colorado Springs, Colorado
11 September 1957

OPERATIONS

Memorandum of Understanding Between CONAD and the FCC

1. Purpose. The purpose of this Regulation is to inform all echelons of the Memorandum of Understanding between the Continental Air Defense Command and the Federal Communications Commission.
2. Scope. This Regulation applies to all echelons of CONAD and military agencies under the operational control of CINCONAD except the 64th CONAD Division, and is for the guidance of other commands having collateral responsibilities in the conduct of air defense.
3. Responsibility. CONAD commanders will insure compliance with the contents of this agreement.
(COOP-T)

FOR THE COMMANDER-IN-CHIEF:

OFFICIAL:

MARSHALL S. CARTER
Major General, USA
Chief of Staff

W. J. Birmele

W. J. BIRMELE
Lt Col, USAF
Adjutant

DISTRIBUTION:

A, B, F & FCC

1 Attachment
Memorandum of Understanding
Between CONAD and FCC

MEMORANDUM OF UNDERSTANDING
CONAD and FCC

General

The Continental Air Defense Command (CONAD) is a joint command established under the Joint Chiefs of Staff charged with the mission of defending the Continental United States, Alaska, and the Northeast Area against air attack. The Commander-in-Chief, Continental Air Defense Command (CINCONAD) exercises operational control over the United States Air Force Air Defense Command, the United States Army Air Defense Command and Naval Forces, Continental Air Defense Command and the forces assigned, attached, or otherwise made available to these commands or made available to him by the Joint Chiefs of Staff or other proper authority.

The authority and responsibilities of the Federal Communications Commission (FCC) are stated in the Communications Act of 1934, as amended, and pertinent Executive Orders which are filed with the General Council of FCC. The FCC is charged with the responsibility of regulating all interstate and foreign communication by wire and radio, and all interstate and foreign transmission of energy by radio which originates and/or is received within the United States.

Section 606 (c) of the Communications Act of 1934, as amended, authorizes the President, in the situations stated, to provide for the control of any station for radio communication, or any device capable of emitting electromagnetic radiations between 10 kilocycles and 100,000 megacycles, which is suitable for use as an air navigational aid beyond 5 miles (CONELRAD).

By Executive Order 10312, dated December 10, 1951, the President delegated to the Federal Communications Commission, the authority vested in him by Section 606 (c) with respect to radio stations, with the exception of radio stations belonging to and operated by any department or agency of the United States. With respect to the latter stations, the head of each department or agency, the stations of which are involved, was directed to prepare and put into effect such plans as are necessary to minimize the use of electromagnetic radiations of such stations as air navigational aids.

In accordance with the provisions of the aforesaid Executive Order, the FCC, the Secretary of Defense, and the head of each government department or agency the stations of which are involved, are authorized to issue appropriate rules, regulations, orders, and instructions, and to take such other action as may be necessary to assure the timely and effective operation of the plans to effect the control of electromagnetic radiations between 10 kilocycles and 100,000 megacycles (CONELRAD) and to carry out their functions thereunder. Executive Order 10312 as amended by Executive Order 10438, dated March 13, 1953, further provides that all CONELRAD plans shall be approved by the Secretary of Defense and the Director, Office of Defense Mobilization, before becoming effective.

The cooperation and active participation of the FCC is essential to the air defense of the country. Close coordination between CONAD, its component forces, and the FCC is imperative to carry out defense requirements efficiently, and to deny navigational assistance to hostile aircraft, guided missiles, and other devices capable of direct attack upon the United States. However, it is desirable, insofar as possible and practicable, to preserve and maintain normal conditions and relationships under which radio stations are operated while furthering the expeditious implementation of the aforesaid plans.

Contributing to the effectiveness of the air defense systems are plans for the integration during attack conditions, and with ultimate application to the SAGE environment, of certain non-government radio facilities licensed by FCC. CONAD and FCC will continue to jointly explore the possible use of existing civil communications facilities which will contribute to mission accomplishment.

In carrying out most efficiently and expeditiously the directives of the aforementioned Executive Orders, it is essential that the FCC and CONAD undertake the responsibilities hereinafter set forth.

PURPOSE

It is the purpose of this memorandum to set forth mutually agreed arrangements regarding responsibility, functions, and working relationships between the FCC and CONAD so as to insure the effective accomplishment of the liaison functions set forth herein and, further, to insure that the air defense mission is accomplished in accordance with existing laws, directives, and Executive Orders.

RESPONSIBILITIES

CONAD - In carrying out his mission, CINCONAD is responsible for the following in effecting the control of electromagnetic radiations:

1. Furnish guidance and assistance, as required, to all government departments and agencies concerned in the development and implementation of their CONELRAD plans pursuant to the directives contained in Executive Order 10312.
2. Man CONELRAD operating positions at the Air Defense Control Centers (ADCC).
3. Initiate and disseminate the CONELRAD radio alert and initiate and disseminate the removal of same, with a CONELRAD radio all clear, for all radio stations, government and non-government.

FCC - In carrying out its mission pursuant to the directives in the Executive Order 10312, the Federal Communications Commission is responsible for the following:

1. Prepare and directly implement plans with respect to radio stations (except those belonging to and operated by any department or agency of the United States Government), to minimize the use of electromagnetic radiations of such stations, in the event of attack or imminent threat thereof, as an aid to navigation of hostile aircraft, guided missiles, and other devices capable of direct attack upon the United States.
2. Prepare plans for the Department of Defense with respect to radio stations belonging to and operated by any department or agency of the United States Government, to minimize the use of electromagnetic radiations of such stations, in the event of attack or imminent threat thereof, as an aid to navigation of hostile aircraft, guided missiles, and other devices capable of direct attack upon the United States. Such plans and all correspondence relating to implementation thereof will be forwarded through CONAD to the Secretary of Defense for action.

Liaison

The FCC will make personnel available at CONAD Regions and CONAD Divisions for liaison purposes with duties which include:

1. Advising the appropriate headquarters of the availability of existing non-government radio services with respect to participation in air defense functions.
2. Advising the appropriate headquarters of FCC policies and procedures regarding CONELRAD plans for non-government radio services, together with amendments and revisions thereof.

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*NORADR 101-2

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NORAD REGULATION)
101-2)

HEADQUARTERS NORTH AMERICAN AIR-DEFENSE COMMAND
Ent AFB, Colorado Springs, Colorado
6 January 1958

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FF NO. 574

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NORADR 101-2

(b)(1)



FF NO. 18-574

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NORADR 101-2

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FF NO. XP-579 -3-

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NORADR 101-2

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NORADR 101-2

(b)(1)



OFFICIAL:

R. E. Garvey Jr.
R. E. GARVEY, Jr.
Major, AGC, USA
Asst Dir, Administrative Services

MARSHALL S. CARTER
Major General, USA
Chief of Staff

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See page 6

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NORADR 101-2

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CONAD Regions 4
CONAD Divisions 4
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TAC 5
CINCLANT 2
CINCPAC 2
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COMNAVFORCONAD 2
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(Attn: SIGOP-5)
Canadian Joint Staff, Attn: 2
Air Member, Washington 8, D.C.
Chief of Air Staff 4
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RCAF (ADC) Hq 20
USAF ADC (see below). 367
USARADCOM (See below). 85

TOTAL 635

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9 January 1958

FORM

SUBJECT: ADC Responsibilities for Providing Airborne ECM Training for NORAD Components

TO: Commander
USAF Air Defense Command
Ent Air Force Base
Colorado

1. Consistent with the requirement to improve and maintain a high level of air defense against the ECM threat to the present North American defense operating radar units, it is desired to re-emphasize the need to maximize ECCM training within NORAD.

2. It is therefore considered that your mission does include the responsibility of providing increased airborne ECM training facilities for optimizing the ECM experience levels of the operating personnel at the defense radar units. This added responsibility is in support of all operating NORAD units and in consonance with NORAD Regulation 101-2, dated 6 January 1958. This will provide the needed augmentation of ECM training which in all probability will not be possible utilizing only SAC and ADC capabilities.

FOR THE COMMANDER-IN-CHIEF:

DUPLICATE

Copies furnished:
CG, USARADCOM
COMNAVPERCONAD
CCAF USAF, as
Lead Agent for
NORAD

MARSHALL S. CARTER
Major General, USA
Chief of Staff

COPIES 2, 10-11C

MEMO FOR RECORD: Not required.

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418 73 WLC
25-74 Army
25-75 Navy
67-1434 O/S, USAF

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SCIENCE
CARTER

4 OCT 1957

NOEPAW

SUBJECT: ECM Training

TO: Chief of Staff, United States Air Force
As Executive Agent for NODAW
Washington 25, D. C.

1. The subject of ECM training aircraft has been treated extensively in the past in correspondence to USAF originated by the Air Defense Command, as well as by COMAF. However, considering the apparent stalemate in the situation, it is felt that the subject should again be re-emphasized at this time.

2. This command has embarked on a major program to increase the operational effectiveness of air defense in an ECM environment. The staff, as well as various study groups, such as WSGG, considers that an intensive ECM training program in an area that would provide one of the quickest and largest gains in operational effectiveness. The Air Defense Command does not have the capability to conduct such a program due to the lack of suitable ECM training aircraft.

3. A Qualitative Operational Requirement was submitted by the Air Defense Command, 9 Oct 54, covering their requirements for ECM training aircraft. Headquarters USAF approved this requirement and established COMAF 107 on 7 Nov 55. In further correspondence from Headquarters USAF, it was indicated that 3 F-57A's would be made available as an interim solution to the requirement. To date, neither the aircraft nor modification funds have been made available.

4. Considering the pervasiveness of the ECM threat to the operational effectiveness of this command, it is strongly urged that every effort be made to provide the Air Defense Command, as expeditiously as possible, the required aircraft and modification funds necessary to an effective ECM program.

E. E. PARTRIDGE
General, USAF
Commander-in-Chief

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ADOTS-2, Hq ADC, 27 Sept 57, Subject: Request for Waiver to COMAD Regulation 51-1

F-00P-8

1st Inl

7 OCT 1957

Hq North American Air Defense Command, Ant Air Force Base, Colorado Springs, Colorado

TO: Commander, Air Defense Command, Ant Air Force Base, Colorado Springs, Colorado

1. Message was sent to SAC requesting waiver as outlined in basic letter. Due to limited time available for inter-office coordination at SAC, waiver could not be granted in time for use on mission "Best Deck."

2. Representatives from NORAD will be at SAC Hq. on 8 and 9 October 1957 for conference on COMAD Regulation 51-1 and SAC Regulation 51-6. At this time an attempt will be made to modify the provisions of paragraph 6 L (1) and (2) of COMAD Regulation 51-1 in addition to other changes requested by the ADC Tactical Evaluation Group.

FOR THE COMMANDER-IN-CHIEF

COMAD

HARVEY T. ALBESS
Major General, USAF
DCS/Plans & Operations

NOT REQUIRED

JW Laible
Capt. Lock
1 Oct 57

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20 January 1958

COMNAV

SUBJECT: Reduction of ECM Vulnerability of the Total U.S. Air Defense Weapons and Control Systems (COMNAV)

THRU: Chief of Staff, United States Air Force
as Executive Agent for COMNAV
Washington 25, D. C.

TO: Chairman
Joint Chiefs of Staff
Washington 25, D. C.

1. Reference is made to JCS SM-651-57, subject as above, dated 6 September 1957, which requests CINCOMNAV to outline his operational requirements in the field of electronic counter-countermeasures. This requirements list is to be used as a guide to the Services in developing their programs.

2. Inclosure 1 is a listing of ECM operational requirements which are recommended to reduce the ECM vulnerability of COMNAV weapon systems. This list is predicated on current intelligence information as to the ECM threat, and has been compiled after analysis of WSEG documents and NCRAP-SAC monthly ECM exercises. It should be noted that this listing may be subject to future adjustments of priorities following the WSEG Operational Evaluation Tests now being undertaken.

3. It is requested that the inclosed COMNAV listing of ECM requirements be disseminated to the Services in accordance with JCS SM-651-57.

FOR THE COMMANDER-IN-CHIEF:

1 Incl
COMNAV ECM-
Priorities

M. F. MERRANE
Brig Gen, USA
DPS/Comm and Elect

Copy furnished:
WSEG

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COMAD ECM PRIORITIES

Priority

I. ECM Operator Training and Facilities

- a. On-the-Job Training
- b. ECM Simulator Devices
- c. ECM Configured Hi-Speed, Hi-Altitude Training Aircraft
- d. POL Funds for ECM Training Aircraft (SAC - ADC)

II. ECM Improvements for Ground Environment

- a. AC&W Radars and Height Finders
- b. Picket Ships, AEW, Texas Towers
- c. Primary and Back-up Control Facilities (SAGE and Fire Direction Centers)
- d. Ballistic Missile Defense Radars
- e. Frequency Diversity Radars
- f. Ground-to-Air IFF
- g. Active-Passive System

III. ECM Improvements to Weapons Systems

- a. Surface-to-Air Missile Systems (NIKE, TALOS, BOMARC, HAWK, IMX, etc.)
- b. Air-to-Air Missile Systems (FAUCON, SPOWINTER, GEMIE, etc.)
- c. AI Fire Control System (MC-10, MA-1, etc.)
- d. Air-to-Air IFF
- e. Frequency and Weapons Diversity

IV. Communications

- a. Time Division Data Link
- b. Scatter Communications

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CONAD ECM PRIORITIES (Cont'd)

Priority

- c. Single Side-Band Transmission
- d. Data Link BRCFICCN

V. Defensive ECM and Passive Systems

- *a. Radar Absorption Materials
- b. Reflective and Deception Devices
- c. Distributed Area Jamming Systems

*The subheading listing is not necessarily indicative of the relative priority of the item.

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COOP E

27 Feb 57

SUBJECT: (Uncl) Operations Exercise of the Air Defense System

TO: Commander
Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. This headquarters believes that an operational exercise of the Continental Air Defense System must be performed in the immediate future in order to determine the capability of each element to carry out its function and to determine the capability of the entire system to perform its mission.
2. In consideration of current global situation, commitments of other forces and services, economics, and our analytical capability it is believed that relatively small correlated operational exercises of all existing elements could best provide the desired information.
3. As operational exercise of existing elements of the air defense system would involve:
 - a. Ground Environment
 - (1) Contiguous radar coverage, including picket ships and AEW&C aircraft.
 - (2) Ground observer corps.
 - (3) Ground control intercept.
 - b. Area Defense.
 - (1) Manned interceptors, including augmentation units
 - c. Local defense.
 - (1) NIKE

It is contemplated that such an exercise would embody a coastal defense region with an Air Division Commander conducting a defense against a multiple target attack penetrating from outside the area of contiguous radar coverage. These attacking forces would consist of elements of SAC and the U. S. Navy, utilizing high, low, and very low altitude types of attack. In addition, it is considered that approximately four drones against air intercept and two drones against NIKE batteries should be brought into play, thereby, providing all components with realistic targets. To achieve this realism, drones and/or drone

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14. Operational Exercise of the Air Defense System

configured aircraft were able to simulate some high performance aircraft. However, the aircraft is being given to some more configured aircraft as the F-4E, and F-105, F-106 (with radar reflectors), and some aircraft such as the Douglas, C-2 "Fireball", and C-4 (with radar reflectors).

4. Performing the first three functions of air defense - detection, interception, and identification - was few problems, and has been done in past exercises. However, performing the last function - destruction - was a problem here-to-fore not associated with overall defense exercises. The actual firing of live loads at realistic targets from operational sites limit the engagement areas and ranges to those over ocean areas near the physical locations of defense sites. Mobility of intercept requirements and the speed and general locations and coverage of acoustical radar provide some flexibility in the selection of these targets; however, the selection of established target sites for this purpose is relatively static.

5. In pursuit of preliminary planning, it was felt that a portion of certain problem areas need be performed prior to receiving comments from our headquarters. Copies of the following documents or some have been forwarded to Commander, ALC, for information and planning:

- a. CIRCULAR (C000-1) of 12 Dec 56 to COMNAVSTA,
Subject: Operational Exercise of the Air Defense System
- b. CIRCULAR (C000-2) of 11 Jan 57 to COMNAVSTA,
Subject: (Same)
- c. CIRCULAR (C000-3) of 18 Jan 57 to COMNAVSTA,
Subject: (Same)
- d. CIRCULAR (C000-4) of 18 Jan 57 to COMNAVSTA,
Subject: (Same)
- e. CIRCULAR (C000-5) of 23 Jan 57 to COMNAVSTA,
Subject: (Same)

In addition, various staff visits and conferences with representatives of the components, services, and commands have been held.

6. Headquarters ALCM has indicated that the firing of ALCM missiles from on-site positions is feasible and has provided site recommendations for feasibility, as follows:

- a. Forts Berry/Drouthite complex, San Francisco, California

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[Faint, illegible text]

[Faint, illegible text]

- a. The possibility of some defense facilities which are authorized to be investigated.
- b. The possibility of procurement, extent, control, and type of (ground and/or cross configured air force) to indicate.
- c. Any comments or suggestions which would assist in planning, be provided.

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7. The primary studies of the above problem indicate that the most suitable staging area for an aircraft of the type mentioned type will be governed by:

- a. Location of the staging area.
- b. Significance of commercial air and surface traffic in or adjacent to the area and air intercept/defense coverage.
- c. Existence and/or absence of active firing areas and ranges.
- d. Existence of representative facilities for collection and/or analysis.
- e. Existence of normal pilot rescue and A&AOC aircraft stations and their operating areas.
- f. Proximity of F-16 bases.
- g. Proximity of air augmentation units.

8. In order to secure ocean engagement areas, drone/air intercept and F-16/AD-17 firing ranges, procure the required number of drones, establish safety factors, effect a public relations program, arrange for striking forces, and plan for and carry out an exercise of this type, the extent and mode of active participation of each element of the Air Defense Command must be determined. It is requested that:

- a. The feasibility of such a Defense Division exercise as involving ADC be investigated.
- b. The possibility of procurement, extent, control, mode, and types of drones and/or drone configured aircraft be indicated.

MEMORANDUM FOR RECORD

c. Any comments or suggestions which would assist in planning be provided.

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Hq CONAD COOP E SUBJECT (UNCL) Operational Exercise of the
Air Defense System

For planning purposes, this exercise is expected to take place during
the second quarter of fiscal year 1958.

FOR THE COMMANDER IN CHIEF:

HARVEY T. ALNESS
Major General, USAF
DCS/Plans & Operations

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COOOP-E

19 Jul 1957

SUBJECT: Operational Exercise of the Air Defense System
(Exercise FIR FLX)

TO: Commander
COMAD Forces
Western COMAD Region
Hamilton Air Force Base
Hamilton, California

1. Reference is made to the following correspondence:
 - a. CINCONAD Conf ltr COOOP-E Subject: Operational Exercise of the Air Defense System, dated 15 January 1957.
 - b. COMCFWCR Conf ltr, Subject: Operational Exercise of the Air Defense System dated 3 April 1957.
2. From results of preliminary planning with interested agencies, units, commands, and services, it is considered that an operational exercise of the Air Defense system involving active firing from operational and on-site positions within the 27th and/or 28th ADD is desirable, feasible, and practical.
3. The Chief of Naval Operations has forwarded the following information: "The (Navy) force requirements can be most readily met during the week of 2 December when an ADEX has been tentatively scheduled with a SAM cruiser available to launch REGULUS I." The Chief of Naval Operations recognized that CINCONAD will have the ultimate responsibility for the safety of the exercise; however, he has pointed out the Navy must be assured that adequate safety measures exist to prevent Navy missiles from falling into densely populated areas. CNO approved the subject exercise for planning purposes, and authorized CINCPACFLT to conduct direct liaison with Continental Air Defense Commanders. Liaison with CINCPACFLT is currently being conducted by this headquarters.
4. A conference of participating principals is proposed to be held at Headquarters COMAD, Ent Air Force Base, Colorado Springs, Colorado, 0900 MST, 14 August 1957. Your concurrence by message, if acceptable, is requested. Subsequent to this conference, it is intended that COMCFWCR shall be designated as being responsible for planning, conduct and execution of Exercise FIR FLX, as the action agent for the COMAD organization. Until that time, official

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COOP-E Subject: Operational Exercise of the Air Defense System
(Exercise FIR FLY)

liaison with CINCPACFLT and CNO shall continue to be performed by this headquarters.

5. Since a relatively short period of time for preparation for FIR FLY remains, the program shall be accelerated and a priority placed on the exercise. Your attention is invited to applicable portions of paragraph 6 of reference cited in paragraph 1a, above, as being some of the several actions that must immediately be resolved and finalized. Inclosure 1, with the supporting Annexes, describes this headquarters proposed Preliminary Concept of Active Firing Exercises. It is recognized that changes and modifications may well be proper, advantageous, and necessary. Your comments and corrections are encouraged and desired.

FOR THE COMMANDER-IN-CHIEF:

1 Incl:
Prelim. Concept
Act. Firing Exer
w/5 Annexes

Copies furnished:
CINCPACFLT w/o Incl.
COM ADC w/o Incl.
CG USARADCOM w/o Incl.
COMNAVFORCOMAD w/o Incl.

/s/t/ HARVEY T. ALNESS
Major General, USAF
DCS/Plans & Operations

/s/t/ Comdr. Smith
2664
17 Jul 57

M/R Not Necessary

c1

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COOP-E

30

SUBJECT: Exercise FIR FLY

TO: Commander
CONAD Forces, Western CONAD Region
Hamilton Air Force Base
California

DUPLICATE

1. Reference is made to CONAD letter COOP-E, subject: Operational Exercise of the Air Defense System (Exercise FIR FLY), dated 19 July 1957.

2. In accordance with the above referenced letter and as discussed and resolved at the FIR FLY conference of 14 August, COMEFMOR is designated as the action agent for the CONAD organization and is responsible for the planning, coordination, conduct, and execution of Phases I and II of FIR FLY. In this connection, you are authorized to conduct direct liaison with COMFISTFLT and other Navy units. It is requested that copies of correspondence and messages as related to this exercise be forwarded to this headquarters for information.

3. COMFISTFLT's 202044Z message indicated that because of technical difficulties, a modified REGULUS I with suitable reflective characteristics cannot be provided. Discussions with Component Commands indicate a desire to conduct test flights in the 27th Division with the "clean" configured REGULUS I. It appears that there is no positive knowledge of the actual capability of each air defense radar to detect and track this missile. Procurement of such information would be of value, even should it be determined that the clean missile is not a suitable target for Phase II. By copy of this letter, COMFISTFLT is requested to continue with the test flights as previously discussed, and as coordinated with COMEFMOR.

4. It is desired that Phase I continue as planned. It is believed that air strikes of carrier and shore-based Navy aircraft should consist of maximum numbers available of the A3D and P2V (jet pod) types, predominantly conducting very low level types of attack, penetrating from outside the seaward extension of contiguous radar coverage. SAC tanker aircraft should provide sufficient high altitude penetrations. The use of other types of carrier aircraft

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1002-276
3- Army
1544-207
1- Western Con
352 1st Flt. 15.

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READING FILE

6 Dec 1957

CON0018A-96-06
R 062230Z
FM COMCFMCR HAMILTON AFB CALIF
TO COMNAVAIRPAC SAN DIEGO CALIF
INFO CINCNORAD ENT AFB COLO

ACTION: C000F
INFO C000:
27-1450h

BT
UNCLASSIFIED /CITE CWOOP 78-1181. SUBJECT: OPERATION FIR FLY. FOR
COMNAVAIRPAC, ATTENTION: CODE 31. THIS MESSAGE IN FOUR PARTS. PART I.
SAC PARTIATION IN PHASE I OF OPERATION "FIR FLY" WILL BE FULFILLED
BY MISSION "BLOCK HOUSE." ACTIVITY WILL BE DIRECTED AGAINST THE 28 CONAD
DIVISION AREA COMMENCING 10 JAN 58 AND CONTINUING THROUGH 13 JAN 58.
PART II. IT IS SUGGESTED THAT PLANNING FOR USN PARTIATION IN PHASE I
FIR FLY BE ACCOMPLISHED ON THE GENERAL LINES OF NAVY EXERCISE "HOME RUN."
IT IS RECOMMENDED THAT NAVAL AIRCRAFT STRIKES BE LAUNCHED SO AS TO
REACH THE SAN FRANCISCO TARGET AREA COMMENCING 10-1500Z JAN 58. SAC
AIRCRAFT WILL BE OUT OF THIS TARGET AREA PRIOR TO 1500Z EACH DAY. PART

DUPLICATE

PAGE TWO A-96-06
III. LT COL G.W. HUNT AND CAPT C.T. NEEF OF THIS HEADQUARTERS WILL VISIT
COMNAVAIRPAC 12 DEC 57 TO PROVIDE DETAILS OF SAC PARTIATION AND TO
COORDINATE CFMCR ASPECTS OF USN OPERATIONS FOR PHASE I FIR FLY. BOTH
OFFICERS CLEARED TOP SECRET. PART IV. REQUEST NO COORDINATION BE ACCOM-
PLISHED WITH THE 28 CADD ON THIS MISSION.

BT
AC-PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE TIME GROUP PRIOR
TO DECLASSIFICATION NO UNCLASSIFIED REFERENCES IF DATE TIME GROUP
IS QUOTED.

///ADVANCE COPY OF THIS MESSAGE DELIVERED TO C0C///

CONAD INST FILE

601

READING FILE

44

199

DISPOSITION FORM

SECURITY CLASSIFICATION (If any)
UNCLASSIFIED

FILE NO. _____ SUBJECT: Status of all F11 Phase II tests

TO: HQAFPC FROM: HQAFPC DATE: 13 December 1957
C/S for Info - COMMENT NO. 1
3/256 Smith/2723/nvl

1. Agreements with the Navy were entered into in September for a series of tests by all elements of the Air Defense System within the 27th Division against a "clean" REGULUS I--to determine if this missile would be a suitable target for use in Phase II of F11 FLY. Various specific tests were to commence in October and to be concluded in December. These tests have been operating reasonable well on schedule and are to be terminated on Friday, 20 December.

2. To date, results have not been too encouraging. It is considered that the most important and significant individual launches and flights of REGULUS I are those final two scheduled for 18 and 20 December. A WAC cruiser is launching REGULUS I's in the vicinity of Point Sur, to cruise parallel to the coast, and to be recovered at San Nicholas Island. WAC has reported to this Headquarters that detection, tracking, interception, and firing (as far as each appropriate element of air defense) will be attempted on 18 and 20 Dec. Fighters will operate from Oxnard and George AFB.

3. By msg, this Headquarters has requested that complete consolidated reports, including REGULUS track charts, be forwarded as soon as possible for review and study. Information of all previous flights that HQAFPC holds is insufficient and inconclusive. WAC believes they can have all consolidated reports, studies, and recommendations in our hands within two weeks subsequent to the final scheduled test.

John P. Smith
John P. Smith
Colonel USAF
Director of Operations

C-1 P

Pr 19

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57-2506

UNCLASSIFIED

200

31 DEC 1957

NOOOP-5

SUBJECT: "Fir Fly" Exercise

TO: [illegible]

1. The NORAD directed exercise for January 1958 will be Exercise "Fir Fly" (Phase I). Exercise "Fir Fly" is scheduled for 10 January 1958 in the 28th COMUS Division of Western CONAD Region.

2. Request names of personnel desirous of attending this exercise as observers be forwarded to CINCNORAD, ATTN: NOOOP-5 not later than 3 January 1958.

FOR THE COMMANDER-IN-CHIEF:

HARVEY T. ALNESS
Major General, USAF
DGS/Plans & Operations

CONFIDENTIAL

- Call S
- SECRETARIAT
- Adjutant
- Radio Room
- Police
- INFO SERVICES
- DCS CSE
- DCS I
- DCS PRG
- COMADC
- COMNAVFORCONAD
- CO ARAA COMD
- RCAP LIAISON

J.W. Lockhart
31 Dec 57

12-151

Dec 19

ARMY - CX7-231
ADC - CX7-2519
NAVY - CX7-2320

UNCLASSIFIED

Approved for Release by NSA on 05-08-2014 pursuant to E.O. 13526

57-2598

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UNCLASSIFIED

201

NORTH AMERICAN AIR DEFENSE COMMAND

General Thomas D. White
Chief of Staff, USAF
Headquarters USAF
Washington 25, D. C.

Dear Tommy:

For more than a year, we have been considering a realistic firing exercise in NTRAD employing a suitable drone target that would penetrate the ground environment system and have fighter interceptor aircraft and surface-to-air missile units attempt destruction from tactical on-site positions.

A study of the surface-to-air missile deployment in the continental United States indicated that the San Francisco area was most feasible for an initial exercise of this type, since fighter aircraft and Nike Ajax missiles can be utilized from tactical positions in this area.

DUPLICATE

We have worked with the Navy on the West Coast with the concurrence of the Chief of Naval Operations, and they offered us the Regulus I missile to be launched from outside the contiguous radar coverage making realistic penetrations into the San Francisco area. Some doubt as to the ability of our ground environment system and response systems to detect and track this small target was evidenced and, as a result, a series of tracking missions have been conducted with the Regulus I on the West Coast and we have concluded that the missile, in a clean configuration, cannot be adequately carried in the system. The Navy informs us that the missile cannot be augmented with splinters, reflectors, etc. to simulate a bomber type aircraft, so you can see that we have been stymied in these tests.

We have asked the USAF Air Defense Command and the US Army Air Defense Command to investigate the procurement of a suitable type drone for this type of exercise. However, this may be very time consuming, so we are asking that your headquarters look at the problem from an over-all resources viewpoint in order to assist us in the immediate procurement of a suitable drone for this purpose. Any drone

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General White
Page 2

with a 400 mile radius, suitable reflectivity (of at least the B-47 profile) and adequate control would answer our requirements. This is our first attempt at this type of mission and, if successful, will be pursued in other suitable areas where live firings can be conducted.

We feel that this is a must in determining the capability of units deployed in tactical positions in air defense. We will appreciate any assistance that you can give us in resolving this requirement.

Sincerely,

E. E. PARTRIDGE
General, USAF
Commander-in-Chief

UNCLASSIFIED

(when filled in)

COPY OF IN: [REDACTED] 202
ING CLASSIFIED MESSAGE

SEE CRYPTO SECTION BEFORE DECLASSIFYING.

PAGE THREE RJJPSB 01 C
PARTICIPATION IN PHASE II OF SUBJECT EXERCISE. B. W. PROBLEM
APPEARS TO EXIST INsofar AS AIRBORNE RADAR PICKUP IS CONCERNED.
PART V. IT IS RECOMMENDED THAT PHASE II OF SUBJECT EXERCISE BE
HELD IN ABEYANCE PENDING ACQUISITION OF A MORE SUITABLE TARGET,
I.E., DRONE AIRCRAFT OR A MISSILE WHICH CAN BE CONFIGURED OR
EQUIPPED WITH SUITABLE DEVICES WHICH WILL PERMIT REALISTIC
PICKUP RANGES BY GROUND RADAR.

BT
22/2327Z COCT RJJPSB

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PRIOR TO DECLASSIFICATION

//ADVANCE COPY DLVD TO CCOA

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203

HEADQUARTERS
47TH ANTI-AIRCRAFT ARTILLERY BRIGADE
Fort MacArthur, California

HRS3 353

23 NOV 1957

SUBJECT: AA Participation in REGULUS Test Firing (U)

TO: Commander-in-Chief
North American Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

- Log*
1. Elements Los Angeles Defense participated in REGULUS TEST FIRING 222019Z (Launch Time) to 222030Z (Missile dumped 222026Z) Nov 57.
 2. REGULUS launched 222019Z on course Los Coronadas Isle (EJ 004520) direct to San Nicolas Isle (EJ AD3015). Preflight altitude 35-40,000 ft. Speed .95 Mach, actual speed or altitude unknown. Flight path in range of Long Range Detection radars (33R, 52R, 78R, 04R) and acquisition radar sites (55, 40, 57, 32).

3. Following information received from 27th ADCC: Launch time, Dump time and report of two (2) Navy chase aircraft, Navy F-4 type, showing mode 1 IFF.

1. Site 78R detected object (Track KJ301KJ) at 100 miles initial range (GEOREF EJ 002030) at time 2022Z, neg IFF, heading 310 degrees, estimated speed 800 knots. Site carried track for five minutes, reported lost contact at 2027Z. Target reappeared briefly at 2029Z with final lost contact at 2030Z. Site also reported two (2) A/C trailing approximately 20-25 miles showing mode 1 IFF. Signal return trailing A/C which appeared normal for Navy F-4 type.

Site 52R reported initial detection of object at 90 miles range (GEOREF EJ 002020) at 2020Z, neg IFF, heading 305 degrees, estimated speed 700 knots. Site lost contact 2025Z. Reported two (2) or three (3) A/C trailing approximately 20 miles, showing mode 1. Normal signal return from trail A/C and a weak signal from lead object.

Site 53 R detected object at initial range 60 miles at 2025Z, lost contact 2027Z, neg IFF, heading 280 degrees, very weak signal return. Reported two (2) trail A/C mode 1 IFF, normal signal return.

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047-1182 -0-5A

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203

SUBJECT: AA Participation in REGULUS Test Firing.

Acquisition Radar site 55 reported initial plot on object at 106,000 yds, Neg IFF (GEORGE EJ 861857) at 2025Z, lost contact at 112,000yds (EJ AD3820), extremely weak signal return. Site reported one (1) trail A/C, mode 1 IFF. Normal signal return.

5. Positive correlation of Radar contacts made unlikely due to lack of as-flown track data from Navy. However, it is felt that surveillance radars 53R, 78R, 52R and Acquisition Radar site 55 did acquire and track REGULUS Missile.

FOR THE COMMANDER:

John G. Sutherland
JOHN G. SUTHERLAND
MAJOR, AIR FORCE
ADJUTANT

1 Incl
Surv Rdr Plot Record

Information Copies To:
CG, USARADCOM, Ent AFB, Colorado Springs, Colorado
CG, 6th RAADCOM, Fort Baker, California
Cdr, 27th Air Div Def, NAFB, California

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READING FILE

29 NOV 1957

CON005
S3A054 SBC002
M1 RJEDDN RJWPJ3
DE RJWPSB 257C
I 292300Z
FM COMCFMCR HAMILTON AFB CALIF
TO RJEDDN/CINCPACAF EN AFB COL
INFO/RJEDDN/COMDR ADC ENT AFB C
RJWPJB/COMDR 27TH CADD NORTON AFB COLO
BT

ACTION: COOPO
INFO: COOOP
X7-11279

UNCLASSIFIED CMHCR 7C-1177. PERSONAL FROM PARKER
TO ALNESS. IN ACCORDANCE WITH THE INSTRUCTIONS IN YOUR CONFIDENTIAL
MESSAGE HCOOP-E X037 CONCERNING OPERATION FIR FLY, PHASE II,
WE HAVE BEEN CONDUCTING RADAR TRACKING AND AIRBORNE INTERCEPT
TESTS AGAINST THE NAVY REGULUS MISSILE SINCE EARLY OCTOBER. THESE
TESTS HAVE BEEN OBJECTIVELY DESIGNED AND CONDUCTED WITH EXCELLENT
COOPERATION FROM THE NAVY. THROUGHOUT THESE TESTS WE HAVE BEEN
UNABLE TO DETECT AND TRACK THESE MISSILES WITH OUR GROUND RADAR,
DESPITE ADVANCE KNOWLEDGE OF EXACT LAUNCHING LOCATION AND TIME. ON
A FEW OCCASIONS, BY USING AN OFF-SET POSITION FROM THE NAVY CHASE

COMAD HIST FILE

601

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PAGE TWO RJWPSB 257C

AIRCRAFT, WE HAVE BEEN ABLE TO OBSERVE SOME SCOPE RETURN OUT TO DISTANCES OF ABOUT 70 MILES, BUT WITH SUCH LOW BLIP SCAN RATIO THAT CONTINUOUS TRACKING HAS BEEN CONSIDERED IMPOSSIBLE. THIS POOR PERFORMANCE IS DSSSSSSSSSSSS

REPEATING ABOVE LINE

PERFORMANCE IS DUE TO THE REFLECTING AREA OF THE REGULUS MISSILE BEING SIGNIFICANTLY BELOW THE DESIGN CHARACTERISTICS OF OUR GROUND RADAR. AIRBORNE INTERCEPT TESTS HAVE SHOWN THAT AIRBORNE PICK UP CAN BE ACCOMPLISHED AT ABOUT 14 MILES WITH marginally acceptable LOCK ON CAPABILITY. WITHOUT GROUND RADAR TRACKING CAPABILITY, AIRBORNE INTERCEPT CAN IN GENERAL BE ACCOMPLISHED ONLY BY VISUAL SIGHTING FROM COMBAT AIR PATROL TYPE MISSION. ONLY ONE REGULUS TRACK WAS POSITIONED WITHIN RANGE OF AAA RADAR AND ON THIS MISSION THE ARMY REPORTED ONLY A "POSSIBLE" PICK UP AT A RANGE OF 52 NAUTICAL MILES. IT NOW APPEARS CERTAIN THAT THE CONCEPT OF FIR FLY, PHASE II, CAN BE REALIZED ONLY IF RADAR REFLECTING DEVICES CAN BE MOUNTED ON THE REGULUS MISSILE. HOWEVER, TO DATE THE NAVY HAS BEEN RELUCTANT TO PROVIDE THIS MODIFICATION IN VIEW OF THE RESEARCH AND ENGINEERING TEST ASPECTS OF THEIR AVAILABLE MISSILES. WITHOUT THIS MODIFICATION IT IS BELIEVED THAT FURTHER TESTS ON FIR FLY, PHASE II, ARE UNWARRANTED AND REPRESENT A SERIOUS DISPERSION OF RESOURCES AND TRAINING POTENTIAL OF OUR 27TH AIR DIVISION, WHO HAVE BEEN CONDUCTING THESE TESTS. IT IS RECOMMENDED THAT YOU AUTHORIZE US TO IMMEDIATELY DISCONTINUE THESE FIR FLY TESTS AND THAT YOU RECOMMEND TO CINCPAC THAT THIS PROJECT BE ABANDONED UNLESS MISSILES WITH ADEQUATE RADAR RETURN ARE MADE AVAILABLE.

BT

29/2309Z NOV RJWPSB

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205

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READING FILE

PRIORITY

29 Nov

000000

SEADCSJTA0451
FM RUMEDD/RUMPSO
TO RUMPSO
R 001730Z
FM COMDR 27TH AIR DIV DEF
TO RUMEDD/COMDR HONOL
INFO RUMPSO/COMDR HONOL

ACTION COPY
INFO COPY
X7-11255

601

29 Nov 57

UNCLASSIFIED

(FROM 270TH-A TAG K-1007.

SUBJECT: EXERCISE FIR FLY PHASE TWO, REGULUS BASH ONE FIRING
WAS CONDUCTED BY FIRST FLEET 22 NOV 57. MISSILE WAS LAUNCHED
ABOARD SURFACE SHIP NEAR THE LOS CORONADOS ISLAND, GEORGE
ECC 4520 TOWARD SAN NICHOLAS ISLAND GEORGE EASD 3015. MISSILE
WAS SCHEDULED TO FLY BETWEEN 65 AND 90 MACH AT 35 TO 40 W
FEET. LAUNCH TIME 2010Z, 22 NOV 57. TWO BRASH AIRCRAFT ACCOM-
PANIED THE MISSILE. MISSILE WAS DUMPED AT 2036Z NEAR SAN
CLEMENTE ISLAND AT 3050 DUE TO MALFUNCTION. UNITS OF THE 27TH
COMBAT DIVISION ATTEMPTED TO TRACK THE MISSILE. THE 660TH,

DE PLACIDE

PAGE TWO RUMPSO 53

570TH AND 751ST ALL REPORTED NEGATIVE CONTACT. 47TH AA BRIGADE
ORGANIZATIONS REPORTED TRACKS AS FOLLOWS:

STA	TRACK NO.	PICKUP	TIME	RANGE	CL	TIME
52R	KJ301KJ	CC2030	2020Z	50NM	CC2035	2030Z
73R	KJ301KJ	CC2035	2022Z	102NM	AD5505	2030Z
73R	KJ301KJ	DC4050	2025Z	60NM	DC3045	2030Z
73	KJ301KJ	DC1057	2025Z	53NM	AD3040	2027Z

47TH AA BRIGADE REPORTED THAT POSITIVE CORRELATION OF RADAR CONTACT
MADE UNLIKELY DUE TO LACK OF AC-FLOW TRACK DATA FROM NAVY.
HOWEVER, IT IS FELT BY THEM THAT SURVEILLANCE RADARS 53R, 73R, 52R
AND ACQUISITION RADAR SITE 55 DID ACQUIRE AND TRACK REGULUS MISSILE
IT

0/1730Z NOV RUMPSO

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206

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4 Dec 1957

READING FILE

CONNO02SBARS 203A002
RR RJEDIN R01P00
DS RJWJJB 14B
R 042211Z 27A
FM COMR 27TH AIR DIV DEF
TO RJEDIN/COMR NORAD
INFO RJWJJB/COMR MADE
BT

COMINT FILE

ACTION: 0000
27

UNCLASSIFIED

FROM 270TN-A TAC L-1010. SUBJECT: REGULUS II FIRING. REGULUS II FIRING WAS CONDUCTED AT EDWARDS AFB 27 NOVEMBER 57. MISSILE LAUNCHED IN VICINITY OF EDWARDS AFB TO FOLLOW PERIMETER OF RESTRICTED AREA 4.4. MISSILE WAS SCHEDULED TO FLY AT 2.0 MACH AT UNKNOWN ALTITUDE. TRACKS OF 27TH AND 2TH COMAD DIVISIONS ATTEMPTED TO TRACK THE MISSILE. THE 750TH ACURON WAS OFF THE AIR FOR UNSCHEDULED MAINTENANCE DURING ENTIRE MISSION. THE 650TH, 660TH, 65TH AND 125TH AC SQUADRONS ALL REPORTED NEGATIVE CONTACT. 47TH AA BRIGADE ORGANIZATIONS REPORTED AS FOLLOWS:

TE
UPI

PAGE TWO RJWJJB 14B

STA	TRACK NO.	PICKUP	TIME	RANGE	C/L	TIME
78R	N-01	CE3545	1620Z	70NM	DF3505	1637Z
88R	R-01	CE0554	1618Z	45NM	CE3059	1623Z
88R	R-01	CE2050	1620Z	60NM	DF3010	1630Z

47TH AA BRIGADE REPORTS POSITIVE CORRELATION NOT POSSIBLE DUE TO LACK OF PREFLIGHT OR ON-FLOW FLIGHT PLANS. NO CHASE OR OTHER AIRCRAFT DETECTED IN VICINITY OF MISSILE LAUNCH AREA.

BT
04/2216Z DEC RJWJJB

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19 Dec 1957

POR009S3A003JBA007PHALIL
RR RJEDDN RJMPSS
DE RJJPJB 3B
R 100610Z ZEX
FM CO.MDR 27TH AT DIV DEF
TO RJEDDN/COMDR
INFO RJMPSS/COMDR
RJMPSS/COMDR 552ND AEW G WG
BT

READING FILE

ACTION: CCCC
INFO: CCCC
X7-1783

COMM FILE

601

UNCLASSIFIED

FROM: 270TN-A TAG 1 JAN 58 PD

SUBJECT CLN EXERCISE FIR FLY CM PHASE TWO PD
PART ONE CLN RECLUS ONE FLYING WAS CONDUCTED BY
FIRST FLEET ON FOUR DECEMBER ONE NINE FIVE SEVEN PD
MISSILE WAS LAUNCHED ZERO FOUR ONE SIX ONE TWO ZEBRA
ABOARD SURFACE SHIP IN VICINITY OF GUADALUPE ISLAND
PAREN ECHO HOTEL BRAVO QUEBEC FOUR ZERO ZERO ZERO
PAREN DIRECT TO BISHOPS ROCK PAREN ECHO JULIET ALFA
CHARLIE FIVE ZERO TWO ZERO PAREN CM DUMP TIME
ZERO FOUR ONE SEVEN ZERO FIVE ZEBRA PD PROGRAM

DUPLICATE

PAGE TWO RJJPJB 3B
SPEED POINT EIGHT NINE MACH CM ALTITUDE THREE
ZERDZORLGENECCIRUEFEET PD
REPORTS FROM ALLRPT ABOVE LINE

ZERO ZERO ZERO ZERO FEET PD PART TWO CLN NEGATIVE
REPORTS FROM ALL AIRCRAFT CONTROL AND WARNING
SQUADRONS WITHIN TWO SEVEN AIR DIVISION PD NEAREST
POINT TO RADAR POSITIONS SEVEN ZERO NAUTICAL MILES PD
PART THREE CLN NEGATIVE REPORT FIVE FOUR SEVEN
ANTI DASH AIRCRAFT ARTILLERY BARRAGE PD NEAREST POINT
OF FLIGHT TO ANTI DASH AIRCRAFT ARTILLERY SURVEILLANCE
RADARS ONE ZERO ZERO NAUTICAL MILES PD PART FOUR CLN
FIVE FIVE TWO AIRCRAFT EARLY WARNING AND CONTROL
WING REPORTED THRS-A-4-53 POINTS IN LINE ABREAST
FORMATION WITH TWO OF THE THREE POINTS SHOWING
IDENTIFICATION FRIEND OR FOE PD BLIP SCAN RADIO
WAS POINT TWO WITH ANTENNA TILL SINUS ONE HALF
DEGREES PD SKIN PAINT FADED AT LAST RECORDED
POSITION PD RADAR PLOTS WERE SIMILAR IN SIZE TO FOXTROT
EIGHT SIX OR TANGED THREE THREE BLIPS PD LOC OF AIRCRAFT
EARLY WARNING AND CONTROL WING PLOTS AS FOLLOWS CLN
THE CLN ZERO FOUR ONE SIX TWO FIVE ZEBRA PD ZERO
FOUR ONE SIX THREE TWO ZEBRA PD ZERO FOUR ONE SIX

UNCLASSIFIED

(when filled in)

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PAGE THREE RJWPJB 3B
THREE THREE ZEBRA PD ZERO FOUR ONE SIX THREE FIVE
ZEBRA PD ZERO FOUR ONE SIX THREE FIVE ZEBRA PD
GEOREF POSITIONS CLN ECHO JULIET ALFA ALFA FIVE NINE
FIVE THREE PD ECHO JULIET ALFA BRAVO FIVE ZERO ONE
NINE PD ECHO JULIET ALFA BRAVO THREE NINE FOUR TWO
PD ECHO JULIET ALFA BRAVO THREE EIGHT FIVE ONE PD
ECHO KILO ALFA BRAVO THREE SEVEN FIVE EIGHT PD
BT
10/0024Z DEC RJWPJB

EEEEEEEXT A--PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION
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JOINT MESSAGEFORM		SECURITY CLASSIFICATION UNCLASSIFIED	
SPACE BELOW RESERVED FOR COMMUNICATION CENTER			
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PRECEDENCE		TYPE MSG	
ACTION INFO DEFERRED		BOOK MULTI SINGLE	
FROM DEFERRED		ACCOUNTING SYMBOL	
		ORIG. OR REFERS TO	
		CLASSIFICATION OF REFERENCE	
TO: CINCNAVFOR CINCPAC COMNAVFORCOM-5 COM-5A COM-5B			SPECIAL INSTRUCTIONS
FROM: CINCNAVFORCOM-5 (OP-5) COM-5A COM-5B			
DUPL UNCLASSIFIED			DATE TIME 26 1745Z DEC 1957
<p>Current joint exercises involving Regulus missile indicate W-3A radar system continues to have marginal detection and tracking capability against submarine launched missiles. Maximum exploitation of this capability related to details of prior warning of launch. Warning is completely dependent upon reports and evaluations by the responsible unified commanders in the Atlantic and Pacific for warning and imminence of missile attacks from submarines. Subject to your concurrence and at your convenience, at a place acceptable to you, it is recommended that a meeting of</p>			
SYMBOL		SIGNATURE	
TYPED NAME AND TITLE (If primary if required) Col. Jeffus/hw1 SECURITY CLASSIFICATION UNCLASSIFIED		TYPED NAME AND TITLE I. W. LEDOUA LCDR, USN Asst Adjutant	
PAGE NO. 1		NO. OF PAGES 2	

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION

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208

HP

CIMCROHAD

our respective staffs be held for the purpose of informal discussion of this problem. The facilities at Ent AFB, Colorado Springs, Colorado are available for such a meeting, although it may be more convenient for all concerned to hold the meeting at Hq WESTSEAFRON.

SYMBOL

W000P

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2

NR OF PAGES

2

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INITIALS

HWJ

209

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WOOOP-5

7 NOV 1957

SUBJECT: Procurement of Suitable Drones for Active Firing Exercises

TO: Commander
Air Defense Command
Ant Air Force Base
Colorado Springs, Colorado

1. Reference is made to the following correspondence:

a. Hq COMAD ltr WOOOP-5 of 21 Feb '57, and Operational Exercise of the Air Defense System.

b. Hq ADC ltr ind ADOO-8 of 19 Apr '57, to show ltr.

2. Phase I of Exercise "TIE RIF" has been scheduled for early January 1958. Phase II is still in the testing stage--to be completed in mid December 1957. The results of these tests, utilizing REGULUS I as the target drone, will determine the feasibility of its use for Phase II (active firing phase). It is considered that exercises involving active firing of the interceptor aircraft and of guided missiles from their tactical positions periodically should be conducted; therefore, procurement of suitable drone targets is a continuing requirement.

3. By the letter referenced in paragraph 1a above, Headquarters ADC was requested to indicate the possibility of procurement of the types of drones and/or drone configured aircraft to support operations of the Air Defense System. In the indorsement referenced in paragraph 1b above Headquarters ADC specified criteria, performance and operational characteristics, safety features, configurations, etc. required for a suitable drone. It was further stated that two years would be required for AFA to obtain drones which would possess adequate operational and safety characteristics.

4. It is requested that a report of the action taken to procure suitable drones for active firing exercises, and the earliest date that we can expect to have them available in the Air Defense inventory be provided.

FOR THE COMMANDER-IN-CHIEF:

HARVEY T. ALBESS
Major General, USAF
DCS/Plans & Operations

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Memorandum for Record not required.

SECRETARY
3
SEC SERVICES
DCS
COMAD
COMAF
CG ARRA COM
SCAF LIAISON

2723
6 Nov 57
MYL

11-02

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117-1

210

SCOPE

14 NOV 1957

SUBJECT: Procurement of suitable drone targetive firing exercises

TO: Commanding General
U. S. Army Air Defense Command
Fort Air Force Base
Colorado Springs, Colorado

1. Phase I of exercise 714 PAF has been scheduled for early January, 1958. Phase II is still in the testing stage to be completed in mid December 1957. The results of these tests, utilizing WAC-1 as the target drone, will determine the feasibility of its use for phase II (active firing phase). It is considered that exercises involving active firing of defense elements, including guided missiles, from tactical positions should be conducted periodically; therefore, procurement of suitable drone targets is a continuing requirement.

2. Even though WAC-1, subsequent to the completion of the afore mentioned tests, may be a satisfactory target, the support as provided by the same will be limited to this initial active firing exercise. It has been requested to initiate action to procure suitable drones and/or drone configured aircraft for exercise support. Headquarters has indicated that two years will be required before suitable drones can be expected to be in the inventory.

3. It is requested that your headquarters indicate the possibility of procurement of the types of drones which would support operational exercises of the air defense system similar in concept to phase II of 714 PAF.

2
8
91

E. E. Smith

11-059

[Handwritten scribbles and numbers]

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211

HEADQUARTERS
UNITED STATES ARMY AIR DEFENSE COMMAND
Ent Air Force Base
Colorado Springs, Colorado

ADGCT 416

21 NOV 1957

SUBJECT: Procurement of Suitable Drones for Active Firing Exercises (U)

TO: Commander-in-Chief
Continental Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

Logged

1. Reference letter NOOP-8, Headquarters, North American Air Defense Command, 14 November 1957, subject as above.
2. There is no information available at this headquarters on an aerial target which fulfills the requirements for "FIR FLV".
3. A letter has been forwarded to Deputy Chief of Staff for Logistics, Department of the Army, requesting information on any existing or planned aerial target that will fulfill these requirements.
4. The data requested in reference 1 will be forwarded to your headquarters as soon as this information is received.

FOR THE COMMANDER:

*27 Dec 57 -
Have we received*

[Signature]
B. G. JOHNSON
Brig Gen, GS
Chief of Staff

*data re para 4 above
[Signature]*

27019

*30 Dec
Negative
[Signature]*

[Signature]

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212

8 August 1957

COOOP-E

SUBJECT: LAWSUBEX 1-58 As Support For A CONAD Exercise

TO: Commander
Naval Forces
Continental Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. Reference is made to _____ Flt ltr _____, ser 0750/33 dated 23 May 1957, Subject: Annual Employment Schedule of the U.S. Atlantic Fleet for FY 1958.

2. Submarine launched missile attacks present one of the greatest threats to the Continental Air Defense System. The effectiveness of current _____ weapons against this type of attack is not fully known, principally because controlled exercises have not been conducted. Training as well as evaluation would accrue from such an exercise.

3. The schedule as referenced in paragraph 1, above, indicates that an exercise for defense against submarine launched guided missiles is to be conducted by various units of the Atlantic Fleet off the east coast between 31 March and 4 April 1958.

4. For some time this headquarters has been planning for an exercise involving a simulated submarine launched missile attack against a coastal target of the United States. The preliminary basic concept is as follows:

Proposed Concept of Submarine Launched Missile Exercise

General

The Submarine Launched Missile Exercise will involve exemplary elements of air defense within the Eastern CONAD Region. The Commanders of the 85th and 26th CONAD Divisions will conduct a defense against a simulated submarine launched missile attack penetrating from outside the area of contiguous radar coverage. Norfolk, Virginia has been selected as the target complex. The attacking forces shall consist of three carrier launched, very high performance, Navy fighter type aircraft. Attacks shall be in three waves of one aircraft each, some thirty minutes between each wave. All functions of air defense, excluding destruction, shall be performed from various air defense element operational sites. ECM shall not be employed.

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COOP-E Subject: LAWSUBEX 1-58 As Support for A CONAD Exercise
Defense Forces.

1. Eastern CONAD Region

A. 85th CONAD Division

1. Seaward Extension of contiguous radar coverage.

- (a) Picket Station #16
- (b) Picket Station #18
- (c) Picket Station #20

2. Airborne Early Warning and Control.

- (a) AEW&C station #6
- (b) AEW&C station #8

3. ACW Squadron

(a)	771st	Cape Charles	P-56
(b)	647th	Quantico	P-55
(c)	614th	Cherry Point	M-116
(d)	701st	Ft. Fisher	M-115
(e)	632nd	Roanoke Rapids	M-117
(f)	649th	Bedford	M-121
(g)	810th	Winston Salem	M-130

4. Fighter Interceptor Squadrons (ADC)

- (a) 95th Andrews AFB
- (b) 48th Langley AFB

5. Air Augmentation Squadrons

- (a) Naval Air Units based at NAS Chincoteague
- (b) Marine Corps Air Units based at MCAS
Cherry Point
- (c) Naval Air Units based at NAS Norfolk
- (d) Naval Air Units based at NAS Oceana

6. NIKE Defenses - Norfolk Area.

- (a) NIKE Site #63
- (b) NIKE Site #52
- (c) NIKE Site #96
- (d) NIKE Site #25
- (e) NIKE Site #02

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COOP-E Subject: LANTSUBEX 1-58 As Support For A COMAD Exercise

- (f) NIKE Site #93
- (g) NIKE Site #85
- (h) NIKE Site #75

7. Harbor Defenses - Norfolk Area.

- (a) AA weapons aboard U.S. Naval ships.

B. 26th COMAD Division

1. Seaward Extension of Continuous Radar Coverage.

- (a) Picket Station #12
- (b) Picket Station #14

2. Airborne Early Warning and Control.

- (a) AEW&C station #2
- (b) AEW&C station #4

3. Texas Towers

- (a) Texas Tower #III

4. ACW Squadrons

- | | | |
|-----------|-----------|------|
| (a) 770th | Polermo | P-54 |
| (b) 646th | Highlands | P-9 |

5. Fighter Interceptor Squadrons (ADC)

- | | |
|----------|---------------------|
| (a) 46th | Dover, Delaware |
| (b) 98th | Dover, Delaware |
| (c) 96th | Newcastle, Delaware |
| (d) 97th | Newcastle, Delaware |

6. Air Augmentation Squadrons

- (a) Naval Air Units based at NAS Atlantic City
- (b) Naval Air Units based at NAS New York

Aggressor Forces.

I. Simulated Submarine Launched Missile strike utilizing three Navy high performance fighter aircraft.

A. 1st wave. Single aircraft. Launch, maximum rate of climb to maximum cruise altitude, vertical descent attack.

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COOP-E Subject: LANTSUBEX 1-58 As Support For A CONAD Exercise

B. 2nd wave. Single aircraft. Launch, constant climb to maximum operating altitude midway between carrier and target, constant descent to target.

C. 3rd wave. Single aircraft. Launch, cruise to target very low level, attack very low level.

Engagement Areas.

I. Normal Combat Zone for Fighter Interception.

II. Local Area Defense as provided by NIKE defenses.

5. In order to carry out this type of an exercise, support from the Navy such as indicated above is necessary. It would appear that the three high performance Navy fighters could be launched from the CVS scheduled to participate in LANTSUBEX 1-58. Suitable targets other than the Norfolk area could be selected; however, this selection has been made because of proximity of all defense elements, importance of target area, location of probable aggressor support forces, etc. The Navy's conduct, results, and evaluation of LANTSUBEX 1-58 will be of great interest to this headquarters. In view that a CONAD Submarine Launched Missile Exercise is related in many areas, it is considered appropriate for the CONAD phase to be associated with LANTSUBEX 1-58. Therefore, it is requested that:

a. The feasibility of such a CONAD phase Submarine Launched Missile Exercise, as associated with LANTSUBEX 1-58, be investigated.

b. The possibility of extent of participation by the Navy, as outlined above, be indicated.

c. Any comments or suggestions which would assist in planning be provided.

FOR THE COMMANDER-IN-CHIEF:

s/t/ Comdr Smith
2664
1 Aug 57

/s/t/ HARVEY T. ALNESS
Major General, USAF
DCS/Plans & Operations

cl

M/R not necessary.

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213

NDDOP-2

2 JUL 1957

SUBJECT: Submarine Launched Missile Exercise

TO: Commander
USCIB Forces
Eastern Atlantic
Task Force 114
Newport, New York

1. Submarine launched missile attacks present one of the greatest threats to the North Atlantic Air Defense System. The effectiveness of current defense systems against this type of attack is not fully known, especially because controlled exercises have not been conducted. The results of an evaluation would accrue from such an exercise.

2. For some time this headquarters has been planning for an exercise involving a simulated submarine launched missile attack against a coastal area of the United States. A preview of the concept of this exercise was given at the Commander's Conference, Grand Barbers, Atlantic City, 27 July 1957. Certain members of the staff were in attendance from:

3. The preliminary basic concept was followed:

Proposed Concept of Submarine Launched Missile Exercise

General

The Submarine Launched Missile exercise will involve secondary elements of the defense system. The Commander, 5th Air Force, will conduct a defense against simulated submarine launched missile attack penetrating from outside the continental United States. The attacking forces shall consist of one carrier launch, Navy high performance, Navy fighter and attack type aircraft. Attacks shall be in three waves of ten aircraft each, one thirty minutes between each wave. All functions of air defense, excluding destruction, shall be performed from suitable air defense element operational sites. SAM shall not be employed.

Defense Forces

1. Eastern Atlantic

a. 55th ADCB Division

1. Command Extension of Eastern Atlantic

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Hq NORAD, SUBJECT: NORAD Simulated Submarine Launched Missile Area

- (a) Picket Station #16
 - (b) Picket Station #18
 - (c) Picket Station #20
2. Airborne Early Warning and Control
- (a) AWACS station #6
 - (b) AWACS station #8
3. AEW Squadron
- | | | |
|-----------|---------------|-------|
| (a) 771st | Cape Charles | F-56 |
| (b) 647th | Quantico | F-55 |
| (c) 614th | Cherry Point | M-116 |
| (d) 701st | St. Messer | M-115 |
| (e) 632nd | Windsor Field | M-117 |
| (f) 649th | Bedford | M-121 |
| (g) 810th | Winston Salem | M-130 |
4. Fighter Interceptor Squadrons (ADU)
- (a) 95th - Andrews AFB
 - (b) 48th - Langley AFB
5. Air Augmentation Squadrons
- (a) Naval Air Units based at NAS Chincoteague
 - (b) Marine Corps Air units based at Cherry Point
 - (c) Naval Air Units based at NAS Norfolk
 - (d) Naval Air Units based at NAS Oceana
6. Harbor Defenses - Norfolk Area
- (a) NIKK site #63
 - (b) NIKK site #52
 - (c) NIKK site #36
 - (d) NIKK site #25
 - (e) NIKK site #02
 - (f) NIKK site #93
 - (g) NIKK site #85
 - (h) NIKK site #75
7. Harbor Defenses - Norfolk Area
- AA weapons aboard U. S. Naval ships

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Sq NORAD, SUBJECT: WEAD Simulated Submarine Launched Missile Exercise

B. 26th CONAD Division

1. Seaward Extension of Continuous Radar Coverage

- (a) Picket Station #12
- (b) Picket Station #11

2. Airborne early warning and Control

- (a) Ahead station #2
- (b) Ahead station #1

3. Texas Towers

Texas Tower #111

4. AAW Squadrons

- (a) 770th Palermo F-54
- (b) 646th Highlands F-9

5. Fighter Interceptor Squadrons (ADL)

- (a) 460th Dover, Delaware
- (b) 93rd Dover, Delaware
- (c) 96th Newcastle, Delaware
- (d) 97th Newcastle, Delaware

6. Air Augmentation squadrons

- (a) Naval Air Units based at NAS Atlantic City
- (b) Naval Air Units based at NAS New York

Aggressor Forces

I. Simulated Submarine Launched Missile strikes utilizing six Navy high performance fighter and attack aircraft.

a. 1st wave: Two aircraft. Launch, maximum rate of climb to maximum cruise altitude, vertical descent attack.

b. 2nd wave: Two aircraft. Launch, constant climb to maximum operating altitude midway between carrier and target, constant descent to target.

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Hq COMNAV, SUBJECT: COMNAV Disputed submarine Launched Missile Exercise

c. 3rd wave: two aircraft. Launch, cruise to target very low level, attack very low level.

Engagement Areas

- I. Normal Combat Zone for Fighter Interception
- II. Local Area Defense is provided by AFA Defenses

4. CINCLANTFLT has indicated a request to support this exercise with carrier forces returning to COMNAV for a Mediterranean deployment, and is part of the overall exercise 4711-3-58. The initial launch time will commence first night 24 February from a position some 500 miles seaward of Norfolk, Virginia. Due to the deployment and commitment of these naval forces, the support is inflexible with regards to time and location of launch.

5. Direct liaison between CINCLANTFLT and this headquarters has already been performed. Subject to your concurrence, a planning conference at this headquarters is scheduled for 0900, 21 November. It is suggested that in addition to representatives from your staff, you extend invitations to representatives from the 26th and 35th COMNAV Divisions. Subsequent to this planning conference, it is intended to designate Commander, Naval Forces, Eastern COMNAV Region as this organization's representative to work directly with CINCLANTFLT, or his designated representative, in planning and arranging, and to be responsible for the conduct and consummation of the air defense portion of this exercise.

FOR THE COMMANDER: [Signature]

ROBERT T. ALLEN
Major General, USAF
ICM/Plans & Operations



Ed/R not agreed

Handwritten notes and initials, including '30c'.

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NOOOP-E

3 Dec 1957

SUBJECT: NORAD Simulated Submarine Launched Missile Exercise
(Exercise OCEAN WAVES)

TO: Commander Second Fleet
U. S. Naval Base
Norfolk 11, Virginia

1. Reference is made to the following correspondence:

- a. CINCNORAD Conf ltr NOOOP-E, of 7 Nov 1957; Subj: _____
3-58 as Support for a NORAD Exercise.
- b. COMNAVFORCONAD Conf msg _____, Nov.
- c. CINCLANTFLT Conf msg _____, Nov.
- d. CINCLANT Conf ltr ser _____/33 of 18 Nov; Subj: _____
3-58 as Support for a NORAD Exercise.

2. That conference as mentioned in reference 1a, above, was held at this headquarters 26 November 1957. Interested parties of the NORAD organization and of the component commands were in attendance. Certain arrangements, in addition to those previously discussed between CINCLANTFLT and this headquarters, were resolved. Those items as affecting the air defense efforts are as follows:

- a. Exercise name: OCEAN WAVES
- b. Objectives:
 - (1) An air defense equipments exercise, to determine system capabilities against submarine launched missile attacks.
 - (2) A maximum air defense training exercise, against submarine launched missile attacks.
- c. Faker forces do not use ECM or IFF.
- d. Forty-five minute spacing between attacks.
- e. AEWAC (blimp) station to be repositioned as necessary.
- f. Location of launching position to be mutually resolved by COMSECNDFLT and COMCFEER.

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Hq NORAD, Subj: NORAD Simulated Submarine Launched Missile Exercise

g. Faker altitudes and routes to be mutually resolved by COMSECONDFLT and COMCFECR.

h. Navy and Marine Air Augmentation Forces, as specified in references 1b and 1c above, shall be utilized.

3. Release of information to the public concerning the Air Defense aspects of this exercise is considered inappropriate, and should any agency consider making such releases, it is requested that clearance be procured from CINCNORAD's action agent.

4. By copy of this letter, COMCFECR is designated as the action agent of the NORAD organization and is responsible for the air defense planning, coordination, conduct, and execution of OCEAN WAVES. In this connection, COMCFECR is authorized to conduct direct liaison with COMSECONDFLT or other Navy units, keeping this headquarters informed of developments and progress.

FOR THE COMMANDER-IN-CHIEF:

Copies furnished:
CNO
CINCLANTFLT
COMNAVFORCONAD

/s/t/ HARVEY T. ALNESS
Major General, USAF
DCS/Plans & Operations

/s/t/ Comdr Smith
2723
2 Dec 57

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HEADQUARTERS
UNITED STATES ARMY AIR DEFENSE COMMAND
Ent Air Force Base
Colorado Springs, Colorado

ADCAA-3 O&T 354

12 JUL 1957

SUBJECT: CONAD Regulation 55-16

TO: Commanding General, 1st Region, U. S. Army Air Defense Command
Commanding General, 2d Region, U. S. Army Air Defense Command
Commanding General, 5th Region, U. S. Army Air Defense Command
Commanding General, 6th Region, U. S. Army Air Defense Command
Commanding Officer, 4th Region, U. S. Army Air Defense Command

1. References:

a. CONAD Regulation 55-16, 19 June 1956, subject: "Operations Exercises."

b. Message, this headquarters, ADCAA-3 O&T 351, July 1957.

2. Under provisions of referenced regulation subordinate CONAD commanders may require participation of ARADCOM units in CONAD exercises, to include exercises conducted at CONAD region and CONAD division level.

3. The following is the policy of this headquarters with respect to participation by ARADCOM units in CONAD exercises:

a. Appropriate region commanders should participate in the planning of CONAD exercises and in the evaluation and critique after the exercise is completed. The ARADCOM representative at the CONAD headquarters scheduling the exercise must be cognizant of the importance of the final evaluation with respect to the AAA effectiveness in a joint exercise and must provide the appropriate region commander with all advance information available.

b. Appropriate region commanders are requested to provide this headquarters with COMPORTs of AAA participation in CONAD exercises. As soon as possible after the evaluation of an exercise, a written summary of AAA participation and results attained is requested.

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ALOM-3 Oct 354
SUBJECT: COMAB Regulation 55-16

c. Appropriate region commanders are requested to forward through "RUCOM" channels a copy of any documents they furnish to the COMAB headquarters conducting the exercise as required by paragraph 6a(2) of referenced regulation.

d. As there may be instances when this headquarters will not be informed of the fact that a COMAB commander has scheduled a joint exercise involving "RUCOM" units, request that region commanders notify this headquarters by electrical message when participation in a joint exercise is directed by a COMAB commander. The following specific information is desired:

- (1) Code name of the exercise.
- (2) Dates exercise will be conducted.

e. In any scheduled joint exercise the full capabilities of "RUCOM" units must be exploited. All available units are to participate in order that maximum effectiveness may be attained and that all radar operators may receive the benefit of the valuable training available with the opportunity to detect, acquire and lock on to high performance bomber type targets. It is recognized that launcher crews will receive the least benefit. Commanders may, at their discretion, excuse launcher and gun crews from participation in any phase or at any time as desired.

f. In any exercise, other than a COMAB joint exercise, a minimum of 50 per cent of units available are to participate.

g. This headquarters may at times desire to participate in a scheduled joint exercise conducted by a subordinate COMAB commander and require appropriate "RUCOM" units to furnish normal TAC COMs, "RUCOMs", and COM COMs. In such instances the region commander concerned will be so notified in advance of the date of the scheduled exercise. COM COMs will include time and GROUND location of tracks at time of engagement.

h. The frequency with which COMAB commanders may schedule joint exercises is unpredictable, depending as it does upon the availability of suitable high performance aircraft. It is probable that each region will be involved in at least one joint exercise each month. With this as a possibility, the usual monthly exercises conducted by this headquarters, reference b, with the exception of the period 12 - 14 July 1957, are suspended indefinitely.

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4100A-3 Oct 35A
SUBJECT: COMAR Regulation 55-16

5. This letter receives letter, 4100A-3 Oct 35A.5 (G), this head-
quarters, 8 February 1957, subject: "ARABIAN Monthly Exercise Instructions".

F. T. FOLK

Copy furnished:
~~SI 10000~~

F. T. FOLK
Colonel, GS
Deputy Chief of Staff

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ECM Training Aircraft

ECMGS

ECGPO

22 November 1957
Lt/Col Huskols/2664/xv1

1. Reference the question posed by Commander Western COMAD Region relative to obtaining suitable target-ECM training aircraft, NORAD and Air Defense Command's program to secure suitable aircraft has been in progress for over three years. Inclosure #1 lists in chronological order, with brief summaries, the more important actions over this time period. In addition to the actions listed in the inclosure, there are approximately fifty letters and wires pertaining to this subject on file in the USAF Air Defense Command.
2. It is apparent from the actions listed in the inclosure that every possible effort has been expended to secure ECM training aircraft organic to the USAF Air Defense Command. In view of the complete deletion of funds for modification, as stated in letter from Lt/Gen. Turner, dated 13 November 1957, paragraph y. of Inclosure #1, it is concluded that Headquarters USAF will not support the program under current fiscal conditions.
3. Recommend that the problem of providing adequate ECGM training to NORAD Forces be attained through continued emphasis on the SAC-NORAD/ADC joint training program. SAC-ECM training requirements and Air Defense Forces ECGM training requirements are not completely compatible, however, with continued effort on the part of all parties concerned, maximum training benefits will accrue.

1 Incl
#1 Chronological List of
Actions taken by NORAD
and USADC, etc.

HARVEY T. ALNESS
Major General, USAF
DCS/Plans & Operations

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Chronological List of Actions Taken by NORAD and USADC to
Secure Suitable Radar Evaluation ECM Training Aircraft

- a. Qualitative Operational Requirement submitted by the Air Defense Command, 9 Oct 1954, covering their requirements for ECM training aircraft.
- b. Hq. USAF approved the Air Defense Command's GOR and established General Operational Requirement number 127 on 7 Nov 1955.
- c. July 1955, ADC in letter to Hq. USAF requested production modification of B-57C aircraft.
- d. September 14, 1955--Hq. USAF twx informed that Production Modification B-57C A/C had been cancelled.
- e. 24 May 1956--ltr from Gen. Partridge to Gen. Twining urging that the latter's personal attention be given to procurement of A/C to provide adequate ECM training for the Air Defense Command.
- f. 31 July 1956--ltr from ADC to Commander Air Materiel Command requested modification of 32 RB-57A aircraft in accordance with instructions from Hq. USAF. Stated the minimum modifications required to fulfill the mission. A/C to be available for modification in 1st & 2nd qtr's 1958. First A/C to be available to ADC in January 1959.
- g. 18 September 1956--ltr from Gen. White to Gen. Partridge concurring in seriousness of ECM threat and suggesting that the intended modification of B-57A A/C appeared to offer the best ECM training capability prior to 1960.
- h. 2 November 1956--ltr from Hq. USAF requested ADC to review it's requirement for ECM A/C.
- i. 16 November 1956--ADC presented to Hq. USAF the requirement for 44 A/C equipped to perform Radar Evaluation and ECM Training.
- j. 16 January 1957--ltr from Gen. Partridge to Hq. USAF, as Executive Agent for CONAD, concerning the electronic counter measures threat, with his recommendation for the development of alternate means of detection.
- k. 21 January 1957--ltr from Lt/Gen. Atkinson to Chief of Staff USAF expressing grave concern over the inability of ADC radars to cope with the ECM threat. Recommended that priority be given to development of effective ECCM capability.
- l. 4 April 1957--twx from Hq. USAF to ADC informed ADC that 28 RB-57A A/C would be made available to ADC for modification during 1st & 2nd qtrs FY 1958.
- m. 8 April 1957--ltr from ADC to Hq. USAF reiterating the ECM threat and asking Hq. USAF to render all possible funding support for modification of RB-57A A/C.

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Incl #1

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- n. 11 April 1957--ltr from Maj. Gen. Mills Hq. USAF to Maj. Gen. Lynn Hq. ADC expressing concern over the current more than double estimated cost of modifying the B-57A A/C.
- o. 14 May 1957--twx from ADC to Hq. USAF rejustifying the need for modification of RB-57A training-evaluation aircraft.
- p. 24 May 1957--ltr from Lt./Gen. Atkinson to Chief of Staff Hq. USAF re-emphasizing need for RB-57A and pointing up the urgency of the program to ADC.
- q. 10 June 1957--twx from Hq. USAF to ADC requesting the relative priority of RB-57A A/C modification comparative to other ADC class V A/C modifications.
- r. 13 June 1957--twx to Hq. USAF from ADC stated that the RB-57A ECM A/C modification program be given second priority over all other class V A/C modifications. (The F-102 modification was given 1st priority.)
- s. 25 June 1957--ltr from Gen. White Hq. USAF to Cdr. ADC stated that even with a priority of two for the RB-57A A/C modification program it was doubtful if the program could be funded due to expected cuts in funds.
- t. 15 July 1957--Maj. Gen. Grant ADC discussed the RB-57A A/C modification priority with Maj. Gen. Bergquist Hq. USAF.
- u. 19 July 1957--twx from Hq. USAF to SAC and ADC directed ADJ and SAC to submit by 30 Aug. 1957 a coordinated plan for joint SAC-ADC training that would insure maximum accomplishment of both Command's training requirements. Further requested that ADC review its requirements for ECM aircraft in view of the above and so advise Hq. USAF.
- v. 30 August 1957--ltr to Dir of Ops, Hq. USAF from ADC. Pointed out the incompatibility of SAC offensive ECM versus ADC offensive ECM. Stated the fact that 75% of SAC's jamming capability is in the D-band range. Whereas, 75% of ADC radars operate in the E-Band range. Pointed out ADC's responsibility to provide ECM training for other service forces made available to CONAD for Air Defense purposes. In view of the above, ADC requirement for RB-57A A/C remains firm.
- w. 4 October 1957--ltr from Gen. Partridge to Chief of Staff USAF, as Executive Agent, summarized the effort to date by NORAD and ADC to secure evaluation-ECM aircraft and noted the apparent statements. Emphasized the importance NORAD gives to the ECM threat and the effort CONAD is expending on increasing the operational effectiveness of Air Defense in an ECM environment.
- x. 15 October 1957--ltr from Dept. of Air Force to Air Materiel Command and copy to ADC. Due to lack of modification funds RB-57A A/C programmed for ADC are being reassigned to the Air National Guard. Action being taken to fulfill ADC's training requirements through a coordinated SAC-ADC program.

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y. 13 November 1957--ltr from Lt/Gen. Tunner DCS/Op's Hq. USAF to CDR/COMAD shared COMAD's concern regarding the ECM threat but could not make available funds for modification of the RB-57A A/C in the new fiscal environment. Planned joint conferences were held at Hq. USAF and ADC resulting in formulation of SAC-ADC mutual ECM-ECCM training program. Hq. USAF will continue to monitor this program. Hq. USAF notes that the programs are not necessarily compatible but every effort will be made to realize maximum benefits from the above program. In view of the dollar limitations and potential in a mutually beneficial SAC-ADC ECM training program the ECM modification for RB-57A A/C will be deleted from the Class V modification list. However, the existing radar evaluation and training units will not be reduced until it can be demonstrated that SAC can satisfy the ECM training requirements of commands which supply forces to COMAD.

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NOXEM

9 January 1958

SUBJECT: Augmentation of ADC Support Facilities for Airborne ECM Training

TO: Commander
USAF Air Defense Command
Ent Air Force Base
Colorado

1. Reference is made to letter, this headquarters, NOXEM, dated 9 January 1958, subject "ADC Responsibilities for Providing Airborne ECM Training for NORAD Components," which requested the requirement for ADC airborne ECM flight facilities to support the ECM training for NORAD. Inclosures 1, 2, 3 and 4 outline the ECM and technical radar site evaluation requirements as informally submitted by the component representatives at a SAC-ADC-USAF conference held at Headquarters ADC on 19 and 20 September 1957.

2. It is understood that Headquarters USAF recently requested that your command confer with Headquarters SAC for the purpose of scheduling SAC ECM training flights which would provide high-speed, high-altitude ECM targets to meet ADC training requirements. It is realized that SAC has its own strategic and training commitments. Therefore, it will be necessary also to employ the ADC ECM radar evaluation flights in meeting the requirements outlined in the attached inclosures.

3. It is further understood that your headquarters and Headquarters USAF are conferring with the Air National Guard relative to the Guard furnishing B-57 and F-39 target aircraft for radar site evaluation requirements. Again, it is felt that the ANG will not be able to meet the large demand for radar evaluation flights, and it will therefore be necessary for the ADC ECM radar evaluation flights to satisfy the residual load to the maximum extent practicable.

4. This headquarters has repeatedly emphasized to the Executive Agent, our concern for the lack of provision and modification of high-speed, high-altitude ECM equipped aircraft as a replacement for the TB-29's. It is considered doubtful, at present, that the total command ECM training requirements can be satisfied by SAC and the Air National Guard elements because of conflicting missions.

5. Headquarters USAF's interim solution to this problem is supported until a more favorable capability has been provided. We

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Hq NORAD Ltr, NOESW, Subj: Augmentation of ADC Support Facilities for Airborne ECM Training

will continue to stress the requirement for the proper aircraft to be configured and operated by your command to meet the expanding ECM training problem.

FOR THE COMMANDER-IN-CHIEF:

- 4 Incls
- 1. USARADCOM ECM Tng & Radar Eval Rqmts
- 2. ADC ECM Tng & Radar Eval Rqmts
- 3. NAVFORCONAD ECM Tng & Radar Eval Rqmts
- 4. RCAF/ADC ECM Tng & Radar Eval Rqmts

MARSHALL S. CARTER
Major General, USA
Chief of Staff

CONRAD

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USARADCOM ECM TRAINING AND RADAR EVALUATION REQUIREMENTS

1. ECM Training Target Requirements.

- | | |
|---|----------------|
| a. Four NIKE-AJAX installations (17 to 25 fire units)
4 X 144 airborne ECM time per year | 576 hrs |
| b. Eight NIKE-AJAX installations (12 to 16 fire units)
X 96 hours airborne ECM time per year | 768 hrs |
| c. Ten NIKE-AJAX installations (4 to 8 fire units)
X 48 hours airborne ECM time per year | <u>480</u> hrs |
| TOTAL PER YEAR 1824 hrs | |
| d. 7th AAA Group, Thule, Greenland | 24 hrs |

e. ARADCOM training requirements include electronic jamming in L, S, and X-bands, plus chaff.

2. Radar Evaluation. Sixteen NIKE complexes to be evaluated by 1960, 16 hours per NIKE complex.

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ADC ECM TRAINING AND RADAR EVALUATION REQUIREMENTS

1. ECM Training Requirements.

a. 6,200 fighter attacks per month, at or above 35,000 feet, using multiple aircraft targets. SAC and ADC radar evaluation aircraft to use X-band chaff, sweep jamming, UHF communication jamming, and IFF jamming.

b. 3,432 ZI surveillance radar sorties per month to achieve at least Condition III jamming at 80 miles. Use multiple aircraft targets.

c. 184 surveillance radar sorties per month against the 64th Air Division radar sites.

d. ECM training for 55 DEM Line radars. (to be shared with AAC radar evaluation flight)

2. Radar evaluation of 392 radar sites in the ZI. This requirement has been partially completed but will have to be repeated as new radars are installed. Radar evaluation averages 40 hours of flying time per site. It is anticipated that the high quality radar inputs required by SAGE will materially increase the number of radar evaluation hours of flying time. The above requirements do not include special evaluations of radar sites that develop periodically from miscellaneous sources which may require a considerable amount of flying time.

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NAVFORCONAD ECM TRAINING AND RADAR EVALUATION REQUIREMENTS

1. ECM Training Requirements. Ten picket stations at 30 hours per month per ship.
2. Radar Evaluation. Forty hours flying time for each new type of radar configuration of a picket ship.

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RCAF(ADC) ECM TRAINING AND RADAR EVALUATION REQUIREMENTS

1. *ECM Training Requirements.

a. 900 ECM passes by RCAF fighters per month on SAC and ADC radar evaluation aircraft. (This is nine fighter-interceptor squadrons of 25 crews each with each crew making four passes per month.)

b. A total of 500 ECM hours against 23 radar sites per month using chaff and electronic jamming.

*c. These are net requirements after RCAF provided ECM training is subtracted.

2. Radars Evaluation.

a. Evaluate new radars as they come into the system.

b. There are four new surveillance radars with 18 more surveillance stations and 50 more gap filler sites by 1960.

c. The above does not include 98 radars on the Mid-Canada Line.

d. Surveillance radars average 40 hours each of flying time for a radar evaluation.

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INTRODUCTION

While the NORAD-SAC ECM exercises are conducted primarily to furnish training, considerable effort has been made to evaluate the air defense system qualitatively and, within limitations, quantitatively, through observations and analysis of ECM effects. All of the exercises have yielded valuable qualitative information, but thus far only two of them have been well enough controlled to provide a basis for quantitative analysis.

STATEMENT OF OBJECTIVES

- A. To study methods for evaluating the effects of ECM.
- B. To determine quantitatively what effects specific levels of ECM effort have on the defense system.
- C. To determine and correct shortcomings in the operation of the air defense system as a result of qualitative observation.

DESCRIPTION OF EXERCISES ANALYZED

A. Exercise Raid Eagle: Exercise Raid Eagle was a 3-day exercise run against the 27th Joint Air Division on 6, 7 and 9 April 1957. The size of the three waves and the strike routes were held nearly constant. Each wave penetrated in darkness. Sweep jamming was employed in 3 levels; 5 jamming aircraft with the first wave, 3 with the second and none with the third. Single unit chaff was employed by each wave.

SEE SLIDE I.

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B. Exercise Ball Hawk: Exercise Ball Hawk was scheduled to repeat, in the 32d and 26th Divisions, the three waves and three levels of jamming employed in Bald Eagle. The first wave penetrated as scheduled with 5 jamming aircraft on 9 May during daylight hours. The second wave was delayed and penetrated on 11 May during hours of darkness without jamming support. The exercise was cancelled following the second wave. SEE SLIDE II.

ANALYSIS

- A. Detections by land-based radar in Exercise Bald Eagle were plotted as cumulative percentages as a function of range and compared with average expected detection range. SEE SLIDE III.
- B. Tracking on each aircraft was totalled for S-band stations and for the S-band and L-band stations combined in the network. Based on the average expected tracking, tracking percentages achieved on each cell were computed. SEE SLIDE IV. Average tracking capability as a function of jamming effort is shown on Overlay 1 to SLIDE IV.
- C. Successful Interceptions tabulated for S-band stations and for the network were divided by the number of interceptors directed to obtain interceptor success rates for each wave. See Overlay 2 to SLIDE IV.

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QUALITATIVE EVALUATION BASED ON OBSERVER REPORTS

A. Experience gained through exercises.

1. The training and experience derived by the air defense systems from ECM exercises is considered very valuable. Comments favor increasing the frequency of exercises of this type.

2. Exercises have served to re-emphasize difficulties or shortcomings in the system such as:

a. The lack of continuity in radar tracking.

b. The dangers of saturating the system with fighter-interceptors.

c. The delays and inaccuracies in lateral and forward telling.

d. The inability of operating personnel to assess the effects of ECM on the system.

3. Exercises have afforded an opportunity to experiment with tactics or techniques such as:

1. The employment of "trailer" aircraft.

2. Location of bombers by triangulating jamming strobes.

B. Observations Pertaining to Future Exercises:

It is realized that the present SAC ECM capability is based largely on the requirements dictated by the SAC combat mission and that this capability is not necessarily suited to exercising our air defense system. Comments or observations which may stem from this

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lack of capability are offered because no discussion of the exercise results can be complete without them and not through a misunderstanding of SAC's operational problems.

1. Comments by commanders tend to favor intermediate size ECM efforts, perhaps equivalent to between 5 and 10 Blue Cradle aircraft, rather than very light or very heavy efforts.

2. Electronic jamming of only the S-band stations furnishes training to less than one fourth of the system.

3. It has been difficult to furnish a proportionate amount of training for Nike units. This has been due partly to technical problems and partly to the fact that a mission which exercises long range surveillance radars may not be exposed to Nike radars. Operations personnel of SAC Headquarters understand the problem and have been attempting to increase the amount of training given Nike battalions.

4. Many comments are received from air defense units not participating in the exercises. Since most exercises take advantage of SAC redeployment some areas of the United States virtually never see a realistic jamming effort. Here again SAC personnel are fully aware of the problem and it is hoped that missions can be diversified in the future.

(This comment is primarily for the benefit of NORAD representatives).

5. For a 3-month period beginning about 1 Nov, the 376th Bomb Wing will stand down. During this time the wing will be relocated

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to Lockbourne AFB and ultimately two ECM wings will be operational. While discontinuing the ECM training missions during this time is regrettable, it is hoped that the increase in SAC ECM capability will result in increased training benefits for the WRAD system.

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CO 219

COOOP-E

22 Jul 1957

SUBJECT: Inspections and Exercises

TO: Commander, Air Defense Command
Commanding General, U. S. Army Air Defense Command
Commander, Naval Forces, CONAD

1. CONAD Regulation 55-16, dated 19 June 1957, sets forth the responsibility for Component Service training and exercises as a function of Component Commanders, and the responsibility for the control of operations and the evaluation of the integrated air defense system as a function of CONAD.

2. Experience indicates the desirability of conducting the operational phases of these separate activities at the same time, particularly when all or a majority of Component units within a CONAD Division are affected. This consideration is in no sense intended to preclude or substitute for normal unit or system training activities, in accordance with the responsibilities of Component Services. It is, however, proposed to establish a coordinated effort to provide for the operational activity connected with inspections of units by Component Services in accordance with their procedures and at the same time to permit CONAD to make evaluations of the integrated air defense system at CONAD Division level. This procedure will permit maximum mutual benefits for such efforts and will make economical use of available "faker" aircraft.

3. It is therefore proposed that:

a. All Component Service commanders concerned and Headquarters CONAD jointly schedule future operational type inspections and exercises with a mutual exchange of the results of such inspections and exercises.

b. The joint schedule employ all or the majority of elements within a CONAD Division and the "no warning" for such exercises apply only to one CONAD Division or elements thereof, and all other CONAD Divisions be alerted for possible participation in all exercises for training.

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COOP-E, Subject: Inspections and Exercises

c. Complementary and common objectives be established for all training and exercise activities, in order to promote combined joint training in the conduct of air defense.

d. A method be mutually developed for scoring air defense exercises, in order to evaluate the capability of CONAD Divisions and Regions to carry out their respective missions.

4. Your comments concerning this proposal are requested not later than 26 July 1957.

FOR THE COMMANDER-IN-CHIEF:

/s/t/ HARVEY T. ALNESS
Major General, USAF
DCS/Plan & Operations

/s/t/ Col Jeff
2130
16 Jul 57

M/R: Many Component inspection activities (especially ORI's by ADC) have been scheduled and conducted independently of exercises monitored by CONAD. In some cases, an additional workload has been placed upon CONAD facilities to perform these activities. In addition, the performance results reported by Components are sometimes considerably different from those observed by CONAD observers. It is believed desirable to propose that all Component operation type inspections of related activities for all or the majority of the elements with/a CONAD Division be in conducted at the same time, including CONAD observance of the operational activities for integrated air defense system evaluation. The attached letter outlines a proposal of this nature for comments by Components.

daf

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C 323

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RR RJEDET
DE RJEPM 299C
R 191933Z
FM COMCFEOP STEWART AFB TX
TO CINCPACFLT AFB COLO
BT

ACTION: MOOP
INFO: NOCOC
NOSEC
#7-11121

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CFEOP 191. ATTN: MOOP-E. REPORT FROM LT COL. AURAND
AT EXERCISE BLUE LIGHT I AT HEADQUARTERS CFECR. EXERCISE AT THIS
HEADQUARTERS CONDUCTED SMOOTHLY AND EFFECTIVELY. BATTLE STAFF
OPERATED PERIOD OF EXERCISE. THREE HQ CFECR OFFICERS OBSERVED
EXERCISE AT DIVISION FORCES. TIMELY AND EFFECTIVE OPERATIONAL
CONTROL OF DIVISION FORCES WAS EMPLOYED. LATERAL TELLING FROM
CANADA AND CENTRAL REGION WORKED VERY SMOOTHLY. CONSIDERABLE ECM
ENCOUNTERED ON CELLS 5 AND 6. TWO MIS DUE TO ECM. DETAILED INFOR-
MATION NOT AVAILABLE. REGION COMMENTED EXERCISE WAS TOO LONG IN
DURATION AND NOT ENOUGH AIRCRAFT PENETRATING DEFENSE FOR AN EFFEC-
TIVE EXERCISE.

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BT
19/2042Z SEP RJEPM

A- PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY D ENCRYPTION--
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME-GROUP
FOR TO DECLASSIFICATION

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601

CONOs
SBA021SBC 0601RR RJEDEN
DE RJWPSB 183C
R M 1620000
FM VONCFWCR HAMILTON AFB CALIF
TO CINCONAD ENT AFB COLO SPRINGS COLO
INFO COMADC ENT AFB COLO SPRINGS COLO

ACTION: COOOP
INFO: COCCC
17-8721

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CUCOOP 751026, SUBJECT: FINAL REPORT ON EXERCISE HIGH SEAS. REFERENCE MY MESSAGE CUCOOP 0175-1077. DELETE PARTS TWO, THREE AND FOUR AND SUBSTITUTE THE FOLLOWING STATISTICS: A. OTAL FIGHTERS COMMITTED, 169. B. TOTAL FIGHTER MA'S, 101. C. TOTAL FIGHTER MISSED INTERCEPTS, 68. D. TOTAL ABORTS, 6. E. PERCENTAGE OF FIGHTERS COMMITTED ACCOMPLISHING MA'S, 59.1. F. TOTAL AAA MA'S, 42. NUMBER AND TYPE OF FIGHTERS, TO INCLUDE TACTICAL ACTION BY TYPE, FOLLOWS: A. F-86DAIRCRAFT: (1) TOTAL COMMITTED, 46. (2) TOTAL MA'S, 32. (3) TOTAL MISSED INTERCEPTS, 14. (4) ABORTS, ZERO. (5) PERCENT OF MA'S, 70. B. F-89D AND L: (1) TOTAL

MULTIPLY

PAGE TWO RJWPSB 183C
COMMITTED, 123. (2) TOTAL RADAR MA'S, 42. (3) TOTAL VISUAL MA'S, 27. (4) TOTAL ABORTS, 6. REASONS FOR 68 MISSED INTERCEPTS LISTED ABOVE ARE AS FOLLOWS: A. PERSONNEL ERROR (GCI), 31. B. PILOT ERROR, 9. C. AIRBORNE EQUIPMENT FAILURE, 6. D. GEF, ZERO. EGM FALSE TRACKS (EGM), 2. F. FIVE PRIOR TO INTERCEPT, 3. G. TARGET EVASION (PLANNED TURN), 5. REFERENCE PART FIVE OF CITED MESSAGE, ADD FOLLOWING GENERAL REMARKS: NEW PARAGRAPH A. AAA FAILED TO ACHIEVE MA'S ON FIVE TRACKS WITHIN NIKE RANGE BECAUSE OF ECM. AAA RESULTS ARE THE COMBINED TOTAL FOR SAN FRANCISCO AND SEVERAL FAKER TRACKS DID NOT PASS WITHIN NIKE RANGE. ND MA'S WERE NOT CREDITED UNLESS SIMULATED ENGAGEMENT AND LAUNCHING OF TWO NIKE MISSILES WAS SUCCESSFULLY ACCOMPLISHED AGAINST EACH INDIVIDUAL TARGET. NEW PARAGRAPH B. THE FIVE SURVEILLANCE INFORMATION, TAC ACTION AND TAC RESULTS WERE CONSIDERED UNSATISFACTORY DURING THIS EXERCISE. CHAFF UNDOUBTEDLY CAUSED SOME CONFUSION BY CREATING TRACKS THAT STOPPED AFTER A FEW SWEEPS OF THE SCOPE. MANY TIMES, INTERCEPTORS WERE SCRAMBLED FOR OR VECTORED TO THESE FALSE TRACKS WHICH COMPLICATED TAC ACTION ACCOUNTING. IT IS APPARENT THAT CURRENT FORWARD TELL PROCEDURES ARE INADEQUATE UNDER ANY UNUSUAL TRAFFIC LOAD. FORCE AND CINCONAD COC'S RECEIVE

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PAGE THREE RJWPSB 1830
 A CONFUSED PICTURE OF THE ENTIRE EVENTS BECAUSE OF TARDY, INCOMPLETE AND ERRONEOUS REPORTING. IT IS RECOMMENDED THAT THE PRESENT PROCEDURES BE CRITICALLY REVIEWED AND ACTION TAKEN TO STREAMLINE FORWARD TELL PROCEDURES FROM THE AEGC TO CINCPAC. NEW PARAGRAPH 3. PICKET SHIP DETECTIONS WERE CONSIDERED EXCELLENT. HOWEVER, THIS EXERCISE WAS THE FIRST PARTICIPATION OF THE SEAWARD EXTENSION ELEMENTS IN ECM TRAINING. AN INITIAL RAID ASSESSMENT WAS ONLY FAIR. PICKETS TENDED TO OVER ASSESS NUMBERS OF AIRCRAFT BECAUSE OF CHAFF DROPS. NEW PARAGRAPH 4. DURING THE EXERCISE AEWAC DETECTION AND TRACKING APPEARED TO BE POOR. LATER ANALYSIS, HOWEVER, INDICATES AEWAC ACTUALLY DETECTED 11 OF THE 14 TRACKS WHICH PENETRATED, BUT SURVEILLANCE DATA WAS NOT USED BECAUSE OF DUPLICATION BY IIRNET CHAFF OR GROUND RADAR. IT IS REQUESTED THAT REDEPLOYMENT OF AEWAC AIRCRAFT TO A POSITION OUTSIDE THE PICKET LINE BE CONSIDERED AS A SOLUTION TO THE REQUIREMENT FOR ADDITIONAL EARLY WARNING GENERATED BY THE INCREASED COMBAT RADIUS OF F-89J AIRCRAFT. DURING THE EXERCISE, F-89J AIRCRAFT WITH 400 GALLON TIP-TANKS WERE SCRAMBLED UPON INITIAL DETECTION BY PICKET SHIPS. SEVEN RECOMMITTED TO A SUBSEQUENT WAVE OF FAKERS (TWO MA'S PER SORTIE) AND WERE RECOVERED WITH APPROXIMATELY 5000

PAGE FOUR RJWPSB 1830
 POUNDS OF FUEL OR OVER ONE HOUR FLYING TIME REMAINING. EMPLOYMENT OF AEWAC AIRCRAFT TO PROVIDE ADDITIONAL EARLY WARNING OUTSIDE THE PICKET SHIP LINE IS CLEARLY INDICATED IF THE F-89J RANGE CAPABILITY IS TO BE FULLY EXPLOITED. NEW PARAGRAPH ADDITIONAL CONCLUSIONS FOLLOWS: A. HAPHAZARD USE OF ECM CAN BE OF MORE BENEFIT TO THE DEFENSE THAN TO THE ATTACKING FORCE WHEN EMPLOYING HEAD-ON, SNAP-UP ATTACKS WITH F-89J AIRCRAFT. LIGHT STROBIC AND CHAFF STREAMS HELP TO PINPOINT THE LOCATION OF ECM AIRCRAFT AND ASSIST IN THE INTERCEPT PROBLEM. B. ALTERNATE COMMUNICATIONS PROCEDURES (LF AND VHF) WERE ADEQUATE UNDER CONDITIONS OF UHF VOICE JAMMING. C. ASSUMING THE H2-1 WILL PERFORM AS CALCULATED, THE F-89J IS A VERY POTENT OPERATIONAL WEAPON. D. THE RESULTS OF THIS EXERCISE ARE VERY ENCOURAGING AND ARE FELT TO REPRESENT THE CURRENT CAPABILITY OF THE BOTH COMBATS TO REPEL A HOSTILE ATTACK UNDER CONDITIONS OF ADEQUATE INTELLIGENCE WARNING.

LN TDR E H

PRPTING ABOVE LINE
 CONDITIONS OF ADEQUATE INTELLIGENCE WARNING MODERATE ECM AND ONLY PARTIAL SATURATION.
 BT
 16/20232 JUL RJWPSB

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9 Jul 77

600

COM 010
SEAD165DC 0031
PP RJEDE
DE RJUPSS 888C
P H UPONP
PZ

PRIORITY

ACTION: COCOC
INFO: COOOP, & COELC
X7-8511

FROM COMSECDEF HAWAIIAN AFB CALIF
TO RUEHHH/CONAD HIST ASD COLO SP7THYR COLG
INFO RJEDE /ICMADG FMT ASD COLO SP7THYR COLG
BT

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00000018-1877. SUBJECT: PRELIMINARY REPORT ON EXERCISE
HIGH SEAS. THIS MESSAGE IS SIX PARTS. PART 1. EXERCISE HIGH
SEAS CONSISTED OF 42 F-47 TYPE AIRCRAFT FROM THE 22D BOMB WING
PENETRATING THE 12TH CABE AREA ON 4, 5, & 6 JULY. ON 4 JULY, TWO
ECM AIRCRAFT FLEW AS SCREEN FOR FOUR CELLS OF 5, 4, 3 AND 5 AI
CRAFT.
ON 5 JULY, ONE ECM AIRCRAFT FLEW AS SCREEN FOR FOUR CELLS OF 4, 4,
4 AND 3 AIRCRAFT. ON 6 JULY, FOUR CELLS OF 4, 3, 3 AND 3 AIRCRAFT
PENETRATED WITHOUT AN ECM SCREENING AIRCRAFT. CHAFF WAS USED
EXTENSIVELY ON ALL THREE DAYS BY ALL AIRCRAFT. NOISE JAMMING WAS
UTILIZED ON THE LAST DAY. PART 2. THIS IS A SUMMARY ANALYSIS OF

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PAGE TWO RJUPSD BEC
TACTICAL ACTION TAKEN, BASED ON 28TH CADD CONTROL CENTER DATA,
REVEALS THE FOLLOWING: A. TOTAL FIGHTERS COMMITTED, 187.
B. TOTAL FIGHTER MA'S, 187. C. TOTAL FIGHTER MISSED INTERCEPTS,
74. D. TOTAL ABORTS, 6. E. PERCENT OF FIGHTERS COMMITTED
ACCOMPLISHING MA'S, 57.2. F. TOTAL AAA MA'S, 42. PART 3
NUMBER AND TYPE OF FUGHTERS, TO INCLUDE TACTICAL ACTION BY TYPE,
FOLLOWS: A. F-89J AIRCRAFT: (1) TOTAL COMMITTED, 50. (2)
TOTAL MA'S, 36. (3) TOTAL MISSED INTERCEPT, 14. (4) ABORTS,
ZERO. (5) PERCENT OF MA'S, 72. D. F-6SD AND L. (1) TOTAL
COMMITTED, 137. (2) OTAL RADAR MA'S, 30. (3) TOTAL VISUAL
MA'S, 41. (4) TOTAL ABORTS, 6. PART 4. REASONS FOR 76 MISSED
INTERCEPTS ENUMERATED IN PART 2 ABOVE: A. PERSONNEL ERROR
(GCI), 35. B. PILOT ERROR, 0. C. AIRBORNE EQUIPMENT FAILURE,
16. D. GROUND EQUIPMENT FAILURE, 3. E. FALSE TRACKS (ECM), 9.
F. FADE PRIOR TO INTERCEPT, 8. PART 5. GENERAL REMARKS FOLLOW
EXERCISE HIGH SEAS SIMULATED A REALISTIC ENEMY ATTACK FROM THE SEA
AGAINST THE 28TH CADD. ECM ACTIVITY STARTED OUTSIDE THE PICKET
SHIPS AND CONTINUED THROUGH THE SYSTEM AS FAR AS STOCKTON. GOOD
WEATHER PREVAILED THROUGHOUT THE EXERCISE WHICH PERMITTED
UNRESTRICTED USE OF AVAILABLE FORCES. PRELIMINARY ANALYSIS

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THREE RUMPSB SSC
INDICATES ECM ACTIVITY HAD SOME ADVERSE EFFECT AGAINST AAA AND
FIGHTER-CCI CONTROL. AAA REPORTED "S" AND "L" BAND JAMMING FIRST
TWO DAYS WITH SOME REDUCTION IN EFFECTIVENESS CAUSED BY CHAFF ON
ALL THREE DAYS. JAMMING RESEARCH STUDY OF TWO AND ONE TRACKS
WERE LOST.

RE TO ECM. EXACT PERFORMANCE OF MI'S ACHIEVED AGAINST D-47
AIRCRAFT IN AN ECM WINGSWEEP. PERFORMANCE OF F-80J AIRCRAFT
USING HEAD-ON SNAP-UP TACTIC WAS PARTICULARLY GRATIFYING. THIS
TACTIC MINIMIZES EFFECT OF ECM ACTIVITY UPON GROUND RADAR AND
EFFECT OF CHAFF UPON AIRBORNE RADAR. BASED UPON PAST RESULTS, AS
WELL AS THIS WINGSWEEP, IT IS FELT THE SUCCESS RATE OF THE F-80J
(72 PERCENT) CAN BE ACHIEVED UNDER ANY SIMILAR ATTACK CONDITIONS.
PART 6. A CRITIQUE OF THE WINGSWEEP WILL BE HELD AT THIS
HEADQUARTERS AT 1600 HOURS LOCAL ON 18 JULY. APPROPRIATE AGU,
FIS, AEW&S, AND COMPONENT COMMANDERS WILL PRESENT DATA PERTINENT
TO THEIR PARTICIPATION. MEMBERS OF YOUR STAFF ARE CORDIALLY
INVITED TO ATTEND.

BT
09/2059 JUL RUMPSB

--ADVANCE XREF COPY OF THIS MSG HAS BEEN DELIVERED TO CEC--

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224

CFSOP-W

SUBJECT: (U) Fighter/Bomber Ratios

TO: Commander-in-Chief
North American Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. Reference is made to paragraphs 403b(3), 403c, 403e, and 403f of AIC Manual 55-5, dated 1 July 1957. These paragraphs establish flights of three interceptors as the standard formation for all types of interceptors other than the F-89J. The foreword of AIC Manual 55-5 states that the manual is directive in nature, and the paragraphs referenced above are so worded that alternatives other than employing flights of three are not permissible.

2. Under certain attack situations, employment of a fixed number of fighter interceptors in a flight will degrade the total kill probability. Flights of three are generally desirable against closely massed formations or when there are many fighters available to attack relatively few bombers. However, if the attacking force consists of a large number of individual aircraft, a bomber stream, or widespread small formations; or if there are few fighters available in relation to the number of bombers, the employment of a 3-to-1 ratio may be unsound.

3. The reattack capability of the aircraft which may be employed should be taken into consideration. If an interceptor has the capability to perform a second attack, assuming the first was unsuccessful, this would further increase the apparent fighter/bomber ratio.

4. In some instances, the airspace may be so saturated with fighters and bombers as to degrade the control capability of direction centers. At times commitment of fewer fighters will afford better control, hence a more orderly directed air battle.

5. The number of flights committed, coupled with the number of aircraft in each flight, will at times negate the control capability of an individual director. In this situation, fewer fighters per flight will enable the director to maintain better control of all aircraft in the groups of flights he may be controlling.

6. In exercise "Blue Light I", the 37th COMAD Division employed flights of two exclusively; in exercise "Hour Hand", flights of three were employed. Percentages of successful intercepts were considerably

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CPROP-W, Hq East OAD Region, Subject: (U) Fighter/Bomber Ratios (Cont'd)

higher in "Blue Light I" than in "Hour Hand". (All F-100 intercepts 93% vs. 65%; A1 intercepts 50% vs. 32%.) The greater success rate is not attributed solely to the use of smaller flights in exercise "Blue Light I"; however, this was a very important factor.

7. In any event, this headquarters is of the opinion that commitment and control of friendly forces is the responsibility of the commander fighting the air battle and that this commander must be given full latitude to employ tactics he deems necessary. Since the same battle situation will not present itself to all defenses in the same manner, a directive to the effect that flights will always consist of three fighters is considered unduly restrictive and therefore unsound.

8. In view of the above, recommend:

a. Paragraph 402b(3) be changed to read "...Interceptors with the exception of the F-89J will normally be committed in a standard formation flight of three. Flights of varying amounts may be committed under specific attack situations when deemed appropriate. In any event, sufficient number of aircraft will be committed to insure...".

b. Those portions of other referenced paragraphs relating to specific number of aircraft to be committed in one flight be changed to allow the commander making the commitment to decide how many fighters each flight will contain.

Copies furnished:
EADP
37th CAAD

ERNEST J. WHITE, JR.
Colonel, USAF
Chief of Staff

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224

CPEOP-W, Hq CPECB, 26 Oct 57, Subj: (U) Fighter/Bomber Ratios

MOOOP-T

1st Ind

8 NOV 1957

Hq North American Air Defense Command, Ent Air Force Base, Colorado Springs, Colorado

TO: Commander, Air Defense Command, Ent Air Force Base, Colorado Springs, Colorado

1. This headquarters concurs in the concepts outlined in the basic letter.
2. Request your consideration to amend those appropriate paragraphs of your ADC Manual 55-9, concerning interceptor employment, which have been noted in the basic letter.

FOR THE COMMANDER-IN-CHIEF:

A. J. PIERCE
 Brig. General, USAF
 Acting DCS/Plans & Operations

M/R The Eastern CONAD letter specifies that certain paragraphs of ADC Manual 55-9, which specify, without reservation, that three interceptors will be scrambled on all active air defense scrambles. This tactic outlined ~~xxxxxxx~~ in ADC Manual 55-9 is directive in nature according to instructions in the Manual. Eastern CONAD Region has taken exception to this stringent tactic. We fully concur with their proposals that the number of interceptors scrambled should vary and that the commander concerned should have the authority to determine the number of interceptors required. We are, therefore, transmitting this letter to ADC, requesting this amendment to their Manual.

Retyped for deletion of last two sentences of paragraph 2.

17-12993 A

225

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JUL 11 1957

Major General Robert H. Terrill
Director of Operations
Headquarters Strategic Air Command
Offutt Air Force Base, Nebraska

Dear Bob:

Many thanks for your letter concerning tactics utilized on the monthly SAC-COMAB ECM training exercises. My people agree that more rigid controls are necessary if meaningful evaluations are to be obtained from the monthly ECM exercises; however, it is not deemed advisable to institute strict controls on exercises conducted primarily for training purposes. For evaluation purposes, we intend to institute controls of the type outlined in your letter in the series of controlled exercises now in the planning stage with your headquarters.

The COMAB system has received valuable ECM training from the exercises conducted to date and though no extensive evaluation has been attempted, my Operations Analysis people are using these exercises to develop a system whereby future controlled exercises will be evaluated. I sincerely hope that our future cooperation on joint exercises may be expanded to the extent that joint evaluation of effectiveness can be achieved and that you concur in the above procedure.

Sincerely,

HARVEY T. ALBES
Major General, USAF
DCS/Plans & Operations

CINCOMAB
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L/Col. Nuckol
2064
9 Jul 57

cl



M/R - See attached ltr.

This is an unclassified answer to a Classified letter

UNCLASSIFIED

226
601

24 JUL 1967

Major General Robert G. Merrill
Director of Operations
Strategic Air Command
Offutt Air Force Base
Omaha, Nebraska

Dear Bob:

First of all, let me assure you that I sincerely appreciated your letter of two weeks ago concerning reports submitted by SAC observers following air defense exercises. At the same time, I must point out that the true target of your criticism is COMAD, not ADC. All Regional Operations Centers and Division Control Centers are COMAD facilities from which we exercise operational control of air defense resources provided not only by ADC but also by USAFMOBPA and AAFSCOMAD. Incidentally, Bob, my correct address is COMAD, not ADC.

I agree with you wholeheartedly that we must provide you a realistic test of your ability to penetrate our defenses. This involves three things, your ability (1) to detect and identify your "fake" aircraft, (2) to track them, and (3) to bring weapons to bear against them. The results of the first two actions can be evaluated with considerable accuracy by comparing actual "fake" tracks against target information forward told to our COMAD Division Control Centers. The determination of "kill probability" is somewhat more complex. Whereas in actual emergency conditions we would launch every fighter available, there are logistic and personnel considerations which make this impractical as a standard procedure in all training exercises. Further, the engagements made by surface-to-air missiles can, of course, be only simulated. Despite these artificialities, I feel that we can arrive at some fairly accurate conclusions as to probable results.

As to a "defeatist" attitude in COMAD, Bob, I can only say you've been ill-advised. As you say, we have a difficult mission. This mission in the past has been made even more difficult as a result of the rather antiquated equipment provided us.

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This equipment is now being replaced, however, with radars, fighters and missiles, both air-to-air and surface-to-air, which we feel give us the means of meeting your MiG's and B-52's (and more important, the bombers, Bisons and Soviets) on an equal footing.

As in all commands of this size, there may be instances when one of our subordinate echelons fails to measure up. When evidence of this is brought to your attention, I'll consider it a personal favor if you'll continue to let me know about it, with particulars as to time and place.

Just as SAC must rely upon USAF to provide a means of measuring SAC effectiveness, COMAD must rely heavily upon SAC to provide a realistic basis for evaluating the COMAD system. Neither of us can afford a failure of the other to do his job in this respect. I intend to see that we fulfill our obligation, and I'm sure we can expect a continuation of the excellent cooperation we've had from SAC in the past.

Sincerely,

HARVEY T. ALBESS
Major General, USAF
DCS/Plans & Operations

CONFIDENTIAL

Col. Scibert
2130
23 Jul 57
daf

UNCLASSIFIED

227

JOINT MESSAGEFORM

UNCLASSIFIED

READING FILE

READING FILE
601

PRECEDENCE	TYPE MEG (Check)			ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION ROUTINE	BOOK	MULTI	SINGLE	AF	X	
INFO ROUTINE	X					
FROM: CINCONAD	SPECIAL INSTRUCTIONS					
<p>TO: COMCFOR STEWART AFB NEWBURGH N Y</p> <p>COMCFOR RICHARDS-GERAUR AFB MO</p> <p>COMCFOR HAMILTON AFB CALIF</p> <p>COMSACADO PEPPERRELL AFB NEWFOUNDLAND</p> <p>INFO: CINCAL ELMENDORF AFB ANCHORAGE ALASKA</p> <p>COMADC ENT AFB COLORADO SPRINGS COLO (COURIER)</p> <p>CGUSARADCOM ENT AFB COLORADO SPRINGS COLO (COURIER)</p> <p>COMNAVFORCONAD ENT AFB COLORADO SPRINGS COLO (COURIER)</p>						

UNCLASSIFIED ^{CINCONAD} ~~CONF~~ X0105

Observation of Region Operations Center and Division Central Center operations during joint exercises with SAC has evidenced a lack of active participation by key CONAD personnel, particularly CONAD Commanders and Battle Staff. Since these exercises currently provide the most realistic means of simulating actual air attack, they ~~should~~ ^{must} be fully exploited in developing new tactics and techniques, developing

DATE	TIME
12	1700Z
MONTH	YEAR
Jul	57

READING FILE

SYMBOL	TYPED NAME AND TITLE (Signature, if required)	
G000P	Col Seibert/daf	
PHONE 2130	PAGE NR. 1	NR. OF PAGES 2
SEC UNCLASSIFIED	TYPED (or stamped) NAME AND TITLE	
	J. W. LEDOUX LCDR, USN Asst Adjutant	

EXHAUSTED

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JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION
UNCLASSIFIED

CINCPAC

operational procedures, evaluating present methods and systems, and providing individual training to all personnel involved in the conduct of the air battle. Further, SAC utilizes the results of these exercises in the development of tactical procedures. Unrealistic or sub-standard performance by our air defense system does not provide SAC with a fair appraisal of its offensive capability. Accordingly, this ~~message~~ ~~here~~ ~~considers~~ it imperative that CONAD Regions and Divisions engaging in joint exercises with SAC participate fully in these exercises, utilizing where possible the same supervision that would be employed in actual combat.

M/R: A personal letter from Gen. Terrill (D/O SAC) to Gen Alness indicated that SAC observers had noted a marked degree of non-concern with the successful application of air defense resources exercises. One example cited was "Bird Dog", which was run thru 58th Air Division on 27 May 57. This action results in inadequate training for CONAD units as well as SAC. The present message is prepared for the purpose of requiring greater interest of CONAD Commanders in exercises and in air defense procedures, tactics and techniques as a whole.

Col Seibert
2130
12 Jul 57

daf

228

JOINT MESSAGEFORM

SECURITY CLASSIFICATION

UNCLASSIFIED

601

PRECEDENCE	TYPE MSG	ACCT. NO.	ORIG. OR REFERENCE	CLASSIFICATION OF REFERENCE
ACTION: PRIORITY	BOOK	SYMBOL	NOOOP-E 016 msg	UNCLASSIFIED
INFO: PRIORITY	MULTI		CFEOP-W 355 msg	UNCLASSIFIED
FROM: CINCNOHAD	SINGLE			SPECIAL INSTRUCT

TO: CINCNSAC OFFUTT AFB OMAHA NEBRASKA

INFO: COM 2ND AF BARKSDALE AFB LA

COM 8TH AF WESTOVER AFB MASS

COM 15TH AF MARCH AFB CALIF

COMADC ENT AFB (COURIER)

CGUSARADCOM ENT AFB (COURIER)

COMNAVFORCONAD ENT AFB (COURIER)

COMCFEOR STEWART AFB NEWBURGH NEW YORK

COMCFCCR RICHARDS-GEBAUR AFB GRANDVIEW MISSOURI

COMCFWCR HAMILTON AFB CALIFORNIA

DUPLICATE

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UNCLASSIFIED from NOOOP-E 053. Reference by msg NOOOP-E 016 dated 2 Oct 57, NOTAL and msg COMCFEOR, CFEOP-W 355 Subj: NORAD /SAC Exercises, dated 25 Nov 57, NOTAL.

CONAD Regions have been experiencing difficulty in obtaining from the numbered AF's Control Centers, mission data on NORAD/SAC Exercises, such as postponements, delays, and aborts. Request that necessary action be taken to insure that information of the

DATE	TIME
29	1900Z
NOV	1957

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R. E. GARVEY, JR.
Major, USA
Asst Adjutant

JOINT MESSAGEFO. - CONTINUATION SHEET

SECURITY CLASSIFICATION

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~~UNCLASSIFIED~~ 228

FROM:

CINCPAC

type noted above is expeditiously passed to both the NORAD COC and the Region COC's affected. This procedure to be standard in all cases excepting missions where specific arrangements are made to withhold mission data.

MR: not required

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DD FORM 173-1 MAY 68

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hen filled ...

COPY OF INCOMING CLASSIFIED MESSAGE

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(Reproduction of this message in whole or in part is prohibited without approval of CONAD Ad)

SEE CRYPTO SECTION BEFORE DECLASSIFYING

NOV 7

READING FILE

CONAD HIST FILE
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RR RJWFIL RJEPED RJWPKW RJEDDN RJEPNS RJEDKF RJWPSJ
DE RJEDBR 585
R 052250Z
FM CINCUSAC OFFUTT AFB NEBR
TO RJWFIL/COMAF 2 BARKSDALE AFB LA
RJEPED/COMAF 6 WESTOVER AFB MASS
RJWPKW/COMAF 15 MARCH AFB CALIF
RJEDDN/CINCONORAD ENT AFB COLO
INFO RJEPNS/COMDR EADF STEWART AFB NY
RJWFIL/COMAIRDIV 4 BARKSDALE AFB LA
RJEDKF/COMDR CART RICHARDS GEDAU AFB MO
RJWPSJ/COMDR WADD HAMILTON AFB CALIF

ACTION: COOOP
INFO: COGOC, COOPO
17-13220

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BT
DOPLT 7170. SUBJECT: PARTICIPATION OF 376TH
BOMBARDMENT WING IN SAC-NORAD JOINT TRAINING MISSIONS. PART I.
BY DOPLT 2197 AND DOPLT 2198, BOTH DATED 7 JAN 57, AND SAC-
CONAD CONFERENCE AT BARKSDALE AFB ON 13 DEC 56. DUE TO THE
MOVE OF THE 376TH FROM BARKSDALE TO LOCKBOURNE AFB DURING NOV TU
AND THE ASSOCIATED DISTRUPTION OF NORMAL ACTIVITY FOR A PERIOD
RPTING ABOVE LINE

DUPLICATE

AND THE ASSOCIATED DISTRUPTION OF NORMAL ACTIVITY FOR A PERIOD
AFTER THE PHYSICAL TRANSFER IS COMPLETED, THE 376TH WILL NOT BE
AVAILABLE FOR PRRTICIPATION IN SAC-NORAD JOINT TRAINING MISSIONS
UNTIL APPROXIMATELY APRIL 1957. PART II. FOR 2AF, 3AF AND
15AF. REQUEST EACH AIR FORCE INCLUDE THE MAXIMUM AMOUNT OF ECM

PAGE TWO RJEDBR 585
ACTIVITY POSSIBLE INCLUDING USE OF PHASE V CAPSULES WHEN
PLANNING FUTURE MISSIONS IN ORDER TO PROVIDE MAXIMUM TRAINING
FOR NORAD UNITS. PART III. THE AMOUNT OF EFFORT EXPENDED BY
THIS HEADQUARTERS ON EVALUATION OF MISSIONS NOT INCLUDING THE
376TH BOMBARDMENT WING WILL BE BASED ON THE ECM LOADING OF
BOMBER AIRCRAFT, NUMBER AND SPACING OF PHASE V CAPSULE AIRCRAFT
EMPLOYED AND OVERALL TACTICS ASSOCIATED WITH EACH MISSION.
EACH OPERATIONS ORDER WILL BE REVIEWED BY THIS HEADQUARTERS
PRIOR TO THE ESTABLISHMENT OF OBSERVER REQUIREMENTS.

BT
05/2309Z NOV RJEDBR

Copy 5 of 6 Copies
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40074

13 DEC 1957

SUBJECT: Transmittal of Exercise Design

TO: Commander-in-Chief
Strategic Air Command
AESA: Operations Analysis Office
Offutt Air Force Base
Nebraska

In accordance with a telephone conversation on 4 December 1957 between Mr. Hoffa and Mr. Douglas, the attached exercise design is transmitted for your review and comment.

FOR THE COMMANDER-IN-CHIEF:

DUPLICATE

1 Incl
Proposed Objectives and
Exercise Design for a Series
of Evaluative Exercises
2 copies (Confidential)

RICHARD H. SLYPES, Jr.
Acting Director,
Operations Analysis
Deputy Chief of Staff,
Plans and Operations

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PROPOSED OBJECTIVES AND EXERCISE DESIGN
FOR A SERIES OF EVALUATION EXERCISES

A. INTRODUCTION

1. As the air defense system grows in size and complexity, the need for evaluating system effectiveness has become increasingly acute. At the same time, the problems involved in evaluating system effectiveness quantitatively have become more difficult.

2. While considerable information has been obtained from routine operations and from exercises, it has not been possible, in general, to gain quantitative knowledge of system effectiveness against specific offensive threats. The value of data from routine operations is severely limited by the fact that the routine function of the air defense system differs so greatly from the function of a system under attack. Attempts to evaluate exercises quantitatively have, for the most part, been inconclusive. Most air defense exercises have been undertaken to satisfy either extremely broad objectives or a large number of rather unrelated objectives. Either situation makes quantitative evaluation extremely difficult.

3. The NORAD staff recognizes the critical requirement for measuring the capabilities and shortcomings of the air defense system and has examined various steps which can be taken to satisfy this requirement. On the basis of past experience, it appears certain that many of the most important questions about defensive capabilities can be answered only by well-controlled exercises designed to meet specific objectives. It is believed that the results of such experiments or exercises would prove extremely valuable to the Strategic Air Command as well as to NORAD and its component commands.

4. Although evaluation in the general sense is a continuous process, a program of controlled exercises must, of practical necessity, be considered in terms of specific objectives and rather definite quantities of time and effort. The NORAD staff has outlined the present requirements for quantitative evaluation in terms of two general types of threat against two general areas of the continental defense system. These general parameters are the manned bomber and the submarine-launched missile threats against defenses, both in the coastal areas where advanced radar tracking is minimum and areas within the continent where threat warning is expected to be maximum. It is anticipated that at least two series of exercises extending over a considerable period of time will be necessary to meet these requirements.

5. Rather than undertake an entire program of this magnitude at one time, it was decided that the most profitable course would be to begin with a number of missions designed to answer two of the most critical questions about defense effectiveness against the manned bomber threat. The remainder of this discussion is concerned with the design of missions

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which will permit an evaluation of system performance as it is affected by: (1) electronic countermeasures, and (2) increasing numbers of attacking aircraft (sometimes called saturation). It is not possible to state precisely how much of the total requirement for quantitative evaluation will be satisfied by this particular group of missions, but it appears at present that an evaluation of these two effects would satisfy a substantial part of one of the series referred to above.

B. BROAD OBJECTIVES

1. It is proposed that a series of missions be undertaken to fulfill the following broad objectives:
 - a. To evaluate the capability of a Joint Air Division to perform detection, identification, tracking, interception and simulated destruction of attacking forces of manned jet bombers employing varied tactics and penetration aids.
 - b. To afford joint training in defending against realistic bomber strikes.
 - c. To determine, through qualitative measures and observation, shortcomings in procedures, tactics and equipment.

C. SPECIFIC OBJECTIVES

1. It is proposed that objective 1.a. above be interpreted as follows: The specific objective of these missions is to evaluate the capability of a Joint Air Division against varied attacking force strengths and varied countermeasure efforts. It is anticipated that other aspects of bomber tactics will not be varied during the exercises. The phrase, "levels of attacking force strength," refers to numbers of bombers in the simulated attack. The phrase, "levels of countermeasure effort," refers to the amount of sweep jamming together with random chaff used by the attacking force. These phrases will be discussed further in subsequent paragraphs.
2. The second and third objectives need no further specification from the standpoint of the initial exercise design. These objectives can be achieved as by-products of virtually all exercises which employ realistic offensive threats and missions designed to fulfill the first, or "evaluation," objective will contain the degree of realism required by the other objectives.

D. PARAMETERS

1. For the missions considered in this proposal, then, the bomber tactics would be permitted to vary only in numbers of bombers and in the magnitude of sweep jamming employed in combination with random chaff. Three levels of bomber strength have been chosen to produce low, medium and high levels of saturation in a portion of the defense system. These levels, for a division similar to the 25th, have tentatively been taken as 10, 20 and 30 bombers respectively. The three levels of countermeasures

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effort have been taken as zero, 5 and 10 sweep jamming units (such as the ALP-GB) accompanied by single unit chaff dispensed by zero, 5 and 10 bombers. The sweep jamming should be divided approximately equally between S-band and L-band ground radars and the chaff should be effective against both L and S bands.

2. Evaluation of defense capability under conditions specified by the objectives requires that other aspects of bomber tactics remain fixed. That is, such items as bomber altitudes, speeds and spacing should remain fixed throughout the exercise.

a. It is proposed that bomber altitudes for these missions be as high as practical (40,000 feet or above if possible), and bomber spacing should be great enough to require the defense to track and intercept each bomber individually. It may be desirable to plan later missions to evaluate the defense capability against bombers at very low altitudes.

3. An implicit condition of this proposal is that quantitative measures of effectiveness can be found for the air defense functions such as detection, tracking and identification. Various measures have been used in the past, and although no single measure or set of measures has proven suitable for all types of analyses, it appears quite feasible to devise measures which will permit a satisfactory analysis of these missions. For example, detection capability can be expressed in terms of cumulative detection probabilities as a function of range. Further refinement can be achieved by considering detection probabilities as a function of aircraft type, altitude or aspect. Similarly, tracking capability may be analyzed in terms of tracking accuracy and the completeness of radar tracks. Throughout this discussion it is assumed that suitable measures of effectiveness will be devised for evaluating the air defense functions.

E. METHODS

1. The quantity and type of information required to accomplish the first objective depend upon a number of considerations. In addition to the particular measures of effectiveness, the design of the exercise is important. The term "design" implies the deliberate choice of specific exercise conditions such as bomber tactics and ECM conditions to be used in each exercise. Simple designs suffice for one-time spot-checking of division capability. Different designs are required if consistency of performance is also to be evaluated. More exacting designs can evaluate defense capability as it is affected by changes in attack conditions.

a. In this regard, there are two major types of effects which should be evaluated. The first is the effect upon the defense system if attack conditions are changed one at a time. For example, how is a division's capability affected if only the number of bomber tracks is changed. The second is the effect upon the defense system caused by simultaneous changes in more than one attack condition, i.e., the interaction effects of changing more than one attack condition at the same time. For example, how does capability change if the number of tracks is decreased while, at the same time, the total ECM effort is increased

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b. Using an appropriate design, Division capability can be evaluated in each of the general areas mentioned above, namely:

(1) Division capability against various numbers of bombers and various quantities of ECM.

(2) Consistency or variability of division capability.

(3) Division performance as it is affected by changes in single attack conditions, i.e., numbers of bombers alone or magnitude of ECM effort alone.

(4) Division performance as it is affected by simultaneous changes in more than one attack condition, i.e., simultaneous variations in numbers of bombers and the magnitude of countermeasures efforts.

F. PROPOSED EXERCISE DESIGN TO ACCOMPLISH THE EVALUATION OBJECTIVE

1. The table in the next paragraph shows the proposed design for an exercise from which the types of information listed above may be extracted. It assumes that relatively uniform defense conditions will prevail and provides for changes in two attack conditions, namely: the level of attacking force strength (saturation) and the amount of ECM employed during the attack. The first of these attack conditions, saturation, is considered at three levels - 10, 20 and 30 tracks (simultaneously carried). The second, ECM effort, also is considered at three levels. These levels are designated below as 0-0, 40-5 and 00-2 to denote the number of jamming units or "black boxes" and the number of bombers in the strike employing single unit chaff. Aircraft to dispense chaff should always be selected from among those employing sweep jamming.

2. Table I below is interpreted as follows: Mission Number 1 generates 10 tracks simultaneously in the division and employs ECM level 0; similarly, Mission Number 2 generates 20 tracks and employs 40 sweep jammers and has 5 bombers employing single unit chaff, etc.

Mission Number	Number of Aircraft (Tracks Generated)	ECM Effort	
		Number of Jammers	Number of A/C Employing Chaff
1	10	0	0
2	20	40	5
3	30	80	10
4	10	0	0
5	20	0	0
6	30	40	5
7	10	40	5
8	20	80	10
9	30	0	0
Total Sorties	180		

Table I - Exercise Design

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3. Nine missions, totaling 180 bomber sorties, are required to execute the design above. However, individual bombers could fly more than one of these sorties. This means that the total number of aircraft required by the design may be far less than 180. By flying three missions on each of three dates, the design would be executed.

4. Theory, as well as experience in the use of designs such as this one, have shown that the greatest pay-off can be obtained if certain restraints are observed.

a. The nine missions should be flown, as nearly as possible, under identical conditions of weather and defense environment. In anticipation that nearly identical conditions cannot be expected for all nine missions, three groups of missions are indicated in Table I. Missions within each group should be flown under nearly identical conditions. Changes in exercise conditions, unavoidable or otherwise, are less likely to jeopardize the exercise analysis if they occur between groups of missions rather than between missions within the same group.

b. The order in which groups are flown as well as the order in which missions within the same group are flown should be random. The specific schedule for accomplishing the missions should, however, be firmly established prior to the exercise.

5. The proposed design represents the minimum exercise effort which can provide a reasonably complete evaluation of the effects of sweep jamming and numbers of bombers on a defense system. However, such a minimum effort does not guarantee a successful evaluation. Variability in exercise conditions and inconsistency of division performance could make analysis inconclusive. However, the proposed design is much more likely to produce conclusive results than any other which requires so few missions.

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15 JUL 1957

SUBJECT: Nuclear Detonation Reporting

TO: Chief of Staff, USAF
as Executive Agent for CCRAD
Washington 25, D. C.

1. Reference: Letter Joint Chiefs of Staff, Subject: "Establishment of Weather Data Collection and Atomic Detonation Reporting Systems," File SN 961-56-4 December 1956.

2. Paragraph 4 of referenced letter assigns this headquarters over-all responsibility for the establishment and operation of an atomic detonation reporting system in the continental United States, Alaska, and in the Northeast approaches to the United States.

3. Until an adequate remote reading indirect bomb damage assessment system is available, this headquarters has established an interim collection system consisting of observations received from the Ground Observer Corps, airborne personnel and installations and units under the jurisdiction of CCRAD. This interim system for obvious reasons is not adequate.

4. In an effort to achieve a more reliable method of reporting nuclear detonations, this headquarters requested ADC to establish cameras at AGW sites located in the vicinity of Frenchman Flats, Nevada, for the purpose of taking radar scope photographs of nuclear detonations during Exercise ~~Whitcomb~~. It is believed that if sufficient scope photographs could be obtained of various yields, types and ground zeros of nuclear weapons, a kit could be developed similar to an aircraft recognition kit. These kits and manuals would be furnished each air defense radar site and would have considerable merit in the training of radar operators in the reporting of nuclear detonations.

5. The Air Research Development Command has conducted numerous studies of indirect bomb damage assessment and similar studies in connection with quantitative evaluation of atomic detonations by radar and other means. Also, the Strategic Air Command has developed IBA operational procedures that may be applicable.

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COOP-T, Headquarters COMAD, Subject: Nuclear Detonation Reporting

6. In order that this command can develop FUD-RT procedures, request that this headquarters be provided such technical data, reports, and instructions relating to this subject. Further request that the Air Force undertake investigations to optimize the use of ground radar and other appropriate techniques to increase COMAD's capability of reporting nuclear detonations.

FOR THE COMMANDER-IN-CHIEF:

MARSHALL S. GUNNER
Major General, USA
Chief of Staff

COMAND

CMC/MAJ
 C-15
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Major Gunn
2000
11 Jul 57

vds

Context of this letter was not available. Searching was necessary due to a minor administrative error.

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Rec'd Follow-up

Security

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APS-3-4

HEADQUARTERS
CONTINENTAL AIR DEFENSE COMMAND
ENT AIR FORCE BASE
COLORADO SPRINGS, COLORADO

COOP

12 June 1957

SUBJECT: Nuclear Detonation Reporting

TO: Commander-in-Chief, Alaska, APO 942,
Seattle, Washington
Commander, Air Defense Command, Ent Air Force Base,
Colorado Springs, Colorado
Commanding General, United States Army Air Defense Command,
Ent Air Force Base, Colorado Springs, Colorado
Commander, Naval Forces, Continental Air Defense Command,
Ent Air Force Base, Colorado Springs, Colorado
Commander, Continental Air Defense Forces, Eastern CONAD Region,
Stewart Air Force Base, Newburgh, New York
Commander, Continental Air Defense Forces, Central CONAD Region,
Richards-Gebaur Air Force Base, Grandview, Missouri
Commander, Continental Air Defense Forces, Western CONAD Region,
Hamilton Air Force Base, California
Commander, 64th Continental Air Defense Division (CONAD Division)
APO 862, New York, New York

1. Reference letter this Headquarters file and subject as above, 8 March 1957.
2. Paragraph 7.1. of referenced directive is amended as follows:

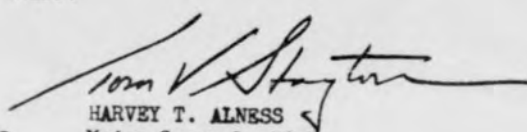
DELETE

GEOREF Position	HF 6060	At Hotel Foxtrot Six Zero Six Zero
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SUBSTITUTE THEREFOR

GEOREF Position	DKHF 5133	At Delta Kilo Hotel Foxtrot Five One Three Three
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FOR THE COMMANDER-IN-CHIEF:

for

 HARVEY T. ALNESS
 Major General, USAF
 DCS/Plans & Operations

cc: AOC RCAF/ADC

HEADQUARTERS
CONTINENTAL AIR DEFENSE COMMAND
ENT AIR FORCE BASE
COLORADO SPRINGS, COLORADO

COOOP

8 March 1957

SUBJECT: Nuclear Detonation Reporting

TO: Commander-in-Chief, Alaska, APO 942,
Seattle, Washington
Commander, Northeast Air Command, Pepperrrell Air Force Base,
St. Johns, Newfoundland
Commander, Air Defense Command, Ent Air Force Base,
Colorado Springs, Colorado
Commanding General, Army Antiaircraft Command,
Ent Air Force Base, Colorado Springs, Colorado
Commander, Naval Forces, Continental Air Defense Command,
Ent Air Force Base, Colorado Springs, Colorado
Commander, Continental Air Defense Forces, Eastern CONAD Region,
Stewart Air Force Base, Newburgh, New York
Commander, Continental Air Defense Forces, Central CONAD Region,
Grandview Air Force Base, Grandview, Missouri
Commander, Continental Air Defense Forces, Western CONAD Region,
Hamilton Air Force Base, California

1. Detonations of multi-megaton weapons have served to focus attention on the serious nature of radioactive fall-out from high yield nuclear weapons. In the event of hostilities, the enemy will have the capability to employ large numbers of high yield nuclear weapons in the early stages of the conflict; therefore, it is necessary that an atomic detonation reporting system be established immediately for the continental United States, Alaska and the Northeast Air Command.
2. Until an adequate remote reading Indirect Bomb Damage Assessment system is available, an interim collection system will consist of observations received from all possible resources including: the Ground Observer Corps, airborne personnel, installations and units under jurisdiction of this headquarters.
3. Nuclear detonation reports will be forwarded immediately over normal surveillance telling circuits when received by any air defense agency. The duplication in connection with the reporting of detonations will be eliminated by direction centers and division control centers by requiring them to evaluate the reports prior to forwarding to higher headquarters. An increase in authorized strength to accomplish this task will not be granted. Reports will consist of the following:
 - a. Nickname - "NUDET"
 - b. Number - Begin with 01 and assign numerals to each weapon consecutively. Direction centers are responsible for assignment of numerical designators to all detonations of nuclear weapons

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Hq CONAD, COOOP, Subject: Nuclear Detonation Reporting (Cont'd)
in the sub-sector regardless of organization of support.

c. Suffix - Station designator of direction center in whose sub-sector detonation occurs.

d. Geographical reference coordinates of detonation

e. Time of detonation in minutes after the hour

f. Estimate of size - large or small

g. Type Detonation	Code
(1) Aerial burst	A
(2) Ground burst	B
(3) Water burst	C

h. Display of report - Use two (2) inch circle of red cross-hatched with red diagonal stripes surrounding point of reported detonation. Retain on plotting board for 15 - 30 minutes following report. For purposes of planning fall-out action, location, time and description should be transcribed to overlay chart so that continual plotting of reports will not clutter plotting board.

i. Example of nuclear detonation report:

Item	Report as Forwarded	
	PLT/CW Report	Voice Report
Track Classification	NUDET	NUDET
Track Designator	NXO3AJ	Track November X-ray Zero Three Alfa Juliett
c-1 GEOREF Position	HP 6060	At Hotel Fourtrot Six Zero Six Zero
Time	2216Z	Time: Two Two One Six Zulu
Estimate of Size	Large	Large
Type Detonation	A	Type Alfa

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Hq CONAD, COOP, Subject: Nuclear Detonation Reporting (Cont'd)

4. The above procedure will be incorporated into CONAD Manual 55-1, presently under revision at this headquarters.

FOR THE COMMANDER-IN-CHIEF:

cc: AOC RCAF/ADC

Harvey T. Alness
HARVEY T. ALNESS
Major General, USAF
DCS/Plans & Operations

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Excluded from General Declassification Schedule;

Director Research Studies Institute Attn: Archives Branch Maxwell AFB, Alabama	RETURN TO: ✓	K410-01-8A July-Dec, 1957 Vol. VII
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CONAD / NORAD

HISTORICAL SUMMARY

(UNCLASSIFIED)

JULY - DECEMBER 1957

VOLUME VI

SUPPORTING DOCUMENTS

234 Through 284

~~RM-58~~ 4936

Excluded from General Declassification Schedule,

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4-2186-7

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234

Evaluation of Alert #1 Teletype and MADW Net as
NUDET Dissemination Facilities

evaluation of Alert #1 Teletype and MADW Net as
ALERT Dissemination Facilities

COOPO

COOOC

28 Jul 57

Maj ID Summary/COOOC

Info: COOOP
COOOP (Col Jeffus)
COOOP-T (Col Allen)

Evaluation of Alert Teletype No. 1 and MADW Net as a Dissemination Facility for
Nationwide Nuclear Detonation Information

GENERAL:

OPERATIONS ALERT 1957 Exercise provided the first opportunity to test and evaluate the CONAD Alert TTY #1 and the MADW Net as facilities for disseminating nationwide nuclear detonation information.

The CONAD Alert TTY #1 is a closed-loop teletype circuit connecting 30 agencies throughout North America which have an operational requirement for air defense warning information. Twenty two (22) of these agencies (16 air defense divisions, 3 air defense regions, BCAF-ADC, 5 ANCC, and the USAF Command Post) can initiate air defense warnings and military declarations. A message originated by any member on this circuit is simultaneously received by all 30 members.

The Military Air Defense Warning Net (MADW) originates at an air defense division COG and is contained entirely within that division's area of responsibility. It is used to further disseminate air defense warnings and declarations to selected "key points" and from there to all interested governmental civil and military agencies, i.e., military bases, CAC control towers, all base operations, ARTC's, detached military units, etc.

Previous experience during nationwide air defense exercise (CHECKPOINT, 1954; CRACKERJACK, 1955) indicated that if normal exercise air defense warning traffic were permitted over Alert TTY #1 during OPERATIONS ALERT 1957, very limited time would be available on the circuit for dissemination of nuclear detonation information. A test or evaluation under these conditions would indicate only that the Alert TTY #1 would not behave, on a timely basis, both air defense warnings and nuclear detonation information.

The decision was made, and approved by the JCS, to eliminate during this exercise all air defense warnings except those declared by CONRAD. In this way it could be determined if an Alert TTY #1 type of system would satisfy CONAD's nuclear detonation dissemination responsibilities.

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1 Subj: Evaluation of Alert #1 Teletype and MADM Net
As NUDET Dissemination Facilities

26 Jul 57

STATISTICAL INFORMATION:

On 12 July 1957, 110 $\frac{1}{2}$ nuclear detonation reports were received, processed through the CONAD COC, and disseminated over Alert TTY #1. This was done during a time period of 2 hours 5 minutes (125 minutes). The 110th nuclear detonation eliminated the CONAD COC from the exercise, and in 6 minutes CONAD's Alternate Command Post assumed (for exercise purposes) operational control of CONAD Forces and continued the collection and dissemination of NUDET information. The Alternate Command Post collected, processed and disseminated an additional 42 NUDET reports in a 40-minute period.

The operating personnel of the CONAD COC were instructed to check back to the originators the validity of all NUDET reports that did not have the KIER-CIRE UNCAP prefix. This was to be done prior to transmitting the NUDET over Alert TTY #1. Approximately 12 reports were in this category, and a 3- to 5-minute delay was involved in checking back to the source.

The average time delay from receipt of a NUDET in the COC to transmission over Alert TTY #1 was 2 minutes. The delay ranged from less than 1 minute to a maximum of 20 minutes (one instance). Forty-seven (47) of the 110 $\frac{1}{2}$ reports were processed and disseminated in 1 minute, or less.

OBSERVATIONS:

1. A closed circuit teletype loop with a message originating device at the CONAD COC will satisfy CONAD's NUDET reporting responsibilities.
2. A system as described above will, in actual use, be capable of handling up to 120 NUDET reports per hour.
3. The Alert TTY #1 and the MADM ~~will not~~ provide satisfactory nationwide NUDET dissemination capabilities for the following reasons:
 - a. The primary function of Alert TTY #1 will be seriously jeopardized by the addition of the NUDET reporting function (or, more probably, NUDET reporting will be unsatisfactory since passing of air defense warnings will have the higher priority).
 - b. The Alert TTY #1 is not addressed to the agencies that have a requirement to receive nationwide NUDET information.
 - c. The majority of the members of the Alert TTY #1 Net have no requirement for nationwide NUDET information.
 - d. Practically none of the addressees on the MADM Net have a requirement for nationwide NUDET information.

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Subj: Evaluation of Alert #1 Teletype and MADM Net
As NUDET Dissemination Facilities

26 Jul 57

RECOMMENDATIONS. It is recommended that:

1. A listing of the major governmental civil and military agencies who will use nationwide NUDET information be furnished COMCOMAD.
2. A closed circuit TTY loop be established from the COMAD OOC to each agency on the above list.
3. Within the COMAD system, nationwide NUDET information be passed no lower than COMAD regions.

HARRY W SHOUR
Colonel, USAF
Director, OOC

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TRK SN	TRK No.	BLA T TIME	RECAPTY COMM DOC	INT YR/M COMM DOC	RECAPTY TOTAL	DELAY WITHIN COMM DOC
51	01MX	1914	1914	1918		
52	02MC	1896	1926	1929		02
53	01CR	1919	1927	1929	20	03
54	01MO	1843	1927	1929	20	03
55	01NN	1919	1928	1930	20	03
56	02NH	1917	1928	1931	24	03
57	02MX	1919	1929	1931	24	03
58	01NC	1909	1929	1932	10	02
59	01DB	1924	1931	1932	10	03
60	02CA	1915	1931	1933	22	01
61	01MH	1904	1932	1934	27	02
62	03BC	1918	1932	1935	27	02
63	02CF	1926	1933	1935	28	03
64	02CB	1930	1936	1940	15	02
65	01ND	1929	1937	1940	20	04
66	01MF	1908	1939	1940	27	03
67	01CF	1904	1940	1941	10	02
68	02CF	1904	1940	1941	11	01
69	06BC	1740	1941	1942	36	02
70	02DC	1921	1942	1943	37	02
71	01ML	1934	1942	1944		02
72	03CF	1930	1943	1944	21	02
73	03BA	1934	1943	1945	29	02
74	01PJ	1934	1944	1945	13	03
75	03CC	1923	1944	1946	20	02
76	01A	1831	1945	1947	10	02
77	01JN	1933	1945	1948	22	03
78	01QC	1940	1949	1950	29	03
79	04CC	1916	1949	1950	16	04
80	02CA	1922	1951	1954	29	05
81	05CC	1916	1951	1955	24	04
82	01CA	1918	1952	1956	29	05
83	01JN	1933	1953	1956	27	03
84	01OB	1935	1953	1957	24	04
85	04BA	1945	1954	1957	20	04
86	02NA	1943	1956	1958	19	04
87	01ME	1942	1957	1959	11	04
88	01NB	1938	2000	2000	24	03
89	01OA	1916	2000	2000	24	02
90	02FC	1934	2000	2000	22	00
91	04CA	1915	2000	2000	22	01
92	01OD	1953	2000	2000	26	14
93	02JM	1925	2000	2000	25	03
94	01NA	1940	2002	2002	29	03
95	03JF	1925	2005	2005	27	02
96	03NA	1952	2005	2005	25	03
97	01NY	1943	2005	2005	25	01
98	05CA	1950	2008	2008	25	01
99	03BB	1954	2008	2010	28	00
					24	01
						02

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SUMMARY FOR WWT [REDACTED] ALSEP 27

TRX SH	TRX No.	BLAST TIME	RECEIPT AT CONRAD COC	SENT FROM CONRAD COC	RECEIPT DELAY	DELAY WITHIN CONRAD COC
01	01AA	1800	1807	1809	07	09
02	01NB	1800	1810	1820	20	00
03	01AA	1800	1821	1872	72	00
04	02FF	1815	1827	1827	12	03
05	02HA	1827	1830	1830	03	09
06	02FA	1807	1832	1833	26	00
07	01GB	1819	1832	1832	13	01
08	01AC	1822	1832	1832	10	00
09	01GA	1807	1832	1832	25	01
10	01CC	1822	1838	1838	16	00
11	02HB	1828	1838	1839	10	00
12	01AD	1832	1841	1841	09	01
13	01EM	1803	1842	1843	40	00
14	02HE	1822	1842	1846	24	01
15	02AC	1822	1841	1852	11	00
16	01DP	1834	1855	1856	22	01
17	01BA	1846	1856	1858	12	01
18	01EZ	1837	1856	1858	19	02
19	01NA	1943	1859	1859	16	00
20	01NE	1822	1859	1900	41	01
21	01FG	1902	1903	1904	01	01
22	01BF	1845	1902	1902	19	00
23	01EH	1837	1906	1907	29	01
24	02CA	1900	1908	1908	08	00
25	01EC	1853	1908	1908	15	00
26	01EC	1901	1910	1910	09	00
27	02FC	1901	1910	1911	09	01
28	02MA	1856	1912	1912	16	00
29	01KE	1800	1912	1912	72	02
30	01AC	1810	1912	1913	32	03
31	01DA	1809	1912	1915	33	01
32	00NE	1807	1856	1915	48	20
33	05AC	1811	1917	1917	06	00
34	01BB	1849	1915	1917	22	02
35	03BC	1907	1915	1918	11	03
36	04BD	1907	1915	1919	12	00
37	02AI	1908	1917	1920	03	03
38	01MD	1843	1917	1920	33	03
39	06BD	1912	1917	1921	04	04
40	02DF	1841	1920	1921	39	01
41	05BC	1907	1920	1922	15	02
42	02FC	1810	1920	1922	12	03
43	01FY	1856	1920	1923	3	03
44	01FG	1921	1921	1923	02	03
45	02FC	1906	1911	1923	03	14
46	01MC	1950	1922	1923	03	14
47	01BE	1907	1922	1924	17	04
48	03DF	1848	1922	1924	02	04
49	02HE	1907	1922	1924	17	04
50	04DF	1838	1925	1925	02	02

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TRK SN	TRK No.	BLAST FDS	RECEIPT AT COMAD COG	SENT FROM COMAD COG	RECEIPT DELAY	DELAY WITHIN COMAD COG
100	02WJ	1940	2009	2010	29	01
101	01ED	1954	2010	2011	16	01
102	01EC	2004	2011	2013	07	02
103	01PN	1957	2015	2016	18	01
104	02FL	2015	2016	2017	01	01
105	03OB	1943	2018	2018	25	00
106	02OB	1922	2017	2019	55	02
107	01PN	2013	2018	2019	05	01
108	02PN	2014	2019	2020	05	01
109	03PN	2016	2020	2020	04	00
110	04OB	1953	2021	2021	28	00

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8 JUL 1957

GROUP:

SUBJECT: Operation Alert 1957

TO: Commander, Air Defense Command

Commanding General, U.S. Army Air Defense Command

Commander, Naval Forces, COMNAF

1. This letter supplements Headquarters USAF letter dated 19 June 1957 Subject: Operation Alert 1957 and contains amplifying information and instructions for participation by all elements of COMNAF.

2. The order of events and the action required by COMNAF and the subordinate COMNAF units are as follows.

a. Reference Headquarters USAF letter Subject: Operation Alert 1957 dated 19 June 1957, paragraph 2 a. The test for simulating the procedure for automatic transfer of weapons was conducted on 20 June 1957. At 0830Z on this date COMNAF sent the following message over the Alert I teletype. "Hickory Tree' COMNAF declares Air Defense Alarm 'Locked Pistol.' It is entirely possible that this test may be repeated. If so, the only action required by COMNAF subordinate units will be to disseminate the message in its entirety in the COMNAF. This will be done only if the code words "Hickory Tree" are contained in the message.

b. On 12 July 1957 at 0600 WEST the COMNAF CEC in coordination with the COMNAF will declare an appropriate Air Defense Alarm condition. It is anticipated at this time that the alarm will be "Lemon Juice." The message will probably read as follows: "Exercise Unusual' COMNAF declares Air Defense Alarm 'Lemon Juice.' Authentication is _____. Time is _____." The only action required on receipt of this warning message will be acknowledgment of receipt.

c. The Nuclear Detonation Reporting System (NDRS) will be exercised in the following manner. Sealed envelopes will be distributed to various COMNAF, ADC and USAF ADC installations prior to 12 July 1957. Each envelope will be marked with a date and time for opening. Installations receiving these envelopes will open them on the date and time indicated and forward the information over normal surveillance teletype circuits per instructions contained in letter from this Headquarters Subject: Nuclear Detonation Reporting dated 8 March 1957, as amended by letter this

COMOPAC Subject: Operation Alert 1957

headquarters subject: Nuclear Information Report in dated 12 June 1957. In the event the simulated "round zero" information in a particular envelope is such that COMAD Region or COMAD Division (COC's or AOC) after Interceptor Squadron (Command Post) would be destroyed under actual conditions, the installations should not transmit further "round zero" NUDET reports received. In case of AOC and AEC sites, however, the NUDET report should be sent forward even though "round zero" information will indicate that they would be destroyed. To preclude the possibility of confusion in the event of an actual attack during this period all NUDET reports to be sent forward in conjunction with this exercise will be preceded and followed by the words "Exercise Group."

example:

TRACK CLASSIFICATION
TRACK NUMBER
EXERCISE GROUP
TIME
COORDINATE
LOCATION

NUDET
100924J
DNM 5133
2216Z
LAME
A

It is important that this procedure be followed rigorously.

d. It is anticipated that Headquarters COMAD may be the recipient of a NUDET envelope. If Headquarters COMAD is assumed destroyed for purposes of this exercise, the alternate Command Post at Central COMAD Region will assume responsibility for receiving and disseminating such reports and also the function of bomb damage prediction and assessment. Central COMAD Region should be alert to the possibility of COMAD Headquarters eliminating itself from problem play. If bomb damage of COMAD is exercised Headquarters COMAD should be eliminated, Central COMAD Region should check with Headquarters COMAD. If no reply is received via the Alert of Central can assure that Headquarters COMAD has been eliminated. When Headquarters COMAD has eliminated itself from problem play the COMAD COC will continue to perform its normal functions. However, calls to the COMAD in regards to Operation Alert will be answered with "I am not at liberty to answer." Calls of a nature other than Operation Alert will be put through. In the event the Central COMAD Region COC is also assumed destroyed per NUDET envelope, all COMAD participation in Operation Alert will cease at that time.

e. The Bomb Damage Prediction and Assessment Agency at Central COMAD Region will be prepared to actuate necessary circuitry to the Tactical Air Command in the event the COMAD ALCOP is activated.

OO OP-6 Subject: Operation Alert 1957

f. Central COMABE ICA will, when required, operate respective terminal of COMABE upon notification by the Commander Joint Communications Center, in a test of Department of the Air Force disaster radio circuitry.

g. The following general instructions are for the information of all:

a. All normal Air Defense activities will continue as usual regardless of "Exercise Uncap" messages being transmitted.

b. "Exercise Uncap" Air Defense Warning messages will not be retransmitted by receiving aencies. Acknowledgment of receipt is required.

c. During COMABE participation in Operation Alert Headquarters COMABE will declare all simulated Air Defense warnings. Based upon receipt of the first "Uncap" report in COMABE from each region, COMABE will declare the Air Defense Warning "Applejack" for the entire region. (Example: "Exercise Uncap" COMABE declares "Applejack" for the entire COMABE region. Authentication is _____ Time is _____) All COMABE Divisions will not declare simulated Air Defense warnings during the period 12 through 14 July 1957. However, in the event of an actual emergency Commanders will declare an appropriate warning in accordance with COMABE regulation 55-3.

d. The textual portion of all messages which are a part of this exercise will be preceded by the words "Exercise Uncap" except MERT reports which will be preceded and followed by the words "Exercise Uncap."

e. COMABE facilities will not be required to submit post exercise written reports.

f. Any COMABE declared emergency warning condition automatically terminates this exercise.

g. USARADCOM is participating additionally in Operation Alert 1957 by taking part in a Department of the Army Command Post Exercise (CPE). All COMABE forces should be aware of this in the event ARADCOM messages get into COMABE channels.

h. No COMABE participation is required prior to 12 July 1957. In the event there is a change in this date all agencies will be notified.

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COPY OF INCOMING CLASSIFIED MESSAGE

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READING FILE

CONAD INST FILE

600

8 Jul 57

COMO 13
NR 024
RR RJEDEN
DE RJEPHQ 113
R 081958Z
FM HEDUSAF WASH DC
TO CINCONAD SMC APO COLO
BT

ACTION: COOP
INFO: COOPC
X7-8459

DUPLICATE

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FROM AFOP-OS-2 57040.
REFERENCE YOUR CLASSIFIED MESSAGE COOP-T 2000 DATED 29 JUNE 1957.
YOUR PROPOSAL THAT CINCONAD ANNOUNCE ALL CHANGES IN SIMULATED AIR
DEFENSE WARNINGS DURING OPERATION ALERT 1957 IS APPROVED. DESIRE
THAT APPROPRIATE STUDIES BE MADE DURING THIS EXERCISE TO DETERMINE
BOTH THE POTENTIAL IMPACT OF NUDET REPORTING AND CHANGES IN WARNINGS
ON THE OVER-ALL AIR DEFENSE WARNING SYSTEM. THIS INFORMATION SHOULD
SERVE AS A BASIS FOR EVALUATING THE PRESENT AND FUTURE NUDET REPORTING
PLANS.

BT
08/2005Z JUL RJEPHQ
A--PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY 3 ENCRYPTION--
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME GROUP PRIOR
TO DECLASSIFICATION.

READING FILE

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JOINT MESSAGEFORM			SECURITY CLASSIFICATION UNCLASSIFIED D		
SPACE BELOW RESERVED FOR COMMUNICATION CENTER					
PRECEDENCE	TYPE MSG (Class)			ACCOUNTING SYMBOL	ORIG OR REFERS TO
ACTION Deferred	BOOK	MULTI	SINGLE		CLASSIFICATION OF REFERENCE
FROM: CINCONAD					SPECIAL INSTRUCTIONS
TO: COF USAF WASH D C. SECRET FROM COOP T X 0090 For Chief of Staff, USAF, as Executive Agent for CONAD. My letter subject: Reporting of Nuclear Detonations, 7 June 57, stated that the present method of NUDET reporting over the alert status and MADW networks is unworkable in that it will seriously interfere with the primary mission of those nets. During Exercise Ops Alert 57, these networks would be more than saturated if all simulated air defense warnings were to be handled according to the normal plan, and all simulated nuclear detonation reports added to this traffic. In order to partially alleviate this condition for this exercise and still add the NUDET reports over these networks as orally agreed, CINCONAD intends to announce all changes in simulated air defense warnings and thereby eliminate considerable traffic from the alert status network which would not be according to plan in actual air defense activities.					C O P Y
SYMBOL COOP T			SIGNATURE		
TYPED NAME AND TITLE (Signature, if required) Major REEVES			TYPED (or Stenciled) NAME AND TITLE		
PHONE	PAGE NO.	NO. OF PAGES			
SECURITY CLASSIFICATION UNCLASSIFIED D					

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(when filled)

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SEE CRYPTO SECTION BEFORE DECLASSIFYING

PAGE TWO RJUPFB 70C
"EXERCISE UNCAP" LEMON JUICE. ALL SIMULATED AIR DEFENSE WARNINGS WILL BE
DECLARED ONLY BY CONAD COC AND WILL BE PASSED OVER THE ALERT NO 1
TELETYPE NETWORK. THESE SIMULATED WARNING MESSAGES WILL HAVE "EXERCISE
UNCAP" AS THE FIRST TWO WORDS. SIMULATED AIR DEFENSE WARNINGS WILL
BE DISSEMINATED IN ACCORDANCE WITH APPROVED PLANS AND PROCEDURES.
PART 3 THE NUCLEAR DETONATION REPORT SYSTEM (NUDET) WILL BE EXERCISE IN
THE FOLLOWING MANNER. SEALED ENVELOPES HAVE BEEN DISTRIBUTED TO VARIOUS
CONAD, ADC AND USARADCOM INSTALLATIONS. EACH ENVELOPE IS MARKED WITH
A DATE AND TIME FOR OPENING. INSTALLATIONS RECEIVING THESE ENVELOPES
WILL OPEN THEM ON THE DATE AND TIME INDICATED AND FORWARD THE INFORMATION
OVER NORMAL SURVEILLANCE TELLING CIRCUITS PER INSTRUCTIONS CONTAINED
IN CONAD LETTERS SUBJECT: "NUCLEAR DETONATION REPORTING" DATED 8MAR
AND 12 JUNE ATIS. IN THE EVENT THE SIMULATED "GROUND ZERO" INFORMATION
IN A PARTICULAR ENVELOPE IS SUCH THAT A CONAD REGION COC OR DIVISION
CC OR ADC FIGHTER INTERCEPTOR CDM COMMAND POST WOULD HAVE BEEN DES-
TROYED UNDER ACTUAL CONDITIONS, THE INSTALLATION SHOULD NOT TRANSMIT
FURTHER EXERCISE UNCAP NUDET REPORTS RECEIVED. IN CASE OF AC&W AND
NIKE SITES, HOWEVER, THE NUDET REPORT WILL BE SENT FORWARD. ALL NUDET
REPORTS FORWARDED THROUGH SURVEILLANCE TELLING CIRCUITS WILL BE
PRECEDED AND FOLLOWED BY THE WORDS "EXERCISE UNCAP". IT IS IMPORTANT

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(en title)

COPY OF INCOMING C

CLASSIFIED MESSAGE

ORIGINAL HIST FILE

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READING FILE

607

PRIORITY 22 Jul 57

COMUSCINCPAC
PP RUEDEI
DE RUEDEI 1000
122200Z JUL
FM COMUSCINCPAC TO COMUSMACV
INFO COMUSCINCPAC DTG 122200Z

ACTION: COOP
INFO: COMUSCINCPAC
X7-8921

UNCLASSIFIED

REF: COMUSCINCPAC 122200Z JUL 57. ADOCO-C & COOP-E. REFERENCE ADC
LETTER 0001 07 JUL 57. SUBJECT: ADOCO-C & COOP-E. 1957 AND ADC MESSAGE FROM ADOCO-C
0001, DATED 6 JUL 57. THE FOLLOWING IS A REPORT OF PARTICIPATION IN
OPERATIONS ALERT 1957: (1) COST: THE ONLY ADDITIONAL COST GENERATED BY
THIS EXERCISE WAS UTILIZATION OF AN ENGINEERED CIRCUIT BETWEEN HEAD-
QUARTER CFCR SHAW AFB, S. C. THE EXACT COST OF THIS CIRCUIT CAN
NOT BE DETERMINED AT PRESENT. (2) PERSONNEL: THE NORMAL OPERATIONS CENTER
AND INTELLIGENCE CENTER PERSONNEL PARTICIPATED WITH THE FOLLOW-
ING AUGMENTATION: (1) OFFICERS: TWO (2) OFFICERS, THREE (3)
AIRMEN. (2) INTELLIGENCE CENTER: TWO (2) AIRMEN. (3) ALTERNATE FACILITIES

PAGE TWO RUEDEI 1000
NO DIFFICULTIES WERE ENCOUNTERED AS REGARDS EXISTING PLANS. ALTERNATE
SITES AND COMMUNICATIONS WERE NOT UTILIZED, WITH EXCEPTION OF THE ACT-
IVATION OF CONAD ALCOP. WHILE FACILITIES AND COMMUNICATIONS WERE
LIMITED, THEY WERE ADEQUATE FOR THE PURPOSE AND DURATION OF PHASE NBR
2 OF THIS EXERCISE. (3) SUMMARY OF EXERCISE ACTION: 12/1500Z "BIG
NOISE" DECLARED BY COMUSCINCPAC. 12/1600Z "LEMON JUICE"
DECLARED BY COMAD-CFCR. 12/1738Z "APPLE JACK" DECLARED
BY COMAD-CFCR. 12/1800Z FIRST NUDET REPORT RECEIVED
OVER ALERT NBR 1 TELETYPE. 12/2000Z CFCR OPERATIONS CENTER ASSUMED
CONTROL FROM CONAD AS COMAD ALCOP. 12/2030Z CFCR OPERATIONS CENTER
TRANSMITTED NUDET REPORT NBR 111. 12/2033Z COMMUNICATIONS WAS ESTAB-
LISHED WITH SHAW AFB. 12/2045Z BEGAN TRANSMITTING NUDET REPORTS TO
SHAW AFB. 12/2107Z CFCR OPERATIONS CENTER TRANSMITTED LAST NUDET
REPORT NBR 135. 12/2148Z LAST APPLICABLE NUDET PASSED TO SHAW AFB.
12/2150Z "SNOW MAN" DECLARED BY COMAD ALCOP. CONTINUED TO RECEIVE
TAC COURIERS. TRANSMITTED 10A REPORTS TO HEADQUARTERS USAF (ADVANCE)
THROUGHOUT 13-14 JULY 1957. RECEIVED TOTAL OF NINE (9) MISSION 3DA
REPORTS. (2) RECOMMENDATIONS: (1) IT IS RECOMMENDED THAT PARTICIPATING
ORGANIZATIONS BE INCLUDED IN THE PLANNING STAGES OF FUTURE EXERCISES
OF THIS TYPE. INFORMATION ON PHASE 11 WAS INCOMPLETE, LATE AND CONTRA-

READING FILE

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JOINT MESSAGE-FORM		SECURITY CLASSIFIED	
SPACE BELOW RESERVED FOR COMMUNICATION CENTER			
READING FILE		CONAD HIST FILE	
PRECEDENCE	TYPE MEG (C/M/R)	ACCOUNTING SYMBOL	ORIG. OR REFERS TO
ACTION: ROUTINE	ROCK MULTI SINGLE	AP	CCMCS 0322
INFO: ROUTINE	X		SECRET
FROM: CINCPAC			SPECIAL INSTRUCTIONS
TO: COMCFCGR RICHARDS-GERBAUD AFB GRANDVIEW MO			
INFO: COMDIR ADC ENT AFB COLO (COURIER)			
UNCLASSIFIED From COOP-T <u>X0115</u>			
<p>REFERENCE YOUR SECRET MESSAGE CCMCS 0322 DATED 22 JULY 1957, PART (E), RECOMMENDATIONS: SUB (1), EXERCISES OF THIS NATURE ARE PLANNED BY ODM IN COORDINATION WITH FCDA. MILITARY ORGANIZATIONS ARE REQUIRED TO SUPPORT SUCH PLANS. THEREFORE, IT APPEARS UNLIKELY THAT PARTICIPATING MILITARY ORGANIZATIONS WILL BE INCLUDED IN THE INITIAL PLANNING STAGES OF EXERCISES OF THIS TYPE. IN FUTURE QUOTE OPERATIONS ALERT UNQUOTE EXERCISES, CONAD WILL PUBLISH AN OPERATIONS PLAN COVERING CONAD UNIT PARTICIPATION TO AVOID CONFUSION. SUB (2) CONCUR. CONAD COC IS PRESENTLY CONDUCTING AN EVALUATION OF NUDET REPORTING ON ALERT NUMBER ONE TELETYPE NETWORK. THIS EVALUATION POINTS OUT THAT THE USE OF THE ALERT NUMBER ONE NETWORK AS A MEANS FOR PASSING NUDET REPORTS SERIOUSLY AFFECTS THE</p>			
SYMBOL		SIGNATURE	
COOP-T		READING FILE	
TYPED NAME AND TITLE (Required, if required)		TYPED NAME AND TITLE	
Major Knott/wdm		J. W. LEDOUX	
PHONE	PAGE NO.	NO. OF PAGES	
2088	2	2	
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		Asst Adjutant	
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		31 1530Z	
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		July 1957	

JOINT MESSAGEFORM - CONT AIIION SHEET

SECURITY CLASSIFICATION

UNCLASSIFIED

FROM

CIRCONAD

FUNCTION OF THE NETWORK OF PRIMARY AND SECONDARY AIR DEFENSE RADAR. ON 10 JUNE 1957 A LETTER WAS DISPATCHED TO THE JCS REQUESTING THAT THE NETWORK BE CAPABLE TO DISSEMINATE BOMB BURST INFORMATION OVER ALERT NUMBER ONE TELETYPE AND MADE AVAILABLE AS FOLLOWS: (A) ALERT NUMBER ONE TELETYPE NETWORK NOT A UNIFORM BOMB BURST UNBATE DISSEMINATION (B) DISSEMINATION ACCOMPLISHED BY THE DIVISION IN WHICH THE DETECTION RADAR IS, AND EXISTING COMMUNICATIONS FACILITIES. YOU WILL BE ADVISED BY THE ACTION OF THIS REQUEST. SUB (5) RECOMMENDATION THAT THE REPORTS BE PROVIDED OTHER LOC OF COORDINATE INFO WILL BE INCORPORATED IN THE REVISED COMBAT 55-1. (C) (4) IT IS CONSIDERED IMPRACTICAL FOR HQ CONAD TO CONTINUOUSLY ISSUE OF BOMB ACTIONS, BASED ON BOMB DATA ACTIVATION (EXCEPT BOMB DAMAGE PREDICTION AND ASSESSMENT) TO HQ CONAD ALONE BECAUSE OF THE (1) REQUIREMENT OF ADDITIONAL PERSONNEL AT HQ CONAD; (2) TIME AND CARRYING A CONTINUOUS BUILDUP OF A BACKLOG OF REPORTS AND (3) AN OVERLOAD OF COMMUNICATIONS FACILITIES. IT IS SUGGESTED THAT BOMB DAMAGE REPORTS BE FORWARDED AT HQ CONAD ALONE BEGINNING WITH THE FIRST BOMB REPORT.

Major Knott
2086
31 Jul 57
X7-8921
vdm

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PAGE NR 2

NO OF PAGES 2012

SECURITY CLASSIFICATION

INITIALS

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M/R The information contained in sub-paragraphs (A) thru (D), attached message, is being consolidated with other "Operations Alert" information received from Regions & Divisions by Statistical Services for forwarding to USAS. The recommendations in sub-paragraph (E) are being assessed by this message.

- Part (1) - Information furnished by COGCP-E (Capt Lockhart)
- " (2) - The evaluation was accomplished by COCOC (Major Surratt)
- " (3) - Since CONAD LCOF may be required to assume operational control at any time, this headquarters concurs in this recommendation. The revised CONADM 55-1 will reflect this recommendation.
- " (4) - Information furnished by COIRE (Major Adams).

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DEPARTMENT OF THE AIR FORCE
OFFICE OF THE CHIEF OF STAFF
UNITED STATES AIR FORCE
WASHINGTON, D. C.

14 SEP 57

1. (UNCLASSIFIED) This is a sensitive security matter.

2. (UNCLASSIFIED) This is a sensitive security matter.
3. (UNCLASSIFIED) This is a sensitive security matter.

1. (UNCLASSIFIED) This is a sensitive security matter.
2. (UNCLASSIFIED) As a result of Operation Plan 1957, Office of Defense Mobilization has recommended that a study be determined to provide warning to the public of subsequent attacks when links in the normal and alternate systems suffer damage during initial attack (Incl 1).

3. (UNCLASSIFIED) The Assistant Secretary of Defense (ASD) requested this Headquarters to investigate the requirement for and the military capability of disseminating civilian warnings of enemy attack in the absence of normal and alternate communications after initial attack.

4. (UNCLASSIFIED) USAF-PCDA Agreement of 1953 (Incl 3), with elaboration dated 23 April 1954 (Incl 4), clearly states the responsibilities of the Air Force and the Federal Civil Defense Administration with reference to attack warnings and civil and air defense of the United States. Those agreements constitute the present Air Force position and were used as a basis for reply to the Department of Defense (Incl 2).

5. (UNCLASSIFIED) The above is forwarded for study as a matter of interest to your command and for submission of your views to this Headquarters. Your position will be used as background material should this become a matter of interest to the Joint Chiefs of Staff.

DUPLICATE

- 1. (Copy) Memo Dtd 17 Sep 57
- 2. (Copy) Memo Dtd 10 Oct 57
- 3. (Copy) Memo of Understanding (USAF-PCDA, Apr 52)
- 4. (Copy) Memo of Understanding (USAF-PCDA, 23 Apr 54)

WALTER P. BRIDGEMAN
Major General, USAF
Assistant Chief of Staff
Operations

UNCLASSIFIED

3571
CP.S-57-762

UNCLASSIFIED

Ltr, DAF, 30 Oct 57, Subj: Emergency Attack Warning System

NOREM-E

1st Incl

11 NOV 1957

Hq North American Air Defense Command, Fort Air Force Base, Colorado

TO: Chief of Staff, United States Air Force, as Executive Agent for NORAD, Washington 25, D. C.

1. This headquarters concurs with the views of your headquarters as reflected in Inclosure 2.

2. FCDA's responsibilities under Public Law 920 are considered to be appropriately designated for attack warnings to the civilian populace. This is further amplified by a memorandum of understanding between COMAD and FCDA (Inclosure 5).

3. As a matter of consideration, it should be pointed out that NORAD's alert system, with the exception of certain isolated locations, is entirely based on commercial facilities. Therefore, it appears likely that if FCDA's system is inoperative due to an initial attack, NORAD's system would likewise have suffered comparable damage.

4. In addition, the NORAD alert system does not terminate at the same or similar points as does FCDA's system. Any possible use of the NORAD system which may already be saturated with traffic during alert conditions would require additional FCDA personnel and commercial services to tie the military installations into the desired FCDA locations.

5. Under most circumstances, it is our belief that commercial carriers with emergency communications equipment will be able to rapidly restore damaged commercial facilities. This, it appears, may be more desirable, efficient and economical than placing into effect an additional "back up" to a "back up."

6. Some consideration may, however, be given to using the Military Affiliated Radio System (MARS) or other independent communications systems for this purpose. In the past there have been many incidents where MARS members have alerted disaster areas and furnished communications for such areas until relief was effected.

FOR THE COMMANDER-IN-CHIEF:

4 Incls

1 thru 4 n/c

Added 1 Incl

5. Memo of Understanding
Between COMAD & FCDA

F. F. URRMARE
Brig General, USA
DCC/Comm and Elect

2

UNCLASSIFIED

READ FILE NUMBER: (Over)

241

MEMO FOR RECORD:

Basic letter is query by Headquarters USAF, reference NORAD views of FCDA's use of NORAD alert system when the initial attack has destroyed the FCDA system. 1st Indorsement was coordinated with Col Harvath and Col Aszman, ADC, and Maj Reeves, NORAD P&O. Opinion is that the NORAD system utilizes commercial facilities as does the FCDA system and is likely to suffer damage comparable to FCDA. Also, NORAD system does not terminate at same points as does the FCDA system. Therefore, would not be of any practical use.




CV 14

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REF ID: A67195
NORTH AMERICAN AIR DEFENSE COMMAND
MONTGOMERY, ALABAMA
FORM NO. 1 (REV. 10-15-60)

Not readable



JOINT MESSAGEFORM			SECURITY CLASS		UNCLASSIFIED 2-42	
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251			READING FILE			
PRECEDENCE		TYPE MSG (Check)		ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION		BOOK	MULTI	SINGLE	AF00P-08-S 57940	SECRET
INFO				X		
FROM:		CINCONAD			SPECIAL INSTRUCTIONS	
TO:		COFS USAF WASH 25 DC				
UNCLASSIFIED		From COOP-T <u>X0136</u>				
DUPLICATE	(b)(1)					
	[REDACTED]					
		READING FILE		DATE	TIME	
				28	1600Z	
				Aug.	1957	
SYMBOL		COOP-T		SIGNATURE		
TYPED NAME AND TITLE (Signature, if required)		F. D. Reeves, Jr.		TYPED (or stamped) NAME AND TITLE		
PHONE		PAGE NR.	NR. OF PAGES	J. W. LEDOUX		
SECURITY CLASSIFICATION		UNCLASSIFIED		LCDR, USN		
SECRET				Asst Adjutant		

27-1696

UNCLASSIFIED

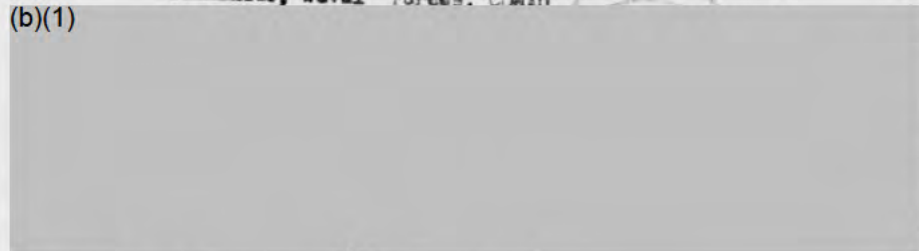
243

NORPR-R

SUBJECT: Communications Security

TO: Commander, Air Defense Command
Commanding General, U. S. Army Air Defense Command
Commander, Naval Forces, COMNAV

(b)(1)



FOR THE COMMANDER-IN-CHIEF:

1 Incl
Ltr Hq NORAD,
subj: Comm Security,
to CofS, USAF, as Exec
Agent, 30 Oct 57, w/1 Incl
(SECRET)

P. F. URRHANE
Brig Gen, USA
DCS/Comm and Elect

SECRETARY
PROPERTY
MAIL ROOM
ADJUTANT
CHIEF OF STAFF
COMAND
COMMUNICATIONS
OPERATIONS
TRAINING
RESEARCH
PERSONNEL
PLANS
INTELLIGENCE
LOGISTICS
MEDICAL
LEGAL
SECURITY
OTHER

20 Nov
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X7-13721-1

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B/L fr CINCRAD, subj: (U) Communications Security dtd 30 Oct 57

AFOAC-S/CP

1st Ind

14 NOV 1957

Dept of the Air Force, Hq USAF, Washington 25, D. C.

TO: Commander-in-Chief, North American Defense Command, Ent Air Force Base, Colorado Springs, Colorado

1. This is an Executive Agency Letter.
2. The Department of the Air Force will establish a joint project to determine the extent of the communications security problem as it concerns air defense operations.
3. A joint conference on this subject will be held at the earliest practicable date. Subsequent to this conference, you will be advised regarding the time table for the commencement of the security monitoring operations by the Army, Navy and Air Force. As a result of these security monitoring operations, remedial measures which may appear appropriate will be forwarded to you for further action.

FOR THE CHIEF OF STAFF:

Bernard M. Wootton

cc: Army
Navy
USAFSS

BERNARD M. WOOTTON
Major General, USAF
Acting Director of Communications-Electronics

3
UNCLASSIFIED

X7-1121

UNCLASSIFIED



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON 25, D. C.

26 NOV 1957

AFCAG-S/CP

SUBJECT: (Unclassified) Communications Security

TO: Commander-in-Chief
North American Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. This is an Executive Agency Letter.
2. As a result of a joint conference held on 25 November 1957, the Army, Navy and Air Force have agreed to monitor the NORAD communications as outlined in letter from CINCNORAD, subject as above, dated 30 October 1957.
3. The USAF Security Service will coordinate with the appropriate representatives of the Army Security Agency and the Naval Security Group in determining the starting date of communications monitoring operations.
4. Present indications are that the Army and Navy monitoring efforts will extend over a thirty-day period beginning approximately 1 February 1958. However, because of the magnitude of the Air Force effort visualized by the USAF Security Service, it is anticipated that the Air Force monitoring operations will require a minimum of sixty (60) days with an additional forty-five (45) days devoted to the analysis of the monitored communications.
5. It is anticipated that the completed report, to include a separate analysis by each of the three (3) services, will be forwarded to your headquarters approximately 1 June 1958.
6. At your convenience, representatives of the USAF Security Service will visit your headquarters to effect further coordination on this project.

FOR THE CHIEF OF STAFF:

Bernard M. Wootton

cc: USAFSS

BERNARD M. WOOTTON
Major General, USAF
Acting Director of Communications-Electro

*Base file to Components
w/ copy of this letter
see serial 2 Dec 57*

UNCLASSIFIED

17-14341

243

NOAIR

10 OCT 1957

SUBJECT: Communications Security

TO: Chief of Staff, United States Air Force
As Executive Agent for NERAD
Washington 25, D. C.

1. The intercept of vital U.S. military information by enemy forces, whenever radio facilities are employed as transmission media, has long been recognized a danger area by military planners. Communications security tests against our forces have demonstrated this danger very clearly. Communist forces in Korea recorded friendly radio instructions to our fighter forces, retransmitted these instructions to aircraft engaged in similar combat operations, and succeeded in introducing a great deal of confusion.

2. Measures which may be taken to minimize communications practices dangerous to security include: 1) complete encryption of all transmissions using secure station identifiers; 2) reduction of reliance on radio as a transmission medium; and 3) strict enforcement of circuit discipline as a means of reducing compromise of security information by eliminating unnecessary chatter and denying intercept facilities order of battle-type intelligence. The third example is by far the most practical and economical, but requires complete understanding by all concerned of the real dangers that may be involved in poor circuit discipline.

3. Air defense information is extremely sensitive. Apart from the usual command and intelligence data, which can be protected by either of the first two methods described above, there remains for consideration all the data connected with active air defense operations. This includes surveillance information, intercept instructions, aircraft limitations and ABDC-AADCP-fire unit data. Air defense networks in the Alaskan, DSW Line and 6th Air Division areas are particularly sensitive in view of their close geographical proximity to the USSR. Their point-to-point and ground-air radio systems are extremely vulnerable to intercept by hostile listening stations. Effective circuit discipline is the only successful and practical countermeasure.

4. The USAFSS conducted security tests against SAC communications, and although these tests occurred some time ago (prior to and during Exercise "Crackerjack"), the lessons learned at that time have been injected into every phase of SAC's global operations.

5. A similar effort directed against NERAD communications practices would establish the degree of our vulnerability and suggest a pattern which might be followed in reversing any undesirable trends. Inasmuch as all service components of NERAD are

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NORAD

10 OCT 1957

SUBJECT: Communications Security

TO: Chief of Staff, United States Air Force
As Executive Agent for NORAD
Washington 25, D. C.

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3. Air defense information is extremely sensitive. Apart from the usual command and intelligence data, which can be protected by either of the first two methods described above, there remains for consideration all the data connected with active air defense operations. This includes surveillance information, intercept instructions, aircraft limitations and ADCC-AADCP-fire unit data. Air defense networks in the Alaskan, DEW Line and 6th Air Division areas are particularly sensitive in view of their close geographical proximity to the USSR. Their point-to-point and ground-air radio systems are extremely vulnerable to intercept by hostile listening stations. Effective circuit discipline is the only successful and practical countermeasure.

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5. A similar effort directed against NORAD communications practices would establish the degree of our vulnerability and suggest a pattern which might be followed in reversing any undesirable trends. Inasmuch as all service components of NORAD are

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Hq NORAD, NOSPR, Subject: Communications Security (Cont'd).

dependent on radio systems, it is requested that a joint project be developed to determine the extent of the problem as it concerns air defense operations, and that remedial measures which may appear appropriate be forwarded for further action.

W. E. FARWIDGE
General, USAF
Commander-in-Chief

COMNAD

FILE NO: 101C

M/R Not necessary

- CINCOMAD
- SECRETARY
- INFO SERVICES
- DCS C&F
- DCS I
- COMNAD
- COMNAVFORCONAD
- CG AFAA COMD
- RCAP LIAISON

LT COL [Signature]
2010
29 Oct 57

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NOHCS

Status of Major Problems

NOOPO

19 Nov 1957
Gen Stayton/wdm/2322

1. Listed below are some of the major problems which are receiving maximum effort by this deputy:

- a. CADOP 56-66
- b. NORAD Terms of Reference
- c. Organization for Air Defense (Hq NORAD UMD)
- d. Organization for Air Defense (Hq CONAD UMD)

2. Inclosures 1-4 inclusive, attached hereto, indicate the latest developments as regards the subjects listed above.

4 Incl

1. Status of CADOP
2. " of NORAD Terms of Ref.
3. " of NORAD UMD
4. " of CONAD UMD

TOM V. STAYTON
Brig. Gen, USA
Asst. DCE/Plans & Operations

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UNCLASSIFIED

19 November 1957

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STATUS OF CADOP 56-66

The Continental Air Defense Objectives Plan was forwarded to the Chief of Staff of the Air Force as Executive Agent for CONAD on 19 December 1956. On 26 December 1956 the Chief of Staff, USAF, forwarded CADOP 56-66 to the Joint Chiefs of Staff for review. No initial action was taken by the JCS at that time. Service actions were taken on CADOP 56-66 in the Spring of 1957, including a cost study of CADOP by the three Services and the preparation of Service comments on CADOP. On 21 August 1957 the JCS provided CINCONAD with the latest Service continental air defense programs for FY 58 and an estimate of probable Service programs for FY 59, and asked CINCONAD for his estimates of the levels of air defense effectiveness which could be provided by the requirements contained in CADOP 56-66 and the estimated Service programs. Discussions were held with the JCS on these matters during their visit to this headquarters in September 1957 and a subsequent written answer was forwarded to the JCS answering in detail their request.

CADOP 56-66 is now an action item of the Black Team for the JCS and it appears that the Black Team will go ahead in the near future and prepare a paper on CADOP for the approval of the JCS. This will not be a "completed action" paper but will outline for the JCS why the Black

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Team thinks that the entire CADOP cannot be approved or disapproved at this time. The paper will recommend that the JCS decisions on their present study of future overall requirements be influenced by CADOP 56-66. It is expected that the paper will also recommend that NORAD's views be requested prior to final decision on future air defense levels. The JCS study concerning future overall military requirements is being intensively pursued at the present time, and it is expected that the JCS will make some firm decisions by 1 January and that these decisions will cover, at least for planning purposes, a minimum of four years and perhaps extend further than that.

As regards service comments on CADOP 56-66, the JCS Black Team states that they have all Service views except those from the Air Force.

In summary, the status of CADOP 56-66 is that it is a Black Team action for the JCS, that no final JCS decision on CADOP 56-66 will be forthcoming in the foreseeable future, but that the document will be used as a guide by the JCS in their current deliberations on overall future military requirements.

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19 November 1957

NORAD TERMS OF REFERENCE

Proposed NORAD Terms of Reference were forwarded to the Joint Chiefs of Staff and Chiefs of Staff Committee on 11 October 1957. On the U.S. side, the terms of reference are now being processed by the JCS Black Team who are awaiting Service comments prior to submitting them to JCS for decision. The terms of reference will not be reviewed by the MSG as originally planned. On the Canadian side we have been unofficially advised that the COSC are prepared to inform the JCS that they approve the proposed terms of reference, subject to minor modifications, and request that the JCS also approve the terms as soon as possible without referring them to the MSG for consideration.

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19 November 1957

NORAD HEADQUARTERS UNIT MANNING DOCUMENT

The proposal for establishing the NORAD headquarters and the manning thereof was submitted to the JCS and CDSM for approval on 23 October 1957. By message from Headquarters, USAF, we have been advised that the NORAD proposal has been referred to an appropriate committee of the JCS for comment and recommendation on 4 November 1957. Unofficially, the proposed NORAD headquarters and manning appears to have general acceptance in Ottawa and no difficulty is anticipated in securing Canadian approval.

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Organisation for Air Defense (HQ CONAD UMD)

a. On 10 June 1957 the unit manning documents prescribing the organisation of CONAD Regions and Divisions in accordance with CONADR 21-1, were submitted to the Joint Chiefs of Staff requesting approval and that the services be directed to provide manpower authorisations in support of the UMDs.

b. On 16 July 1957 this correspondence was returned by JCS indorsement, stating that proper assessment of the UMDs required consideration of the residual functions, organizations, and manpower spaces of the component commands.

c. On 6 September 1957 CINCNORAD's reply to the JCS was forwarded to the Executive Agent.

d. On 19 November 1957 WOOPR proposed that ^{of} USAF, as Executive Agent for NORAD, be advised to withhold any further consideration of the CONAD Region and Division UMDs still in their hands pending receipt of the proposed NORAD UMDs. This proposal met with the approval of CINCNORAD.

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON 25, D. C.

245

6 SEP 57

SUBJECT: Cost of Implementation of the Continental Air Defense Objectives
Plan 1956-1966

TO: Commander-in-Chief
Continental Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. This is an Executive Agency letter. The Joint Chiefs of Staff in discussing the Continental Air Defense Objectives Plan (CADOP 56-66) determined that it would be necessary that CINCONAD discuss the CADOP with them. The appropriate instructions were forwarded by SM 610-57 dated 21 August 1957.

2. SM 610-57 included Service estimates of the forces which can be provided in the light of fund limitations for fiscal years 1958 and 1959. The provision of Service costing to CINCONAD was discussed at the above mentioned JCS meeting; it was determined that the Service Chiefs would be prepared to furnish these costs, if considered appropriate, to CINCONAD when he discusses the CADOP with the JCS.

3. In view of the foregoing, your request of 8 August 1957 for estimated costs to implement the CADOP 56-66 must await further JCS action in conjunction with CINCONAD's forthcoming meeting with the JCS.

JOHN K. CANNON
Lieutenant Colonel USAF
Deputy Chief of Staff,
Plans & Programs

1085

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UNCLASSIFIED
HEADQUARTERS
CONTINENTAL AIR DEFENSE COMMAND
ENT AIR FORCE BASE
COLORADO SPRINGS, COLORADO

JVL
10 1957

COOPR

SUBJECT: Component Command Plans

TO: Commanding General, U. S. Army Air Defense Command
Commander, Air Defense Command
Commander, Naval Forces, CCNAD

1. It is the policy of this headquarters that CCNAD plans pertaining to operations, requirements, deployments and utilization of all allocated forces and equipments, will be prepared in consultation with the component commands prior to promulgation by this headquarters.
2. In some instances it has been noted that component command plans which support or are related to the above-mentioned CCNAD plans have been published without prior coordination with CCNAD.
3. In order to insure continuity and compatibility with CCNAD plans and policies in the categories mentioned in paragraph 1, above, it is requested that related or supporting plans prepared by your headquarters be coordinated with CCNAD prior to publication.

Copy for CO-1CS

FOR THE COMMANDER-IN-CHIEF:

MARSHALL S. CARTER
Major General, USA
Chief of Staff

Mem. for the Record: Self-Explanatory

Lt Col Telzrow
2575

Rewritten in C/S's Office

12 58 21

DISPATCHED
9 JUL 1957
C of S Conad

DISPATCHED
HQ USAF COBAC

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247

NOHCS

19 November 1957

SUBJECT: Component Command Plans

TO: Commander
Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. Reference CONAD letter, COOPR, 10 July 1957, subject: Component Command Plans
2. This Headquarters has been informally advised that, in view of Department of Defense manning level and budgetary cuts, certain radar sites and other air defense communications and electronic facilities under or placed on a standby basis. In addition it has just been learned informally that your headquarters has recently submitted to Headquarters, USAF, a plan for overall deployment of frequency diversity radars.
3. In a very general way, NORAD staff personnel become aware of service program reductions; however, we are normally not immediately aware of the effects of such reductions on the NORAD mission. Without derogating your responsibility for detailed planning and programming in certain areas, it is essential that you keep NORAD informed as to the impact of USAF program changes.
4. In addition, NORAD has a mandate to act on air defense matters which have inter-service or inter-government connotations. Therefore, it is essential that you submit proposed program changes which have joint or combined implications to this Headquarters for consideration and necessary action. It is again requested that special attention be given to these types of problems in the future.

CONAD HIST FILE

659

/s/t/ E. E. PARTRIDGE
General, USAF
Commander-in-Chief

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JOINT MESSAGE FORM

UNCLASSIFIED

INTERNATIONAL TELECOMMUNICATIONS

1 JUL 1957

[Handwritten initials]

ACTION	PRECEDENCE	ROUTING	ACCOUNTING	DATE OR REFERS TO	CLASSIFICATION
INFO	ROUTINE	ROUTINE	AF	X	OF REFERRED
FROM	CINCONAD	X			

SPECIAL INSTRUCTIONS

TO: CINCAL ELMENDORF AFB ALASKA

INFO: COMAAC ELMENDORF AFB ALASKA

COFS USAF WASH DC

UNCLASSIFIED

FROM COOPE X 035

Chief of Staff, USAF, as Executive Agent for CONAD. This message in four parts. Part one. Reference is made to Alaskan Air Command letter OP-3A, subject, ALSADS Equipment Requirements, 17 June 1957, and inclosure thereto, "Operational Plan for ALSADS, 1 June 1957." This headquarters concurs in the equipment equipments contained in the ALSADS plan. Part two. This headquarters submitted a letter to the USAF as Executive Agent, subject, Air Defense Requirements for Alaska, 6 June 1957, requesting approval of ground environment equipment based on pages 17 and 18 of ADRP-57-66. An information copy of this letter was furnished your headquarters. It is noted that Operational Plan for ALSADS is not in agreement as far as the equipment lists are concerned. It is requested that Alaskan Air

DATE	TIME
1	1500
MONTH	YEAR
JULY	1957

READING FILE

SYMBOL
COOPE

TYPED NAME AND TITLE (Signature in the line)
LT COL O E GRIEST

PHONE 2397

SECURITY CLASSIFICATION

TYPED NAME AND TITLE
J. W. LEDOUX
LCDR, USN
Asst Adjutant

MEMORANDUM FOR RECORD:

VFC 440.001

10 15 66

1. Alaskan Air Command, in letter to CINCONAD, subject, ALSADS Equipment Requirements, 17 Jun 57, requested formal approval of "Operational Plan for Alaska, Semi-Automatic Defense System (ALSADS)." This plan is in general agreement with requirements that were submitted to this headquarters and forwarded to USAF, Air Executive Agent, in Alaskan Air Defense Requirements Plan 1957-1966 (ADRP-57-66). However, there are some discrepancies between equipment requirements lists. In addition to these discrepancies, the Operational Plan for ALSADS indicates Mount Susitna as the location of the joint direction center for the Anchorage area when this headquarters has not approved this site.
2. This headquarters has received correspondence and plans direct from AAC on numerous occasions. Although it should not be necessary, it is believed advisable to establish the procedure that this headquarters believes to be proper for handling air defense matters in Alaska.

MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION

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Should be directed to resolve these discrepancies with Hq USAF. Part three. It should be noted that the operational plan for ALSAB indicates Mount Sinitra as the specific location for a joint direction center. This has been the subject of separate correspondence. This joint direction center is a firm requirement but its exact geographical location has not been approved by this headquarters. Part four. Alaskan Air Command Letter referenced in Part One above requested that COMAB provide approval of ALSAB equipment requirements to Hq USAF. Rather than providing this approval of an AAC project directly to Hq USAF, COMAB would provide such approval to CINCAL for subsequent transmission to AAC and thence to Hq USAF; or on those matters requiring action by the Joint Chiefs of Staff, would forward CINCAL's recommendations to the Chief of Staff, USAF, as Executive Agent. This would be in consonance with CINCOMAB's Terms of Reference from the JCS.

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U. S. GOVERNMENT PRINTING OFFICE: 1968-4

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JOINT MESSAGEFORM				SECURITY CLASSIFICATION UNCLASSIFIED			
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502				READING FILE			
PRECEDENCE		TYPE MSG (Check)			ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION	ROUTINE	BOOK	MULTI	SINGLE	AF	OPN 5309	SECRET
INFO	ROUTINE		X				
FROM: CINCRAD						SPECIAL INSTRUCTIONS	
TO: CINCAL ELMENDORF AFB ANCHORAGE ALASKA							
INFO: CHIEF OF STAFF, USAF, WASH D C							
CG USARADCOM ENT AFB COLORADO SPRINGS COLO (COURIER)							
UNCLASSIFIED FROM NOOPR 1001							
<p>Chief of Staff, USAF, as Executive Agent for NORAD. Reference CINCAL message OPN 5309, 31 August. This message in three parts. Part I. Considering threat, 55 per cent reduction of AA forces against 19 per cent reduction of other USARAL forces considered disproportionate. Part II. Concurrence in Part III based on understanding that Department of Army plans third Nike battalion to be operational in FY 61 rather than FY 60. If not correct this headquarters nonconcurs in deletion of third Nike battalion. Part III. This headquarters will concur with CINCAL's proposed plan following USARAL force reduction outlined in reference message to: A. Inactivate two skysweeper battalions and one of three gun battalions in February 58. B. Inactivate two Group Headquarters in April 58. C. Convert two</p>							
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LT COL O E GRIEST				I. W. LEDOUX			
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JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION UNCLASSIFIED

FROM: CINCFCRAD

remaining gun battaliens to Nike by November 58. D. Construct and man LOVE site on Ladd defense by November 59 as originally planned for third Nike battalion. E. Establish AA force structure as indicated in Part II of reference message.

MEMORANDUM FOR RECORD: Self-Explanatory

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OPN 2/4, Hq ALCON, 1 Oct 57, Subject: Alaskan Command NIKE Require-
ments (U)

BUOPS 1st Inf 21 October 1957

Hq North American Air Defense Command, Ent Air Force Base, Colorado

TO: Chief of Staff, United States Air Force, As Executive Agent for
MORAB, Washington 25, D. C.

1. Reference:

- a. (SECRET) JCS 1800/298, 11 November 1956.
- b. (TOP SECRET) Continental Air Defense Objectives Plan 1956-1960 (CADOP 56-60), which establishes a requirement for three NIKE/TALOS battalions in Alaska, two battalions at Elmendorf Air Force Base, and one battalion at Eielson-Loftis Air Force Base.

2. Considering budgetary limitations, this headquarters concurs with the reduction of NIKE locations in Alaska as proposed by CINCAL in the basic letter. Approval of this proposed reduction would result in:

- a. A four-battery NIKE battalion deployed in defense of Elmendorf, planned to be operational in November 1958.
- b. A five-battery NIKE battalion deployed in defense of Eielson. Four batteries are planned to be operational in November 1958. The fifth battery, at NIKE Site, could be operational by November 1959.

3. Request that the Joint Chiefs of Staff approve:

- a. The reduction of NIKE battalions to be deployed in Alaska from three to two battalions.
- b. The NIKE battalion to be deployed at Eielson to consist of five batteries.

FOR THE COMMANDER-IN-CHIEF:

Copy furnished
CINCAL

MARSHALL S. CARTER
Major General, USA
Chief of Staff

DUPLICATE

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MEMORANDUM FOR RECORD

1. References:

a. Paragraph 14, basic letter. ALCOM message OPN 0309, 31 Aug 57, outlines CINCAL's plans for absorbing tentative reductions in U.S. Army Alaska forces by the end of FY 58. Included is the deletion of the third NIKE battalion planned for Ladd AFB, except that CINCAL proposed construction of LOVE Site of the third battalion as the fifth battery for the Eielson NIKE battalion.

b. Paragraph 1b, basic letter. NORAD message NOOPR X001, 18 Sep 57, nonconcurrent with deletion of the third NIKE battalion for Ladd AFB.

c. Paragraph 1a, 1st Indorsement. JCS 1899/298, 19 Nov 56, approved three NIKE battalions for Alaska, to be operational by 1960.

2. In the basic letter, CINCAL requests CINCNORAD to reconsider the nonconcurrency for eliminating the third NIKE battalion. Considering the fact that Ladd does not have a SAC mission, but only an air defense mission, it would not be consistent with CONAD deployment policies to provide a NIKE battalion for its defense. The deployment of the Ladd NIKE battalion within the continental U.S. would better serve the NORAD air defense posture. LOVE Site, which is located on high ground on a likely avenue of approach to Eielson AFB, would increase the effectiveness of the Eielson NIKE defense since these sites are on low ground surrounded by mountains.

3. Since CADOP 56-66 establishes a requirement for three NIKE battalions and the JCS have approved the construction of three battalions, the 1st Indorsement refers the matter to the JCS, recommending approval.

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FORM 100-100-1
SEP 57

FROM THE OFFICE OF
THE CHIEF OF STAFF



To _____

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to me --*

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HEADQUARTERS
THE ALASKA DEFENSE COMMAND
SITKA, ALASKA

OFFICE OF THE ASSISTANT

CHIEF OF STAFF FOR CORRESPONDENCE

7 October 1957
(Date)

TO: COMMANDER-IN-CHIEF
CHIEF OF STAFF
SECRETARY OF THE ALASKA DEFENSE COMMAND

FOR YOUR INFORMATION, THE FOLLOWING CORRESPONDENCE HAS BEEN RECEIVED:

From: THE ALASKA DEFENSE COMMAND Dated: 1 October 1957
Class: UNCLASSIFIED Ref: N7-11797 Response: None
Action Office: NOOPR

SUMMARY: This is on the subject of: Alaskan Command NIKE Requirements. CINCAL advised us in Aug that he concurred in DA's proposal that NIKE forces in Alaska be limited to 2 battalions, with certain provisos. CINCGRAD indicated in Sept to JCS and CINCAL his desire that the full NIKE battalion for Ladd be placed in the theater as originally programmed. CINCAL in this letter clarifies his position with respect to the NIKE defense on Ladd. CINCAL concludes after careful analysis that no more than the 2 NIKE battalions whose sites are now under construction, augmented by the NIKE battery at site LOVE, are justified for Alaska. They request we reconsider our position concerning the NIKE defenses for Ladd.

J. W. LEDOUX
LCDR. USN
Asst Adjutant

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ACTION ROUTINE	BOOK	MULTI	SINGLE	502X
INFO			X	CLASSIFICATION OF REFERENCE
FROM: CINCNORAD				SPECIAL INSTRUCTIONS
TO: CINCAL ELMENDORF AFB ANCHORAGE ALASKA				
UNCLASSIFIED FROM NOOPR X 013				
<p>This message in three parts. Part one. Dept of the Army has informed USARADCOM that present production schedules indicate that Nike Hercules Battalion Packages, with Hercules Ground Equipment cannot be provided by end FY 59 in sufficient numbers to meet approved FY 59 troop objectives. In addition to USARADCOM units, troop objectives include Hercules battalions for overseas areas other than Alaska. Part two. In view of this probable shortage, Dept of Army requested USARADCOM's recommendations on an assignment priority of Hercules battalions to become available to meet FY 59 troop objectives. USARADCOM recommended and this headquarters concurred in the following Hercules deployment to Alaska: (1) One battalion in September 1958 and (2) deferment of one battalion from October 1958 to October 1959. Part three. For your information</p>				
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TYPED NAME AND TITLE (Signature, if required) MAJ J F HAMILTON		TYPED NAME AND TITLE J. W. LEDOUX		
PHONE 2845	PAGE NR 1	READING FILE J. W. LEDOUX LCDR, USN Asst Adjutant		
SECURITY CLASSIFICATION UNCLASSIFIED				

JOINT MESSAGEFORM - CONT. ACTION SHEET

SECURITY CLASSIFICATION

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CINCORAD

this headquarters recently concurred in a proposal to deploy one-half Hercules battalion at 13 CONUS SAC bases in order to provide some protection in areas now undefended, with the expectation of increasing to a full battalion at a later date.

MEMORANDUM FOR RECORD: Self-explanatory.

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SPECIAL INSTRUCTIONS

TO: CINCAL ELMENDORF AFB ANCHORAGE ALASKA

INFO: CGARADCOM ENT AFB COLORADO SPRINGS COLO (COURIER)

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ROM NOOPR X 115

DUPLICATE

Reference your letter, subject, "Alaskan Command Nike Requirements," 1 Oct 57, with first indorsement this Hq to Executive Agent dated 21 Oct 57. This headquarters notified 1 December 1957 of JCS approval to reduce Nike units to be deployed in Alaska from three to two battalions with battalion at Eielson to consist of five batteries.

MEMO FOR RECORD: In reference letter CINCAL recommended the reduction from 3 to 2 Nike Bns in Alaska because Ladd AFB will have only interceptors which would be used to identify and attack the first hostile aircraft. Nike battalions are required for Elmendorf and Eielson because of their SAC missions. CINCAL recommended that Love site of the Ladd defense be manned as a fifth battery of the Eielson defense, since by its location it would greatly strengthen the Eielson defenses. NORAD in the 1st Indorsement to Executive Agent concurred with CINCAL's recommendation. SM-845-57, 1 Dec 57, approves the recommendation of CINCAL and CINCNOBAD.

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REPLACES DD FORM 173, 1 OCT 49, WHICH WILL BE USED UNTIL EXHAUSTED

JOINT MESSAGEFORM

SECURITY CLASS: UNCLASSIFIED

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CONAD HIST FILE

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PRECEDENCE	TYPE MSG	ACCOUNTING SYMBOL	ORIG OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION INFO: ROUTINE	BODY: MULTI SINGLE: X	AF	ADOPR 5816	CONFIDENTIAL

TO: COMDE 64TH CONAD DIV PEPPERELL AFB NYLD

FROM: CINCOMAD

FROM COOPR X 039

UNCLASSIFIED

Your ADOPR 5816 concerning Army or Navy programs or plans which will have a direct bearing on air defense of your area of responsibility. This message is three parts. Part one. At this time neither Depts of Army or Navy have developed programs beyond FY 60. The requirements outlined in CADOP 56-66 have not as yet received the approval of the JCS. *Approved by JOD* Therefore the information contained in Parts two and three, *below* reflect only known service programs and *do not* include CADOP requirements. Part two. The Dept of the Army has a firm program for construction of one Nike Hercules battalion at Thule AFB to be operational during the first quarter FY 60. Characteristics of Nike Hercules to be forwarded under separate cover. Part three. Dept of Navy has no known program for introduction of equipment into 64th CONAD Division area other than that presently programmed in support of DEM extension.

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PHONE 2397

SECURITY CLASSIFICATION UNCLASSIFIED

J. W. LEDOUX
LCDR, USN
Asst Adjutant

READING FILE

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97

18 OCT 1957

ROUPE

SUBJECT: KREAB Deployment Plans

TO: Commander
COMAD Forces, Eastern COMAD Region
Stewart Air Force Base
New York

1. Reference is made to your unclassified message CPOOP-4304, 11 October 1957, which requested information on surface-to-air missiles and missile master deployment plans. All the details that you requested are not available, however, the information in the following paragraphs should assist your headquarters in planning and briefing.

2. Nike Ajax

a. No new Nike Ajax battalions are planned for the future, however, beginning in FY 59 the conversion of Nike Ajax battalions to Nike Hercules will begin. The schedule for these conversions has not yet been determined.

b. Present plans are to turn over some Nike Ajax battalions to National Guard units during FY 59. The schedule for this program has not yet been determined, however, the program is being expedited with a Nike training program for National Guard AA gun battalions which have been relieved of their operational mission.

3. Nike Hercules

a. New Nike Hercules battalions at the following locations have been approved by the Joint Chiefs of Staff and are planned to be operational during FY 59:

- St. Louis, Mo. (1 Bn)
- Cincinnati, Ohio (1 Bn)
- Minneapolis-St. Paul, Minn. (1 Bn)
- Dallas, Texas (1 Bn)
- Kansas City, Mo. (1 Bn)
- Elmendorf AFB, Alaska (1 Bn)
- Wielson AFB, Alaska (1 Bn)
- Thule AFB, Greenland (1 Bn)

b. New Nike Hercules battalions at the following locations have been recommended by this headquarters to the Joint Chiefs of

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1 Lt Col O E Griest
2845
16 Oct 57

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57-2028

GF-766

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Staff. If approved and if sufficient funds are available, they may become operational during FY 1959.

Houston, Texas	(1 Bn)
Indianapolis, Ind.	(1 Bn)
Dow AFB, Maine	(1 Bn)
Plattsburg AFB, N.Y.	(1 Bn)
Portsmouth AFB, N.H.	(1 Bn)
Westover AFB, Mass.	(1 Bn)
Castle AFB, Calif.	(1 Bn)
March AFB, Calif.	(1 Bn)
Offutt AFB-Omaha, Nebr.	(1 Bn)
Oak Ridge, Tenn.	(1 Bn)
Savannah River, S.C.	(1 Bn)

c. No data are available on deployment schedules past FY 1959; however, CADOP 56-60 Nike/Talos deployment priorities may be used for planning purposes.

4. Talos. This headquarters has not been informed of plans to employ Talos. If employed, it will be considered along with Nike deployments in the CADOP 56-60 Nike/Talos deployment priorities.

5. Bomarc.

a. Bomarc units at the following locations have been approved by the Joint Chiefs of Staff and are planned to become operational during FY 60: (Each installation will initially consist of two flights)

McGuire AFB, N.J.
Schofield AFB, N.Y.
Otis AFB, Mass.
Dow AFB, Maine

b. Bomarc units at the following locations are being considered by this headquarters for recommendations to the Joint Chiefs of Staff and if approved will probably become operational during FY 61: (two flights, 1st flight)

Niagara Falls, N.Y.
Ethan Allen, N.Y. (formerly Plattsburg, N.Y.,
which JCS approved)
Kinross AFB, Mass.
E. I. Sawyer AFB, Mich.
Langley AFB, Va.
Trux AFB, Wisc.
Faine AFB, Wash.

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Portland AFB, Oreg.
Hamilton AFB, Calif.
Fort Seward, Calif. (formerly General AFB)
San Diego AFB, Calif.

6. Deployment of B-52 units to become operational after 1961 has not been determined. However, CDSOP 16-3, B-52 priorities may be used as a planning guide.

8. Base. The West B-52s, one at New York and one at Washington, D.C., have been approved pending Chief of Staff. The New York B-52 is expected to be operational during FY 60 and the Washington B-52 during FY 61. Additional West B-52s are expected to be operational during FY 61, however, the number and locations are not yet determined for 1961 or later West B-52s.

7. Master Sites. The Master Sites at Fort Meade, Md., are planned to be operational on 1 December 1959. No operational sites have been established for the additional approved Master Sites systems as:

Highlands AFB, Tex.
Lockport AFB, N.Y.
Sulfridge AFB, Miss.
Fort Rucker, Fla.
Sikeston, Mo.
Sweet Park Hill AFB, Pittsburgh, Pa.
Arlington Heights, Chicago, Ill.
Fort Leavenworth, Kans.
and Peach Hills, Los Angeles, Calif.

FOR YOUR INFORMATION - Chief:

WALTER F. ALDRIDGE
Major General, USAF
DCS/Plans & Operations

MEMORANDUM FOR DIRECTOR: SOPS-10000000

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JOINT MESSAGE FORM

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ACTION PRIORITY	INFO	AF		
FROM: CINCOMAD				

TO: Chief of Staff, USAF, WASH D C

INFO: CG USARADCOM ENT AFB COLORADO SPRINGS COLO (COURIER)

UNCLASSIFIED

FROM: COOPER X 143

Chief of Staff, USAF, as Executive Agent for COMAD. This message in three parts. Part one. This message is in reply to telephone request of Col George Gliber of the JCS Black Team. Request that message be passed immediately to Col Gliber. Part two. This is in reply to your query regarding Nike deployments approved by JCS on 13 Feb 57. The COMAD concept of weapon deployment provides a basic level of air defense for all targets in North America with an additional increment of defense capability for specific critical targets provided by local defense missiles deployed in close-in defense of these critical targets. The target list to be defended by local defense missiles as contained in CADOP 5-66 was carefully worked out in order of priority taking into account CINCOMAD's mission, the guidance contained in JSCP and the relative target

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TYPED NAME AND TITLE (Signature, if required)	COL JAMES F KIRKENDALL
PHONE	2845
SECURITY CLASSIFICATION	UNCLASSIFIED

SIGNATURE	J. W. LEDOUX
TYPED (or stamped) NAME AND TITLE	LCDR, USN Asst Adjutant

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION

FROM:

CINCOMAD

values of the critical targets to be defended. In the case of cities the value of the city in the KFL, its population, and its industry value were all considerations. Strategic Air Command bases, AEC installations and harbor areas were all integrated into the priority list in accordance with their determined relative value. Although the two targets in question are referred to as cities, the locations to be defended actually include the cities, SAC bases and other key facilities. The two Complexes under consideration, the Dallas, Fort Worth, Carswell Complex and the Kansas City Complex are high priority targets based on the above considerations. Dallas is the twenty-second city in population, Fort Worth the thirty-eighth in population, and Carswell one of the most important SAC bases. Dallas contains an AEC production facility. The three locations taken together as one complex add up to a high priority target, made particularly so by the inclusion of the vital SAC base. Kansas City is 20th in population in the US and when industry and Key Facilities are considered is number eighteen in order of priority of the 170 standard metropolitan areas in the US. All other standard metropolitan areas ahead of Kansas City will have been provided with local defenses with the exception of Houston, Texas, which is in our next recommended list of Nike deployments. In addition, the local defenses of Kansas City will also provide added protection for Whitman AFB, presently one of the principal SAC bases and for Forbes AFB and

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FROM: CINCOMAD		
<p>Richards-Gebaur AFB, both proposed SAC bases. Again the combination of the population industry target with the SAC base establishes the Kansas City Complex in its place on the priority list established in CADOP. Part three. In summary, the two Complexes are listed for local defense in accordance with their overall value. Each is a high priority target. Consideration of population, war industry and key facilities, including SAC bases, places these localities next in line for defense. The basic question involved seems to be whether or not available surface-to-air missiles should be employed outside the geographical areas where such forces have heretofore been deployed. The considered opinion of this headquarters is that geography is not the governing factor but rather target value, the threat to these targets and the overall concept of defense outlined in the CADOP plan.</p>		
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HEADQUARTERS
AIR DEFENSE COMMAND
UNITED STATES AIR FORCE
FENT AIR FORCE BASE, COLORADO

256

TEL: MELROSE 2-5511
EXT: _____



ADDPQ-C

NOV 14 1957

SUBJECT: BOMARC Deployment

THRU: Commander-in-Chief
Continental Air Defense Command
Fent Air Force Base
Colorado Springs, Colorado

TO: Deputy Chief of Staff for Operations
Headquarters USAF
Washington 25, D. C.

1. Construction problems in areas of severe winter climate preclude attaining the beneficial occupancy dates (BOD) for five BOMARC bases as programmed in the 1959 MCP. The five bases are: Minot Municipal Airport, Ethan Allen AFB, Kinross AFB, K. I. Sawyer AFB, and Truax AFB.

2. The planned BOMARC base at Ethan Allen AFB, scheduled to be operational by September 1960, illustrates the above stated problem. Allowing five months for installation and checkout of equipment would require a March 1960 BOD for this base. It is estimated that FY-59 MCP funds will be made available in October 1958, and contract award could be affected in December 1958. However, due to adverse winter construction conditions in this area, grading and foundation construction could not be started until March 1959. This would permit only one year to complete construction whereas it is estimated that 18 to 21 months will be required to construct each BOMARC base if normal construction procedures are followed.

3. There are two possible ways of meeting the time schedule for construction of the total number of BOMARC bases required in the FY-59 MCP. One way to meet the existing schedule would be to expedite construction by 2 or 3 shift construction operation. The disadvantage of this action would be the increased cost of construction. The second possible course of action would be to change the priority and BOD of the BOMARC bases mentioned in paragraph 1. This would permit construction at these bases during a more favorable construction period and would not reduce the total number of BOMARC bases required and programmed in the FY-59 MCP. This action could be accomplished with no appreciable reduction in the overall tactical capability of this weapon system.

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4. Accordingly, it is recommended that the following changes in order of construction and deployment of BOMARC bases in the 1959 MCP be accomplished:

<u>BOD</u>	<u>DATES</u>	<u>Operational</u>	<u>PRESENT ORDER</u>	<u>PROPOSED ORDER</u>
Feb 1960	Aug 1960	Niagara Mun Aprt, N. Y.	Langley AFB, Va.	
Apr 1960	Oct 1960	Ethan Allen AFB, Vermont	Paine AFB, Wash.	
May 1960	Nov 1960	Kinross AFB, Michigan	Portland AFB, Oregon	
Jun 1960	Dec 1960	K.I. Sawyer AFB, Mich.	Travis AFB, Calif.	
Jul 1960	Jan 1961	Langley AFB, Virginia	Cooke AFB, Calif.	
Aug 1960	Feb 1961	Truax AFB, Wisconsin	Niagara Mun Aprt, New York	
Sep 1960	Mar 1961	Paine AFB, Washington	Ethan Allen AFB, Vermont	
Oct 1960	Apr 1961	Portland AFB, Oregon	Kinross AFB, Mich.	
Nov 1960	May 1961	Travis AFB, Calif.	K.I. Sawyer AFB, Michigan	
Dec 1961	Jun 1961	Cooke AFB, California	Truax AFB, Wisconsin	
Jan 1961	Jul 1961	San Diego NAS, Calif.	San Diego NAS, Calif.	

FOR THE COMMANDER:

CHARLES G. TROCHNER
Colonel USAF
Director of Requirements

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ADM 80-C, Hq ADC, 14 Nov 57, Subj: BOMARC Deployment

NOOPR

1st Ind

10 Nov 57

Hq North American Air Defense Command, Ent AFB, Colorado Springs,
Colorado

TO: Commander, Air Defense Command, Ent AFB, Colorado Springs,
Colorado

1. This command does not concur with the proposed changes in the order of construction and deployment of BOMARC bases in the FY 59 Military Construction Program as outlined in paragraph 4 of the basic letter.

2. The present priority for BOMARC installation is designed to meet tactical deployment needs. Therefore it is recommended that every effort be made to overcome the construction problems noted in the basic communication and install BOMARC in accordance with the presently approved schedule.

FOR THE COMMANDER-IN-CHIEF:

MARSHALL S. CARTER
Major General, USA
Chief of Staff

MEMORANDUM FOR RECORD:

1. In message No. 80C 1012, 14 Nov 57, to the Executive Agent, NORAD proposed the "Present Order" of Bomarc priorities as stated in para 4, basic letter. This message stated that the priorities were subject to technical difficulties, site surveys or construction conditions.

Lt Col L. W. Goldara

2197

14 Dec 57

2. The "Proposed Order" for Bomarc construction and deployment in para 4, basic letter, would provide Bomarc units in areas where SAGE is now scheduled to become operational prior to the time the Bomarc sites would be operational. It is very likely that there will be delays or slippages in either or both the Bomarc and SAGE programs. If ADC's proposal were adopted, such delays could result in Bomarc being delayed more than a year at the highest priority site, or result in Bomarc being ready prior to SAGE at a particular site.

3. The construction season should not be used as a basis for deploying tactical units, because much can be done by the planning and construction agencies to overcome the difficulties and expedite the highest priority sites.

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NOOPR 7 November 1957

SUBJECT: Request for Approval of Bomarc Deployment Plan

TO: Chief of Staff, United States Air Force
As Executive Agent for NORAD
Washington 25, D. C.

1. References:

- a. Memorandum by Secretary of Defense, subject: "Clarification of Roles and Missions to Improve the Effectiveness of Operation of the Department of Defense," 26 November 1956.
- b. JCS 1899/311, 13 February 1957.

2. The Joint Chiefs of Staff have previously approved five Bomarc bases, four of which are in the approved FY 58 Air Force Military Construction Program. It has been necessary to change Plattsburg Air Force Base, the fifth approved base, to Ethan Allen Air Force Base, Vermont, because of base siting requirements. The Bomarc base at Ethan Allen is currently programmed in the FY 59 Air Force MCF. The five previously approved Bomarc bases are:

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- a. McGuire AFB, N. J.
- b. Suffolk AFB, N. Y.
- c. Otis AFB, Mass.
- d. West AFB, Mass.

e. Plattsburg AFB, N. Y. (changed to Ethan Allen AFB, Vt.)

3. The Bomarc deployment plan recommended by the Commander, Air Defense Command, provides ten additional Bomarc bases to be included in the FY 59 Air Force Military Construction Program, as follows:

- a. Niagara Municipal Airport, N. Y.
- b. Kinross AFB, Mich.
- c. E. I. Sawyer AFB, Mich.
- d. Cooke AFB, Calif. (changed from Oxnard AFB)

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- e. Langley AFB, Va.
- f. Truax AFB, Wis.
- g. Paine AFB, Wash.
- h. Portland, Ore.
- i. Hamilton AFB, Calif.
- j. San Diego NAS, Calif.

4. It has been difficult to obtain space for Bomarc units on existing military installations, as is required by the present siting criteria. Two examples of places where this has occurred are Langley Air Force Base, Virginia, and Fort Dix, New Jersey. The Bomarc locations in the Continental Air Defense Objectives Plan 1956-1966 (CADOP 56-66) were selected to integrate Bomarc into existing and planned air defense weapon systems and are vital to the air defense of the nation. It is expected that minor adjustments in these locations will be required to improve the operational effectiveness of the Bomarc units, however, major changes in a single Bomarc site affects the locations of additional sites. This headquarters believes that Bomarc sites should have priority over those on-base military activities in which a specific location is of secondary importance when compared to the importance of Bomarc in the defense of the nation.

5. It is recommended that the Joint Chiefs of Staff approve:

- a. The changed deployment of the Bomarc base approved for Plattsburgh, New York, to Ethan Allen Air Force Base, Vermont, as indicated in paragraph 2, above.
- b. The deployment of the Bomarc bases as indicated in paragraph 3, above.

FOR THE COMMANDER-IN-CHIEF:

Copy furnished:
ADC

MARSHALL S. CARTER
Major General, USA
Chief of Staff

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MEMORANDUM FOR RECORD:

1. The above Bomarc deployments were recommended to CINCNORAD by the Commander, ADC, in letter ADORO-C, subject: Approval of Bomarc Deployment Plan, 29 October 1957.

2. This is consistent with the priorities established by GADOP 56-66 considering NORAD approved changes.

a. Plattsburg AFB, N.Y., has been changed to Ethan Allen AFB, Vt., which is located about 25 miles northwest, because of siting requirements.

b. In message COOPR X-017, 25 April 1957, to USAF as Executive Agent, CINCONAD approved:

- (1) Niagara Falls as No. 5 priority, from No. 6 priority.
- (2) Plattsburg as No. 6 priority, from No. 5 priority.
- (3) Langley as No. 9 priority, from No. 19 priority.
- (4) Duluth as No. 19 priority, from No. 9 priority.

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JOINT MESSAGEFORM			SECURITY CLASSIFIC UNCLASSIFIED		
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PRECEDENCE	TYPE MSG (Check)		ACCOUNTING SYMBOL	ORIG OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION OPERATIONAL IMMEDIATE	BOOK	MULTI	SINGLE		2-11
INFO					
FROM: CINCRAD				SPECIAL INSTRUCTIONS	
TO: Chief of Staff, USAF, WASH D C					
FROM NOOPR X 12					
<p>Chief of Staff, USAF, as Executive Agent for NORAD. Reference your message 52778 from AFXP. This message in three parts. Part I. Bomarc as an area defense weapon will in certain instances be based at or near Nike defended localities. This does not reduce need for either weapon in NORAD family of weapons concept of air defense. Part II. Bomarc deployments. Reference letter file NOOPR, Subject, Request for Approval of Bomarc Deployment Plan, dated 7 November 1957. One-half (1/2) Bomarc Squadron (56 launchers and 60 missiles) designated as a detachment to be deployed at each site initially in order to provide a Bomarc capability throughout the maximum area as soon as possible consistent with SAGE installation. Upon completion of all planned 40 sites additional one-half (1/2) squadron planned to be added to each site. Priorities are firm, subject to technical difficulties, site surveys or construction conditions. Bomarc units</p>					
				DATE	TIME
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WRITER

READER

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CINCNORAD

by priority and locations for FY 59 Service construction program:

Priority	No. Sqdns	Locations
1	$\frac{1}{2}$	Niagara Falls Municipal Airport
2	$\frac{1}{2}$	Ethan Allen (changed from Plattsburgh which was approved by JCS 1899/311, 13 Feb 57)
3	$\frac{1}{2}$	Kinross
4	$\frac{1}{2}$	K. I. Sawyer
5	$\frac{1}{2}$	Langley
6	$\frac{1}{2}$	Truax
7	$\frac{1}{2}$	Paine
8	$\frac{1}{2}$	Portland
9	$\frac{1}{2}$	Travis (changed from Hamilton)
10	$\frac{1}{2}$	Cooke (changed from Oxnard)
11	$\frac{1}{2}$	San Diego
Total	$5\frac{1}{2}$	Sqdns

Part III. Nike deployments. Concur in siting of one-half ($\frac{1}{2}$) Bns at certain sites to provide some protection in areas now undefended, with expectation of increasing to full Bn at later date. Priorities in CADOP 56-66 are based upon the strategic importance given to various targets in the key facilities list and are considered firm, subject to technical difficulties, site surveys or construction conditions. The order of installation in Part III of reference message is consistent with CADOP 56-66 except for San Diego. If there are valid reasons for installing

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OM:

CINCORAD

San Diego defenses ahead of localities with higher priority in CADOP 56-66 this headquarters has no objections. This headquarters is unable to program local defense for ICBM site at Ft Warren because of uncertain operational date. Air defense will be phased and programmed with the operational date of the ICBM sites with the equivalent priority to the SAC bases. Nike units by priority and locations for FY 59 Service construction program:

Priority	No. Bns	Locations
1	1	Houston
2	1	Indianapolis
3	½	Dow
4	½	Plattsburg
5	½	Portsmouth
6	½	Westover
7	½	Castle
8	½	March
9	½	Offutt
10	½	Oak Ridge
11	½	Savannah River
12	½	Barksdale
13	½	Davis-Monthan
14	½	Pincastle
15	½	MacDill
16	½	Walker

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FROM

CINCNORAD

Priority	No. Bns	Locations
17	$\frac{1}{2}$	Altus
18	$\frac{1}{2}$	Sandia-Menzano
19	$\frac{1}{2}$	Medina-San Antonio
20	$\frac{1}{2}$	Lake Mead
21	$\frac{1}{2}$	Sault Ste Marie
22	$\frac{1}{2}$	Duluth
23	$\frac{1}{2}$	Louisville
24	$\frac{1}{2}$	Rochester
25	$\frac{1}{2}$	Youngstown
26	$\frac{1}{2}$	San Diego
Total	14 Bns	

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MEMORANDUM FOR RECORD:

SUBJECT: NORAD Message NOOPR X- 12

1. Reference message AFAPD 22733.

a. Referred to telephone conversation between General Cary, USAF, and General Stayton, NORAD, on 12 November. In this conversation NORAD was alerted to the fact that the JCS wanted NORAD to reconfirm the Nike and Bomarc deployments recommended for FY 59.

b. The Secretary of Defense and the JCS are reviewing the FY 59 Service Construction Programs for Nike and Bomarc and request NORAD views by 1600, 13 November 1957, on:

- (1) The firm requirement for each of the units which were listed.
- (2) Confirmation of the list as far as the location and the priority.
- (3) Concurrence in deploying smaller units (½ Bn) at certain sites that were included in the list.

2. At about 0900, 13 November, Col Kirkendall received a call from Col Wentz, USAF, stating that consideration was being given to deploying only Nike or Bomarc rather than both, therefore Part I of NORAD message stresses the need for both weapons.

3. Gen Stayton, Gen Pierce, Col Murray, Col Kirkendall, C/C Austin, Col Powers (ADC), Lt Col Titley, ARADCOM, and Lt Col Grist conferred on the reply.

a. The Bomarc deployment had been recommended to the JCS by NORAD letter, file NOOPR, Subject, Request for Approval of Bomarc Deployment Plan, dated 7 November, which had not yet been received by the JCS. This letter did not indicate specific priorities, however, the sites listed in the referenced message were the same with one addition. This addition was the former Plattsburg Bomarc site which had been approved along with four other Bomarc sites by the JCS in JCS 1809/311, 13 February, 1957, but its construction was deferred by USAF. In the meantime, because of siting difficulties, ADC changed the location from Plattsburg to Ethan Allen. Based upon this action, Ethan Allen was inserted in the list of Bomarc sites for FY 59 construction. The referenced message indicated one squadron at each Bomarc site. Initially it is planned to deploy one-half a squadron, designated a detachment, at each site, and after

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completion of all 4 Bomarc sites to add the additional one-half squadron to each site. This Bomarc deployment is as recommended by ADC to NORAD in letter ADGRQ-C, Subject, Approval of Bomarc Deployment Plan, 29 October 1957, and was reaffirmed by Col Powers.

b. The Nike deployment priority listed in the referenced message followed CADOP 56-06 except for the last locality, San Diego. In including San Diego, the JCS list skipped Dayton, Portland, Albany-Troy, and Columbus-Lockbourne AFB. This was not the result of NORAD's recommendation, therefore it was presumed that the JCS had their reasons for doing this. Rather than get involved in a detailed justification for localities, which would be difficult to do in the specific case involved, Part III concurs with this change from CADOP priorities. Except for the first two localities, Houston and Indianapolis, the referenced message deploys one-half a Nike battalion at each locality. Previously, NORAD recommended one-half a battalion at SAC bases and atomic energy installations only and a full battalion for industry and population centers, so this represents a change in NORAD policy in the case of San Diego, Youngstown, Rochester, Louisville, Duluth, and San Antonio. According to planning information from ARADCOM, NORAD can expect to have a total of about 19 new battalions to defend the remaining 20 locations in CADOP. It is therefore considered preferable to deploy these at as many localities as possible consistent with acceptable minimum air defense levels. Part III concurs with the reductions to one-half battalion now, but does not disregard the possibility of adding to these defenses in the future. Lt Col Courtney, ARADCOM, informed Lt Col Griest, NORAD, by telephone that General Hart had approved the Nike deployments outlined in the referenced message.

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(filed)

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CONAD HIST FILE

JNN
CONH012HCA000
OO RJEDN
DE RJEPMC 70
O R 130202Z
FM HQ USAF WASHDC

READING FILE

ACTION: COOPR

INFO: GOOPO

SUSPENSE: 100 Hrs 13 Nov 57

27-13670

502 X 503 IMMEDIATE

TO RJEDN/CINCORAD ENT AFB COLORADO SPRINGS COLORADO
INFO ZEN/CHIEF OF STAFF ARMY
ZEN/CHIEF OF NAVAL OPERATIONS
ZEN/JOINT CHIEFS OF STAFF

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THIS IS AN EXECUTIVE AGENCY MESSAGE. 3270

FROM AFKPD

PART I. REFERENCE TELEPHONE CONVERSATION BETWEEN GENERAL GARY THIS
HEADQUARTERS AND GENERAL STAYTON. FY 58 SERVICE PROGRAMS FOR
CONSTRUCTION OF NINE AND BOMARC SITES ARE CURRENTLY UNDER REVIEW
BY THE SECRETARY OF DEFENSE AND THE JOINT CHIEFS OF STAFF. YOUR
VIEWS REQUIRED THIS HEADQUARTERS NO LATER THAN 1000 HOURS EST
13 NOVEMBER 1957 RE:

(A) AN INDICATION OF FIRMA REQUIREMENT FOR EACH UNIT LISTED
HEREIN.

DUPLICATE

PAGE TWO RJEPMC 70

(B) IS THE LISTING PROPER WITH REGARD TO PRIORITY AND LOCATION?
(C) DESIRABILITY OF DEPLOYMENT OF UNITS IN REDUCED SIZE AS

LISTED.

PART II. PROPOSED BOMARC DEPLOYMENTS ARE AS FOLLOWS:

NO. SONS	LOCATION
1	NIGARA FALLS
1	KIROSS
1	K. I. SAWYER
:	LANGLEY
:	TRUAX
:	PAINE
:	PORTLAND
1	HAMILTON
:	OXNARD
:	SAN DIEGO

10 TOTAL

PART III. PROPOSED NINE DEPLOYMENTS ARE AS FOLLOWS:

NO. DNS.	LOCATION
1	HOUSTON
1	INDIANAPOLIS

READING FILE

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TO: CINCPAC

FROM: DCS/P&O

19 Nov 57

2. The words Bomarc, Nike, Hawk are used to refer to the type of weapon we desire. The specific weapon required is one that has the capability of defending against the enemy threat in the time period in which the weapon is in our inventory.

3. Our requirements for both Bomarc and Nike are based on the familiar fact that we require a family of weapons both from the standpoint of weapons to attack the enemy as far out as possible and to keep him under constant attack; and of weapons of different types in order to pose the greatest number of tactical and technical problems to the enemy. We are interested in getting large numbers of both types of missiles into the system. We do not believe that we should buy only one type of air defense missile since this makes the enemy penetration problem too simple.

4. The Bomarc is being deployed and will be used as an area type defense weapon with no particular emphasis on defending specific targets. The Bomarc will replace to some extent the manned interceptor, and we would be interested in seeing an acceleration of the Bomarc program at the expense of some cutback in the manned interceptor program. The Nike/Talos/Hawk type of weapon is best utilized when deployed in defense of specific targets and is being deployed and will be used in this manner. However, it should be kept in mind that all weapons, regardless of where located, will be used against the overall enemy attack under operational control of the overall air defense commander without particular regard to specific targets.

5. In a few instances Bomarc units and Nike units are deployed at the same location and this has been questioned by DOE. An example is Dow AFB. The Bomarc is deployed here as a part of the overall Bomarc area deployment and not in specific defense of Dow. Nike deployed here is, on the contrary, in specific close-in defense of Dow as a SAC base. This is in line with our idea of an overall level of air defense for all targets provided by area weapons with an added increment of defense for specific critical targets (SAC bases, cities, AEC installations) provided by the deployment of local missile defenses (Nike/Talos/Hawk) at these locations.

6. We do not have a cost effectiveness study on Bomarc vs. Nike. Both weapons should be very effective against the enemy air-breathing threat and the weapons are so different in concept, control principle, etc., that they satisfy our requirement for a family of missiles. Neither one replaces the other in their role as part of the air defense team. Both will need improvement in all-altitude capability, anti-ECN effectiveness, etc., in order to attain the quality necessary to keep abreast of the enemy threat. Cost effectiveness studies are interesting, but care must be taken in analyzing the results of such studies.

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TO: CIBCORAD

FROM: DCS/C&O

19 Nov 57

7. At present, Bomarc is tied to SACZ with no Mode III or IV capability. Such a limitation does not exist for Nike. This requires further studies by all interested agencies.

BASNEY T. ALDRIS
Major General, USAF
DCS/Plans & Operations

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NORTH AMERICAN AIR DEFENSE COMMAND
ENT AIR FORCE BASE
COLORADO SPRINGS, COLORADO

OFFICE OF THE CHIEF OF STAFF

13 November 1957

MEMORANDUM FOR DCS/P&O

SUBJECT: Hawk I

From reading your paper and also that of Air Marshal Slemon, we seemed to be agreed on the above subject.

If this is so, then let's complete the staff action and prepare the final paper for General Partridge to sign upon his return.

CHS ———

C. H. SCOTT
Colonel, USAF
Assistant Chief of Staff

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NOHCR

Summary of Haw- I Evaluation
NOGPR

20 Nov 57

Maj Wilkinson/2437/bh

1. HAWK gives every indication of being by far the best weapon in sight to deter very low altitude attacks.
2. The HAWK, together with NIKE, BOMARC and manned interceptors will provide, at reasonable cost, the family of weapons so essential to our system.
3. The growth potential of the system is good and should be exploited to keep pace with the threat. For the future, ZEUS in combination with HAWK appears to be an optimum local defense system.
4. Contractor is perfectly able to meet all schedules.
5. Facts and Figures.
 - a. Range - target at 200' altitude = 15 miles
" up to 60,000' = 19 miles
 - b. Kill probability approaching 1.0 (nuclear) and .8 (with HE).
Warhead costs comparable to MB-1.
 - c. Cost per battalion is less than for Hercules.
 - d. Planned procurement through FY 61 - 32 battalions (Army) and 3 battalions (Marine).
 - e. Cost of offshore platform (3 required for the east coast) is \$2½ million each.
 - f. Manning requirements are 50-70 men per battery.

HARVEY I. ALNESS
Maj Gen, USAF
DCS/Plans & Operations

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Hawk Program

NOHCS

NOOFO

17 Oct 57

Maj Wilkinson/437/bh

1. Reference CINCPAC's memo to DCS/P&O, dated 19 September 1957. Paragraph 8 is quoted below for convenience:

"There seem to be grave doubts that the Hawk program will ever fit the bill. It is extremely expensive, it is of short range, and it is never going to be available in sufficient numbers so long as the Army's attitude toward air defense remains as it is. I should like to reexamine the Hawk program at the earliest possible time and make firm recommendations to the JCS on this matter."

2. An interim reply was dispatched 30 September after a preliminary study conducted in P&O.

3. A trip to White Sands and Ft. Bliss to obtain first hand knowledge of Hawk program status was made by Requirements Division early in October.

4. The attached status report together with conclusions and recommendations is the result of the trip and of a continuation of the study initiated in September.

1 Incl
a/s

HARVEY T. ALFESS
Maj Gen, USAF
DCS/Plans & Operations

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HAWK (I) STATUS REPORT

1. In accordance with CINCPAC B memo dated 19 September, paragraph 2 below covers considerations of cost, short range, availability and other governing factors. Recommendations are contained in paragraph 3.

2. CONSIDERATIONS.

a. FUNDING

(1) Hawk I weapons system is being jointly funded by Army and Marine Corps and is being developed for Fleet Marine Force and Field Army use. Such Hawk I units as may be in CONUS at any time should be made available to CINCPAC for deployment as he may desire. (CONUS Hawk I organization and tactics have been proposed by AD School, Ft. Bliss.)

(2) Hawk II (alias ZI Hawk, Superhawk) is, at the moment, only a manufacturer's PROPOSAL for an improved (and considerably more expensive) Hawk system for employment in fixed installations in CONUS. As far as can be determined here, no funding to support development of Hawk II is contemplated at the present.

b. COST

(1) Accurate costings appear to be impossible of quick accomplishment by PACAD staff alone.

(2) Stanford Research Institute sets .20 Million/Hawk I battalion as their estimate.

(3) Initially, missiles will cost in the order of \$100,000 each. With volume production, the cost should drop to \$25,000 to \$50,000 each.

(4) Site construction costs should be low since no elaborate installations are contemplated - simple cinder block retaining walls with an earthen parapet pushed up by bulldozer - radars to obtain an "overlook" by utilizing low hills or simple timber or steel frame - work (low) towers. All equipment is to be above ground.

(5) Warhead costings could not be determined since they have not been completely developed - probably comparable to MB-1 warhead costs. (Nuclear .1 - .5KT and 2KT)

(6) Operating costs, due principally to low manning requirements of 50 men/battery, will be lower than AJAX or Hercules operating costs.

(7) As a general conclusion, Hawk I capital costs are believed to be greater than AJAX and less than Hercules. Real estate requirements are less than for NIKE. No booster disposal area is required since the booster is an integral part of the HAWK motor.

(8) Numbers of batteries required/defense affects overall costs - see below.

c. SHORT RANGE.

(1) The principal limitation to range, which will exist with ANY low

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altitude weapon system, lies with the radar's inability to see over the horizon. The CW doppler radar in the Hawk I system have a slight "beam-bending" feature. For very low altitude targets (200' or less) Hawk has a 13.5NM range. For higher altitude targets (up to 60,000') range extends to 19.5NM.

(2) Deployment of batteries is thus forced outward from the defense to the LABS Bomb Release Line (BRL) / Weapon Re (Radius of Effect) or beyond. As an example, Peterson Field could be defended against low-altitude attack by employing 3 Hawk batteries with a spacing of 36,000 yards. This deployment will permit firing 8 missiles (if necessary) against an F-26 type target using LABS technique and assumed to carry a 1 megaton bomb. In the case of Peterson field, a LABS attack from the west is probably impossible so the low-altitude defense could be accomplished with only two batteries. For defense of coastal areas such as Los Angeles, the LABS BRL will be over water and, in order to deploy on or beyond the BRL, an island or some sort of Texas Tower is required. Estimates are that these towers would cost \$2 Million each. Again in this case, Hawk would not be required EAST of Los Angeles and one augmented battalion of 5 batteries would probably be adequate.

(3) EFFECTIVENESS.

(a) The only question which must be answered in evaluating the effectiveness of any weapon system is: "How many aircraft will the weapon kill prior to BRL?"

<u>Characteristics</u>	<u>HAWK I battery</u>	<u>Remarks</u>
Reaction Time	16 sec from ACs to launch	Must be rapid due to short AC. m.
Rate of Engagement	30 sec transfer time from one rail to another rail	Battery can engage two widely spaced (180 degree) rails simultaneously
Reliability	To date .7 single shot kill probability has been achieved by contractor.	With 2 years to run prior to operational date, the system will certainly achieve .8 with EC and a probability 1.0 with nuclear
Accuracy	8' is average miss distance	
Lethality		
Rate of Fire	Unlimited by system	Highest practical rate-1 msl/5 sec. Highest sustained rate - 1 msl/1.0 sec
ECCM Capability	Home all way plus Home on Jamming	Unique feature

Overall P&R rating from 0' - 35,000' is excellent; and 35,000' - 60,000' is good.

d. AVAILABILITY.

(1) Following furnished by Ft. Bliss and White Sands Proving Ground (WSPG)

<u>Event</u>	<u>Date</u>	<u>Remarks</u>
Contractor Demonstration WSPG	Nov 1957	On schedule
Engineer-User Test WSPG	Dec 1957	On schedule

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<u>Event</u>	<u>Date</u>	<u>Remarks</u>
Instructor School Redstone Ars	April 1958	40 Stu/class
Instructor School Redstone Ars	June 1958	40 Stu/class
3 Prototype Sets Produced for Training	August 1958 March 1959 July 1959	Retained by Air Defense School also used for tests.
School Bn activated at Ft Bliss	June 1959	Us. Logan Heights Area
First Production Set	August 1959	This is a Pn. Set
Production Rate is 1 Set/Mo	October 1959	Rate increases
Production Rate is 125 Missiles/Mo	May 1960	Information on warhead not available

(2) Planned Procurement (as of 7 October 1957).

	<u>Army (Bn)</u>	<u>Marine (Bn)</u>
FY 59	1	0
FY 60	3	1
FY 61	28	2
FY 62	0	1
	32 Bns	4 Bns

(3) Present status of hardware is as follows for the major items. One battery demonstration set exists at WSPG.

<u>Item</u>	<u>Status</u>	<u>Remarks</u>
CW Acquisition Set	o. k. to produce	Has tracked F-86 at 50' alt out to 30,000 yard range.
Pulse Acquisition Set	Functions properly	Needs repackaging for helicopter transport
CW Illuminator	o. k. to produce	Exceeds specifications
Launcher	o. k. to produce	Only 1 launcher exists
Battery Control	Functions properly	Needs repackaging for helicopter transport
Missile	Guidance o. k.	See evaluation below
Warhead	HE - No problem	Neuc. - Status unknown
Loader	Prototype	Needs minor modifications

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General P&R Conclusion -- The contractor is in the startlingly novel position of being perfectly able to meet all schedules. He has had no repeat failures for the same cause on any item or component. Aerojet solid propellant motors appear to be superior to the Thiokol version. Opinion at Ft. Bliss and WSPG is divided as to whether schedules could profitably be accelerated or not.

a. MISCELLANEOUS CONSIDERATIONS.

(1) ADVANTAGES.

- (a) Growth potential is good. Effectiveness is good.
- (b) The low-altitude threat exists and without some defense against it we issue ourselves an invitation to disaster.
- (c) The Hawk I is the only known very low-altitude defense which will exist by 1960. Guns are phasing out.
- (d) Some advantage may be taken in COMUS of Hawk's mobility. Example: A SAC base defense is penetrated and base is destroyed beyond repair. Surviving Hawk units can immediately redeploy to an adjacent SAC base to strengthen that defense.

(2) DISADVANTAGES.

- (a) Hawk I must complement other defenses and cannot stand alone.
- (b) Above 35,000', Hawk is only effective against single aircraft or widely spaced aircraft.
- (c) Hailstorms and blinding snow storms may seriously degrade Hawk effectiveness (these, however, are less-than-perfect conditions for LABS attack).
- (d) Hawk battery requires a stabilized platform for offshore installations.
- (e) Hawk does not kill at long range - only at short range.

3. RECOMMENDATIONS.

It is recommended that NORAD:

- a. Support the Hawk I program as being economically feasible (even within a poverty budget) due to its high effectiveness for air defense of critical targets against very low-altitude attacks.
- b. Not support Hawk II until further studies have been conducted for comparison with other weapons in the same time frame.

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1 November, 1957

MEMORANDUM FOR COMMANDER-IN-CHIEF

SUBJECT: HAWK PROGRAM

1. Reference is made to the attached status report on the Hawk program dated 17 October, 1957, from WOPO.
2. I suggest approval of the recommendation to support the Hawk program for the following reasons:
 - a. Hawk gives every indication of being by far the best weapon to deter the low flying attack. In fact it appears to be the only weapon potentially able to do so.
 - b. In addition to its low altitude effectiveness, it possesses a reasonably good medium altitude capability, not much short of Nike Ajax.
 - c. In combination with Nike, Hercules, Bomarc, and named interceptors, Hawk will increase the versatility of our air defense system and so confront an attacker with increased diversification.
 - e. Certainly, Hawk would prove an unjustifiably costly element of our overall air defense system if an attempt were made to procure this weapon in sufficient quantity to ensure protection against low flying attack of a large number of targets in our "area defense" system. Hawk's limited range makes it of questionable value against the "toss bomb" attack unless deployed in appreciable depth around targets. Furthermore, it will be ineffective against the long range air-to-ground missile attack of the Rascal type. Nevertheless, the existence of Hawk in our air defense arsenal will appreciably decrease the prospect of immunity which an attacker now enjoys when he contemplates low altitude attack against North American targets. Thus, any quantity of Hawk is likely to prove of deterrent value out of all proportion to its cost.

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8. Apparently, the US Army and Marine Corps intend to procure Hawk for their field force requirements regardless of whether or not the missile is employed in North American Air Defense and, therefore, probably only a small proportion of the Hawk batteries now programmed would be available for NORAD.

9. Consequently, in view of the timing of availability of Hawk and the uncertainties of some of the requirements for the future, I feel that WOOPO's report and the considerations outlined above indicate clearly the inadvisability of NORAD Command doing other than supporting the Hawk I program at this stage.


C.R. SLEMON
Air Marshal, RCAF
Deputy Commander-in-Chief

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25 Nov 1951
SUBJECT: Merits of the HAWK Weapon System

TO: Chief of Staff, United States Air Force
As Executive Agent for NORAD
Washington 25, D. C.

1. During the visit by the Joint Chiefs of Staff to this headquarters in September, the relative merits of the HAWK weapon were discussed. Subsequently, studies were conducted here to evaluate the cost versus effectiveness of the HAWK system, and to re-evaluate the continental requirements for HAWK equipped units.

2. The conclusions reached in this headquarters are

a. HAWK gives every indication of being by far the best weapon in sight to deter low altitude attacks.

b. The Nike, Bomarc, manned interceptor, and HAWK family of air defense weapons will provide, at reasonable cost, the versatility so essential to our air defense system against the airbreathing threat.

c. The growth potential of the system is good and should be exploited to keep pace with the threat.

It is recommended, therefore, that the requirements for HAWK units, as outlined in paragraph 20, Section I, Part II of the Continental Air Defense Objectives Plan 1956-1966 (CADOP), be supported by the Department of Defense.

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MEMORANDUM

SUBJECT: Merits of the HAWK Weapon System

TO: Chief of Staff, United States Air Force
As Executive Agent for MORAD
Washington 25, D.C.

During the visit by the Joint Chiefs of Staff to this headquarters in September, the relative merits of the HAWK weapon were discussed. Subsequently, studies were conducted here to evaluate the cost effectiveness of the HAWK system, and to evaluate the continental requirements for HAWK equipped units.

The conclusions reached in this headquarters are:

a. HAWK gives every indication of being by far the best weapon in sight to deter very low altitude attacks.

b. The MIKE, BOMARC, manned interceptor, and HAWK family of air defense weapons will provide, at reasonable cost, the versatility so essential to our air defense system.

c. The growth potential of the system is good and should be exploited to keep pace with the threat.

3. It is recommended, therefore, that the requirements for HAWK units, as outlined in paragraph 20, Section I Part II of the Continental Air Defense Objective's Plan 1956-1968 (CADOP), be supported by the Department of Defense.

M. E. S. (explanatory)

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27 NOV 1957

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DE RJEPHC 1019
R 272015Z
FM HEDUSAF
TO CINCNORAD
BT

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ACT: NOOPR
INFO: NOOOP
NOOPO
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UNCLASS FROM AFXPD-JCS 45454.
YOUR LETTER DATED 22 NOVEMBER 1957, SUBJECT: "MERITS OF THE
HAWK WEAPON SYSTEM", WAS REFERRED, ON 27 NOVEMBER 1957, TO THE
JOINT STRATEGIC PLANS COMMITTEE OF THE JOINT CHIEFS OF STAFF
FOR CONSIDERATION IN CONJUNCTION WITH THE REVIEW OF CADOP 56-66.
BT
27/2046Z NOV RJEPHC

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Department of National Defence

Royal Canadian Air Force
St Hubert, Que, 18 Sep 57

Chief of the Air Staff,
Air Force Headquarters,
Ottawa, Ontario.

Air Defense Planning - Canada - U.S.
Ground Environment Requirements

1 Reference is made to the minutes of an RCAF/USAF meeting of 24-25 Apr 57 as forwarded to this HQ under cover of your SB43-104 (DSM) dated 9 Jul 57.

2 Para 2 of page 9 of the above mentioned minutes requested this HQ to recommend, in collaboration with USAF ADCHQ, a solution to the problem of tying certain specified radars located in Canada into the system of SAGE Sectors presently under construction or programmed for the U.S. A solution for the five radars between Beauséjour and Leather inclusive, has been forwarded to your HQ under cover of our 9965-105-2 (AOC) dated 18 Sep 57.

3 During the course of discussion, it became increasingly obvious that the problem of tying Canadian-based radars into SAGE could not logically be confined to the five radars mentioned above. This conclusion is forced by the fact that weapons requiring a forward SAGE environment for optimum utilization are programmed to be in position south of the Canada/US boundary from coast to coast within the same time period as the SAGE installation. In the same way that SAGE controlled fighters or Bombers located in the area between Grand Forks, North Dakota and Detroit, for example, require the five above mentioned radars to be tied into the SAGE Sector to the south, so do similar weapons to the east and west of this area demand an identical consideration. An example of this is provided by the radars presently located within the boundaries of 5th Air Division which provide a ground environment that will be utilized primarily for the exploitation of weapons located in the Seattle-Spokane area.

4 Any consideration of the overall problem is handicapped by the present lack of policy concerning the type and extent of automaticity to be incorporated into the air defence system in Canada. However, since this lack of policy affects the present Nos. 1, 3 and part of 2 Sectors only, this HQ is proceeding, in collaboration with USAF ADC, with a further consideration of the overall problem. It is expected that a jointly composed working group will meet during the second half of October to prepare recommendations. An element of urgency exists in this matter since additional construction and communications requirements which will be generated require implementation action almost at once if they are to be completed and in position at the same time as the balance of the SAGE Sector in which the concerned radars will be located.

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5 For your information, please note that H-27 has recently revised plans for the area identified in the above and is now implementing certain operational activities which require the previously authorized area vector coordinates. As a result, many of the area vectors immediately south of the original boundary have been revised so that they now possess sufficient capacity which would permit them to be utilized normally.

(S. Wray) a/f/d,
A/C JC;

cc: Lt. Col. [Name], [Address]
HQ USAF SAC, [Address]

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NOOPR-R

SUBJECT: Integration of Weapons with SAGE

TO: Commander
Naval Forces
Continental Air Defense Command
Ent Air Force Base, Colorado

1. Reference is made to:

a. Letter, NOOPR, Headquarters CONAD, dated 28 March 1957,
Subject: Integration of Weapons with SAGE.

b. Letter NAVFORCONAD FX5-10/301; dmc 416, Serial 0023-57
dated 15 April 1957.

2. Reference (a) requested the types and characteristics of
Navy weapons that will be in the inventory in 1960 for augmentation
of the Air Defense of the United States. Reference (b) forwarded
a partial list of aircraft and weapons.

3. Reference (a) further requested a detailed employment plan
for each of the weapons by 1 July 1957 in order that the weapons
could be programmed for SAGE. No employment plans have been received.

4. The Air Defense Command has completed employment plans for
all USAF Manned Interceptors and BOMARC. A total of eight inter-
ceptors with two configurations each are being programmed.

5. To prevent further delay in programming the Navy's fighters,
it is requested that you arrange a conference between appropriate
representatives from the Office of Chief of Naval Operations and the
Air Defense Command to establish the detailed requirements for the
employment plan. As an interim measure, the performance of Navy
fighters should be compared with the USAF Interceptor employment
plans. The most appropriate program could then be assigned to each
Navy fighter. This would provide an early operational capability
for Navy fighters with SAGE.

FOR THE COMMANDER-IN-CHIEF:

/s/t/ G.W. Snider
2437
18 Sep 57

bh

/s/t/ (signature illegible)
Capt, USN
Asst DCS/P&O

Copy furnished:
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TO SECTION BEFORE DECLASSIFYING.

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1 NOV 57

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RR RJEDIN RJEDVP RJEPY3
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FM HQ USAF WASHDC
TO RJEDIN/COMAIRDEFCOM ENT AFB COLO
RJEDVP/COMAHC WPAFB OHIO
RJEPY3/COMARDC BALTO MD
ZEN/COMATC RANDOLPH AFB TEX
ZEN/COMAPGC EGLIN AFB FLA
INFO RJEDIN/CINCNORAD ENT AFB COLO
ZEN/COMAFCRC LG HANSCOM FLD MASS

READING FILE

COMAD HIST FILE

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//FROM AFDAC-E/A 52514

COMAFCRC PASS TO AIR DEFENSE SYSTEM MANAGEMENT OFFICE. REFERENCE
LETTER EDSB, FILE MCPYB, SUBJECT: PROPOSALS LEADING TO SAGE
SCHEDULE 7, 31 OCTOBER 1957. HEADQUARTERS USAF APPROVES PLAN A
CONTAINED IN REFERENCED LETTER AS SAGE IMPLEMENTATION SCHEDULE 7.
THIS HEADQUARTERS WILL TAKE ALL POSSIBLE ACTION TO ENSURE THE
TIMELY RELEASE OF FUNDS TO MEET THIS SCHEDULE.

BT
01/2255Z NOV RJEPHC

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HOOPR

13 NOV 1957

SUBJECT: Installation of SAGE in the North Bay Sector

TO: Chief of the Air Staff
As Executive Agent for NORAD
Air Force Headquarters
Ottawa, Ontario, Canada

Identical ltr sent
to Chief of Staff,
USAF, as Executive
Agent for NORAD

1. In January 1955, USAF ADC submitted to USAF Headquarters an urgent requirement for northward extension of the ground environment in Canada including, inter alia, a requirement for a SAGE Combat Center/Direction Center in the North Bay Subsector (now known as a Sector). The proposal was passed to the Canada-U.S. Military Study Group (MSG) for necessary action. The MSG, after conducting a detailed analysis of the complete proposal, recommended to the JCS and COSC "that SAGE be installed in the North Bay Subsector." (Seventh Interim Report by the Canada-United States Military Study Group, 21-22 September 1956, para 9.)

2. On 21 December 1956 the JCS approved the aforementioned recommendation of the MSG, and directed the Chief of Staff, United States Air Force, to take the necessary action to implement the recommendations contained in paragraph 9 of the MSG report, to include initiation of appropriate action to obtain intergovernmental agreement concerning the financial arrangements required to fulfill the recommendations. Concurrently, the JCS informed the COSC of their action, and requested notification of the conclusions reached by the COSC following their review of the MSG report.

3. On 15 March 1957 the Secretary, Canadian Joint Staff (Washington) informed the JCS that, with reference to the North Bay Sector, the COSC had agreed "that authority be sought for the RCAF to secure a contract, through the USAF, with a suitably qualified U. S. agency for a technological study on the CAGE system; and that exploratory studies should be commenced between the relevant government departments and the commercial communications companies regarding the organization and integration of the communications engineering studies for the installation of the CAGE system in the North Bay Sector."

4. The technological study on the CAGE system requested by the COSC was subsequently accomplished by the Bell Telephone Laboratories, and their final report has been examined. From the report it is apparent that the advantages of CAGE over SAGE, if any, for the North Bay sector would be marginal, and that the availability data for CAGE would probably be significantly later than SAGE.

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5. It is understood that the desire to pursue the CAGE proposal was originally prompted by the belief that one CAGE sector could cover most of the ground environment in eastern Canada, whereas it would require several SAGE sectors to provide a semiautomatic capability in this same area. It is now apparent, however, that a semiautomatic capability can be provided throughout that portion of the combat zone encompassing the Pinetree Radars by installing SAGE in the North Bay sector, and timing the radars in the remaining areas to SAGE Direction Centers already programmed by the USAF. Thus, the principal reason for pursuing the CAGE proposal has now disappeared.

6. It is realized that the CAGE concept also has some operational features that appear to be attractive. Against this, however, must be weighed the disadvantages of having the nonstandard sector, surrounded by SAGE, in a highly critical area of the Combat Zone. Furthermore, most of the desirable features peculiar to CAGE could be incorporated into SAGE by the eventual replacement of certain components. You may be assured that this headquarters will support the development of worthwhile improvements to SAGE, and all other elements of the air defense system.

7. It is concluded that in the interests of standardization and of improving the air defense capability in the highly important North Bay sector as soon as possible, a decision should be made now to install SAGE in the North Bay sector, without prejudice to the incorporation of technical improvements in this and other sectors if and when such improvements become practical.

8. The USAF Air Defense Command is now initiating action to realign its proposed sectors in the northeastern United States in order to permit these sectors to accept the Pine Tree radars to the west and east of the North Bay sector. This headquarters, in a separate submission to the United States and Canadian Chiefs of Staff on the subject of NORAD boundaries, is recommending the formation of a NORAD Division in eastern Canada encompassing the North Bay sector (SAGE), the Bangor sector (SAGE), and the area of the present 64th Air Division (manual). Implementation of this proposal would necessitate the formation of a Division Headquarters (SAGE Combat Center) to be collocated with the SAGE Direction Center in the North Bay Sector, i.e., a SAGE F3Q-7/F3Q-8 facility.

9. If these facilities are to be installed and operational not later than mid-1962 it will be necessary to have a decision on this matter not later than 15 December 1957. Otherwise the computer production program and USAF construction program will be firmed up to the point where diversion of the necessary computers for installation in the North Bay sector would have to be deferred by approximately

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one year. Such a delay in this particularly important sector would be most undesirable.

10. It is therefore recommended that the JCS/COSC:

a. Approve the installation of SAGE in the North Bay sector. (Already approved by the JCS, as noted in para 3 above.)

b. Approve the provision of an FSQ-8, to be colocated with the FSQ-7 in the North Bay sector, for the purpose of exercising operational control over a NORAD Division encompassing the North Bay and Bangor sectors and the present 64th Air Division.

c. Instruct the Chief of Staff, USAF, and Chief of the Air Staff, RCAF, to undertake the actions necessary to implement the foregoing recommendations, including the initiation of actions to obtain intergovernmental agreement on the division of costs.

d. Inform CINCNORAD of their decision on this matter by 15 December 1957.

Identical letter forwarded to
Chief of Staff, USAF, as
Executive Agent for NORAD

/s/t/ C. R. SLEMON
Air Marshal, RCAF
Deputy Commander-in-Chief

Copies furnished:

MEMORANDUM FOR RECORD: Self-explanatory.

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*c/s noted -
summary given to
A/14 Slawson
6/11/57*

November 21, 1957.

Commander-in-Chief,
North American Air Defense Command,
Ent Air Force Base,
Colorado Springs,
Colorado, U.S.A.

Installation of SAGE in the North Bay Sector

- 1 Reference is made to your letter NOOPR dated 13 November 1957.
- 2..... The RCAF is examining the requirement for SAGE in the North Bay Sector prior to seeking approval for this program from higher authority. It is intended to submit RCAF recommendations to Chiefs of Staff Committees in the immediate future and, when their concurrence has been obtained, to request governmental approval.
- 3 The RCAF is working to a timetable which, if it can be successfully maintained, will meet the requirement to have a decision by 15 December 1957.

(Hugh Campbell)
Air Marshal
Chief of the Air Staff

1400

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19 DEC 1957

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WOOPE

SUBJECT: SAGE Redeployment

TO: Commander
Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. References:

- a. Letter your headquarters, ADORQ-E, 24 September 1957, Subject: SAGE Redeployment, with Int Indorsement this headquarters, 21 October 1957.
- b. Letter your headquarters, ADORQ-E, 29 November 1957, Subject: SAGE System - Schedule #7.

2. As you were advised in our Indorsement to letter referenced in paragraph 1a above, it was expected that firm MORAD proposals concerning the priorities for SAGE installation could be made by 1 December 1957. Unfortunately it is not yet possible to give a firm priority list due to the fact that it has not been possible to get a commitment from the RCAF concerning the installation of SAGE in the North Bay Sector. The priorities given below, however, are firm as far as installations in the continental United States are concerned, and tentative insofar as installations in Canada are concerned.

3. The following is the priority listing recommended by this headquarters:

- | | | | |
|-----------------|----|-----------------|----|
| 27. San Antonio | DC | 33. Albuquerque | DC |
| 28. Shreveport | DC | 34. Miami | DC |
| 29. Kansas City | CC | 35. Fort Knox | DC |
| 30. St. Louis | DC | 36. Fort Knox | CC |
| 31. Ottawa | DC | 37. Raleigh | DC |
| 32. Ottawa | CC | 38. Sioux City | CC |

4. The primary factors leading to the revised order of installation reflected in the above priorities list are as follows:

a. The need to install a SAGE capability in eastern Canada at the earliest time practicable. (This Canadian area was previously known as the North Bay Sector. By request of the RCAF, this area will henceforth be known as the Ottawa Sector.)

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b. The need to attain a Bomarc capability as early as possible in areas containing a concentration of Strategic Air Command bases and other critical targets.

c. The desirability of closing the perimeter at the earliest possible date.

5. It is requested that your headquarters take whatever action is necessary to have the SAGE System - Schedule #7 modified in accordance with the priorities stated herein, and that you give assistance as required to the BCAP to insure the earliest possible installation of SAGE in the Ottawa Sector.

FOR THE COMMANDER-IN-CHIEF:

MARSHALL S. CARTER
Major General, USA
Chief of Staff

MEMO FOR RECORD:

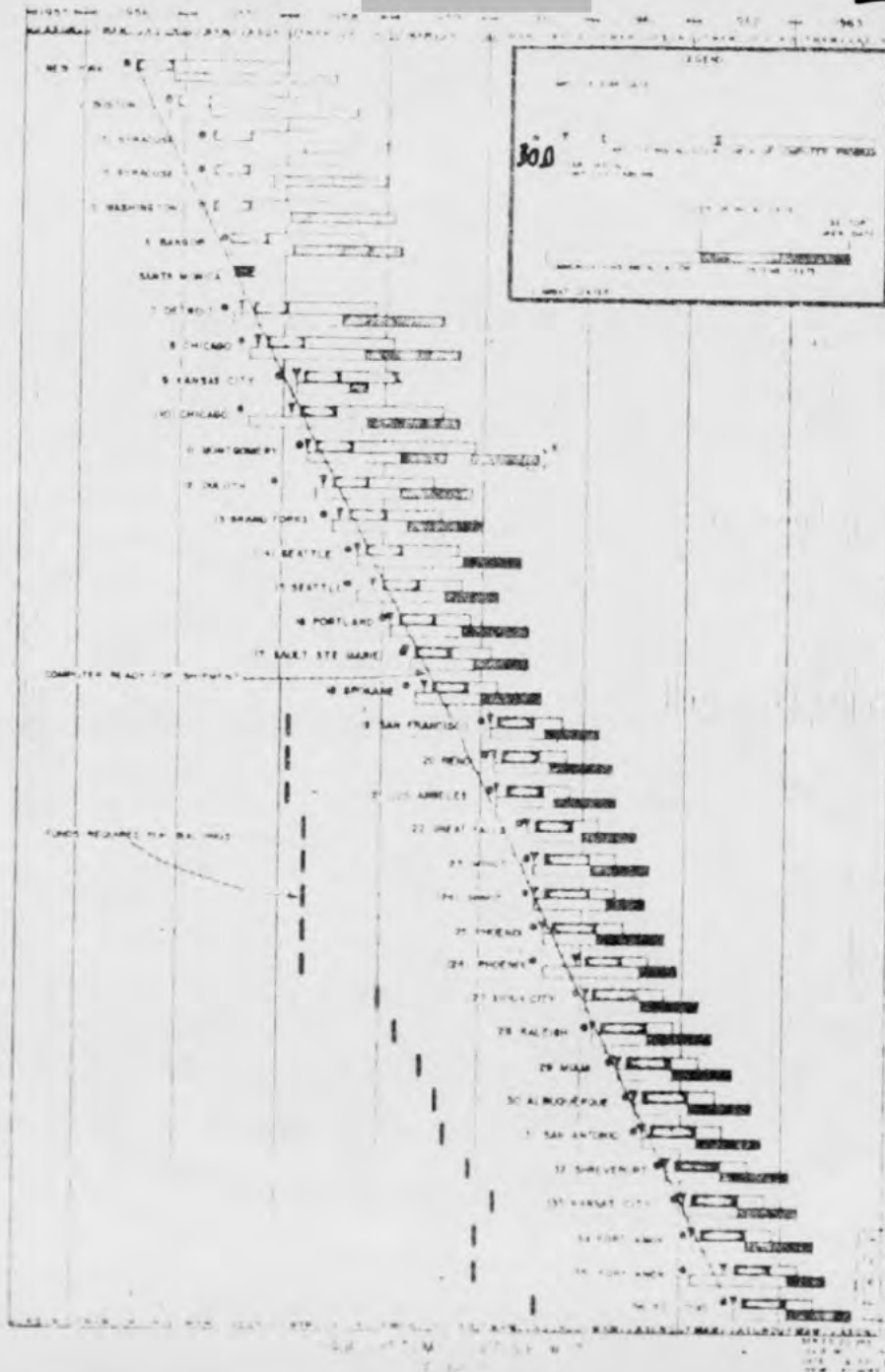
This letter, together with our 1st Indorsement to ADORQ-E, 23 September, constitutes the most specific guidance this Hq has given ADC concerning SAGE priorities. ADC was previously drawn up and had approved by USAF a Schedule #1, and now Schedule #7. These were not coordinated with this Hq prior to submission to USAF.

The priorities suggested in this letter have been fully discussed with the ADC staff, and there are no valid reasons why these priorities should not be adopted.

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ADORQ-E, Hq ADC, 23 Sep 57, Subj: SAGE Re-deployment

NOOPR

1st Ind

21 October 1957

Hq North American Air Defense Command, Ent Air Force Base, Colorado

TO: Commander, Air Defense Command, Ent Air Force Base, Colorado

1. This headquarters concurs in the SAGE priorities listed in referenced message through number 26 (Phoenix CC).

2. Further study is being made of SAGE priorities after number 26. It is expected that NORAD comments on these priorities will be furnished your headquarters by 1 December 1957.

3. The two primary factors necessitating this further study are as follows:

a. Desire to assign a priority as soon as possible after number 26 to the North Bay Sector. RCAF Headquarters is being informed of the necessity for an early decision regarding this matter.

b. An operational requirement to install SAGE as early as possible in the south-central SAC base area which is primarily covered by the 31d Division - SAGE.

4. It is requested that your headquarters take whatever action you deem necessary with Headquarters USAF, Headquarters RCAF/ADC and other appropriate agencies to assist the RCAF in determining what SAGE priority can be accepted in the North Bay Sector.

Col J F Kirken
2845
15 Oct 57

FOR THE COMMANDER-IN-CHIEF:

MARSHALL S. CARTER
Major General, USA
Chief of Staff

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ALORQ-E

SUBJECT: SAGE Re-deployment

TO: Commander-in-Chief
North American Air Defense Command
Bvt Air Force Base
Colorado Springs, Colorado

1. Reference message, Headquarters USAF AFJDC 50129, 14 September 1957. (Information copy furnished CINCOMAD.)
2. Request this command be furnished formal agreement or comments on SAGE priority of installation established in reference paragraph 1 above.

FOR THE ENGINEER:

CHARLES G. FESCHER
Colonel, USAF
Director of Requirements

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MEMORANDUM FOR THE RECORD

1. In September General Partridge and members of the NORAD staff were briefed by Lt Colonel Dean of the Air Defense Command staff on the new order of priority for the installation of SAGE. In connection with this briefing a letter (Incl 2) was received from ADC requesting NORAD's agreement or comments on the proposed SAGE priority of installation.

2. On 14 October a meeting was held between representatives of the NORAD Plans Directorate and the ADC Directorate of Requirements to further discuss the proposed priorities. As a result, it appears that at this time NORAD can concur with the SAGE priorities through No. 26, but that the SAGE priorities after this number possibly need readjustment. The two primary factors concerned are as follows:

a. Desire to assign a priority as soon after No. 26 as possible to the North Bay Sector. This is in line with our requirement for completing the deployment of SAGE on the northern perimeter and further in line with General Partridge's expressed desire to assign the earliest priority possible to North Bay. Considerable study will have to be done in this respect by the RCAF and a commitment regarding the North Bay Sector received from them prior to NORAD being able to inform ADC of a specific number to be assigned to this sector. The RCAF is being reminded of this through personal contact by the RCAF officers on the NORAD staff.

b. A requirement to install SAGE as early as possible in the south-central SAC base area (33d Division, SAGE). Under the present priorities proposed by ADC, the Kansas City, San Antonio, Shreveport, St. Louis sectors, which comprise the 33d SAGE Division and which contain a large number of SAC bases as well as some population and industry targets, are given last priority, with higher priority given to the Raleigh, Sioux City, Miami, Fort Knox, and Albuquerque sectors. It appears now that we would want to change the priority to bring in the 33d Division sectors first.

3. In discussions with the ADC staff it is apparent that they need immediate concurrence for sectors up through No. 26 (Phoenix), since these facilities are included in 1958 MCP funds. Subsequent sectors will be included in FY 1959 and later MCP funds. A decision on priority of these sectors is required by ADC by not later than 1 December of this year. Therefore, it is proposed to answer ADC's letter with two NORAD letters. The first letter giving approval through SAGE priority No. 26 is attached (Incl 1). A subsequent letter will be forwarded to ADC prior to 1 December giving approval for additional SAGE priorities, when these priorities have been determined by the NORAD staff and approved by CINCNORAD. This arrangement is concurred in by the ADC staff.

A. J. Pierce
A. J. PIERCE

Brigadier General, USAF

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READING FILE 58 14 Dec 1957

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FM HEDUSAF WASH DC
TO RJEDBN/CINCOMRAD ENT AFB COLO
INFO ZEN/CANADIAN CHIEFS OF STAFF COMMITTEE OTTAWA CANADA X7-15021
ZENJXCHIEF OF STAFF ROYAL CANADIAN AIR FORCE HQ CANADA
RJEDBN/COMAIRDEFCON ENT AFB COLO
RJEDSU/COMAMC WPAFB OHIO
ZEN/CHIEF OF STAFF ARMY WASH DC
ZEN/CNO WASH DC

ACTION: COO 6
INFO: 00010, COMA, COL 6

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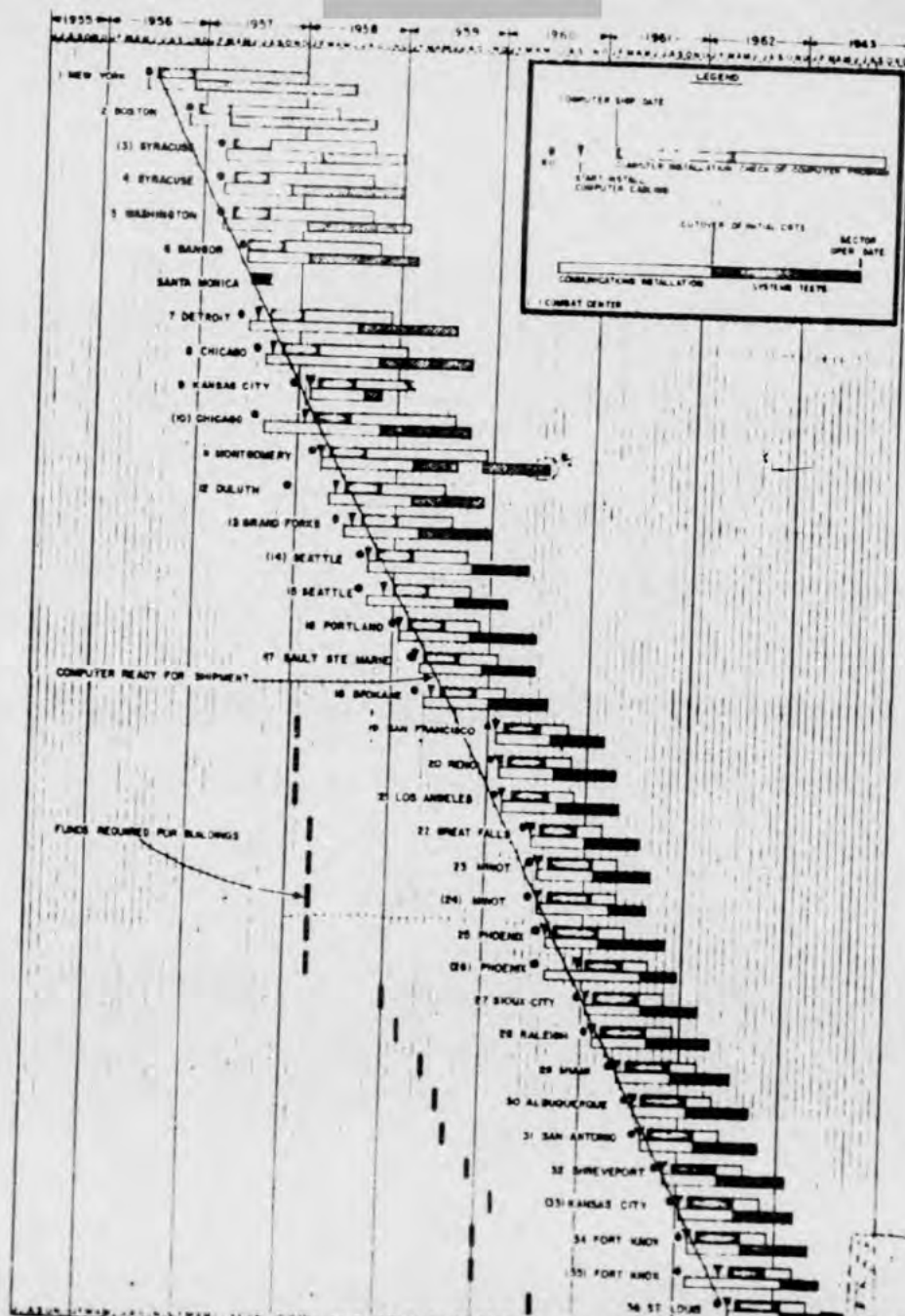
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THIS IS AN EXECUTIVE AGENCY MESSAGE. REFERENCE CINCOMRAD EXECUTIVE
AGENT LSITER, SUBJECT: INSTALLATION OF SAGE IN THE NORTH BAY SECTOR,
DATED 13 NOVEMBER 1957. THE JOINT CHIEFS OF STAFF HAVE BY PRIOR
ACTION APPROVED THE INSTALLATION OF SAGE IN THE NORTH BAY SECTOR AND
DIRECTED THE CHIEF OF STAFF AIR FORCE TO GO AHEAD WITH THE APPROPRIATE
ACTION INCLUDING THE INITIATION OF INTERGOVERNMENT AGREEMENT
CONCERNING NECESSARY FINANCIAL ARRANGEMENTS.
THE PROPOSAL TO INSTALL AND FSC-8 AS WELL AS AN FSC-7 AT NORTH BAY
CANNOT BE PROPERLY CONSIDERED UNTIL YOUR NORAD BOUNDARY REALIGNMENT
PROPOSAL IS RECEIVED AND CONSIDERED.
AS SOON AS THE CANADIAN CHIEFS OF STAFF COMMITTEE HAS APPROVED SAGE
FOR NORTH BAY, THE REQUISITE UNITED STATES ACTIONS WILL BE INITIATED.
BT
14/1650Z DEC RJEPHC

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SAGE SYSTEM - SCHEDULE

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DATE: 10/11/55
BY: [illegible]
PAGE: 17

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COREW-W

23 JUL 1957

SUBJECT: Air-to-Air IFF

TO: Chief of Staff, United States Air Force
As Executive Agent for CONAD
Washington 25, D.C.

1. This command is gravely concerned over the apparent lack of progress in the development and procurement of a secure air-to-air IFF system. The air-to-air weapons currently on hand and those programmed, require absolute determination of friend from foe for effective utilization. This requirement will become even more pressing when interceptor missiles are added to our inventory.

2. The current lack of a secure air-to-air IFF system places this command in a position where it cannot exploit the full potential of weapons now in the inventory. Considering the small amount of progress that has been made in this area, it does not appear that this problem will be alleviated for some years. The degree of degradation that this situation has on the operational effectiveness of the command increases with each passing day.

3. In view of the gravity of the situation outlined, it is requested that every effort be made to expedite the development and procurement of a secure air-to-air IFF system.

FOR THE COMMANDER-IN-CHIEF:

MARSHALL S. CARTER
Major General, USA
Chief of Staff

MR: Hq ADC has had an outstanding requirement for a secure air-to-air IFF system for a number of years. Recently, it has been indicated that the development effort to meet this requirement has been lagging. Basic letter is to re-emphasize the requirement and to increase development effort.

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MOOPR

18 OCT 1957

SUBJECT: NORAD Requirements for Identification of Aircraft

TO: Chief of Staff, United States Air Force
As Executive Agent for NORAD
Washington 25, D. C.

1. Reference is made to:

- a. Letter from Major General Roy M. Lynn to Lt General Donald L. Patt dated 18 April 1957.
- b. Letter headquarters COMAD dated 3 June 1957, Subject: Continental Air Defense Requirements to Chief of Staff, USAF, As Executive Agent for COMAD.
- c. Report by the Joint Communications-Electronics Committee to the Joint Chiefs of Staff on Development of an Air-to-Air IFF System (JCS 378/60).

2. Inadequate progress has been made on the problem of identification. A practical identification system in being is a foremost requirement of this command, for without it, adequate air defense is almost impossible to accomplish. The approaches toward solution thus far attempted for ground-to-air IFF apparently will never fulfill the requirement in time since, with tremendous expenditures of time and money, very little in the way of results can be demonstrated. Reference c. reveals that even the air-to-air IFF systems under development are unacceptable for joint use. A fresh approach is indicated.

3. Every type of aircraft can be identified by visual recognition and many types by sound alone. Earlier attempts to obtain significant signatures or prints by utilizing distinguishing characteristics of specific types of aircraft were only moderately successful. Techniques for fine grain structure analysis of sound and radar returns recently developed by MELPAR (under contract to AFOT) have been brought to the attention of this Headquarters. I am convinced that we must capitalize on this development to get IFF equipment out of the air craft and in order to:

- a. Recognize sneak raids in peacetime.
- b. Identify friend from foe during the air battle.

P/R: General [redacted] directed this letter be written so he could hand carry [redacted] history is in text of letter.

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ASST. CHIEF
CHIEF
INFO SERVICES
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COMAD
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NORAD TRAIN

16 Oct 57
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Standard Form 64
Form 64 (Rev. 5-22-64)

59-2110

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NOOPF, Hq NORAD, Subj: NORAD Requirements for Identification of Aircraft

e. Obtain decoy and chaff discrimination in air breathing and CBM defenses.

(SAGE will keep track of specific friendlies for controller's purposes.)

4. Two obstacles to progress in this problem area are the sensitive security classification and the constricting budget. Strategic intelligence is completely separate from the operational air defense identification system and for air defense purposes the classification could not be worse than SECRET. Funding is always a problem but a partial solution may lie in using the available IFF funding on this new approach. Viewed in its broader aspects, the Canadian Air Force, the CAA, and the Army, Navy and Air Force are potential users (and thus contributors) for such an identification system. It is therefore recommended that, as a matter of most urgent priority, research and development efforts be addressed to achieving an early operational, completely ground-based, practical system for identification based upon discrimination of aircraft by type, even, if necessary, at the expense of all other projects in this area.

E. E. PARTRIDGE
General, USAF
Commander-in-Chief

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Hq NORAD, NCOFR, 8831 NORAD Sqmt for Identification of Acft

signatures for each known type of aircraft currently in existence. This system promises to be capable of instant and completely reliable identification of aircraft by type, although it is admitted that there seems little possibility of discriminating between two aircraft of the same type which appear on the radar scope simultaneously.

4. It is the opinion of the headquarters that such a system, if successfully developed, would accomplish three objectives. These are:

- a. Recognition of beachheads in peacetime.
- b. Identification of friend from foe during the air battle.
- c. Provision of decoy and chaff discrimination in both air breathing and ballistic missile defenses.

5. There appear to be obstacles to progress in the development of this system. First, the initial efforts in this field were carried out under the direction of the Air Technical Intelligence Center with astonishingly productive results. Since ATIC has already achieved the capacity to secure strategic intelligence through these techniques, the Center is not in position, nor should it be asked, to provide further budgetary support for Melpar's work. However, the security classification should now be reduced in order that all the agencies which might benefit from the development of such a system might be brought into the act. Secondly, since IFF is a matter which involves participation by the Civil Aeronautics Administration, the U. S. Army, the U. S. Navy and the U. S. and Canadian Air Forces, to mention only a few, it would appear appropriate to secure funds from at least the above mentioned sources to carry out the necessary research, development and production efforts.

6. It is believed that if the funds currently being expended on relatively unproductive approaches to the development of a secure IFF system to be used by the above agencies might be funnelled into this new approach, a successful program could be supported financially.

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Hq NORAD, NOOPR, subj: NCRAD Reqm. for Identification of Acft

7. It is therefore recommended that as a matter of most urgent priority the United States Air Force take the initiative in a research and development program which will exploit the Melpar techniques and produce as early as possible an operational, completely ground based practical system for identification based upon discrimination of aircraft by type.

E. E. PARTRIDGE
General, USAF
Commander-in-Chief

SECRETARIAT	SEC
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ASST. DIR.	SAV
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COMARACOMAD	
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Rewritten by GenFartrid
2201
17Oct57

M/R Gen Fartridge directed this letter be written so he could hand-carry it. Self-explanatory as to text of letter.

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COOPR 4

3 April 1956

SUBJECT: Assignment of ICBM and IRBM Defense
Responsibility in CONAD

TO: Commander
Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. The Air Defense Command is designated as the Component of the Continental Air Defense Command responsible for providing and operating the system to defend against intercontinental and intermediate range ballistic missiles. This system must include the capability to accomplish all functions incident to detection, identification, interception and destruction of ballistic missiles.

2. It is desired that the Air Defense Command develop an operational concept as soon as possible for the employment of this system in order to provide research and development agencies with this guidance.

DIVULGATE

E. E. PARTRIDGE
General USAF
Commander in Chief

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3 April 1956

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SUBJECT: Assignment of ICBM and IRBM Defense Responsibility inCOMAD

TO: Chief of Staff
as Executive Agent for JCS
Headquarters USAF
Washington 25, D. C.

1. Russian development of intercontinental and intermediate range ballistic missiles, as well as earth orbiting satellites, poses a threat which cannot be countered by the existing air defense system. The weapons and ground environment now or soon to be available to counter the air breathing threat are of limited value against ballistic missiles or satellites operating at very high speed and altitudes. We therefore face a requirement for developing, in an extremely short time, a vast improvement in the detection and destruction capabilities of the air defense system.
2. In the interest of economy of time, funds and limited resource facilities in research and manufacture, it is considered urgent that unified direction be given to the over-all program of missile defense.
3. Apparently the future missile threat is identical to the present threat in so far as air defense philosophy is concerned and only the time for reaction differs. The ballistic missile defense system can be developed around portions of the planned and existing air defense structure. Certain communications, radar and computer capability appear adaptable to this type of defense. Many air defense organizational and real facilities will serve simultaneously against both the conventional and missile threats.
4. In view of the over-all Air Force responsibility for the air defense of the United States, and CINCONAD's responsibility for the development of operational concepts for deployment and for employment of air defense system facilities, it is recommended that the development of the ICBM defense system be made the sole responsibility of the USAF. This would act to give unified direction to the research and development program guided by the Command specifically established to provide air defense.
5. In the interest of expedience, and in logical association with its mission, the Air Defense Command has been directed by CINCONAD's to provide and operate the defense system against ballistic missions. COMNAVFORCOMAD is in agreement with this task assignment. CGARAACOM does not concur, feeling it is more properly a Departmental responsibility.

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E. E. BARTRIDGE
General USAF
Commander in Chief

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27 November 1957

SUBJECT: (U) Assignment of ICBM and IRBM Defense Responsibility in CONAD

TO: Chief of Staff, USAF
as Executive Agent for CONAD
Headquarters United States Air Force
Washington 25, D. C.

1. Reference is made to letter, subject as above, to Chief of Staff, as Executive Agent for CONAD, signed by the Commander-in-Chief, Continental Air Defense Command, dated 3 April 1956, which informed you of CINCONAD's directive to the Air Defense Command to provide and operate the defense system against ballistic missiles.

2. In view of subsequent decisions by higher authority in some areas and the absence of decision in others, the local assignment of responsibility by this headquarters, as covered in paragraph 5 of the referenced letter, has been rescinded.

3. Accordingly, it is requested that you take whatever action is within your means to expedite consideration and decision at higher headquarters on this critically urgent problem.

FOR THE COMMANDER-IN-CHIEF:

2234-35
27 Nov 57

c.c.
OP, MADCOM
Comdr, ADC
COMNAVFORCONAD

MARSHALL S. CARTER
Major General, USA
Chief of Staff

RECEIVED
27 NOV 1957
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M/R: At a meeting with the component commanders on Friday, November 22, General Partridge stated that no one had yet been assigned the responsibility for ICBM defense. General Lynn stated that General Partridge has (over)

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personally assigned this responsibility at the Air Defense Command and had so informed the Chief of Staff, USAF. General Partridge then stated that if this was so, the letters would have to be rescinded.

The referenced letters were found in the files and the attached memo rescinds them in accordance with General Partridge's instructions.

General Partridge has read and approved the dispatch of these letters.

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COOPR, HQ COMAD, 6 Jun 57, Subj: Research and Development
Requirements for AICBM

ADLAN-C

1st Ind

HQ AIR DEFENSE COMMAND, Ent AFB, Colorado Springs, Colorado

TO: Commander-in-Chief, Continental Air Defense Command,
Ent Air Force Base, Colorado Springs, Colorado

1. This headquarters concurs on the importance of solutions to the problems discussed in the inclosure to the basic letter. All of the areas of concern are under study and/or development under Air Force Contract and are monitored by this headquarters through the Air Research and Development Command. Copies of progress reports on these contracts have been submitted to the Director of Requirements, COMAD, and this practice will be continued. Supplemental progress reports with oral and/or written briefs will be prepared as you desire.

2. This headquarters has no comments on AICBM subjects in addition to those discussed in your letter.

1 Incl
n/c

ROY B. LYNN
Major General, USAF
Vice Commander

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22 March 1957

SUBJECT: Defense Against Ballistic Missiles

TO: Commander-in-Chief
Continental Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. This is to acknowledge your letter of 7 March 1957, subject as above, which will be transmitted to the Joint Chiefs of Staff immediately.
2. The Department of the Air Force concurs in the urgency of the requirement which you have stated.
3. The problem of Service responsibility for ballistic missile defense is being studied at this moment. One of the primary factors being considered is that of giving unified direction to the ballistic missile defense effort.
4. You may be sure that the Department of the Air Force will support your views regarding the urgency for timely development of a ballistic missile defense system.

THOMAS D. WHITE
General, U. S. Air Force
Vice Chief of Staff

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14 Jun 1957

COHCS

SUBJECT: Continental Air Defense Requirements

TO: Chief of Staff, United States Air Force
As Executive Agent for CONAD
Washington 25, D.C.

1. This command has an immediate operational requirement to defend against cruise and ballistic missiles launched from surface vessels and surfaced or submerged submarines. Present defensive systems are limited in their capability to acquire and react against small, high speed targets. The requirement exists now for a quick reacting anti-missile capability with means to detect and destroy short and intermediate range, high speed surface-to-surface missiles and underwater-to-surface missiles, both cruise and ballistic types.

2. It is highly desirable that such anti-missile capability be incorporated into existing or contemplated air defense systems to avoid the high dollar, materiel and manpower costs of an independent, one-purpose system. Defense against the threat demands a combination of effective anti-submarine warfare and effective missile defenses.

FOR THE COMMANDER-IN-CHIEF:

Copies Furnished:
USARADCOM
NAVFONCONAD
ADC

MARSHALL S. CARTER
Major General, USA
Chief of Staff

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DEPARTMENT OF THE AIR FORCE
OFFICE OF THE CHIEF OF STAFF
UNITED STATES AIR FORCE
WASHINGTON, D.C.

20 April 1957

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SECRET (S) Continental Air Defense Requirement

TO: Commander in Chief
Continental Air Defense Command
Fort Air Force Base
Gulfsport Springs, Florida

1. The Continental Air Defense Command letter dated 20 June 1957, which states requirements for defense against air force sub-launched cruise and ballistic missiles has been referred to the Joint Chiefs of Staff for their consideration.

2. Air Force requirements for defense against air-breathing (cruise) missile threat are contained in General Operational Requirements, General Operational Requirement No. 10, Continental Aircraft Control and Warning Support System, which is the basis of the Air Research & Development Command's Intermediate Range Cruise Missile System Study. This study states a requirement for defense against air-breathing and cruise air-breathing missiles. The General Operational Requirement for the HOBAM type interceptor currently is being studied and will reflect the requirement to intercept and destroy air-breathing cruise type missiles, whether launched from the air or from surface or sea surface vehicles.

3. The only Air Force dependent General Operational Requirement pertaining to ballistic missile defense is General Operational Requirement No. 11. This General Operational Requirement contains provisions primarily for detection, warning and interception. The current text does not include provisions for active defense against the ballistic missile. However, this Headquarters has directed the Air Research & Development Command to study and propose a ballistic active and passive ballistic missile defense system. In the meantime, this Headquarters is preparing a single General Operational Requirement for active and passive air requirements for a ballistic missile defense system in detection (warning), identification, discrimination and interception. This General Operational Requirement will state requirements for defense against sub-launched cruise and surface or sea surface and sub-launched ballistic missiles as well as ICBMs.

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Ltr to CINCONAD, Fnt AFB, Colorado Springs, Colo., Subj: (U) Continental
Air Defense Requirements (Cont).

4. This Headquarters has under consideration several ballistic missile defense systems which are designed to be effective against short and intermediate range ballistic missiles as well as ICBMs. These systems will utilize portions of existing and presently planned air defense systems to the maximum extent possible in order to minimize the cost in dollars, material and personnel.

JACOB E. SMART
Major General, U. S. Air Force
Assistant Vice Chief of Staff

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HEADQUARTERS
CONTINENTAL AIR DEFENSE COMMAND
Ent AF Base
Colorado Springs, Colorado

OFFICE OF THE ADJUTANT

NOTICE OF IMPORTANT INCOMING CORRESPONDENCE

~~21 Aug 1957~~
(Date)

TO: COMMANDER-IN-CHIEF _____ **XX**
CHIEF OF STAFF _____
SECRETARY OF THE JOINT STAFF _____

For your information, the following correspondence has been received:

From: USAF Dated: 20 Aug 57
Classification: SECRET Panfold# 47-10003 Suspense: 27 Aug 57
Action Office: COOP

SUMMARY: This is a letter from Assistant Vice Chief of Staff, USAF on the subject of Continental Air Defense Requirements, referencing our letter of 14 June 57, same subject, which stated requirements for defense against surface or sub-launched cruise and ballistic missiles. USAF advises our letter has been referred to JCS for consideration. Air Force requirements for defense against the air breathing (cruise) missile threat are contained in General Operational Requirements No. 79 and 96 and are explained in the letter. USAF further states they have under consideration several ballistic missile defense systems designed to be effective against short and intermediate range ballistic missiles as well as ICBMs.

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RR RJEDDN RJEPPF RJEDSQ
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R 042200Z
FM HQ USAF WASH DC
TO RJEDDN/COMAIRDEFCOM ENT AFB COLO
INFO RJEPPF/COMARDC ANDREWS AFB CP SPRINGS MD
RJEDDN/CINCPACENTR ENT AFB HI
RJEDSQ/COMANCPAC WPAFB OHIO
ZEL/COMAFB DINGLEWOOD CALIF

READING FILE

ACTION: COELC
INFO: COOPR
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COOP, COINT X8-1723

312

4 Feb 1958

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COM AFOAC-E/O 56124 "CATEGORY AC"

THIS MESSAGE IS THREE PARTS. PART I. PROGRAM APPROVAL AND FUNDING SUPPORT HAS BEEN RECEIVED FOR DEVELOPMENT OF A BALLISTIC MISSILE EARLY WARNING SYSTEM (PHASE I, WEAPONS SYSTEM 224-A). PRESENT PLANS ARE TO DEVELOP A 3 STATION (ALASKA, GREENLAND AND SCOTLAND) SYSTEM AND HAVE IT IN OPERATION AT THE EARLIEST POSSIBLE DATE (ESTIMATED CY-1960) TO MEET REQUIREMENTS OF GOR 196. THESE STATIONS WILL BE CONNECTED TO A CENTRAL COMPUTER AND DISPLAY FACILITY IN THE ZI BY APPROPRIATE COMMUNICATIONS. THIS CENTRAL FACILITY WILL BE CO-LOCATED WITH THE NORAD/ADC CONTROL CENTER AND WILL SERVICE REQUIREMENTS IN

DUPLICATE

PAGE TWO RJEPPH 188
THE U.S. AND CANADA FOR WARNING INFORMATION. PART II. YOUR REPRESENTATIVES HAVE BEEN PARTICIPATING IN THE REVIEW OF SYSTEM CONFIGURATION AND DESIGN PROPOSALS, CONTRACTOR SELECTION PROCEEDINGS AND DEVELOPMENT OF AN IMPLEMENTATION PLAN. RESPONSIBILITIES DESIGNATED UNDER AFR 5-47 TO OPERATING ORGANIZATIONS ARE ASSIGNED YOUR COMMAND. YOUR CONTINUED ACTIVITY IN THIS PROGRAM SHOULD INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING: (1) PREPARATION OF PRELIMINARY AND FINAL OPERATION PLANS. (OPERATION CONCEPT IS BEING PREPARED BY THIS HEADQUARTERS AND SHOULD BE DISTRIBUTED SHORTLY). OPERATION PLANS SHOULD INCLUDE LOCATION AND EMPLOYMENT OF ZI CENTRAL COMPUTER AND DISPLAY AND DISTRIBUTION OF DATA TO USER AGENCIES IN U.S. AND CANADA. (2) PARTICIPATION IN SELECTION, REVIEW AND APPROVAL OF SITES. (3) DETERMINATION OF APPROPRIATE ORGANIZATIONAL AND PERSONNEL STRUCTURE FOR THE SYSTEM (4) LIAISON WITH AIC AND ARDC IN PROGRAM MANAGEMENT THROUGH A JOINT PROJECT OFFICE WHICH WILL BE ESTABLISHED UNDER THE EXECUTIVE RESPONSIBILITY OF AIC OR ARDC AT A LOCATION TO BE DETERMINED. (5) PLANNING FOR SUPERVISION OF THE CONTRACTOR OPERATED SYSTEM DURING THE FIRST TWO YEARS OF OPERATION. (6) PLANNING FOR EVENTUAL ADC WARNING AND OPERATION OF THE SYSTEM (7) PLANNING FOR PERSONNEL TRAINING AS

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PAGE THREE ~~PARAPHRASE~~ **SEE CRYPTO SECTION BEFORE DECLASSIFYING**

REQUIRED. PART III. THIS SYSTEM HAS BEEN DIRECTED BY THE PRESIDENT, WAS THE SAME NATIONAL PRIORITY AS THE BALLISTIC MISSILE AND SATELLITE PROGRAMS AND IS BEING PLACED ON THE DEPARTMENT OF DEFENSE MASTER URGENCY LIST. EXPEDITIOUS ACTION IS REQUIRED ON ALL ELEMENTS.

BT

04/2245Z FEB RJEPIQ

AC

AC-PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION-
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME GROUP PRIOR TO
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///ADVANCE COPY OF THIS MESSAGE HAS BEEN DELIVERED TO COC///

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"In conformance with the discussion above, I have reached the following decisions:

"(a) The Army is assigned responsibility for the development, procurement and manning of land-based surface-to-air missile systems for point defense. Currently, missile systems in the point defense category are the HAWK, NIKE I, NIKE B, and land-based TALOS.

"(b) The Air Force is assigned responsibility for the development, procurement and manning of land-based surface-to-air missile systems for area defense. Currently, the missile system in the area defense category is the BOMARC.

"(c) The Navy, in close coordination with the Army and Air Force, is assigned responsibility for the development, procurement and employment of ship-based air defense weapon systems for the accomplishment of its assigned functions.

"(d) The Marine Corps is authorized to adapt to its organic use, such surface-to-air weapons systems developed by the other Services as may be required for the accomplishment of its assigned functions.

"(e) In overseas areas, the U.S. theater commander should normally assign responsibility for air defense to an air component commander, with appropriate participation by other components. Under this arrangement, Army units in the combat zone should continue to be responsible for their own local defense, employing organic means. Other Army air defense units

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should carry out point defense missions under the air component commander. Air Force units should carry out the area defense missions. Special emphasis should be given to simplicity, flexibility and mobility of weapon systems employed in air defense in overseas areas. Navy forces should continue to be responsible for their own air defense at sea, employing organic means. As approved by the theater commander, the air component commander should establish such procedures for coordinating Army, Navy, and Air Force air defense forces as may be required to carry out his responsibilities, and, in addition, should establish such detailed procedures as are necessary for proper coordination with national air defense commanders of allied countries.

"(f) In general, it is intended that development programs for surface-to-air missile systems for defense against either aircraft or missiles, including ballistic missiles, will be governed by the principles set forth above. For the time being, I consider that development of an anti-missile weapon system should be carried forward under a joint Army-Air Force program. Full advantage should be taken of progress achieved under current unilateral Service programs. In order to avoid unwarranted and undesirable duplication, these programs will be monitored and coordinated by appropriate agencies of the Office of the Secretary of Defense. At this time the Army will be responsible for development of point defense missiles designed specifically

against the ballistic missile and such acquisition and tracking radar and other equipment as would be required at the defending point, leaving to the Air Force missile defense developments other than the point defense portions specifically assigned to the Army."

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"(f) In general, it is intended that development programs for surface-to-air missile systems for defense against either aircraft or missiles, including ballistic missiles, will be governed by the principles set forth above. For the time being, I consider that development of an anti-missile weapon system should be carried forward under a joint Army-Air Force program. Full advantage should be taken of progress achieved under current unilateral Service programs. In order to avoid unwarranted and undesirable duplication, these programs will be monitored and coordinated by appropriate agencies of the Office of the Secretary of Defense. At this time the Army will be responsible for development of point defense missiles designed specifically against the ballistic missile and such acquisition and tracking radar and other equipment as would be required at the defending point, leaving to the Air Force missile defense developments other than the point defense portions specifically assigned to the Army."

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OFFICE OF THE SECRETARY OF DEFENSE
WASHINGTON 25, D. C.

25 April 1957

MEMORANDUM FOR THE SECRETARY OF THE ARMY
THE SECRETARY OF THE AIR FORCE

SUBJECT: Anti-ICBM Program

Reference: (a) Sea/Def Memo for Mr. Murphree, dated 12 Apr 57,
subj: Anti-ICBM Program

Attachment: (1) Anti-ICBM Committee Report dated 7 March 1957,
subj: The Anti ICBM Program

1. Pursuant to a request by the Secretary of Defense, a review of the anti-ICBM program was made by a Committee consisting of the following: Mr. Frank D. Newbury, Mr. W. H. Martin, Mr. F. E. Horner, and Mr. E. V. Murphree. Upon completion of the review, the AICB Committee, on 21 March 1957, forwarded to the Secretary of Defense the Attached Report on the Anti-ICBM program.

2. The recommendations of the Committee, as given in the attached report, are as follows:

"1. It is recommended that the Air Force proceed with research and development directed toward a systematic development of an early warning system in accordance with their present plans.

"2. It is recommended that the Air Force carry out research and development directed toward the advanced acquisition radars required for the active defense system against the ICBM. The Committee also agrees that the Air Force should carry out studies on the communication problems involved in transmitting information to the active defense system.

"3. It is recommended that the Army carry out research and development work in local acquisition and target tracking radars along with a moderate effort on the defense missile for the active portion of the ICBM defense system at a level about that now planned.

"4. It is recommended that a Joint Army-Air Force Coordinating Agency be established, Chairmanned by the Air Force, to work out ways and means to insure that all effort is directed the common aim of achieving proper phasing of all portions of the anti-ICBM system and compatibility of the portions with each other as well as with other parts of the Continental Air Defense System".

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3. The Secretary of Defense, on 12 April 1957 (ref a), took the following action:

"The four specific recommendations contained in your memorandum and recommended by the Anti-ICBM Committee in their March report are approved with the following clarification and modifications:

"(a) The fourth recommendation is approved if re-worded as follows:

4. It is recommended that an Army-Air Force coordinating agency be established to work out ways and means to insure that all effort is directed to the common aim of achieving proper phasing of all portions of the Anti-ICBM system and the compatibility of the portions of the system with each other as well as with other parts of the Continental Air Defense system. The Army-Air Force members are to be selected by their respective Departmental Secretaries. The Chairman is to be selected by the Anti-ICBM Committee with the specific approval of the Chairman of that Committee and is not to be from either the Army or the Air Force. The agency hereby established is to report to the Anti-ICBM Committee."

"(b) The approval hereindoes not effect in any manner the presently assigned roles and missions of the Military Services particularly those set forth in the memorandum to the Members of the Armed Forces Policy Council dated November 26, 1956.

"(c) The approval contained herein should not be construed as approval of specific budgets for this program for Fiscal Year 1958 nor as tentative approval for any complete program.

"(d) The Fiscal Year 1958 projects and programs are to have the specific approval of the Secretaries of the Army and the Air Force for their respective parts of the program.

"(e) The responsibilities of the Continental Air Defense Command are not to be affected by the setting up of this agency. The Air Force as executive agent for the Continental Air Defense Command has the responsibility for keeping CINCPACAD advised of the progress in these developments."

4. Implementation of the Anti-ICBM Committee recommendations, as modified and approved by the Secretary of Defense, will be carried out by the Army-Air Force Coordinating Agency under the Chairmanship of Dr. H. H. Skifter, OASD (R&E).

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/s/t/ E. V. Murphree
Special Assistant for
Guided Missiles

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THE SECRETARY OF DEFENSE
WASHINGTON

16 January 1958

MEMORANDUM FOR THE SECRETARY OF DEFENSE

SUBJECT: Program for Defense Against the Intercontinental Ballistic Missile

Reference: (a) Memo for the Spec. Asst. for Guided Missiles from Sec/Def Dtd 12 April 1957 on above subject.

By memorandum of 12 April 1957, reference (a), the Secretary of Defense gave general approval to the program you were then pursuing and have since carried forward for development of an active missile defense against the ICBM. As you are aware, in order to make the most effective use of our over-all national capabilities in the development of a missile system for defense against the ICBM, I have decided to assign the direction of this development effort to the Advanced Research Projects Agency.

In the meantime, the urgency of this effort demands that there be a maximum coordination of the work being carried out by the Army and the Air Force until such time as the ARPA is functioning to provide detailed direction of this development program. In order to make maximum use of national capabilities, it is important that there be no unwarranted duplication of effort in the development program.

Accordingly, I desire that the Army continue its current development effort in the NIKE ZEUS program as a matter of urgency, concentrating on system development that will demonstrate the feasibility of achieving an effective, active AICBM system in an electronic countermeasure and decoy environment. The program will be limited at this time to work on the missile and launch system, and those acquisition, tracking and computer components required for an integrated missile system. Development of other elements of the system such as communication links between early warning radars and the active defense system and SAGE, and the forward acquisition radars for area coverage should be limited to that required for planning purposes, and should be compatible with Air Force planning and development which is sponsored under the WHEARD program. Provision must be made for flexibility to incorporate such discrimination techniques as may be evolved as a result of studies and development work carried on outside the ZEUS program. No significant changes should be made in this program without the specific approval of ARPA. The Director of Guided Missiles will act in this capacity until the ARPA is established. Arrangements must be made for full technical information interchange between your development contractors in this program and those of the Air Force.

/s/ Neil McElroy

cc: Sec/AF

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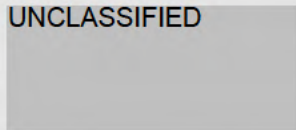
Command Report (U)
United States Army Air Defense Comd.
1 Jan - 30 Jun 1957

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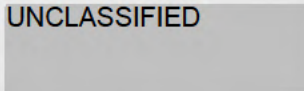
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United States Army Air Defense Command

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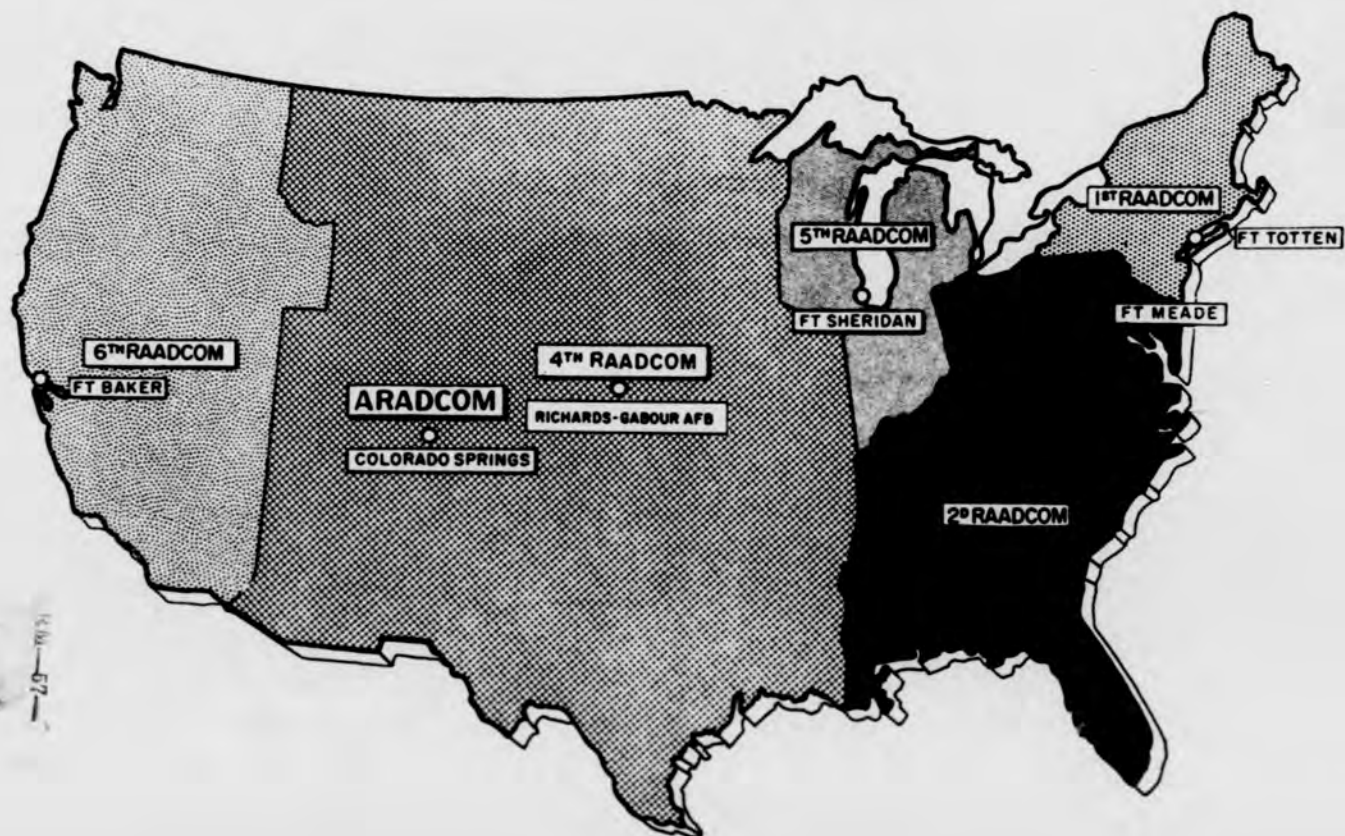
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ILLUSTRATIONS

1. Geographical Sub-Divisions. Photo Map immediately following.
2. USARADCOM Defense Chart, FY 1957. Chart following illustration No. 1 and preceding numbered Page 1.
3. Allocation of Assigned Battalions. Photo Map following Page 1.
4. Status of Programmed Active Army Air Defense Battalions. Graph following Illustration No. 3.
5. Overall Combat Effectiveness. Graph following illustration No. 4 and preceding numbered Page 2.
6. Allocation of Army National Guard Air Defense Battalions. Chart following Page 9.

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GEOGRAPHICAL SUB-DIVISIONS



Not Readable

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UNITED STATES ARMY AIR DEFENSE COMMAND DEFENSE CHART, END CY 1957

Not readable

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COMMAND REPORT
UNITED STATES ARMY AIR DEFENSE COMMAND
1 JANUARY to 30 JUNE 1957

During the period the U. S. Army Air Defense Command increased its air defense posture despite reductions in personnel and materiel, completing its FY 57 NIKS deployment objectives on schedule.

REDESIGNATION OF COMMAND

Redesignation of the Army Antiaircraft Command (ANAACOM), the name under which this Command was established on 1 July 1950, as the United States Army Air Defense Command (USAAADCOM) was effective 21 March 1957. This change, which the Army considered more descriptive of its air defense mission, was followed by a redesignation of the regional commands. The 1st AA Regional Command was changed to 1st Region, United States Army Air Defense Command (1st RAADCOM), etc.

STATUS

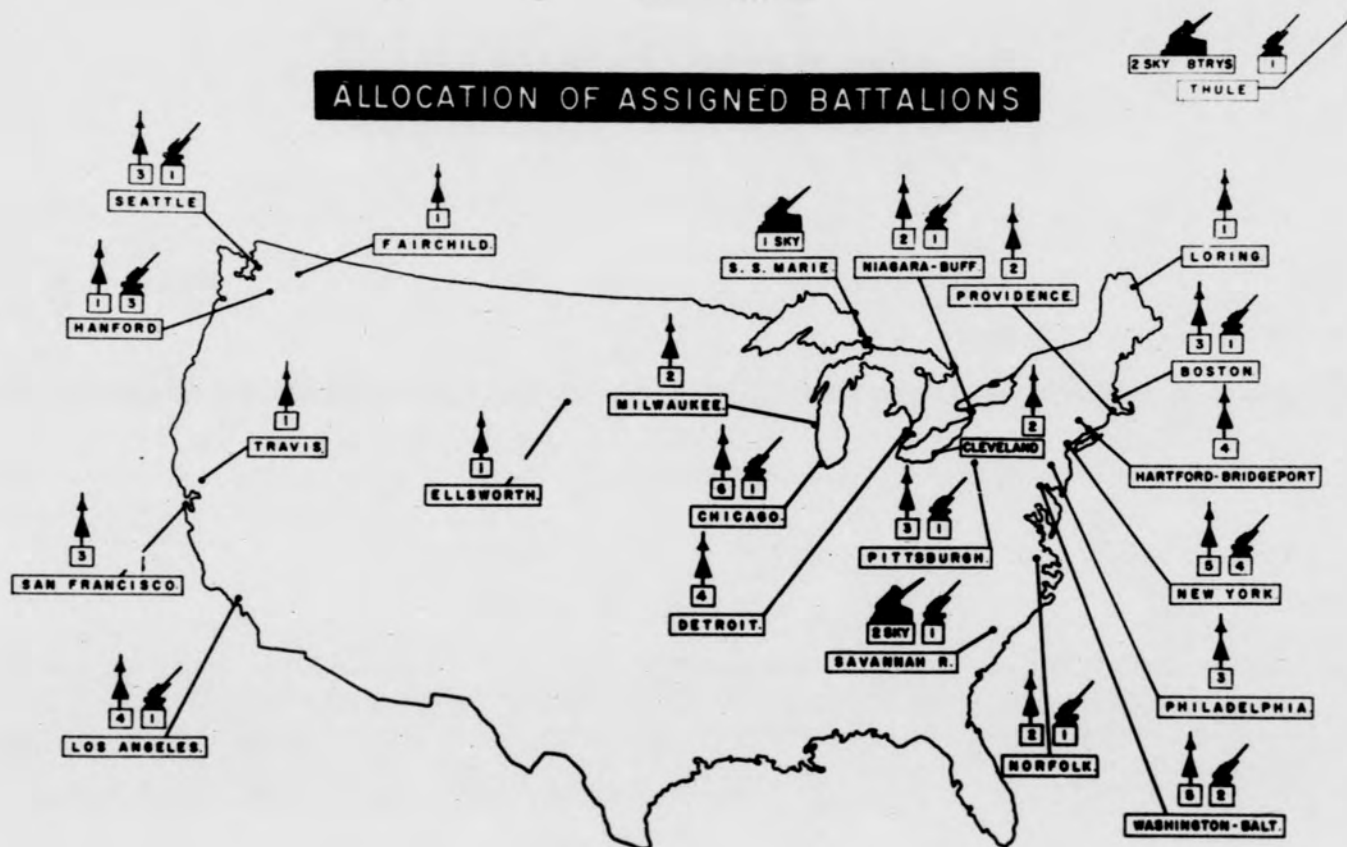
The NIKS-AJAX deployment program called for 61 battalions on site by the end of FY 57. At that time ARADCOM's operational missile units consisted of 59 NIKS-AJAX battalions composed of 244 firing batteries (the fire-power equivalent of 61 battalions). ARADCOM thus had met the objectives outlined by IA and accepted by CONAD in its CALOP 56-66 program.

At this time, Army air defenses included fourteen 90-mm, four 120-mm, three 75-mm gun battalions and 100 National Guard gun batteries deployed in the continental United States, plus two 75-mm gun batteries and a 90-mm battalion deployed at Thule, Greenland.

Overall combat effectiveness for the fiscal year was 80 per cent.

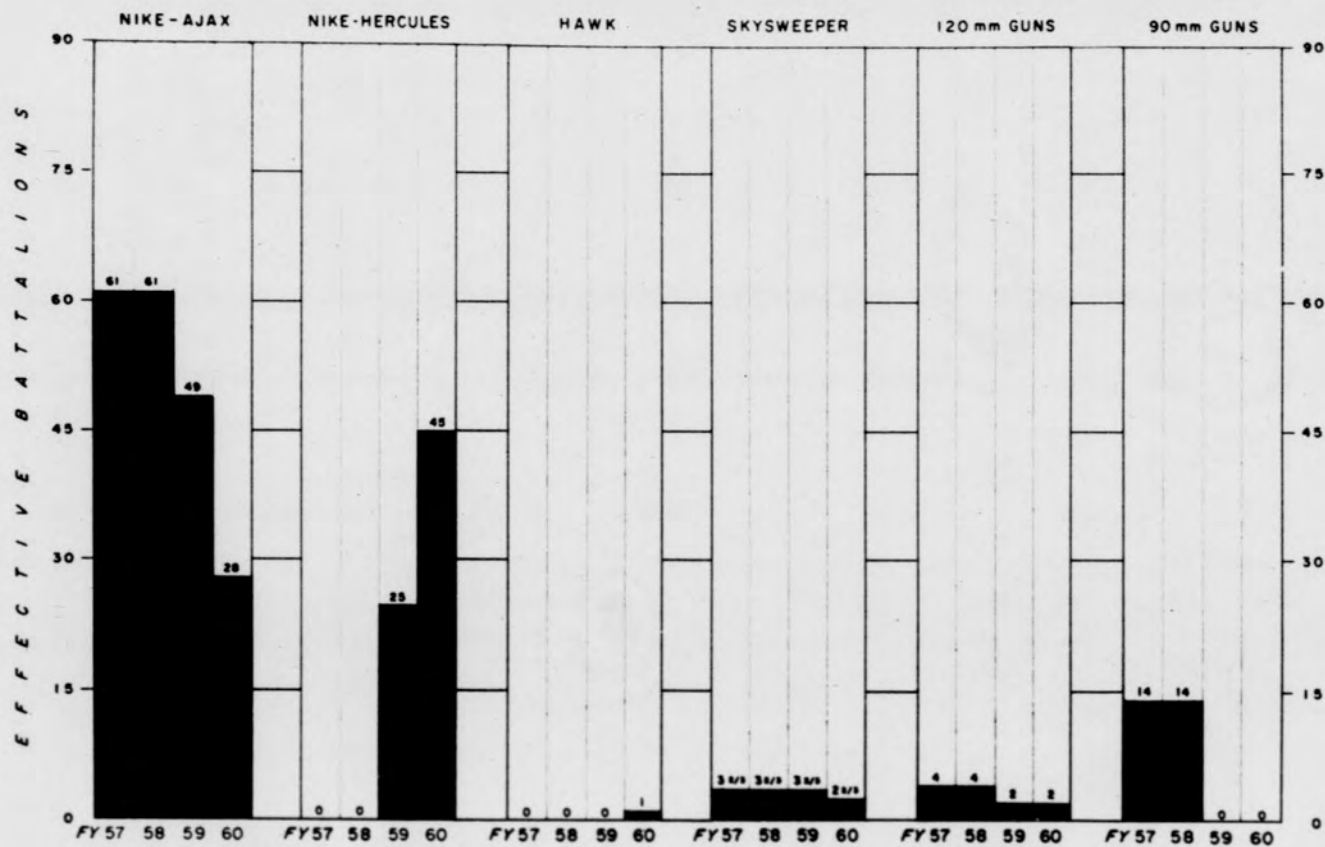
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ALLOCATION OF ASSIGNED BATTALIONS



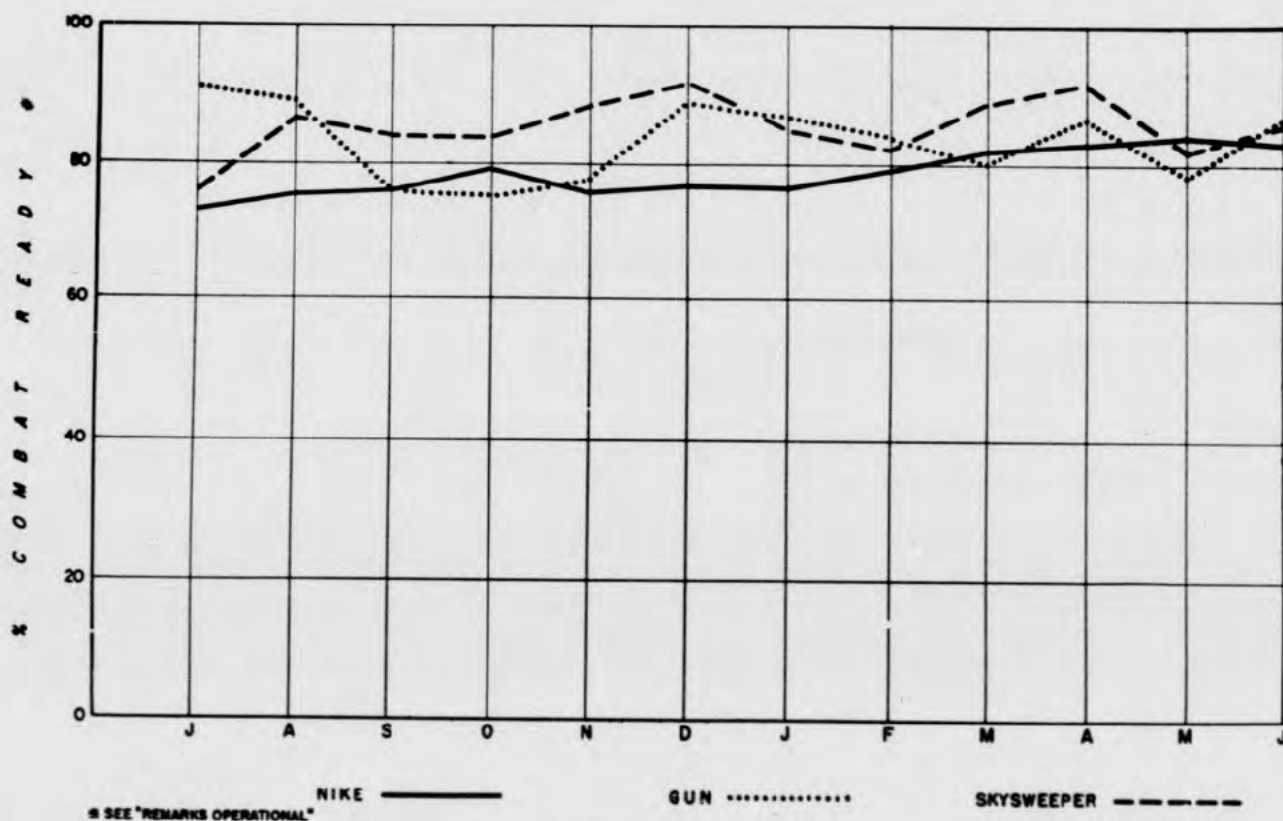
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STATUS OF PROGRAMMED ACTIVE ARMY AIR DEFENSE BATTALLIONS



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OVERALL COMBAT EFFECTIVENESS



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REVISED OBJECTIVES - INACTIVATIONS

In January DA issued new force objectives reducing the force structure of the command. Revised downward were the numbers of active Army and National Guard gun units on site. In addition, a 3000-man space reduction was directed.

The new FY 57 force structure left only the 61-battalion NIKK program intact. The number of gun battalions in the continental United States was reduced from 62 to 52, of which 35 were National Guard battalions. The one gun battalion and two separate batteries at Thule, Greenland, were not affected. The surveillance radar (AN/TPS-1D) section of each inactivated gun battalion was retained to provide continuous surveillance radar coverage in the Army air defense areas.

AFALCOM informed the Department of the Army that, while CONAD agreed to the inactivation of "Skysweeper" battalions at three air bases, concern had been expressed for the provision "as soon as possible" of adequate forces to defend the bases and other localities in accordance with GADQP 56-66. At the same time, AFALCOM recommended that the Department of the Army give "urgent study of current AFALCOM force objectives for surface-to-air missiles with the view of an upward revision to satisfy the requirements of CONAD as enumerated in GADQP 56-66."

To meet the 3000-man space reduction, the command proposed to transfer administrative, logistical and motor maintenance functions from battalion headquarters to group headquarters.¹

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PERSONNEL STRENGTH REDUCED

Inactivations and reduced force levels were based on an authorized personnel strength of 43,114 for FY 57 including the units in Greenland.² This compared favorably with the average assigned strength in June of 1956 of 43,910, before the anti-aircraft defense of Greenland was assigned to AFADCOM.³

Assigned strength in June 1957 was 45,946, including 41,981 enlisted personnel.⁴ Comparative figures showed 47,847 personnel, including 43,439 enlisted personnel for January 1957.⁵ The reorganization had not yet affected the overall personnel strength.

For comparison the following authorized and assigned strengths of the Command, on dates given back to 1953, were reported by the Military Personnel Division of the Adjutant General Section, AFADCOM:

	<u>Assigned</u>		<u>Authorized</u>	
	<u>Officer</u>	<u>Enlisted</u>	<u>Officer</u>	<u>Enlisted</u>
15 Aug 1953	2574	27,981	2170	27,510
15 Dec 1953	2425	30,139	2276	28,936
15 Jul 1954	2094	33,269	2407	29,707
15 Dec 1954	2405	30,228	2467	30,275
15 Jul 1955	2761	36,393	3343	37,287
15 Dec 1955	3465	37,790	3682	39,087
15 Mar 1956	3705	38,707	3958	41,355

The Military Personnel Procurement Branch of the Adjutant General Section, AFADCOM, reported that during the period a total of 3516 men volunteered from civilian life and from within the Army (excluding AFADCOM) for

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Command Report, U. S. Army Air Defense Command, 1 Jan to 30 Jun 1957
assignment to guided missile units of the Command. This was a total of 9480 volunteers since the inception of the ARAIDCOM Enlistment Option Program in January 1956 under the provisions of AF 601-238, "Enlistment and Reenlistment for Army Air Defense Command Guided Missile Units." Each individual obtained through this type of procurement was one less to be furnished from the replacement system. The latter, comprised primarily of two-year inductees, contributed replacements of limited value to a command requiring such a high percentage of trained electronics and guided missile specialists, whereas each AF 601-238 accession was enlisted in the Regular Army for a minimum of three years. A comparison of mental qualities of individuals obtained from the replacement system and those enlisted under the provisions of AF 601-238 reflected a far superior group obtained as a result of the option program. ARAIDCOM received an average of 527 individuals per month, the majority of whom were capable of absorbing guided missile and electronics on-the-job training or formal schooling.

MANPOWER SAVINGS REVIEW

In April, Department of the Army requested that ARAIDCOM review its future requirements to determine ways in which the defense level of effectiveness could be increased "without materially increasing the force structure allocated for air defense" and means for "reducing material requirements and annual operating costs."

It was suggested that several initial steps could be taken by ARAIDCOM "to raise the air defense posture, and at the same time reduce requirements for personnel and material."⁶ The avenues suggested for monetary savings

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included mechanization of NIKF missile launching units, consolidation of missile sites, possible abandonment of NIKF-AJAX missile sites, reorganization of the command structure, provision of greater contractor-furnished support and services, and development of a special version of the NIKF system for continental United States use as opposed to producing systems which could be used both in fixed defenses at home or on the battlefield.

In reply, W AECOM cited manpower reductions already accomplished through reorganization, increased incentives for reenlistments, use of troop labor, and economies in construction, maintenance and operating expenditures were listed. The Command pointed out that it also was considering the conduct of annual service practice firing of weapons from on-site positions when practicable or the use of simulators in lieu of range firing.⁷ Increased automation, or mechanization, of NIKF systems was described as "desirable" but it was emphasized that automation should be evaluated in terms of the need for a "high order of reliability." Consolidation concepts were opposed strongly. Manpower requirements could only be reduced if the quality of personnel was increased and incentives for retaining men raised, it was pointed out.

DEPLOYMENT

Suggestions for future manpower savings involved plans for future deployment of the NIKF HERCULES and HAWK missile units. HERCULES is an advanced member of the NIKF surface-to-air missile family with a nuclear capability. The HAWK is a seeker-type missile especially effective against low-altitude attackers and was designed to complement and supplement

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existing NIKK defenses. MINICULES is included in force objectives for FY
59. HAWK for FY 60.

Adoption of a cellular launcher concept to mechanize all continental
NIKK sites would reduce the 1963 manpower requirements for 183 NIKK bat-
tallions from about 100,000 to about 65,000.⁸

Consolidation of NIKK missile batteries was opposed because the conso-
lidated batteries are considered more susceptible to enemy action than
separate batteries. In addition, it is also believed that separate bat-
teries are more effective in engaging the air-to-surface missile and low
altitude attack. Manpower requirements for consolidated battallions with
cellular launchers would be only slightly less (22 men per battallion) than
those of a battallion with normally-separated batteries also employing the
cellular launcher. Real estate considerations and interference between
radars, among other factors, also regulated against consolidation. AFADCOM
opposed the idea of a "tailored defense for SAC bases" which would involve
consolidation of two NIKK batteries because the defense would be relatively
less effective against low-altitude "toss bombing" and the manpower saving
would be meager (five men per battery).

It was agreed that NIKK MINICULES would involve new siting criteria.
AFADCOM generally favored a "deepening" of the defense to provide increased
capability to counter the post-1960 threat wherever geography and other
considerations would permit outward expansion. However, the Command recog-
nized cost and other implications which would make it "unwise" to abandon
existing NIKK-AJAX sites "at this time or for an appreciable time in the
future."⁹

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A difference in requirements for continental employment and field Army employment of NIKK missile was noted, and it was suggested that design of a single system for both AI use and field Army use would "result in a barely acceptable system for either role."

Possible reductions in military manpower requirements might be achieved through performance of organic service and support functions by appropriate cross servicing or civilian contract support agencies. Studies were initiated to determine the feasibility of obtaining motor maintenance support from civilian contractors.

It was emphasized in all these considerations, however, that the effect on operational capability of reductions in manpower and funding must be weighed with suggestions for savings.¹⁰

During the six month period, AFADCOM's deployment plan for force objectives to be reached in FY 59 were approved by CINCOMAD. These included 24 NIKK HERCULES battalions and 49 battalions of NIKK AJAX for a total of 73 surface-to-air missile battalions. The total number of battalions would not be affected if a possible nine additional battalion sets of HERCULES equipment materialized. This would change the HERCULES and AJAX levels to 33 and 40, respectively.

WEAPONS

The NIKK-AJAX system continued to undergo numerous modifications and field changes designed to improve the system's effectiveness. Only those changes to the system resulting in significant improvement to operational capabilities, safety, or those common to NIKK HERCULES were made, with most of the changes completed by the end of FY 57.

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CONAD was informed that no funds had yet been requested by the Department of the Army for TALOS, a Navy-developed surface-to-air missile, because a decision had not been made as to whether TALOS would be employed by the Army.

NIKE-AJAX's effectiveness against low-altitude targets was put to a special test by the 28th AAA Missile Battalion of Seattle, rated AWDCCOM's best NIKE battalion of 1956 based on its outstanding score in the unit's regularly-scheduled annual service practice. An advanced service practice was conducted by the battalion at Red Canyon Range in New Mexico resulting in 13 target "kills" out of the 14 missiles fired.

Objectives of the service practice were (1) to test the AJAX system against low-altitude attack, (2) develop new firing courses for subsequent service practices, and (3) test the AJAX missile against a highly-maneuverable target.

The NIKE-AJAX system demonstrated a capability against targets as low as 3,000 feet. A summary of results, however, pointed out the limited capability of the target drones which could only accept dive orders of approximately nine degrees or less from radio control equipment. The drone's maximum climb capability was about four and one-half degrees. It was concluded that "there is no combination of courses with this type target that cannot be effectively countered by the NIKE-AJAX system." Further effort to operate against aircraft in level flight in the 1,000-foot altitude was recommended.

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MISSILE MASTER

ADCOM reported the first of its Missile Master (AN/MSG-1) installations for semi-automatic coordination of missile and other antiaircraft weapons within a defense was being installed during this period at Fort George G. Meade, Maryland. The unit was scheduled for operation in the Army air defense of the Washington-Baltimore area on 1 December 1957, the Command reported.

NATIONAL GUARD

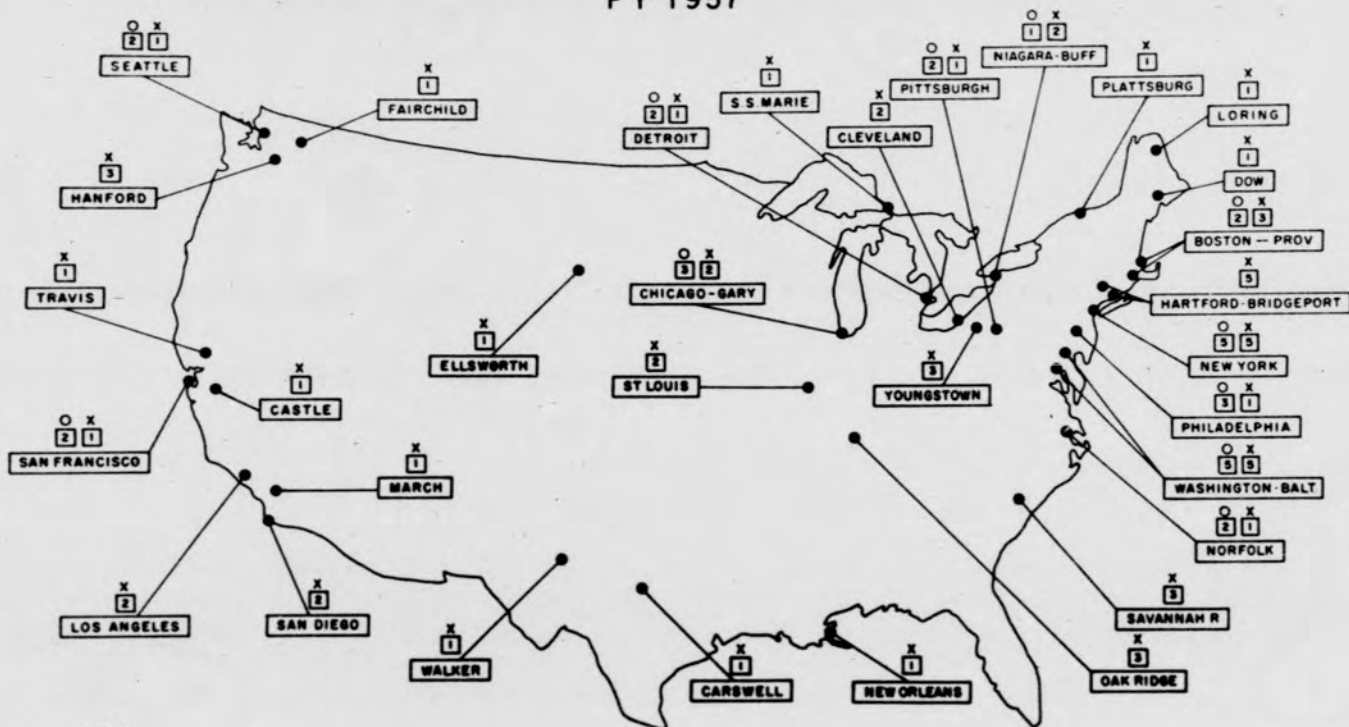
As previously noted, the National Guard on-site gun augmentation program was seriously affected by the reduced force levels. The reductions were alleviated by the planned equipping of 26 National Guard units with NIKK-AFAX missiles in FY 60. The pilot test of the plan to convert National Guard units from guns to missiles was undertaken during the period in Los Angeles Defense. The 720th Antiaircraft Artillery Battalion, California National Guard, was converted to NIKK for training.¹¹

The majority of the battalion's personnel was to be trained by the 47th AAA Brigade, headquarters of the Los Angeles Defense. Officers and enlisted men of the Guard unit were selected to attend specialist courses at the Army Air Defense School. Upon completion of conversion training, the 720th AAA Battalion was scheduled to take over the operation of four NIKK sites in the Los Angeles Defense area with selected Guardsmen to be employed as full-time technicians on the NIKK sites to keep the equipment ready for action at all times. Results of this test conversion were to be evaluated for use in future conversions of National Guard battalions.

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ALLOCATION OF ARMY NATIONAL GUARD AIR DEFENSE BATTALIONS

FY 1957



LEGEND

O UNIT ON SITE

X M-DAY OR M-O MISSION

NOTE: 100 FIRING BATTERIES WHICH ARE ELEMENTS OF 29 BATTALIONS ARE ON-SITE AS OF 30 JUNE 1957

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TRAINING

The schedule for 1957 practice firing called for 50 Nike battalions to send fire units to the Red Canyon, New Mexico, firing range compared to 35 battalions in 1956. All of the 212 firing batteries which were operational in 1956 were scheduled to conduct a service practice. A total of 415 missiles were fired in the 1956 service practices, with 265 rounds judged as successful rounds for an average of 63.8 per cent. 41 batteries were rated 100 per cent successful as a result of scoring hits on all their targets.¹²

Forthcoming introduction of Nike-Hercules missiles and atomic warheads into the Army air defense system caused AFADCOM to review its on-site security measures. Because of the increased requirements for security with the new weapons system, a pilot test involving use of sentry dogs was undertaken by AFADCOM in the Washington-Baltimore defense area. A team of 12 dogs and 12 handlers with a senior non-commissioned officer in charge was trained for the test. Training of the team had just been completed and the on-site trial started as the period ended. The Command was monitoring the progress of the test and studying other means of increasing security standards including the use of lighting and fencing.¹³

A total of 3,286 AFADCOM personnel attended Army schools during the fiscal year which ended June 30. A breakdown showed 2,288 attended the various schools on temporary duty and 998 on permanent changes of station. A major portion of these attended guided missile and other related courses at the Army Air Defense School, Fort Bliss, Texas.¹⁴

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"Excellent results" were reported in a special training test of a 90-mm gun battalion during a low-altitude service practice. The conclusion reached as a result of the test was that the 90-mm gun "has an excellent low-altitude capability."

ALERT

With forced reductions in manpower, one of the courses followed by AFADCOM to relieve units of unreasonable work loads and duty requirements was to reduce normal alert requirements. CONAD had specified the normal alert requirements for antiaircraft units, but AFADCOM, considering the CONAD requirements as the "minimum readiness authorized" for antiaircraft defenses, had always maintained a higher state of readiness than that prescribed by CONAD. Following the reorganization and reduction in forces, AFADCOM rescinded its extra requirements for states of alert.

Under the terms of CONADR 55-8, dated 31 May 1956, which set the normal states of alert, the following provisions applied to Army air defense fire units:

1. 90-mm and 120-mm fireunits: 50 per cent of the fire units were to retain the capability of assuming battle stations within 30 minutes.
 2. 75-mm fire units: Two-thirds of the fire units were to retain the capability of assuming battle stations within 30 minutes.
 3. NIKE fire units: 25 per cent of the fire units were to retain the capability of assuming battle stations within either 15 minutes or 30 minutes depending upon the location of the particular defense area.
- Defenses on the perimeter of the continental United States were required to

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meet the 15-minute alert while defenses located in the interior were allowed 30 minutes.

4. Remaining operational fire units were to be capable of assuming battle stations within three hours.

RADAR - COMMUNICATIONS

It was reported that, in tests conducted by Bell Telephone Laboratories on possible means of reducing radar clutter, ground clutter could be "appreciably reduced" through use of artificial horizons, including earth berms or metal cloth fencing, to screen the interference coming from terrain surrounding radar sites. A survey of clutter at sites was made throughout the Command.¹⁵

Possible reduction of warm-up time required for NIKK acquisition radars was indicated with the report that a new Hydrogen Thyatron Tube type 5948A had been developed for the NIKK-AJAX and M39 acquisition radars. The tube was capable of operating with high voltage after a warmup time of only three minutes. Results of laboratory and field tests were satisfactory. For the time being it was not possible to use the full capabilities of the three-minute warm-up period because of the requirement for another tube, the 5795 magnetron, which requires a warm-up period of four minutes. Nonetheless, this four-minute warm-up requirement still afforded a reduction of 11 minutes.¹⁶

AIR SERVICE AGREEMENTS

In January, AFIACOM reaffirmed its position that the Collins-Vandenberg Agreement of 1 August 1950, which defined the joint aspects of the air defense mission shared by the services as an "appropriate interservice

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agreement," remains valid within the intent of the Terms of Reference for CINCONAD dated 4 September 1956. This stand was prompted by receipt of an information copy of a CONAD message in which CONAD advised the Chief of Staff, USAF, as executive agency for CONAD, that "there appears no valid reason why referenced agreement should not be officially rescinded." AFI COM stated its position in a message to the Department of the Army.¹⁷

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REFERENCES

1. AFADCOM 183 ADOAA-3, P&O, 15 Apr 57, to DCSOPS, DA.
2. DA919690, Mar 57, DCSOPS, DA to CG, AFADCOM.
3. CONAD-AID History, January-June, 1956, page 60.
4. AFADCOM Letter ADOAA-APM 330.11, 24 Jul 57, "Monthly Statistical Summary."
5. AFADCOM Letter ADOAA-APM 330.11, 27 Feb 57, "Monthly Statistical Summary."
6. DA Letter OPS GM SAM, 24 Apr 57, "Manpower and Money Savings for Army Air Defense Installations," DCSOPS, DA to CG-APADCOM (Copy in AFADCOM Central Files).
7. AFADCOM 368 ADOAA-P&P, 10 Jul 57, to DCSOPS, DA.
8. AFADCOM 209 ADOAA-3 P&O, 26 Apr 57, to DCSOPS, DA.
9. As in 8.
10. As in 8.
11. DOD Release No. 389-57, 1 May 57, "First National Guard AA Units Slated for Reorganization Into NIKE Battalion."
12. AFADCOM Letter ADOAA-3 OMT 319.17, 19 Dec 56, "Results of the 1956 NIKE-AJAX Annual Service Practice (U)."
13. AFADCOM Letter ADOAA-2 600, 19 Apr 57, "Bentry Dog Training (U) (PCS ADOAA-2 (OT) 1)."
14. USARADCOM Data Book, FY, page 16.

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15. AFADCOM Letter, ADOAA-3 O&T, 413.684, 3 Dec 56, "Clutter Reduction Test."
16. AFADCOM Weekly Summary, 10 July 1957.
17. AFADCOM 82 ADOAA-3 P&O, 7 Mar 57, "Vandenberg-Collins Agreement."

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REFURNS TO:	X
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Research Studies Institute	
Air Force Research Office	
Maxwell AFB, Alabama	

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July-Dec. 1957

Command Report
US Army Air Defense Command
1 July - 31 December 1957

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COMMAND REPORT (U)

United States Army Air Defense Command

1 July to 31 December 1957

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COMMAND REPORT
UNITED STATES ARMY AIR DEFENSE COMMAND

1 July to 31 December 1957

Status. While the force of 58 Nike missile battalions of the United States Army Air Defense Command remained basically unchanged during this period, the number of Army air defense gun units was slashed. Inactivations of 17 antiaircraft artillery gun units on 20 December left USARADCOM with only three 75 millimeter Skysweeper gun battalions in the United States (the 8th at Sault Ste Marie and the 425th and 478th at Savannah River) plus only one 90mm gun battalion (549th) and two 75mm Skysweeper batteries (428th and 429th) at Thule, Greenland.

The inactivations, representing a much accelerated plan to eliminate the guns from USARADCOM altogether, brought about the end of the command's 90mm and 120mm units assigned to active air defenses in the United States.

There was a marking of time before the next deployments of Army surface-to-air guided missiles. USARADCOM had met its initial goal for the deployment of Nike Ajax units in June of 1957. As it reached this "first plateau", the command had 244 Nike Ajax missile batteries. Ahead lay a new program for deployment of the new Nike Hercules missile units. The first four Nike Hercules batteries were scheduled to take up their on-site positions and become operational in the Chicago, New York, Philadelphia, and Washington-Baltimore defenses by the end of Fiscal Year 1958.

The first four Hercules batteries were conversion units, to be drawn from the existing 244-battery force of Nike Ajax units. This represented the only contemplated change in USARADCOM missile forces before the end of FY 1958. Actually, the force was not to be changed, except by the added firepower the new Hercules units would give existing defenses.

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As USARADCOM approached the new program of converting active Army defenses from Nike Ajax to the new Nike Hercules, existing Nike Ajax battalions were deployed, by defenses, as follows:

Boston-Providence, five; Chicago, six; Cleveland, two; Detroit, four; Ellsworth Air Force Base, one; Fairchild Air Force Base, one; Hanford, one; Hartford-Bridgeport, four; Loring Air Force Base, one; Los Angeles, four; Milwaukee, two; New York, five; Niagara-Buffalo, two; Norfolk, two; Philadelphia, three; Pittsburgh, three; San Francisco, three; Seattle, three; Travis Air Force Base, one; and Washington-Baltimore, five.

The operational status of USARADCOM units at the close of Calendar Year 1957 is reflected in figures which showed that the number of Nike Ajax missile units on site in December was 244, compared with 221 in June. During the same period the number of 90mm and 120mm gun units on site decreased from 72 in June to four in December, and the number of 75mm Skysweeper batteries remained at 11. ¹

Inactivations. Both active Army and National Guard units of USARADCOM's Task Organization were affected by the decision to eliminate gun defenses.

On 20 December 1957, USARADCOM eliminated thirteen 90mm units, including the 12th, 16th, 20th, 33d, 35th, 41st, 69th, 70th, 77th, 550th, 606th, 701st, and the 749th AAA Battalions, and four 120mm units, the 496th, 501st, 518th, and the 519th AAA Battalions. ² They were ordered to become inoperative on 4 October 1957, and the period until 20 December 1957 was to be used for turning in equipment, necessary administrative and personnel actions, and actions involving disposition of sites. ³ All National Guard units occupying Army air defense sites in the U. S. were relieved by the Department of the Army of their on-site air defense missions effective 8 October

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1957, in order that they could concentrate on the program to convert from gun to missile units.

The 101 on-site National Guard Army air defense batteries were reorganized and placed on a training status which would prepare them to assume an active role as an integral part of the nation's Army air defense missile forces. Training of these National Guard units, equivalent to 25 battalions, was undertaken at active Army Nike sites of USARADCOM and at the U. S. Army Air Defense School, Fort Bliss, Texas. Training courses for National Guard units were the same as those required for the training of active Army units.

The Department of the Army authorized the National Guard to reorganize 28 battalions (less three firing batteries) during the period, January through March, 1958, including the 25 battalion equivalents which formerly participated in the on-site program and those units required for FY 1960 deployment in defenses where the National Guard on-site program had not been activated. 4

Gun unit inactivations carried out by USARADCOM on 20 December 1957 were in line with the revised force structure handed down by the Department of the Army on 12 August 1957. At that time DA called upon the command to submit a two-phase plan by 15 August 1957 by which the indicated FY-1958 structure would be achieved. By the end of CY-1957, USARADCOM was expected to cut its gun battalions to eight and its 75mm Skysweeper battalions to three. During the second phase, before FY-1959, all guns were to have been inactivated. 5

USARADCOM's plan for the inactivations was sent to DA on 1 October 1957. It contained a recommendation that since all guns were being phased

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out that the units involved also be relieved of their High Priority and STRAC* missions at the time they became non-operational. ⁶

Concern was also expressed by USARADCOM over the plan to withdraw all Army air defense units from Sault Ste Marie and Savannah River. The command suggested alternate means to DA for maintaining the continuity of the two defenses. The first alternative was to retain the 8th AAA Battalion as assigned at Sault Ste Marie and the 425th AAA Battalion at Savannah River. They would have as their primary mission the readiness for overseas deployment in support of the U. S. Continental Army Command plans. While they remained on site, however, they would participate in the air defense of the CONUS.

"This plan," USARADCOM noted, "retains the same force structures (as proposed by DA), maintains continuity of the two defenses until Nike units are deployed to the areas, avoids any adverse public relations due to the withdrawal of Army air defense units, and retains two active Army Sky-sweeper Battalions for deployment overseas if necessary."

The second alternative was to relocate Nike Ajax batteries to Savannah River, although, because of insufficient land available for sites, similar action was not considered possible for the defense of Sault Ste Marie. ⁷

On 31 October 1957, the Department of the Army informed USARADCOM of its decision to keep the 8th AAA Battalion at Sault Ste. Marie with its present assignment. The battalion and its supporting Signal detachment * Strategic Army Corps. These units were maintained at a high level of readiness for swift deployment overseas in the event of an emergency. To maintain this peak readiness they were given preferential treatment in training, personnel, funds, etc. UNCLASSIFIED

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were to retain their STRAC mission. No immediate decision was made on the disposition of the two Skysweeper battalions at Savannah River. 8

DA's approval of USARADCOM's plans to inactivate gun units contained instructions to withhold any action involving the 75mm Skysweeper battalions "pending final decision" on their disposal. All inactivated units were relieved of their STRAC missions, as had been recommended by USARADCOM, with the exception of the Skysweeper battalions, the 15th AAA Group (Headquarters and Headquarters Battery), and the 515th AAA Operations and 61st and 255th Signal Radar Maintenance detachments. 9

At the same time the Department of the Army asked that the desired composition of the Defense Acquisition Radar AN/FPS-36 or AN/TPS-1D Sections of the inactivated units and the designation of the various headquarters to which each radar section would be assigned be forwarded prior to 9 October 1957. 10

As requested, USARADCOM replied on 8 October 1957 with its recommendations that personnel and equipment of the AN/FPS-36 or AN/TPS-1D Radar Sections as then authorized for units scheduled for inactivations be reassigned as follows: 11

<u>Battalions to be Inactivated</u>	<u>Proposed Assignment</u>
12th AAA Battalion (90mm)	52d AAA Brig
41st (90mm)	52d AAA Brig
69th (90mm)	52d AAA Brig
749th (90mm)	52d AAA Brig
606th (90mm)	2d AAA Group
550th (90mm)	3d AAA Group
501st (120mm)	5th AAA Group

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<u>Battalions to be Inactivated (Cont'd)</u>	<u>Proposed Assignment (Cont'd)</u>
518th (90mm)	5th AAA Group
519th (90mm)	5th AAA Group
33d (90mm)	11th AAA Group
16th (90mm)	15th AAA Group
496th (120mm)	16th AAA Group
35th (90mm)	17th AAA Group
701st (90mm)	18th AAA Group
70th (90mm)	19th AAA Group
20th (90mm)	26th AAA Group
77th (90mm)	108th AAA Group

USARADCOM considered it necessary that the 90mm guns defending Thule, Greenland, be retained there until the 1959 "shipping season" in order to maintain a degree of air defense readiness during the winter of 1958-1959. It recommended that 1 April 1958 be the date for inactivation of the two Skysweeper batteries at Thule.

Even though it was expected Nike Hercules units would be operational at Thule late in CY-1958, USARADCOM recommended the 90mm guns be retained because of "numerous problems occasioned by arctic operations" which could be foreseen.* 12

With the acceleration of the Army National Guard missile program and elimination of virtually all active Army gun units, USARADCOM proposed that the Department of the Army eliminate National Guard M-Day gun units

*The remaining two batteries were expected to follow in the summer of 1959.

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from the Task Organization. This recommendation was made with the concurrence of the Commander-in-Chief, NORAD.* DA's reply had not yet been received at the end of this period. ¹³

It was felt by USARADCOM that since all active Army gun units were to be inactivated, the National Guard units would no longer be needed as replacements of the active Army units. On 31 December 1957 the total task organization of the National Guard included 82 gun battalions which held M-Day assignments (13 Skysweeper, 66 90mm, and 3 120mm units). Of the total, 12 Skysweeper, 63 90mm, and 3 120mm units retained the Special Security Force designations which they had achieved. ¹⁴

Strength. At the end of CY-1957, strength of USARADCOM was as follows: ¹⁵

	<u>OFFICER</u>	<u>WO</u>	<u>ENLISTED</u>	<u>AGGREGATE</u>
Auth	2394	1320	30,853	34,567
Asgd	2659	870	31,580	35,109

The average assigned strength for the month of December 1957 included 30,726 enlisted men in an aggregate total of 34,119. ¹⁶

ACTIVE ARMY

Deployment. The force structure for USARADCOM for Fiscal Year 1959, as approved for programming purposes by the Department of the Army,

*CINCNORAD is used throughout this summary to designate the Commander-in-Chief, North American Air Defense Command. NORAD was established at Ent Air Force Base, Colorado Springs, 12 September 1957 by authority of the JCS. As applied to USARADCOM, the relationship remained the same as provided by the Terms of Reference for CINCNAD.

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included battalion equivalents as follows: 27 Nike Hercules, 36 Nike Ajax, and two Skysweeper. ¹⁷

Of the Nike Hercules battalions programmed for FY-1959, 18 battalion equivalents were to be formed by converting existing Nike Ajax sites and the units occupying them to Hercules. Four fire units, which formed the first composite "package" of Nike Hercules units to be trained at the U. S. Army Air Defense Center, Fort Bliss, were scheduled to become operational by 30 June 1958. Additional fire units were to complete package training at Fort Bliss and become operational as quickly as production of equipment would follow. ¹⁸

A schedule, prepared for planning purposes and projecting the conversion of Nike Ajax units to Nike Hercules, was published by USARADCOM. It was based on the anticipated output of Nike Hercules battalion packages from the Army Air Defense Center. Contemplated for the end of FY-1959 by this schedule, was the deployment of 48 Hercules batteries, on site and operational, and, by September 1959, a total of 72 Hercules batteries. With the exception of the first four, scheduled in June 1958, USARADCOM said converted units would be operational not later than 30 days following the package "output" date, that is, the date on which training was completed at Fort Bliss. ¹⁹

NATIONAL GUARD

The force structure provided by Department of the Army for National Guard missile units included seven National Guard Nike Ajax battalions by the end of FY-1959. The NG on-site force was to be increased to 22 Nike Ajax battalions by the end of FY-1960, and 37 Nike Ajax and 11

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Hawk battalions by the end of FY-1961. The figures for FY-1960 and FY-1961 were tentative. Department of the Army specified that all National Guard Nike units would occupy existing Nike Ajax sites vacated by active Army units.

The revised force structure accelerated plans for employing the National Guard missile units. Previously, only one National Guard missile battalion was contemplated to become operational as a test vehicle in FY-1959. 20

Sites scheduled to be occupied by the National Guard in FY-1959 and the schedule of National Guard package training were listed by USARADCOM at year's end. The list included 28 Nike Ajax sites. The first four were to be occupied in the first quarter of FY-1959 by the 720th AAA National Guard Battalion of the California National Guard in the Los Angeles defense. Package personnel of the 720th Battalion were to complete training in July.

After each National Guard unit attained proficiency, the active Army unit located at a site occupied by the National Guard would become available for conversion training and deployment to Hercules sites at new defenses early in FY-1960. As many displaced active Army personnel as possible were to be absorbed within the present defenses, and only key personnel required either for conversion training or for non-technical cadres were to be transferred.

However, because no new sites were expected to be available until early FY-1960, the 365th AAA Missile Battalion, then occupying the four Los Angeles sites, was to be inactivated following the assumption of an operational mission by the 720th AAA Battalion.

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Scheduled for licensing to the National Guard in FY-1959 were the four sites at Los Angeles, and four in each of the Seattle, Boston-Providence, Pittsburgh, San Francisco, and Washington-Baltimore defenses and two each in the Norfolk and New York defenses. 21

After the Department of the Army suspended all actions involving installation of Nike Hercules sites in Texas and Kansas in August "until further notice," 22 USARADCOM reaffirmed its support of NORAD recommendations for deployment of the next five Hercules battalions. NORAD had proposed the new Hercules sites be established in FY-1959 at St. Louis, Cincinnati, Minneapolis-St. Paul, Dallas-Fort Worth, and Kansas City. 23 The suspension was ordered "to allow further study" by DOD and JCS of deployments to the two states.*

By November, 1959, when 19 battalion Nike Hercules packages were expected to have emerged for conversion of existing Nike Ajax sites (and including one school troop battalion slated to remain at Fort Bliss), eight packages were to be available for new Hercules sites. The schedules for these new areas included the first package in July, two each in August, September and October, and one in November, 1959. 24

USARADCOM advised the Department of the Army that the Hercules

*These five sites proposed by NORAD in the Central U. S., with Thule, Greenland (each of which was scheduled to receive one battalion), and 14 battalions to be allocated to 26 SAC bases, constituted the tentative plan for deployment of Nike Hercules to new localities. 25 The deployment of units to SAC bases had not yet been formally recommended by NORAD nor approved by the JCS.

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deployment planned by NORAD was "in consonance" with the priorities previously established for a logical increase in defended localities as additional forces became available.

It was pointed out that among considerations made by NORAD in making the recommendations were the "target values" involved including location nearby of SAC bases, population density, war industry, and key facilities. "The threat extends to the entire United States. Inland localities are not immune. The central part of the United States is particularly vulnerable to attack from the south with little or no warning," USARADCOM said. 26

"The basic question involved appears to be whether or not available surface-to-air missiles should be employed outside the geographical areas where such forces have heretofore been deployed." USARADCOM noted. The considered opinion of USARADCOM was that geography was no longer the governing factor, "but rather target value, the threat, vulnerability, and the concept of operations of the responsible commander."

Similar concern over the chances of an enemy "end run" around the southern flank of the U. S. was voiced by USARADCOM in an outline of a concept for employment of the 495th AAA Missile Battalion, a school unit at Fort Bliss, Texas, in the active defense of Biggs AFB.

USARADCOM recommended, in a letter to DA, that it be authorized to order Army Air Defense Center units at Fort Bliss to assume responsibilities in the active air defense of Biggs Air Force Base when in the opinion of CINCNORAD and the CG, USARADCOM, such action was required. 27

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Use of these troops would prevent the loss of Nike missile defenses by a target area which held a lower priority for missile defense than Biggs AFB, it was pointed out, because it was expected that USARADCOM would have to deploy a Nike battalion of its own to Biggs AFB in FY-1960, unless the 495th AAA Battalion was used in active defense.

Suggested was a plan for units at the Army Air Defense Center to provide initial surface-to-air missile defense of Biggs AFB with one battery and a training battery at McGregor Range continually on site and capable in an emergency of becoming fully operational within eight hours. By FY-1960, the units would maintain a state of combat readiness "consistent with other active Army defenses," at which time the 495th,* augmented with additional equipment and personnel, would be able to maintain four batteries on a 3-hour alert. From then on, sites and facilities would be designated to permit growth from an initial emergency to a full capability, as outlined above.

* The 495th AAA Missile Battalion, it was noted, constituted the "sole source" of active Army units capable of augmenting USARADCOM.

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"The capability of the Soviets to end-run our warning nets and penetrate the CONUS from Mexico is accepted by CINCONAD," it was pointed out by USARADCOM. "Radar coverage into Mexico is limited and can provide only a minimum of warning to border defense. A combat-ready defense is believed attainable without jeopardizing the primary mission of (Army Air Defense) Center troops. Use of an on-site battery of the 495th AAA Missile Battalion in conjunction with a training battery at McGregor Range will provide a defense of minimum effectiveness."

Planning at NORAD indicated that new deployment recommendations to the JCS would reflect a trend toward increased emphasis on protection of SAC bases, with Nike Hercules new area deployments to SAC bases in the central U. S. and Hawk batteries to be deployed both to cities and SAC bases. 28

An analysis of planned deployments showed that the 20 city areas scheduled for protection in 1959 and 1960 will provide some protection to 61 per cent of the nation's total war manufacturing and 38 per cent of the population. Overall defenses in 1960 were to give some protection to 65 per cent of the war manufacturing capacity of the U. S. and most concentrated 43 per cent of the total population, or about 67 million people. 29

Weapons. Introduction of nuclear warheads into USARADCOM's inventory required that concepts for the employment of these weapons be developed. Detailed operating procedures prepared on an individual site basis, also were needed. USARADCOM was engaged in preparation of guidance for subordinate echelons in developing detailed plans during this period. A concept of operations for employment of the Nike Hercules system was

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to be proposed.

Doctrine being prepared to govern engagements of targets provided that:

- a. All targets would automatically be engaged with atomic warheads if they were at an altitude above the terrain such that ground damage resulting from the warhead explosion would be less than a pre-established maximum.
- b. Targets at altitudes below those determined by these restrictions normally would be engaged with conventional warheads with Ajax.
- c. When it was considered necessary, the NORAD Division Commander would order use of the smaller yield atomic warhead even though the usually acceptable ground damage would be far exceeded.³¹

Atomic warheads were to be allocated by the Joint Chiefs of Staff to CINCONAD. CINCONAD was to reallocate warheads to his component units, including USARADCOM, and notify the Department of the Air Force, as Executive Agent, of these reallocations.

Atomic warheads sections for USARADCOM were to be made available to the Army at National Stockpile and/or Operational Storage sites in numbers allocated by CINCONAD. Assembly of the warhead sections was to be accomplished at the NSS or OSS. USARADCOM requirements for warheads were to be made by notifying Headquarters Ordnance Ammunition Command, of the requirements 120 days prior to desired arrival of the warhead sections at the Nike missile site. Packaged warhead containers were to be delivered to the Nike site by OAC couriers and guards.³²

Intelligence estimates which gave the USSR an adequate operational capability with an ICBM that would constitute a serious threat to the U. S. by 1960 stirred USARADCOM, as the user agency of Army surface-to-

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air missile Research and Development Program. Recommendations of this study were:

- a. The AICBM version of Nike Zeus be developed on a crash basis.
- b. Development of the antiaircraft version be placed in a lower priority for development until success of the AICBM version is assured (since both compete for common production facilities.)
- c. That Nike Zeus and the Improved Hawk be adopted now as the "optimum family of weapons" for Army CONUS air defense during the 1960-1970 time frame and their development be accelerated.
- d. Upon the availability of the optimum family of weapons in adequate numbers, procurement of other weapons systems for CONUS Army air defense be phased out.

The draft of this study was informally coordinated with DA, as well as with the Army Air Defense School and was forwarded to DA on 17 December 1957. On 3 January 1958 USARADCOM was informed officially that the DA staff is in general agreement with the recommendations contained in the study. 33

USARADCOM considered the system with the earliest potential for defense against the ICBM the AICBM version of Nike Zeus. Consideration was given to interim use of the Nike Hercules or Talos in an AICBM role pending availability of Zeus. However, due to their marginal capability against the ICBM, their limited application to defense of "pinpoint" targets, as well as the earliest date of availability for both systems compared to an accelerated Zeus, USARADCOM considered that any attempt to adapt either of them for an interim AICBM capability would only serve to dissipate more effective efforts.

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It was pointed out that Nike Zeus, with full AA-AICRM capability, would be unique in that it embodied a single weapons system to combat the entire "threat spectrum." It would provide a deterrent to the air attack throughout the entire decade under consideration (1960-1970).

Four systems were in the Army research and development program designed to cope with the aerodynamically-supported threat, the AA version of Zeus, the Hercules, Talos, and Hawk. The latter was considered the best "companion weapon" for defense against aerodynamically supported threat. It was pointed out that Zeus would not provide a low altitude defense as effective as a weapon system specifically designed for a low altitude and, in the event of a mixed attack in force, the Zeus would not be able to engage both ICBM and aerodynamically-supported targets simultaneously with equal effectiveness. Reliance on one missile system for air defense was considered an open invitation for the enemy to concentrate its electronic countermeasures against that system.

The antiaircraft capability of the Nike Zeus should be considered as an added bonus which provides the advantages of a universal weapon, USARADCOM pointed out in cautioning against an attempt to provide both versions of Zeus concurrently. The risk was that such action would prejudice success of the AICRM version. On the other hand, it was noted, a decision to concentrate on the AICRM version of Zeus at the expense of the AAA version would place added significance on the development of a suitable weapon, such as the Hercules, the Hawk, or the Talos, for use against the air breathing threat. Therefore, USARADCOM considered that an additional missile system besides Zeus would be essential during this decade to provide a complete and adequate defense.

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Mike Hercules, scheduled to become operational in FY-1958, was expected to have limited capabilities against more advanced target threats--particularly the ASM air-to-surface missile and low altitude targets. Even with improved acquisition and track radar and the Ku-band radar, these deficiencies would be only partially overcome. A short useful life for Hercules was anticipated. Implementation of a complete improvement program to include the seeker together with extended ground environment was essential to give this system the capability of meeting the threat in the post-1960 era. Provision of a seeker entailed the design of a new missile system, which USARADCOM did not consider feasible to provide either the seeker or the extended ground environment in the time required. So USARADCOM recommended against consideration of Hercules as the complementary system for Zeus.

The Talos and Mike Hercules, as noted by USARADCOM, were essentially competing weapon systems with the same basic limitations. Moreover, the seeker employed in the Talos was not considered suitable for over-the-horizon intercept even if suitable ground environment were provided.

The Hawk system, scheduled to become operational in 1960, was considered by USARADCOM as the only one of the four which would provide an adequate and effective defense against the low-altitude threat, without being dependent on extended ground environment. It promised an effective capability against targets at medium altitudes and a limited capability even at high altitudes. Although its range was relatively short, this limitation was partly compensated by a high rate of fire and short reaction time, which enabled Hawk system to fire more missiles at a target than competing systems could at much longer ranges. Hawk's growth

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potential pointed to marked improvements to place its performance on a par with the Nike Hercules and Talos.

USARADCOM recommended the design for an advanced version of the Hawk be established quickly and the decision made immediately to accelerate the Hawk improvement program. ³⁴

CINCNORAD's views on the merits of the Hawk as a complementary weapon for Nike and the Bomarc, a long-range, supersonic Air Force missile, were expressed in November in a letter from Gen. Earle E. Partridge to the Department of the Air Force, as Executive Agent for NORAD. ³⁵ General Partridge said conclusions reached at NORAD were that "Hawk gives every indication of being by far the best weapon in sight to deter low altitude attacks." Further, he stated that the Nike, Bomarc, manned interceptors, and Hawk "will provide, at reasonable cost, the versatility essential to our air defense system against the air-breathing threat." Pointing out that the "growth potential" of the Hawk system should be exploited, General Partridge recommended that requirements for Hawk units as listed in CADOP 56-66 "be supported by the Department of Defense."

Missile Master, Fire Direction Systems. The Army's first Missile Master (AN/FSG-1) air defense facility became fully operational as an integral part of the Washington-Baltimore defense on 5 December 1957 at Fort George G. Meade, Md. This semi-automatic fire direction system improved coordination of missile fire units. Formerly they were controlled by voice phone from the Army Air Defense Command Post (AADCP), where targets were plotted manually on a map. Missile Master provided a rapid, automatic, electronic system for transmitting data and coordinating the target information and defensive effort. It relayed tactical decisions

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of one battery commander or the defense command to all other fire unit commanders in the area as soon as each decision was made.

The Fort Meade Missile Master was one of 10 which USARADCOM originally planned to have in operation by the end of CY-1958 and for which component radar sets originally designed for the system had been procured and were still in storage. These sets represented a total investment of approximately \$12 million. ³⁶

The remaining nine Missile Master installations were beset by a series of delays. In September 1956 GINGONAD proposed a plan, which was concurred in by the Secretary of Defense on 30 October 1956, whereby Missile Master was to be collocated and integrated with the Air Force Air Defense Direction Centers at the 10 sites. CONAD delegated to USAF Air Defense Command the responsibility of designating the prime radars that would be used to serve both the Missile Master and the ADDC as a joint facility.

Radars proposed by ADC for the joint facility were considered by USARADCOM as "incompatible" with the Missile Master. Unacceptable degradation of the Missile Master would result, USARADCOM cautioned, if the ADC-proposed radars were used.

Grave concern felt by USARADCOM over failure to resolve problems inherent in the concept of a joint Missile Master-ADDC facility was reflected in a letter forwarded to Department of the Army on 31 October 1957. USARADCOM said the situation had reached the stage that it considered it "mandatory to summarize the present status and request Department of the Army guidance."

Despite the desire of the Secretary of Defense that there be no delay in installation of Missile Master, USARADCOM said, the program

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"has been delayed in excess of two years and rate of progress to date clearly shows further delay."

In fact, USARADCOM pointed out in view of anticipated improvements in weapons and fire distribution and the further delays anticipated in resolving problems with Missile Master, "the JMDC concept as well as the major equipments which comprise it...may well be obsolete before they are operational, or at best will have limited useful life."

It was noted that USAF ADC had designated the use of prime "and unmanned gap-filler radars," both military and CAA types, "without due regard for their technical and operational compatibility with Missile Master or the needs of the AA defenses."

USARADCOM said recent study revealed that the end of achieving economy by joint utilization of operational equipment "will not materialize."

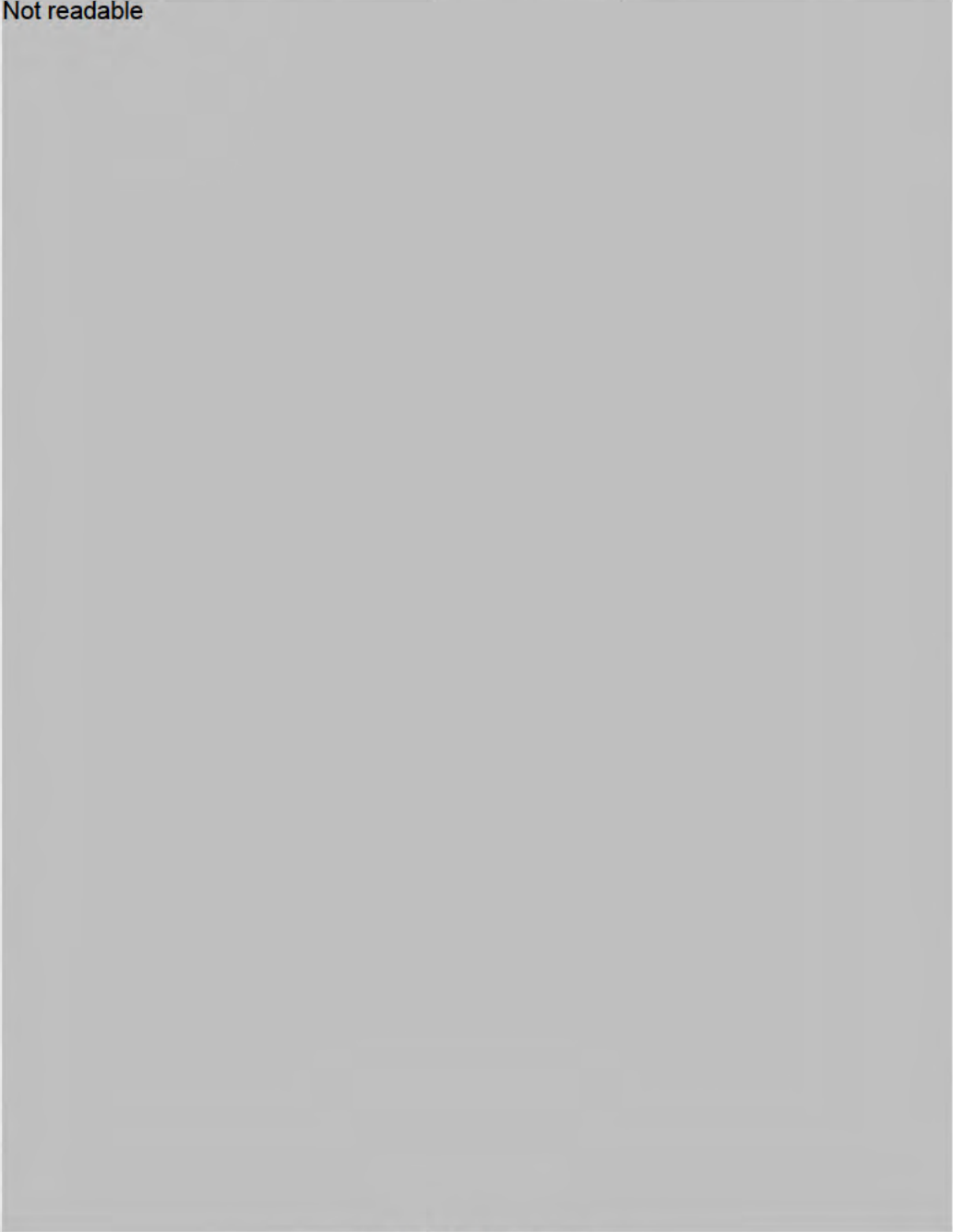
It was also noted that CINCNORAD's original concept of operations envisioned the JMDCs becoming operational prior to SAGE, and during the interim, their use as important operational control echelons. After SAGE would become operational, the JMDCs would serve mainly as "backup facilities." SAGE now appeared likely to become operational before the bulk of the JMDCs, because of delays already incurred.

USARADCOM recommended that the Department of the Army either take action to install and issue the nine remaining sets of Missile Master equipment or, as an "acceptable solution," suspend the Missile Master program and install its Fire Unit Integration Facility (FUIF) and monitoring equipment for each of the nine Army air defenses involved. ³⁷ FUIF shows all other batteries of a defense the target being tracked by a specific battery and could be used with a monitoring and supervisory

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Highlands and Lockport, that AN/FPS-20 radars be installed at Gibbshore, Arlington Park, Selfridge, and Fort Meade, and that ARSR-1 radars (with modifications) be installed at San Pedro, Fort Lawton, Fort Heath, and Oakdale.

USARADCOM's FY-1958 budget included \$12 million for construction of key operational structures of the Missile Master facilities at Highlands AF Station, N. J., at Lockport AF Station, N. Y., and Selfridge AFB, Mich. These three sites were scheduled for occupancy eight months before the scheduled operational dates, which were March 1960 for Highlands, April 1960 for Lockport, and May 1960 for Selfridge. ⁴¹

Operational dates indicated for the seven remaining sites were as follows: Boston, August 1960; Philadelphia, September 1960; Pittsburgh, October 1960; Chicago, November 1960; Washington-Baltimore, which became operational in December 1957; Seattle, December 1960; and Los Angeles, January 1961.

Alert. During this period the alert status of USARADCOM units remained as required by COMAD Regulation 55-84.

The alert status required for Nike missile units varied with the location of the defense and the resulting early warning which could be expected. Twenty-five percent of all Nike fire units were kept on a 15-minute alert capability at New York, Washington-Baltimore, Philadelphia, Los Angeles, Norfolk, Boston-Providence, San Francisco, Hartford, Bridgeport, Seattle, Hanford, Fairchild AFB, Loring AFB, and Travis AFB. Other CONUS Nike defenses were kept ready with twenty-five percent of the units

* See USARADCOM Command Report, 1 January to 30 June 1957

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on a 30-minute alert status. Remaining fire units in all defenses were permitted a three-hour alert capability. ⁴²

USARADCOM prepared a recommendation to the Department of the Army which, if approved, would provide for National Guard fire units the capability of maintaining a continuous 15-minute alert status at exterior defenses where this capability was then required of active Army units. The ratio of 15-minute to three-hour batteries would be the same as prescribed by the Department of the Army for 30-minute to three-hour batteries. ⁴³

The alert status to be maintained by National Guard missile units was not yet firm. Department of the Army indicated that NG batteries would be organized so as to provide either a 30-minute or a 3-hour alert capability. This organization for National Guard battalions provided for a ratio of 30-minute alert batteries to 3-hour alert batteries, depending on the total number of National Guard batteries in a given defense. In a defense containing four (4) Army National Guard Nike batteries, one-fourth of the number of batteries was to be of the 30-minute type. When the number of batteries was not divisible by four and the remainder was greater than one, then one of the batteries in the remainder would be of the 30-minute alert type. In a defense containing two or three batteries, then one 30-minute type battery would be authorized. Although this organization would be compatible with the alert requirements at interior defenses, it would not permit maintenance of the alert capability required at exterior defenses.

To provide federal status to on-site National Guard personnel more expeditiously, when required, USARADCOM recommended enactment of legislation which would authorize the Commanding General, USARADCOM, to call

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on-site National Guard missile units and members to federal service when, in the opinion of CINCONAD, a higher status of alert was required of forces comprising the North American Air Defense Command. ⁴⁴

USARADCOM pointed out that tentative plans for the employment of forces reflected in new objectives indicated that by the end of 1961 as high as 50 percent of "many existing Nike defenses must be manned by the National Guard."

"It is therefore considered mandatory that National Guard missile batteries be organized so as to provide the alert capability required by CINCONAD." ⁴⁵

Radar. A Relocation Program for Defense Acquisition Radar (AN/FPS-36) sites was initiated by USARADCOM in an effort to increase the low level coverage of each defense. It was desired to increase the low level coverage of each defense a distance of 30 miles beyond the coverage of the Battery Acquisition Radars (AN/FPS-1D) down to altitudes of 500 feet over water and 1000 feet over land.

In November 1957 (by Memorandum from CINCNORAD to CG, USARADCOM, 19 November 1957, "Location of FPS-36 Radar") it was directed that these radars be located at places to be recommended by the Army, but where they make a contribution to the surveillance system operated by the Air Force. The final location would be coordinated with the CONAD division commander concerned. CG USARADCOM was requested to publish the necessary instructions so that the output of these sets would be responsive not only to the Nike defenses, but also to the remainder of the surveillance system.

Approval was granted by the Department of the Army to obtain by lease 10 sites in the Chicago and Milwaukee defenses.

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USARADCOM recommended to the Chief of Engineers that all work on present temporary Defense Acquisition Radar sites be terminated and that action should continue on sites which had been designated permanent. These permanent sites included the 10 in the Chicago and Milwaukee Defenses plus A. P. Hill Military Reservation, Va.; Nags Head, North Carolina; Ravenna Arsenal, Ohio; Brookhaven, N. Y.; and Fort Miles, Delaware. ⁴⁶

Manpower. Favorable consideration by the Department of the Army of a proposed revision of AR 601-238, "Enlistment and Reenlistment for United States Army Air Defense Command Guided Missile Units," was indicated. The revision would permit choice of metropolitan area for non-prior service personnel and for individuals in their first 8 weeks of basic combat training. This program was "field-tested" in 1956 and 1957 by the 5th AAA Group at Hanford, Washington. Experience there indicated that individuals enlisted under the "hometown" appeal were above average in quality, intelligence, and conduct. The proposed revision was part of the long-range effort of USARADCOM to approach 100 percent Regular Army in enlisted ranks. Adopted as a goal in September of 1955, when the Regular Army percentage was approximately 45 percent, the ratio at the end of December, 1957, was 70 percent. ⁴⁷

USARADCOM problem areas in manpower included continuing shortages of artillery majors and captains (279 majors assigned out of 394 authorized, 625 captains assigned of 717 authorized as of 1 January 1958) and a continuing shortage of warrant officer specialists.

The first composite Nike Hercules conversion package had been formed and the initial portion of the school-trained personnel in the technical package was to report to the Army Air Defense School, Fort Bliss, for

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transition training starting in January 1958. As in the case of Nike Ajax training, school-trained personnel for the Nike Hercules system were to be phased into the applicable transition courses at Fort Bliss in order that they would all complete required schooling at approximately the same time. Upon completion of this training, they were to be assembled at the 1st Guided Missile Brigade, Fort Bliss, to participate in approximately four weeks' package training. They would be joined prior to package training by the troop-trained specialist portion of the technical package, who then would have had two weeks of operator training on Hercules equipment. At the completion of package training, personnel would proceed from Fort Bliss to their site and complete the conversion in time to meet scheduled operational dates. The first composite package to report for training included 160 men (24 officers, 16 warrant officers, and 120 enlisted men), and the total number of men scheduled to report in CY-1958 was 1870 (258 officers, 172 warrant officers, and 1440 enlisted men). 48

Under the personnel plan for SAGE, the Army was to provide approximately 50 officers and 52 enlisted men. The plan basically required four Army officers and four enlisted men to be assigned to SAGE Direction Center as part of the operational staff for each associated Army Air Defense Command Post (AADCP). In addition, one Army field grade officer was required as part of the SAGE battle staff. USARADCOM units were to be the source of personnel for the initial input of SAGE Direction Centers. Army personnel had already been selected for the first SAGE Direction Center at McGuire AFB. Two USARADCOM defenses, New York and Philadelphia, were associated with this facility.

Personnel selected were attending SAGE courses of instruction and were to complete schooling so as to arrive at the SAGE Direction Center

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three months in advance of the scheduled operational date of the SAGE facility. Action was initiated by G1, USARADCOM, to notify subordinate commands responsible for providing personnel for the second SAGE Direction Center at Stewart Air Force Base. These personnel were to commence training in March 1958.

In September 1957, USARADCOM directed its Regional commands to remove Army personnel from Air Defense Direction Centers (ADDCs) by 1 February 1958, because of the abrogation early in 1957 of the Lewis-Chidlaw agreement. USARADCOM rescinded its directive, however, when CINCNORAD indicated that Army liaison personnel should be stationed at the Air Force installation which transmits target information to an AADCP. Army defense commanders were instructed to determine jointly with the CONAD Division Commander the Army personnel requirements for the ADDC and the ADCC.

USARADCOM believed that responsibility for providing target information, early warning and identification to an AADCP rested with the Air Force. The Lewis-Chidlaw agreement has provided for the use of Army personnel for this purpose. 49

Training. During the Calendar Year 1957, 51 Nike Ajax battalions, comprising 212 fire units of the United States Army Air Defense Command, conducted annual service practices at the Red Canyon Range in New Mexico. This was the third successive year of annual service practices, required of all on-site Nike units. Included in the firings was the 28th AAA Battalion of Seattle, which conducted a special service test of the Nike Ajax against low altitude targets and scored 13 out of 14 successful missiles. 50

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Of a total of 638 Nike rounds fired during 1957 during these practice shoots, 439 or 68.8 percent were successful. This represented an increase in success of five percent over 1956.*

Of the 199 unsuccessful Nike Ajax rounds fired in annual practice, 153 were attributed to missile malfunctions, but an overall review of the year's firings indicated that the use of incorrect procedures and other personnel errors contributed indirectly to the number of unsuccessful flights formally ascribed to equipment malfunction. 51

USARADCOM began preparation of procedures by which an evaluation could be made of the combat capabilities of fire units and defenses. In general, the evaluation was to be based upon consideration of (1) annual service practice scores, (2) periodic operational readiness inspections, and (3) periodic tactical effectiveness inspections. Service practices and operational readiness inspections presented no change in past procedures. The tactical effectiveness inspection, however, was added as a means of completing the evaluation of the overall effectiveness of a defense complex. 52

*The highest scoring battalion and battery were the 433d AAA Battalion, Fort Lawton, Wash., which received 11,283 points out of a total possible point total of 12,000, in making 11 out of 12 successful engagements, and Battery A, 865th AAA Missile Battalion, Fort MacArthur, Calif., which scored 3 successful missiles out of 3 and received 2,991 points out of a total possible of 3,000. Eleven successful rounds out of 12 were fired by the 75th AAA Battalion, Andrews AFB, Md.; the 433d Battalion; 551st AAA Battalion, Van Nuys, Calif.; and the 751st AAA Battalion, Coventry, R. I. Sixty-eight batteries fired three successful missiles.

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USARADCOM was moving toward improved procedures for realistic on-site training by use of new training devices.

Radar target simulators (Device 15-D-2) were to be issued on the basis of one per missile battalion, beginning in July 1958 with four devices to be procured each month. The devices, costing approximately \$100,000 each, were to be used in conjunction with the Nike system to simulate one to six targets at velocities up to 2000 knots and altitudes up to 100,000 feet. The device could also simulate the flight of the missile and introduce all known types of electronic jamming. It was packaged in an M-33 type trailer van. Other devices (designated 15 x 12, 15 x 17, and 15 x 18), radar signal interference trainers, were to be made available to units to train radar operators on-site to recognize and track through electronic jamming in the L, S and X bands. The 15 x 12, X-band, and 15 x 18, L-band, were to be available in July 1958; the 15 x 17, S-band, was not to be available until January 1959. The cost of these devices was approximately \$1,000 each. ⁵³

Organization. On 31 December 1957, USARADCOM proposed to the Department of the Army a reorganization of Headquarters, USARADCOM. Addition of a Deputy Chief of Staff for Administration and Logistics and Deputy Chief for Plans and Operations, and special staff sections, including Quartermaster, Transportation, Inspector General, Provost Marshal, Surgeon, Judge Advocate, and Special Services, was recommended. In general, only two officers were requested for each of the added sections. The staff responsibility of the section chief was to advise the Commanding General and to coordinate with other staff sections of the headquarters and XI Armies on matters pertinent to his particular field of responsibility. ⁵⁴

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Within the Headquarters, the G3 Section was reorganized, ⁵⁵ effective 1 January 1958. Under the old organization, Plans and Organization constituted one division of the section and Operations and Training comprised the other division. Under the reorganization, G3 functions were now handled by three major subdivisions: Plans Division, Training Division, and Organization Branch.*

Army Aviation. Of the 20 H-21 Cargo type Helicopters authorized USARADCOM, 18 were already in the hands of using units at the end of this period. The other two were expected to be issued within a month. ⁵⁶ Commanders were urged to supervise the use of H-21s closely to insure that the maximum use was made of the helicopter's great load and personnel carrying capacity. Whenever possible, they were advised to consolidate

*New symbols used for G3 and its various subdivisions were:

ADGCS, for Assistant Chief of Staff, G3, and Deputy ACoFS, G3.

ADGCA, for Administration Branch.

ADGCP, for Plans Division; and under the Plans Division, ADGCV, for Review and Publication Branch; ADGCL, for Operational Planning Branch; ADGCM, for Radar and Fire Coordination Systems Branch; and ADGCF, for Force Structure Branch.

ADGCR, for Organization Branch.

ADGCT, for Training Division; and under the Training Division, ADGCD, for Directives and Procedures Branch; ADGCC, for Combat Readiness Branch; ADGCE, for Experimental SAGE Sector Branch; and ADGCS, for Scoring and Analysis Branch.

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missions so that the H-21 was used rather than using the small H-13 on several individual missions.

Family Housing. During CY-1957, USARADCOM drew closer to its goal of meeting a total family housing requirement of 9848 units in the 25 locations where personnel of the command are stationed; at year's end total "assets" amounted to 6282, or 71 percent of the goal. The assets included 1385 units obtained through XI Army on-post housing and community support, 1897 obtained through construction (MCA and Capehart), and 3,000 leases. Projected additional leases expected to be contracted by the end of FY-58 would give the command 7534 of its gross requirement, only 1329 short of its long-range goal. 57

PRINCIPAL STAFF OFFICERS, USARADCOM, 31 December 1957

Commanding General	Lieutenant General Chas. E. Hart
Deputy Commander	Major General R. R. Hendrix
Chief of Staff	Brigadier General D. B. Johnson
Deputy Chief of Staff	Colonel F. T. Folk
Secretary of the General Staff	Lieutenant Colonel M. P. Wood
AGofS, G1	Colonel R. A. Janowski
AGofS, G2	Colonel T. R. Malone, Jr.
AGofS, G3	Colonel Oren Swain
AGofS, G4	Colonel L. T. Vickers
AGofS, P&R	Colonel S. I. Gilman
Adjutant General	Colonel J. A. Pongonis
Inspector General	Colonel H. E. Liebs
Chaplain	Colonel E. L. Kirtley
Information Officer	Lieutenant Colonel T. M. Sessions

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Signal Officer	Lieutenant Colonel S. T. Jacks
Ordnance Officer	Lieutenant Colonel F. J. Wasson, Jr.
Engineer Officer	Lieutenant Colonel P. C. Gauger, Jr.
Aviation Officer	Major J. J. Tinnin, Jr.
Headquarters Commandant	Captain R. M. Dixon

MAJOR FIELD COMMANDERS

Commanding General, 1st Region	Brigadier General L. K. Tarrant
Commanding General, 2d Region	Major General P. W. Edwards
Commanding Officer, 4th Region	Colonel L. J. Staub
Commanding General, 5th Region	Major General E. F. Cardwell
Commanding General, 6th Region	Major General E. J. McGaw

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REFERENCES

1. USARADCOM Weekly Summary, 15 Jan 58. Interview with Mr. W. F. Mesch, Combat Readiness Evaluation Branch, G3, 14 Jan 58.
2. Letter, Department of the Army to USARADCOM, 24 Oct 57, "Inactivation of Certain Antiaircraft Artillery Units."
3. Message, Department of the Army 930687 to USARADCOM, 5 Oct 57, "Inactivation of Units."
4. "Commanders Conference, United States Army Air Defense Command, 13 Jan 58," AG Central Files USARADCOM, S90-58.
5. Message, Department of the Army 927877, to USARADCOM, 12 Aug 57, "Force Structure."
6. Message, 497 ADOAA-3 P&O, USARADCOM to Department of the Army, 1 Oct 57, "Inactivation of AAA Units."
7. As in 6.
8. Message, Department of the Army 932083, to USARADCOM, 31 Oct 57, "Assignment of the 8th Battalion."
9. As in 3.
10. As in 3.
11. Message, USARADCOM to Department of the Army, 8 Oct 57, "Inactivation of Units."
12. Message, 629 ADGCL, USARADCOM to Department of the Army, 3 Dec 57, "Guns at Thule AFB."
13. As in 4, IV-11.
14. CONAD/NORAD Historical Summary, July-December 57, p. 68.
15. DF Comment No. 2, AG to IO, 29 May 58, "Command Report (USARADCOM History 1 Jul-31 Dec 57)"

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16. ADSAM-050, Headquarters, USARADCOM, "Monthly Statistical Summary," 20 Jan 58.
17. Message, Department of the Army 931678 to USARADCOM, 25 Oct 57, "Revised Force Structure," AG Central Files S3194-57.
18. As in 4, IV-7.
19. Letter, ADGCL 471.94, USARADCOM to 1st, 2nd, 5th, 6th, and 4th Regions, 30 Dec 57, "Fiscal Year 1959 Nike Program."
20. As in 4, IV-9.
21. As in 19.
22. Letter, 424 ADOAA-3 P&O, USARADCOM to 4th Region, 12 Aug 57 (Reference cites DA927663).
23. As in 19.
24. Letter, OPS OD AD 5, Department of the Army to various Army Commands, 27 Dec 57, "Nike Package Outout."
25. As in 4, VI-4 and VI-5.
26. As in 23.
27. Letter, 281 ADOAA-3 P&O, USARADCOM to Department of the Army, 30 Aug 57, "Concept of Employment of the 495th AAA Missile Battalion."
28. As in 4, VI-4.
29. As in 4, X-5.
30. As in 4, IV-7 and IV-8.
31. As in 4, IV-27.
32. As in 4, V-10ff.
33. As in 4, V-1ff.
34. As in 4, VI-A-1 to VI-A-9.
35. Letter, CINCNORAD to Chief of Staff, USAF as Executive Agent for

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NORAD, 22 Nov 57, "Merits of the Hawk Weapons System."

36. Letter, ADGCL 413.68, USARADCOM to Department of the Army,
31 Oct 57, "Missile Master Implementation."

37. As in 36.

38. Message, 370 ADOAA-3 P&O, USARADCOM to Department of the Army,
10 Jul 57.

39. Message, Department of the Army 927428, to USARADCOM, 2 Aug 57.

40. As in 41, p. 25.

41. As in 4, V-20.

42. Letter, USARADCOM to Department of the Army, 7 Jan 58, "Alert
Status of National Guard Missile Units."

43. As in 4, IV-9 and IV-10.

44. As in 4, IV-10 and IV-19. Also, Letter 325 ADGCL, USARADCOM to
Department of the Army, 7 Jan 58, "Alert Status of National Guard Missile
Units."

45. As in 42.

46. As in 4, IV-6 and IV-7.

47. As in 4, II-7, and II-8.

48. As in 4, II-14 and II-15.

49. As in 4. Also, Letter 200 ADGCR, USARADCOM to Department of the
Army, 22 Nov 57, "ARADCOM Organization and Personnel Plan for Support of
SAGE."

50. Letter, 319.19 ADGCS, USARADCOM, 17 Feb 58, "Summary of Results
of Nike Ajax Annual Service Practice."

51. As in 4, IV-14 and IV-15.

52. As in 4, IV-25.

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53. As in h, IV-20.
54. As in h, IV-21.
55. As in h, IV-23.
56. As in h, XI.
57. As in h, Chart V-29.

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HISTORY

NAVAL FORCES

CONTINENTAL AIR DEFENSE COMMAND

1 July - 31 December 1957

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HISTORY

NAVAL FORCES
CONTINENTAL AIR DEFENSE COMMAND

1 July - 31 December 1957

Prepared By

Lt. R. C. Thompson, USN
Edwin A. Cranston, JO2, USN

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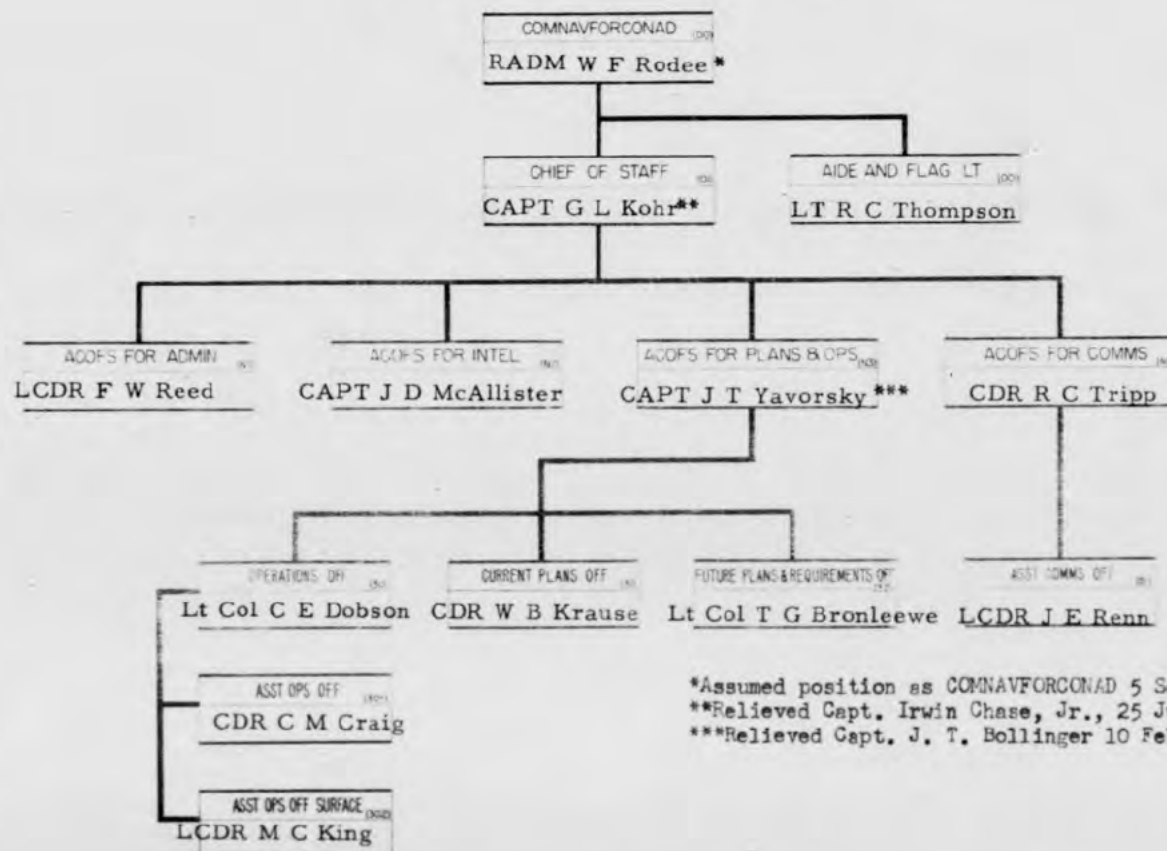
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HEADQUARTERS, NAVAL FORCES, CONAD
STAFF ORGANIZATION CHART



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*Assumed position as COMNAVFORCONAD 5 September 1957

**Relieved Capt. Irwin Chase, Jr., 25 July 1957

***Relieved Capt. J. T. Bollinger 10 February 1958

COMNAVFORCONADINST 5440.1B
15 November 1956

PART III

HEADQUARTERS ADMINISTRATIVE REGULATIONS

301. Contents

Part III of this Instruction prescribes the Administrative Regulations of the Staff of the Commander Naval Forces, Continental Air Defense Command. These regulations may be supplemented or changed from time to time, as necessary, by Instructions and Notices or changes to this Instruction.

302. Staff Work and Responsibilities

a. Complete Staff Work

- (1) Completed staff work is the study of a problem, and presentation of a solution, by a staff officer, in such form that all that remains to be done on the part of the head of the staff division, or the Commander, is to indicate his approval or disapproval of the completed action. The words "completed action" are emphasized because the more difficult the problem is, the more the tendency is to present it to the Chief in piece-meal fashion. It is your duty as a staff officer to work out the details. You should not consult your Chief in the determination of those details no matter how perplexing they may be. You may and should consult other staff officers. The product, however, whether it involves the pronouncement of a new policy or affects an established one, should, when presented to the Chief for approval or disapproval, be worked out in the finished form.
- (2) The impulse which often comes to the inexperienced staff officer is to ask the Chief what to do, recurs more often when the problem is difficult. It is accompanied by a feeling of mental frustration. It is so easy to ask the Chief what to do, and it appears so easy for him to answer. Resist that impulse! You will succumb to it only if you do not know your job.
- (3) It is your job to advise your Chief what to do, not to ask him what you ought to do. He needs answers, not questions.
- (4) Your job is to study, write, restudy and rewrite until you have evolved a single proposed action - the best one of all you have considered. Your Chief merely approves or disapproves.

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HEADQUARTERS ACTIVITY

Background. Naval Forces, Continental Air Defense Command (NAVFORCONAD), was established as a component command of the Continental Air Defense Command (CONAD) upon the creation of the latter on 1 September 1954. Rear Admiral Albert K. Morehouse was appointed Commander, Naval Forces CONAD (COMNAVFORCONAD), and set up his headquarters at Ent Air Force Base, Colorado. He was to be under the command of the Commander-in-Chief, Continental Air Defense Command (CINCONAD) in matters concerning the operational control of Naval forces assigned to the Continental Air Defense System, and under that of the Chief of Naval Operations in all other matters.¹

Among his responsibilities were to command the Naval component forces of CONAD, to serve as CINCONAD's Naval advisor, to make available for CINCONAD's operational control the forces assigned to the contiguous radar system, and to serve as liaison between CINCONAD and other Naval commands.²

Subordinate to COMNAVFORCONAD were created the posts of Commander Naval Forces, Eastern CONAD Region and Commander Naval Forces Western CONAD Region. The latter two were to serve as Naval advisors to their appropriate CONAD Region Commanders and commanders of their respective component forces. Under Central CONAD Region was appointed a Naval Deputy with no forces assigned, who was to plan for the emergency utilization of Naval aircraft in the Central area.³

Personnel Changes. During the period under consideration (1 July-31 December 1957), Rear Admiral Walter F. Rodee assumed the position of Commander Naval Forces CONAD on 5 September 1957, replacing Rear Admiral

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Rear Admiral Walter F. Rodee, USN, Commander Naval Forces Continental
Air Defense Command. Admiral Rodee assumed his position as COMNAVFORCONAD
on 5 September 1957, relieving Rear Admiral Hugh H. Goodwin, USN.

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Hugh H. Goodwin, who retired on 31 May. Captain John G. Howell, Commander Naval Forces Western CONAD Region, served temporarily as COMNAVFORCONAD from 31 May to 25 July. Commencing on the latter date, Captain George L. Kohr reported as COMNAVFORCONAD. Upon the arrival of Rear Admiral Rodee Captain Kohr was relieved of duty as Commander and assumed the duties of Chief of Staff replacing Captain Irwin Chase, Jr.

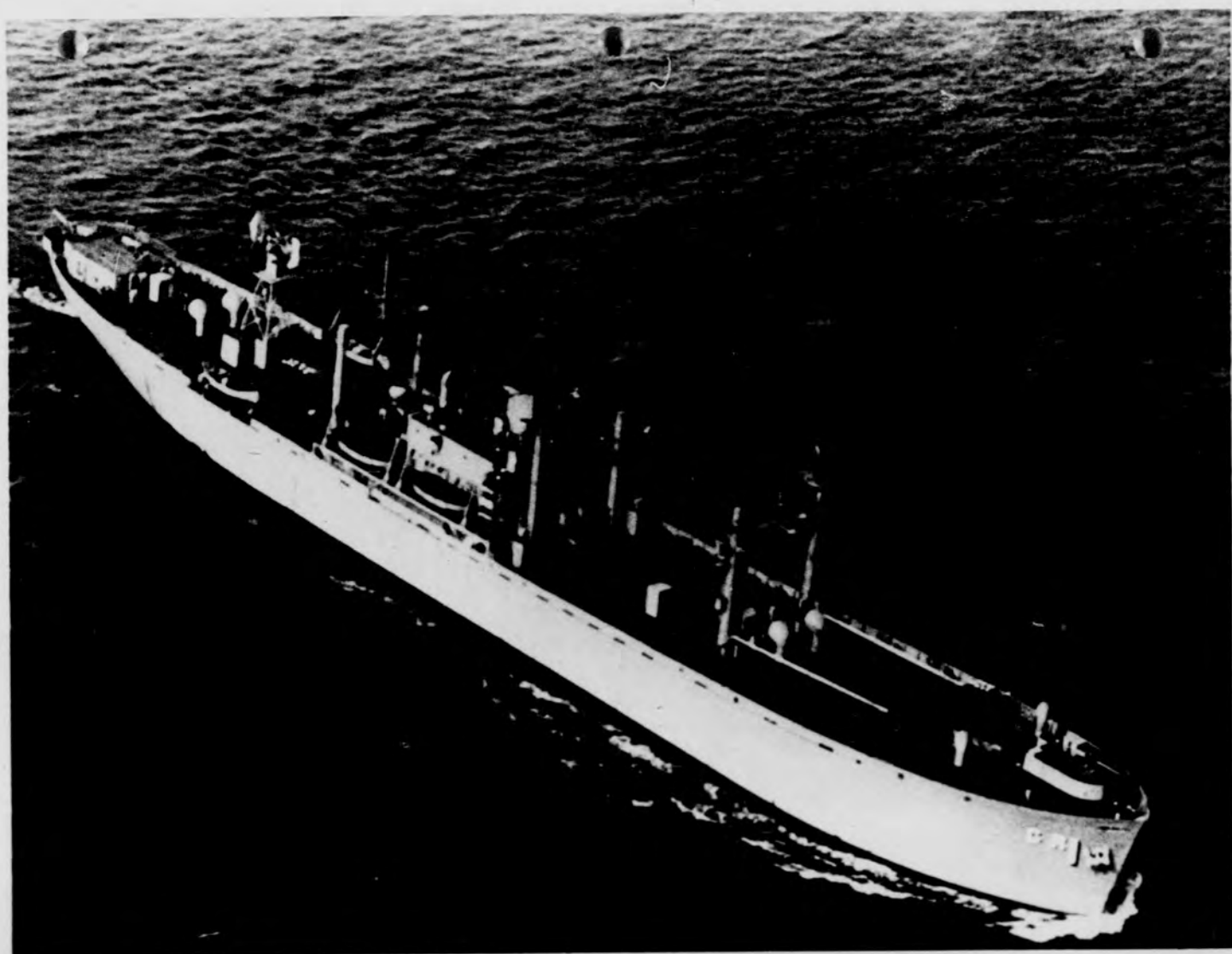
CONTIGUOUS SYSTEM

The Naval forces of the contiguous radar system consisted of ten picket ships operating five stations off the East Coast, 13 ships operating five stations off the West Coast, and one Airship Early Warning (Blimp) squadron operating from NAS Lakehurst, New Jersey.

Picket Ships, East Coast. Manning the East Coast picket line were eight converted World War II Liberty Ships known as YAGR's, and two radar picket destroyer escorts (DER's). These ships patrolled five stations ranged in a line from 125 nautical miles south of Halifax, Nova Scotia, to a point about 300 nautical miles east of Cape Charles, Virginia.⁵

The five East Coast stations were numbered with even numerals from 12 to 20. Each station was assigned a priority from one through five indicating the degree to which it was essential to the contiguous warning system ("1" most essential). Each station reported its radar findings to a separate "parent" Air Defense Command Direction Center, except in the case of stations 18 and 20, which reported to the same Direction Center. The ADCC provided the link with the

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YAGR
One of the Navy's/pickets operating off the coasts of the United States to give more advance warning of impending attack. These ships cruise a regular course using radar to keep a "weather eye" out for an enemy attack. This part of the Navy's fleet is committed to the Continental Air Defense Command in addition to the Marine reserves of the nation.

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Continental Air Defense System. These data are shown in the following table.

<u>Station Nr.</u>	<u>Coordinates</u>	<u>Parent DC</u>	<u>Priority</u>	<u>Condition</u>
12	41°-40'N 63°-20'W	P-10	3	Permanent
14	39°-30'N 64°-30'W	P-45	1	Permanent
16	37°-55'N 67°-00'W	P-54	2	Permanent
18	36°-30'N 69°-25'W	P-56	4	Permanent
20	34°-45'N 71°-05'W	P-56	5	Permanent

Picket Ships, West Coast. The West Coast picket system consisted of four YAGR's and nine DER's, once again manning five permanent stations. These extended in a line 300 nautical miles seaward from the coast, from the latitude of Seattle, Washington to that of Monterey, California, with an interval of 150 miles between ships. The reporting procedures were similar to those in use on the Atlantic Coast. Further information is given in the following table.

<u>Station Nr.</u>	<u>Coordinates</u>	<u>Parent DC</u>	<u>Priority</u>	<u>Condition</u>
1	47°-05'N 131°-35'W	P-1	1	Permanent
3	44°-30'N 131°-30'W	M-100	2	Permanent
5	42°-00'N 131°-20'W	P-38	3	Permanent
7	39°-00'N 131°-10'W	P-38	4	Permanent
9	36°-10'N 129°-15'W	P-38 (M-96)	5	Permanent

Picket Ship Radar Coverage. The radar coverage provided by the picket ships was contiguous with shore-based radars above 20,000 feet. Although the low-level coverage was limited by the nature of the ship-borne equipment, the danger of aircraft flying undetected through the gaps in the low-level barrier was lessened by the practice of conducting

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Not Readable



One of the links in both oceans provided for the Air Defense of the Continental United States by the United States Navy component of CONAD is the Destroyer Escort Radar Picket Ship. Here the DER 142 ploughs through the seas as she maintains a continuous radar surveillance of the airway approaches to the borders of the North American Continent.

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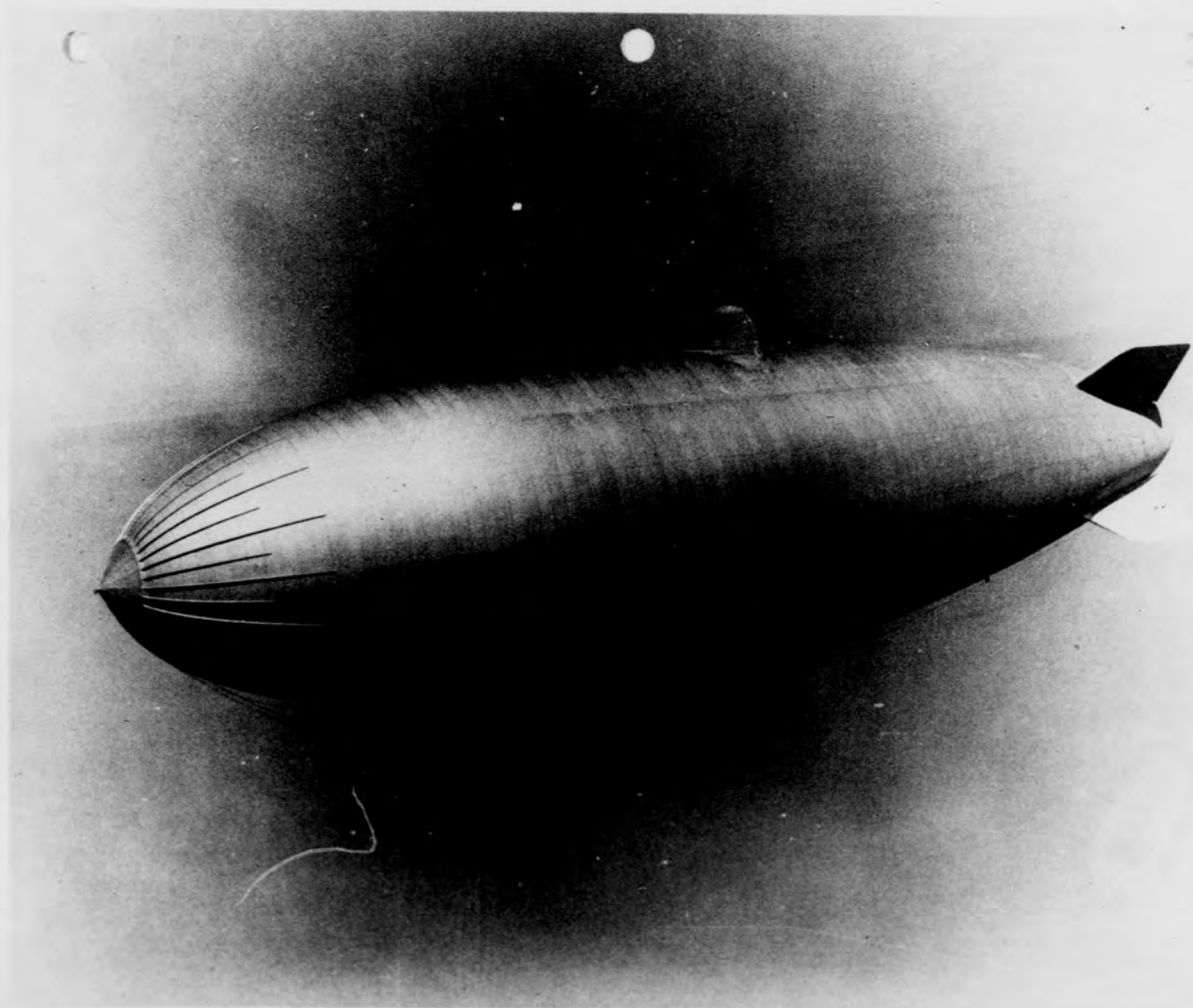
a synchronized patrol northward and southward along the axis of the picket line. Thus no portion of the system was left permanently without coverage. In all, the ship deployment provided the maximum of early warning feasible with the equipment available.⁹

Planning. Although there was no change in picket ship status during the period 1 July - 31 December 1957, future relocations made possible by new equipment were being planned. CONAD's requirements for contiguous radar coverage by picket ships called for a total of nineteen picket stations, but budgetary limitations made it impossible for the Navy to provide more than five stations off each coast.¹⁰ However, a new radar, the AN/SPS-17, programmed for use on board YAGR pickets, would make possible the partial liquidation of this deficiency.

The AN/SPS-17's greater range would allow a wider interval between ships, and thus a longer line covered. The interval would be widened from 150 nautical miles (on the West Coast) to 272 nautical miles. With the new radar in operation COMNAVFORCONAD believed that 85 per cent of CONAD's requirement on the West Coast and 75 per cent on the East Coast could be met.

COMNAVFORCONAD recommended to CINCNORAD that tests be instituted to determine the validity of the relocation concept, and that problem areas be resolved prior to July 1958 so that relocation could be carried out at that time. The conversion to AN/SPS-17 had already started on the East Coast by 25 September 1957, and all eight YAGR's were scheduled for the new radar by 22 June 1958. On the West Coast the radar program was due for completion on the four YAGR's then in commission by 31 May 1958, and on the remaining four under conversion by June.¹¹

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The modified ZPG-2W Airship, manufactured by Goodyear Aircraft Corporation and a veteran of World War II convoy escort duty is now a full-time partner in the air defense of North America. The Airship loaded with the largest airborne radar antenna in existence has taken its place on the picket line in the Atlantic Ocean. The huge antenna is located in the 1,000,000 cubic foot envelope.

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Airship Squadron. Airship Airborne Early Warning Squadron One (ZW-1) was being used, along with Air Force Airborne Early Warning and Control (AEW&C) aircraft, to take up the slack in low and medium-altitude radar coverage between the shore-based radars and picket ships off the Atlantic Coast. ZW-1, the only U. S. squadron of its type in existence, operated four ZPG-2W airships from NAS Lakehurst, N. J. The squadron manned East Coast station number six on alternate days, flying a prescribed pattern within 25 miles of the station.¹²

Deployment Responsibility. Responsibility for the deployment of picket ships, as well as airships, rested with the appropriate CONAD Region Commander in coordination with CINCONAD. The Region Commander had the authority to make temporary adjustments in the deployment pattern necessitated by such phenomena as adverse weather and sea conditions. However, CINCONAD's concurrence was necessary for permanent readjustments.¹³

Exercises. No exercises were held during the period.

SEAWARD EXTENSIONS OF THE DEW LINE

In order to extend into the Atlantic and Pacific Oceans the early warning capability provided in the Arctic regions by the land-based Distant Early Warning (DEW) Line, the Navy set up in 1957 mobile sea and airborne radar barriers. These were under the operational control, not of NAVFORCONAD, but of Commander Anti-Submarine Defense Force Atlantic (COMASDEFORLANT) and Commander Barrier Pacific (COMBARPAC) respectively.¹⁴

The Atlantic Barrier. The first to go into full operation was the

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Atlantic Barrier, on 2 July 1957. It consisted of four DER-manned stations, with 16 ships in the force, on a line stretching from Argentia, Newfoundland to the Azores Islands, and four WV-2 radar-equipped early warning aircraft constantly airborne over the same route.

The four DER stations were located at the following coordinates:

Station One	45°-41'N 48°-35'W
Station Two	44°-02'N 43°-17'W
Station Three	42°-22'N 38°-00'W
Station Four	40°-41'N 32°-52'W

On 27 August the number of WV-2's flying the line was cut to two, due to shortage of funds. The Navy felt, however, that experience had indicated that the forces remaining would be sufficient to carry out the mission. These forces consisted of two squadrons, a drop of one from the previous three. One squadron was based at Argentia and rotated with the other, based temporarily at Patuxent River, Maryland, until the necessary housing could be completed at Argentia.

The operational control of the barrier forces was assigned to Commander Barrier Atlantic (COMBARLANT), also known as Commander Task Group 81.2, with headquarters at Argentia, Newfoundland. COMBARLANT was a subordinate of COMASDEFORLANT (Commander Task Force 81), who conducted barrier operations from his headquarters at Norfolk, Virginia. Under COMBARLANT were the Air Barrier Commander (Commander Task Unit 81.2.2) and the Surface Barrier Commander (Commander Task Unit 81.2.1).

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All air, surface and submarine contacts detected by the Atlantic Barrier were reported to COMASDEFORLANT for correlation and evaluation, with COMBARLANT monitoring the reporting transmissions. Submarine contacts also went to Commander Submarine Force, Atlantic (COMSUBLANT). After evaluating the reports, COMASDEFORLANT sends the unidentified contacts on to the Combat Information Center at NORAD Headquarters.²⁰

The Pacific Barrier. The Pacific extension of the DEW Line was instituted, in a training and test status, on 1 July 1957. Initially only one and a half WV-2 flights per day and no picket ships were provided. The northern and southern termini of the line were Adak and Midway islands, respectively.²¹ The northern end of the line was later shifted eastward to the vicinity of Kodiak Island to provide coverage for the as yet uncompleted Aleutian segment of the DEW Line, and a gradual buildup of forces was commenced.

When fully operational, on 1 July 1958, the line was to consist of five DER stations, located about 200 miles apart, on an arc stretching between Midway and Kodiak. The northernmost station was to be located at 56°-30'N, 156°-15'W. An eventual 15 DER's, based at Pearl Harbor, were planned for the line.²² This estimate was later cut to 13 ships available with three on station by 1 July 1958. However, those on station would be increased to five as soon as additional DER's became available from the contiguous barrier. The goal was 18 DER's to man the Pacific extension by April 1959.²³

WV-2 Super-Constellations operating from Midway provided the airborne early warning coverage for the southern portion of the barrier,

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overflying the picket ship line for some 400 miles to the north. The WV-2 force was reduced from three squadrons to two simultaneously with the corresponding reduction in the Atlantic. However, 25 aircraft were planned for the inauguration of full operations on the line on 1 July 1958. Four or more were to be airborne at the same time.

Further plans were made to shift the northern end of the Pacific barrier westward to Umnak Island in the Aleutians upon completion of the Aleutian Segment of the DEW Line, scheduled for March 1959.²⁴ The Aleutian Segment would extend land-based radar coverage to Umnak, thereby obviating the necessity of the eastern seaborne line to Kodiak.

Barrier forces in the Pacific reported all contacts to Commander Barrier Pacific (COMBAPAC) at Barbers Point, Oahu. There they were correlated and evaluated, and those which could not be identified²⁵ sent on to the COC at NORAD.

AUGMENTATION FORCES

In addition to the 23 F3D's and six F4D's of Fleet All-Weather Training Unit Pacific (FAWTUPAC) based at NAS North Island, San Diego, which were assigned a Continental Air Defense Mission, those units of the Navy's carrier fighter aircraft temporarily based ashore were to be available for air defense in an emergency.²⁶ In such case they would be under the operational control of CINCNORAD, as delegated to the Air Defense Division commanders.²⁷

The actual numbers so available varied from month to month according to fleet training and deployment schedules. The average

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number of aircraft available during the period was approximately 1200. Of these, about 675 were in the Eastern CONAD Region, 255 in Central, and 270 in Western.²⁸

These figures were not an accurate index of the number that would actually be thrown into air defense action in an emergency, however, for the computations did not take into consideration the fact that some of the aircraft listed for augmentation had no pilots checked out in the planes and ready to fly them. In addition, some of the units appearing in the augmentation list would probably be deployed to sea in event of attack. A third factor rendering the figures misleading was the lack of inclusion of reserve units stationed at some of the shore installations.²⁹

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REFERENCE NOTES

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FOOTNOTES

1. CONAD/ADC Historical Study Number 9, Organization and Responsibility for Air Defense, March 1946-September 1955, p 89; Staff Instructions, COMNAVFORCONAD, 1 July 1955, p 1 (HRF 7).
2. CONAD/ADC Historical Study Number 9, Organization and Responsibility for Air Defense, March 1946-September 1955, p 118.
3. History, CADF/JCADF, 1 July-31 December 1956, p 1.
4. CHNAVPERS to Radm Hugh H. Goodwin, USN, "Orders relieving you of all active duty incident to your retirement," 30 April 1957 (DOC 1).
5. Interview with Lcdr King, NAVFORCONAD Asst. for Plans, 19 February 1958.
6. CONAD Ops Plan 9-57, Appendix I, Annex A, 1 August 1957 (DOC 2).
7. As in n. 5.
8. CONAD Ops Plan 9-57, Appendix II, Annex A, 1 August 1957 (DOC 3).
9. CONAD Ops Plan 9-57, Annex A, 1 August 1957 (DOC 4).
10. COMNAVFORCONAD to CINCNORAD, "Relocation of Picket Ship Stations in the Contiguous System," 25 September 1957 (DOC 5).
11. Ibid.
12. As in n. 5 and 9.
13. As in n. 9.
14. Interview with Lcdr King, NAVFORCONAD Asst. for Plans, 19 March 1958.
15. Msg., CINCLANTFLT to COMASDEFORLANT, 2 July 1957 (DOC 6).
16. COMBARLANT Op-Order 1-56, 12 December 1957, Annex A, Appendix I (HRF 307).
17. Msg., ADMINO CINCLANT to CNO, CINCONAD, 27 August 1957 (DOC 7).
18. Msg., CHINFO to CINCLANTFLT, et al., 12 September 1957 (DOC 8).
19. COMBARLANT Op-Order 1-56, 12 December 1957, Annex A (HRF 307).
20. As in n. 14.

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11

21. Naval Speed Letter (ser. 00509), CINCPACFLT to CINCONAD, et al., 20 June 1957 (DOC 9).
22. Msg., CINCPACFLT to CINCNORAD, 10 January 1958 (DOC 10).
23. Msg., CINCPACFLT to CINCNORAD, 6 February 1958 (DOC 11).
24. As in n. 22; Msg., CINCONAD (COOPR-R X021) to CINCPAC, 8 May 1957 (DOC 12).
25. As in n. 14.
26. DCS/P&O NORAD to COMNAVFORCONAD, "FAWTUPAC Conversion Program," 27 November 1957 (DOC 13).
27. NAVFORCONAD Instruction 03320.1A, August 1956, pp I-3 (HRF 430.2).
28. Naval Forces Augmentation Aircraft Reports, July, August, October-December 1957 (DOC 14).
29. Interview with Cdr. Craig, NAVFORCONAD Assistant Operations Officer, 21 March 1957.

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APPENDICES

DEPARTMENT OF THE NAVY
Bureau of Naval Personnel
Washington 25, D. C.

In reply refer to:

57575/1310
Pers-B1151-nlf-2
30 April 1957

AIRMAIL

From: Chief of Naval Personnel
TO: Rear Admiral Hugh H. GOODWIN, USN
Commander, Naval Forces, Continental Air Defense Command
Ent Air Force Base, Colorado Springs, Colorado
Via: Commander in Chief, Continental Air Defense Command
Subj: Orders relieving you of all active duty incident to your retirement
Ref: (a) Sections 1 and 5, Chapter 14, BuPers Manual (Change #20)
(b) BuPers Instruction 1811.1

1. Your request to be transferred to the retired list was approved at the direction of the President of the United States, effective 1 June 1957.
2. When directed by the Commander in Chief, Continental Air Defense Command on 31 May 1957 you will regard yourself detached from duty in a flying status involving operational or training flights as Commander, Naval Forces, Continental Air Defense Command, Ent Air Force Base, Colorado Springs, Colorado, and from such other duty as may have been assigned you; will proceed to your home of selection. You will regard yourself relieved of all active duty in the Navy effective at 2400 on date of detachment.
3. Having been specially commended by the head of the executive department for your performance of duty in actual combat, on 1 June 1957, you will be transferred to the retired list with the rank of Vice Admiral, but with retired pay based on the rank of Rear Admiral, upper-half, pursuant to the provisions of US Code, Title 10, Sections 6323 as amended, 6325, 6150 and Title 37, Section 115. You may, if recalled to active duty, be recalled either in the rank of Rear Admiral or Vice Admiral in the discretion of the Secretary of the Navy.
4. Attention is invited to references (a) and (b) concerning general information affecting the retirement of officers.
5. If you are hospitalized at any time during the period preceding the date of your retirement, you should advise the Chief of Naval Personnel by message concerning the diagnosis, prognosis, and probable period of hospitalization.
6. You will not be required to take a new physical examination, less a material change in your physical condition has occurred

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57575/1310
Pers-B1151-nlf-2

subsequent to your recent retirement physical examination.

7. It is requested that you report your mail address in accordance with Article B220 (5) and (6), Bureau of Naval Personnel Manual.

8. Cost of travel is chargeable to 1771453.18, MPN 1957, object class 029, expenditure account 74131, Bureau Control 22/31600.

9. Enter in item 11c, DD Form 214: BuPers ltr Pers-B1151-nlf-2, of 30 April 1957, 56P, Voluntary retirement - After twenty years' service (Commissioned officers) Act of 21 February 1946, as amended or Act of 9 July 1952.

s/t/ J. L. HOLLOWAY, JR.
Vice Admiral, US Navy

Copy to:

CINC CONTINENTAL AIRDEFCOMD ENT AFB
COLORADO SPRNGS, COLO
FOR DISBOFF CARRYING ACCTS

CNO
OP 50
OP 60
COFSA
OP 002

26289

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CONAD INST FILE

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Pers-B1151, Dept of the Navy, Wash D. C., 30 Apr 57, Subj: Orders
Relieving You of All Active Duty Incident to Your Retirement

COSAG

1st Ind

MAY - 6 1957.

Headquarters Continental Air Defense Command, East Air Force Base,
Colorado Springs, Colorado,

TO: Commander, Naval Forces, CONAD, East Air Force Base,
Colorado Springs, Colorado

1. Delivered.
2. You will consider yourself detached from duty as Commander,
Naval Forces, Continental Air Defense Command, on 31 May 1957.

FOR THE COMMANDER-IN-CHIEF:

MARSHALL S. CARTER
Major General, USA
Chief of Staff

C. H. Scott
Col C. H. Scott

2535
6 May 57

jk

MEMO FOR RECORD NOT REQUIRED

CINCOMAD	NER
<i>[Signature]</i>	HCS
SECRETARIAT	SEC
ASST. SEC.	SAG
ASST. TO SEC.	JAV
ASST. TO DIR.	JPL
INFO SERVICES	WFO
DCI C&E	ELC
DCI INT	ESS
DCI S&T	EPN
DCI W&A	EPH
DCI I	INT
DCI S	KCD
DCI E	KRF
DCI W	KOH
DCI P&C	OPD
DCI R	OPK
DCI S	OPP
DCI T	OPR
DCI U	OPV
DCI V	OPW
DCI X	OPX
DCI Y	OPY
DCI Z	OPZ
CONAD	
COMNAVFORCONAD	
CG A&A CORD	
RCAP LIAISON	

Not Readable

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APPENDIX I

2

Not readable

How to use this for all field...

APPENDIX I, ANNEX A
COMAD CPN PLAN 9-57
1 August 1957

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APPENDIX II

3

Not readable

APPENDIX II, ANNEX A
SOMAD OPS PLAN 9-57
1 August 1957

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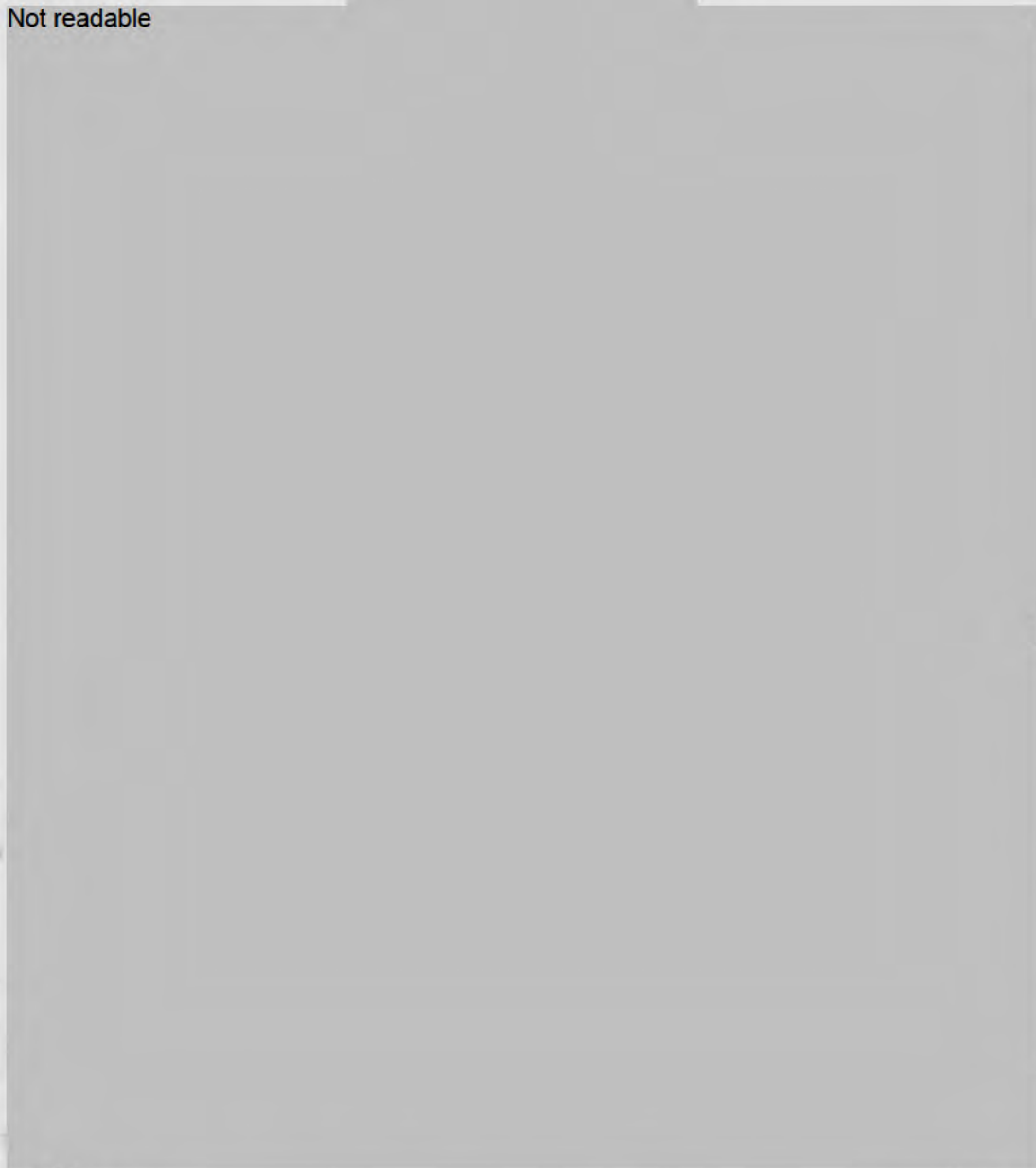
ANNEX A
COMAD OPM PLAN 9-57
1 August 1957

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PLAN &
PLAN 9-57
1957

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75-10/302:dm

A4-3

Doc:

57

25 Sept 1957

5

From: Commander Naval Forces, Continental Air Defense Command
To: Commander in Chief, North American Air Defense Command
Subj: Relocation of Picket Ship Stations in the Contiguous System
Ref: (a) CNDOP 26-66

Encl: (1) Chart of Present East Coast Coverage
(2) Chart of Proposed East Coast Coverage
(3) Chart of Present West Coast Coverage
(4) Chart of Proposed West Coast Coverage

1. In view of budgetary reductions which resulted in the decision by the Navy that force levels for the surface element of the Contiguous System are fixed at that level which is required to man five (5) stations off each coast, a preliminary study has been made attempting to achieve a higher return in the utilization of forces available. The study is based on an increase in detection capability as a result of the installation of the AN/SPS-17 search radar on YAGP types. Because of the limited low level surveillance capability of the picket ships, high altitude targets were considered to be the prime responsibility of the picket ships.
2. The extent of contiguous radar coverage required in the off-shore areas as outlined in reference (a), placed a requirement of nineteen (19) picket stations as necessary to attain the desired coverage. Based on target altitude of 25,000 feet, it is believed that the proposed relocation will furnish approximately 80% of the required CNDOP coverage off the West Coast, and 70% off the East Coast. Increases in target altitude will extend the detection ranges farther to seaward but will not appreciably increase the lateral coverage along the coastline.
3. Commander, Operational Development Force final report, "Evaluation of an AN/SPS-17 Radar" dated 3 July 1957, was used as a data source for SPS-17 performance. A detection range of 170 N.M. was used in stationing picket ships based on average detection range curves obtained by OpCawfer on single jet aircraft (F3D or TV-2) at altitudes from 17,000 to 42,000 feet. Unfortunately, aircraft were not available to investigate the altitudes above 42,000 feet. The theoretical coverage indicated this coverage extends above 60,000 feet. The 170 N.M. detection range utilized corresponds to a target altitude of 25,000 feet.

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A4-3

4. In determining the proposed locations for picket stations, the axis of the picket line was located 100 miles inside the limits of the contiguous radar coverage required in reference (c). The interval between picket stations was fixed at 272 N.M. based on a desired coverage factor of 1.25 at target altitude of 25,000 feet. The coverage attained along the axis of the picket stations in the proposed relocation is as follows:

<u>Target Altitude</u>	<u>Coverage Factor</u>
15,000	1.01
20,000	1.14
25,000	1.25
30,000	1.34
35,000	1.45
42,000	1.61

Details of coverage attained by present and proposed stations are furnished herewith as enclosures (1) through (4).

5. It is recommended that tests be initiated to test the validity of this station relocation concept. Should the concept prove sound it is further recommended that problem areas resulting from this relocation (particularly communications) will have been explored and resolved prior to July of 1958 so that the relocation of stations could be fully implemented at this time. On the East Coast the SPS-17 installation has already started and is scheduled to be completed by June 22, 1958, on all eight (8) YAGR. On the West Coast the installations will start 1 November and will be completed 31 May 1958, on the four (4) YAGR now in commission and tentatively in June 1958, on the four (4) additional programmed YAGR conversions.

G. L. KOHN
Chief of Staff

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COPY OF INCORPORATING CLASSIFIED MESSAGE

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2 Jul 57

6

READING FILE

2

307

CONO 006

A-39-03
RR RJEDEN
DE RBEKZC 93
R 021620Z (TDTG 012553Z)
FM CINCLANTFLT
TO COMASDEFORLANT
INFO CNT
CINCONAD
COMCFECR
CINCLANTFLT
BT

57A Doc 157

ACTION: COOOP
INFO: COOPO
77-8255

UNCLASSIFIED //ACTIVATED FULL LENGTH BARRIER, ARGENTIA
TO AZORES THIS DATE, 4 PLANES, 4 BER ON STATION.
BT
02/2037Z JUL RBEKZ

A--PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION--
PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME GROUP PRIOR
TO DECLASSIFICATION.

READING FILE

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(when filled in)

COPY OF INCOMING CLASSIFIED MESSAGE

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READING FILE

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CON010 A-359-28
R 272130Z
FM ADMINSO CINCLANT
TO CNO
CINCONAD
INFO COMNAVFORCONAD
COMASDEFORLANT
COMNAVFOREASTCONAD
COMBARLANT

BT

UNCLASSIFIED

NOW MAINTAINING 2 AIRCRAFT AIRBORNE
ON BARRIER. REDUCTION NECESSITATED BY SHORTAGE OPERATING FUNDS.
BT

A--PARPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION--
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PRIOR TO DECLASSIFICATION

307

Code

X7-11202

27 Aug 57

57B 000 122

7

READING FILE

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0036
A1685LYAO

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1 TYA07681271

1 RAVEN
2 HQ U 368
3 122204Z
4 CIIINFO
5 CINCLANTFLT
6 INCPACFLT
7 OPNAVAVIRLANT
8 OPNAVIRPAC
9 OMBARLANT
10 OMBARPAC
11 NFO CINCOMNAV
12

CONAD HIST F

~~507~~
307

1918

1571 to 123

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CONF
8

FOLLOWING HAS BEEN USED TO ANSWER PRESS INQUIRY ON
THE NAVY IS REDUCING THE NUMBER OF AIRCRAFT SQUADRONS ASSIGNED TO
BARRIER PATROL BY TWO - ONE IN THE ATLANTIC AND ONE IN THE PACIFIC
THE FOUR REMAINING SQUADRONS-TWO IN EACH OCEAN- WILL BE BROUGHT UP
TO FULL STRENGTH
EVEN WITH THIS REDUCTION THE NAVY WILL MAINTAIN A FULLY ADEQUATE
BARRIER PATROL X MAJOR REASONS FOR THE REDUCTION ARE TWO CLM (1) THE
NAVY HAS NOW DETERMINED AFTER HAVING ACTUAL EXPERIENCE IN FLYING
BARRIER PATROLS THAT IT CAN FULLY CARRY OUT ITS MISSION WITH LESS AIR-
CRAFT THAN WERE ORIGINALLY ASSIGNED TO THE BARRIER SQUAD

PAGE TWO RREPW 03D
(2) REDUCTIONS IN OPERATING FUNDING WILL CERTAINLY REDUCE THE
NUMBER OF AIRCRAFT TO BE OPERATED AND IN THE NUMBER OF PERSONNEL ON
ACTIVE DUTY DURING THIS FISCAL YEAR X SINCE THE TWO SQUADRONS ARE
REQUIRED IN EACH OCEAN IT BECOMES PRACTICAL TO INACTIVATE THE EXTRA
SQUADRONS NOW BEING UTILIZED ON BARRIER PATROL
IN THE ATLANTIC ONE SQUADRON WILL BE KEPT ON STATION AT ARGENTIA AND
WILL ROTATE WITH ONE AT BAUTZENX UNTIL NECESSARY HOUSING
FACILITIES FOR TWO SQUADRONS AT ARGENTIA ARE COMPLETED X THE NAVY
FULLY EXPECTS TO OPERATE ITS BARRIER PATROLS THIS WINTER AT NO LESS
TEMPO THAN WERE OPERATED LAST WINTER

BY
CN (1) (2)
12/2204Z SEP RREPW

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ONE FOR VICINT
LETTERS ONLY

NAVY—Fleet Mailer, T. 11 (1945)

DO NOT CLEAR THROUGH
COMMUNICATION OFFICE

The box must be checked:		CLASSIFICATION	UNCLASSIFIED D
<input type="checkbox"/> REGULAR MAIL	<input type="checkbox"/> SPECIAL DELIVERY		
<input type="checkbox"/> AIR MAIL	<input checked="" type="checkbox"/> REGISTERED MAIL		
TO: Distribution List			
			IN REPLY REFER TO: FP1-1 46 Jor 00504
			DATE 20 June 1957
			NAVAL SPEEDLETTER Permits dispatch or informal language. May be sent (1) with enclosure, (2) in a window envelope (size 8 1/2" X 3 3/4"). If contents are not classified as confidential or higher, (3) to both naval and nonnaval activities. Is packaged 500 sheets of white or of one color: yellow, pink, or green.

COMB/PAC will initiate on 1 July 1957 a modest barrier between Midway and Adak (becoming Midway to Unalak at a later date) for training purposes. Originally only one and one-half flights per day and no surface pickets will be provided. A progressive build-up to full operation on 1 July 1958 is planned. The main purpose of this early effort is training. It will be modified or interrupted as circumstances dictate. Contact reports will be evaluated from information that can be made available and forwarded to the same commands that will receive them from the ultimate full barrier. Initially, existing communications facilities will be used. As additional communication support items approved for the ultimate barrier are ready for operation they will be phased into the program. Identification requirements for barrier transit will be developed at a later date.

L. E. CURTS
Deputy

Authenticated:

W. O. Hill
W. O. HILL
Flag Secretary

DOC 188
1957A Hist

CONAD HIST FILE

307

Page 1 of 2 Pages

COPY TO

ADDRESS: Commander in Chief U.S. Pacific Fleet
c/o Fleet Post Office
San Francisco, California

CONAD 17 7922

← SENDER'S MAILING ADDRESS
Address reply as shown or fully or partly
hereon and return in window envelope
(size 8 1/2" X 3 3/4"). If not class-
ified as confidential or higher, (3) to both
naval and nonnaval activities.

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NOFORN

A-232-10

SEE CRYPTO SECTION BEFORE DECLASSIFYING

10 JAN 1958

II 100322Z

FM CENCPACFLT

TO CENCOMNAV

INFO CNO

COMNAVFORCENAV

CENCPAC

COMBAPAC

COMNAVFORCENAV ENT AFB

COMNAVFORCENAV ENT AFB

CENCOMNAV

CEICAL

COMCRUDESPAC

BT

CONAD HIST FILE
READING FILE
307

ACTION: COOPR

INFO: COOCP

COOCC

COOIN

COELC

COELV

#528 Doc 124

10

X8-525

UNCLASSIFIED

CENCOMNAV ENT AFB 090015Z MAY. CITE COOPR-2. PLAN FOR ADJUSTING PACIFIC SEWARD EXTENSION. NEW LINE FROM 1 JUL 58 UNTIL ALUTIAN SEGMENT NEW LINE OPERATIONAL APPROVED BY CNO. PLAN 5. A. FORCES AVAILABLE 1 JUL 58. 15 PER AVAIL OF IV 2. CONTINUED TULL-UP TO REACH 18 ABOUT APR 59. PLAN 5. B. STATIONS 2. NORTHERN SECTOR COMMENCING ABOUT 5630 NORTH 18.18 WEST TULL. NEW TOWARD MIDWAY. SPACING ABOUT 200 MI. IV 2 OPER ONE OF MIDWAY. RACE TRACK PATTERN TO OVERLAP NEW LINE ABOUT 200 MI. PLAN 5. C. STATIONS AT ALL THREE COMPATIBLE WITH NEW LINE AVAILABLE.

PAGE TWO A-232-10

OPERATING ON 1 TO 1 AT SEA. REPORT RATING AND MAX 24 DATE AT SEA ANY ONE TIME. PRESENTLY EXPECT AVG 4 PER OF STATION. AVG 4-PLUS IV 2 OF STATION WITH PARALLEL/RISE CAPS BETWEEN ACT. ACTUAL SEA LINE ORIGIN, STATION SPACING AND IV 2 TRACK TO GIVE MAX DETECTION PROBABILITY SUB RESULT COMBAPAC TRACKING BARRIER OPNS BEING CONDUCTED UP TO 1 JUL 58. B. WHEN ALUTIAN SEGMENT OPERATIONAL WILL SHIFT NORTHERN END WEST MAINTAINING 5 PER OF STATION BETWEEN MIDWAY AND USIAK (PROVIDING 10 PER AVAIL AT THAT TIME) WITH AVG 4 PLUS IV 2 KK RACE TRACK PATTERN MAKING CONTACT WITH LAND BASED RADAR COVERAGE AT NORTH END. BOTH INTERIM AND ULTIMATE BARRIERS CAN BE AUGMENTED IN EMERGENCY.

BT

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307

6 Jul 1958

NORAD
A-122-05
N 030105Z
FM CENCPACFLT
CI CENCOM
INFO COMNAVFORCONAD
CENCOM
COMDR ADC
CEN
COMUSAF
COMARPAC
CENCOM
COMUSMACV
CENCPAC
BT

STATION: BOSTON
PHO: 600P, 600P, 600P, 600P, 600P
XB-1765

UNCLASSIFIED

PARA A CENCPACFLT 100322Z JUL 58. FORCE'S AVAIL...
JUL 58, CHANGE TO READ 13 INT NICE 15. DUE TO...
APPROX 1 JAN 59 INTEND TO INCREASE 3...
EXTENSION INCREASING TO 5 AS ADDITIONAL...
CONTINUOUS DARTER. EXPECT FALL 15 AVAIL...

BT
AC-PARAMETERS NOT REQUIRED EXCEPT PRIOR TO CATEGORY 1...
CRYPTON-PHYSICALLY REMOVE ALL INTERNAL...
PRIOR TO DECLASSIFICATION-NO UNCLASSIFIED...
IS QUOTED.

UNCLASSIFIED

Copies

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JOINT MESSAGE FORM

READING FILE

12

PRECEDENCE	CLASSIFICATION OF REFERENCE
ACTION: ROUTINE	CLASSIFICATION OF REFERENCE
INFO: ROUTINE	
FROM: CINCOMAD	
TO: CINCPAC PEARL HARBOR T H	
INFO: GQFS USAF WASH D C COMNAVFORCOMAD ENT AFB COLO SPRINGS COLO (COURIER) CINCAL ELMENDORF AFB ANCHORAGE ALASKA CNO WASH D C	SPECIAL INSTRUCTIONS COMAD INST F# 307

UNCLASSIFIED FROM COOPR-R 1021 INFO GQFS USAF AS EXECUTIVE
 AGENT FOR COMAD. HQ USAF AS EXECUTIVE AGENT HAS ADVISED THIS
 HEADQUARTERS THAT MARCH 1959 CONSIDERED AS DATE THE ALEUTIAN
 SEGMENT NEW LINE WILL BE COMPLETELY INSTALLED, TESTED, AND
 FULLY OPERATIONAL. LIMITED CAPABILITY ANTICIPATED COMMENCING
 JANUARY 1959. REQUEST YOUR VIEWS ON POSSIBILITY OF ADJUSTING
 PACIFIC SEAWARD EXTENSION ROUTE OR SURFACE PICKET STATIONS TO
 COVER ALEUTIAN SEGMENT UNTIL MARCH 1959.

57A Doc 186

MEMO FOR RECORD: N/R

DDI - N/R

DATE 8
MONTH May
YEAR 1957

SYMBOL	COOPR-R
TYPED NAME AND TITLE (If handwritten)	LT COL L W HOUGH, USAF
PHONE	2435
PAGE NR	1
NR OF PAGES	1
SECURITY CLASS	UNCLASSIFIED
SIGNATURE	<i>L. W. Hough</i>
TYPED NAME AND TITLE	J W LEDOUX LCDR USN Asst Adjutant

READING FILE

DD FORM 173

REPLACES DD FORM 173, 1 OCT 49, WHICH WILL BE USED UNTIL EXHAUSTED

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CONAD HIST FILE

430.2

NOV 27 1958

13

SUBJECT: FAWTUPAC Conversion Program

TO: Commander
Naval Forces
Continental Air Defense Command
Ent Air Force Base
Colorado Springs, Colorado

1. Recent operational readiness inspections and fighter interceptor training evaluations conducted in the area of responsibility of the 27th COMA Division have revealed that the Air Defense Unit, FAWTUPAC, stationed at North Island Naval Air Station, was lacking in numbers of modern fighter interceptors considered necessary for the performance of their air defense mission.

2. This determination is based primarily on the fact that of the aircraft with which this unit is equipped, i.e., 23 F3Ds and 6 F4Ds, the 23 F3D aircraft are not considered capable of performing the air defense mission at high altitude. On the other hand, the F4D has proved to be an excellent aircraft.

3. It is understood that it is planned to replace the F3D aircraft of FAWTUPAC with more modern equipment. This Command would urge that this conversion be accomplished as soon as practicable.

L. Col Matt
2088

4. Request that this Headquarters be advised of the programmed status of FAWTUPAC with regard to aircraft conversion.

wdm

FOR THE COMMANDER-IN-CHIEF:

HARVEY T. ALNESS
Major General, USAF
DCS/Plans & Operations

W/R: Not P. 10/11/58

10h

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CONFIDENTIAL

14

DATE **DEC 15 1957** NAVAL FORCES AUGMENTATION AIRCRA.

LOCATION	TYPE	WEATHER	AP	OTHER	TOTAL	REMARKS					
EASTERN											
AIRBOR											
ATLANTIC CITY			6	1	6	18					
DEER FIELD	11	17	29	50	17	146					
CHESTNUT POINT		19	10	35	12	76					
CHICKSQUAM			2			12					
CONCORD			32	(40 AMATO)		32					
CLAYTON			59			34					
JACKSONVILLE			47	11	2	59					
KEY WEST	14					14					
MEMPHIS											
MIAMI			16	95		61					
NEW YORK			22			22					
NAGARA FALLS											
NOBLES				9	19	9					
OCEANA	16	11	47	28		121					
ORANGE											
SANFORD											
SHEPHERD FIELD			18			12					
SOUTH WYOMOUTH			35			53					
WILLOW GROVE			24			24					
KENTON											
BEAUFORT						14					
NEW ORLEANS											
TOTAL	27	33	38	35	299	170	20	23	46	708	
WESTERN											
ALAMEDA	18	9		18		15					
BROWN FIELD											
CHINA LAKE											
EL CENTRO				6	6	68					
EL FORD		7		40	31	20					
LOS ANGELES				20		10					
MIRAMAR	41		13	23	18	18					
MOFFETT FIELD		6	21	9		12					
MOORE											
NORTH ISLAND											
OAKLAND					27	27					
POINT MUG											
SPRING											
Fullon				13		13					
TOTAL	59	7	16	39	10	89	76	27	12	649	
CENTRAL											
CHAGE FIELD				68		68					
COMPTON AIRBASI					25	25					
DALLAS				30		39					
DEMER				16		63					
KANSASVILLE					85	85					
LITTLE											
MEMPHIS				8		8					
SI				60		60					
MEMPHIS				16		16					
TOTAL				198	110	308					
GRAND TOTAL	86	40	53	69	15	586	246	40	47	3580	1366

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For the Year 1958
SUPPORTING DOCUMENTS, Vol. VI

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HEADQUARTERS
AIR DEFENSE COMMAND
United States Air Force
ENT AIR FORCE BASE
Colorado Springs, Colorado

ADOCE-AS

31 October 1958

SUBJECT: ADC ACW Status Report (RCS: AF-V20) and ADC
ACW Program Resume (C)

TO: See Distribution

1. Subject report and resume supersedes the ADC ACW Status Report and ADC ACW Program Resume, dated 30 September 1958, which may be destroyed.

RESUME2. SAGE Information.

a. Current Status. The first SAGE Sector, New York, became operational 1 July 1958. The Boston Air Defense Sector was turned over for operation on 11 September 1958 in accordance with SAGE Schedule #7 (improved). The Syracuse, Washington, Bangor, and Detroit Sectors are now in test status. ADC has been given executive responsibility for SAGE (Category III) E&ST. Testing is currently scheduled to begin 1 January 1959.

b. BOMARC. An IM-99A (BOMARC) under SAGE control was fired against a NAVAHO X-10 flight test vehicle used as a target drone on 24 September 1958. This is the sixth time in six attempts that the SAGE control system has been used successfully with the IM-99A.

c. Extension of SAGE into Canada. The SAGE Project Office proposal for extension of SAGE into Canada has been received. Proposal is to fund the Ottawa DC/CC building in FY-59 and ancillary buildings in FY-60. Suggested operations date of the Ottawa DC is June 62, after the Raleigh Sector and before Miami. Suggested operations date of the Ottawa CC is September 1962, same as San Antonio. According to project office findings, this schedule can be met by all manufacturers without delaying the ZI SAGE Schedule.

3. FD and SAGE G/A Frequency Incompatibility. A symposium will be held on 17 November 1958 to resolve alleged frequency incompatibility of the FD radar and SAGE G/A radio. As yet there is little effect on the existing programs. This comment is rendered to prepare concerned units with the possible future program slippages as a result of the frequency problem.

4. Construction at P-8, Tierra Amarilla, New Mexico. ADAIC has been requested to hold all action on construction at P-8 in abeyance, pending USAF decision on the future of the site. A decision is expected by 30 November 1958.

5. Radar Coverage Civil Jet Air Carrier Route. In line with the establishment of Civil Jet Air Carrier Route, the following sites in the northeast area have

Director Research Aircraft Marshall AFB, Kansas	RECEIVED 31 OCT 31 1958
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(RCS: AF-V20) and ADC ACW Program Resume

been selected as prime sites: P-45, Montauk Point, New York; P-50, Saratoga Springs, New York; P-65, Charleston, Maine. These sites will perform the actual control and vectoring of the Civil Jet Air Carriers. CAA has in place at each of the above sites, one CAA controller who will assist the ADC site personnel in the performance of the above. The following ADC sites have been selected as secondary or back-ups to those above: P-10, North Truro, Massachusetts, as back-up to P-45; P-14, St Albans, Vermont, as back-up to P-50; P-13, Brunswick, Maine, and P-80, Caswell Maine, as back-up to P-65. The above sites will flight-follow all civil jet air traffic and be prepared to take over control functions at any given moment. The above sites, in the northeast area are the first to be effected by this program. Additional sites in Eastern, Central, and Western Air Defense Forces will be effected at a later date, when east-to-west routes and north-to-south routes are established.

6. Designation of Control Centers. To comply with Headquarters NORAD desires for designation of control centers, the ten (10) centers previously listed as JMDC have been changed to read CCC (CONAD Control Centers). Five additional sites have been placed in this category to show colocation with the army. The following are the present CCC sites and are so designated in the function column:

RP-1	P-35	P-70
P-9	RP-39	P-72
P-20	RP-54	P-78
P-21	RP-62	MM-1
RP-31	RP-63	SM-151

7. Designation of CAA and AAA Site Usage. In order to indicate the use of ADC radar equipment by CAA and AAA personnel, we have added additional coding to the function column. The new coding is as follows: The underlining of the letters in the function column indicates CAA is utilizing the ADC radar equipment at that site. The symbol # placed in the function column indicates an additional scope is in place or programmed for AAA use.

8. DEW East Extension. Construction on the two coastal sites (DYE 1 and 4) is now in progress. Construction for the two icecap sites (DYE 2 and 3) will commence during the summer of 1959.

9. Canadian Procurement of Equipment. The Canadian Government is procuring a total of eighteen (18) FPS-6's, two (2) FPS-20's and seven (7) GPA-27's for all of the Category 4 sites, except C-35. Six of the FPS-6's are already operational. The remaining equipments are all programmed for FY-60.

10. Canadian Program Approval. USAF has advised that site surveys for C-50, C-51, C-52, C-53 and C-54

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are approved for programming. They will be funded and manned by USAF. MCP funding is expected in FY-60. Canada has approved two additional prime sites (C-42 and C-44) to be funded and manned by ECAF. The sites will be an extension of SAGE into Canada. Also a Canadian gap filler program of 45 sites has been approved, including six to be funded by RCAF and 39 to be funded by USAF. This deletes six proposed gap fillers: C-5F, C-11B, C-23A, C-33A, C-34A and M-102A. USAF indicated 18 will be funded in FY-60 and 21 in FY-61. With eleven (11) of the 4th Phase prime sites not being approved, we are removing them from this month's report. When, and if, they are approved, we will insert them in the report.

11. Reassignment of Sites. Due to the phasing into SAGE and reorganization of air divisions, the following reassignments of sites have occurred:

Site	FROM		TO	
	ADiv	ADF	ADiv	ADF
P-21	30	EADF	26	EADF
P-21A	30	EADF	26	EADF
P-21B	30	EADF	26	EADF
RP-62F	30	EADF	26	EADF
P-63	30	EADF	26	EADF
RP-63	30	EADF	26	EADF
RP-63C	30	EADF	26	EADF
P-64	20	CADF	37	EADF
P-64A	20	CADF	37	EADF
P-81	20	CADF	37	EADF
P-81A	20	CADF	37	EADF
P-81B	20	CADF	37	EADF
P-81C	20	CADF	37	EADF
P-85	20	CADF	37	EADF
M-115	85	EADF	35	EADF
M-115A	85	EADF	35	EADF
M-115B	85	EADF	35	EADF
M-116	85	EADF	35	EADF
M-116B	85	EADF	35	EADF
M-116C	85	EADF	35	EADF
M-130	85	EADF	35	EADF
M-130B	85	EADF	35	EADF
SM-144	58	EADF	20	CADF
SM-144A	58	EADF	20	CADF

12. Changes in Operational Dates: Changes in operational dates of ninety (90) days or more for the following sites have occurred since publication of the 30 September 1958 report:

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<u>Site</u>	<u>Location</u>	<u>Old Ops Dt</u>	<u>New Ops Dt</u>	<u>Reason</u>
P-42B	London, Ky	Sep 59	Feb 60	BOD Slippage
RP-63	Gibbsboro, N.J.	Nov 60	Nov 61	Funding Deferred
M-94B	Zuni, N.M.	Jul 59	Apr 59	Improved BOD of Manual Annex
SM-163A	Boulder City, Nev.	Sep 59	Mar 59	Improved BOD of Manual Annex
SM-163B	Lathrop Wells, Nev.	Sep 59	Mar 59	Improved BOD of Manual Annex
TM-177C	McIntosh, S.D.	Jul 59	Oct 59	BOD Slippage

13. If the need for this report is no longer required,
please notify ADOCE-AS, this headquarters, to this effect.

FOR THE COMMANDER:

5 Incls: D. E. WILLIAMS
Colonel, USAF
Director
Communications-Electronics

1. Progr. Impl. Status Chart (S)
2. ADC Site Directory (U)
3. Oprl Status & Design. for SAGE CC's & DC's(C)
4. ADC ACW Status Report (34 pages) (S)
5. Legend Page (U)

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Comdr, 33rd ADiv (DC&E)	2	ADOWX	1
Comdr, 34th ADiv (DC&E)	2	4601 Support Gp (DEW)	2
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AFCIN-2B	1	AFOOA	1
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ADOCE-AS, Hq ADC, 31 Oct 58, Subj: ADC ACW Status Report
(RCS: AF-V20) and ADC ACW Program Resume

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ADC ACW PROGRAMS IMPLEMENTATION STATUS CHART Date: 31 October 1958

PROGRAM	Number Sites	Constr. Compl.	Under Constr.	Tech. Instl. in Progress	pri.	pri. Prime Search Eqp. No.	Completion Forecast by End FY					Program Completed	REMARKS
							1959	1960	1961	1962	1963		
Permanent Program (P-Sites)	75	75	-	-	75	CPS-4B/PFS-10 24 MFS-7/PFS-3 17 PFS-20 32	75	73	73	73	73	Apr 53	1-6 to phase out Dec 59 7-11 to phase out Feb 60
1st Phase Semi-Mobile (M-Sites)	31	31	-	2	29	MFS-11/PFS-8 9 MFS-7/PFS-3 15 PFS-20 5	31	31	31	31	31	Dec 58	M-108 deleted. M-100, M-119 in Canada.
2nd Phase Semi-Mobile (SM-Sites)	20	16	1	2	13	MFS-11/PFS-8 5 MFS-7/PFS-3 4 PFS-20 4	16	16	17	19	20	Jan 63	SM-151 in Canada.
3rd Phase Semi-Mobile (TM-Sites)	21	17	3	7	3	PFS-3 2 PFS-20 1	17	20	20	21	21	Jun 63	
Texas Towers	3	3	-	1	2	PFS-20 2	3	3	3	3	3	Jan 59	
TOTALS	151*	142	4	12	122		142	143	145*	148*	149*		* Includes CCC Site MX-1; see Oct 60.
AEW & Con	5	-	-	-	4		-	-	-	-	-	Oct 56	21, 4A, 6A, Blimp (6) on alternate 24 hours.
	5	-	-	-	5		-	-	-	-	-	Oct 56	Two stations operating on part time basis (1 & 3 on alternate 48 hours)
Ficket Ships	5	-	-	-	5		-	-	-	-	-	Jul 55	12A, 14A, 16A, 18A, 20A.
	5	-	-	-	5		-	-	-	-	-	Jul 56	41, 13, 15, 17, 19 (Temporary positions)
ZI Gap Fillers	237#	122	29	36	61	PFS-14 54 PFS-18 7	126	165	181	183	184		Depends on funding
Pinetree (USAF funded)	23*	23*	-	-	23*	PFS-3 16 PFS-20 2 CPS-4B 5	23*	23*	23*	23*	23*	Apr 53	* Includes G-32, Inail, Greenland.
Pinetree (RCAP funded)	10*	10*	-	-	10*	PFS-3 7 CPS-4B 2 PFS-5C2 1	10	10	10	10	10	Apr 53	* C-36 is deleted.
64th AD Gap Fillers	6	6	-	-	6	PFS-14 6	6	6	6	6	6	Jan 58	These gap filler sites are manned.
4th Phase (CANADA) Heavies	7	0	0	0	0		0	0	0	2	7		3 sites approved for SAGE by USAF. 2 sites approved for SAGE by RCAP.
4th Phase (CANADA) Gap Fillers	45	0	0	0	0				24	45	45		19 to be funded by USAF, Program approved by USAF. 4 to be funded by RCAP.
DEK Line	57	57	-	-	57	PFS-19 29 PFS-23 27	57	57	57	57	57	Jul 57	

Notes: # The 237 figure includes seven P-sites which are programmed to be converted to gap filler sites.
Following sites became operational since the last report: M-116, Cherry Point MCAS, N.C. (35th ADiv); P-62A, Thompson, Ohio (30th ADiv)

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ADC SITE DIRECTORY

SITE	LOCATION	ADIV	ADF	SITE	LOCATION	ADIV	ADF	SITE	LOCATION	ADIV	ADF	SITE	LOCATION	ADIV	ADF	SITE	LOCATION	ADIV	ADF
MCC-2	Richards-Gebaur AFB, Mo	20	C	F-20	Selfridge AFB, Mich	30/30	E	F-57	Naselle AFB, Wash	25/25	W	M-93	Winslow AFB, Ariz	34/28	C	SM-145	Jackson AFB, Tenn	35/32	E
MCC-3	Mc Chord AFB, Wash	25	W	F-21	Lockport AFB, N Y	26/26	E	F-58	Wether AFB, Calif	28/28	W	M-94	West Mesa AFB, N M	34/28	C	SM-147	Malmstrom AFB, Mont	29/29	C
MCC-4	Boslyn AFB, N Y	26	E	F-24	Outback AFB, Mont	29/29	C	F-59	Boron AFB, Calif	27/28	W	M-95	Las Cruces AFB, N M	34/28	C	SM-149	Baker AFB, Ore	25/25	W
MCC-5	Norton AFB, Calif	27	W	F-25	Havre AFB, Mont	29/29	C	F-60	Colville AFB, Wash	25/25	W	M-96	Lanahan AFB, Calif	28/28	W	SM-150	Cottonwood AFB, Ida	25/25	W
MCC-6	Hamilton AFB, Calif	28	W	F-26	Opheim AFB, Mont	29/29	C	F-61	Fort Austin AFB, Mich	30/30	E	M-97	Ellsworth AFB, S D	29/29	C	SM-151	Mina Peak AFB, Wash	25/25	W
MCC-7	Malmstrom AFB, Mont	29	C	F-27	Fortuna AFB, N D	29/29	C	F-62	Brookfield AFB, O	30/-	E	M-98	Miles City AFB, Mont	29/29	C	SM-153	Klamath AFB, B C	4602/-	
MCC-8	Willow Run AFB, Mich	30	E	F-28	Minot AFB, N D	29/29	C	HP-62	Oakdale, Pa	30/30	E	M-99	Gettysburg AFB, S D	31/29	C	SM-156	Fallon NAS, Nev	28/25	W
MCC-9	Smelling AFB, Minn	31	C	F-29	Finley AFB, N D	31/29	C	F-63	Clayburg AFB, Pa	26/26	E	M-100	Mc Hico AFB, Ore	25/25	W	SM-157	Red Bluff AFB, Calif	28/25	W
MCC-10	Syracuse AFB, N Y	34	E	F-30	Benton AFB, Pa	26/26	E	HP-63	Gibbsboro, N J	30/26	E	M-102	Harrington AB, N D	4602/-		SM-159	Aiken AFB, S C	35/32	E
MCC-11	Oklahoma City AFB, Okla	33	C	F-31	Williams Bay AFB, Wisc	37/-	E	F-64	Kirksville AFB, Mo	37/30	E	M-103	N. Concord AFB, Va	32/26	E	SM-162	Vincent AFB, Ariz	27/28	W
MCC-12	Kirtland AFB, N M	34	C	HP-31	Arlington Hts, Ill	37/30	E	F-65	Charleston AFB, Me	32/26	E	M-110	Bucks Harbor AFB, Me	32/26	E	SM-163	Las Vegas AFB, Nev	27/28	W
MCC-13	Dobbins AFB, Ga	35	E	F-32	Condon AFB, Ore	25/25	W	F-66	Sault St Marie AFB Mich	37/30	E	M-111	Marietta AFB, Ga	35/32	E	SM-164	Tomopah AFB, Nev	28/23	W
MCC-14	Truax Field, Wisc	37	E	F-33	Klamath AFB, Calif	28/25	W	F-67	Custer AFB, Mich	30/30	E	M-112	Hunter AFB, Ga	35/32	E	SM-165	Flintstone AFB, Ga	35/32	E
MCC-15	Wright-Patterson AFB, O	58	E	F-34	Empire AFB, Mich	37/30	E	F-68	Fordland AFB, Mo	20/33	C	M-113	N. Charleston AFB, S C	35/32	E	TM-177	Dickinson AFB, N D	29/29	C
MCC-16	St Johns, Nfld	64		F-35	Geocela AFB, Wisc	31/30	C	F-69	Finland AFB, Mich	31/30	C	M-114	Jacksonville NAS, Fla	35/32	E	TM-178	Lewistown AFB, Mont	29/29	C
MCC-17	Andrew AFB, MS	26	E	F-37	Point Arena AFB, Calif	28/28	W	F-70	Bellefonte AFB, Ill	20/33	C	M-115	Fort Fisher AFB, N C	39/32	E	TM-179	Kallispell AFB, Mont	25/25	W
				F-38	Mill Valley AFB, Calif	28/28	W	F-71	Omaha AFB, Nebr	20/29	C	M-116	Cherry Point NAS, N C	45/32	E	TM-180	Keno AFB, Ore	28/25	W
F-1	Mc Chord AFB, Wash	25/-	W	F-39	San Clemente Is AFB, Cal	27/-	W	F-72	Clatte AFB, Kan	20/33	C	M-117	Roanoke Rapids AFB, N C	26/26	E	TM-181	Lake Williams AFB, Ariz	34/28	C
HP-1	Pt Lawton, Wash	25/25	W	HP-39	San Pedro Hill, Calif	27/28	W	F-73	Bellefontaine, O	30/30	E	M-118	Burns AFB, Ore	25/25	W	TM-186	Pyote AFB, Tex	34/33	C
F-2	Cambria AFB, Calif	27/28	W	F-40	Urbello AFB, Wash	25/25	W	F-74	Madera AFB, Calif	28/28	W	M-119	Lowther AB, Ont	37/-	E	TM-187	Osana AFB, Tex	33/33	C
F-6	Durlew AFB, Wash	25/-	W	F-42	Lake City AFB, Tenn	35/32	E	F-75	Lockland AFB, Tex	33/33	C	M-121	Beaufort AFB, Va	26/26	E	TM-188	Eagle Pass, Tex	33/33	C
F-7	Continental Div AFB NM	34/28	C	F-43	Guthrie AFB, W Va	35/32	E	F-76	Mt Laguna AFB, Calif	27/28	W	M-125	England AFB, La	33/33	C	TM-189	Zapata AFB, Tex	33/33	C
F-8	Tierra Amarilla AFB NM	34/28	C	F-44	Makah AFB, Wash	25/25	W	F-77	Bartlesville AFB, Okla	20/33	C	M-126	Houma NAS, La	35/32	E	TM-190	Fort Isabel AFB, Tex	33/33	C
F-9	Highlands AFB, N J	26/26	E	F-45	Montauk AFB, N Y	26/26	E	F-78	Duncanville AFB, Tex	33/33	C	M-127	Willemucca AFB, Nev	28/25	W	TM-191	Hockport AFB, Tex	33/33	C
F-10	North Truro AFB, Mass	26/26	E	F-46	Bialne AFB, Wash	25/25	W	F-79	Ellington AFB, Tex	33/33	C	M-128	Kingman AFB, Ariz	27/28	W	TM-192	Killeen AFB, Tex	33/33	C
F-11	Yaak AFB, Mont	-5/-	W	F-47	Hutchinson AFB, Kan	20/33	C	F-80	Caswell AFB, Me	32/26	E	F-129	MacDill AFB, Fla	35/32	E	TM-193	Lufkin AFB, Tex	33/33	C
F-12	North Bend AFB, Ore	25/25	W	F-49	Watertown AFB, N Y	32/26	E	F-81	Waverly AFB, Ia.	37/30	E	M-130	Winston Salem AFB, N C	35/32	E	TM-194	Lake Charles AFB, La	33/33	C
F-13	Brunswick AFB, Me	32/26	E	F-50	Saratoga Spgs AFB, N Y	26/26	E	F-82	Show M AFB, Ky	35/32	E					TM-195	Crystal Spgs AFB, Wisc	35/32	E
F-14	St Albans AFB, Va	32/26	E	F-51	Mariarty AFB, N M	34/28	C	F-85	Hanna City AFB, Ill	37/30	E	SM-132	Soudette AFB, Minn	31/30	C	TM-196	Dauphin Is AFB, Ala	35/32	E
F-15	Santa Rosa AFB Calif	27/28	W	F-52	Oklahoma City AFB, Okla	33/33	C					SM-133	Hastings NAD, Nebr	20/29	C	TM-197	Thomsonville AFB, Ala	35/32	E
HP-15	Lompoc, Calif	27/28	W	F-53	Rockville AFB, Ind	37/30	E	M-88	Amarillo AFB, Tex	33/33	C	SM-134	Ficktown AFB, S D	31/29	C	TM-198	Tyndall AFB, Fla	35/32	E
F-16	Calumet AFB, Mich	37/30	E	F-54	Falerno AFB, N J	26/26	E	M-89	Sweetwater AFB, Tex	33/33	C	SM-136	Grand Rapids AFB, Wisc	31/30	C	TM-199	Edwards AFB, Ala	35/32	E
F-17	Wadena AFB, Minn	31/29	C	HP-54	Pt Meade, Md	26/26	E	M-90	Walker AFB, N M	34/28	C	SM-139	Willmar AFB, Minn	31/30	C	TM-200	Cross City AFB, Fla	35/32	E
F-18	Chandler AFB, Minn	31/29	C	F-55	Manassas AFB, Va	26/26	E	M-91	Texarkana AFB, Ark	33/33	C	SM-143	Walnut Ridge AFB, Ark	20/33	C	TM-201	Sundance AFB, Wyo	29/29	C
F-19	Antigo AFB, Wisc.	37/30	E	F-56	Cape Charles AFB, Va	26/26	E	M-92	Mt Lemon AFB, Ariz	34/28	C	SM-144	Union City AFB, Tenn	20/35	C				

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OPERATIONAL STATUS AND
DESIGNATIONS FOR SAGE OBJECT CENTERS AND SAGE CENTER

Designator	Air Div SAGE	Location	Sched Ops Dts (Sched #7 Improved)
SCC-1	26	Syracuse AFB, N. Y.	1 Jan 59
SCC-2	30	Truax Field, Wisc	1 Oct 59
SCC-3	25	McCord AFB, Wash	15 May 60
SCC-4	29	Minot AFB, N. D.	1 Jun 61
SCC-5	28	Luke AFB, Ariz	1 Oct 61
SCC-6	33	Richards-Gebaur AFB, Mo	1 Jan 64
SCC-7	32	Fort Knox, Ky	1 Apr 63

Designator	Sector	Location	Sched Ops Dt	Designator	Sector	Location	Sched Ops Dt
(SDC-1)	New York	McGuire AFB, N. Y.	(1 July 58)	SDC-15	Spokane	Larson AFB, Wash	1 Aug 60
(SDC-2)	Poston	Stewart AFB, N. Y.	(11 Sep 58)	SDC-16	Reno	Stead AFB, Nev	1 Feb 61
SDC-3	Syracuse	Syracuse AFB, N. Y.	1 Jan 59	SDC-17	Los Angeles	Morton AFB, Calif	1 Apr 61
SDC-4	Washington	Fort Lee, Va	1 Feb 59	SDC-18	San Francisco	Beale AFB, Calif	15 Dec 60
SDC-5	Bangor	Topsham, Me	1 Mar 59	SDC-19	Minot	Minot AFB, N. D.	15 Jun 61
SDC-6	Detroit	Custer AFB, Mich	1 Aug 59	SDC-20	Great Falls	Andstrom AFB, Mont	15 Feb 61
SDC-7	Chicago	Truax AFB, Wisc	1 Oct 59	SDC-21	Phoenix	Luke AFB, Ariz	15 Sep 61
SDC-8	Kansas City	Rich-Gebaur AFB, Mo (Training-1 Feb 59)	1 Jan 64	SDC-22	Sioux City	Sioux City AFB, Iowa	15 Dec 61
SDC-9	Montgomery	Gunter AFB, Ala (Test BOMARC-1 Jun 59)		SDC-23	Raleigh	Seymour-Johnson AFB, NC	1 Mar 62
SDC-10	Duluth	Duluth AFB, Minn	15 Nov 59	SDC-24	Miami	Robins AFB, Ga	15 Apr 62
SDC-11	Grand Forks	Grand Forks, N. D.	15 Dec 59	SDC-25	Albuquerque	Helen, N. M.	1 Jul 62
SDC-12	Seattle	McCord AFB, Wash	1 Mar 60	SDC-26	San Antonio	Lackland AFB, Texas	1 Sep 62
SDC-13	Portland	Camp Adair, Ore	15 Jun 60	SDC-27	Shreveport	England AFB, La	15 Nov 62
SDC-14	Sault Ste Marie	KI Sawyer AFB, Mich	15 Jun 60	SDC-28	Fort Knox	Fort Knox, Ky	15 Mar 63
				SDC-29	St Louis	Scott AFB, Ill	1 Jul 63

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SITE LOCATION	CLASS	DATE INSTALLED	STATUS	EQUIPMENT	SERIAL	MANUFACTURER	COUNTRY	OPERATIONAL DATE	REMARKS	ACW STATUS REPORT		AS OF 1/1/68				AS OF 1/1/68				REMARKS		
										RECEIVED	TESTED	RECEIVED	TESTED	RECEIVED	TESTED	RECEIVED	TESTED					
0-25	St. Johns, N.H.																					
0-26	Sw. Cliff, N.H.																					
0-28	Elliston Ridge, N.H.																					
0-30	Kepperville, N.H.																					
0-34																						
0-36	Kezville, Vt.																					
0-41	Waller, N.H.																					
0-42	St. Anthony, N.H.																					
0-46	Fox Harbor, Vt.																					
0-48	De Isle, N.H.																					
0-57	Derwent, Vt.																					
0-78	Old Street Is., Vt.																					
0-82	Quaker Lake, Vt.																					
0-28	Wesley, Vt.																					
0-29	Cape Maskevis, Vt.																					
0-29	Wagler, Vt.																					
0-30	Resolute Is., N.W.T.																					
0-31	Waffin Is., N.W.T.																					
0-32	Thule AB, Gnd.																					

Encl. w/ Page 25 of 26 pages.
The gap fillers in the 1st Air Division are marked after and to the right of 100-17

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LEGEND PAGE FOR ADC ACW STATUS REPORT

This report is compiled by the Program Management Division, Directorate of Communications & Electronics, Headquarters Air Defense Command, Ent Air Force Base, Colorado Springs, Colorado

RADAR		EQUIPMENT NOMENCLATURE		EQUIPMENT NOMENCLATURE		EQUIPMENT NOMENCLATURE	
ARSR-1	CAA, Long Range Search	AN/FPS-8	Med Range Search	AN/FPS-35	FD, Long Range Search	FPS-502	Canadian Med Range Search
AN/CPS-4B	Med Range Search & Height	AN/FPS-10	Med Range Search & Height	AN/FPS-3	Med Range Search - Stripped FT-8	TPS-501	Canadian Short Range Height
AN/FPS-3	Med Range Search	AN/FPS-14	Short Range Search			TPS-502	Canadian Short Range Height
AN/FPS-3 w/GFA-27	Long Range Search (FPS-20)	AN/FPS-18	Short Range Search	AN/FPS-7	Med Range Search	<u>MISC. EQUIPMENT</u>	
AN/FPS-3A w/GFA-57	Long Range Search (FPS-20)	AN/FPS-20	Long Range Search, on arctic tower	AN/FPS-7 w/GFA-58	Long Range Search (FPS-20)	FSA-10	GF Video Combiner
AN/FPS-4	Short Range Height	AN/FPS-24	FD, Long Range Search	AN/FPS-8	Short Range Height	FTA-13	Improved Inside Plant Tel. Fac.
AN/FPS-5	Long Range Height	AN/FPS-26	FD, Long Range Search	AN/FPS-11	Med Range Search	GTA-3	Inside Plant Telephone Fac.
AN/FPS-7	Long Range Search, on arctic tower	AN/FPS-27	FD, Long Range Search	AN/FPS-1A	Long Range Height	GTA-4	Inside Plant Telephone Fac.
		AN/FPS-28	FD, Long Range Search	AN/FPS-100	Short Range Height	GTA-6	Improved Inside Plant Tel. Fac.
						GPA-37	Computing and Data Process. System
						NE-611	Can. Inside Plant Telephone Fac.
						NE-612	Can. Inside Plant Telephone Fac.

Definition of Symbols Used

- A Modification of basic equipment.
- (A) Arctic Tower/Radome.
- If search FPS-7 and CPS-5B/FPS-10: provides both search and height capability.
- Eq* Installed on temporary tower; programmed to be replaced by arctic tower.
- * Operating with interim equipment.
- Not required or not applicable.
- (date) Estimated facility completion date.

Operational Status Legend

- X Inoperative. Cannot be placed in operation in less than 10 days.
- L Limited Operational. Due to shortage of personnel and/or equipment cannot be operated continuously.
- S Sustained Operational. Minimum personnel and equipment are on hand to allow continuous operation.
- F Fully Operational. Complete coverage of radar is known; sufficient equipment and trained personnel are on hand to operate and maintain equipment in accordance with the assigned mission.

Percentage Figures for Completion of Installation of C&E Equipment

- 5% An operational plan has been submitted.
- 20% C-E scheme, edited bill of materials published.
- 35% Tower and/or radio antenna systems erected.
- 50% Equipment installed on tower and in operations building (in case of radio equipment, cable facilities are available to remote transmitter-receiver sites.)
- 75% Equipment is installed and is in clean-up and testing stages. (In case of gap fillers this includes FST-1 and FSK-1 (Remote) installation.)
- 90% Equipment "hot-checked" and ready to be turned over to using activity.
- 95% Facility accepted and any exceptions noted. Site is operational within the air defense or tactical control systems.
- 100% Exceptions resolved; facility fully accepted.

Numerical Suffix to Operational Status Code.

- 1 Construction is major reason for current status.
- 2 Lack of personnel or insufficient trained personnel.
- 3 Lack of or installation of equipment.

Categories of Pinetree Sites (Canada):

- 1 Old Neac Site (not used in this report)
- 2 USAF funded and RCAF manned
- 3 USAF funded and USAF manned
- 4 RCAF funded and RCAF manned

Abbreviations			
C	Canadian Site	M	1st Phase Semi-Mobile Radar Program
CML	Leased Commercial tel. Plant	SDC	SAGE Direction Center
CC	Control Center	SIF	Selective Identification Feature (mod. of IFF)
DC	Direction Center	MM	Missile Master Site
FD	Frequency Diversity	OL	Overlap Coverage
G	Greenland Site	P	Permanent Site
GF	Gap Filler Site	PO	Phase Out Date
HIA	Held in Abeyance	PSR	Preliminary Site Survey Rpt
IP	Inside Plant Tel. Facility	RF	Relocated F-Site
CCC	CONAD Control Center	SCC	SAGE Combat Center
		SM	2nd Phase Semi-Mobile Radar Progr
		SS	Surveillance Station
		TM	3rd Phase Semi-Mobile Radar Progr
		TP	Telephone
		TT	Texas Tower

Column (2a), SDC - site is being tested in SAGE
 (SDC) - site is operational in SAGE
 Column (6), Function - CAA to utilize ADC RADAR equipment
 Functions - Additional scope (AN/UFA-35) required for AAA
 Column (8), Contract Award - construction has been accepted from contractor
 Column (9), Construction Bld - ACW Squadron Personnel have moved to the site

Column (10), Operational Date - Technical equipment installation in progress
 Column (25), Remarks: FSA-10 limitation - Gap filler site cannot be used in the manual system or for manual back-up after SAGE
 Overlap coverage for SAGE with the same coding as in Column (2a)
 Column (26) underlined - Site maintains a Movements and Identification Capability

Contract award and construction beneficial occupancy dates are based on latest information from AFIR's. Operational dates and/or facility completion dates represent the first day of the month shown. Beneficial occupancy dates represent the last day of the month.

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As of 6 October 1958

CHRONOLOGICAL PHASING OF MANNED INTERCEPTOR SQUADRONS

UNIT	Type Acft	UNCLASSIFIED					REMARKS
		FY 59	FY 60	FY 61	FY 62	FY 63	
95 Andrews	F-102		F106				
319 Bunker Hill	F-89J		F106				
37 Burlington	F-102				I		
444 Charleston	F-86L		F101				
46 Dover	F-94C	I					
98	F-89J		F101				
Dow		27 th fr Griffiss	F106				
465 Griffiss	F-89J		R	F101			Redesignated 49th FIS
27	F-102			To Dow			
464 K I Sawyer	1 - 1			I			
		62nd fr O Hare	F101				
438 Kinross	F-102			F106			
48 Langley	F-102			F106			
49 L G Hanscom	F-86L		R	I			Redesignated 465th FIS
87 Lockbourne	F-86L F102				I		
75 Loring		75th fr P Isle	F101				
76 McCoy	F-89H		F89J		F101		
332 McGuire	F-102				To Minot		
539	F-86L		F106				

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CHRONOLOGICAL PHASING OF MANNED INTERCEPTOR SQUADRONS

UNIT	Type Acft	UNCLASSIFIED					REMARKS
		FY 59	FY 60	FY 61	FY 62	FY 63	
47 Niagara	F-102A					I	
62 O'Hare	F-86L		To I Sawyer				
58 Otis	F-89J		To Walker				
60	F-94C	F101					
75 Presque Isle	F-89H		To Loring				
71 Selfridge	F-86L	F102					
94	F-86L		F106				I
482 Seymour Johnson	F-102A						
330 Stewart	F-86L			I			
331	F-86L	To Webb					
2 Suffolk	F-102A		F101				
5	F-102A			I			
325 Truax	F-102A						
61	F-102A			I		I	
337 Westover	F-104A						
56 Wright-Patt	F-86L	F104					I
18 Wurtsmith	F-102A			To G Forks			
445	F-89J		F101			I	
66 Youngstown	F-102A						I

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UNCLASSIFIED

CHRONOLOGICAL PHASING OF MANNED INTERCEPTOR SQUADRONS

UNIT	Type Acft	UNCLASSIFIED					REMARKS
		FY 59	FY 60	FY 61	FY 62	FY 63	
15 Davis Monthan	F-86L		F89J			F101	
11 Duluth	F-102A					F106	
54 Ellsworth	F-89J					F101	
England		14th fr S City		F102			
13 Glasgow		13th fr S City	F101				
Grand Forks		18th fr Wurtsmith		F101			
93 Kirtland	F-86L		F89J			F102	
29 Malmstrom	F-89J			F101			
Minot		332nd fr McGuire		F106			
326 Richards-G	F-102A						
85 Scott	F-86L			I			
13 Sioux City	F-86L		by Glasgow				
14	F-86L		England				
Walker		58th fr Otis	F89J		F106		I
331 Webb	F86L				F106		

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HEADQUARTERS
AIR DEFENSE COMMAND
UNITED STATES AIR FORCE
ENT AIR FORCE BASE
COLORADO SPRINGS, COLORADO

DEC 2 1958

In Reply Refer to
ADLPR

SUBJECT: ADC Manned Interceptor Program (U)

TO: Deputy Chief of Staff, Operations
Headquarters USAF
Attn: AFOOP-DE
Washington 25, D. C.

1. References:

- a. Secret message from AFOOP-DE, 50680 dated 7 Nov 58.
- b. Secret message from AFOOP-DE-WE, 50641 dated 7 Nov 58.
- c. Secret message from ADLSI-B, 0514 dated 10 Oct 58.

2. Attached as an inclosure is the revised ADC Interceptor Program requested in references a. and b. Included in the inclosure is a monthly equipping schedule for squadrons converting to F-101's and F-106's. Ground support equipping should conform to these schedules.

3. With regard to the revised F-106 program, it should be noted that there will be only three instead of the previously programmed four squadrons to be equipped with round instrumented aircraft. These squadrons will be located at McGuire, Geiger and Andrews and will be equipped in that order. The Weapons Center will receive the sixth set of GSE and will be equipped with five each vertical instrumented A's and B's during FQ 3/60.

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ADLPR, Hq ADC, Subj: ADC Manned Interceptor Program

4. One other point regarding the F-106 program is the shortage of aircraft required to equip each squadron with fifteen A's and three B's as well as provide for command support and attrition requirements. According to our calculations the following situation will exist after fifteen squadrons and the weapons center are equipped:

	Round		Vertical	
	A	B	A	B
Unit Equipment	45	9	185	41
Attrition & Command Support	9	2	37	8
Total Required	54	11	222	49
Tactical Production	54	16	188	38
Deficiencies - Overage	0-	+5	-34	-11

5. Sources for aircraft to meet these deficiencies are additional production, the surplus Round B's and the aircraft in the test program. Even if all the test aircraft were returned to the tactical inventory they would not meet the computed deficiencies. Therefore, in the interest of insuring the maximum number of aircraft in the required configuration, action should be taken now to:

- a. Procure the additional aircraft requested in reference c.
- b. Recoup the maximum number of aircraft possible from the test program.

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c. Insure that available aircraft will be modified to the desired tactical configurations and in those proportions which will best satisfy the deficiencies expressed in paragraph 4. above.

6. Request this headquarters be advised of the actions taken on these recommendations.

7. The inclosed program also reflects a slower conversion rate to F-101's than that indicated in your reference 1b. These slippages are in conformance with the latest F-101 production schedules available to this headquarters.

8. Based upon past experience, there will probably be further F-101 production delays. In order to preclude changing the fighter program to accommodate such delays, we intend to equip and/or convert squadrons in accordance with the inclosed schedule. Any further production delays will be absorbed by placing eighteen (18) instead of the presently planned twenty-eight (28) aircraft in each squadron until such time as production permits the assignment of twenty-eight aircraft to a squadron. This procedure should ease the problems that will be encountered when all F-101 squadrons are reduced to a UE of eighteen aircraft. Even more important, it will stabilize the fighter program and permit supporting programs to be implemented with a high degree of assurance as to the time and place that F-101's will be assigned.

9. It is requested that the inclosed program be reflected in PD-61-1 and supporting programs.

FOR THE COMMANDER:

1 Incl
ADC Interceptor
Program

C. Blessig Brig. Gen.
DOLF E. MUEHLEISEN
Major General, USAF
Deputy for Plans

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AS OF NOV 28, 1958

CHRONOLOGICAL PHASING OF MANNED INTERCEPTOR SQUADRONS

UNIT	Type Acft	FY 59	FY 60	FY 61	FY 62	FY 63	REMARKS
95 Andrews	F102A		F106				
319 Bunker Hill	F89J		F106				
37 Burlington	F102A				I		
444 Charleston	F86L		F101				
98 Dover	F89J	F101					
Dow		27th fm Griffiss	F106				
465 Griffiss	F89J		R-F101				Redesignated 49th FIS
27	F102A		To Dow				
434 K I Sawyer	1 - 1		I				
		62nd fm O'Hare	I F101				
38 Kinross	F102A		F106				
48 Langley	F102A		F106				
49 L G Hanscom	F86L		R	I			Redesignated 465th FIS
87 Lockbourne	F102				I		
75 Loring		75th fm Presque	L F101				
76 McCoy	F89H		F89J	F101			
332 McGuire	F102A		To Minot				
539	F86L	F106					

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CHRONOLOGICAL PHASING OF MANNED INTERCEPTOR SQUADRONS UNCLASSIFIED

UNIT	Type Acft	FY 59	FY 60	FY 61	FY 62	FY 63	REMARKS
47 Niagara	F102				I		
32 O'Hare	F86L		To K I Sawyer				
58 Otis	F89J		To Walker				
60	F94C	F101					
75 Presque Isle	F89F		To Loring				
71 Selfridge	F86L	F102					
94	F86L		F106			I	
482 Seymour - J	F102A						
330 Stewart	F86L		I				
2 Suffolk	F102A		F101				
5	F102A		I				
325 Truax	F102A				I		
61	F102A			I			
337 Westover	F104A						
56 Wright-Patt	F104					I	
18 Wurtsmith	F102A		To G. Forks				
445	F89J		F101		I		
86 Youngstown	F102A				I		

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CHRONOLOGICAL PHASING OF MANNED INTERCEPTOR SQUADRONS

UNIT	Type Acft	FY 59	FY 60	FY 61	FY 62	FY 63	REMARKS
15 Davis Monthan	F86L	F89J		F101			
71 Edeth	F102A			F106			
54 Ellsworth	F89J			F101			
England		14th fm S. City	F102				
13 Glasgow		13th fm S. City	F101				
Grand Forks		18th fm Wurtsmith		F101			
83 Kirtland	F86L		F89J		F102		
23 Malmstrom	F89J			F101			
Minot		332nd fm McGuire	F106				
25 Richards-G	F102A						
85 Scott	F86L			I			
13 Sioux City	F86L		To Glasgow				
14	F86L		To England				
Walker		58th fm Otis	F89J	F106		I	
331 Webb	F86L			F106			

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CHRONOLOGICAL PHASING OF MANNED INTERCEPTOR SQUADRONS

UNIT	Type Acft	CHRONOLOGICAL PHASING OF MANNED INTERCEPTOR SQUADRONS																				REMARKS
		FY 59				FY 60				FY 61				FY 62				FY 63				
59 Goose	F89J																					
333 Harmon	F102A																					
337 Thule	F102A																					
TOTALS																						
F-89J		11	11	11	10	11	11	8	6	5	2	1	-									
F-94C		1	1	-	-																	
F-86L		14	13	12	11	8	6	4	2	1	-											
F-89H		2	2	2	2	-																
F-101B		-	-	2	4	7	9	12	15	16	18	19	19	19	19	19	18	18	18	18	18	
F-102A		26	27	27	27	25	23	21	18	15	14	14	12	12	11	9	9	8	8	8	7	
F-104A		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	2	
F-106A		-	-	-	1	3	5	7	10	13	15	15	15	15	15	15	15	15	14	14	14	
Total Active		58	58	58	59	58	58	56	55	54	53	53	52	50	50	49	47	45	44	43	41	
Total Not Equipped		2	2	2	1	1	-	-	-													
TOTAL		60	60	60	60	59	58	56	55	54	53	53	52	50	50	49	47	45	44	43	41	

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CHRONOLOGICAL EQUIPPING OF F-101 SQUADRONS UNCLASSIFIED

UNIT & PRODUCTION	FY 59												FY 60						FY 61						
	2/59			3/59			4/59			1/60			2/60			3/60			4/60			1/61		2/61	3/61
	Oct 58	Nov	Dec	Jan 59	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 60	Feb	Mar	Apr	May	Jun	Jul	Aug	Jul	Aug
Production	2	6	9	11	14	16	19	21	22	23	25	25	25	25	25	25	25	25	25	25	25	18	3		
UNITS																									
73 AD Tyndall	2	6	9																					2	3
60 Otis				11	14	3																			
98 Dover						13	15																		
84 Hamilton							4	21	3																
518 Kingsley									19	9															
13 Glasgow										14	14														
75 Loring											11	17													
2 Suffolk												8	20												
62 K I Sawyer													5	23											
49 Griffiss														2	25	1									
445 Wurtsmith																24	4								
437 Oxnard																	21	7							
444 Charleston																		18	10						
321 Paine																			15	12					
29 Malmstrom																				13	14				
18 Grand Forks																					11	15			
59 Goose																									
54 Ellsworth																								x	
15 Davis Monthan																									x
76 McCoy																									x

* These squadrons will be equipped with a UE of 18 aircraft when all previously equipped squadrons are reduced to a UE of 18 aircraft beginning in FY 1/61.

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CHRONOLOGICAL EQUIPPING OF F-106 SQUADRONS UNCLASSIFIED

UNIT & PRODUCTION	FY 59												FY 60						FY 61					
	3/59			4/59			1/60			2/60			3/60			4/60			1/61			2/61		
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
PRODUCTION																								
Round A	7	7	7	8	14	11																		
Round B	7	2	2	2	1	2																		
Vertical A						3	14	15	13	13	14	14	15	13	12	13	11	12	11	12	3			
Vertical B							3	3	3	2	1	2	3	3	3	3	3	3	3	3				
UNITS																								
McGuire		14/8	3/																			Round Inst.		
Geiger					15/3																	"		
Andrews						15/3																"		
Castle								15/3														Vertical Inst.		
Dow									15/3													"		
MacDill										5/5												"		
Bunker Hill											15/3											"		
Minot												15/3										"		
Selfridge													15/3									"		
McChord														15/3								"		
Kinross															15/3							"		
Duluth																15/3						"		
George																	15/3					"		
Langley																		15/3				"		
Webb																			15/3			"		
Walker																				15/3		"		

NOTE: 1. This equipping schedule is tied to the availability of GSE and cannot be compressed. Surplus production will be temporarily absorbed in GSE equipped units. Distribution details will be provided as needed.

2. 15/3 = 15 A's and 3 B's.

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As of 13 June 1958

ADC CHRONOLOGICAL PHASING OF MANNED INTERCEPTOR SQUADRONS

1. This document varies from the information contained in ADC Manual 27-1, dated May 1958, presently in process of being published.
2. This document is based upon approved Headquarters USAF force tabs and will be reflected in revision to PD 60-1A.
3. Revisions to ADCM 27-1 dated May 1958 will be made when PD 60-1A is received by this headquarters.

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CHRONOLOGICAL PHASING OF ARMED INTERCEPTOR SQUADRONS

As of 13 June 1958

UNIT	TYPE ACFT	FY 59	FY 60	FY 61	FY 62	FY	REMARKS
95 ANDREWS	F-102A		F-105A				
319 BUNKER HILL	F-89J		F-105A				
37 BURLINGTON	F-102A						
444 CHARLESTON	F-86L		F-101B				
46 DOVER	F-94C	I					
98	F-89J	F-101B					
32 DOW		(49th from Hanscom)	F-105A				
465 GRIFFISS	F-89J		to Lake Charles				
27	F-102A	F-101B					
484 K. I. SAWYER	1 - 1		F-101B				
439 KINROSS	F-102A		F-105A				
48 LANGLEY	F-102A			F-105C			
49 L. G. HANSCOM	F-86L		to Dux				
87 LOCKBOURNE	F-86L	F-102				I	
LORING		(75th from Presque Isle)	F-101B				
332 MCGUIRE	F-102A		to Dux				
539	F-86L		F-105A				
47 NIAGARA	F-102A						
62 O'HARE	F-86L		I				

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As of 13 June 1958

CHRONOLOGICAL PHASING OF BANNED INTERCEPTOR SQUADRONS

UNIT	TYPE ACFT	FY 59				FY 60				FY 61				FY 62				REMARKS	
	F-86	14	12	11	9	6	4	1	1										
	F-89H	2	2	2	2	1	1												
	F-89J	10	10	9	9	8	7	7	7	6	6	5	4	4	4	4	4		
	F-101B	1	2	4	7	10	12	15	15	15	15	15	13	13	13	13	13		
	F-102A	24	25	25	24	24	22	20	16	16	14	13	13	12	12	11	9		
	F-104A	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3		
	F-108A				1	3	5	7	9	9	9	9	9	9	9	9	9		
	F-109C									1	3	5	7	7	7	7	7		
	Total Active	55	55	55	53	56	55	54	52	51	51	51	49	48	48	47	45		
	Total Not Equipped	2	2	2	1														
	TOTAL	57	57	57	57	56	55	54	52	51	51	51	49	48	48	47	45		
64TH AIR DIVISION																			
327 THULE	F-102																1		
323 HARMON	F-102																		
56 GOOSE	F-89J											F-101E							

**HEADQUARTERS ADC
OFFICER AND CIVILIAN
PERSONNEL ROSTER
(GS - 7 - above)**

1 NOVEMBER 1958

AIR DEFENSE COMMAND

HEADQUARTERS
AIR DEFENSE COMMAND
BMT AIR FORCE BASE
COLORADO SPRINGS, COLORADO

ROSTER OF OFFICER AND CIVILIAN PERSONNEL

1 November 1958

<u>NAME AND AFSC</u>	<u>OFFICE PHONE</u>	<u>BLDG & ROOM</u>	<u>DUTY ASGMT</u>	<u>HOME ADDRESS</u>	<u>HOME PHONE</u>	<u>DOR</u>	<u>AERO RATING</u>	<u>DAFSC</u>	<u>SECY CLEARANCE</u>
<u>LT GENERALS</u>									
ATKINSON, JOSEPH H, 90A	2233	P-5, 200A	Comdr	41 Alta Vista Rd	ME 2-5234	3 Mar 53	CP	0002	TS
LYNN, ROY H, 492A	2355	P-5, 200B	VC	Antlers Hotel	ME 2-2661	2 Apr 58	CP	0002	TS-C
<u>MAJ GENERALS</u>									
BENNETT, P. ALAN, 1613A	2242	S-2, 105	D/Mat	1914 Hercules Dr	ME 5-4627	30 Jun 53	CP	0002	TS
CRABB, JARRED W, 535A	2316	P-5, 201	Ch of Staff	Broadmoor Hotel	ME 5-5492	21 Sep 47	CP	0002	TS-C
WITHEWISSE, DOLE E, 1144A	2216	S-2, 107A	D/Plans	1918 Hercules Dr	ME 5-1032	11 Oct 53	CP	0002	TS
PURYEAR, DONALD W, 637A	2324	P-5, 205	D/Opr	505 Penrose Blvd	ME 4-1988	14 Jun 53	CP	0002	TS
<u>BRIG GENERALS</u>									
GILL, JOSEPH E, 2071A	2340	527 S. Tej	Instl Engr	Broadmoor Hotel	ME 4-7711	6 Oct 56		0002	TS
CREWNE, GEORGE B JR, 1736A	2248	S-47	D/Pers	64 Elm Ave, Broadmoor	ME 4-3070	2 Aug 57	CP	0002	TS
LESSIG, CECIL P, 1001A	2216	S-2, 107C	Plans	Antlers Hotel	ME 2-2661	8 Oct 56	CP	0002	TS
ROUSE, FRANK E, 1595A	2305	P-5, 204A	Opr	1110 Vega Dr	ME 3-4570	30 Jul 55	CP	0002	TS
SCHNEIDTGER, PAUL W, 1354A	2431	S-2, 110	Compt	2737 Marilyn Rd	ME 5-1628	16 Oct 56		0002	TS
<u>COLONELS</u>									
ANDERSON, CURTIS M, 954A	2242	S-3, 105	Mat	618 Diamond	ME 3-8014	17 Jul 44		0046F	TS
PETZ, WARD R, 10396832	2335	S-3, 217C	Sup & Svc	1318 E San Rafael	ME 3-4431	1 Aug 51		0046F	TS
ELAINE, MAYNARD D, 1404A	2477	S-2, 113A	Prog	1010 Venus Dr	ME 4-7613	17 Feb 44	CP	0071F	TS-C
BOTHWELL, JAMES W, 10424676	2521	S-2, 115	P & R	FOJ		12 Apr 55	CP	0076G	TS
BROWN, GEORGE E, 4425A	2431	S-2, 110	Compt	2513 N Bennett	ME 2-9596	1 Jun 52	CP	0056F	TS

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<u>NAME AND AFSN</u>	<u>OFFICE PHONE</u>	<u>BLDG & ROOM</u>	<u>DUTY ASGMT</u>	<u>HOME ADDRESS</u>	<u>HOME PHONE</u>	<u>DOR</u>	<u>AERO RATING</u>	<u>DAFSC</u>	<u>SCTY CLEARANCE</u>
<u>COLONELS (CONT'D)</u>									
BROWN, I G, A0497687	6033	P-5, 105	ANG Aff	2309 McArthur Ave	ME 2-2319	12 Feb 57	CP	0036F	TS
BURNS, ROBERT W, 4142A	2584	P-5, 105A	Opr	1323 Eagle View Dr	ME 5-2176	25 Jan 45	CP	0036F	TS
BUTCHER, CHESTER J, 9846A	2851	S-2, 107	P & R	1104 Neptune Dr	ME 2-3304	3 Apr 58	CP	8446	TS
CLATANOFF, WALTER G W, 1310A	2449	S-46	Pers Svc	2842 Marilyn Rd	ME 2-1332	22 Jun 50		7316	TS
CRISP, DENNIS, 5130A	2182	P-5, 101	Opr	1414 Prairie Rd	ME 4-3812	4 Apr 55	CP	1416	TS
CROSBY, STEPHEN H JR, 4788A	2933	S-2, 107	P & R	1902 Hercules Dr	ME 4-7136	30 Jan 56	CP	0076F	TS
CURRY, JAMES H, 8691A	2700	S-47	Pers	1447 Bellaire	ME 4-8612	21 Feb 57	CP	0016F	TS-C
DARBY, GEORGE C, 4526A	2143	S-2, 236	P & R	2813 Marilyn Dr	ME 3-1139	11 Jan 57	CP	8446	TS
DOLAN, STANLEY W, 911A	2446	N Nevada	JA	2027 Lark Dr	ME 3-1993	22 Nov 48		7816	TS
EISEMAN, DOUGLASS W, A0294765	2190	N Nevada	Intel	329 E May Dr	ME 5-4638	22 Jun 50		2016	TS
FACKLER, ROBERT F, 8685A	2489	S-2, 111B	Prog	2005 Altair Dr	ME 5-2400	23 Apr 58	CP	0076F	TS
FULLER, EDWIN W, 9343A	6184	S-2, 134	Sys Tng	Rt 3, Black Forest	ME 5-0249	11 Mar 58	SP	1416	TS
GADLER, STEVE J, 2350A	2512	S-3, 115E	Elet	1802 N Nevada	ME 2-3976	1 Aug 51		3016	TS-C
GALBREATH, SAMUEL C, 4677A	2303	S-2, 101B	Sys Intg	1411 N Swope	ME 5-1918	9 Apr 54	CP	0036F	TS
GALLOGLY, RALPH F, 956A	2627	S Tejon	Instl	1309 Laveta Way	ME 5-2763	19 Jan 51		5516	TS
GEE, HOWARD S, 9002A	2206	S-2, 208A	C & E	1754 Parmer Park Blvd	ME 4-1188	6 Mar 56		3016	TS-C
GILLUM, VIRGIL M, 3288A	2335	S-3, 217C	Sup	1811 1/2 N Nevada	ME 5-5498	19 Jan 51	CP	0046F	TS
HARDEE, WALTER R JR, 8798A	2182	P-5, 101	Opr	1312 E Yampa	ME 3-1204	26 Mar 58	CP	1416	TS
HARMAN, LEO V, 1410A	2559	S-3, 105D	Log Plans	2520 Shelton Rd	ME 2-9131	8 Jan 47		0041F	TS
HARTY, WILLIAM E, 3291A	2843	S-3, B6A	Bud	Rt #3, Box 54A		8 Jan 51	CP	6736	TS
HEATH, MORVAL K, 4486A	2813	P-5, 105B	Opr	1014 N Star Dr	ME 5-2147	19 Jan 51	SP	1416	TS
HERFMAN, GEORGE R, 3536A	2406	S-3, 141	Maint	1404 Bellaire Dr	ME 5-2272	19 Jan 51	CP	0041F	TS-C
HICKS, ROGER L JR, 8844A	2700	S-47	Pers	1431 Lorraine	ME 4-8961	25 Feb 57	CP	0016F	TS
HILL, KENNETH E, 5155A	2375	S-2, 111A	Prog	2222 MacArthur	ME 2-9282	5 Apr 55	CP	0076F	TS
HOLLIDAY, JOHN H, 49132A	2919	S-47	Pers	1107 N Logan	ME 4-8951	11 Mar 58		0016F	TS
HOLT, JAMES W, 3600A	2589	S-3, 133	Maint	1127 N Foote	ME 2-6052	15 Apr 53	CP	3211	TS
HUEY, SAM L, 5175A	2221	S-2, 222A	C & E	1117 N Custer Ave	ME 5-1751	14 May 54		3016	TS-C
JENSEN, HOWARD W, 10358A	2813	P-5, 105	Sys Tng	2523 Prairie Rd	ME 5-1747	25 Apr 58	SP	1416	TS
JOHNSON, MILTON W, 4472A	2406	S-3, 141	Maint	2421 N Bennett	ME 4-7942	19 Jan 51	CP	4311	TS
KWENE, GEORGE F JR, 2305A	2517	C H	IG	515 Cheyenne Blvd	ME 4-0111	1 Jun 52	CP	4311	TS
KONOSKY, JOHN M, 4982A	2584	P-5, 105	Opr	2241 Patrician Way	ME 3-8644	14 May 54	CP	0036F	TS-C

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<u>NAME AND AFSN</u>	<u>OFFICE PHONE</u>	<u>BLDG & ROOM</u>	<u>DUTY ASGMT</u>	<u>HOME ADDRESS</u>	<u>HOME PHONE</u>	<u>DOR</u>	<u>AERO RATING</u>	<u>DAFSC</u>	<u>SCTY CLEARANCE</u>
<u>COLONELS (CONT'D)</u>									
KOSSUTH, LOUIS C, 19211A	2711	N Nevada	Surg	2303 Patrician Way	ME 3-6198	11 Apr 55	Sr FS	9316	TS
LEFEBRE, FREDERICK H, 9088A	PDS New York, N.Y.		D/Opr	21 Hillside St, Midland Park, NJ		1 Jun 52	CP	1416	TS
LOCKE, JOHN L, 4042A	2248	S-47	Pers	2008 Finch Court	ME 4-8768	19 Jan 51	CP	0016F	TS
LUND, HAROLD G, 5258A	2385	S-2, 105	Frog	121 Amherst		9 Apr 54	SP	0076F	TS
MABARDY, MITCHELL A	2467	C H	FM	1015 Neptune	ME 3-0484	19 Jan 51		7716	TS
MALLORY, JOEL E, 400A	2515	C H	IG	400 Prairie Rd	ME 2-1422	1 Mar 42	CP	0036F	TS
MAYALL, BROWN E, 2527A	2614	S-46, 111	Info Svc	20 31 Sereno	ME 3-7558	1 Aug 51		7216	TS
MCCUNE, EDWARD H, 18843A	2150	N Nevada	Dent Svc	909 E Platte	ME 3-9150	1 Dec 51		9816	TS
MCGOWAN, IRLAND S, 1847A	PDS Wright Patterson		AFB, Ohio Ch, ADC, ISPO			1 Jun 52	CP	0066B	TS
MONTGOMERY, LEE W, 2710A	2331	S-12, 7	Met Anal	2621 Paseo Rd	ME 4-1117	1 Aug 51		6896	T
MOURER, LESTER C, 9479A	2522	S-3, B11A	Stat Svc	1431 Buens Ventura	ME 2-1876	11 Apr 57	CP	6816	TS
MURPHY, JOHN B, A0383144	2665	S-2, 104	Sys Intg	1130 N Tejon	ME 2-6438	1 Jun 52	SP	1416	TS
NELL, GLEN P, 877A	2513	S-2, B-9C	Admin Svc	703 N Espanola	ME 4-5923	6 Apr 45		7016	TS
NEVINS, HUGH J, 3733A	2237	S-44, 1A	M & O	Red Rock Ranch, Honu	GR 5-2504	15 Apr 53		0076F	TS
OGAN, RUSSELL G, 25830A	2263	S-2, 118	Sys Intg	1744 Grant	ME 3-3348	30 Apr 58	SP	1416	TS
O'HEARN, CLYDE W, 2392A	2400	C-48	Fin Svc	2218 Afton Way	ME 3-3318	1 Jun 52		6716	TS
ORR, GEORGE W, 9490A	6166	S-48, 3	Safety	2228 Afton Way	ME 3-6107	15 Jun 54	CP	0076F	TS-C
PAYNE, JOHN D, 2526A	6019	S Tejon	Instl	1006 Archurus Dr	ME 3-3734	1 Jun 52		5516	TS
POWERS, ARTHUR D, 5162A	2177	S-2, 113A	Frog	1920 Hercules Dr	ME 2-7737	1 Jun 52	CP	0071F	TS
PRICE, ORAN O, 3563A	2528	S Tejon	Instl	106 Old Broadmoor Rd	ME 4-5769	17 Jan 51		5516	TS
REGISTER, HARRY F JR, A0430019	2637	N Nevada	Admin Med	2218 Farla View	ME 3-7383	28 Mar 57		9016	TS
RETZER, KARI W, 8919A	2640	S-2, B3	Sys Intg	2506 Summit Dr	ME 5-3066	27 Feb 57	SP	1416	TS
ROSEBUSH, KENNETH E, 9161A	2722	P-5, 107	Opr	1512 N Union	ME 5-3745	1 Jun 52	CP	1416	TS
ROSSOFF, ISIDOR, 4378A	2839	S-2, 105D	Log Plans	601 Silano Dr	ME 3-6727	1 Jun 52		0046F	TS
SHAFFER, WILLIAM F, 12515A	2727	S-2, 138	Sys & Eng	2213 N Mendocino	ME 5-2341	30 Apr 58	SP	1416	TS
SLOCUM, CHARLES D JR, 1969A	PDS Kirtland AFB, TX					3 Jul 50	CP	1411	TS
STRICKLAND, EMMA I A, 10007A	2711	N Nevada	Surg	1303 E Platte	ME 5-5645	22 Jul 50	Sr FS	0002	TS
STRIPPLIN, CHARLES F JR, 2806A	2512	S-3, 115E	Elct	317 N. 31st St	ME 2-4894	15 Apr 53		3016	TS-C
TERRY, DAVIS D JR, 1881A	2558	C H	Insp Svc	2509 N Corona	ME 2-7751	1 Jan 45	CP	1416	TS
TESCHNER, CHARLES G, 4282A	2303	S-2, 101B	Sys Intg	2119 Eagle View	ME 5-4079	1 Aug 51	CP	0036F	TS
VAN SANT, WILLARD M, 18978A	2150	N Nevada	Vet Svc	312 N Uintah	ME 3-0846	15 Apr 53		9916	TS
WARREN, JOHN L, A0310106	2317	P-5, 202	Ch, Staff	2205 Eagle View Dr	ME 2-6895	22 Nov 48		7016	TS
WILLIAMS, DOUGLAS E, 1285A	2221	S-2, 222A	C & E	945 S Skyway	ME 2-5617	16 Aug 43	CP	0002	TS
WOOD, JOHN J, 18707A	2532	N Nevada	Chaplain	St. Francis Hosp, Rm 350	ME 3-1713	22 Jun 50		7916	TS

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<u>LT COLONELS</u>									
ADAMS, RALPH W, 5548A	2447	N Nevada	JA	2921 Marion Dr	ME 2-1057	10 Dec 53	AO-NF	7816	TS
ALLEN, MERLE F JR, 11508A	2988	S-2, 112	Sys Intg	1010 Skyway	ME 2-3988	14 Apr 58	SP	1416	TS
ALVIERSON, R C, 36482A	2522	S-3, B11A	Stat Svc	2226 Afton Way	ME 4-1061	17 Jun 52		6816	TS
ASKELSON, HOWARD S, 14142A	2727	S-2, 138	Sys Tng	1006 Parkview	ME 2-9756	28 Apr 55	CP	1416	TS
BARIL, CHARLES A, 32933A	2036	S-3, 115E	Elct	1209 Morningstar Dr	ME 2-5940	1 Dec 51		3016	TS-C
BART, RICHARD E, 13657A	2303	S-2	Sys Intg	1313 Eagle View Dr		19 Apr 56	P-NF	1716	TS
BARRETT, ALFRED W JR, 6565A	2662	S-2, 125	Sys Tng	1012 Mercury Dr	ME 4-5835	6 Oct 56	CP	1416	TS
BERNINGER, K M, A0374337	2109	S-44, 7	M & O	3712 Lancashire	ME 3-6796	1 Jun 52	NR	7336	TS
BERRY, KATHLEEN M, 21385W	2257	S-46, 114	Info Svc	1303 E Columbia, Apt #2	ME 4-6568	12 Feb 58		7024	TS
BETTS, HOWARD M, 34619A	2489	S-2, 111B	Prog	1753 Palmer Pk Blvd	ME 5-5197	13 Feb 47	CP	0076F	TS
BLISS, ROBERT L, A0370911	2751	S-44, 7	M & O	1535 Mesita	ME 5-2861	30 Jan 57		7336	TS
BOVER, CLIFTON W, 19459A	2711	N Nevada	Surg	Park Rd, Manitou	ME 5-5278	1 Jun 52		9116	TS
BROWN, AILEY K, 2539A	2319	C H	Insp Svc	1448 Iowa St	ME 2-1176	1 May 45		7016	TS
CAMERON, JOHN W, 9045A	2400	S-48	Fin	1322 Eagle View Dr	ME 2-1262	20 Feb 51		6716	TS
CAMP, DONALD W, A01636785	2411	S-2, 210D	C & E	2836 N Hancock	ME 4-6196	8 Feb 57		3016	TS
CARLSON, ROY D, 13447A	2985	S-47	Pers	1201 Morningstar Dr	ME 3-7538	24 Mar 55	CP	7316	TS
CHERNEY, MAX R, A0453330	2486	S Tejon	Instl	153 S Mesita Rd	ME 3-7409	1 Jun 52		5516	TS
COMSTOCK, WILLIAM P, 37182A	2600	S-3, B21	Maint	2511 Holliday Pl	ME 5-4343	18 Jun 51	CP	4316	TS
CONLEY, DAVID M, 7543A	2680	S-2, B8	Sys Intg	1771 Skyway	ME 2-7516	1 Jun 52	CP	1711	TS
COOMBS, MERLE G, 34828A	2872	S-45	Fin	1483 N Swope	ME 3-2892	1 Dec 51		6716	TS
CORRIGAN, THOMAS F, 11953A	2614	S-46, 112	Info Svc	1417 N Foote	ME 4-8968	1 Aug 51	CP	7216	TS
CROWELL, ELDY E, A0560852	2410	S-2, 222C	C & E	208 Elmwood Dr	ME 4-8956	1 Jun 52		3016	TS-C
CROWNOVER, HENRY B, A0341327	2613	C H	PM	1314 N Tejon	ME 2-6271	1 Jun 52	SP	7716	TS
CURTIS, RICHARD, 3791A	2720	S-47	Pers	1001 N Star Dr	ME 4-8158	19 Oct 50	CP	7316	TS
DEPOD, ROBERT M, 35512A	2515	C H	IG	1214 N Cedar	ME 4-5981	5 Feb 51	CP	7016	TS
DEVISTON, DALE R, 36901A	2978	S-2, 112	Sys Intg	2829 Country Club	ME 3-5893	8 Sep 56	CP	1416	TS
EDWARDS, WILSON V, 9417A	2516	C H	Insp Svc	1307 E San Miguel	ME 5-2040	1 Nov 45	CP	3216	TS
FARMER, GLENN M, 36748A	2819	CH	Insp Svc	2306 MacArthur Ave	ME 2-9020	13 Feb 57		7316	TS
FEDOROVICH, VITA, A0429387	2983	S-3, 115A	Elct	2204 Lark Dr	ME 4-0362	1 Jun 52	CP	3016	TS
FELDMAN, ALBERT, 33657A	2612	C H	PM	2129 Downing Dr	ME 2-0134	1 Dec 51		7716	TS
FLETCHER, ROBERT K, A0404046	2516	C H	Insp Svc	2629 Templeton Gap Rd	ME 2-7830	11 Jan 51	CP	1416	TS
FOLEY, JAMES E, 10519A	2665	S-2, 104	Sys Intg	1202 San Miguel	ME 4-8185	21 Dec 56	SP	8416	TS
FRY, ROBERT M, 10241A	2863	S-2, 118	Sys Intg	2439 Clarkson Dr	ME 3-9390	1 Dec 51	CP	1416	TS

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<u>LT COLONELS (CONT'D)</u>									
GEARY, JAMES R JR, AO425146	PDS New York, N.Y.		Spring Valley, N.Y.			8 Apr 53	SP	1716	TS
GERMERAAD, JOHN H, 35809A	2489	S-2, 111B	Prog	1101 Milky Way	ME 4-1729	15 Apr 53	CP	0076F	TS
GILLESPIE, JOHN P, 7441A	2916	S-46	Pers Tng	1235 E Monroe	ME 2-9988	1 Aug 51		0016F	TS
GLED, EDWARD E, 7345A	2690	S-2, B8	Sys Intg	813 Las Animas	ME 4-8610	1 Dec 51	SP	1416	TS
GRAVES, VINCENT J, 4829A	2538	S-47	Pers	1832 Northview Dr	ME 5-3816	1 Oct 51	CP	7316	TS
GRAVITT, FRANK V, 6042A	2506	S-3, 217E	Sup & Svc	229 Sherri Dr	ME 5-0525	20 Feb 51		6011	TS
GUNN, RAYMOND D, 9501A	6114	S-44, 7	M & O	1323 Praire Rd	ME 5-0782	1 Jun 52	SN	7336	TS
GUMRIE, DONALD E, AO417696	24207	SAC Hq	ADC/SAC Liaison Off			25 Dec 56	CP	1416	TS
HARRIS, ROY A, AO571257	2546	S-2, B-9A	Admin Svc	1358 Edith Lane	ME 2-0534	1 Jun 52		7016	TS
HARRIS, RILEY W, 5537A	2107	S-3, 209	Sup & Svc	2323 Mt Vernon	ME 3-3686	11 May 51		6416	TS
HARTE, ALLAN S JR, 14459A	2602	P-5, 100A	Opr	Park Rd, Manitou	MU 5-5278	10 Apr 58	CP	1416	TS
HEINTZ, ADAM J, 1864A	2335	P-5, 104A	Opr	403 Columbia Rd	ME 5-5473	11 Jan 43	CP	1416	TS
HOELSCHER, W B, 37767A	6184	S-2, 134	Sys Tng	1838 Grant	ME 2-4158	13 Feb 58	SP	1416	TS
HOFFMAN, JARD G, 3130A	6061	C H	FM	2421 Paseo Rd	ME 3-9161	19 Oct 50	SP	7711	TS
HORVATH, JOHN, 5828A	2206	S-2, 203A	C & E	934 Skyway Blvd	ME 5-1498	1 Jun 52		3016	TS
HULL, WILLIAM T JR, 5194A	2933	S-2	P & R	1415 Bellaire	ME 3-7341	1 Sep 45	CP	0076F	TS
HUSSA, CURTIS H, AO290894	2766	C H	FM	2245 Country Club Dr	ME 3-2470	13 Feb 51		7716	TS
JOHNSON, BENJAMIN H, AO260856	2616	N Nevada	Instl	1207 E Columbia	ME 4-0166	17 Feb 56		5516	TS
JOHNSON, WALTER H, AO425372	2334	S-2, 210B	C & E	122 N 16th St	ME 2-8347	30 Feb 58		3016	TS-C
JOHNSON, RALPH C, AO279640	2155	N Nevada	Instl	Parker Motel, 315 Swope	ME 2-3047	1 Aug 51		5516	TS
KING, LOWELL D, AO854828	2717	S-2, 218	C & E	206 Grand Blvd	TX 2-5222	26 Mar 58		3016	TS
KNOCK, ADRIAN E, AO468946	2520	S-47	Pers	1867 Northview Dr	ME 2-4522	1 Aug 51		7316	TS
KOBY, FRANCIS R, 5473A	2701	S-3, 217B	Sup & Svc	2327 Mt Vernon	ME 4-7319	20 Feb 51		6416	TS
KUPFER, D M, AO276162	2682	S-46	Pers	2615 Chelton Rd	ME 3-4968	28 Dec 50		7316	TS
KYER, FRED E, 7862A	2551	S-3, 115B	Elct	1830 Grant Ave	ME 2-8372	20 Feb 51		3016	TS-C
LAFRANZ, WILLIAM A, 4855A	PDS New York, N.Y.		Batontown, N.J.			19 Oct 50		3016	TS-C
LANCASTER, JAMES W, 7594A	2601	P-5, 100A	Intel	1240 N Meade	ME 4-0283	20 Feb 51	CP	1416	TS-C
LARSEN, WILLIAM A, 9466A	2375	S-2, 111A	Prog	1101 Park View Blvd	ME 3-7616	20 Feb 51	CP	0076F	TS-C
LINHAM, JOHN R, 3719A	2220	N Nevada	Intel	1636 N Foote	ME 2-0023	19 Apr 50	CP	2016	TS
LYONS, RALPH J, 6763A	2660	S-47	Pers	115 Amherst Dr	ME 5-0548	26 Jan 56		7316	TS
MACEFIELD, JAMES, 34233A	2665	S-2, 104	Sys Intg	1837 Grant	ME 3-1496	15 Apr 58	SP	1416	TS
MARTIN, RAWLEY W, 7322A	6003	P-5, 102	Opr	1428 Wood Ave	ME 5-4011	1 Aug 51	CP	1416	TS-C
MCLEAN, DANIEL P, 8484A	2385	S-2, 105	Prog	1023 N Foote		1 Jun 52	CP	0076F	TS

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<u>LT COLONELS (CONT'D)</u>									
MESEROW, JOSEPH T, 36720A	2750	S-44, 7	M & O	2211 Afton Way	ME 3-2140	12 Apr 51		7336	TS
MILLER, CLAUDE E, A0236339	6064	S-3, B34	Bud	1816 Hercules	ME 2-7737	1 Aug 51		6736	TS
MILLER, SIDNEY L, 6094A	2804	N Nevada	Intel	Iowa Motel, Hwy 24	ME 3-8329	5 Apr 53	AO-NF	2016	TS
MILLS, JOSEPH E, A0900182	2126	S Tejon	Instl	1006 Saturn Dr	ME 5-4104	31 Mar 55		5516	TS
MODSITT, WALTER E, 11285A	2335	P-5, 104A	Opr	2821 Country Club Dr	ME 3-9327	1 Jun 52	CP	1416	TS
MONAHAN, JOHN D, 5133A	2264	S-47	Pers	1834 Grant	ME 5-4926	1 Aug 51	CP	0016F	TS
NELSON, ROBERT W, A0330088	2612	C H	PM	128 E Monument	ME 4-5765	21 Mar 55		7716	TS
NICHOLS, MERLE B, 38103A	2816	S-48	Flt Safe	1118 San Miguel	ME 4-8573	2 Feb 56	CP	1416	TS
PARKER, STANLEY E, 7185A	6143	S-12, 5	Mgt Anal	3014 W Boulder	ME 5-3838	30 Jun 57	CP	6896	TS
PATALIVE, JOSEPH A, 32962A	2737	S-3, 124	Maint	1120 Iowa Ave	ME 5-4651	20 Feb 51		6416	TS
PORTER, PAUL V, 37725A	2933	S-2	Plans	2419 Lafayette	ME 3-5369	15 Apr 53		7016	TS
QUEEN, THOMAS W JR, 13535A	2600	S-3, B21	Maint	2906 Drakestone	ME 5-2968	15 Apr 53	SP	4316	TS
RIGNEY, CHARLES E, 5734A	2665	S-2, 104	Sys Intg	2842 N Nevada	ME 5-1695	15 Apr 53	CP	1416	TS
RINEHART, HOWARD E, 2583A	2084	S-3, 207	Sup & Svc	617 Kinnikinnik	ME 4-0614	21 Dec 49		6416	TS
ROGERS, VERNON O, 18770A	2532	N Nevada	Chaplain	1425 Prairie Rd	ME 5-4448	15 Apr 54		7916	TS
ROTH, JOHN Y C, 8066A	2667	S-3, B21	Maint	2310 Union Blvd	ME 5-2327	22 Dec 55	CP	4311	TS
SCHRANK, MILTON A, 4930A	2589	S-3, 133	Maint	2215 Afton Way	ME 2-8710	19 Oct 50		8446	TS
SCOTT, TRAVIS M, 6352A	2003	S-2	Plans	1204 James Lane	ME 4-4147	15 Apr 54		8516	TS
SHESHAN, IARY J, 3144A	2750	S-44, 7	M & O	1010 Mars Dr	ME 4-0192	20 Feb 51	CP	0076F	TS
STAPP, CHARLES R, A0739828	2341	P-5	Opr			20 Feb 51	AO	7016	TS
SURTEVANT, ROBERT M, 48939A	2637	N Nevada	Surg	2202 Pheasant Pl	ME 2-6150	24 Apr 57		9046	TS
SYLVESTER, ARTHUR C, A0906370	2485	S Tejon	Instl	1313 Sunset Rd	ME 2-9960	3 Feb 51		5516	TS
TAFSCOTT, WILBUR A, 10076A	2183	S-2, 115	Plans	2824 N Hancock	ME 3-5357	14 Feb 53	SP	1416	TS
TAYLOR, THOMAS E, 5690A	2695	S-3, 202	Sup & Svc	1425 Trenton, Denver	FL 5-6755	14 May 54		6416	TS
TAYLOR, RICHARD J, 37477A	2767	S-3, 129	Log Plans	Antlers Hotel, Apt 127	ME 4-5070	24 Jan 57	SP	0046F	TS
TEHR, LAUREL A, 6674A	6674	S-12, 6	Mgt Anal	1106 Skyway Blvd	ME 3-4170	26 Nov 56	SP	6896	TS-C
TYLER, KERMIT A, 3216A	2669	S-2, 204	Sys Intg	1106 Farragut	ME 4-2238	15 Jun 43	CP	1816	TS
VENEZIANO, SALVATORE, J, 33214A	6063	S-2, B8	Sys Intg	1817 Yuma	ME 5-0987	1 Jun 52		1716	TS
WILLIAMS, ROBERT S, A0484523	2430	S-3, 129	Log Plans	929 N Farragut St	ME 2-8007	1 Jun 52		0046F	TS
WILSON, HAROLD H, 10388A	2933	S-2, 115	P & R	1001 Milky Way	ME 3-2316	6 Feb 58	SP	1416	TS
WOOLF, HENRY M, 21615A	2637	N Nevada	Surg	2538 E Elvin	ME 3-4780	14 Apr 58		9016	TS
WORDEN, WILFARD L, A0479744	2410	S-2, 222C	C & E	2309 N Meade	ME 5-1023	1 Aug 51		3016	TS-C
ZORN, BERNARD, 6820A	2565	S Tejon	Instl	1003 Skyway Blvd	ME 3-1418	20 Feb 51		5516	TS

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<u>MAJORS</u>									
ACRE, JOHN P, 14788A	2978	S-2, 112	Sys Intg	1932 S Hancock	ME-4-8088	4 Nov 57	Sr Nav	1416	TS
ADAIR, PHILIP R, 11927A	2720	S-47	Rqr & Tng	2228 Condor St	ME 2-6284	15 Feb 51	CP	1416	TS
AILSTOCK, CLARENCE W, A01633103	2508	S-3, 115F	Elct	1709 Yuma	ME 3-7184	26 Mar 53		6416	TS
AIRD, WILLIAM W, 38959A	2716	S-2, 214	C & E	406 Grand Blvd	EX 2-3416	4 Jan 56		3016	TS
ALBERTS, EUGENE, A0936353	2257	S-46, 113	Info Svc	1626 Holmes Dr	ME 4-7682	1 Apr 53	P-NF	7216	TS
ALLEN, RICHARD L, 49188A	2258	S-46, 113	Info Svc	750 N, 28th St	ME 5-5433	1 Sep 51	CP	7216	TS
ALLEN, WILLIAM K, A0745261	2760	P-5, 100B	Opr	541 Winnipeg Dr	ME 5-1802	1 Jun 52	CP	1716	TS
ALLEY, MAX P, 39794A	2985	S-47	Rqr & Tng	1504 E Unitah Dr	ME 5-2859	31 Jan 55	SP	7311	TS
ANGLUM, JAMES P, A0885600	2445	S-44	M & O	2916 Drakestone Dr	ME 4-5243	15 Feb 51		7336	S
BAILLIE, ROBERT W, 34391A	2018	S-3, 127	Log Plans	2706 N Institute	ME 4-6566	1 Mar 56	CP	6416	TS
BAKER, GEORGE F JR, A0796642	2601	P-5, 100	Opr	2816 N Hancock	ME 5-5571	24 Jan 55	CP	1416	TS
BAKER, KEMPER W, 15791A	2519	S-2	Plans	2207 Winston Rd	ME 4-5934	1 Jun 52	SP	8446	TS
BARNES, WILLIAM C, A0668882	2055	S-3, B-21	Maint	537 Cypress Dr	EX 2-7211	13 May 54	SO	4376	TS
BEBAEFF, NICK P, A0760232	4316	S-3, B-21	Maint	501 Montrose Dr	EX 2-8172	1 Jun 52	SP	4316	TS
BENNETT, GORDON E, A0724881	2502	S-3, 103	Log Plans	717 W. Jefferson St	ME 2-2947	1 Apr 53	CP	6411	TS
BETTIS, RICHARD W, A0393708	2717	S-2, 216	C & E	1013 Neptune Dr	ME 4-8748	1 Jun 52	CP	3016	TS-C
BEVILLE, JAMES E, A0504029	6114	S-44, 7	M & O	1004 Zodiac Dr	ME 5-2450	14 Jan 51		7336	TS
BLACKBURN, THOMAS W JR, 14415A	2248	S-47	Pers	1844 Northview Dr	ME 5-2331	11 Feb 55		7016	TS
BUCKINGHAM, KENT O, 14533A	6061	C H	PM	1102 Parkview Blvd	ME 3-9055	1 Jun 52	CP	7716	TS
BUTLER, NELSON W, A0755868	2489	S-2, 111B	Prog	1320 Prairie Rd	ME 3-9918	1 Jun 52	CP	1416	TS
BUTLER, ROBERT K, A0694045	2665	S-2, 104	Sys Intg	1353 Bennett Ave	ME 3-9429	28 Jan 55	SP	1416	TS
BYERS, JOHN R, 11785A	2385	S-2, 105	Prog	2126 Pheasant Place	ME 3-7082	1 Sep 51	CP	1416	TS
CANILLI, CORRADO, A01110975	2035	S-3, 217E	Sup&Svc	2225 Drakestone Dr	ME 3-8602	13 May 54		4376	TS
CANFIELD, CHARLES C, A0808099	2083	S-3, 207A	Sup&Svc	2205 Lark Dr	ME 2-8785	12 Mar 58	CP	6416	TS
CARLSON, DONALD C, 13339A	2450	P-5, 103	Opr	2205 Drakestone Dr	ME 5-2935	1 Sep 51	CP	1416	TS
CARROLL, ONIE A, A01289206	2110	S-3, B-3	Stat Svc	704 N. Farragut	ME 2-3348	3 Jun 50		6816	TS
CARVER, GERALD C, A02055921	6102	S-47	Mil Pers	2306 N. Bennett	ME 5-2053	23 May 50	SP	7316	TS
CASTO, LLOYD L, 14771A	2283	P-5, 200	Aide	2226 N. Circle Dr	ME 4-0100	16 Feb 55	SP	1416	TS
CATER, DAVID L, A0683965	2760	P-5, 100B	Opr	2015 N. Rover	ME 2-8269	1 Jun 52	CP	1716	TS-C
CAVALLI, RALPH L, A0867850	2853	S-2, 206	C & E	635 N. 30th St	ME 5-1356	13 Feb 57		3016	TS-C
CAVANAGH, THOMAS J. JR, A0761400	2182	P-5	Opr			25 Mar 58	SP	1744	TS
CHAPIN, GEORGE O, A0565026	2707	S-47	Mil Pers	3616 Leeds Lane	ME 3-6459	15 Feb 51		7316	TS
CHUNKO, WILLIAM, A01635697	2680	S-2, B8	Sys Intg	2228 Drakestone	ME 5-1791	15 Feb 51		3016	TS-C
CHURCHILL, EUGENE E, A0730381	2489	S-2, 111	Prog	706 Solano Dr	ME 2-0149	16 Jun 51	SP	1416	TS

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<u>NAME AND AFSN</u>	<u>OFFICE PHONE</u>	<u>BLDG & ROOM</u>	<u>DUTY ASGMT</u>	<u>HOME ADDRESS</u>	<u>HOME PHONE</u>	<u>DOR</u>	<u>AERO RATING</u>	<u>DAFSC</u>	<u>SCTY CLEARANCE</u>
<u>MAJORS (CONT'D)</u>									
CLINGER, BORDEAN W, 23878A	2680	S-2, B8	Sys Intg	3206 Gladiola Dr	ME 5-2946	1 Jun 52	CP	1716	TS
COATS, WILBUR L, 14083A	2782	S-47	M & O	1821 Yuma	ME 5-1296	10 Feb 55	SP	7316	TS
COLLINS, WILLIAM F, A0822168	6063	S-2, B8	Sys Intg	2900 N Concord	ME 2-0070	26 May 51	SP	1416	TS
COOKE, RAYMOND K, 33430A	2660	S-47	Rqr & Tng	2004 N Circle Dr		15 Dec 51	CP	7316	TS
CRIFE, MELVIN R, A0917370	2931	S-2, 115	P & R	1050 La Salle	ME 2-0263	15 Feb 51		3016	TS-C
CUNNINGHAM, ROBERT W, 28210A	2727	S-2, 138	Sys Tng	3221 Poinsetta	ME 3-3048	31 Mar 58	SP	1416	TS
CYMBAR, EDWARD S, A01580824	2158	S-3, 127	Log Plans	2008 Condor St	ME 5-5610	1 Apr 53		6416	TS
DALFERES, GEORGE L J, 48786A	2448	N Nevada	JA	1535 Mesita, Apt 7	ME 4-5707	21 Feb 55		7016	TS
DAVIDSON, TILLMER E, A0302095	PDS:	New York, New York				1 Apr 51	AO-NF	5516	TS
DEAL, JOHN F, A0581576	PDS:	New York, New York		2435 Yorktown Rd	ME 3-1225	1 Jun 52	CP	4316	TS
DELOSIER, BERNARD C, 13664A	2717	S-2, 216	C & E	2322 N Logan	ME 4-5039	22 Dec 55	AO	3054	TS
DETRICK, FRANK M, 34526A	6184	S-2, 134	Sys Tng	123 Alsace Way	ME 5-0947	14 Jun 58	CP	1411	TS-C
DIVER, WILLIAM L, A01864295	2396	S-35, 1	C & E	1607 N Circle Dr	ME 5-4823	11 Apr 58		3016	TS-C
DIXON, CLIFFORD, A0526198	2270	S-46	Pers Tng	3830 Meadow Lane	ME 5-5631	21 Dec 56	CP	7316	TS
DONAHUE, JOSEPH P, 34815A	2305	P-5, 204	Opr	2211 N Circle Dr	ME 4-1427	1 Jun 52	CP	1416	TS
DRISCOLL, WAYNE H, A0745323	PDS	Wright Patterson AFB, Ohio				20 Jan 55	CP	1411	TS
DUNMIRE, FLOYD T, 14764A	2573	S-2, 104	Sys Intg	1425 N Custer	ME 4-1497	1 Jun 52	SP	1416	TS
EDWARDS, NORMAN J, A01575299	6076	S-3, B9	Stat Svc	1233 Janes Lane	ME 3-4294	15 Mar 54		6851	TS
ELLIS, DALE E, 15579A	2555	S-2, 107B	Plans	1243 Oswego	ME 2-2571	15 Apr 58	P-N	7016	TS
ENGLISH, CLARK A, A0861655	2605	S-47	Rqr & Tng	2128 Downing	ME 5-3893	1 Jun 52		3016	TS-C
FAUSTMAN, DAVID H, 14926A	2073	S Tejon	Instl	1102 Nepture Dr	ME 4-6279	1 Sep 51	SP	5516	TS
FLANAGAN, EARL J, A0559106	2560	C H	Insp Svc	2413 Paseo Rd	ME 5-2414	15 Feb 51		7016	TS
FLOYD, JOHN F, 12074A	2680	S-2, B8	Sys Intg	2238 MacArthur	ME 2-9723	1 Jun 52	Obsr	1575A	TS
FOWLER, FELIX C, 38876A	PDS	Wright Patterson AFB Ohio				21 Oct 53	SP	1416	TS
FRAZIER, EVERETT E, A01105436	2474	S Tejon	Instl	105 Terrace Dr	ME 3-4402	4 Jul 51		5516	TS
FREY, GEORGE J, 13494A	6047	P-5, 100B	Opr	Parker Motel (Temp)	ME 2-3047	1 Apr 53	SP	1416	TS
GILES, DONALD L, A0563099	2432	S-2, 110	Compt	2134 Pheasant Place	ME 5-1861	27 Jan 55		7016	TS
GREEN, JIMMIE L, 13392A	2811	S-2, 125	Sys Tng	3905 Linden Pl	ME 2-3200	7 Feb 55	P	1716	TS
GREEN, LESTER V, A01641340	2921	S-2, 115	P & R	2616 Robin Dr	ME 5-4871	15 Feb 51		3016	TS-C
GRIGGS, FREDERICK M, 34379A	2023	S-3, B-21	Log Plans	1124 Milky Way Dr	ME 5-4346	1 Jun 52	SP	6416	TS
GUILD, MINOT, A01699268	2087	S-35	C & E	2125 Downing Dr	ME 2-6517	1 Sep 51	CP	3016	TS
GUMBLE, EDWIN H, A0665788	6047	P-5, 100B	Opr	3226 Primrose Dr	ME 3-7129	1 Apr 53	SP	1716	TS
HALLAS, GERALD E, 15458A	6003	P-5, 102	Opr	2130 Winston Rd	ME 3-2980	1 Jun 52	SP	1416	TS

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<u>MAJORS (CONT'D)</u>									
HAMILTON, GEORGE C, 10328A	2467	C H	PM	1514 Parkway	ME 2-3302	6 Dec 51	CP	7711	TS
HANCOCK, CARL S, 35596A	2525	S-3, B15E	Stat Svc	2808 N Hancock	ME 5-2229	24 Feb 55	Obsr	6816	TS
HANNON, THOMAS M, A0815694	2760	P-5, 100B	Opr	1412 E Monument	ME 4-3138	1 Jun 52	SP	1716	TS-C
HARMAN, HOWARD W, A0563227	2828	S-3, 201	Sup & Svc	1033 E Jackson	ME 4-2138	7 Feb 55		6416	TS
HARRIS, PAUL E, 1527A	2814	P-5, 107	Opr	1439 N Foote	ME 5-4407	1 Jun 52	SP	1416	TS
HART, JOHN T F JR, A0661755		PDS Convair Acft, Palmdale, California							
HARTING, HOWARD M, A0689769	2811	S-2, 125	Sys Tng	2415 N Meade	ME 5-2213	15 Feb 51	CP	1416	TS
HARTL, GABRIEL A, 49270A	2722	P-5, 107	Opr	522 LaSalle	ME 4-3575	1 Jun 52	SP	1416	TS
HECTOR, ARNOLD E, 24325A	2727	S-2, 138	Sys Tng	152 Rainbow Pl	ME 3-9209	27 Mar 56	SP	1125E	TS
HESSE, FRANK R, A01001365	2524	S-3, B13	Stat Svc	2125 Winston Rd	ME 2-2854	15 Mar 54		6834	TS
HICKEY, JOHN K, 17902A	2448	W Nevada	JA	2128 Robin Dr	ME 2-4507	1 Sep 51	AO NF	7816	TS
HILL, KENNETH O, A0561276	2516	C H	IG	Alamo Hotel		1 Apr 53		3216	TS
HOLLENBECK, LAUREN B, 35362A	2727	S-2, 138	Sys Tng	2913 Mariposa	ME 2-9673	22 Mar 57	SP	1716	TS
HOCKER, FREEMAN F, 10300A	2594	S-3, 126	Maint	Rossamer Apts	ME 2-5142	15 Dec 51	CP	3216	TS
HOOTMAN, MERLA A, A0575011	2558	C H	Insp Svc	2447 Paseo Rd	ME 3-2775	1 Apr 53		7316	TS
HUGHES, JOHN F, 12766A	2133	S-2	Plans	1257 E Madison	ME 4-4687	1 Sep 51		1816	TS
HUGHES, JOSEPH F, A0302921	2705	S-3, 130	Maint	2314 Patrician Way	ME 5-4678	1 Apr 53		3016	TS
HULETT, ROBERT S, A0572107	2973	S-3, 115A	Elct	1625 E Kiowa	ME 2-9310	1 Apr 53		3016	TS
HULET, WILLIAM E, A0479019	2831	S-3, 115B	Elct	1422 E Piles Peak	ME 4-8683	1 Apr 53		3016	TS
HUMPHREYS, CECIL F, A01551433	2838	S-2, B12	Admin	1626 E Kiowa	ME 2-1643	11 Feb 55		7024	TS
JACKSON, CHARLES W, 18284A	2790	S-47	Rqr & Tng	2848 LaFayette	ME 2-3971	1 Jun 52	CP	1416	TS
JENSON, WILEY O, 12503A	2988	S-2, 112	Sys Intg	1308 N Bijou	ME 5-1491	13 May 54	CP	8446	TS
JOHNSON, BERTRAND D, A0518371	2334	S-2, 210B	C & E	3210 Larkspur Dr	ME 3-5774	15 Feb 51		3016	TS
JOHNSON, HOWARD C, 13219A	2727	S-2, 138	Sys Tng	2204 Robin Dr	ME 5-5565	1 Apr 53	CP	1125E	TS
JOHNSON, NOLEN C JR, A0799900	2602	P-5, 100A	Opr	203 Elmwood Dr	ME 4-3052	1 Sep 51	SP	1416	TS
JOHNSON, WELDON V, A01643018	2174	S-2, 234	C & E	311 Meade	ME 4-2373	11 Feb 55		3016	TS
JONES, JOHN H JR, 51092A	2863	S-2, 118	Sys Intg	2565 Lelaray Dr	ME 3-8804	22 Oct 56	SP	1416	TS
JORGENSEN, KENNETH B, 14732A	2450	P-5, 103	Opr	121 Trout St	ME 3-9617	27 Feb 57	SP	1416	TS
KALINAN, RODERICK A, A0575156	2182	P-5, 100C	Opr	1004 Parkview Dr	ME 5-0792	15 Feb 51		1716	TS
KERNEN, WILLIAM C, A0564502	6114	S-44	M & O	2817 Illinois	ME 2-3871	1 Jun 52		7336	TS
KIRBY, THOMAS A, A01640635		PDS San Antonio, Texas							
KNIGHT, BILLY E, 12189A	6021	S-2, 234	C & E	1855 Northview Dr	ME 4-8295	1 Jun 52		6416	TS
KOCEL, EDWARD P, 13216A	2097	S-2, 234	C & E	2310 N Union	ME 5-2327	15 Mar 54	SP-NF	3016	TS
KOONTZ, GERALD H, A02044774	2602	P-5, 100	Opr	1506 Cheyenne Blvd	ME 5-5949	1 Sep 51	CP	3016	TS
KORTHALS, RICHARD G, A0679078	2821	S-3, B21	Log Plans	2727 N Circle Dr	ME 2-3050	1 Apr 53	SP	3216	TS
					ME 2-3050	21 Jan 55	CP	8616	TS

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<u>MAJORS (CONT'D)</u>									
LAMB, JAMES W, A0799796	2690	S-3, 213	Sup & Svc	1811 Pejn Ave	ME 2-4835	26 Mar 51	SP	6454	TS
LANE, JOSEPH A, 13507A	2852	S-2, 115	P & R	1730 Palmer Park Blvd	ME 5-4529	1 Jun 52	SP	8446	TS
LANGSTON, W E, 41270A	2328	S-3, 202	Sup & Svc	1412 Eagle View Dr	ME 3-0318	5 Apr 57		6416	TS
LEE, JOHN W, 32883A	2717	S-2, 216	C & E	800, Rm 11	6049	1 Sep 51	SP	3016	TS-C
LIRETTE, CHARLES E, A0683732	2445	S-44, 6	M & O	2837 Illinois	ME 5-1691	1 Jun 52	CP	7336	TS
LUTTRELL, D A, 244443A	2450	P-5, 103	Opr	1940 Trent St	ME 4-2182	20 Dec 56	SP	8516	TS
MADDIX, W K, A0534472	2589	S-3, 133	Maint	1317 Uintah	ME 4-4191	15 Feb 51	CP	3216	TS
MARK, CLARENCE W, A0573507	2257	S-46, 113	Info Svc	P.O.Box 161, Cascade	MU 4-9407	30 Nov 56		2316	TS
MARLIN, GLENN F, A0478271	2570	S-3, 217A	Sup & Svc	2434 Lafayette Rd	ME 4-6044	24 Nov 54		6416	TS
MARSHALL, G L, 11909A	2722	P-5, 107	Opr	1036 N Meade	ME 5-2926	15 Feb 51	SP	1716	TS
MCCALI, JAMES L, 35011A	6184	S-2, 134	Sys Tng	1404 N Union	ME 3-5880	20 Mar 57	SP	1416	TS
MCDONALD, E S, A0886219	2516	C H	Insp Svc	1443 E Madison	ME 5-1245	15 Feb 51	CP	3216	TS
MCISAAC, LEWIS, 14212A	2680	S-2, B8	Sys Intg	1215 Prairie	ME 3-7380	1 Jun 52		1716	TS
MCKELVIE, CHARLES W, A0866534	2901	S-35, 1	C & E	604 Yucca Dr	ME 3-6793	1 Sep 51		3016	TS-C
MCQUILLAN, D P, 34900A	2316	S-48	Safety	1457 Northview Dr	ME 2-5100	15 Feb 51	CP	1416	TS
MICHAELS, DOUGLAS D, 36306A	2648	S-2, 224A	C & E	1253 N Meade	ME 5-1495	11 Feb 55	AO	1575A	TS
MILLER, PAUL A, A0575623	2190	N Nevada	Intel	2104 Constitution	ME 2-5224	1 Apr 53		2011	TS
MOHR, DEAN B, 34914A	2973	S-3, 115A	C & E	821 S Prospect	ME 5-1409	1 Jun 52		3016	TS-C
MONAGHAN, E J, A0801717	2450	P-5, 103	Opr	2024 N Nevada	ME 4-1715	15 Apr 54	CP	1416	TS
MONNETT, CLYDE E, A0392187	2445	S-44, 6	M & O	1611 N Foote	ME 4-2950	1 Sep 51		7336	TS
MOORE, BERNARD V, A0670411	PDS	McClellan AFB, Cal				22 Feb 51	CP	4381	TS
MOORE, JACK K, 18135A	2601	P-5, 100	Opr	715 E Madison	ME 2-1933	1 Jun 52		3216	TS
MOORE, WILLIAM W, 16150A	2727	S-2, 138	Sys Tng	2234 McArthur Ave	ME 4-8719	4 Aug 58	SP	1416	TS
MUDROCH, PAUL M, A0515013	6078	S-3, B21	Maint	307 Elmwood Dr	ME 5-2149	1 Apr 53		4316	TS
MUELLER, MARVIN A, A0578676	6037	S-2, 210C	C & E	2416 N Farragut	ME 5-4828	7 Apr 52		3016	TS-C
MUNGENAST, A J, 17113A	2320	S-3, B21	Maint	206 W Polk	ME 3-9031	30 Apr 58	SP	4316	TS
MURDOCH, WILLIAM C JR, 40788A	2811	S-2, 125	Sys Tng	21 Friendship	ME 2-3520	1 Dec 51		1716	TS
MURPHY, BERNARD L JR, 33487A	2334	S-2, 210B	C & E	612 Hilltop Dr	ME 4-7491	1 Sep 51		3016	TS
NELSON, JOHN A, 35025A	2811	S-2, 129	Sys Tng	1010 Bonfoy	ME 5-1482	1 Apr 53	SP	1416	TS
NEYLAND, MAYO W, A0669900	2692	S-3, B21	Maint	400 Norman Dr	EX 2-5335	1 Sep 51	CP	4355	TS
NICKOLS, TROY A, 34341A	2794	S-3, 126	Maint	2335 N Franklin	ME 5-4012	24 Apr 58		3216	TS
OAKS, MARVIN A, 35549A	2443	S-2, 118	Sys Intg	1258 Hillcrest	ME 4-4791	31 Mar 58	SP	1716	TS
O'DAY, RUSSELL M H, 12187A	2570	S-3, 217A	Mat	1919 N Corona	ME 5-3615	15 Feb 51	SP	6416	TS
OSBORNE, WILLIAM H, 12316A	2168	S-2, 234	C & E	315 Elmwood Dr	ME 2-4483	13 May 54	P	3016	TS-C

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MAJORS (CONT'D)									
OXLEY, JACK L, A0865061	2813	P-5	Sys Tng			1 Jul 55	AO	1575A	TS-C
PARHAM, FORREST F, A0450540	2615	S-48	Safety	848 E San Miguel	ME 2-1013	1 Jun 52	SP	1445	TS
PARKER, CHARLES F, A0886136	2781	P-5	Opr	1010 Venus Dr		15 Dec 51	CP	1716	TS
PARMAN, WILLIAM H, A01169280	6024	S-2, 212	C & E	2417 Mt Vernon	ME 3-2077	5 Feb 58	SP	3044B	TS
PELLAK, PAUL, A01633022	2803	S-35, 4	C & E	1519 Mt Everett	ME 4-5910	22 Jul 50		3011	TS-C
PETERSON, HOWARD W, 24307A	2751	S-44	M & O	2109 Condor	ME 4-4328	15 Feb 51	SP	6416	TS
PHILLIPS, FRANK V, A0749049	2930	S-2	Sys Intg	1356 Bennett	ME 3-1298	13 May 54	SP	1416	TS
POERSCHKE, RAYMOND A, 34380A	6003	P-5	Opr	922 La Salle St	ME 4-4358	20 Mar 51	SP	1416	TS
RAMSEY, J W, 10092A	6078	S-3, B21	Maint	3218 Poinsettia Dr	ME 4-5620	14 Dec 50		4316	TS
REES, CHESTER R, A0770407	PDS:	Wright-Patterson AFB, Ohio,	F-106 Wpn Sys Proj Officer			20 Jan 57	SP	1435	S
REHFUSS, MARION G, AL310325	2469	S-46	Pers Svc	1307 E San Miguel	ME 4-3656	1 Apr 53		7316	TS
RENNIE, DAVID, 33808A	2665	S-2, 104	Sys Intg	922 N Logan	ME 3-2105	1 Apr 53	CP	1416	TS-C
RIAVE, LIONEL L, 41289A	2695	S-3	Sup & Svc	2210 Alpine Rd	ME 2-2851	31 Jul 51		6416	TS
RICE, ROBERT E, 41649A	2814	P-5	Opr	2035 N Circle Dr	ME 5-4815	20 Apr 56	SP	1416	TS-C
RIDLEHUBER, JOHN W JR, A0403616	2781	P-5	Opr	517 Yucca Dr	ME 5-5246	13 May 54	SP	1711	TS
ROGERS, JOSEPH W, 35473A	2023	S-3	Log Plans	1505 E Buena Ventura Ave	ME 2-6729	1 Apr 53	SP	8744	TS
ROPP, DANIEL, A0569992	TDY:	Operation Boot Strap				4 May 51		7344	TS
ROSS, LESLIE F, A0416113	2259	S-46	Info Svc	101 E Williamette	ME 5-5479	28 Nov 55		7216	TS
SABEK, LOUIS C, 37052A	2722	P-5	Opr	548 William Ave	ME 2-2404	18 Feb 55	CP	1416	TS
SANDERSON, DUNCAN M, 12970A	2978	S-2, 112	Sys Intg	2502 Summit Dr	ME 2-7729	1 Jun 52	CP	8446	TS
SAUL, EDWIN S, A0659185	2781	P-5	Opr	2325 Valley Forge Rd	ME 4-8598	13 Jan 55	P	1716	TS
SCHOONVEL, JOHN, 13546A	2863	S-2, 118	Sys Intg	1201 Parkview	ME 2-0816	1 Jun 52	CP	1416	TS
SCHULTZ, WILLARD J, A0665623	2443	S-2	Sys Intg	1527 N Foote	ME 5-0822	1 Apr 53	SP	1716	TS
SCHNELL, FRANK C, A0570116	6096	S-2, 210B	C & E	BOC #2		1 Apr 53		3016	TS
SECOR, RALPH A, 33828A	2770	S-3	Sup & Svc	2622 Templeton Gap Rd	ME 4-6764	8 Nov 55	CP	6416	TS
SENTES, ALEX M, A0734003	PDS:	Wright-Patterson AFB, Ohio,	F-108, Wpn Sys Proj Officer			1 Jun 52	SP	1416	TS
SHAMPINE, HARVIN S, A01003326	2520	S-47	Pers	606 N Iowa	ME 4-6762	1 Jun 52		7316	TS
SHAW, HASKELL E, A01552790	2462	S Tejon	Fac Supp	103 Grand Blvd	ME 5-0087	1 Apr 53		5516	TS
SHELTON, DONALD A, 12070A	2760	P-5	Opr	948 E Rio Grande	ME 3-0657	1 Jun 52	AO	1716	TS
SHISLER, HARRY E, A0810746	2304	P-5	Opr			1 Apr 53	SP	1416	TS
SHOPA, MICHAEL J, A0865002	2445	S-44	M & O	502 Montrose	ME 5-3441	15 Dec 51	AO-NF	7336	TS
SLOAN, DENNIS L, A0573390	2433	S-12	Mgt Anal	2226 MacArthus	ME 2-1380	1 Jun 52		6896	TS
SMALL, FRED E, A0703662	2129	S-3	Elct	4404 N Weber	ME 3-0637	28 Feb 56	AO-NF	3011	TS-C
SMITH, JAMES H, A0903190	2820	S-3	Maint	20 N Logan	ME 2-1474	1 Jun 52		4344	TS

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<u>MAJORS (CONT'D)</u>									
SMITH, LORING B, A0431311	2443	S-2, 118	Sys Intg	1410 Buena-Ventura	ME 2-6041	13 May 54	P-NF	1716	TS
SMYTH, DELBERT R, 15797A	6164	S-2, 129	Sys Tng	5 Austin Lane	ME 2-5394	8 Apr 57	Obsr	1411	TS
SON, HERMAN F, 17734A	2602	P-5, 100	Opr	2313 Bennett	ME 2-5939	1 Apr 53	SP	3211	TS
SORENSEN, BERNARD R, 13383A	2109	S-44	M & O	2022 Lark Dr	ME 2-4210	15 Feb 51		7336	TS
STABEEN, FRED W, 32693A	2188	S-44	M & O	2511 Wren Dr	ME 4-2081	9 Apr 58		7331	TS
STAPLETON, JAMES B, A0734021	2426	S-3, 115A	Elct	3938 Mariposa	ME 3-2304	1 Sep 51	CP	3034	TS-C
STEMAN, JOHN P, A0730649	2766	C H	PM	2804 N Circle Dr	ME 2-8182	11 Jan 56	P	7716	TS
STEPELTON, MARK H, 11447A	2305	P-5, 204	Opr	1536 Diana Lane	ME 2-1848	15 Feb 51	CP	1411	TS
STEPHANIDIS, JAMES G, 37466A	2631	S-47	Mil Pers	1706 Sherman	ME 5-5783	7 Feb 57		7316	TS
STEWART, KENNETH R, A0564405	2764	S-2, 111	Prog	2910 Templeton Gap Rd	ME 3-8826	1 Sep 51		0071F	TS
STOCKTON, OAKLEY L, A0866804	2680	S-2, B-8	Sys Intg	2008 Alpine Dr	ME 5-1950	15 Dec 51		3016	TS
STOPHER, DAVID R, 37785A	6154	N Nevada	Surg	1904 S Prospect	ME 5-5219	1 Jun 52	SP	9161	TS
STOUT, ROBERT A, 13588A	2994	S Tejon	Instl	110 E Carmillo	ME 2-3374	1 Sep 51	Obsr	5516	TS
STRAUT, FREDERICK G, A0818041	2341	S-12, 12	Opr	212 Sherri-Security	EX 2-8113	1 Apr 53	SP	1416	TS
STURN, WILMER R, 20676A	2669	S-2, 204	Sys Intg	1123 Logan Pl	ME 5-2190	1 Apr 53	Nav	1816	TS
SWAN, GILBERT T JR, A01036048	2107	S-3, 209	Sup & Svc	2475 Paseo Rd	ME 3-6094	24 Jan 55		6416	TS
SWANSON, DUSTIN H, 12581A	2089	S-2, 210D	C & E	809 E Columbia	ME 5-5468	1 Sep 51	SP	3016	TS
SWARTZ, WILLIAM B, A0701072	2162	S-2, B-8	Sys Intg	2887 Merry Lane	ME 3-1957	1 Jun 52	SP	1716	TS
SWIGLER, ADAM W JR, 15099A	2450	P-5, 103	Opr	1346 Bennett	ME 3-3506	9 Feb 55	SP	1416	TS
TACKAGE, ELMER E, A0795509	2443	S-2, 118	Sys Intg	1518 Winfield	ME 5-0928	1 Apr 53	SP	1716	TS
TARKINGTON, WARREN C, A0673752	2195	S-3, 203	Proc	1414 N Circle Dr	ME 5-4773	7 Apr 58	AO-NF	6636	TS
TAYLOR, GIL W, A0512199	2811	S-2, 125	Sys Tng	2010 Eagle View	ME 4-4522	15 Feb 51	CP	1716	TS
TAYLOR, IRVING C, 12068A	2811	S-2, 125	Sys Tng	1004 Saturn Dr	ME 3-8511	1 Sep 51		1716	TS
TAYLOR, CLYDE M, A0407A	2537	S-46	Pers	1501 Holmes	ME 2-0103	28 Nov 56	P-NF	7511	TS
THOMSON, LEO E, A0404501	2858	S-3, B-21	Log Plans	4802 Mallow Rd	ME 4-5410	28 Jan 58	SP	8616	TS
THORNTON, EVERETT J, A0579465	2516	C H	Insp Svc	2124 N Nevada		20 Jun 50		6416	TS
TODD, THOMAS A, A0524193				PDS Holloman, New Mexico, F-101B & F-106 Project Officer		1 Jan 52	CP	1416	C
TRUITT, ROBERT G, 14685A	2905	S-47	Pers	2027 N Circle Dr	ME 2-0918	1 Sep 51	SP	7316	TS
TRUXAL, EDWARD L, A0297232	2116	S Tejon	Const	2403 Paseo Rd	ME 5-2236	1 Jun 52		5511	TS
VENHORST, FRANCIS G, A0740006	2811	S-2, 125	Sys Tng	2310 McArthur	ME 3-9522	1 Sep 51	SP	1716	TS
VINEYARD, CARL H JR, A0674653	6064	S-3, B-34	Bud	831 N Cascade	ME 4-6930	1 Jun 51	SP	6736	TS
WHITLOW, DOYLE M, A0567080	2018	S-3, 127	Sup & Svc	905 Evergreen	EX 2-7493	1 Sep 51		6416	TS
WILL, WILLIAM F, 14571A	6063	S-2, B-8	Sys Intg	1011 Skyway	ME 3-6552	14 Feb 55	SP	1716	TS

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<u>MAJORS (CONT'D)</u>									
WILLIAMS, W C, A0912016	2551	S-3, 115C	Elct	1003 Vega Dr	ME 2-1357	14 Mar 52		1716	TS
WISE, J B JR, A0751515	2678	S-3, 205	Sup & Svc	123 Grand Blvd	ME 5-0125	3 May 51	SP	6416	TS
WOOD, ROBERT A, A02034652	6096	S-2, 210B	C & E	1329 Diana Lane	ME 3-0001	1 Sep 51		3016	TS
WOOD, W L JR, A0567127	2509	S-3, 115F	Elct	1412 E Kiowa	ME 3-48 2	3 Feb 55		6416	TS
ZIEGELGRUBER, L R JR, 13791A	6003	P-5, 102	Opr	1432 N Swope	ME 5-4272	15 Dec 51	CP	1416	TS
ZUMBRO, D W, A0576813	2820	S-3, B21	Maint	1107 Park View Blvd	ME 3-1959	1 Jun 52	SP	4316	TS

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<u>CAPTAINS</u>									
ADAIR, TOBY W JR, 38044A	2885	S-46	Pers Tng	1001 Venus Dr	ME 3-0522	15 Dec 51	SP	7511	TS-C
AMADOR, EARL M, 17944A	6114	S-44	M & O	2407 N Logan	ME 4-2512	1 Apr 53	AO-NF	7331	S
ANDERSON, WARREN E, A0590256	6114	S-44	M & O	2168 Pheasant Pl	ME 3-0693	5 Jun 51		3031	TS-C
BABCOCK, BERNARD R, 24496A	2827	S-3, B19	Stat Svc	3820 Meadow Lane	ME 2-4458	23 Mar 56		6851	S
BACH, MAURICE D, 25549A	2660	S-47	Rqr & Tng	2511 Lark Dr	ME 3-2076	25 Oct 55	Sr Nav	7324	TS
BAILEY, JACK E, A01911068	2662	S-2	Sys Tng	2428 N Meade	ME 2-9023	8 Nov 55	SP	1431	S
BAILEY, WILLIAM C, A0668994	2678	S-3	Sup & Svc	2007 N Circle Dr	ME 5-3864	1 Sep 51	AO-NF	6424	TS
BEASLEY, ERNEST A JR, A0813461	2258	S-46	Info Svc	1348 Diana Lane	ME 3-5237	1 Apr 53	P-NF	7211	TS
BEATY, ALBERT C, A02024028	6184	S-2	Sys Tng	3217 Poinsetta	ME 5-2876	27 Aug 51	SP	1411	TS
BELT, ROBERT H, A0590174	2716	S-2, 214	C & E	1211 Prairie Rd	ME 3-0506	1 Apr 53		3011	TS-C
BENNETT, DEVOE D, A0783498	2436	S-3	Elct	2515 Meadow Lark Lane	ME 2-1468	1 Sep 51	SP	3011	TS
BERTMAN, JEAN C, AL2220040	2853	S-2, 206	C & E	105 Bonfoy	ME 5-1094	14 Apr 58		3034	TS-C
BLESSING, F P, A0788137	2906	S Tejon	Instl	1105 Park View Blvd	ME 3-6286	1 Jun 52	SP	5525	TS
BLISS, GERALD B, 35518A	2814	P-5	Opr	1426 Hollyhock Dr	ME 3-9284	15 Dec 51	SP	1411	TS
BORKOWSKI, EDMOND J, 50577A	2221	S-35, 4	C & E	2016 Winston Rd	ME 5-4332	13 Nov 56		3034	TS-C
BOUTWELL, DOYLE F, A0734181	2836	S-2	Admin	437 Ponderosa	EX 5-0218	1 Apr 53		7024	TS
BOYER, GLENN G, A0785754	6115	S-12	Compt	2440 E Williamette	ME 5-4961	1 Jun 52	SP	6896	TS
BRETTAUER, LEWIS G, A0185318	2981	S-2, 115	P & R	2222 N Circle Dr		27 Jan 56	AO-NF	1575B	TS
BREWER, ORSE JR, 35591A	2770	S-3	Sup & Svc	2214 Condor	ME 5-5693	1 Sep 51	CP	6424	TS
BRITTENHAM, ELDON R, A01004080	2595	S-3	Sup & Svc	1556 Happiness Dr	ME 4-4149	15 Mar 54		6424	TS
BROOKSHER, DAN A, 19549A	2727	S-2	Sys Tng	1303 E Bijou	ME 2-4590	15 Apr 54	SP	1411	TS
BROWN, OSCAR O JR, A01861255	2584	P-5	Opr	1435 N Tejon	ME 5-0719	22 Jan 57		7024	TS
BUZBEE, JACK A, A0590148	2585	S-3	Sup & Svc	2463 Paseo Rd	ME 4-2520	1 Jun 52		6434	TS
CABOT, ALEXANDER, A01915216	PDS:	New York, New York				4 Nov 55		6411	TS-Q
CARLION, LEO, A0816421	2083	S-3	Sup & Svc	1813 Yuma Ave	ME 2-1825	1 Apr 53	P-NF	6424	TS
CARYLE, WILLARD S, A0728630	2835	S-3	Sup & Svc			15 Mar 54		6424	S
CASE, ROBERT E, A0736106	2516	C H	Insp Svc	1209 E Cheyenne Rd	ME 4-1429	9 Mar 52	P-NF	3211	TS
CLEMMENSEN, FRANK C, A0456254	PDS:	McClellan AFB, Calif	Liaison Officer			15 Dec 51	SP	4344	TS
COLLINS, RAYMOND P, A0934936	2115	S-3, 131	Maint	141 Rose Dr	EX 2-8023	13 May 54	P-NF	6424	TS
CREWSE, ROGER G, 42479A	2161	S-48	Safety	2004 Winston Rd	ME 5-4565	1 Jun 52	SP	1445	TS
CRONEMILLER, L F Jr, A0732175	2107	S-3	Sup & Svc	221 Steven Dr	ME 5-0409	16 Jan 51	P-NF	6424	S
CUNNEELY, EUGENE P, 28400	6184	S-2	Sys Tng	303 Maplewood	ME 5-4751	1 Apr 57	P	1435	S

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<u>CAPTAINS (CONT'D)</u>									
DARIES, STANTON G, 25779A	2426	S-3	Elct	1429 E Columbia	ME 5-0960	15 Dec 51	SP	3011	TS
DEWEY, HARTLEY C, A0748156	2162	S-2, B-8	Syst Intg	1201 N Farragut	ME 4-8482	21 Jan 51	CP	1411	TS
DIXON, HAROLD F, 44359A	2813	P-5	Sys Tng	1724 Mt Washington		23 Apr 56		7024	S
DOERIG, ALBERT JR, A0748593		FDS Hq	WADF, 78th Fighter Wg			31 Oct 50	P-NF	6424	S
DOWDEN, RONALD D, A0779816	2342	S-12	Opr	1705 Yuma	ME 5-5470	2 Sep 46		7024	S
DRESSER, RICHARD L, 17373A	2121	S-2, 236	P & R	316 Union	ME 5-0973	1 Sep 51	SP	8511	TS
DURBY, EDWARD F, A0574473	2126	S Tejon	Fac Supp	1013 Adams Dr	ME 3-9528	3 Apr 51		5554	TS
ERDMAN, DONALD L, A01907651	2790	S-47	Rcr&Tng	140 Davie Dr, Security	EX 5-0291	22 Mar 56	AO	3111	S
ESTES, HILLARD D, 27989A	2817		Surg	1711 Palmer Park	ME 5-4359	19 Jan 53	CP	9356C	TS
EVANS, EUGENE H, A0863381	2594	S-3	Maint	1505 W Colorado	ME 5-4524	14 Feb 52		3234A	TS
EWALD, GEORGE C, A02251730	2828	S-3, 126	Maint	709 Main St	ME 5-3296	15 Sep 56		6424	S
FABLANI, HENRY L, 37297A	2174	S-2, 230	C&E	205 Locust Dr	ME 5-1849	15 Feb 51	P-NF	3034	TS
FIRESTONE, SCOTT E JR, A02238807	2637		Surg	1528 Diana Ln	ME 5-1071	2 Jan 57		9025	TS
FOREMAN, GEORGE R, A01647436	2717	S-2, 216	C&E	2546 Palmer Pk Blvd	ME 4-6770	1 Feb 55		3044B	TS
FREY, ARTHUR C, 40105A	2055	S-3, B21	Maint	1207 Morning Star	ME 2-0105	20 Apr 51	CP	8636	TS
GALGAN, JOHN C JR, 37724A	2602	P-5	Opr	2510 Sycamore	ME 4-3254	15 Feb 51	SP	1411	TS
GIEL, WILLIAM G, 37154A	6031	S-35	C&E	604 Hilltop Rd	ME 5-2304	1 Apr 53		3034	TS
GIVENS, ROBERT W, 49308A	2491	S-12	Mgt Anal	233 Davie Dr, Security	EX 2-3427	1 Jun 52	SN	6891	TS
GLENN, RICHARD H, A0944798	6164	S-2	Sys Tng	1614 Holmes	ME 4-6512	2 Jun 57	P	1575A	TS
GLOMSEN, ADOLPH S, A02234802	2035	S-3	Sup&Svc	420 Aspen Dr	EX 2-7416	29 Jun 51		6034	TS
GOLEMBA, EDMUND B, A0774120	2270	S-46	Pers Tng	3222 Primrose Dr	ME 2-0253	30 Jan 51	P-NFS	7521	S
GRAHAM, EUGENE W. JR, 42102A	2623	S-3, B15A	Stat Svc	2504 Meadow Lark Lane	ME 3-7031	13 May 54	SP	6811	TS
GRAHAM, PERTER J F A01859590	2974	CH	PM	1223 James Lane	ME 3-8530	3 Nov 55		7711	TS-C
GRAY, WILLIAM W, 17589A	2615	S-48	Safety	22 Mt Washington Rd	ME 4-7180	1 Sep 51	SP	1445	TS
GRESE, FRANK, A01847544	2125	S-3	Sup&Svc	100 Leta Dr	ME 2-0633	15 Mar 54		6424	TS
GUYOTE, TARLTON A, 38423A	6031	S-35	C&E	50 Hayes Dr	EX 2-8078	1 Apr 53		3034	TS
HANCOCK, JACK D, A0936335	2436	S-3	Elct	207 Elmwood Dr	ME 5-4149	1 Jun 52		3044B	TS
HEFFERMAN, FRANK J, 26790A	2821	S-3	Log Plans	3205 Gladiola Dr	ME 4-2223	1 Jun 52	SP	8616	TS
HENDERSON, MILTON A, A0249238	2836	S-2	Admin	1112 N Cedar	ME 2-8041	19 Dec 50	SP	7024	TS
HEROD, DOUGLAS A, A0942426	6101	S-44	M & O	3406 Jon St	ME 3-9298	27 Feb 56	AC-NFS	7331	TS
HEUN, WILLIAM T JR, 42770A	2811	S-2	Sys Tng	902 E Monroe	ME 5-3689	12 Oct 55	SP	1431	TS
HIGGINS, BRUCE, A0869706	2396	S-35	C & E	Secinic Acres Tourist C	1U 4-9724	15 Jun 51		3011	TS
HOFFPAUIR, DAN W, A01999686	2737	S-3	Maint	2483 Lafayette	ME 4-2189	1 Jun 52	CP-NFS	6424	TS

CAPTAINS (CONT'D)

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HOLCOMB, ROBERT C, A0795133	2122	S-35	C&E	1515 Holmes Dr	ME 4-1249	10 Feb 55	CP	3034	TS-C
HOKER, HENRY A III, A02216328	2469	S-46	Per Svc	24 East Taylor Apt #6	ME 5-3424	13 Feb 58		7324	S
HOWARD, JACK P, 41814A	2481	S-46	Pers Tng	1431 Acacia Dr	ME 3-2438	16 Feb 55	SP	7524	S
HOWARD, ROBERT J, A01899400	2676	S-3	Log Plans	2479 Yorktown	ME 3-9760	1 Sep 51		6411	TS
HUNT, WARREN J, 44875A	2615	S-48	Safety	2104 Bonfoy	ME 2-7521	17 Apr 57	P	1445	TS
HUSTED, WILLIAM D, A0868710	2881	S-3	Elct	2014 W Cheyenne Rd	ME 5-2289	19 Dec 50		3011	TS
INGRAM, WILLARD D, A0781872	2602	P-5	Opr	2120 Downing	ME 2-1611	1 Jun 52	SP	1411	TS
JACKSON, ROY H, 40850A	2727	S-2	Sys Tng	2112 Eagle View	ME 3-4156	1 Jun 52	SP	1411	TS
JAMES, JOHN W, 39818A	2811	S-2	Sys Tng	2641 Chelton Rd	ME 2-2038	1 Jun 52	SP	1811	TS
JAMISON, LAFAYETTE R, A0551847	2085	S-Tejon	Instl	Iowa Motel	ME 3-8329	11 Mar 54	SP	5534	S
JANUARY, JACK JR, 38813A	6184	S-2	Sys Tng	2405 Condon	ME 2-1960	15 Dec 51	SP	1431	TS
JENKEN, THOMAS H, A0943685	2836	S-2	Admin	415 N Cascade	ME 4-8680	17 Jan 58	SP	7024	TS
JENKINS, BURTON P JR, 43503A	2283	P-5	Comdr	1201 Vega Dr	ME 4-7670	7 Feb 55	CP	1041F	S
JOHNSON, ROGER F, 38161A	6064	S-3	Compt	4506 N Weber	ME 5-2395	1 May 51	CP	6736	TS
KANE, JAMES L, 44407A	2435	S-12	Mgt Anal	1414 Eagle View Dr	ME 2-7103	5 Feb 58	P	6896	S
KEENEY, WILLIAM O JR, A0938998	2571	CH	Insp Svc	1012 Mars Dr	ME 3-9311	26 Oct 56	SP	6624	TS
KENDALL, GILBERT L, 19941A	2571	CH	Insp Svc	429 Cypress Dr	ME 3-3817	28 Jan 55		6624	TS
KIRKPATRICK, ROBERT F, 40672A	2811	S-2	Sys Tng	1117 N Meade	ME 3-0647	8 Mar 51		1744	TS
KLINKER, WILLIAM H JR, 41501A	2188	S-44	M&O	2922 Maizeland Rd	ME 2-8469	14 Aug 52	SP	7336	TS
LALLY, ROBERT W, 37803A	2717	S-2, 210	C&E	2201 Alpine Rd	ME 5-2851	1 Apr 53		3011	TS
LANE, JOHN E, A02222205	2615	S-48	Safety			23 Apr 56	P	1445	S
LILES, HAROLD D, A058938A	2881	S-3	Elct	1821 Northview Dr	ME 3-4023	1 Sep 51		3011	TS-C
LIMPANTISIS, ARTHUR G, 41911A	2354	P-5	Comdr	Garden of Gods Club	ME 3-7636	15 Apr 54	SP	7011	TS
MACELHANEY, ALEXANDER JR, 40615A 2811		S-2	Sys Tng	2703 Templeton Gap	ME 5-5842	15 Mar 54		1711	TS
MAPES, LEONARD F, A0887212	2601	P-5	Opr	1435 N Tejon	ME 4-6064	15 Apr 54	AO	6011	S
MAUGER, ROBERT L, A02250071	2483	S-3	Bud	2810 Illinois	ME 3-0449	11 Apr 58	P	6736	S
MCBROOME, CLINTON L, 41173A	2375	S-2, 111	Prog	1402 Parkway	ME 5-0753	1 Apr 53	SP	1411	TS
MCGAM, JAMES E, 16395A	6003	P-5	Opr			29 Mar 51	SP	1411	S
MCINTIRE, SCOTT W, 24005A	2648	S-2, 224A	C&E	3202 N Institute	ME 3-3061	11 Feb 58	AO	1575A	TS-C
MCPHERSON, JOSEPH R, A0775471	2941	S-3	Elct	1709 Yuma		19 Dec 50	SP	3011	S-C
MCSWEENEY, ALVIN R, A02217994	2941	S-2, 222	C&E	4402 N Weber	ME 4-6198	24 Apr 57		3011	TS-C
MEEHAN, RICHARD L, A0542810	2804	N Nevada	Intel	2215 N Bonfoy	ME 2-4765	1 Mar 51	CP	2051	TS-C
MEEK, JEROME E, A0750649	2632	S-3	Maint	2710 N Institute	ME 2-4172	19 Dec 50	CP	6411	TS
MENDONCA, ELMER J, A0742606	2811	S-2	Sys Tng			22 Oct 50	SP	1744	S
MERTES, THEODORE, A0956419	2450	P-5	Opr	908 Monument	ME 3-3026	25 Feb 51	SP	1411	S
MILES, ALLEN R, A0445777	2085	S-Tejon	Instl			1 Apr 53	SO	5531	TS

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<u>CAPTAINS (CONT'D)</u>									
MILLER, JOHN A, A0835740	2708	S-47	Pers	1350 Bennett Ave	ME 4-2196	1 Apr 53	P-NF	7311	TS-C
MISHLER, DONALD W, 38358A	2995	S-47	Pers	1833 Northview Dr	ME 2-5783	29 Mar 51	CP	7324	TS
MOORE, RUFUS A, A0709163	2344	S-2	Prog	1106 Milky Way Dr	ME 2-6259	19 Dec 50	SP	6521	TS
MORSE, ALBERT L, 43300A	6164	S-2	Sys Tng	617 Brookside	ME 3-2047	1 Feb 55	SP	3044P	TS
MORRISSEY, F J E, A0938708	2751	S-44	M & O	EOQ, Ft Carson, Rm 61	ME 3-6644	13 May 54	AO-NF	7336	TS
MULHOLLAND, HARRY E, A1415A	2727	S-2	Sys Tng	720 E 4th St	ME 4-8795	23 Dec 53	SP	1435	TS
NESS, DANIEL A, A0766642	2537	S-46	Pers Tng	1702 Sherman St	ME 3-4001	25 Feb 51	SP	7521	TS
NENSON, ALEXANDER, A0784334	2594	S-3, 126	Maint	41 Gorel Dr	EX 2-5019	14 Feb 55	SP	3234A	TS
O'HARA, WILLIAM A JR, A0861385	2970	S-3	Sup & Svc	1210 Harrison Rd	ME 5-0768	19 Dec 50	AO	6424	TS
PARKER, WALTER W, A0740536	2509	S-3	Elct	934 E Cucharras	ME 2-7206	1 Jun 52	SP-NF	6424	TS
PATRONE, FERDINAND L, A02234581	2540	S-48	Compt	2702 N Institute	ME 2-3796	25 Feb 57		6724	S
POLADIAN, ROBERT, 23695A	2692	S-3, B21	Maint	2932 Drakestone	ME 3-3647	15 Dec 51	SP	4311	TS
POTTS, JOSEPH M, 26801	2305	P-5	Aide	2711 Templeton Gap	ME 2-4354	1 Jun 52	SP	1435	TS
RAINEY, HAROLD W, 44191A	2803	S-35, 4	C & E	611 Kinnikinnik	ME 3-5338	17 Jan 58		3034	TS-C
RANSFAD, RAIDER E, 35824A	2764	S-2, 111	Prog	1130 N Logan	ME 2-6292	25 Jan 51	CP	7011	TS
RAND, QUENTIN, A0465597	2155	S-2	Prog	2520 Balboa	ME 3-9969	1 Jun 52		7024	TS
RANDLE, CHARLES F, 42296A	2605	S-47	Rqr & Tng	2223 N Circle Dr	ME 4-3490	24 Oct 52	SP	1416	TS
RAY, WILLIAM L, A0710755	2114	S-2, 101A	Sys Intg	1818 Grant	ME 5-1448	14 Dec 57	SP	7024	TS
REED, NORMAN F, 39058A	2811	S-2	Sys Tng	2550 Palmer Pk Blvd	ME 3-8188	22 Nov 50	AO-NF	1711	TS
REYNOLDS, KENNETH W, A0861907	2679	S Tejon	Proc	2426 N Wahsatch	ME 5-2638	1 Apr 53		6624	S
RICHARDS, MARION R, 17430A	2858	S-3	Maint	102 Hulda St	ME 5-5365	1 Jun 52	SP	8616	TS
ROBE, DONALD O, 17579A	2930	S-2, 118	Sys Intg	2227 McArthur Ln	ME 5-3707	15 Dec 51	SP	8441	TS
ROSS, HAROLD C, A0582338	2480	S-3, B21	Maint	1016 E Columbia	ME 2-6521	19 Dec 50	SP	4344	TS
ROSE, MARC H, A0774317	2827	S-3, B19	Stat Svc	1317 Mount Vernon Ln	ME 5-1074	19 Jan 55	P-NF	6851	TS
RUEHLMAN, JOHN P JR, A0710767	2727	S-2	Opr	1619 N Circle Dr	ME 5-5138	19 Dec 50	SP	1411	TS
RUNNING, JAMES L, 49445A	2716	S-2, 214	C & E	508 N Franklin	ME 3-4337	1 Apr 53		3011	TS
SAMMONS, WILLIAM A	2764	S-2, 111	Prog	2219 Downing Dr	ME 5-4795	15 Apr 54	CP	1411	TS
SCHWARTZ, JAMES C, 18631A	2033	S-3	Log Plans	1919 Downing Dr	ME 5-3636	11 Jan 55	SP	8616	TS
SCHULTZ, WILLIAM L, A02101925	2644	S-2, 214	C & E	1907 Downing Dr	ME 5-1941	1 Jun 52	NAV-NF	3044	TS
SEAMONS, MYRON I, A02033228	2635	S-46	Admin	2504 LaSalle	ME 3-1355	1 Jun 52		7324	TS
SHELDON, JAMES R, A0949995	2778	S-35, 1	C & E	236 Esther Dr	EX 2-3807	7 Dec 56		3034	TS-C
SHERECK, ADELBERT D, A01855109	2579	S Tejon	Instl	1718 Holmes Dr	ME 5-2328	4 Feb 57		5525	TS

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<u>CAPTAINS (CONT'D)</u>									
SHRIDER, ROBERT E JR, 50669A	2811	S-2	Sys Tng	1611 Holmes Dr	ME 5-4851	6 Apr 56	AO	1711	S
SICKERT, MURL J, A01645369	2534	S-46	Pers Svc	2905 Palmer Park Blvd	ME 2-0389	17 Mar 51		7344	TS
SMITH, RICHARD M, 20354A	2692	S-3, B21	Maint	205 Locust Dr	ME 5-1849	14 May 54		3211A	TS
SMUTZ, SAM L, 30504A	6003	P-5	Opr	616 Bonfoy	ME 2-2974	25 Apr 58	P	1411	TS
SPARS, CLIFFORD R, A02094939	2828	S-3	Sup & Svc	2209 Eagle View	ME 2-5110	25 May 51	SP-NF	6424	TS
STEPS, HUBERT S JR, 17513A	2500	S-3, 122	Maint	1233 N Hancock	ME 4-4288	1 Jun 52	P-NF	8626	TS-C
SWANSON, ROBERT J, A0930392	2257	S-46	Info Svc	809 N Cascade	ME 2-4950	31 Jan 55	SP	7224	S
TAPPIN, FRANCIS D, 40366A	2605	S-47	Rqr & Tng	3101 Palmer Park Blvd	ME 4-8309	15 May 54		3011	TS
TAYLOR, CLYDE M, 40407A	2790	S-47	Rqr & Tng	2402 LaFayette	ME 3-1245	1 Sep 51	SP	4311	S
TEFFT, ROBERT H, A01907482	2314	P-5	Opr	800 Hallam Ave	EX 2-3948	17 Dec 56		1611	TS
TODARO, MARCUS A, A0804900	2705	S-3, 130	Maint	218 Mesita Rd	ME 2-5798	1 Apr 53	SN-NF	3054	S
TOSO, HENRY J, A01847949	2547	S-2	Admin	2103 N Circle Dr	ME 2-5622	13 May 54		7011	TS
TRACY, THOMAS M, A0576518	2736	S-44	M & O	1328 N Frankljn	ME 3-7223	1 Jun 52		7011	TS
VARGO, JOHN M, 36683A	2615	S-48	Safety	2128 N Oriole	ME 4-7890	19 Dec 50	SP	1445	S
VENABLE, WILLIAM P JR, 22529A	2782	S-47	Rqr & Tng	2433 Paseo Rd	ME 5-2950	29 Jan 57	NAV	7324	TS
WAINWRIGHT, EWELL D JR, 27833A	2555	S-2, 107	Plans	2207 N Union	ME 3-1624	16 Apr 58	P	7024	TS
WATTS, FLOYD B, A0590318	2068	S-2, 230	C & T	311 Elmwood Dr	ME 2-4990	8 Dec 51		3011	TS
WEBER, JESSE W, A0816963	2509	S-3	Elct	1801 Yuma	ME 3-6792	29 May 51	SP	6424	TS
WEBER, ROBERT I, 20398A	2665	S-2, 104	Sys Intg	2435 Farragut	ME 4-2379	24 Feb 55	SP	1411	TS
WERNERS, RALPH F, A02217037	2612	C H	FM	402 Lynn Ave	ME 2-0884	16 Apr 58		7724	TS
WEINZMAN, MARTIN J, A0866775	2068	S-2, 230	C & T	1304 E Pikes Peak	ME 2-3288	15 Feb 51		3034	TS
WILLIAMS, RAYMOND A, A0781487	2135	S-3	Mat	3941 Stanton St	ME 5-1271	1 Mar 54	SP	7021	TS
WISE, HARRY R, A01585096	2413	S-3, E15B	Stat Svc	85 Steven Dr, Security	EX 2-5938	16 Jan 51		6834	TS
WISE, JOSEPH H JR, 50770A	6064	S-3, B34	Bud	715 Valley Rd	ME 5-5722	25 Jan 55		6736	TS
WITHERS, JAMES H, 25847A	2616	S Tejon	Instl	823 N Custer St	ME 4-3162	14 May 54		5511	TS
YOUNGER, CLYDE W JR, 22719A	2571	C H	Comd IG	928 Westmore Dr	ME 3-4021	1 Sep 51	SP	3044B	TS

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<u>FIRST LIEUTENANTS</u>									
COSTELLO, ROBERT E, A03066839	PDS: 2926	Hq WADF, 78th	Ftr Wg, Calif	1413 E Beuna Ventura	ME 4-8752	30 Jan 58	P	6421	S
DETWELER, W S JR, A03053404	2126	S Tejon	Instl	Cascade, Colorado	MU 4-9331	23 Dec 57		5561	S
GOODWIN, JAMES A, 27251A	2126	S Tejon	Instl	1136 Norwood	ME 2-3437	3 Dec 56		5531	S
KRUEGER, WILLIAM C, A03059776	2448	N Nevada	JA	2614 N Cooper	ME 4-6255	3 Dec 56		7824	TS
MURRAY, BILLIE F, A03007558	2639	S-2, 204	Sys Intg	3215 Illinois	ME 2-4166	10 May 55		1821	S
NIVEN, WILLIAM T, A03023645	2220	N Nevada	Intel	3214 Gladiola	ME 2-2509	16 Jun 55	P	2054	TS
BAINES, L E JR, 45789A	2482	S-46	Pers Svc	26 N Meade	ME 3-1617	2 Aug 54	P	7224	TS
STARBECKER, M A, AL3060581	2258	S-46, 113	Info Svc	2523 N Balboa	ME 5-1870	5 Apr 58		7221	S
TUDOR, FLOYD D, A03054922	2836	S-2, B12	Admin	916 E Columbia	ME 5-2051	28 Feb 58	P	7024	TS
WALL, DOUGLAS O, A03070050	2340	S-3, 203	Proc			3 Jun 58		6621	S
<u>SECOND LIEUTENANTS</u>									
AUSTIN, J H, A03082748	2827	S-3, B19	Stat Svc	824 E Platte	ME 2-0244	19 Jun 58		6851	S
CHRISTOPHER, J G, A03083630	FDS: 2827	Hq WADF, 78th	Ftr Wg, Calif	219 N Wahsatch		6 Apr 58		6421	S
JUNGLE, H JR, A03072899	2827	S-3, B19	Stat Svc	236 N Custer	ME 3-4244	26 Aug 58		6851	S
SCHUMANN, E M, A03074515	2524	S-3, B13	Stat Svc			3 Jun 57		6831	S
<u>WARRANT OFFICERS</u>									
<u>CWO (W-4)</u>									
FLOYD, ROBERT E, 950597E	2409	S-2, 113	Frog	25 El Sereno Dr	ME 5-4796	16 May 58		70200	TS
<u>CWO (W-3)</u>									
AJA, ANDREW, 950319E	2640	S-2, 122	Opr Anal	614 N Logan	ME 4-6544	19 Feb 52		70200	TS
HALL, CHARLES G, 950665E	2905	S-47	Pers	2625 N Union Blvd	ME 3-4541	3 Aug 55		73000	TS
KEETON, JAMES T, 950786E	2306	P-5, 203	Opr	2211 Winston Rd	ME 4-8636	28 Apr 53		70200	TS
ZUBKOFF, HERMAN, 951471E	2115	S-3, 131	Maint	1330 N Foote	ME 2-6320	20 Jan 56		43100	TS

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<u>WARRANT OFFICERS (CONT'D)</u>									
<u>CWO (W-2)</u>									
BENHAM, FRANK A, AW2114918	2108	S-2, 208	C & E	1033 N Farragut	ME 2-6435	28 Apr 53		70200	TS
FREE, PAUL L, 954079E	2232	S-3, 130	Maint	814 E Monument	ME 3-8912	22 Dec 57		30100	S
JOHNSON, WILLIE M, AW2201737	2679	S-3	Proc	639 N Royer	ME 4-4370	29 Dec 55		65000	TS
KEYSER, JOHN C, 953054E	2396	S-35, 1	C & E	315 N, 15th St	ME 4-8681	14 Jun 55		29300	TS
MCKNIGHT, ELLIS J, 954331E	2924	S-3, 128	Maint	422 E Cache La Poudre	ME 2-7370	9 May 58		32200	S
PAHEL, JACOB W, 953846E	2820	S-3, B21	Maint	2206 Alpine	ME 3-2045	6 Jan 56		43100	S
ROBERTS, LYLE W, 953777E	2773	N Nevada	Chap	2562 Palmer Park Blvd	ME 4-7115	13 Jan 56	P-NF	70100	TS
WARRINER, H H, 953067E	2684	S-2, 210C	C & E	215 N Farragut	ME 3-9846	1 May 51		30400	TS
<u>WO (W-1)</u>									
DAVIS, CARL L, 954637E	2480	S-3, B21	Maint	24 N Foote	ME 2-8085	3 Jan 57		43100	S
<u>ADMINISTRATIVE AIRCRAFT (VIP POOL)</u>									
GASS, FRANK C JR, 34738A, Maj 4574			VIP Pool	714 N Logan	ME 5-2003	3 Apr 58	CP	1045A	TS
CARTER, VIRGIL W, 40934A, Capt 4574			VIP Pool	1459 Bellaire Dr	ME 4-6562	1 Jun 52	SP	1045A	TS
DENSON, ROBERT G, 34229A, C pt 2601			VIP Pool	2725 John St	ME 2-3854	16 Jan 51	SP	1045P	TS
DOBBS, THOMAS F, A02067293, Capt 2601			VIP Pool	926 N Logan	ME 4-5905	16 Jan 51	SP	1045P	TS
HARMON, WARREN A, A0730477, Capt 4502			VIP Pool	2405 Summit Dr	ME 2-2546	16 Jun 51	CP	1045P	TS
HUBBARD, VAN D, 36773A, Capt 2601			VIP Pool	1019 E Madison St	ME 5-2823	15 Feb 51	CP	1045F	TS
LEE, ROY R, A0815512, Capt 2601			VIP Pool	1617 Happiness Dr	ME 5-3851	1 Jun 52	SP	1045P	TS
LEVERETT, C T, A0450180, Capt 2601			VIP Pool	2803 Illinois Ave	ME 2-5811	16 Jan 51	SP	1045P	TS
MCADORY, LOUIS M, A0831571, Capt 2601			VIP Pool	1611 E Platte	ME 3-9887	28 Mar 51	SP	1045A	TS
DOWNEN, DONALD G, A03005837, Lt 2601			VIP Pool	507 N Hancock	ME 5-2964	1 Feb 55	P	1045P	S

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<u>CIVILIANS</u>									
<u>GS - 15</u>									
ARMSTRONG, JAMES W JR	2049	S-2, 103	CS	1132 N Sheridan	ME 3-5198		8616		TS
BLAYLOCK, WILLIAM F	6144	S-2, 122	Opr	1911 Alpine Dr	ME 4-5609		1416		TS-Q
FRESH, JAMES L	6051	S-2, 115	Eval	2105 Pheasant Pl	ME 4-2086		8556		TS
KNUDSEN, LYLE L	2687	S-2, 133	Opr	1454 Northview Dr	ME 5-1060		1416		TS
MCLEAN, ARNOLD C	153	S-2	Opr	38 Richardson, Newton, Mass			1416		TS
TAYLOR, FREDERICK R	2657	S-46	Pers	2320 W Pikes Peak	ME 4-1650		7316		TS
<u>GS - 14</u>									
BROWN, AUSTIN R JR	2687	S-2, 122	Opr	109 Everett Dr	EX 2-7935		1416		TS
DURRENBERGER, JOHN A	2687	S-2, 122	Opr	802 Grand	EX 2-7977		1416		TS
EVERETT, ARTHUR E	2620	S Tejon	Instl	28 Friendship Lane	ME 2-3350				
FREESBURGH, R J	2758	S-46	Pers	639 Skyline Ave	ME 3-3460		7316		S
GREGG, JAMES C	2688	S-2, 122	Opr	1438 Iowa	ME 4-3237		1416		TS
LIPSCOMB, VIRGIL W JR	2688	S-2, 122	Opr	426 Ponderosa Dr	EX 2-3662		1416		TS
LYNES, GUY B	2415	S Tejon	Instl	2431 Lafayette Rd	ME 2-3604				
MCLEAN, ROBERT T	2657	S-46	Pers	2302 N Union	ME 3-1345		7310		S
MACNABB, CORNELIUS W	2688	S-2, 122	Opr	3033 E Highway 24	ME 3-1782		1416		TS
MILLER, CLARENCE E	2526	S Tejon	Instl	312 W Cheyenne Rd	ME 2-3408				
RILEY, RALPH M	2428	S-48	Safety	522 Elmo St	ME 3-9178		7354		S
SULLIVAN, ROGER M	2814	P-5, 107	Opr	1606 Ridgeway	ME 2-7434		1635		S
WITHAM, HOMER E	2237	S-44, 1	M & O	24 Grant Fl	MU 5-9555		7336		TS
<u>GS - 13</u>									
ACHE, WARREN W	2966	S Tejon	Instl	2018 Eagle View	ME 3-5819				
BALES, GAYLORD	2925	S Tejon	Instl	2407 N Meade	ME 2-5954				
BESSE, W H	6076	S-3, B9	Stat Svc	1829 S Nevada			6854		TS
BROEN, JULIUS H JR	2073	S Tejon	Instl	1037 Montrose	ME 4-6123				
BURNETT, HUGH B	2738	S Tejon	Instl	1105 Mercury Dr	ME 4-6257				
CALLEN, LOY A	2165	S Tejon	Instl	2401 Park View Blvd	ME 4-2039				

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<u>GS - 13 (CONT'D)</u>									
CHAPMAN, JAMES M	2687	S-2, 122	Opr	2479 Paseo Rd	ME 2-0111			1416	TS
D'AMBROSIO, ALBERT J	2629	S Tejon	Instl	1304 E San Miguel, Apt 5	ME 2-5185				
GROVER, FLOOD A	2444	S-3, 203	Proc	720 W Buena Vista	ME 2-2067			6636	TS
HOLSWORTH, ROBERT C	2126	S Tejon	Instl	302 S Elmo St	ME 3-0992				
JONES, ROBERT E	2943	S-12, 6	Compt	8 Commons Rd	ME 3-5967			6896	TS
LAHEY, PROSPER J JR	2843	S-3, B6A	Compt	1609 N Tejon	ME 2-5792			6736	TS
LARDIERE, SALVATORE G	2485	S Tejon	Instl	2032 Alpine Dr	ME 4-7090				
MATTOUSH, WILLIAM R	2688	S-2, 122	Opr	1908 N Cascade	ME 4-3604			1416	
MEE, ROBERT A	2135	S-3, 107	Mat	1928 Winston Rd	ME 3-8582			0046F	TS
MILLER, JAMES R	2959	S-35, 1	C & E	1008 Sun Dr	ME 4-5919			3016	TS
ODELL, PAUL E	2124	S Tejon	Instl	Rt 3, Box 318	ME 5-5030				
SANDERS, MARION F	2645	S-2, 234	C & E	1013 Northstar	ME 3-0081			3016	TS
SPITZ, GEORGE R	2136	S Tejon	Instl	1310 E Fountain	ME 2-1497				
VOLAN, DENYS	6094	1 Nat Bank	Hist	1441 Howard	ME 3-6375			7324	TS
WALKER, MITCH H	2916	S-46	Pers Tng	1008 Venus Dr	ME 3-8490			7516	S
WHITE, BERNARD C	2688	S-2, 122	Opr	825 Skyway Blvd	ME 2-5833			1416	TS

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				<u>GS-12</u>					
ARNETT, JOHN M	2416	S Tejon	Instl	12 W Monroe	ME 3-3096				
BARRETT, CHARLES M	2503	48	Compt	629 Williams	ME 3-0191				S
BENSON, GEORGE D	2758	46	Pers	307 Maplewood St	ME 5-2494			7316	S
BENSON, JACK M	2485	S Tejon	Instl	1729 Bates Dr	ME 3-1620				
BILLIARD, FRANCES E	2056	S Tejon	Instl	2035 Downing Dr	ME 5-1748				
BOYNTON, GEORGE R	2126	S Tejon	Instl	1904 N Nevada	ME 2-8404				
BRANDON, ROBERT E	2136	S Tejon	Instl	3209 Illinois Ave	ME 4-0315				
CARVER, PAUL W	2155	S Tejon	Instl	1318 E Fillmore	ME 3-0862				
CARVILL, RICHARD W	6024	S-2, 212	C & E	Woodland Park	MU 7-9276			3044	S
CAVA, FRANCIS V	2442	S-3, B4	Budget	2221 Winston Rd	ME 2-8126			6736	TS
CHURCH, PAUL T	2056	S Tejon	Instl	18 Polo Circle	ME 2-4986				
COX, DANIEL J	6011	S-35, 1	C & E	1201 E Columbia, Apt 8	ME 4-7851			3016	TS
DAVIS, HARRY A	2946	S Tejon	Instl	741 E Las Animas	ME 4-3011				
DELONG, LYSLE L	2945	S Tejon	Instl	2027 S Washington, Denver	PE 3-9062				
DOUGLAS, HAMAN W	2717	S-2, 216	C & E	1623 E Kiowa	ME 3-9372			3044	TS
ELLIS, JAMES E	2540	48	Compt	2510 Lelaray	ME 4-8551				TS
ERICH, ORAN S	2925	S Tejon	Instl	3215 N Prospect	ME 2-2819				
ENGEL, MAX	2165	S Tejon	Instl	1613 Dahlia St, Denver	FL 5-5269				
FRAZIER, DONALD	2136	S Tejon	Instl	3025 Morris Ave, Pueblo	LI 2-2084				
FORSEY, ROBERT K	2500	S-3, 135	Maint	520 Yucca Dr	ME 3-4919			3216	TS
HANES, GILBERT C	2165	S Tejon	Instl	2322 N Farragut	ME 3-9708				
HARVEY, RICHARD C	2416	S Tejon	Instl	1319 N Iowa POB 653	ME 2-3148				
HAYDEN, WILLARD C	2738	S Tejon	Instl	1525 Hollyhock Dr	ME 3-0878				
HOLLAND, SPENCER L	2046	S Tejon	Instl	2408 Lark Dr, Apt 7	ME 3-4352				
HOMMON, GEORGE W	2906	S Tejon	Instl	2020 W Cheyenne Rd	ME 4-6142				
HONEY, WILLIAM V	2126	S Tejon	Instl	Pike View Village					
HURLEY, OWEN B	2086	S Tejon	Instl	2509 N Royer	ME 3-5030				
HYDE, WILLIAM W	2165	S Tejon	Instl	3204 Arcadia	ME 2-4033				
INTEMANN, H LUTHER	2915	S Tejon	Instl	1925 Cresthaven	ME 2-6371				
JACOBSON, GORDON F	2956	S Tejon	Instl	2313 E Van Buren	ME 5-2943				
JOHNSTON, O R	2468	46	Pers Svc	1703 E Cache Le Poudre	ME 3-2027			7524	S
JONES, EWING K	2854	S-2, 224	C & E	1815 E Williamette	ME 2-3801			3016	TS

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<u>GS - 12 (CONT'D)</u>									
JONES, LYLE W	2085	S Tejon	Instl	2634 N Cooper	ME 2-1835				
JORGENSEN, PAUL H	2096	S Tejon	Instl	3105 Gladiola	ME 3-3569				
KARGES, HERBERT G	2915	S Tejon	Instl	1310 E Columbia	ME 3-3387				
KIOVSKY, JOSEPH A	2485	S Tejon	Instl	1109 Vega Dr	ME 4-2963				
KOFLER, ERVIN J	2716	S-2, 214	C & E	Wilbur's Motel	ME 4-9855			3016	TS
LIBASCI, ALPHONSE J	2994	S Tejon	Instl	2541 Waldean	ME 3-6028				
LOGAN, FRANCIS E	2165	S Tejon	Instl	1903 Winston Rd	ME 2-5212				
MARANDER, W H	2657	46	Pers	203 Maplewood Dr	ME 4-3129			7316	S
MCINNIS, FRANCIS J JR	2086	S Tejon	Instl	2512 Alexander	ME 5-0995				
MCKENNA, CHARLES E	2066	S Tejon	Instl	710 Solana Dr	ME 3-7239				
MCMULLEN, RICHARD F	6094	1 Nat Bank	Hist	201 Grand Blvd	ME 5-3973			7324	TS
MICHAUX, MARION J	2136	S Tejon	Instl	1445 Wilks Place	ME 4-6164				
MILLS, EARL F	2945	S Tejon	Instl	1412 E Platte	ME 3-1920				
MOELLER, WERNER G	2066	S Tejon	Instl	1328 W Pikes Peak	ME 5-4276				
MULLIGAN, WALTER B	2416	S Tejon	Instl	1137 Wood Ave	ME 4-7995				
MYLNE, ROBERT S	2738	S Tejon	Instl	12 N Sheridan	ME 2-8651				
NELSON, THOMAS JR	2165	S Tejon	Instl	1815 N Nevada	ME 4-3430				
NICHOLS, GEORGE H	2738	S Tejon	Instl	2534 N Wahsatch	ME 2-3049				
O'NEILL, EDWARD T JR	2086	S Tejon	Instl	1212 Mt View Lane	ME 4-6084				
OSBORNE, RICHARD H	2956	S Tejon	Instl	1518 Diana Lane	ME 5-1046				
RAUCH, MAYNARD A	2945	S Tejon	Instl	1410 Prairie Rd	ME 3-1650				
RODGER, PAUL L	6031	S-35, 1	C & E	1235 E San Miguel Apt 9	ME 4-2678			3016	S
ROGERS, LESLIE W JR	2687	S-2, 122	Opr	2825 Illinois	ME 5-2283			1416	TS
ROHRS, HERMAN E	2485	S Tejon	Instl	2816 N Circle Dr	ME 4-1980				
ROURKE, H L	2468	46	Pers Svc	1101 N Farragut	ME 2-8077			7344	TS
SCHWARTZ, WALTER R	2738	S Tejon	Instl	1017 N Logan	ME 3-9504				
SEELY, HAROLD T	2486	S Tejon	Instl	1118 E Yampa	ME 4-2498				
STRONG, HAROLD A	2616	S Tejon	Instl	1940 Alpine Dr	ME 3-9182				
SWANSON, EDWARD B	2062	S Tejon	Instl	2024 Winston Rd	ME 2-8068				
TAYLOR, DONALD B	2738	S Tejon	Instl	1507 N Prospect	ME 3-0990				
WALLACE, EVERETT C	2956	S Tejon	Instl	1425 E Monument	ME 3-9904				
WELSBY, WILLIAM J	2459	S Tejon	Instl	2027 Winston Rd	ME 2-1983				
WENDLAND, RALPH F	2485	S Tejon	Instl	1936 Alpine Rd	ME 2-8129				

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<u>NAME AND AFSN</u>	<u>OFFICE PHONE</u>	<u>BLDG & ROOM</u>	<u>DUTY ASGMT</u>	<u>HOME ADDRESS</u>	<u>HOME PHONE</u>	<u>DOR</u>	<u>AERO RATING</u>	<u>DAFSC</u>	<u>SCTY CLEARANCE</u>
<u>GS - 12 (CONT'D)</u>									
WERDEL, F KENNETH	2946	S Tejon	Instl	1004 Morning Star Dr	ME 2-2091				
WILHITE, CLYDE E	2628	S Tejon	Instl	1229 E San Miguel Apt 9					
WITTER, HARRY C	2416	S Tejon	Instl	3014 Mesa Rd	ME 3-8007				
WILSON, LISLE V	2945	S Tejon	Instl	2005 Lark Dr	ME 2-6317				
YOHN, JAMES H	2956	S Tejon	Instl	2510 N Corona	ME 3-2921				
<u>GS - 11</u>									
BECKER, WILLIS A	2444	S-3, 203	Proc	19 Alsace Way	ME 3-0308		6636		TS
BOBBITT, ROBERT A	2830	1 Nat Bank	Hist	1941 S Cedar	ME 2-5427		7234		TS
CHARBONNEL, ROBERT J	2483	S-3, B2	Budget	1423 N Custer	ME 3-9624		6736		TS
CHARD, WILLIAM J	2500	S-3, 135	Maint	2429 Paseo Rd	ME 4-8930		3216		TS
CLAYTON, WILLIAM L JR	2474	S Tejon	Instl	2416 Lark Dr, Apt 6	ME 3-4940				
DIPPEL, WILLIAM E	2474	S Tejon	Instl	816 N Pleasant St	ME 4-8939				
FRANZ, CLIFFORD H	6036	S-12, 5	Compt	729 Main	EX 2-5079		6896		TS
HEINZEN, JACK	2491	S-12,1	Compt	717 E Madison	ME 3-7382		6896		S
JONES, WILLIAM A	2459	S Tejon	Instl	2295 Quail, Denver	BE 3-4452				
LAKE, MELVIN H	2751	S-44, 7	M & O	2018 N Circle Dr	ME 5-2101		7336		S
LOCKHART, HENRY	2503	48	Compt	3826 Panorama Rd	ME 3-2258				S
MAHLR, JOHN J	2433	S-12, 9	Compt	1131 N Cascade	ME 4-8312		6896		TS
MCADAMS, LAWRENCE	6011	S-35, 1	C & E	1420 E Uintah	ME 2-0821		3034		TS
MCCABE, JOHN F	2472	S Tejon	Instl	2228 N Nevada	ME 4-4548				
MILLER, M B	2534	46	Adm Svc	2637 Holliday Lane	ME 2-9609		7344		TS
MILLIKEN, WILLIAM B JR	2016	S Tejon	Instl	630 N Cascade	ME 3-5344				
NEESON, JOHN V	2428	48	Safety	1604 S Corona	ME 2-7221		7354		S
O'ROURKE, WILLIAM J	2503	48	Compt	415 E Columbia	ME 2-9510				TS
PRESTIS, DANIEL R	2473	S Tejon	Instl	116 Rose Dr	EX 2-7535				
NEELY, ELMER A	2066	S Tejon	Instl	1019 Neptune Dr	ME 3-4174				
RAWLINGS, YEOMAN C JR	2473	S Tejon	Instl	1319 Diana Lane	ME 3-0062				
STANDLEE, J LOUIS	2472	S Tejon	Instl	614 Glen Eyrie Court	ME 3-9900				
STEPHENS, ROSS	2124	S Tejon	Instl	2303 N El Paso	ME 2-4267				
WENDT, JOHN E	2916	S Tejon	Instl	429 E San Rafael	ME 4-1708				

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<u>GS - 11 (CONT'D)</u>									
WIGHTMAN, RICHARD I	2485	S Tejon	Instl	1530 Diana Lane	ME 5-2361				
WILSON, WILBUR L	2342	S-12, 11	Obsr Cre	306 N Cascade	ME 5-1610			7216	TS
YOUNG, LOIS E	6064	S-3, B34	Budget	1336 N Weber	ME 3-6844			6737	TS
<u>GS - 10</u>									
BRYAN, PARKE K	2442	S-3, B4	Budget	1315 Wood Ave	ME 3-1945			6736	TS
CASTANIEN, LLOYD C	2124	S Tejon	Instl	3202 N Prospect	ME 2-5873				
GARDINIER, JOHN P	2442	S-3, B4	Budget	2899 Merry Lane	ME 5-1341			6736	TS
<u>GS - 9</u>									
ALLEN, JOHN S	2153	S Tejon	Instl	229 N Nevada	ME 2-8643				
ARENDS, ALBION J	2483	S-3, B2	Budget	533 William Ave	ME 2-4231			6736	TS
BLACK, SCOTT U	2058	S-3, 124	Maint	2221 Drakestone Dr	ME 5-1156			6424	TS
BOYSEN, J T	2827	S-3, B19	Stat Svc	2105 E Platte	ME 2-6739			6854	S
COLLINS, DAVIS H	2474	S Tejon	Instl	2434 Lark Dr, Apt 8	ME 3-7114				
DAVIDSON, THOMAS A	2153	S Tejon	Instl	Rt 3 Box 244 Colo Spgs	ME 5-0073				
DILLION, EDWARD W	6064	S-3, B34	Budget	332 N Meade	ME 3-7248			6736	TS
DOBBS, LOUISE	2975	45	Compt	1214 E Miguel	ME 2-4302				S
ELMORE, MARGARET W	6076	S-3, B9	Stat Svc	427 N Cascade	ME 4-0107			6854	S
EMANUEL, VERLIN	2503	48	Compt	1042 E Jefferson	ME 2-9615				TS
ESPANDER, ROBERT L	2979	S Tejon	Instl	846 N 31st St	ME 3-7206			6624	S
FORSEE, H E	6076	S-3, B9	Stat Svc	1713 N Sherman	ME 5-2892			6854	S
GEARHART, DAVID F	2442	S-3, B4	Budget	2131 W Bijou	ME 3-7073			6736	S
GOODSON, R J	6076	S-3, B9	Stat Svc	Rt 1, Box 248	ME 5-0146			6854	S
HARRISON, RUSSELL O	2087	S-35, 7	C & E	637 Glen Eyrie Ct	ME 3-6442			6834	S
HAWTHORNE, JOHN C	2483	S-3, B2	Budget	25 N Hancock	ME 2-5332			6736	S
JOHNSTON, C I	2525	S-3, B15E	Stat Svc	Rt 1, Box 159	ME 5-0678			6834	S
JUNGE, MARSHALL F	2915	S Tejon	Instl	1919 E Van Buren, Apt 1	ME 2-8754				
LAHEY, THOMAS J	2483	S-3, B2	Budget	530 Widefield Dr	EX 2-3445			6736	TS
LANDES, PHILIP H	2483	S-3, B2	Budget	1813 Northview Dr	ME 4-7035			6736	S
LAPLANTE, RAYMOND A	2679	S Tejon	Instl	406 Springfield Ave	ME 2-4060			6624	S

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<u>GS - 9 (CONT'D)</u>									
LEASURE, BETTY	2503	48	Compt	1210 Milky Way	ME 3-0987				S
MASON, WAYNE	2153	S Tejon	Instl	1833 Alpine Dr	ME 4-8533				
MIRISE, KENNETH E	2915	S Tejon	Instl	119 Cresta Rd	ME 5-2717				
NELSON, CORA LEE	6076	S-3, B9	Stat Svc	3508 N Jon	ME 5-4002			6854	S
O'LEARY, THOMAS F	2474	S Tejon	Instl	933 E Moreno	ME 4-8568				
RENS, LAMBERT	2064	48	Compt	2701 S Hancock	ME 3-5759			7016	S
ROCHE, FRANCIS B	2472	S Tejon	Instl	720 N Cascade	ME 4-9766				
SZCZERBA, STANLEY B	2549	N Nevada	Adm Svc	1332 Prairie Rd	ME 4-4551			7016	TS
TEASON, HUGH	2896	S-45	Compt	1601 N Royer	ME 4-8165				S
VALLES, FERNANDO O	2483	S-3, B2	Budget	844 E Rio Grande	ME 4-8943			6736	S
VARRONE, VINCENT M	2574	S-2, 224	C & E	2528 N Tejon	ME 3-2261			7324	TS
WARREN, SYLVIAN J	2153	S Tejon	Instl	2506 N Logan	ME 3-3208				
<u>GS - 8</u>									
BARLOW, R M	2533	S-46	Compt	425 Ponderosa	EX 2-5205			6774	S
GEARHART, DAVID F	2442	S-3, B4	Compt	2131 W Bijou	ME 3-7073			6737	S
HAWTHORNE, JOHN C	2927	S-3, B2	Compt	2220 E Monument	ME 2-5332			6736	S
KLIPPING, MARIAN E	2503	48	Compt	1520 E Pikes Peak	ME 2-8214				S
LAHLY, THOMAS J	2884	S-3, B2	Compt	530 Widefield Dr	ME 5-3016			6736	TS
LANDES, PHILIP H	2884	S-3, B2	Stat Svc	1813 Northview Dr	ME 4-7035			6736	S
SCOTT, GEORGE D	2416	S Tejon	Instl	2425 Robin Dr, Apt 4					
<u>GS - 7</u>									
ALEXANDER, CHARLES	2872	45	Compt	617 Mono Place	ME 3-7122				S
BECKER, HELEN L	2958	S-37, 5	C & E	731 E Boulder	ME 4-7927			67150	S
BONNEY, IDA R	2494	S-2, B5	Admin	1918 El Parque	ME 3-0418			70270	TS
BURNS, FRANCIS	2064	45	Compt	824 E Platte	ME 2-0244				S
EAGAN, LOIS M	2540	48	Compt	1711 W Bijou	ME 4-7895				S
ELLMANGER, W H	6076	S-3, 9	Stat Svc	112 E Madison				6854	S
ESPANDER, HELEN E	2958	S-35, 7	C & E	846 N, 31st St	ME 3-7206			3034	S
HINDMAN, BYRON S	2958	S-35, 7	C & E	2014 E Yampa	ME 3-5439			67150	S
KISTLE, JEAN B	2896	45	Compt	Rt 1, Box 234	ME 5-3490				S

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<u>NAME AND AFSN</u>	<u>OFFICE PHONE</u>	<u>BLDG & ROOM</u>	<u>DUTY ASGMT</u>	<u>HOME ADDRESS</u>	<u>HOME PHONE</u>	<u>DOR</u>	<u>AERO RATING</u>	<u>DAFSC</u>	<u>SCTY CLEARANCE</u>
<u>GS - 7 (CONT'D)</u>									
MAHER, ELSA R	2259	S-46, 115	Info Svc	1131 N Cascade Apr 7	ME 4-8312			7224	S
O'LEARY, JAMES S	2483	S-3, B2	Budget	1540 Happiness Dr	ME 4-4375			6736	S
QUICK, DEFORREST	2153	S Tejon	Instl	1922 S Sheridan	ME 2-8175				
SHOUP, LUCILLE H	2612	Carp Hall	P M	1214 San Miguel	ME 4-6733			75150	TS
SIEMON, J A	2110	S-3, B3	Stat Svc	531 Asbury Place	ME 4-1287			68570	S
STEWART, ELIZABETH W	6076	S-3, B9	Stat Svc	1004 N Wahsatch	ME 3-5623			6854	S

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C-6684

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NORAD COMMANDERS

30 June 1958



E. E. PARTRIDGE
GEN USAF
COMMANDER-IN-CHIEF
NORAD



C. R. SLEMON
A/M, RCAF
DEP COMMANDER-IN-CHIEF
NORAD



L. E. WRAY
A/VM RCAF
AOC, RCAF, ADC



C. E. HART
LT GEN, USA
CG USARADCOM



W. F. RODEE
RADM, USN
COMNAVFORCONAD



J. H. ATKINSON
LT GEN, USAF
COMDR ADC



F. A. ARMSTRONG JR.
LT GEN, USAF
CINCAL

**NORTH AMERICAN
AIR DEFENSE COMMAND**



Historical Summary

January - June 1958

Directorate of Command History
Office of Information Services
Headquarters North American Air Defense Command

C-6684

PREFACE

This historical summary is one of a series of semiannual reports on the North American Air Defense Command, published about 1 April and 1 October of each year. Its purpose is twofold. First, it provides a ready reference to NORAD activities by bringing together in a single document the key data found in several hundred documents. Secondly, it records for all time the activities of NORAD during this period.

The source materials from which this history was written are on file in the historical office and are available for use by all authorized persons. For security reasons, a list of the documents was not included with this history.

Colorado Springs, Colorado
1 October 1958

L. H. Buss
Director of
Command History

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Chapter I

NORAD and CONAD Mission and Organization

BACKGROUND*

The Continental Air Defense Command was originally established on 1 September 1954 by the Joint Chiefs of Staff as a joint command. CONAD was charged with defending the continental United States against air attack and supporting other commands in their missions to the maximum extent possible. The U. S. Army Air Defense Command, USAF Air Defense Command, and the Naval Forces CONAD were named as components of CONAD.

CONAD did not have a separate staff, however. The USAF ADC Headquarters and staff were additionally designated as CONAD Headquarters and staff. This combined, two-hat arrangement was not effective. One problem, for example, was in distinguishing functions and command channels.

Because of this, the CONAD Commander-in-Chief, who was also the ADC Commander, General E. E. Partridge, urged separation of the two headquarters and establishment of CONAD as an independent organization. The components generally agreed and the matter was presented to the Joint Chiefs of Staff.

In the meantime, the JCS revised the Unified Command Plan, giving CONAD the additional responsibility of air defense of Alaska and the Northeast Area. In June 1956, the Secretary of Defense approved the revised plan and also a JCS recommendation for reorganization of CONAD which provided for separation from ADC.

* Because of many requests to this office for data on the establishment and missions of CONAD/NORAD, this history covers this background briefly. For additional information, see CONAD Historical Summary, July 1957, pp 1-7, and NORAD Historical Summary, December 1957, pp 1-10.

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New terms of reference were provided CONAD on 4 September 1956. These terms provided for enlargement of the CONAD mission according to the Revised Unified Command Plan and the change in organization recommended by the JCS.

On 17 September, a new staff structure for the separate CONAD Headquarters was established. General Partridge was relieved of command of ADC on this date and Lieutenant General Joseph H. Atkinson was named Commander of ADC. But it was not until 1 October 1956 that the CONAD staff was actually physically separated and began functioning separately.

CONAD's mission under the new terms was broadened by the addition of (1) responsibility for air defense of Alaska and the Northeast Area and (2) responsibility for assisting in the air defense of Canada and Mexico according to approved plans and agreements.

Meanwhile, integration of operational control of the air defense forces of Canada and the United States was being considered by the JCS and the Canadian Chiefs of Staff Committee. These two groups turned the problem over to the Joint Canadian-United States Military Study Group for examination. At the end of 1956, the MSG completed its work and recommended integration. It also presented the general requirements for integration.

The JCS approved the MSG report in February 1957, the U. S. Secretary of Defense approved it in March, and in May the CSC advised that it had completed action on the report and that the matter awaited governmental approval. On 1 August 1957, government approval of the setting up of an integrated command was announced jointly by Ottawa and Washington.

Following this announcement, General Partridge proposed to the Canadian and U. S. Chiefs of Staff that the CSC direct that effective 12 September, operational control over the RCAF ADC be assumed by the integrated headquarters in Colorado Springs. He would then designate the AOC ADC as the commander responsible to the integrated command for operational control of all Canadian and U. S. air defense forces in Canada. Lastly, he recommended the title North American Air Defense Command (NORAD) for the new integrated command.

On 3 September, the CSC approved these recommendations; the JCS approved on 6 September.

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This was the basis for the establishment of NORAD. On 6 September, CONAD advised all appropriate agencies that NORAD was to be established at Ent Air Force Base effective 0001 Zulu 12 September, that operational control over Canadian and U. S. forces in Canada would be assumed by CINCNOAD on this date, that the AOC ADC was responsible to CINCNOAD for exercising operational control in Canada, and that CINCNOAD would exercise operational control over all U. S. air defense forces in the U. S., Alaska, and Greenland in accordance with the terms of reference for CINCNOAD.

Thus, establishment of NORAD can be dated from 12 September 1957, but it was established only by CONAD proclamation (which had the approval shown above of the CSC and JCS). NORAD had no terms of reference or approved manning document.

CANADIAN-U.S. AGREEMENT

A formal agreement on establishment of NORAD was reached by the governments of Canada and the United States with an exchange of notes on 12 May 1958. The Canadian note, signed by Norman Robertson, Canadian Ambassador, proposed certain principles for the organization and operation of NORAD. Included were the following: (1) CINCNOAD would be responsible to the CSC and JCS and would operate within an air defense concept approved by the two governments; (2) operational control was the power to direct, coordinate, and control the operational activities of forces assigned, attached or otherwise made available; (3) the appointment of CINCNOAD and his Deputy, who were not to be from the same country, was to be approved by both governments; (4) the North Atlantic Treaty Organization was to be kept informed of arrangements for North American air defense through the Canada-United States Regional Planning Group; and (5) NORAD was to be maintained for a period of ten years or such shorter period as agreed by both countries. 1

The U. S. note, signed also on 12 May by Assistant Secretary of State Christian A. Herter, stated that "my Government concurs in the principles set forth in your note. My Government further agrees with your proposal that your note and this reply shall constitute an agreement between the two Governments effective today." 2

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TERMS OF REFERENCE FOR NORAD

Following this exchange of notes, the military chiefs of both countries approved new terms of reference for NORAD, which became effective 10 June 1958.³

The terms gave NORAD the mission of defending the continental United States, Canada, and Alaska against air attack, and supporting other continental United States and Canadian commands.⁴ NORAD, established as an integrated (U. S.-Canada) command, was to include, as component commands, the Air Defence Command of Canada, U. S. Army Air Defense Command, U. S. Naval Forces CONAD, and USAF Air Defense Command. CINCNORAD was to be responsible to the U. S. JCS and the Canadian CSC and was to operate within an agreed Canada-U. S. concept of air defense and in accordance with agreed joint intelligence. Direct communication was authorized between CINCNORAD and the CSC and JCS on matters of combined Canada-U. S. interest.

CINCNORAD was given operational control over the component commands and their assigned forces, the air defense forces in Alaska, and all other air defense forces made available by proper authority. Operational control was defined as the power of directing, coordinating, and controlling the operational activities of available forces. CINCNORAD was to exercise operational control of the Mid-Canada Line and the land-based portion of the DEW line through designated subordinate commanders. The seaward extensions of the early warning systems were to remain under CINCPAC and CINCLANT.

The responsibilities of component commanders under NORAD included the following: to command and provide for the administration, training, and support of their forces and place under the operational control of CINCNORAD, or his subordinate commanders, all units of their command having a combat capability; advise CINCNORAD on their respective service matters; coordinate on matters of mutual interest; and perform the detailed planning, programming, and siting for air defense units.

Commander-in-Chief, Alaskan Command was made responsible to CINCNORAD by the terms of reference for all air defense activities

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in Alaska and was designated the NORAD commander responsible for exercising operational control of all air defense forces in Alaska.

NORAD POLICY GUIDANCE

On 3 July 1958, NORAD submitted for the approval of the CSC and JCS proposed policy guidance, pointing out that the "policies, plans and operational concepts of this command must be based on, and in accordance with, bilateral policy directives and strategic guidance from appropriate United States and Canadian authorities."⁵ NORAD's proposed policy guidance was as follows:⁶

a. The United States and Canada must maintain a defensive posture at all times adequate to deter Soviet aggression, or, in the event of war, to insure the survival of the United States and Canada as free nations. In this connection, the requirements for air defense should not be considered in isolation from, or, in competition with, the requirements for offensive forces, since it is only the proper combination of these capabilities that can achieve the stated objectives.

b. Further, to accomplish these objectives, the United States and Canada intend to achieve and to maintain at an appropriate state of readiness an effective integrated air defense system capable of detecting and destroying hostile forces approaching or operating over the North American continent in order to deny to the enemy the possibility of destroying a critical number of vital targets.

c. To this end, CINCNORAD should submit to the United States Joint Chiefs of Staff and Canadian Chiefs of Staff Committee studies, recommendations, and periodic long-range objective plans designed to accomplish the national objectives relative to air defense. In the event that budgetary, manpower, or other limitations preclude the approval of such recommendations or plans, the Joint Chiefs of Staff and Chiefs of Staff Committee will so inform CINCNORAD and request his further recommendations.

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NEW TERMS OF REFERENCE FOR CONAD

CONAD remained in existence to serve as a U. S. national command. A national command was needed, the JCS advised CINCONAD, to handle U. S. responsibilities outside of NORAD's area. In January 1958, the JCS sent proposed terms of reference to CONAD for comment.⁷ The terms proposed were as lengthy and detailed as those for NORAD even though the CONAD mission would be much smaller and simpler. Many of the functions and responsibilities were almost identical.

General Partridge advised the executive agent on 24 January that he felt the proposed terms "introduce unnecessary duplication and confusion into what should be a relatively simple arrangement with a clear division of tasks and responsibilities between CINCNORAD and CINCONAD."⁸ He suggested that instead of these detailed terms he be issued a letter which defined the responsibilities of the U. S. national commander.

Despite this recommendation, the JCS put into effect their version of the CONAD terms on 10 June (the same date as for the NORAD terms).⁹

CINCONAD was made responsible for defending U. S. installations in Greenland against air attack, assisting in the air defense of Mexico in accordance with approved plans and agreements, handling purely national matters pertaining to air defense, and supporting other commands in their missions.¹⁰

DEPARTMENT OF DEFENSE REORGANIZATION ACT OF 1958

On 6 August 1958, the Department of Defense Reorganization Act of 1958 was signed by the President of the United States. CONAD was to be reorganized in accordance with the provisions of this act. It was impossible at the time of preparation of this historical report to determine the impact of this act on the structure and functions of CONAD and the authority of CINCONAD. It was obvious, however, that changes would be made. Therefore, the CONAD terms of reference, as discussed above, could not be considered final.

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An ad hoc committee was formed on 29 July 1958 at CONAD Headquarters to prepare a proposed plan for the reorganization of CONAD in accordance with the Defense Reorganization bill.¹¹ The committee was made up of senior component command and CONAD officers (Brigadier General Arthur J. Pierce was chairman).

ESTABLISHMENT OF NORAD REGIONS, DIVISIONS AND SECTORS

On 5 August 1958, NORAD issued General Order 6 establishing NORAD regions and divisions in the United States, Canada and Alaska effective 10 June 1958 (the date of the terms of reference).¹² In all, NORAD established five regions (Eastern, Central and Western in the United States; Northern in Canada; and the Alaskan Region) and twenty-three divisions.

At the time of establishment of these commands, no manning documents had been approved for NORAD units. Also, NORAD planned to begin a geographic reorganization as soon as a plan it was proposing was finalized (the NORAD plan was being coordinated at mid-year). In the meantime, however, interim arrangements had to be made for commanders and staffs and geographical areas of responsibility. For this reason, NORAD preceded its general order with a series of messages on 30 June to the commands concerned advising them of interim arrangements.

In the continental United States, the Eastern, Central and Western CONAD Regions and the CONAD divisions under these regions (16 in all) were designated as NORAD units.¹³ The headquarters, areas and commanders of the NORAD regions and divisions were the same as for the CONAD commands. The USAF ADC commanders at each organization, who were also commanders of the CONAD units, were named commanders of the NORAD commands. NORAD also provided in its message on 30 June that the Air Defense Sectors (SAGE) were to be designated as NORAD sectors with no change in headquarters location.**

* The CONAD units were not disestablished by this action. They remained in existence awaiting decision on the final structure and authority of CONAD.

** CONAD had designated four SAGE sectors -- New York, Boston, Syracuse, and Washington -- as CONAD Sectors effective 1 April 1958.

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USAF ADC commanders were to be named NORAD Sector commanders.

The 64th CONAD Division was additionally designated as the 64th NORAD Division.¹⁴ The 64th CONAD Division was to stay in existence to handle CONAD matters. There was no change in commander or headquarters location (see the section following on the move of the headquarters).

The Northern NORAD Region covered the same geographical area as the RCAF Air Defence Command.¹⁵ The AOC ADC was named commander. NORAD's general order of 5 August, mentioned above, placed the 64th NORAD Division under the Northern Region. In addition, it established four more NORAD divisions in Canada (1st, 2nd, 3rd, and 5th), all of which were assigned to the Northern Region.

The Alaskan NORAD Region covered the Alaskan area of air defense responsibility.¹⁶ Commander-in-Chief Alaska, as the commander responsible to CINCNORAD for all air defense activities in Alaska, was commander of the Alaskan Region. Two divisions were established by NORAD's general order of 5 August, the 10th and 11th, and assigned to the Alaskan Region.

In regard to staffs, NORAD advised the Eastern, Central and Western NORAD Regions and the divisions and sectors within these regions, and the 64th NORAD Division that the component staffs of the designated commanders would have to perform NORAD tasks until manning documents were approved. NORAD advised the Northern NORAD Region commander that the staff of the RCAF ADC would have to be used for NORAD work until manning was approved.

MOVE OF THE 64TH NORAD DIVISION HEADQUARTERS

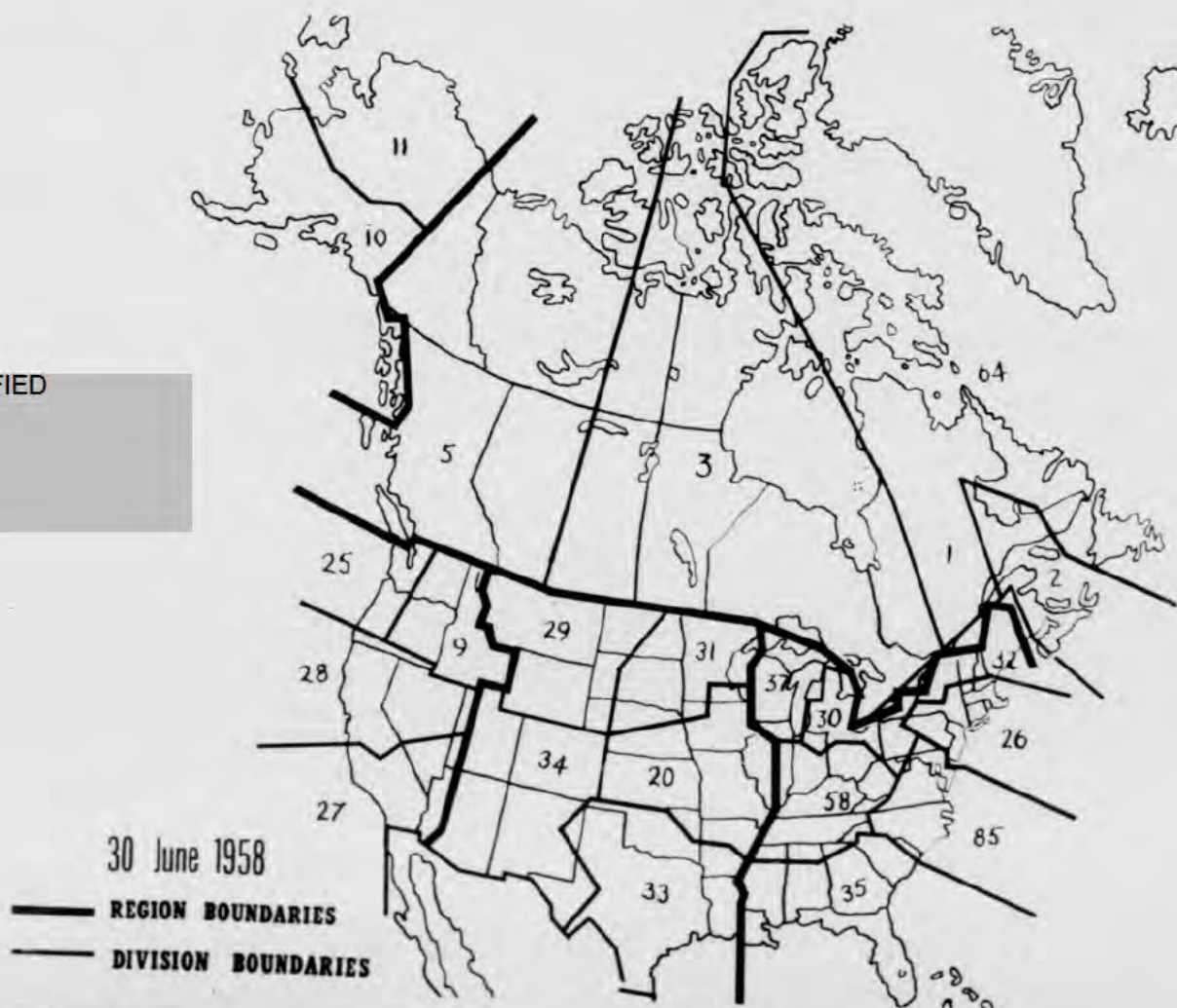
USAF Headquarters announced in March 1958 its desire to shut down Pepperrell AFB for economy reasons and move its units elsewhere. To CONAD, USAF proposed two possibilities for relocation of the 64th Division Headquarters and the air defense control center (ADCC). One proposal was that both be moved to Ernest Harmon AFB. The other was to move only the 64th Headquarters to Harmon, leaving the ADCC at Pepperrell to be manned, operated and supported by the RCAF.

CONAD replied on 10 April that neither proposal was completely

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satisfactory.¹⁷ Moving the ADCC to Harmon, CONAD stated, would save some money, but a considerable outlay of funds would be required for construction. CONAD said also that for the Northeast area it preferred a NORAD commander operating a NORAD subordinate headquarters at a Canadian installation. CONAD objected to the alternate proposal (leaving the ADCC at Pepperrell) because it did not believe that the RCAF would want to assume the cost of operating Pepperrell. The RCAF, CONAD felt, would probably prefer to move the ADCC and the NORAD Headquarters to St. Margarets. The latter was recommended by CONAD.

The 64th CONAD Division commander strongly objected to moving the ADCC to St. Margarets.¹⁸ His reasons were: (1) major construction would be required to provide for the 64th area operational responsibilities, (2) Off Island (Newfoundland) rearward communications were inadequate to provide St. Margarets the capability to function as an ADCC for the Northeast area, (3) USAF ADC would still require some sort of headquarters in the area to command and supervise USAF ADC units, (4) recent RCAF ADC decisions to accept SAGE would create new problems in the St. Margarets/64th area which had to be solved prior to acceptance of this proposal, and (5) the Thule, DEW east, and Iceland air defense areas would be most difficult to integrate into the St. Margarets sector. The 64th favored Harmon as did the USAF ADC.

Because of these recommendations and the USAF original proposal, CONAD advised the executive agent on 20 May that it was prepared to concur in moving the ADCC to Harmon.¹⁹ CONAD asked, however, that before any final decision was made that the matter be coordinated with the RCAF to confirm the statements of the 64th Division commander.

USAF requested confirmation on 29 May.²⁰ On 3 June, the USAF Central Coordinating Staff in Canada advised that informal confirmation had been obtained and that the RCAF concurred that communications and SAGE problems prevented selection of St. Margarets.²¹ Harmon AFB would apparently get the ADCC.

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Chapter II

Collocation and Integration of Army-Air Force Facilities

COLLOCATION OF MISSILE MASTER AND ADDC's

Background. On 19 September 1956, CINCONAD proposed to the JCS the collocation and integration at ten locations of the Army's weapons control system, the AN/FSG-1 (Missile Master), and the Air Force's Air Defense Direction Centers (ADDC's).^{*} CONAD proposed the following areas for these: Washington-Baltimore, New York, Detroit, Niagara-Buffalo, Seattle, Boston, Chicago, Philadelphia, Los Angeles, and Pittsburgh.

Both the Army and Air Force accepted the CONAD proposal and on 30 October 1956 concurrence was given by the Office of the Secretary of Defense. CONAD outlined its preliminary plan for implementation to the JCS on 4 February 1957.

The CONAD plan provided that at three sites the Missile Master building was to be built next to the ADC equipment and operations building. The ADC operating positions were to be placed in a modified operations room of the Missile Master building together with the Army positions and equipment. The Air Force technical equipment was to remain in the ADC buildings. These sites were:

<u>Defense Area</u>	<u>Site</u>
New York	P-9, Highlands, N. J.
Detroit	P-20, Selfridge AFB, Mich.
Niagara-Buffalo	P-21, Lockport AFS, N. Y.

^{*} For additional background, see CONAD Historical Summary, June 1957, pp 26-30, and NORAD Historical Summary, December 1957, pp 17-32. Part of the equipment at the ADDC's would be the pre-SAGE semiautomatic intercept system, the AN/GPA-37 Radar Course Directing Group.

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At six of the remaining sites, CONAD proposed that new facilities be built. CONAD proposed that the Missile Master building be enlarged sufficiently to hold the Air Force technical equipment and operating positions as well as the Army positions and equipment. These sites were:

<u>Defense Area</u>	<u>Site</u>
Boston	Fort Heath, Mass.
Chicago	Arlington Hts., Ill.
Philadelphia	Gibbsboro, N. J.
Los Angeles	San Pedro Hill, Calif.
Pittsburgh	South Park Mil. Res., Penn.
Seattle	Fort Lawton, Wash.

The tenth site was to be located at Fort George G. Meade, Maryland, under basically the same plan as for the above six. But this was to be left for a later date and treated independently as it was to be used initially for technical testing of the Missile Master.

On-site surveys were made by ADC and ARADCOM at the first three sites (Highlands, Selfridge and Lockport) and complete plans for these were submitted to CONAD on 30 April 1957. On 2 May, CONAD approved the technical and operational portions of the ADC-ARADCOM plans.

To support implementation, the Army and Air Force formed a Joint Collocation and Technical Steering Group in July 1957. At the first meeting of this group, on 18-19 July, a subcommittee presented design proposals which generally followed the CONAD plan. The joint operations room at Highlands, Selfridge and Lockport were to house the Air Force consoles, but not the Air Force technical equipment, which would be left in the existing ADC buildings. At the other six sites, a new and larger building was to be built to house all Army and Air Force operating and technical equipment.

On the basis of these design plans, the subcommittee estimated that the first site, Highlands, would become operational in July 1960, the last, Los Angeles, in April 1961. These dates were considered very late, however, and the group did not pass on the design plans.

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In order to reduce the construction time, NORAD recommended to the executive agent in September 1957 that the last six sites (Fort Meade not included) be built the same as the first three. Instead of one consolidated building, accommodating all equipment (as CONAD had proposed on 4 February), the operations building would be the currently designed Missile Master building modified to house all Army equipment, but only the Air Force operating consoles. The rest of the Air Force equipment would be housed in nearby buildings or annexes.

The Air Force replied in October that it agreed to this arrangement. On 15 November, NORAD learned that the Army and Air Force had agreed to locate all consoles in the joint operations room and also to put certain technical equipment in the Missile Master building. Other Air Force technical equipment was to be housed in a separate building.

In the meantime, surveys had been made by ADC and ARADCOM of the last six sites. On 31 October 1957, NORAD sent its approval of the site adaptation plans for these to the executive agent. Approval by the latter was stated in an indorsement dated 10 January 1958.

Change in Site Plans for Los Angeles, Philadelphia and Pittsburgh. Progress on three sites was held up because of land acquisition problems which necessitated reconsideration of the locations previously selected. These sites were San Pedro Hill (Los Angeles), Gibbsboro (Philadelphia), and South Park (Pittsburgh). After resurveying the areas and deciding to remote radars, a joint ADC-ARADCOM siting team agreed on 2 April 1958 on final site selection, facility requirements, and site layouts. In mid-May, adaptation plans for these sites were submitted to NORAD and on 23 May NORAD forwarded them to the executive agent with its approval.

Split sites were decided upon for Los Angeles and Philadelphia. For the Los Angeles area, the JMDC (joint manual direction center) was to be placed at Fort MacArthur and the radar at San Pedro Hill, remotored to the JMDC. For the Philadelphia area, the JMDC was to be placed at Pedricktown, New Jersey, the radar at Gibbsboro, remotored to the JMDC. For the Pittsburgh area, the site was moved from South Park to Oakdale, Pennsylvania. ADC and ARADCOM also included detailed plans for Fort Meade with the other plans submitted at this time.

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Because of this change in sites, a change in host agency responsibilities was requested by ADC and ARADCOM of their service departments. In July 1957, an agreement had been reached between Army and Air Force which made Air Force the host service at four locations: Highlands, Selfridge, Lockport, and Gibbsboro; Army the host at the other sites. The new arrangement requested at mid-1958 was that for the Los Angeles area, the Air Force would be host at San Pedro Hill, the Army at Fort MacArthur; for Philadelphia, the Air Force would remain host at Gibbsboro, with the Army being host at Pedricktown. The services had not approved this request at this writing.

SELECTION AND PROGRAMMING OF RADARS FOR JMDC's

Background. The Secretary of Defense memorandum of 30 October 1956, mentioned earlier, approving CONAD's proposal for collocation, and a memorandum of 28 January 1957, charged CINCONAD with responsibility for choosing the radars for the JMDC's. The choice of radar for each site was included in the joint ADC/ARADCOM plan for the ten sites approved by CONAD and sent to the executive agent on 2 May 1957. AN/FPS-7's were selected for Highlands, Lockport, and Fort Heath; AN/FPS-20's were chosen for the remaining seven sites.

This list did not remain firm very long, however. Both ARADCOM and ADC recommended changes in the above selection.

ARADCOM recommended that the AN/FPS-33, the radar designed for use with the Missile Master, be used at all ten sites. However, ADC objected to the AN/FPS-33 as having too limited a range in comparison with other radars. ADC was working with the Civil Aeronautics Administration on a program for joint usage of radar and recommended use of the CAA ARSR-1 radar at certain locations. ARADCOM opposed the ARSR-1, feeling that modifications required to make it compatible and negotiations between agencies would cause unacceptable delay. Further, ARADCOM felt that civilian operation of the radar that served Missile Master was undesirable. ARADCOM also objected to the AN/FPS-7, stating that it was incompatible with the Missile Master and that modifications were not feasible.

At any rate, ADC and CAA selected three sites where the ARSR-1 could be used jointly -- San Pedro Hill, Fort Heath (Boston), and Fort Lawton (Seattle) -- by the end of 1957. CONAD concurred with joint use at San Pedro on 20 August 1957 and at Fort Heath on 7

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October. And on 8 November, NORAD informed the executive agent that it agreed to the joint use of the ARSR-1, with amplitron and other necessary modifications, at all three sites and asked that the site adaptation plans be amended accordingly.

Up to this point, CONAD/NORAD had moved cautiously. In giving concurrence to joint use at San Pedro, CONAD had told ADC that approval was conditional pending evaluation of the ARSR-1.* Again in October ADC was advised that CONAD approval was subject to review and final decision.

In December 1957, NORAD received a report from an Army-Air Force group evaluating the radars concerned that supported the choice of radars (and the conclusion of ADC that the AN/FPS-33 should not be used). On 9 January 1958, NORAD repeated its selection of radars (changed by substitution of ARSR-1's) to the executive agent: (1) AN/FPS-7's at Highlands and Lockport, (2) AN/FPS-20's at Gibbsboro, Oakdale, Arlington Park, Selfridge, and Fort Meade, and (3) ARSR-1's (with modifications including the amplitron) at San Pedro Hill, Fort Lawton, and Fort Heath.** NORAD also said it would back replacement of any of these with frequency diversity radars, such as the AN/FPS-35.

Radar Conference Decisions and Actions. Following talks between General Partridge and ARADCOM's Commanding General, Lieutenant General Charles E. Hart, the former called a conference for a complete review of the JMDC radar plans. This conference, which

* In arranging with CAA for joint use of radars in the U. S. surveillance system, ADC had CONAD/NORAD backing and authority. ADC was made responsible for furnishing the surveillance system for the U. S. (not including Alaska). On at least five occasions, CONAD or NORAD had advised ADC of this responsibility: 19 September 1956, 25 January 1957, 8 February 1957, 10 June 1957, and 20 March 1958. On the latter date, NORAD issued a statement of policy on responsibility for the continental surveillance system in which ADC was assigned primary responsibility for furnishing surveillance radars for the U. S.

** With the amplitron modification, the designation of the radar would be changed to ARSR-1A.

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was attended by CINCNORAD, the component commanders, and staff members of each, was held on 11 February 1958. At this meeting, it was decided that the past decisions of NORAD for establishment of JMDC's, selection of equipment, and joint use of radars by the Army, Air Force and CAA were still valid.² But to speed up the program and to cut costs, the conferees agreed on a few alterations to the program.

To save money, the conferees decided to look into the possibility of remoting radar data at certain sites (such as Los Angeles and Philadelphia) to existing Army land where the JMDC could be built. A speed-up of operational dates was decided upon wherever possible, especially at Fort Meade. Because the Missile Master would be operational at Seattle in early 1959, it was decided to investigate the possibility of installing an AN/FPS-7 or of interim use of the AN/FPS-33. For the other sites scheduled for the ARSR-1, interim use of the AN/FPS-33 until the former radar was available was also to be considered.

The conferees agreed to ARADCOM's proposal to conduct tests with the Missile Master, AN/FPS-7, and AN/FPS-20 to determine modifications needed for optimum performance of the Missile Master.

USAF ADC recommended to CINCNORAD at the conference that the ARSR-1A be used at the Pittsburgh site (Oakdale). General Partidge said he would approve if ADC and ARADCOM agreed. ADC formally requested use of the ARSR-1A in place of the programmed AN/FPS-20 on 28 February 1958, stating that ARADCOM concurred with the request.³ NORAD approved and sent a request to the executive agent for a change in the plans.⁴ USAF advised on 31 March that the plans were being amended accordingly.⁵

Following the conference, on 14 March, NORAD issued a letter to ADC and ARADCOM directing actions to implement the decisions made.⁶ The aim of NORAD's instructions was to get the JMDC's operating as early as possible.

* NORAD approved the Pittsburgh ARSR-1 subject to the requirements established by USAF on 11 February 1958 for joint use of the ARSR-1 -- military-required modifications to the radar.

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NORAD told each component to (1) recommend advanced operational dates for the JMDC's and the desirability of using AN/FPS-33's on an interim basis at sites scheduled for the ARSR-1 until the latter radar was available, (2) coordinate with CAA on the installation of the ARSR-1 at JMDC sites, and (3) coordinate the Missile Master-AN/FPS-7-AN/FPS-20 compatibility tests.

ARADCOM was told to (1) advance Missile Master operational dates, with Highlands, Lockport, and Seattle to be given priority in that order, (2) advance the operational date of Fort Meade, and (3) take necessary Army action to facilitate installation of the ARSR-1's at the JMDC's. USAF ADC was directed to (1) put the first AN/FPS-7 at Highlands, the second at Lockport, and to study and report on use of this radar at Seattle; (2) take immediate action to install an AN/FPS-20 at Fort Meade; and (3) change the AN/FPS-20 schedule for Chicago, Detroit, and Philadelphia in accordance with ARADCOM's advanced Missile Master operational dates for these sites.

ADC replied on 24 April, ARADCOM on 30 April. The following is a summary of the actions and recommendations stated in their replies:⁷

- Neither component recommended advanced operational dates for the NORAD JMDC's. ADC said that the radar operational dates might be pushed up, but that support facilities and manning could not. Both said that every effort would be made to prevent delay.
- ARADCOM said it had approved joint use of the ARSR-1 at the four sites provided that CAA agreed to the requirements established by USAF on 11 February for joint use of the ARSR-1, i.e., modifications to the radar (see the section following -- ARSR-1 Modifications). Also, ARADCOM had taken action to facilitate installation of CAA radars at Boston, Los Angeles, and Seattle. No military land was involved at the Pittsburgh site, so CAA had already taken action to install its radar.
- ADC stated that the first two AN/FPS-7's had been programmed for Highlands and Lockport, but recommended against changing the ARSR-1 scheduled for Seattle to an AN/FPS-7. The ARSR-1 would be operational by June 1958, ADC advised, earlier than the JMDC.
- ARADCOM recommended the use of the AN/FPS-33 at those sites where ADC was unable to provide a suitable radar in time to

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meet the operational dates of the JMDC's. USAF ADC recommended that the AN/FPS-33 not be used at any site. Under the current radar program, ADC said, all of its radars would be installed at JMDC's eight months prior to the JMDC operational dates. Also, the ARSR-1 would be operating long before any JMDC. The CAA amplifitron delivery schedule was as follows:

<u>Site</u>	<u>Amplifitron Delivery</u>	<u>Estimated JMDC* Operational Date</u>
Boston	Oct 1960	Oct 1960
Pittsburgh	Dec 1960	Dec 1960
Seattle	Mar 1961	Mar 1961
Los Angeles	Apr 1961	Apr 1961

In addition, ADC stated that CAA had advised that the AN/FPS-33 would not meet its operational requirements.

- ADC programmed an AN/FPS-20 for installation at Fort Meade in May 1960. ADC-ARADCOM agreement was reached on site adaptation plans for Fort Meade (these were submitted to NORAD in May 1958 and forwarded to the executive agent with NORAD's approval on 23 May).

- ARADCOM recommended that compatibility tests of the Missile Master and AN/FPS-7 and AN/FPS-20 be handled at service department level. ADC said that it would request the Joint Collocation and Technical Steering Group to set up a committee to coordinate the tests.

- Both components recommended remoting radar at the Philadelphia and Los Angeles sites.

JMDC Operational Dates. The status of NORAD JMDC's as of July 1958 is shown on the table on the opposite page. The operational dates shown were furnished by Department of the Army and forwarded by USAF on 15 January 1958. NORAD had objected to these dates, stating it felt that they reflected insufficient priority and that

* These dates were not included in the ADC reply. They were included here for comparison purposes.

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TABLE 1

STATUS OF NORAD CONTROL CENTERS - 1 JULY 1958

Location	Est. BOD	M/M Ops Date	Radar Install.	FPS-6 (AF) Ops Date	GPA-37 Install. Date	NCC Ops Date	Host Agency	Site Plan Appvl.	Remarks
Highlands, N.Y. (P-9)	Jan 1960	Mar 1960	FPS-7 Mar 59	In- stalled	**In- stalled	May 1960	AF	2 May 1957	**To be moved from present installation into new ops building
Lockport (Buffalo) (P-21)	Jan 1960	Apr 1960	FPS-7 Mar 59	Apr 58	**In- stalled	June 1960	AF	2 May 1957	
Selfridge (Detroit) (P-20)	Nov* 1959	May 1960	FPS-20 Oct 59	Aug 58	**In- stalled	July 1960	AF	2 May 1958	*Completion Date Dec 59
Ft. Heath, Mass (MM-1)	Nov 1959	Aug 1960	ARSR-1A Oct 60 ARSR-1 Mar 60	Apr 60 (2)	Mar 60	Oct 1960	Army	31 Oct 1957	
Gibbsboro, N.J. (Philadelphia) (RP-63)		Sept 1960	FPS-20 Feb 60	Not avail- able	Apr 60	Nov 1960	Army & *AF	May 58	*Components recommended change to Army
Oakdale (Pittsburgh) (RP-62)		Oct 1960	ARSR-1A Dec 60	May 60 (A2)	May 60	Dec 1960	Army	May 58	
Arlington Hts. (Chicago) (RP-31)	**	Nov 1960	FPS-20 Apr 60	Jul 60 (A2)	June 60	Jan 1961	Army	31 Oct 1957	**Est. of BOD is July 60. No directive issued.
Ft. Meade (RP-54)		Dec 1957	FPS-20 Mar 60	Jun 60	July 60	Feb 1961	Army	May 58	
Ft. Lawton (Seattle) (RP-1)	July 1959	Dec 1960	ARSR-1A Mar 61 ARSR-1 Jul 60	Sept 60 (A2)	Aug 60	Mar 1961	Army	31 Oct 1957	
San Ped. Hill (Los Angeles) (RP-39)		Jan 1961	ARSR-1A Apr 61 ARSR-1 Aug 60	Oct 60 (T2)	Sept 60	Apr 1961	Army	31 Oct 1957	

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operational requirements justified earlier availability of all ten sites.⁸ NORAD recommended higher priority to the extent that all ten would be operating by the end of calendar year 1960. Also, NORAD said that it believed Fort Meade could be operating by 1959.

USAF replied on 24 February 1958 that "economic considerations preclude significant speed up of this program."⁹ Air Force stated that every effort would be made to prevent delay and invited NORAD to send an observer to meetings of the Joint Collocation Steering Group. The testing at Fort Meade prevented use of this site for the time being, USAF said.

NORAD-ARADCOM-ADC efforts to advance the operational dates were discussed in the preceding section. At mid-1958, NORAD still planned to do everything possible to move the dates up. The NORAD plans, according to the NORAD Directorate of Systems, Communications and Electronics, were as follows.¹⁰ As soon as complete information on letting of contracts and construction completion was received, NORAD would ask Army and Air Force to advance the operational dates. As of July 1958, NORAD had estimated construction completion data on five sites: Highlands, Lockport, Selfridge, Fort Heath, and Fort Lawton. If this information remained firm, NORAD would recommend an operational date of October 1959 for Fort Lawton, early 1960 for the other four.

For these and other sites, ADC would be asked to adjust radar installation programming, and CAA to advance installation of amplifiers to the ARSR-1's, accordingly. This included requesting ADC to move up installation of the Fort Meade radar to early 1959. Finally, until firm dates were established, NORAD planned to hold in abeyance a decision on use of AN/FPS-33's.

ARSR-1 MODIFICATIONS

As noted earlier, on 8 November 1957, NORAD informed the executive agency that it had approved joint use of the ARSR-1, with amplifron and other necessary modifications, at three sites (Pittsburgh was added later). On 11 February 1958, USAF replied that it approved, provided that appropriate modifications were made to the radar upon initial installation and that ADC specify maintenance standards and schedules.¹¹ CINCNORAD was to specify the rotation rate needed for SAGE Modes III and IV.

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NORAD directed ADC to take the actions required by USAF and to report back.¹² Of primary importance among the modifications required was the amplatron. In March 1958, ADC advised that the amplatron would not be available at the time the ARSR-1's were installed at Fort Lawton, San Pedro Hill, and Fort Heath.¹³ But CAA stated that the amplatron would be installed in time to meet the JMDC operational dates.

An ECCM capability was another modification required. In December 1957, ADC had sent the requirements in this area to USAF. The latter had passed these on to the Air Research and Development Command. A technical and cost study was being made.

Other possible modifications being studied by ARDC and ADC to make the radar more suitable for air defense included a buffer amplifier, an azimuth change pulse generator for attachment to the antenna rotating machinery, radomes, a Mark X IFF beacon, and an antenna gear box modification to make the rotation rate compatible with SAGE and Missile Master.¹⁴

The CAA-ADC Ground Rules for Joint Use of Radar, 16 November 1956, provided that ADC would pay for modifications or equipment required by it; CAA would pay for what it required. CAA had agreed that it, as well as ADC, required the amplatron and contracted for this modification with CAA funds.¹⁵ The other modifications listed above were required only by the military, consequently they would have to be paid for by the military.

COLLOCATION OF AADCP'S AND ADDC'S**

Background. By the end of 1957, very little had been done to

* Both CAA and ADC required Instantaneous Sensitivity Time Control on ADC radars that were to be used jointly. ADC funded for this modification on all of its AN/FPS-20's.

** CONAD Regulation 21-1 stated that in order to provide for fully integrated control of all weapons within a specified geographical area, individual weapon control systems would be collocated and integrated at a CONAD Control Center whenever operationally and economically feasible. This concept of collocation was clarified by CINCONAD on 25 January 1957 when ARADCOM and ADC were informed that collocation and integration meant one and the same thing, i.e. the ADDC and AADCP located in the same building, with operating functions in a single operations room.

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collocate and integrate AADCP's and ADDC's, not included in the ten Missile Master-ADDC sites, other than area studies. On 12 April 1957, CONAD had directed each of its region commanders to survey their areas and report on the feasibility of collocation. The Eastern Commander recommended collocation at Loring AFB, Sault Ste. Marie, and Savannah. The Western Commander recommended collocation of Geiger-Fairchild; the Central Commander did not recommend collocation at any sites. On 4 November 1957, NORAD told ADC and ARADCOM that it desired collocation of Geiger-Fairchild and directed that they study logistics feasibility.

NORAD Study on Collocation of AADCP's and ADDC's. NORAD completed a study on 21 November 1957 of the feasibility of integrating, as soon as possible, the operational functions of the AADCP and the ADDC.¹⁰ Currently, surveillance and identification information was transmitted from the ADDC to the AADCP and then to the missile batteries. According to the study, this resulted in unacceptable time delays, causing the battery commander to have untimely information and inaccurate portrayal of the air situation. This could be overcome by integrating the operational functions. NORAD proposed to do this by patching the existing communications networks from the batteries and radar sites directly to the ADDC. Certain AADCP personnel would be placed on duty at the ADDC.

NORAD saw these advantages accruing from such integration:

- a. Timely and accurate transmission of evaluated air intelligence.
- b. Better operational control provided to the NORAD Division Commander.
- c. Approximately three years of operational experience gained.
- d. The possibility of using some 70 per cent of the personnel currently assigned to the AADCP for other assignments.

NORAD-ADC-ARADCOM Conferences on Collocation. NORAD called a conference with ADC and ARADCOM for 10 January 1958 to discuss the above proposal. The conferees agreed, as a broad planning criteria, that the defense areas already approved by the JCS for collocation (the ten M/M-ADDC sites) and/or in which SAGE would become operational within two years should not be considered. This decision

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was made because it was believed that by the time funds were allocated for altering the communication networks, the work accomplished, and operational procedures established, there would not be enough time left to warrant changing the system.

Using this criteria, it was believed that integration could be accomplished in the following defense areas: Travis AFB, San Francisco, Fairchild AFB, Hanford, Seattle, Ellsworth AFB, Fort Meade, Savannah River (South Carolina), and Sault Ste. Marie (Michigan).

At the next meeting, on 25 January, ARADCOM asked that five new defenses which were to be built in 1959 (St. Louis, Kansas City, Cincinnati, Dallas, and Minneapolis-St. Paul), be considered for collocation.¹⁷ NORAD asked for a report from ADC and ARADCOM by 28 January. At a meeting on this date, it was agreed that collocation was possible at all, except Cincinnati. At this same meeting, both components agreed that collocation of Geiger-Fairchild was feasible.

Following this conference, on 24 February 1958, NORAD directed ADC and ARADCOM to report on the feasibility of integrating the four new ARADCOM defenses on which there had been informal agreement.¹⁸

Resume of Action on Each Site. The component command recommendations and actions on the locations mentioned in the above conferences are discussed below by separate groups in accordance with the groupings of ADC-ARADCOM reports or action.

Geiger Field. As noted above, at the 28 January collocation conference, both components agreed on Geiger. Western Region forwarded a 9th CONAD Division plan for collocation on 14 February with a recommendation for approval.¹⁹ NORAD approved on 22 April, directing certain changes to the plan.²⁰

In the meantime, Western Region had appointed a commander for the joint center (Lieutenant Colonel M. Hunt, USAF) and a battle staff.²¹ A working organization had been developed and approved by NORAD and the component commands. After a brief delay caused by the necessity of moving Army communications equipment from Fairchild, operations of the joint center began at Geiger on 15 May 1958.²²

Dallas, Kansas City, St. Louis, and Minneapolis. On 4 April 1958, ADC and ARADCOM jointly concurred, with certain conditions attached, in collocating the AADCP's at the ADDC facilities shown below:²³

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ARADCOM Defense

Dallas-Fort Worth
Kansas City
St. Louis
Minneapolis-St. Paul

ADDC

Duncanville AFS, Texas
Olathe AFS, (Olathe NAS), Kansas
Belleville AFS, Illinois
Osceola, Wisconsin

The conditions attached to the concurrence of these two commands concerned locating the entire headquarters battery at the ADDC. ARADCOM's 4th Region had surveyed the sites and reported on 14 March 1958 that it had determined that collocation in each case was feasible.¹⁴ In its siting reports, 4th Region recommended locating the whole battalion headquarters at the ADDC. ARADCOM concurred and recommended collocation to CONAD on 20 March in the manner outlined by the 4th Region.¹⁵

In the joint report of 4 April, ARADCOM stated that its concurrence was predicated on the assumption that if the entire headquarters battery could not be located at the ADDC site, it could be placed near enough so that personnel could commute without undue inconvenience.¹⁶ ARADCOM set, as a general guide, a distance that would not exceed ten minutes travel time by light military vehicle.

USAF ADC stated that its concurrence was applicable only to the operational element of the headquarters battery, i.e., the AADCP. ADC said it saw no requirement for the whole headquarters, but would not object if there was enough land and water, if the Army funded for all its own building, and if on-site location would obviate the necessity of buying additional land.

Both commands stated that despite this apparent disagreement they wished to comply with CINCNORAD's directive as quickly and completely as possible. For this reason, they directed ADC's Central Air Defense Force and ARADCOM's 4th Region to study the feasibility of locating the entire headquarters battery at each of the four ADDC sites and to report on a priority basis.

NORAD approved these recommendations on 22 April, asking that it be brought any logistics problems for resolution.¹⁷

Travis AFB, Savannah River, Sault Ste. Marie, and Seattle.
On 14 February 1958, ARADCOM and ADC recommended that none of these defenses be collocated with their associated ADDC's for the following reasons.¹⁸ The AADCP at Travis AFB was being phased out. The San

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Francisco AADCP was to be used to control an integrated San Francisco-Travis defense. Savannah River and Sault Ste. Marie had only one Skysweeper battalion each. The primary mission of these battalions was to be a part of the Strategic Army Corps with a readiness status for overseas shipment of M plus four days. In preparation for this mission, the commander had to gear his command post to the control of field type army training. Such an AADCP would not be desirable in the ADDC.

Seattle (Fort Lawton), as discussed previously, was to be a collocated Missile Master-ADDC center. As of July 1958, the JMDC was scheduled for operation in March 1961. However, NORAD was attempting to advance this date to October 1959. ADC and ARADCOM noted these facts and stated that interim collocation was not practicable in view of the short time remaining before the M/M-ADDC center was operating. Also, the AADCP and ADDC were fifty miles apart -- a distance considered excessive.

NORAD approved the recommendations on Travis AFB, Savannah River, and Sault Ste. Marie.⁴⁹ But NORAD requested that the Seattle situation be reexamined for a solution for the interim period. NORAD stated, however, that if ARADCOM could get its Missile Master operating soon enough to allow the JMDC to begin operations in early 1960, it would not attempt interim AADCP-ADDC collocation.

NORAD had learned from ARADCOM by mid-year that contracts for construction of Missile Master facilities had been let in June for the Seattle site.³⁰ A firm beneficial occupancy date had not been received. A NORAD recommendation to advance the operational date and a decision on interim collocation was still pending at mid-year.

San Francisco, Hanford, and Ellsworth AFB. On 6 June 1958, NORAD directed ADC and ARADCOM to make a feasibility study on collocating these defenses with their associated ADDC's.³¹

Thule AFB, Greenland. Although not mentioned earlier, NORAD planned collocation of the Thule AADCP and ADDC. On 2 August 1957, CONAD had directed the two components to report on the feasibility of collocating the two. ADC replied on 12 September, recommending collocation in a new facility to be built near Thule AFB, with the radar remoted from Pingassuit Mountain. ARADCOM agreed that this was feasible. On 8 October, NORAD approved the ADC recommendation and directed implementation.

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The 64th Air Division submitted two plans for collocation to ADC, which were forwarded to NORAD on 21 April 1958.³² ADC concurred in the one called Plan B. This provided for a collocated AADCP/ADDC, a joint command post which would include the SAC commander, and operational and administrative space for the SAC wing.

NORAD approved Plan B on 30 June 1958, with certain changes, and directed ADC and ARADCOM to implement it as soon as possible.³³

COLLOCATION IN ALASKA

Background. CONAD had stated its requirement for collocation in Alaska to the JCS as follows:

A requirement exists for two Army Defense Control System sets (AN/MSG-4) in FY-1960. One system should be installed to control the fire of antiaircraft units in defense of the Ladd/Eielson bases (Fairbanks), and the other system to control antiaircraft units in defense of Elmendorf-Fort Richardson (Anchorage) and the IRBM sites at Willow Run and Hidden Lake. Each of the AN/MSG-4's will be interconnected with the BADGE system.

On 31 May 1957, CONAD approved Murphy Dome as recommended by the commanders of the Alaskan Air Command and U. S. Army, Alaska, for the Fairbanks area and recommended it to the JCS on 18 June 1957. On 16 October 1957, NORAD approved Fire Island, recommended by CINCAL, for the Anchorage area. The executive agent informed NORAD on 29 November 1957 that both sites had been approved.

Incompatibility of BADGE and MSG-4. CINCAL advised in October 1957 that possibly the BADGE and MSG-4 could not be used together. NORAD forwarded CINCAL's letter to the executive agent, pointing out that the concept of centralized control demanded compatibility of systems. On 5 December 1957, the executive agent advised that a Department of Defense-chaired group had been formed to evaluate the BADGE and MSG-4.

NORAD heard nothing more, however. On 14 May 1958, NORAD asked USAF for information on what the group had determined and when a joint direction center in Alaska could be expected to begin operating.³⁴

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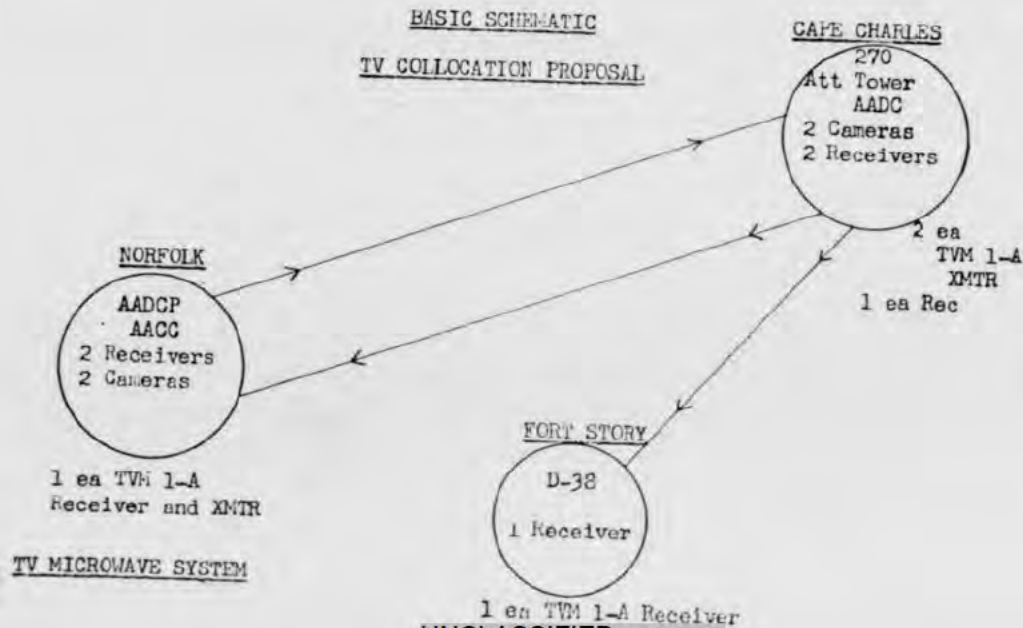
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AADCP-ADDC TELEVISION LINK

Early in 1957, the CONAD staff considered the possibility of providing television for exchange of data between AADCP's and ADC's in areas where collocation was impractical. On 16 July 1957, CONAD requested ARADCOM to start a program to test closed circuit television between an AADCP and an ADC to determine if it would provide enough increase in operational effectiveness to justify the cost. ARADCOM recommended that CONAD establish an operational requirement for such and get approval from the JCS. This was necessary in order to get Army funding and equipment.

On 29 November 1957, NORAD sent a requirement to the executive agent for closed circuit television in the Norfolk-Cape Charles area for testing purposes.³⁵ The executive agent replied on 29 January 1958 that Department of the Army had concurred and had directed ARADCOM to submit the requirement to the Chief Signal Officer.

NORAD, ARADCOM and ADC representatives met on 30 January and decided that the overall supervision of the test would be exercised by NORAD, that ARADCOM would arrange for funds and equipment, and that ADC would provide Cape Charles personnel and facilities in support of the test.³⁶ The test was started early in June and completed on 23 June.³⁷ ADC and ARADCOM were to submit a final report on the test by 23 July.



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Chapter III

Status of the Radar System: Continental United States

STATUS

General. As of 30 June 1958, USAF ADC had 171 operational land-based radar stations (of which 54 were gap-fillers) and one operational Texas Tower, and maintained nine AEW&C stations.* The U. S. Navy was maintaining ten picket ship stations and one AEW station. The table below gives a breakdown of these figures and a comparison of the December 1957 status with the June 1958 status.

TABLE 2

PROGRAM	PROGRAMMED		OPERATIONAL		
	Dec 57	Jun 58	Dec 57	Jun 58	
Permanent Prog (P-sites)	75	75	75	75	
1st Phase Mobile (M-sites)	32	31	27	27	
2nd Phase Mobile (SM-sites)	20	20	12	13	
3rd Phase Mobile (TM-sites)	24	21	1	2	
ZI Gap Fillers	235	237	41	54	
Texas Towers	3	3	1	1	
AEW&Con Stations*	East Coast	5	5	4	4
	West Coast	5	5	3	5
AEW Station*	East Coast	1	1	1	1
	West Coast				
Picket Ship Stations	East Coast	5	5	5	5
	West Coast	5	5	5	5

*Not all stations manned around the clock daily. See text under each heading.

* See Appendix 3 for list of ADC radars.

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Contiguous Radar System Operations Plan. The CONAD operations plan, issued in August 1957 (OPLAN 9-57), called for deployment of picket ships on stations located approximately 300 miles out to sea off both coasts at intervals of about 150 nautical miles. AEW&C stations were placed between the picket ship stations and the shore.²

This deployment was not considered suitable by Eastern CONAD Region.³ The latter felt that interceptors could not be used to their maximum range. ECR proposed moving the AEW&C stations from inboard the picket ship line to some 140 miles seaward of the picket ships. This, ECR said, would extend the medium and low level early warning surveillance range and the medium and high altitude control capability sufficiently to permit employment of interceptors to the extent of their combat radii.

NAVFORCONAD also wanted to change the deployment plan.⁴ Because of budget cuts, the Navy could man only five stations off each coast. However, because new radars (SPS-17's) with greater altitude capability were being installed on the ships, NAVFORCONAD felt that the deployment could be reshuffled to provide greater coverage. NAVFORCONAD's plan: increase the lateral intervals between picket stations to 272 nautical miles on both coasts and on the East Coast move the ships from their current location from 100 to 300 miles further seaward.

NORAD studied both proposals in late 1957 and decided to have ECR test both recommended deployments. Test results had not been received by NORAD by the end of June 1958.⁵

On the West Coast, Western CONAD Region had to depart from OPLAN 9-57 because of a reduction in flying hours. OPLAN 9-57 called for a total of five AEW&C stations. The flying hours available during the second quarter of FY-1958 allowed WCR to man only three stations. To provide coverage to more than one target complex, WCR obtained NORAD's permission to man alternate stations. Two of these (7A and 9A) were an extension of the picket ship line and provided early warning for the San Francisco, Los Angeles, and San Diego complexes. Additional flying time available was applied to a station established outboard of the picket line - 5A.⁶

At this same time, the Air Force's Western Air Defense Force asked ADC to delete control from the AEW&C functions. Control capability of AEW&C aircraft was poor, WADF said. ADC replied that

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Eastern Region was testing AEW&C performance on the seaward side of the picket ships which would include an evaluation of the control capability.⁷

In January 1958, WADF again proposed deletion of the control function and also recommended that OPLAN 9-57 be revised to permanently locate AEW&C aircraft outboard of the picket ship line as an extension of that line. An operational readiness inspection had been held, WADF stated, that tested the concept of using AEW&C solely as early warning and surveillance and "for the first time during a major exercise, AEW&C aircraft contributed extensively to the success of the exercise."⁸ In the meantime, NORAD authorized WCR to continue to man AEW&C stations 7A, 9A, and 5A test.⁹

In March, ADC informed WADF that temporary repositioning of the AEW&C aircraft on the outside of the picket line was satisfactory. Further tests were needed to support deleting the control function, however. ADC advised NORAD of its actions. The latter said it would withhold judgement until all tests were completed and then would join ADC and NAVFORCONAD to establish a firm employment and deployment policy.¹⁰

Meanwhile, NAVFORCONAD submitted yet another proposal to change the contiguous system. A study conducted by its elements indicated that the system did not meet minimum air defense requirements for warning or intercept of potentially hostile aircraft. The deficiencies could be corrected, the letter continued, if its plan were adopted. Among the recommendations offered were: (1) positioning the picket ship, blimp, and AEW&C aircraft stations so as to provide equidistant coverage from bomb release lines (a point then being neglected); (2) varying the depth of target coverage in relation to target concentration and importance insofar as resources permitted; (3) utilizing AEW&C aircraft on two permanent stations on each coast (and if additional aircraft were available, using them outboard of the picket line); (4) scrambling interceptors based upon picket ship and AEW&C aircraft tracks prior to target entry into shore-based coverage; (5) commencing intercept engagements at the outer periphery of shore-based coverage; and (6) eliminating interceptor control requirements of AEW&C aircraft (a proposal also forwarded by CPWCER).¹¹

ADC reviewed the Navy proposal and agreed in general with the picket ship deployment. However, ADC would not commit itself on

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the recommendations submitted for the RC-121 aircraft until after ECR submitted its test results.

NORAD requested that ADC and NAVFORCONAD submit a joint plan for the seaward extensions of the contiguous radar coverage system. The new plan was to be based on the following guidelines: (1) the concept of operations was to insure continuous tracking and intercept control from initial detection point; (2) the plan was to furnish an equidistant depth of coverage to specific target areas along a perimeter across all approach strike routes; and (3) RC-121D aircraft were to be used to cover the low altitude radar coverage gaps between the picket ships and the shore-based radars.¹²

In the meantime, WADF made still another proposal for relocating the seaward elements. In May, WADF proposed to ADC that the picket stations be moved further seaward and the AEW&C aircraft be placed some 250 miles off the coast in the approximate position that the picket ships had been occupying. WADF asked permission to test the concept for a 30-day period.¹³

ADC forwarded the request to NORAD, stating that it felt that since NORAD had already laid down certain criteria for the deployment of the seaward elements, no further experimentation should be conducted. ADC recommended further that both regions be directed to return all elements to the locations in OPLAN 9-57 until a new operations plan could be written.¹⁴

NORAD was in partial agreement with ADC. On 2 June, it told CFWCR that it could continue its current tests, but could not start any new tests. AEW&C aircraft were allowed to remain on stations 5A, 7A and 9A. NORAD told Eastern Region, whose testing program was nearly completed, to finish its tests.¹⁵

Thus, NORAD had at least five different concepts presented for changing the contiguous system. Two of the proposals had been tested in the regions with only fair results and inconclusive evidence with which to support a new operations procedure. By 30 June 1958, NORAD, ADC, and NAVFORCONAD representatives were attempting to prepare a new operations plan.¹⁶

AEW&C. ADC's Airborne Early Warning and Control force was composed of six tactical squadrons -- three at Otis AFB, Massachusetts, and three at McClellan AFB, California. The squadrons at

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Otis were assigned to EADP's 551st AEW&C Wing, those at McClellan to WADP's 552d Wing. On 30 June 1958, the AEW&C aircraft fleet totalled 70 RC-121D's and seven RC-121C's with 33 operational. Available to man the fleet on this same date were 93 crews, of which 85 were combat ready.¹⁷

As noted above, at the end of December 1957, a major problem facing both wings was obtaining sufficient flying hours to maintain the ten AEW&C aircraft stations (five on each coast) required by NORAD. A USAF-directed reduction in ADC's flying hour program had resulted in an approximate 40 per cent flying-hour cut for the AEW&C program. CINCNORAD protested the cut in flying hours, but little relief was provided. The two wings were able to man only six stations at the end of December 1957 between 16 and 24 hours daily.¹⁸

In January 1958, USAF pointed out to NORAD that the actions taken by ADC were unavoidable. Congressional appropriations for flying hours were considerably less than had been requested by the services. This, in turn, forced the services to have their subordinate commands absorb the "lost time" in their flying hour program. ADC had been forced to choose between lowering its fighter-interceptor capability beyond an acceptable point or distributing the reduction to other programs. As it was, the fighter program had been cut some 15 per cent which was the maximum acceptable for flight safety and the extensive F-102 conversion program then in progress. In conclusion, USAF stated that it anticipated that during the third and fourth quarters of FY-1958, ADC would operate seven stations on a 24-hour basis.¹⁹

By March 1958, however, the anticipated increase had not been achieved, only six stations were being manned. By June 1958, more stations were manned, but there was not yet full-time manning of all ten stations. On the East Coast, four stations were being maintained by the 551st Wing. Three were being manned full-time, the fourth was operated eight hours a day. In addition, ZW-1 (the Navy Airship Squadron) was manning station six on every odd numbered day of the month. On the West Coast, the number of stations being manned had risen to five; three stations were being manned full-time, the other two were being manned every other day as flying hours permitted.²⁰

Replacement for the RC-121. Little had been accomplished

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toward development of an improved aircraft to eventually replace the RC-121, which even currently was considered inadequate. One reason was refusal of USAF to allocate funds for development of a suitable plane.

The latest proposal for a replacement had been Lockheed's CL-410 aircraft. It had been accepted by ADC, ARDC, and the USAF Air Staff as most nearly meeting the program needs, and USAF had been urged to procure the plane for 13 AEW&C squadrons. ADC representatives, attending a meeting held by the Air Defense Sub-Committee of the Air Weapons Board on 22 April 1958, agreed to trade 80 million dollars from F-106 and F-101 program funds to obtain FY-1959 funding for AEW&C aircraft. This action was followed on 6 May by a letter from Lieutenant General J. H. Atkinson, ADC Commander, to General Thomas White, USAF Chief of Staff, stressing the need for funding the AEW&C program even if it required reduction or elimination of the F-106 program.²¹

General Partridge also took a strong stand in support of the program. In January 1958, he pointed out to the executive agency that the picket ships and AEW&C aircraft in the seaward extensions provided the first means of detecting enemy aircraft enroute to SAC bases and Fleet installations near the coastal areas. In May, General Partridge wired General White that he had been informed that no funds were provided in the FY-1959 budget for AEW&C aircraft. "This headquarters," he continued, "firmly believes that ...necessary funds.../for/ the AEW&C program should be obtained even though it is at the expense of the manned interceptor or of Strategic Air Command hardware."²²

The problem was still unsolved at mid-1958. Follow-on aircraft funding was still not included in the FY-1959 budget.²³

The Picket Ship Force. On 30 June 1958, the number of manned picket ship stations remained unchanged from the number on 31 December 1957. Ten picket stations (five on each coast) were being maintained around-the-clock. Four stations (three of them on the West Coast) were being manned by DER's, the remaining six by YAGR's.²⁴

In January 1958, the CNO informed the JCS that he wanted to reduce the contiguous operating force so as to provide forces for DEW barrier operations.²⁵ The Navy program for FY-1959-62 called

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for 16 YAGR's operating in the contiguous system. This would permit manning of eight contiguous picket stations. The CNO felt that the elimination of two stations would not materially effect the contiguous system. He considered that an increase in high altitude detection capability that was expected from the installation of SPS-17's would allow four stations on each coast to provide coverage equivalent to that being provided by the five stations. The coverage would still be compatible with that required by CADOP 56-66.

When informed of the proposed reduction, NORAD immediately protested. Writing to the JCS, NORAD stated that it did not consider the improved performance anticipated from the new radars sufficient to warrant reduction of the picket ship force.²⁶

In May, a compromise had been agreed upon by representatives of NORAD and the CNO. It was decided that one station would be dropped from East Coast operations, while on the West Coast five stations would be manned.²⁷

Lighter-Than-Air. Navy Airship Airborne Early Warning Squadron One (ZW-1) continued to man station six off the East Coast on a part-time basis during the first half of CY-1958.²⁸ Originally, the Navy had also planned to man a station on the West Coast. However, at the end of 1957, NAVFORCONAD advised that the CNO had decided not to establish an LTA station or commission a ZW squadron for West Coast operations.²⁹

In 1958, ADC asked NORAD to confirm the Navy plans. It was planning to establish a Southern Perimeter ADIZ by the second quarter of FY-1959. And to make the surveillance and identification capability effective, ADC wanted to extend the zone into the South Atlantic and Gulf of Mexico areas. ADC pointed out that if follow-on AEW&C aircraft were available in 1962, the need for AEW blimps on both coasts would be eliminated. But the blimps could be used to advantage in the Gulf and South Atlantic area at that time.³⁰

NAVFORCONAD replied to ADC in June 1958 that the Navy was still not planning for West Coast operations. The AEW airship procurement program called for a total of only eight blimps. Four were to be ZPG-3W's, two of which would become available in late 1958. The other two would not become available for air defense

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until completion of service evaluation trials expected to commence in late 1959 or early 1960. The remaining four blimps were to be the ZPG-2W type currently operating off the East Coast. In all, six airships would be assigned ZW-1 for use in the contiguous system. Two of the craft would remain as replacements for use when operational blimps were being overhauled.³¹

In regard to Southern ADIZ operations, NAVFORCONAD stated that the Gulf area had not been considered. No support or operational facilities existed in that area for blimp type craft and no funds had been budgeted for future base construction.³²

RELOCATION OF ARADCOM AN/FPS-36 RADARS

ARADCOM advised CONAD on 14 October 1957 that the Army AN/FPS-36 radars were not properly sited in most cases to operate against low and very low approaching targets and that it wished to correct this by relocating some of the radars. CONAD concurrence was requested.

Following receipt of this letter, the Systems Directorate of NORAD's C&E section prepared an informal study on the subject. For the purpose of clarifying the story that follows, some of the observations in this study are presented here:

(1) CONAD has established the policy whereby both the area surveillance and gap filling needs of AA complexes are to be fulfilled by ADC provided radars.

(2) The ADC radar system does not now fulfill the specific AA defense complex needs.

(3) The majority of the AA defense complex needs can be fulfilled by the current ADC gap filler program; but no exact date can be specified for the fulfillment of all approved low altitude requirements in that there is no firm plan for realignment of the ADC gap filler program.

On 19 November 1957, General Partridge sent a memorandum to General Hart in which he stated that it was his desire that the FPS-36 equipment be used and that it be used at places recommended

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by the Army, but where it would contribute to the Air Force surveillance system. He also stated that the radars should be placed where they would benefit the Army, but that the final decision on locating the equipment would have to be coordinated with the division commanders concerned.

A NORAD-ADC-ARADCOM conference was held on 26 November 1957 at which it was decided that certain areas, proposed to receive relocated AN/FPS-36's, needed careful analysis because of the possibility that ADC or CAA planned radar for the same areas. The conferees agreed that ADC should be allowed to study the ARADCOM proposals before they were submitted to NORAD. And, on 27 November, NORAD sent a letter to both components implementing this procedure and requesting ARADCOM proposals as soon as possible.

In response to NORAD's instructions, ARADCOM furnished the proposed site locations for the 5th Army Air Defense Region to USAF ADC on 12 December 1957, and those of the 2d AARGN on 18 December. ADC forwarded the proposed 5th Region sites with its comments and a request for additional policy guidance to NORAD on 29 January 1958. Included in its lengthy comments was the opinion that seven of the 15 sites recommended by ARADCOM could be eliminated because they would overlap existing and/or programmed ADC radar coverage. ADC also added that with certain changes in siting, two other sites could be deleted.

NORAD Surveillance Policy. Because of the situation and the request from ADC for further policy guidance, NORAD decided that a general policy regulation needed to be issued on surveillance requirements based on all previous policy statements. But because action needed to be taken before a regulation could be published, it decided to issue a policy letter and follow it with a regulation. Such a letter was sent to all component commands on 20 March 1958.

As a general concept, NORAD stated that the siting of all radars used for surveillance purposes, regardless of the agency furnishing the radars, was to be carried out in such a manner as to provide the best possible overall surveillance system. NORAD assigned USAF ADC the primary responsibility for furnishing surveillance radars and associated communications in the U. S. But NORAD provided that although ADC had this responsibility, other agencies might be required to furnish surveillance radars. Ordinarily, this would be on an interim basis. ADC was also made the coordinating

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agency responsible to NORAD for the U. S. portion of the surveillance system. NORAD's instructions on coordinating activities included the following: (1) interim equipments were not to be sited where they would prevent construction of permanent facilities, (2) the output of interim surveillance radars was to be integrated into the parent master display facility, and (3) radars used on an interim basis for surveillance purposes were not to be modified for data link transmission.

On the basis of this letter, NORAD replied on 21 March to ADC on the relocation of AN/FPS-36's. NORAD stated that while ADC had been given primary responsibility for providing surveillance data for the U. S., if it could not provide this data to the agencies having a valid need on a timely basis, NORAD reserved the right to authorize interim radar installation by any NORAD agency.³⁶ In keeping with this, NORAD approved ARADCOM's plans for deploying the AN/FPS-36's in the 5th AA Region.

NORAD's approval, however, was subject to certain restrictions which included the following:

(1) The installations will be temporary in nature and will be made in such manner and specific location as to not prevent timely completion of construction of programmed ADC radars.

(2) The deployment of an FPS-36 radar to any specific site will not be made if the USAF ADC radar which is programmed for that site will be operational within six months or the date of this correspondence.

(3) USARADCOM is authorized to deploy and operate interim installations of FPS-36 radars to provide required coverage as specified herein until such time as USAF ADC radars can provide the approved coverage in the area concerned. At this juncture, the authorization to USARADCOM is to be considered as withdrawn.

In the meantime, on 17 March 1958, D/A notified ARADCOM that the Army had enough funds for the relocation of the AN/FPS-36 at all sites and asked for relocation plans.³⁷ On 24 April 1958, General Partridge sent a memorandum to Generals Atkinson and Hart, advising them of instructions he proposed to issue unless either had serious objections:³⁸

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(1) The AADCP's and ADDC's will be collocated in accordance with current plans and as rapidly as feasible.

(2) The FPS-36 is to be employed to its fullest capacity as a surveillance radar. It will be operated by Army personnel on a 24-hour-a-day basis and its output will be forwarded to an ADDC, as well as to the AADCP where such elements are not collocated.

(3) In regard to the above, appropriate arrangements will be made to insure that antiaircraft fire units receive the output of the surveillance system on a timely, continuous and accurate basis.

(4) Relocation sites for the FPS-36 will be submitted to USAF ADC for coordination for those sites that will augment the NORAD surveillance system. The USAF ADC has already agreed to accept the output of five of the eleven FPS-36 radars currently under discussion. The location of the remaining six and any other FPS-36 radars which ARADCOM feels should be relocated, but which duplicate or would not augment the existing NORAD surveillance system, will be arranged with the NORAD division commanders concerned.

Neither component commander objected.

These instructions were included in a letter to ADC, ARADCOM, and each CONAD region on 5 June 1958. NORAD noted in this letter that the completion of the programmed surveillance system in those areas where Nike defenses existed, the correction of possible technical deficiencies in radar coverage, and the provision of appropriate data handling means would eliminate the requirement for the AN/FPS-36 in the air defense system.³⁷ However, existing sites would provide Nike defenses with the capability of autonomous operation (Mode IV) in the event of battle damage to the surveillance system. Therefore, NORAD said, until otherwise directed, the stand-by capability might be retained within the resources allotted to ARADCOM.⁴⁰

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USAF ADC MASTER DIRECTION CENTER
CONCEPT OF OPERATIONS

On 30 January 1958, USAF ADC proposed establishment of a master direction center concept of operations for its U. S. and 64th Air Division manual ACW system.⁴¹ ADC proposed to place it in effect as soon as possible and to continue it until the advent of SAGE. ADC's plan was to set up small operational complexes, each of which would have one master direction center (MDC) and up to five slave stations. Each complex would have the size and configuration to enable it to carry out all actions against a Mach Two target. The slave stations, which would report to the MDC, could be direction centers, surveillance stations, AEW&C planes, or picket ships. ADC said that its reason for wanting to make this change was that its long-standing concept of decentralized operations was outmoded by the introduction of high-speed jet bombers and was difficult to support with current funds and manpower.

NORAD approved ADC's plan on 20 February 1958, subject to the incorporation of certain recommendations.⁴² NORAD's recommendations included a change in the functions at the ADCC and the MDC, the provision that all ADCC's associated with an AADCP be designated as MDC's, and the addition of provisions for communications from MDC's to associated AADCP's. In addition, NORAD asked that all plans prepared by the air defense forces and 64th Air Division be submitted for approval prior to implementation.

ADC revised its plans accordingly, with one exception.⁴³ ADC felt that all joint manual direction centers (see Chapter II) should be designated as MDC's, but objected to designating every ADCC associated with an AADCP as an MDC. This would result, ADC stated, in complexes that would be too small to cope with high-speed targets and also in creating more MDC's than ADC could support. ADC requested permission to delete this provision. Army Air Defense Command agreed with ADC on 19 April in response to a query from NORAD.⁴⁴

Another request from ADC was that NORAD waive its requirement to review the detailed supporting plans from the field and receive instead information copies of plans approved by ADC. This would save a great amount of time.

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NORAD approved both requests on 1 May 1958.⁴⁵ In regard to the latter request, NORAD stated that it reserved the right to disapprove plans that were not in consonance with its concepts.

As provided in the approved plan, each MDC would be responsible for the following functions: (1) surveillance display, (2) track establishment, (3) identification, (4) allocation of fighter-interceptor weapons, (5) scramble and recovery of fighters, (6) control of fighters, (7) coordination of tracks with adjacent radars and MDC's, and (8) reporting to a NORAD Division Control Center. Direction centers would be responsible for surveillance and control of weapons, be capable of scramble and recovery, report to an MDC, and coordinate tracks with adjacent radars. Surveillance stations would be responsible for surveillance and might have limited control capability, report to an MDC or DC, and coordinate tracks.

IDENTIFICATION

Planning for Southern Perimeter ADIZ's. On 27 September 1957, NORAD informed ADC that it considered imperative the establishment of an ADIZ along the entire southern border of the U. S.⁴⁶ Intelligence estimates indicated that the Soviets could bypass the DEW and MCL systems and strike the southern border. And it was felt that the Soviets might choose to attack by a less desirable route rather than by direct penetration and face almost certain detection.

A review of the air defense capability along the southern boundary of the U. S. revealed that radar coverage as well as fighter-interceptor deployment was completely inadequate either for detection or identification. NORAD considered that at least three actions were necessary to solve this problem: (1) expedite installation of adequate radar facilities and place fighter squadrons along the entire southern boundary (to include the Gulf Coast area); (2) concurrent with the operation of radars and interceptor squadrons, establish an ADIZ across this area and enforce its requirements; and (3) at the time the southern perimeter ADIZ was established, reduce or eliminate the eastern and western ADIZ's. NORAD recommended further that, as interim procedures, ADC use mobile radars to close the gaps, obtain assistance from other commands and services, and investigate the possibility of rotating its own fighter squadrons from interior stations to the southern

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border. NORAD established a target date for implementing the ADIZ of 1 January 1958.

ADC replied that the ADIZ proposed was in accordance with its own planning and programming objectives.⁴⁷ But it might not be able to take the interim measures recommended by NORAD due to monetary and manpower restrictions. Subsequently, ADC asked for and received NORAD's permission to extend the implementing date of the southern perimeter ADIZ from 1 January 1958 to approximately the second quarter of FY-1959. ADC did not want to set up an interim system with forces of other commands and services, for this would require it to re-program in order to get funds for such. By waiting, it could use mostly its own forces.

The plan proposed by ADC called for using radars already programmed for the system plus radar of the CAA and the U. S. Navy in Florida, moving part of its interior interceptor force to the southern border, and using ANG squadrons on 24-hour alert for an added identification capability. The proposed ADIZ would begin at the southern tip of the Pacific ADIZ, then proceed across Mexico to a point south of Brownsville, Texas, then across the Gulf of Mexico, enclosing the southern portion of Florida, and then to the southern portion of the Atlantic ADIZ.

NORAD approved the new deadline, as noted above, but stated that it could not accept any further delay. It also recommended that ADC continue an examination of other command and service facilities for possible use, even though it meant re-programming, so that the identification and surveillance gap along the border could be closed.⁴⁸

ADC presented the ADIZ proposal to USAF on 23 January 1958.⁴⁹ The following actions were required, ADC stated, if penetrations from the southern approaches were to be detected and properly evaluated and an effective identification capability attained: (1) designation of a US/Mexican Border ADIZ (to include establishment of identification criteria and procedures for operation within the ADIZ, extending low altitude radar coverage south of the U.S.-Mexican border, obtaining overflight authority from Mexico so that unknowns could be intercepted in Mexican territory, and provision for timely flight plans and air movements data on aircraft penetrating and/or operating within the Mexican ADIZ toward the U.S.); (2) establishment of an ADIZ over the Gulf of Mexico and extension of surveillance and radar coverage into the Gulf; and (3) extension

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of the Atlantic ADIZ and designating an ADIZ over the Bahama Islands (British Territory).

The internal ADIZ's (Eastern and Western), already in operation, would continue in effect for an indefinite period after establishing the southern ADIZ. After the establishment of an ADIZ around the Florida Peninsula, these could be realigned or placed on stand-by status until an Air Defense Emergency was declared. Designation of the recommended ADIZ's would not enable ADC to achieve a fully effective surveillance and identification capability before the second quarter of FY-1959, but it would enable it to exploit any interim capability that was attained.

The ADC proposal differed in one important respect from that recommended by NORAD. The ADC plan called for a Mexican Border ADIZ using equipment located on U. S. territory which was scheduled to be operational in the near future. The NORAD proposal had been based on the requirements set forth in CADOP 56-66 which called for using six prime and 41 gap-filler radars located in Mexico. NORAD considered ADC's method the fastest, however. In March 1958, NORAD informed the executive agency that it approved and supported the ADIZ's as proposed by ADC and wanted them operational no later than the second quarter of FY-1959.⁵⁷ It further recommended that the ADC proposal be used as a basis for negotiation with the Mexican Government.

In April, USAF replied that it would give the ADC proposal "prompt attention."⁵⁸ However, USAF continued, it appeared doubtful that the second quarter FY-1959 deadline could be met in view of the requirement to conduct negotiations with foreign governments before the ADIZ's could be fully implemented.

By July 1958, ADC had initiated several actions to meet the ADIZ deadline. Negotiations with the Navy had begun to obtain surveillance information from its radar located at Key West, Florida; planning was being conducted to use inputs from the CAA long range radar in Florida; the ANG had been contacted and had agreed to have five of its interceptor squadrons assume a 24-hour alert on 1 October 1958 in the southern ADIZ area; and communications for passing flight plan information between the DC's with an identification responsibility and the appropriate CAA ARTCC's had been installed.⁵⁹ However, ADC pointed out that five of its AC&W sites that would have a surveillance responsibility for portions of the southern

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perimeter ADIZ would not become operational until 1 January 1959. The delay was caused by inadequate family housing. This would not delay designation of the ADIZ boundaries, ADC continued, but would leave some gaps in radar coverage.

Change in the Alaskan Coastal ADIZ. AAC requested USAF to take action to extend the outer boundaries of its coastal ADIZ to cover the Aleutian segment of the DEW Line. USAF directed ADC to formally request the CAA to extend the Alaskan ADIZ to cover this segment and to provide full-time AMIS service from Fairbanks and Anchorage to the DEW Line and the Aleutian Segment.

ADC forwarded the requests to NORAD. In June 1958, NORAD forwarded a formal request to the Executive Agency for the changes.⁵³ NORAD stated that it approved the AAC proposal and requested that the proposal be presented to the SCAT Board for review as soon as possible. USAF was also requested to begin negotiations with CAA for the establishment of appropriate AMIS facilities for the Fairbanks and Anchorage ARTCC's with AAC designated as the funding agency.

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Chapter IV

Status of The Radar System: Outside Continental United States

PINETREE LINE

In Canada, there were a total of 32 operational heavy radar stations and six gap-filler radars as of 30 June 1958 (exclusive of the Mid-Canada Line and the DEW Line).^{*} Ten of the heavy radars and the six gap fillers were deployed along the East Coast in the 64th CONAD Division area of responsibility. The other 22 ran in a line from Nova Scotia to Vancouver Island.

USAF ADC manned nine of the heavy radars and the six gap fillers in the 64th Air Division, and eight of the remaining 22 heavy radars; Canada manned the other 15 radars which included one in the 64th Division area.

In April 1958, USAF ADC proposed to NORAD that CANADA assume the manning responsibility for the entire Pinetree line. It pointed out that USAF was in an "austere manning situation" and every effort was being made to reduce manpower requirements.² A significant savings of personnel could be made if the RCAF ADC would accept manning responsibility for all Pinetree sites.

NORAD rejected the proposal, however, stating that the RCAF was already committed to the limit of its manpower. If it manned additional stations, other equally essential elements in the air defense system would have to be reduced. Cutting the number of USAF personnel manning radar units, "constitutes a reversal of the trend that must be maintained if the operational requirements for increased surveillance are to be met," NORAD stated.³ NORAD was already supporting a requirement for additional radars in Canada, which would require more personnel from both countries.

In 1955, USAF ADC had proposed installing 26 heavy radars in

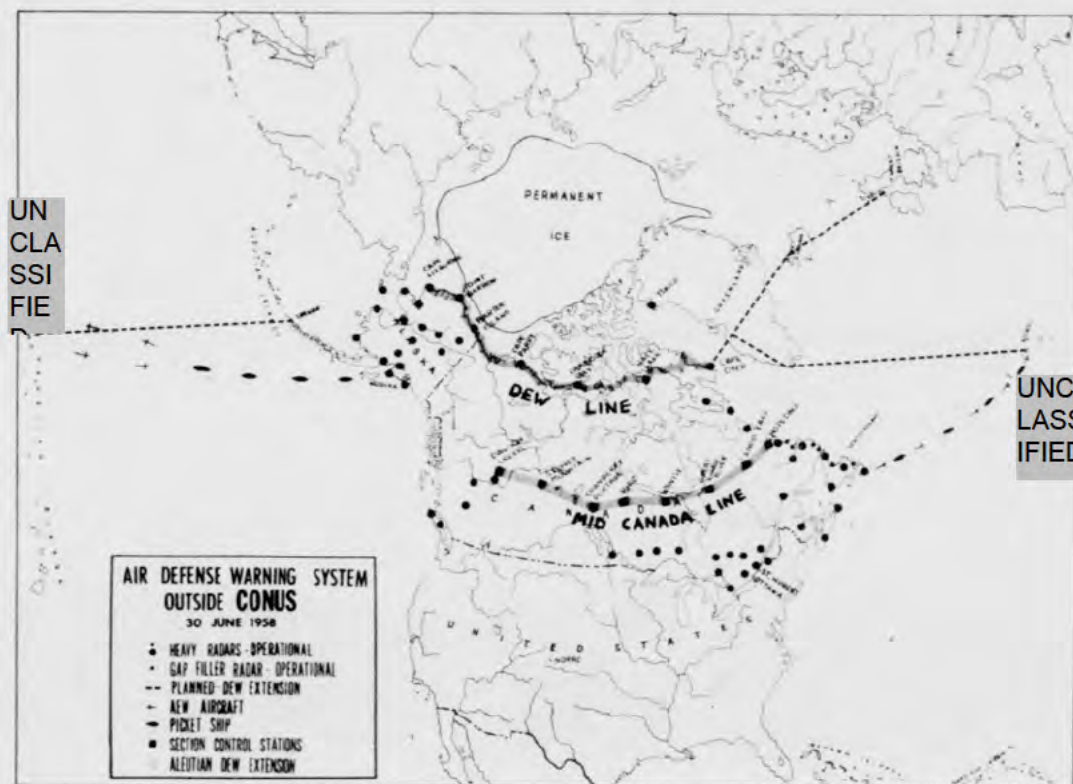
* See Appendix 3 for RCAF/ADC radar stations and Appendix 4 for 64th Air Division radars.

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TABLE 3

STATUS OF THE RADAR NETWORK
OUTSIDE CONTINENTAL UNITED STATES

PROGRAM	NUMBER SITES	UNDER CONSTRUCTION	OPERATIONAL	COMMENT
Pinetree (USAF funded)				
31 December 1957	23*		23*	*Includes G-32, Thule
30 June 1958	23*		23*	*Includes G-32, Thule
Pinetree (RCAF funded)				
31 December 1957	10		10	
30 June 1958	10		10	
Pinetree Gap Fillers (64th ADiv)				
31 December 1957	6		5	
30 June 1958	6		6	
4th Phase (Canada)				
31 December 1957	18			Program awaiting approval
30 June 1958	23			Program awaiting approval
4th Phase Gap Fillers (Canada)				
31 December 1957	51			Program awaiting approval
30 June 1958	51			Program awaiting approval
DEW Line				
31 December 1957	57		57	
30 June 1958	57		57	
Alaska (AAC)				
31 December 1957	18	5	13	
30 June 1958	18	1	17	
Aleutian DEW Extension				
31 December 1957	6	6	0	
30 June 1958	6	6	0	
Eastern DEW Extension (30 June 1958)	4	-	0	
Pacific Barrier (30 June 1958)	4 DER's and 4 AEW&C aircraft			operating between Kodiak Island & Midway Island
Atlantic Barrier (30 June 1958)	4 DER's and 4 AEW&C aircraft			operating between Argentina and the Azores



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Canada to extend the combat zone northward. For the next three years, the proposal remained under study at RCAF and USAF headquarters. At the end of 1957, the proposed extension program called for building 23 heavy radars (18 parallel to and just north of the Pinetree stations, and five heavy radars on the Mid-Canada Line). In addition, USAF ADC proposed 51 gap-fillers for Canadian territory as part of the Frequency Diversity (FD) program.⁴

In early 1958, NORAD emphasized to USAF the need for extending the combat zone into Canada. NORAD pointed out that it strongly supported USAF ADC's proposals for the gap-fillers and the 23 prime radars. Stated NORAD, "we have been recommending the additional radars for the last three years with no evident results [and] failure to provide for this program immediately will result in a serious deficiency in our defenses against the manned bomber threat."⁵ NORAD recommended that USAF and the RCAF work together to iron out any remaining problems and that funds be provided to begin the program as soon as possible.⁶

An executive agency reply in March 1958 offered little hope for quick completion of the extension.⁷ Fund limitations and relative priorities of other operational requirements, USAF stated, had interacted to prevent funding of the entire program. It was anticipated, however, that within present and planned funding, seven of the heavy radars would be approved for funding in FY-1960, with an operational date of FY-1963. The program might later be augmented depending upon the availability of funds. USAF stated that it would continue to consult with the RCAF on the matter.

In the meantime, RCAF ADC had also been searching for other methods to add to its radar coverage. The Department of Transport (DOT) planned to install 15 FPS-19-type heavy radars and four airport surveillance radars in Canada. In some cases, the DOT radars would cover areas already under surveillance by ADC sites, but in others, particularly the mid-west, DOT radars were programmed where coverage was virtually non-existent. In September 1957, RCAF ADC asked CONAD what it thought about using DOT radars, since portions of the tie-in would affect CONAD divisions.⁸

CONAD agreed fully with the concept of maximum data exchange between DOT and ADC radars and also in using the DOT radars to supplement coverage where no air defense radars were available.⁹

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Radar Improvement Program. The Alaskan stations were operating either the AN/FPS-3, the AN/CPS-6B, or the AN/FPS-8 radar at mid-1958.* However, new equipment was programmed to modify the AN/FPS-3's and to replace the AN/CPS-6B's. One program initially called for converting the AN/FPS-3's, which were installed at 13 sites, to the AN/FPS-20 by adding the AN/GPA-27. But because of a fund shortage, USAF deleted four AN/GPA-27 sets from this program, making it possible to convert only nine AN/FPS-3's.¹²

An acceleration of the program had been sought by NORAD. ALCOM agreed and had taken what actions it could. On 28 February 1958, ALCOM advised that the greatest savings in time would result from using three Bendix installation teams rather than the two formerly planned. The AN/GPA-27 construction and installation dates as estimated by AAC were as follows:¹³

SITE	CONSTRUCTION COMPLETED	EQUIPMENT INSTALLED - COMPLETED
F-15 Sparrevohn	31 July 1958	14 October 1958
F-16 Indian Mountain	31 July 1958	7 October 1958
F-3 King Salmon	31 July 1958	2 September 1958
F-8 Campion	31 August 1958	21 October 1958
F-10 Tatalina	15 October 1958	18 November 1958
F-5 Newenham	31 October 1958	13 January 1959
F-6 Romanzof	31 October 1958	7 January 1959
F-4 Wales (Tin City)	31 October 1958	30 December 1958
F-7 Lisburne	31 October 1958	10 February 1959

The two AN/CPS-6B's in the Alaskan theater, one at Fire Island (F-1) and one at Murphy Dome (F-2), were to be replaced with AN/FPS-7's, according to the original plan, in FY-1958. USAF advised that these would be delayed until FY-1962, however, because of the fund shortage. CINCAL objected and appealed to NORAD for help in obtaining equipment suitable for use in the JMDC's to control high-performance weapons. In December 1957, it was decided to have ADC furnish AAC two AN/MPS-7's for the sites, subject to USAF approval.¹⁴

* See Appendix 5 for a complete listing of Alaskan stations and their radar equipment and locations.

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The latter approved in April 1958. To be moved were the AN/MPS-7 located at M-128, Kingman, Arizona, and the AN/MPS-7 allocated to ADC for future installation at SM-144, Union City, Tennessee. These sets were to be made into AN/FPS-20's by adding a AN/GPA-58 to each one. The radars were expected to become operational by the second quarter of FY-1959.⁵

Obtaining the AN/MPS-7's from ADC solved one problem, but AAC also wanted two AN/FPS-6 height-finders at Fire Island and Murphy Dome by the first quarter of FY-1960. USAF informed AAC that one AN/FPS-6 could be made available for each site for operation by FY-1959. But a second height-finder for each would not become available until about the third quarter of FY-1961.

AAC appealed to CINCAL, stating that proper operation of the two JMC's could not be accomplished unless dual height-finding facilities were available for the simultaneous control of manned interceptors and ground-to-air missiles on a continuous basis. CINCAL, in turn, laid the problem before NORAD. He stated that the slippage in the delivery date of the second set of AN/FPS-6's posed a serious problem. The delay would reduce the offensive capability of both stations for an extended period. And he proposed that NORAD request USAF to return to the original operational date (Second Quarter FY-1960).⁶

NORAD was also concerned with the slippage and in July 1958 requested USAF to program a second height-finder for F-1 and F-2 even if it meant reprogramming equipment allocated for low priority ZI stations. "During a battle condition," NORAD wrote, "one height finder cannot provide the necessary height information on numerous hostile tracks."⁷

Gulkana Radar. In January 1958, CINCAL reviewed the entire Alaskan ground environment system in an effort to discover any gaps in radar coverage. One place in particular stood out. Just east of Anchorage a gap existed in the radar screen from ground level to approximately 20,000 feet.⁸

At one time, a radar site had been programmed for Gulkana to fill this void. But this project had been first deferred by USAF because of budgetary reasons and later deleted on the assumption that a direction center would be relocated on Mt. Susitna and would provide sufficient coverage. The location was later changed to

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Fire Island. This left the entire Copper River Basin without radar surveillance and provided a natural route for low altitude surprise attacks from the east.

To correct this deficiency, CINCAL wanted to place an AN/FPS-8 at Gulkana. However, before he instructed AAG to install the radar, he wanted NORAD's concurrence. NORAD concurred.¹⁷

DEWLINE

At the end of CY-1957, there were deficiencies in the operation of the DEW Line. Although the line running from Cape Dyer, Baffin Island, to Cape Lisburne, Alaska, had been declared "fully operational", at least two major areas needed corrective action to bring them to the standard required by NORAD. These areas were operational procedures and communications. By mid-1958, as discussed below, remedial action had been taken but all problems had not been solved.²⁰

Operational Procedures. The establishment of identification facilities and procedures was one pressing problem at the end of 1957. DEWIZ information had not been published by DOT to implement an identification system for the Canadian portion of the line. Also, the DOT had failed to establish Air Movement Information Service (AMIS) facilities at Goose Bay, Labrador, and Edmonton, Alberta, Canada, to supply flight plan data to the DEW Main stations.²¹

However in January 1958, the DOT provided the DEWIZ information for publication in radio facility charts. This was followed in April 1958 by the collection and dissemination by ADC of interim identification instructions.

Steps to establish AMIS's came slower. The facility at Edmonton became operational on 15 February, but it was 1 April before Goose Bay had its facility. This resulted in the two central sectors of the DEW Line being operated for six and one-half months and the two eastern sectors being operated for eight months without the basic flight plans necessary for identification. Establishment of the AMIS's and dissemination of identification procedures were two big steps toward making the line fully operational.²²

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There was still room for improvement in identification, however. As of June 1958, two separate and distinct identification zones using different criteria were in being. The need to establish a common identification zone for the entire line had been brought to the attention of USAF, NORAD, and AAC in 1957. At that time, all action had been held in abeyance pending the completion of a study by CUSSAT. The CUSSAT study had been completed and was in the hands of the Joint Military Study Group in Washington for review.²³

Communications. NORAD had been dissatisfied with the communications reliability of the DEW Line. Data received at the NORAD COC was found unreliable and at times unusable. The problems encountered apparently stemmed from two causes: poor rearward communications circuits leading back to existing NORAD communications facilities; and a lack of clear cut responsibility assigned to any of the companies concerned with DEW Line communications to monitor and correct outages. The unsatisfactory status of the rearward circuits could be corrected, NORAD felt, by installation of "repeat-back" equipment on the DEW ionospheric rearward telling circuits -- duplexing the radio portion of the circuits. Establishment of a central communications control point at Dawson Creek was also recommended.²⁴

An outstanding example of the poor rearward circuitry was the Barter Island-Anchorage (BAR-AGE-X) rearward FPIS circuit. This circuit was so poor that from 19 October until 31 December 1957 no operational traffic was passed over it. CINCAL asked for and received NORAD support to reinstall a VHF capability at Barter and AGE-X as a back-up for the FPIS system. At the end of December 1957, this proposal had been approved by USAF, but installation of the circuit was to be held in abeyance until it was determined that CINCAL and COMAAC had resources available for the project.²⁵

In January 1958, USAF reversed its position. The DEW/WHITE ALICE Project Office had reported that it would be impractical to reinstall the VHF system. This decision was based upon three considerations: (1) the availability of White Alice circuits to provide alternate routing; (2) the length of time required to install VHF equipment and antennas at the Barter Island station; and (3) the work already being performed by Western Electric to correct FPIS deficiencies. Although AAC protested the decision, USAF would not change its position.²⁶

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By June 1958, repeat-back facilities had been installed on two of the four FPIS circuits (BAR-AGE-X and CAM-NEL-X). And WAT-X and BIR-X, the remaining circuits, were to be modified as soon as equipment was available to the RCAF. However, the BAR-AGE-X circuit was still not satisfactory. ADC had informed USAF of the condition in March 1958. USAF, in turn, requested the DEWPO to correct the problem.²⁷

In the meantime, as an alternate solution to the BAR-AGE-X problem, AAC had suggested using augmented White Alice circuitry. USAF approved the plan and directed AAC to provide four additional circuits from BAR through White Alice to Fairbanks, Alaska, and NORAD. Upon installation of these circuits, the BAR-AGE-X FPIS facility would become an alternate circuit.

USAF also requested ADC and the DEW/WHITE ALICE Project Office to evaluate the possibility of transmitting all traffic from all DEW main stations laterally to the end of the line and rearward by the White Alice and Pole Vault systems as primary routes. The FPIS systems would be left as alternates for telling to the MCL.²⁸

In regard to isolating trouble areas and restoring circuits running between NORAD and the DEW Line, a survey showed considerable improvement. This improvement had resulted from assigning the AT&T Denver Toll Test Center responsibility for monitoring communications along the line. The time required to spot and trouble-shoot an outage had also been reduced by installing monitor machines on the four DEW Line main circuits in Colorado Springs. Garbled messages had been reduced, but possibly this had resulted from better weather conditions rather than through improvement in machines or procedures. Periodic traffic surveys were also helping to reduce the number of one-time malfunctions. Lastly, the surveys indicated that FPTS and White Alice circuitry was more reliable than FPIS circuits. ADC felt that the improved procedures it had instituted were helping to obtain the best results from the FPIS circuits.²⁹

A third step taken to improve NORAD's communications with the DEW Line was planning toward command voice communications from AAC to the four western DEW main stations. This would provide the NORAD COC with direct voice communications to POW, BAR, PIN, and CAM similar to the existing link with FOX and DYE. AAC had sub-

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mitted this recommendation to NORAD in its proposed C-E plan. The plan was approved and AAC was instructed to proceed with the project after coordination with Federal Electric.³⁰

Efforts to improve the FPIS circuitry was but part of the over-all communications improvements sought by NORAD in the northern area. In December 1957, NORAD had made seven recommendations to the executive agent for improving communications: (1) improvement of White Alice to DEW communications; (2) augmentation of Alaskan long-line communications; (3) construction of alternate facilities to the Aleutian extension of the DEW Line (Project STRETCH-OUT); (4) establishment of a communications monitor and control point in the Dawson Creek area; (5) installation of repeat-back equipment to DEW rearward telling circuits; (6) improvement of POLE VAULT communications; and (7) support of a proposed FOX-CHURCHILL tropospheric system from the DEW to MCL.³¹

USAF replied that five of the seven proposals had already been under consideration. Only proposals four and seven had not been worked on. Better communications from White Alice to the DEW Line were anticipated between Kotzebue and Lisburne since Western Electric had decided to employ a 36-channel quadruple diversity system between the two stations rather than a 12-channel system. This would provide a reliability equal to the remaining White Alice system and no further action was contemplated. The proposal for an alternate Tropospheric Scatter system between Fort Yukon and Barter Island had been re-evaluated by the contractor undertaking the Alaskan BMEWS project. It was decided that a more economical means of providing toll quality along the DEW should be sought. Augmentation of the Alaskan long-line facilities by a tropospheric scatter system between Boswell Bay and Skagway had also been evaluated and dropped. Current plans to install a submarine cable from Port Angeles, Washington, to Homer, Alaska, coupled with existent island waterway and Alcan communications were considered sufficient. Repeat-back equipment to the DEW rearward telling circuit was concurred in and would be accomplished by connecting southern terminals back to the reporting station using available equipment and channels. The establishment of a monitor and control point at Dawson was being held in abeyance pending further study by Western Electric. POLE VAULT facilities would be improved as part of the BMEWS requirement and funds for this purpose were contained in the FY-1959 budget estimates. As to the FOX-CHURCHILL tropo system, it had been planned as a part of BMEWS, but was later dropped because of fund shortages.³²

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Change in Operational Control. On 17 January 1958, USAF informed ADC that responsibility for operational control of the Cape Lisburne-Cape Dyer segment was assigned to it effective 15 February. ADC was to assume this responsibility at the same time it undertook M&O contract administration.³⁴

Almost immediately NORAD protested the assignment of operational control to this uni-service agency. In a letter to the executive agency, NORAD stated that:³⁴

...it is essential that CINCNORAD exercise operational control over the land-based portion of warning systems that provide the means of alerting the North American forces. Operational control will be exercised through designated subordinate NORAD commanders. This command concurs in an assignment of responsibility to USAF Air Defense Command for management to include contract administration, technical control, manning and operation. USAF ADC will also be directed to prepare, for NORAD approval, standardized operational procedures for the entire DEW Line.

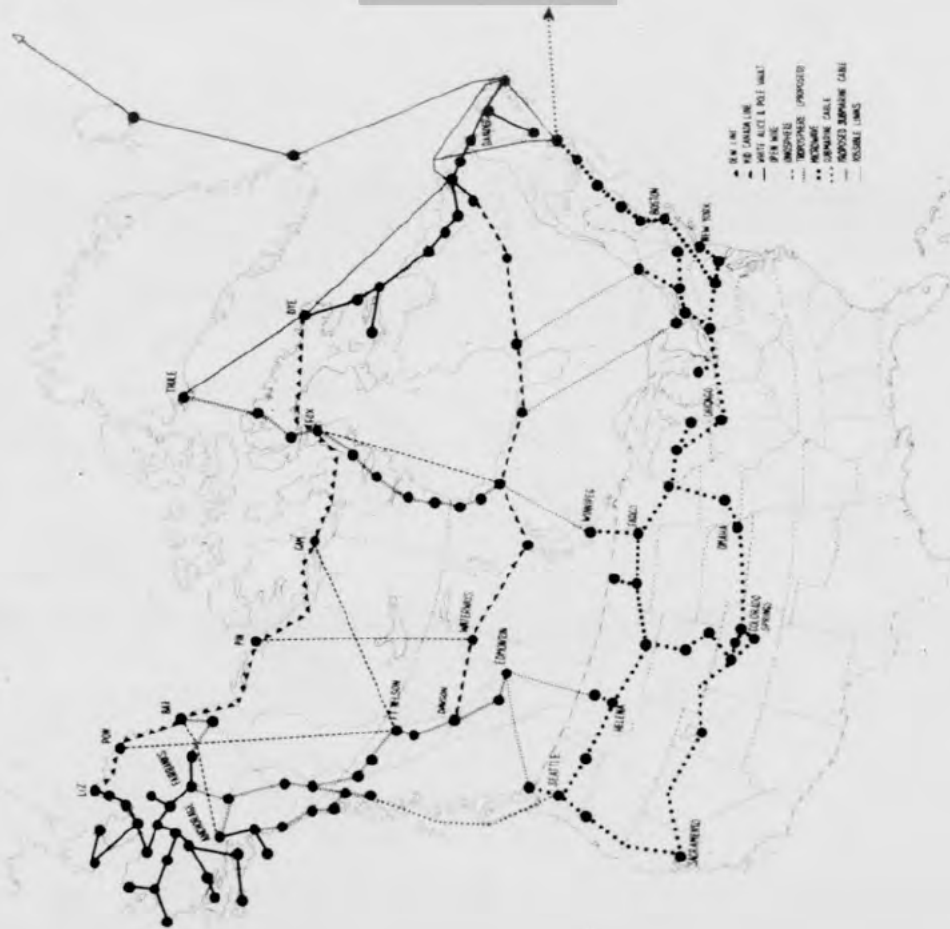
While awaiting a reply, NORAD outlined the functions required of ADC on the DEW Line. ADC was made responsible for: detection and identification of all air-breathing vehicles penetrating the DEWIZ, making certain that the vehicle was identified as friendly or hostile; providing differentiation between single and raid type formations crossing the DEWIZ; rapid transmission of information to and from the DEW Line to AAC, NORAD, and RCAF ADC; rapid transmission of "Noah's Ark" messages to SAC aircraft; and providing navigational assistance to friendly aircraft.³⁵

The matter of operational control was settled on 14 April 1958. USAF replied that, "CINCNORAD clearly has operational control of the Cape Lisburne-Cape Dyer portion of the DEW Line in the same manner as other air defense elements. In assigning the Air Force responsibility to the Air Defense Command, there was no intent to reduce CINCNORAD's (CONAD's) degree of operational control or the responsiveness of the system. The contrary is actually the fact."³⁶

The Early Warning Operations Working Group (EWOWG). The EWOWG had been established on 13 September 1955 to "...develop, as

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NORTHERN AREA COMMUNICATIONS

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expeditiously as possible, the detailed operations plan for the DEW System excluding the sea flanks." It had completed this action with the publication of the DEW-MCL Operations Plan of 1956, but had remained in existence monitoring various activities.

At its meeting in November 1957, the Group went on record for its dissolution. This recommendation was seconded by NORAD on 11 February 1958. Headquarters USAF stated that it too felt that the EWOWG should be abolished. However, ADC was preparing changes to the Joint RCAF-USAF Operations Plan that would include the Greenland Segment of the DEW Line. Following review of these recommendations by the EWOWG, and with the approval of the RCAF, the former would be dissolved and all planning responsibilities for the EW system would be assigned to NORAD.³⁷

WESTERN EXTENSION AND THE PACIFIC BARRIER

The plans for extending the early warning coverage in the Pacific called for a line running from Naknek to Umnak by land based radar and then by sea to Midway.

On 1 July 1958, the sea portion of the Pacific Barrier became operational with an operating force of four DER's and four AEW aircraft. The sea forces had been training for this role since 1 July 1957. On this latter date, a partial barrier force had been established by CINCPACFLT between Midway and Umnak, the planned barrier route.³⁸

The route of the Midway-Umnak barrier had been changed temporarily by January 1958, however. It was discovered that the Aleutian land-based segment of the DEW Line would not become operational before March 1959, so NORAD asked the CNO to readjust the sea barrier to cover the exposed area. In January, the CNO agreed to shift the barrier (as stated below) for the eight months needed for the land-based segment to become operational. When the Aleutian segment became operational, the line was to be shifted back between Midway and Umnak.

On 1 July 1958, a total of 13 DER's and 25 WV-2 aircraft were available for barrier operations. It was anticipated that the force would reach a total of 18 DER's by April 1959. The barrier forces were operating from Kodiak Island and Midway. The four DER

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stations were on a line running SSW toward Midway from a point some 200 nautical miles off Kodiak Island, with approximately 200 nautical miles between each station. The WV-2's operated out of Midway, flying out some 1250 nautical miles and then back in a racetrack pattern. The WV-2 pattern overlapped the DER line some 400 miles.

When the Aleutian segment became operational, the DER stations were to be shifted west and a total of five vessels maintained on station between Midway and Umnak. The aircraft would continue to fly a racetrack pattern out of Midway making contact with the land-based coverage at Umnak.³⁹

The Aleutian land-based segment called for a total of six AN/FPS-19 radar stations stretching between Nikolski on the west and King Salmon on the east. This project, codenamed STRETCH OUT, called for the construction of one main (master) station at Cold Bay and five lateral auxiliary stations at Driftwood Bay, Sarichef, Nikolski, Port Moller, and Port Heiden. Construction contracts for the stations had been awarded in March 1957 and work begun soon after. By December 1957, work on the six stations had to be stopped or reduced to a minimum because of adverse weather conditions and shortages of essential materials, however.⁴⁰

At Nikolski and Port Heiden, the contractors were able to resume construction in January 1958. It was March, however, before work was able to begin at the remaining four stations. Western Electric Company, the prime contractor, was unable to estimate the amount of delay that could be expected because of the construction delays although 31 March 1959 was still set as the operational deadline. The status of the sites as of 16 June 1958 was as shown below:⁴¹

TABLE 5

STATION	% COMPLETED (August 1957)	% COMPLETED (June 1958)
Driftwood	12	52
Sarichef	20	76
Nikolski	17	97
Port Moller	26	84
Cold Bay	20	90
Port Heiden	30	93

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At least one of the problems existing at the end of 1957 had been solved. Lack of a contract for building a communications terminal at King Salmon that was needed to align and test the remaining stations had threatened the operational deadline. Construction at this site had begun during the week ending 17 May 1958. It was anticipated that the buildings would be ready for equipment installation in August 1958, with over-all completion in September.⁴²

A second communications problem -- that of providing alternate facilities -- remained. NORAD had recommended to the executive agency that an ionospheric scatter radio system be provided from the western terminus of STRETCH OUT to the mainland. This communications link would provide an alternate return to the Alaskan mainland in case the lateral tropospheric scatter from King Salmon to Umanak ever failed. Since the STRETCH OUT communications were subject to more hazards than other stations in the WHITE ALICE system, this would insure that NORAD would receive early warning regardless of the status of the main communications line. NORAD also proposed that the Navy FPIS facility at Adak be coordinated with the STRETCH OUT facilities, doubly insuring an alternate link.

These proposals were still under study in June 1958. The executive agency replied that it recognized the need for an alternate system and had instructed the DEWPO to study the matter. Coordination of the Navy and Air Force circuitry was also considered desirable. However, the latter proposal had to be considered further. In the meantime, NORAD or ADC should coordinate with CINCAL and AAC to evaluate the proposal further and recommend specific actions.⁴³

EASTERN EXTENSION AND THE ATLANTIC BARRIER

Only one of the two barrier locations planned for the DEW system in the Atlantic was operational. This was the Navy-sponsored sea barrier running between Argentia, Newfoundland, and the Azores. This barrier had begun full operations with four DER's and four AEW aircraft on 1 July 1957. The following month, a shortage of operating funds forced the Navy to reduce the number of aircraft on barrier patrol from four to two.⁴⁴

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NORAD protested to the JCS, stating that the loss of on-station time could not be accepted. "Early warning information provides the basic step for not only timely air defense actions, but also for retaliatory actions and others related to national survival," the letter continued.⁴⁵ NORAD later stated that the enemy could, on a calculated basis, underfly the barrier between picket ships since low-level coverage over the 1300 mile line was provided by only two aircraft.⁴⁶ NORAD asked that the CNO review the AEW program to insure continuous operation of at least four AEW aircraft on the barrier.

A reply was received in January 1958. NORAD was informed that the aircraft barrier force was to be increased from two to three planes in the third quarter of FY-1958, and to four planes in April 1958. On 30 April, the AEW force again consisted of four aircraft.⁴⁷

The second Atlantic DEW extension was that jointly sponsored by the Navy and USAF. Often referred to as the G-I-UK extension, the line was to run from Cape Dyer, Baffin Island, across Greenland, to Iceland, then by water to the Faeroes, and then once again by water to Scotland. USAF was building the land-based portion of the line from Cape Dyer across Greenland to Iceland. The Navy was to extend the line from Iceland to the UK.⁴⁸

An interim operational plan for the Greenland extension had been prepared by ADC and concurred in by NORAD. The operational concept for integrating the extension into the DEW system called for radars on Greenland to link with the proposed early warning line through Iceland to the UK and to join the Atlantic AEW line from Cape Farewell to the Azores. Operations on the line were to be identical with those of the main DEW system with a single exception. The extension would not have a low-level capability since no doppler aircraft alarm equipment was programmed. The stations were to be considered eastern auxiliary stations for the DYE Sector and be under the operational control of the Cape Dyer DEW Main station.⁴⁹

Four surveillance stations were planned for the Greenland extension, located at intervals of approximately 130 nautical miles along the 66th parallel. The stations were to start at Holsteinsborg (Qaqatoqsaq) on the west coast and cross the ice-cap to Kulusuk Island. A fifth station at Kangek Island was to provide a link to the Azores barrier, provided the Navy decided to shift the Argentinia end of the barrier to Cape Farewell. The Kulusuk station was to

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connect either with a radar at Keflavik, Iceland (H-1) or with one located on the Straumes Peninsula in southwest Iceland (H-4). These locations were still tentative, however. Final site selection was to be determined after Western Electric Company had completed path loss tests scheduled from June through September on the tropospheric scatter equipment. The target date set for operation of the segment was 30 June 1961.⁵²

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Chapter V

Status of the Combat Weapons

REGULAR FIGHTER-INTERCEPTOR FORCES

As of 30 June 1958, there were a total of 73 fighter-interceptor squadrons in the North American air defense system. These squadrons were owned by three commands: USAF Air Defense Command had 61 squadrons (which included three in the 64th Air Division), RCAF Air Defence Command had nine squadrons, and Alaskan Air Command had three squadrons. Three of the USAF ADC squadrons had no aircraft or crews -- leaving a total of 70 operational squadrons.

At the end of December 1957, there had been 86 regular interceptor squadrons, of which 12 had no aircraft or crews. This left a total of 74 operational squadrons or four more than at mid-1958.

The 70 operational squadrons were equipped with the following types of aircraft as of 30 June 1958.

TYPE AIRCRAFT	NUMBER SQUADRONS	OWNING COMMAND
F-102A	22	USAF ADC(incl 1 - 64th ADiv.)
	2	AAC
F-86L	16	USAF ADC
F-89J	10	USAF ADC(incl 1 - 64th ADiv.)
	1	AAC
F-104A/B	2	USAF ADC
F-89H	2	USAF ADC
F-89D/F-102A	1	USAF ADC
F-86L/F-102A	1	USAF ADC
F-86L/F-104A	2	USAF ADC
F-102A/F-104A	1	USAF ADC
F-94C	1	USAF ADC
CF-100 Mk 5	9	RCAF ADC
TOTAL	70	

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USAF ADC F-104's from Hamilton AFB, California

TABLE 7 INTERCEPTORS AND CREWS

COMMAND	DATE	INTERCEPTORS		CREWS	
		POSS	OPNLY RDY	ASGD	OPNLY RDY
USAF ADC (CONUS)	31 Dec 57	1,381	801	1,782	975
	30 Jun 58	1,292	812	1,657	757
64th Air Division	31 Dec 57	65	46	62	43
	30 Jun 58	60	44	64	57
Alaskan Air Cmd	31 Dec 57	73	32	86	76
	30 Jun 58	80	41	86	81
RCAF ADC	31 Dec 57	162	162	243	231
	30 Jun 58	162	162	225	225
TOTALS	31 Dec 57	1,681	1,041	2,173	1,325
	30 Jun 58	1,594	1,059	2,032	1,120

USAF ADC INTERCEPTOR FORCE*

Status. Thirteen squadrons were lost from the ADC inventory during the first six months of CY-1958. Twelve of these were inactivated:

* See Appendix 6 for a list of USAF ADC squadrons, aircraft, crews and bases.

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42d Greater Pittsburgh	97th Newcastle
53d O'Hare	324th Westover
65th Richards-Gebaur	354th McGhee-Tyson
66th Oxnard	432d Minneapolis-St. Paul
74th Thule	433d Minot
96th Newcastle	469th McGhee-Tyson

And the 497th at Geiger Field, Washington, was transferred to Spain on 20 June 1958.²

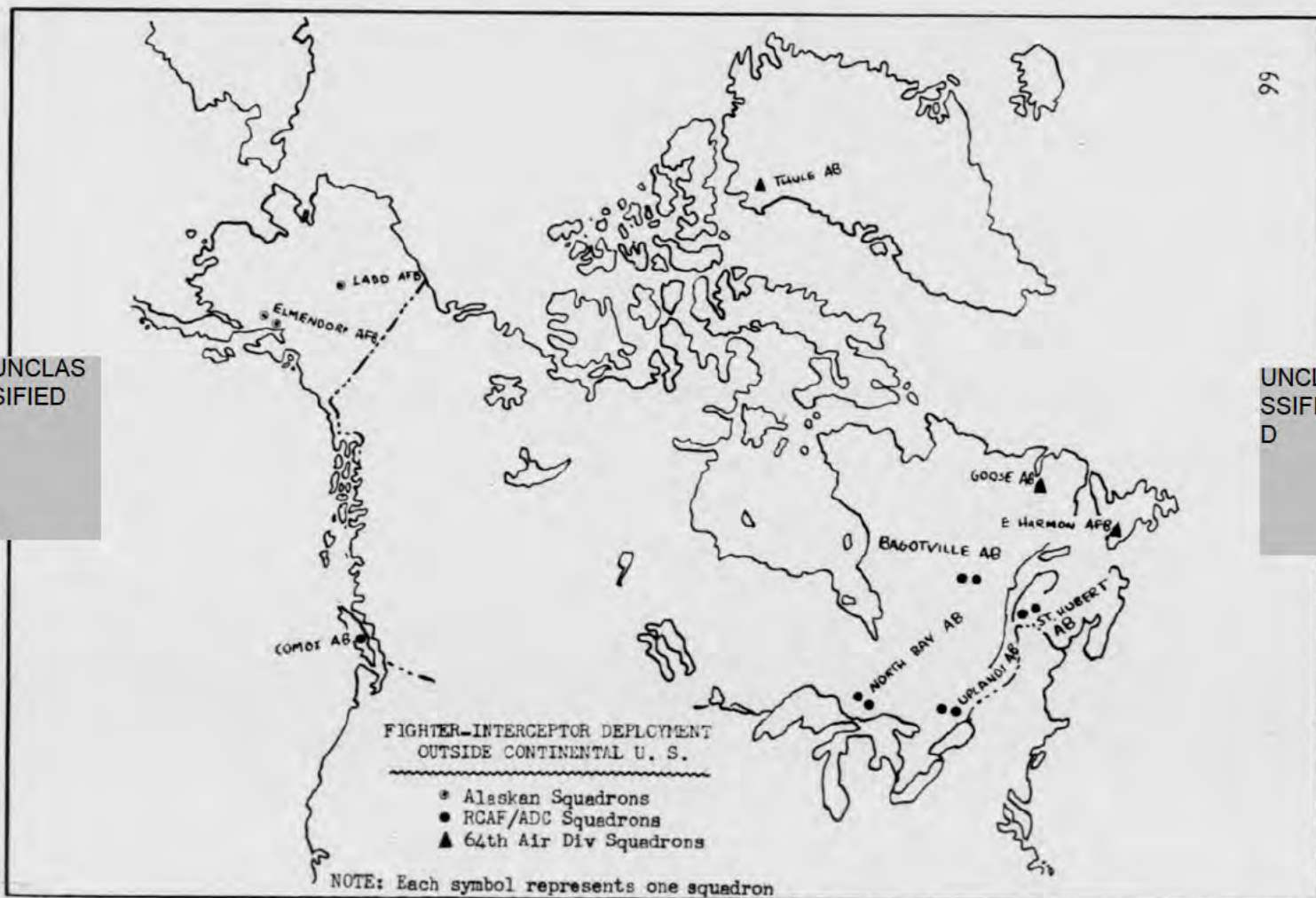
As noted above, only 58 of the USAF ADC squadrons could be used for active air defense operations, for three -- the 46th, 484th, and 518th -- were without crews or planes. The 46th (Dover) was to be inactivated in the first quarter of FY-1959. The 518th (Kingsley) was to be equipped with F-101B's in the third quarter of FY-1959; and the 484th (K. I. Sawyer) was to be equipped with F-101B's in the first quarter of FY-1960.³

Lag in Combat Potential. One problem causing a lag in combat potential was that some aircraft were being introduced into the inventory before they were truly operational. The pressure of tactical requirements had in some cases forced the introduction of aircraft that were not fully tested. This meant that the aircraft had to be returned to the factory or became inoperative awaiting retrofit and modification after reaching the field. Such was the case of the F-102A when first introduced at George AFB, California.

In January 1957, General Partridge had objected to this situation, stating that he expected any weapons allocated to air defense to be combat ready and capable of fulfilling its assigned mission when placed under the operational control of NORAD. However, since the aircraft were already assigned, it was decided to keep them in the system for as much use as possible. The policy adopted by NORAD at that time was for the converting units to be operationally ready 75 days after receipt of the fifteenth aircraft. This required that testing, converting, and alert commitments be met in a relatively short period.⁴

In April 1958, the ADC Fighter-Interceptor Project Office at Eglin recommended that a new policy be adopted for the F-101 and F-106, which would soon be coming into the system. It proposed that the first squadron converting to a new aircraft be given an indefinite standdown. The time would be used to provide uninterrupted

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environmental testing by the unit. A tentative period of nine to twelve months for testing was proposed.

Both ADC and NORAD concurred. It was felt that environmental testing by the first squadron would benefit future converting units and would result in an earlier effective combat capability. The squadron would be relieved from alert commitments, but it was anticipated that its aircraft could be used in an emergency.⁵

SAC Dispersal Project. In January 1958, USAF informed ADC that extensive construction at some eight ADC bases to make them suitable for SAC dispersal operations was necessary.⁶ ADC immediately protested. It pointed out that the units could not be deployed to other locations and still maintain an operational status or fulfill the tactical needs of air defense. "It is recommended," ADC wrote, "that every consideration be given the possibility of planning construction phasing so as to allow operations to continue throughout the construction period."⁷

NORAD was also concerned with this unilateral service action. At the end of January, NORAD told the executive agent that if modification of the runways closed the bases to air defense interceptor operations, the degradation of operational capability was unacceptable. It was recognized, NORAD continued, that SAC needed several bases at which to disperse its aircraft. However, NORAD did not approve any program that would cause a significant reduction, even temporarily, in air defense capability.⁸

But USAF replied that construction for SAC dispersal had to be accomplished. It was fully aware that some mission degradation would result from the construction; however, such degradation would be kept to a minimum. To allow NORAD and ADC every chance to suggest ways and means of reducing this degradation, USAF would send officers from its headquarters and SAC headquarters to Colorado Springs to work out plans for continued operations during the building period.⁹

On 14 February, representatives of the four commands met in Colorado Springs. They were unable to find a way to continue full operations at the bases, however. It was anticipated that seven of the eight bases scheduled for construction would have a limited defense capability during the remainder of CY-1958 and 1959.¹⁰

F-104 Aircraft. The newest addition to the ADC weapons inventory was the F-104A. Three squadrons (the 83d, 56th, and 337th)

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were being equipped with this plane as of June 1958. A total of 52 aircraft and 38 crews were available. However, only 13 of the aircraft and none of the crews were operationally ready. The F-104 was superior to any aircraft in the system in speed, climb, and altitude characteristics and held a promise of giving NORAD a much greater defensive capability.¹¹

64TH AIR DIVISION

The 64th Air Division interceptor force (included above in the USAF ADC forces) was temporarily down to a strength of two squadrons as of 30 June 1958: the 59th at Goose Bay, equipped with F-89J's; and the 323rd at Harmon, equipped with F-102A's.

A third squadron, the 74th, which had been at Thule, was inactivated on 25 June 1958. It was to be replaced by the 327th from George AFB, California. Until this squadron arrived, the Thule alert was covered by the 59th Fighter Flight, using six aircraft (F-89D's) and crews gained from the inactivated unit.¹²

ALASKAN AIR COMMAND

Status. As of 30 June 1958, AAC had three squadrons (the same level as on 31 December 1957) located, equipped and manned as shown below:¹³

TABLE 8

TYPE ACFT	AIRCRAFT		CREWS		BASE	SQUADRON
	NO. ASGD.	NO. C. R.	NO. ASGD.	NO. C. R.		
F-102A	52	35	58	58	Elmendorf	31st & 317th
F-89J	28	16	28	23	Ladd	449th

Program. AAC's 31st Fighter-Interceptor Squadron was to be inactivated in October 1958. No replacement was planned as of mid-1958. The F-89J aircraft in one of the remaining squadrons were to be replaced with F-101B's in FY-1962, according to the USAF program (thus leaving F-102's and F-101B's in Alaska).¹⁴

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CINCAL proposed to USAF through NORAD (asking for NORAD's support at the same time) that instead, both of the remaining squadrons be re-equipped with F-106 aircraft.¹³ By having only one type aircraft, support and training would be simplified. CINCAL felt that the F-106 was superior to the F-101B in most respects and, since it would be available the same time, should be programmed. CINCAL proposed that the F-102's be replaced first, followed by the F-89J's. He also proposed that Alaska get F-106's earlier than USAF planned -- in calendar year 1960.¹⁶

NORAD was not convinced that the F-106 was the best choice, however. Available information indicated that the two-engine, two-place F-101B was superior to the single-engine, single-place F-106, especially for operations in remote areas such as Alaska. Also, NORAD's data showed that the F-101B had greater range and therefore could be used to advantage as trailer aircraft against attacks headed for the U. S. or Canada and for policing the DEW line. For these reasons, NORAD asked CINCAL to reconsider his proposal.¹⁷

CINCAL replied in April, pointing out that his information indicated that the F-106 was superior to the F-101B in most respects, including range, when both were carrying the MB-1. He stated also that he was not convinced that the role of Alaskan aircraft should be as "trailers" and DEW Line policing. Instead, he stated, the active air defense of Alaska should be identification of unknown tracks and the destruction of aircraft identified as hostile. Again he requested CINCNORAD to support the proposal.¹⁸

In the meantime, NORAD had obtained the latest test results on the F-101B and the contractors proposal for extending the range of the F-106. This new information confirmed CINCAL's position. NORAD now agreed to support CINCAL's proposal and on 28 April informed USAF that it concurred in CINCAL's interceptor program.¹⁹

USAF did not agree, however. It stated that the original program was sound. The program had been based on the following factors: (1) the F-101B and F-106A were generally comparable in performance, but the F-101B was superior in range and endurance which was important for Alaskan operations and (2) it was considered inadvisable to program follow-on aircraft of the two-place variety in view of training and logistical considerations. As for later programming, USAF planned to deploy one squadron of F-108 aircraft in the 1967 time-period as follow-on aircraft to the F-101 and F-102 squadrons.²⁰

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On 11 June 1958, NORAD again asked USAF to reconsider its decision. NORAD pointed out that the latest comparative performance data between the two aircraft did not indicate a serious difference. "Unless there are overriding considerations," NORAD continued, "it is requested that deployments planned for Alaska be reconsidered and programmed in support of CINCAL's position."²² USAF replied on 25 June that it was reconsidering the proposal and would advise NORAD of any future changes.²³ USAF's answer was relayed to CINCAL.

Meanwhile, AAC was considering another program change. As mentioned above, the 31st Fighter Interceptor Squadron (F-102A's) was scheduled for inactivation in October 1958. This would leave the Alaskan theater with only two squadrons -- one with F-89J's and one with F-102A's. AAC felt that this reduction would leave its operating level too low. It proposed keeping the 31st's aircraft and some of its personnel to augment the remaining two squadrons and provide additional aircraft needed to maintain its advance bases (i.e., Galena, King Salmon).

NORAD was informed of the proposal in July 1958. Informal information in the headquarters indicated that AAC proposed to keep 13 F-102A's for the 317th at Elmendorf and 13 for the 449th at Ladd. In addition, approximately 300 of the 500 personnel in the 31st would be reassigned to the augmented units. AAC planned to keep these aircraft and crews under a flexible U. E. table set forth by USAF in June 1958. This flexible U. E. was defined as "...a unit without a fixed number of aircraft, but whose aircraft and personnel may vary in accordance with the unit's need for the total requested and the installation's capability to support same."²³

NORAD gave tentative support in principle to the plan by telephone, but requested more information for further study pending its final decision.²⁴

RCAF AIR DEFENCE COMMAND

As of 30 June 1958, operations in Canada were carried out from five bases by nine all-weather interceptor squadrons, each equipped with 20 aircraft. Two of the aircraft at each unit were CF-100 MK3D's, used for instrument training. The other 18 were CF-100 MK5 aircraft, used for operations. Four of the RCAF stations -- Uplands, St. Hubert, Bagotville, and North Bay -- had two squadrons each, while Comox had a single squadron.²⁵

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AUGMENTATION FORCES

TABLE 9 AUGMENTATION AIRCRAFT TOTALS REPORTED

	USAF	U.S. NAVY	ANG	RCAF ADC	RCN
31 Dec 1957	1,564	1,246	1,227	Equiv. of two Sqdns.	8
30 Jun 1958	1,530	965	1,091	U/E of 91	Acft as Avail.

USAF Augmentation. Of the total force of 1,530 aircraft available on 30 June 1958, 825 belonged to TAC (467 were reported operationally ready) and 705 to ATC (268 were reported operationally ready). Of the ATC aircraft, 11 detachments of 16 aircraft each were to be deployed to augment weak areas, the remaining aircraft were to be used in place. The TAC aircraft were all to be employed in place.¹⁶

Air National Guard. As of 30 June 1958, the ANG reported a total of 1,091 possessed aircraft, with 691 operationally ready. However, there were actually more aircraft than reported, for several squadrons were at summer camps and did not report. In all, there were 54 squadrons each with a U/E of 25 aircraft, or a total of 1,350 aircraft, that could possibly have been used in air defense.*¹⁷

In May 1958, USAF proposed changing the mobilization assignments of ANG squadrons. ADC had a total of 55 squadrons assigned to it, 42 all-weather and 13 day fighter squadrons. Another 12 ANG day fighter squadrons had a mobilization assignment to TAC. USAF felt that all 25 day units could be most effectively employed if they were equipped, organized and trained as tactical fighter units and given a mobilization assignment to TAC. Both TAC and ADC approved the transfer.

NORAD also approved, stating that the ANG day fighters had a

* There were 55 squadrons with a mobilization assignment to ADC, but one squadron, in Puerto Rico, was not available at that time.

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limited capability in an air defense role. And it felt that the 13 ADC-assigned units could best be utilized by TAC.²⁶

U. S. Navy. At the end of December 1957, the figures for Navy augmentation showed 1,246 Navy and Marine fighter aircraft. The total for 30 June 1958 was 965. The difference of 281 aircraft resulted from extensive conversion and normal deployment programs.

The 965 Navy and Marine planes were grouped into three categories: 403 Fleet aircraft, 410 Training aircraft, and 152 Reserve Training aircraft.²⁷

Canadian Augmentation Forces. The RCAF ADC had two sources for augmenting its regular fighter forces in an emergency. These were: ADC training stations at Chatham and Cold Lake and the Royal Canadian Navy (RCN). The Operational Training Unit at Chatham had a Unit Establishment (U/E) strength of 56 Mk 5 Sabre aircraft and an average of 36 experienced crews. The Cold Lake training station had a U/E of 45 CF100 Mk 4A aircraft and an average of 20 experienced crews. Upon declaration of an Air Defense Readiness, both base commanders were to bring the maximum number of aircraft to a combat ready state, man them with experienced staff crews or the most experienced crews available and await orders from the AOC ADC. The aircraft at Chatham were to operate from their home base, those at Cold Lake were to deploy upon orders from the AOC ADC.

The RCN forces were to consist of Banshee aircraft from the Atlantic Coast. These aircraft were to be provided on a "when available" basis for combat operations in the 2d Sector under the operational control of the sector commander.³⁰

REGULAR ARMY AIR DEFENSE WEAPONS STATUS

As of 30 June 1958, the number of Regular Army air defense missile and gun battalions totalled 63; ARADCOM had 61 (60 in the continental U. S. and one in Thule) and U. S. Army, Alaska had two. Of the battalions in the U. S., 58 were Nike (equivalent in fire power to 61) and two were Skysweeper.³¹

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TABLE 10

	DECEMBER 1957		JUNE 1958	
	NIKE BTRYS	SKY BTRYS	NIKE BTRYS	SKY BTRYS
AV NO ASGD	Ajax 244 Hercules 0	9	Ajax 242 Hercules 2	6
AV NO ON SITE	Ajax 244 Hercules 0	9	Ajax 242 Hercules 2	6

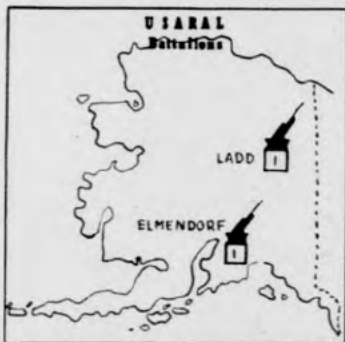
OUTSIDE CONTINENTAL UNITED STATES

AREA	DECEMBER 1957		JUNE 1958	
	UNIT	WEAPON	UNIT	WEAPON
THULE	549th Bn	90 mm	549th Bn	90mm
	428th Btry (L)	75 mm*		
	429th Btry (L)	75 mm*		
	* Inactivated 15 May 58			
ALASKA	96th Bn	120mm	96th Bn	120mm
	Ft Richardson			
	502d Bn Ladd	120mm	502d Bn	120mm

USARADCOM

The U. S. Army Air Defense Command program objective for FY-1958 was to obtain 60 on-site Nike Ajax battalions and one on-site Nike Hercules battalion. As of 31 December 1957, ARADCOM had 58 Nike Ajax battalions (244 fire units) on site, which in fire power was considered by ARADCOM the equivalent of 61 battalions. By 1 July 1958, ARADCOM still had 58 battalions on site, but had converted the equivalent of one battalion (four batteries) to Nike Hercules.³² Of these Hercules batteries, all but one was operational on that date.

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ARADCOM accomplished the above by converting one battery to Nike Hercules in each of four key defense areas: New York, Washington-Baltimore, Chicago, and Philadelphia.³³ The one Hercules battery not yet operational on 1 July, which was located at Philadelphia, was expected to become operational in September 1958.

At the end of December 1957, USARADCOM's Regular Army on-site gun and Skysweeper battalions had been virtually eliminated. All of the active gun units had been dropped, leaving only three on-site Skysweeper units -- two at Savannah River and one at Sault Ste. Marie. On 15 February 1958, the 478th Skysweeper battalion at Savannah River was deactivated, leaving but two operational Skysweeper units by June 1958.³⁴

ARADCOM's Nike program called for 70 battalions (an addition of nine) by the end of FY-1959. The 70 battalions would include 43 Nike Ajax and 27 Nike Hercules. Of the 27 Hercules battalions programmed for FY-1959, 18 battalion equivalents (72 fire units) were to be formed by converting existing Ajax sites, the remaining nine would be activated in new defense areas (including one battalion in Greenland).³⁵

ARMY NATIONAL GUARD

Until October 1957, the Army National Guard Task Force Organization had been placed in two separate categories: (1) 101 firing batteries organized into 29 battalions with an active on-site status, and (2) 82 battalions with an M-Day assignment to ARADCOM.

In October 1957, the on-site gun mission of the 101 batteries was withdrawn by Department of the Army (D/A). By the end of CY-1957, D/A had established a new policy that provided for placing Army National Guard (ARNG) units in the on-site missile program. The units formerly used in the on-site gun program were to be reorganized as missile units and placed in a training status from which D/A expected that 22 battalion equivalents (88 batteries) would emerge by FY-1960 as Nike Ajax units. One unit -- the 720th from California -- had begun training by December 1957 for its future missile role.³⁶

In the first three months of 1958, D/A approved action by the Chief of the National Guard Bureau to reorganize 28 ARNG 90mm gun

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battalions, with a total of 100 firing batteries, as Nike Ajax units. This total was to include units required in the D/A-approved FY-1959-60 force structure and ARADCOM's proposed deployment plan for the same period. The USARADCOM FY-1959-60 Nike Ajax program called for a total of 43 battalions, seven of which would be ARNG units in FY-1959. In FY-1960, another 15 ARNG units were to be added, making a total of 22.³⁷

The proposed on-site missile program brought up a need to revise the means to federalize ARNG units. Currently, ARADCOM had to await a Presidential Proclamation before it could use Guard units. ARADCOM felt that this would prove impractical for the missile units. The missile units were to go on-site beginning in FY-1959 and were to be integrated into the defense where they were deployed. To await Presidential call of Guard missile units, US-ARADCOM pointed out, would be far too slow to meet an attack with little or no warning.

To overcome this delay, ARADCOM proposed that the D/A sponsor legislation which would allow ARADCOM to order the Guard on-site missile units and their personnel into Federal Service when CINC-NORAD ordered an increased alert and specifically requested Guard participation. This would pose no real hardship on the Guard, US-ARADCOM continued, since experience showed that an increased readiness condition was seldom imposed. Such legislation would also lessen the need for negotiating mutual agreements with the appropriate state authorities for alerting, assembling, manning, and ordering to fire of ARNG missile units pending orders placing them into Federal Service.³⁸

In November 1957, USARADCOM had recommended to D/A the elimination of the M-Day program (as noted above, 82 battalions had an M-Day assignment to ARADCOM). It pointed out that since its own gun program had been withdrawn from CONUS defense there was little reason to maintain a force whose mission called for augmenting or replacing active Army gun units. USARADCOM also was of the opinion that a gun-type defense was now obsolete. Therefore, retention of the National Guard units, equipped with guns, would not contribute sufficiently to the air defense effort to warrant the money and manpower needed.

As of 30 June 1958, the ARADCOM recommendation had not been acted upon. The program was still under consideration by the D/A,

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ing in FY-1959. By 1962, approximately 232 batteries were expected to be on-site, which would be about 42 per cent of the Army air defense units. And although the missile units would be organized into 30-minute and 3-hour alert units, they could not be committed in an air battle until after Congressional or Presidential authorization.

To remedy the situation, NORAD recommended that legislative action be taken to provide the Commanders of ADC and USARADCOM with the authority to assemble and use, in an active air battle, members and units of the Reserve forces prior to the declaration of a national emergency and Presidential authorization when in the opinion of CINCNORAD such action was required.

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Chapter VI

Operational Requirements and Procedures

FIGHTER AIRCRAFT ALERT REQUIREMENTS

As of 30 June 1958, there were no alert requirements common to all fighter units in the NORAD system. Alert requirements were established by directives in each area of the system. And the requirements varied considerably. For a comparison of fighter alert requirements under normal preparedness conditions, see the table on the following page. Below is a detailed statement of the requirements within each organization.

USAF ADC. Alert requirements for the USAF ADC interceptor force were established by CONAD Regulation 55-8, 1 March 1957, as amended (55-8A) on 3 June 1957.

This regulation provided CONAD Region commanders with alert minimums. Squadrons operating from bases which permitted interception of aircraft violating ADIZ's and which were under the scramble authority of a direction center having an identification responsibility were to be scheduled for alert. The region commanders were authorized to select squadrons within this area for alert duty.

Squadrons chosen to stand alert were to keep no less than two aircraft on five-minute alert, four on one-hour, and the remaining aircraft that could be operationally ready within three hours on three-hour or higher status. Commanders were to vary the alert pattern within the alert areas to prevent stereotype periods of alert, to keep duplication of ADIZ coverage to a minimum and to insure that a few squadrons in each area were not constantly on alert.

Also, region commanders were allowed to assign alert duty to squadrons outside the above areas for back-up or training purposes.

CONAD Region commanders could allow as many as 20 per cent of all in-commission fighter aircraft to be away on navigational flights, provided that the alert commitments up to and including one-hour had been met.

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COMPARISON OF FIGHTER AIRCRAFT ALERT REQUIREMENTS
(NORMAL PREPAREDNESS CONDITION)

TABLE 11 (Figures are requirement for each unit maintaining alert*)

AREA	5 Min	10 Min	15 Min	30 Min	One Hour	Three Hours	Comment
CONUS USAF ADC	2 acft			MB-1 equipped sqs only. 2 ac with 1 MB-1 ea or 1 with 2 MB- 1's	4 acft (MB-1 equipped sqs 30% op rdy ac	Remaining acft operationally ready	Alert by squadron
Canada RCAF ADC		1 acft			5 acft (Chatham - 4 acft)	Cold Lake only - 6 acft	Alert by sqdn/base. Rqmts at 2 sqdn bases doubled
Alaska	2 acft		2 acft		4 acft (10th Div only)	Remaining acft operationally ready	Alert by division
Canada 64th Div	2 acft		2 acft (after trng hrs)		8 acft during trng hrs 6 acft after trng hrs	Remaining acft operationally ready	Alert by base
Thule	2 acft		2 acft (after trng hrs)		6 acft during trng hrs 4 acft after trng hrs		
CONUS ANG	2 acft				1 acft		
CONUS USN	2 acft						
CONUS ATC	2 acft						

* Not all squadrons of each organization were on alert; for specific requirements, see text under each heading.

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Special alert requirements for the employment of the MB-1 were prescribed in 1957 (additional provisions were made in March 1958). The alert condition specified for normal preparedness required all MB-1-equipped squadrons to maintain two aircraft without MB-1's on five-minute, two aircraft armed with one MB-1 each or one aircraft armed with two MB-1's on 30 minute, and 30 per cent of the remaining operationally ready aircraft on one-hour alert status. But no aircraft could be scrambled with MB-1 weapons attached during a Normal Preparedness condition.¹

U. S. Augmentation Aircraft. At the end of December 1957, there were a total of 19 Air National Guard (ANG) fighter-interceptor squadrons standing alert in the United States. The alert squadrons on active air defense operations were to keep two planes on five-minute alert 14 hours per day. The normal schedule was one hour before sunrise to one hour after sunset. If this schedule went over 14 hours, an alternate was to be followed which stipulated that the aircraft were to begin one hour before sunrise and continue to 14 hours later.³

To the above, provision was added for certain ANG units to stand alert 24 hours a day. ADC Operations Plan, 15 April 1958, stated that a 24-hour alert had been instituted to further increase the ADC identification capability and augment the regular interceptors in various locations. Selected units of the ANG were to provide two aircraft and aircrews for five-minute readiness 24-hours per day, 7 days a week. In addition, two aircraft and aircrews were to be designated for one-hour back-up. On 30 June 1958, the total number of ANG units standing the 14-hour alert was 16. And one unit -- the 124th at Fargo, North Dakota -- had begun standing the 24-hour alert.⁴

Two additional units standing alert not covered by the CONAD regulation, were a Navy unit at San Diego and an Air Training Command unit at Perrin AFB, Texas. Both kept two aircraft on five-minute alert around-the-clock.⁵

Canadian Interceptors. Alert commitments for the Canadian interceptor forces were stated by RCAF ADC Operations Plan 1/58, 1 January 1958. At four two-squadron bases (St. Hubert, Bagotville, Uplands, and North Bay), the normal alert required was that 24 hours per day there be two CF-100's on ten-minute readiness and ten on one-hour. At Comox, a single-squadron base, the requirements

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were for one aircraft on ten-minute and five on one-hour. Over and above the ten-minute commitment, a minimum of six aircraft at two-squadron and three at one-squadron bases were to be kept loaded but unarmed.

A training base at Chatham was required to keep four Sabre aircraft on one-hour readiness from dawn to dusk. A second training station -- Cold Lake -- was to maintain six CF-100 aircraft at three-hour readiness.

The navy was to maintain a daylight alert with Navy Banshee aircraft as available at Shearwater, located outside of Halifax.

RCAP ADC station commanders were given some latitude in determining how the alert states were met. All aircraft except those on ten-minute readiness could be employed on squadron training. Scrambled aircraft were to be replaced by readiness aircraft allocated for training or held in reserve.

Readiness states were to be raised only if an Air Defense Readiness were announced. Stations commanders at the regular interceptor squadron bases were then to take immediate action to bring the maximum number of aircraft to a combat ready state, have all personnel, who could be contacted, report for duty as quickly as possible, and place the maximum number of aircraft and crews on the highest state of readiness that could be sustained. The station commanders at Cold Lake and Chatham were also to bring the maximum number of aircraft to a combat ready state.⁶

64th CONAD Division. The alert requirements for Goose and Harmon, according to the 64th CONAD Division Air Defense Plan 1-57 as amended by change 1 dated 25 March 1958, were as follows.⁷ At both bases, during normal training hours, two aircraft were to be maintained on a five minute alert, eight aircraft on a one-hour status, and the remaining aircraft that were operationally ready (to include non-operationally ready-flyable) on a three-hour status. During non-training hours, the bases were to keep two aircraft at five minute readiness, two at 15 minute, six at one hour, and the remaining operationally ready (to include non-operationally ready-flyable) at three hours.

In the event of scrambles during normal training hours, the scrambled aircraft were to be replaced either by the operationally ready aircraft allocated for training or by the aircraft on one-

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NORAD INCREASED READINESS

Because of the Middle East crisis the executive agency directed CINCONAD on 15 July 1958 (at 1925Z) to assume an alert condition of Increased Readiness with its U. S. forces as prescribed by applicable portions of CONAD Regulation 55-3.¹⁰ The Increased Readiness state called for by the regulation was defined as follows: "Any degree of preparedness greater than Normal Preparedness but less than Air Defense Readiness whereby measures are instituted to provide increased air defense potential against an unknown or doubtful threat."¹¹

At 2100Z on 15 July, this "Increased Readiness" condition was placed in effect by NORAD. The directive was levied not only on the U. S. forces of NORAD, but also the Canadian RCAF ADC. Since the provisions of the CONAD Regulation were not applicable to the Canadian element, the RCAF ADC arbitrarily doubled its normal alert commitment to carry out the desired condition of preparedness.¹² At the same time, NORAD headquarters was placed on "Increased Intelligence Watch."¹³

On 15 July, NORAD stepped up the alert for its U. S. forces as follows. Squadrons equipped with MB-1 armament were to maintain a minimum of two aircraft per squadron on 15-minute alert, 50 per cent of the remaining operationally ready aircraft on one-hour, and the rest on a three-hour status. Non MB-1-equipped squadrons were to place four interceptors per squadron on five-minute status, and 50 per cent of the remaining operationally ready aircraft on one-hour alert. All surface-to-air units were directed to place 50 per cent of their forces on 15-minute preparedness and the remaining 50 per cent on a one-hour status.¹⁴

NORAD reduced somewhat the interceptor alert requirement on 22 July in an effort to allow the component commands to continue normal training.¹⁵ On 24 July 1958, NORAD informed the forces that the "Increased Readiness" condition was not to hamper normal training and test requirements.¹⁶

On 26 July, the alert minimums were lowered even further and on 1 August NORAD directed a return to a "Normal Preparedness" condition. The Increased Intelligence Watch was continued at NORAD headquarters until 11 August 1958.¹⁷

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NUCLEAR DETONATION REPORTING (NUDET)

Interim procedures for reporting nuclear detonations on the North American continent to Headquarters NORAD were established by letter instructions on 8 March and 12 June 1957. The provisions of these letters were rescinded on 17 April 1958 and all agencies were instructed to follow the provisions of NORAD Manual 55-1 -- NORAD Combat Surveillance and Tactical Action Reporting Procedures.³⁴

The manual required that NORAD forces report all nuclear and thermonuclear explosions occurring in or adjacent to the United States, Alaska, and the Canadian areas as a result of enemy action. The system was to remain in effect until an adequate remote reading Indirect Bomb Detonation Detection System became available.

Reports were to be forwarded immediately to appropriate air defense agencies. All NUDET reports were to be sent over normal surveillance reporting circuitry when received by an air defense agency. Duplication in the reporting of detonations was to be eliminated by the filter centers, DC's, and CC's, which were to screen and evaluate the reports before forwarding to NORAD headquarters.

ALERT NETWORK NUMBER 1

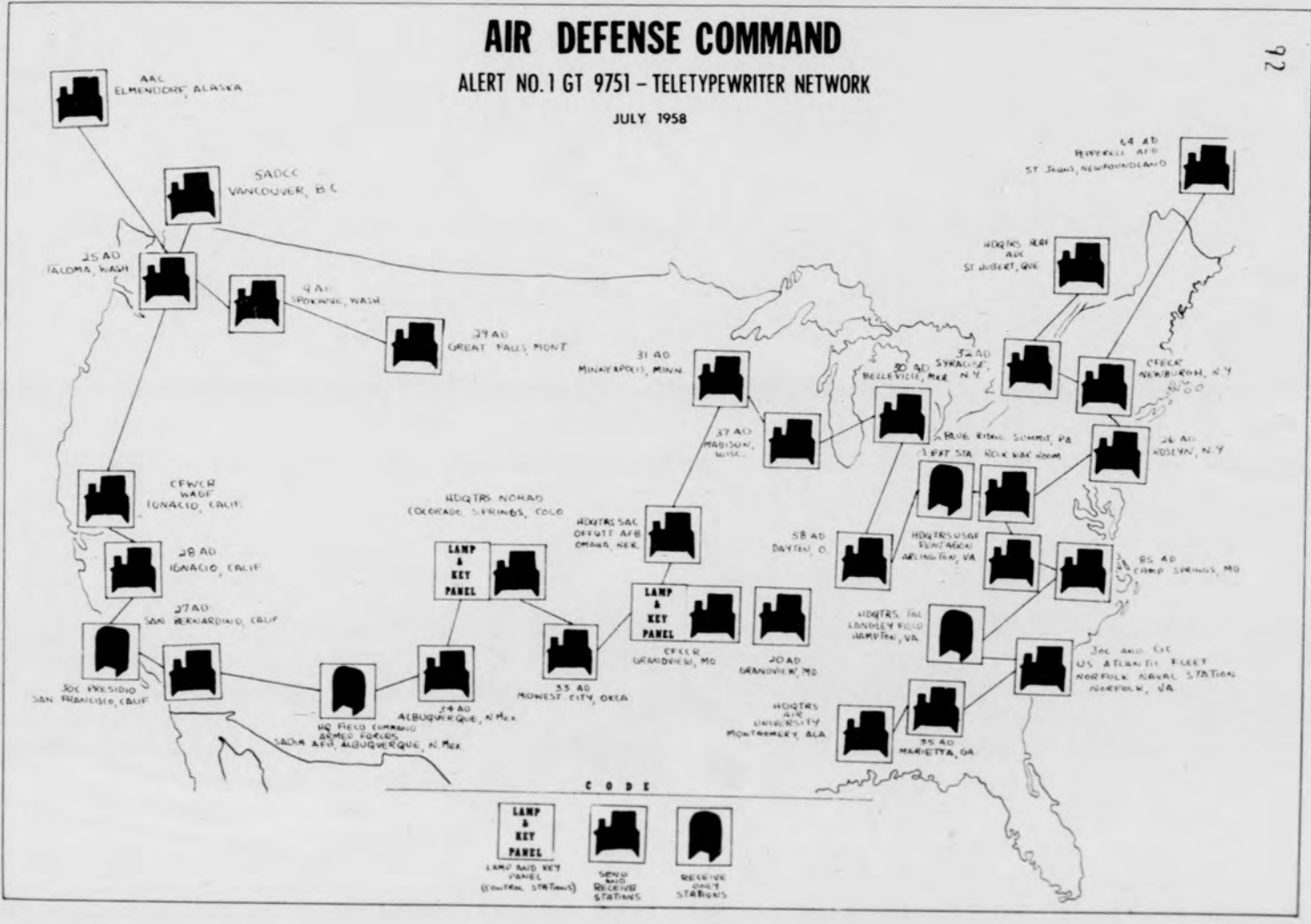
On 1 July 1958, a new Alert # 1 network was placed in operation (the old network was to remain in operation as a back-up until 1 August 1958). The new network connected NORAD on 1 July 1958

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AIR DEFENSE COMMAND

ALERT NO. 1 GT 9751 - TELETYPEWRITER NETWORK

JULY 1958



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with 33 stations that required air defense alert and warning information. This included such agencies as major commands, air divisions, regions, and the USAF Command Post. Only 29 of the stations operating on 1 July were both transmit and receive stations, the other four (TAC Headquarters, Sandia Base, ADCC (Blue Ridge Summit), and the Presidio of San Francisco) were receive-only stations.³⁵

An advantage of the new system was that it gave NORAD the ability to tell which stations received its alert messages and which did not. The new TTY circuits had a built-in automatic sequential authenticator that furnished this information. Previously, NORAD had no knowledge of the effectiveness of its alerting system unless the COC personnel telephoned each individual receiving station. The new system also had two master stations -- NORAD Headquarters and the ALCOP at Richards-Gebaur AFB. This feature permitted the ALCOP to assume operations of the network and carry on with the alert procedures should NORAD become a war casualty. Finally, the new system cut the time required to send and authenticate from approximately eight or nine minutes to about one and one-half minutes.³⁶

There were other features of the new network that were not so satisfactory, however. NORAD had submitted a list of requirements to ADC which would provide the COC with greater flexibility in the operational use of the alert net. The new system did not have a break-in feature that would permit the COC to take control of the network at any time and transmit over it. If some other station happened to be sending, the COC had to wait until the station finished transmitting and all authentications received before it could send. Another feature lacking on the new system was selective calling. NORAD wanted the network modified so that the NORAD COC could call any single station or combination of stations and so that the Region COC's could call the NORAD COC and all divisions in their areas.³⁷

CONTROL OF ELECTROMAGNETIC RADIATIONS (CONELRAD)

In January 1958, the Executive Agency informed NORAD that there was considerable opposition to CONELRAD outside the Department of Defense (DOD).³⁸ It was the contention of that opposition that the use of thermonuclear weapons and sophisticated weapons delivery systems invalidated the military CONELRAD requirement. ADC, the Executive Agency continued, had stated that the CONAD-ADC position

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was that the military requirement was still valid. USAF wished to know whether NORAD still considered the CONELRAD requirement valid. NORAD replied that CONELRAD was a necessary requirement "for the foreseeable future."³⁹

In regard to future CONELRAD requirements, NORAD stated that in a national emergency all radiating devices which did not directly contribute to the defense effort and necessary national operations, should shut down so as to reduce interference with missile tracking and control, fighter-interceptor control, early warning, and defense communications.

Shortly after NORAD had stated its position, DOD, FCC and FCDA signed a new memorandum of agreement on CONELRAD. This memorandum established the separate responsibilities and functions of each agency in controlling electromagnetic radiations in an emergency.⁴⁰ At mid-1958, the DOD was working on a new CONELRAD plan.⁴¹

OPERATIONAL LINES FROM SAC CONTROL TOWERS TO ADDC'S

A review by NORAD of the procedures for safeguarding Strategic Air Command aircraft aborting within Nike missile range of SAC take-off bases turned up a problem. NORAD felt that existing procedures did not give SAC planes returning to their bases sufficient protection from being fired on by the Nike defense unit. On 21 January 1958, NORAD instructed the regions to study the feasibility of running a direct line from the SAC control towers to the nearby AADCP's.⁴² This would give the Nike defense commander immediate knowledge of the abort and the direction the returning plane would take.

Both Eastern and Central Region agreed on the need for such a line, but both recommended that the line terminate at the ADDC instead of the AADCP.⁴³ Their objections to termination at the AADCP were similar: (1) it would divide the identification function between the AADCP and the ADDC and the latter had primary responsibility for identification, and (2) it would divide the operational control of NIKE batteries, which should remain in the NORAD chain. Western Region stated that it had no requirement for such a circuit.

NORAD agreed with Eastern and Central and on 2 June directed the establishment of a direct land-line circuit between ADDC's and

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SAC facilities.⁴⁴ At the ADDC's, the circuits were to terminate at the AMIS; at SAC bases, they were to terminate in the form of a loop circuit to include the control tower, base operations, and the wing control center. Also, NORAD stated that special air-to-ground communications procedures between an aircraft and a DC might be necessary and that this should be worked out at the operating level.

ECCM

In early 1958, RCAF ADC informed NORAD that it was considering establishing an Electronic Warfare Unit to provide simulated operational conditions for training its aircrews and fighter controllers in ECM and ECCM. However, before planning progressed further, it needed information on NORAD's planned activity and ECM-ECCM standards.⁴⁵ This information was immediately provided. NORAD also stated that following approval of its terms of reference, it planned to invite the RCAF ADC to appoint members to the NORAD Electronic Warfare Committee.⁴⁶ This committee had as its function exchanging ECCM information, formulating ECCM policies, and coordinating the ECCM program within the NORAD components. Finally, NORAD forwarded a copy of the manning documents being used by the Radar Evaluation Flights in the U. S. as a guide for the new unit.

On 1 April 1958, the RCAF ADC Electronic Warfare unit began operations with three C-119's and one CF-100 at RCAF Station St. Hubert.⁴⁷

NORAD attempted to strengthen its own ECCM program on 24 April when it sent a request to the Executive Agency for more modern ECM aircraft for training.⁴⁸ It pointed out that the NORAD ECCM training requirements could not be met by any command or combination of commands in existence. The SAC-ADC training missions and the ADC radar evaluation flights were valuable, but neither met the NORAD requirements in quantity or quality. Further, it appeared that as programmed ECM and ECCM equipment and techniques (including the FD plan) came into the NORAD ground environment, the training program would get even weaker. The SAC aircraft would have to remain in their EWP ECM configuration and might not have the capability for jamming the broad frequency bands, while the ADC radar flights would be using outdated equipment and aircraft to provide training.

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"For USAF ADC, RCAF/ADC, USARADCOM and U. S. Navy Defense Forces of NORAD to realize an effective ECM/ECCM training program," NORAD stated, "it is imperative that a training force be established within the NORAD operational structure which will fulfill current defense and future frequency diversity radar programs."⁴⁹ NORAD recommended that USAF give further reconsideration to equipping the USAF ADC radar evaluation flights with high-speed, high-performance aircraft, such as the B-47, the turbo-prop C-131, or the Lockheed CL-329 Jetstar.

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Chapter VII

Exercises

EXERCISE FIR FLY

In order to evaluate the capability of each air defense element to carry out its function and the capability of the entire system, NORAD planned a two-phase exercise. The first phase was to test the first three functions of the system -- detection, interception, and identification. Phase II was to test destruction, using drones as targets.*

Phase I planning had been completed by December 1957. Naval planes, operating from both carrier and shore bases, were to join SAC faker aircraft in penetrating the 28th CONAD Division area on 10 January. This phase would provide NORAD with an opportunity to evaluate tactical actions against saturation attacks of short duration.

Preparation for Phase II had run into a serious snag, however. No suitable target drone could be found that would provide realistic firing tests. At one time, NORAD had planned to use a Navy Regulus I missile. However, during tests conducted on the west coast, this missile could not be adequately carried by the surveillance system.

The search for a target drone continued even as tests of the Regulus were being run. ARADCOM, ADC and USAF were asked to help, but a suitable drone was not turned up. Therefore, NORAD cancelled Phase II.²

Phase I was run as scheduled. On 10 January, 12 SAC E-47's and 25 Navy fighters were launched as strike waves at various altitudes (50 feet to 50,000 feet) and speeds (150 - 680 knots). Nine of the SAC planes were detected and tracked, with 13 MA's

* For background on the planning, see CONAD/NORAD Historical Summary July-December 1957, pp 91-92.

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(missions accomplished) reported by the interceptor force. Only four of the Navy attackers were continuously detected and tracked, with nine fighter MA's accomplished. One problem, which held down the MA rate, was that Army air defense units were kept on a "Weapons Tight" status by the 28th Division during the exercise. Another shortcoming was poor use of combat air patrol. In a summary of the exercise, Commander Eugene C. Smith, Chief of the NORAD Training and Exercise Branch, stated that "it appeared that the defense system successfully defended against conventional attacks...but was unsuccessful...against not too frequently practiced, though realistic, type attacks."³

Two items of interest for future exercises were brought to NORAD's attention. First, the 28th Division and Western Region recommended relocating portions of the contiguous system further seaward to take advantage of greater detection and control capability. This would permit joining the air battle as far as possible from the target area and would permit more effective long-range utilization of such aircraft as the F-89J. NORAD had already considered relocating the seaward elements, but ultimately decided against it.

Second, the field units considered Navy fighter aircraft to be unrealistic targets for testing the air defense facilities. This complaint stemmed from the fact that the aircraft used IFF, which provided considerable detection range and tracking continuity without the use of normal discrimination techniques such as lobe selection, MTI, video gain and range slew. Use of IFF by friendly and faker forces caused identification confusion when both interceptors and targets were in the same area since they all presented the same return on the ground radar scopes. NORAD recognized that the use of IFF by faker aircraft was not fully realistic. But it felt that the factors of speeds, altitudes, tactics, target approaches, distances penetrated, and targets overcame this unrealistic aspect.⁴

As noted above, shortly after NORAD discovered that a drone would not be available it cancelled Phase II. NORAD asked USAF ADC to place more emphasis on improving radar performance against high-speed targets of small reflectivity, such as Soviet cruise-type missiles.⁵

ADC replied that the basic USAF documents guiding development and improvement of ground environment (GOR's 79 and 97) specified a

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capability to detect targets of small radar cross-section, based on the cruise-type missile threat.⁶ Also, theoretical performance of proposed and programmed equipments for the future inventory indicated that these specifications would be met. ADC had gone further, however.

On 23 January 1958, it asked ARDC to verify the ability of the programmed FD radars to detect cruise-type missiles. And Lincoln Laboratory and the 4620th ADW were preparing an exercise to determine the capability of the AN/FPS-20 and AN/FPS-31 to operate against small targets in a SAGE sector. Eastern Region was also to assist in the test. Exercise results had not been determined at the end of June.

SIMULATED SUBMARINE-LAUNCHED MISSILE EXERCISE (OCEAN WAVES)

Another exercise planned in 1957 and carried out in 1958 was OCEAN WAVES. The objectives of this exercise were to determine air defense system capabilities against simulated submarine-launched missiles and to obtain training. It was run on 3 March 1958.^{*7}

Five carrier-based aircraft in three separate waves attacked the industrial, population, and military complexes of Norfolk, Virginia, which was defended by forces of the 85th CONAD Division. Wave I consisted of two F-4D Navy fighters that climbed to 50,000 feet, flew at maximum speed to the target area, and made a verticle dive attack. Wave II aircraft flew a ballistic flight profile (i. e., made a constant climb to 50,000 feet midway between the carrier and the target and then a constant descent on the target). The third wave was a single A-3D conducting a low level attack at 500 feet from ship to shore.^h

Waves I and II were detected, tracked, and declared destroyed.** Wave III escaped detection, however, which emphasized that the low level attack posed a serious threat against the defense system.

* For background see CONAD/NORAD Historical Summary July-December 1957, pp 91-92.

** Wave II was detected and tracked by the AA defense only.

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Also on the debit side of the ledger were the following: poor use of height-finding equipment; unsatisfactory detection, tracking and intercept control by AEW&C aircraft; and a low number of MA's achieved by CAP interceptors resulting from poor employment by direction center controllers.⁵

To correct these deficiencies, NORAD recommended that: (1) direction centers emphasize training in fighter tactics, particularly as they applied to air augmentation units; (2) more emphasis (including increased training) be given to picket ship control of fighters; and (3) greater use be made of CAP and seaward interception tactics.

The exercise objectives were achieved, however. And in its evaluation of the exercise, NORAD found many satisfactory aspects: the YAGR USS SKYWATCHER, using recently acquired SPS-17 radar equipment, was able to make long-range initial detections, and forward-told to its prime shore-based radar excellently; acquisition, tracking, and simulated destruction by Army air defense units at maximum weapons range was outstanding; and the tactics of employing fighter-interceptors on airborne station (CAP) and engaging faker tracks as far seaward as possible within the contiguous cover were determined to be sound. NORAD considered the training received from these exercises to be invaluable and wanted future missions of a similar scope.⁶

According to an exercise observer report, the results of OCEAN WAVES indicated that the air defense system had the capability to detect, track and intercept small, high-speed targets to an acceptable degree." Just prior to the exercise, representative elements of the system had failed to track a "clean" Regulus I missile. But in OCEAN WAVES, similar elements were tracking F-4D aircraft with a DB (Decibel) rating of a -14 which compared favorably with the Regulus I (DB of approximately -20) under controlled conditions. No significant differences in the test pattern existed and the phenomena could not be explained.

SAC-NORAD/CONAD ECM EXERCISES

April 1957 marked the start of a series of monthly ECM exercises between SAC-CONAD forces. These monthly exercises were designed to provide training to both commands. For CONAD, the missions

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provided system ECM training and evaluation. SAC was able to test its offensive tactics against a realistic defense. And, as an added bonus, USAF ADC and RCAF ADC were provided training in counter-acting ECM.¹²

Nine months of testing had been completed by December 1957. In this period, it was determined that the missions were most valuable from a training and experience viewpoint. The exercises provided excellent evaluation of certain portions of the air defense system. But certain other portions were not so well tested. For one thing, SAC was unable to effectively jam S-band radars operating above 3250 megacycles. This precluded thorough evaluation of Army Nike unit effectiveness. Also, in November 1957, SAC pulled its only ECM wing (the 376th Bomb Wing) out of the tests. This made it necessary for bomb wings to provide the ECM on the test missions. This restricted ECM training because the bomb wings had only limited ECM equipment and experience.¹³

The exercises were stopped completely in February 1958, however, following a collision between a SAC B-47 and an ADC F-86. Investigation revealed that established training procedures had not been followed. But SAC refused, on 5 February, to permit further fighter attacks against its aircraft.¹⁴ This prevented any possibility of further ECM exercise activity of a realistic nature which included fighter-bomber affiliation.

NORAD immediately tried to lift the restriction, pointing out to SAC that the training procedures had been used for many years and that there had been thousands of uneventful fighter attacks. SAC felt differently, however. Its investigation of training procedures revealed deficiencies. SAC would not remove its restriction until these were eliminated.

By April, SAC's restriction on training were being felt by the components. RCAF ADC wrote CINCNORAD that: "Canadian air defence effectiveness [is] deteriorating through lack of practice attacks against SAC aircraft. Request your headquarters press for resumption of practice intercepts...."¹⁵ One month later, AAC asked USAF to hold in abeyance an ORI scheduled for its 11th Air Division because "restrictive measures...would completely prohibit testing and evaluating the primary mission of detection, surveillance, and interception of penetrating aircraft...."¹⁶

On 13 May, USAF asked SAC, USAF ADC and NORAD to mutually re-

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solve the fighter-bomber training problems by 30 June 1958. SAC redrafted its training regulation (51-6) and stated that the procedures of the regulation would have to be tested before a final decision was reached. The procedures were to be tested during Weapons System Evaluation Group tests starting on 1 July. On 9 June, USAF extended the resolution deadline to 31 July.⁷

NORAD would not accept the SAC regulation as a solution to the exercise-training problem, however. The revised regulation contained too many restrictive provisions. NORAD felt that exercises and training carried out accordingly would be of negligible value.⁸

SAC's air forces (2nd, 8th, and 15th) joined NORAD in protesting the lack of realism in exercises conducted under the restrictive procedures. The three air forces recommended cancellation of NORAD's upcoming exercise, "Top Hand", unless realistic procedures were used.⁹

In the meantime, members of the NORAD staff met with Tactical Air Command officials in an effort to work out a training program with their forces. One joint exercise (Black Angel) had already been run with TAC forces and the latter appeared the best source until the SAC problem was resolved. The meeting proved successful and plans were being made at mid-1958 for joint TAC-NORAD exercises.¹⁰

WSEG ECM EVALUATION

As noted above, NORAD was interested in obtaining both quantitative and qualitative data from the ECM exercises. In 1957, the NORAD operations analysts designed a test that would provide the desired data. The design had been submitted to SAC for approval in December 1957. SAC agreed to the proposed tests, but it had previous commitments to the Weapons System Evaluation Group (WSEG) and could not participate at that time.¹¹

* USAF ADC felt it could not afford to lose any additional training time and on 30 May, agreed to abide by the provisions of 51-6 until NORAD and SAC agreed upon a final solution.

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In the meantime, the JCS directed the WSEG to evaluate the effectiveness of electronics countermeasures.^{2,3} The directive specified that the evaluation was to: (1) consider ECM effectiveness against all major weapon systems employing electromagnetic radiations; (2) give first priority to the system for the defense of the continental United States; and (3) provide an evaluation of two time periods -- the time of testing and, through extrapolation, a period three years in advance. In preparing its test plan, WSEG was to consult with the chiefs of the services who were to support the test efforts.

The first WSEG tests were begun in February 1958 against the Nike installations at Fort Bliss. These were followed in March and April by tests in the Claysburg, Pennsylvania, area. These preliminary tests were not for evaluation, however. They were used to help WSEG prepare a test design for use in later exercises.

The WSEG evaluation plan called for seven penetration tests against the 37th CONAD Division beginning in August and ending in December 1958. The WSEG tests were similar in scope to those proposed by NORAD and agreed to by SAC, therefore, both commands felt that they should wait until the WSEG evaluation was completed before attempting additional exercises of their own.^{2,5}

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Chapter VIII

Defense Against the Ballistic Missile

ARMY-AIR FORCE RESPONSIBILITY IN ICBM DEFENSE

In January 1958, the Secretary of Defense provided general direction to Army-Air Force development effort in ICBM defense. The Army was directed to continue development of the Nike Zeus program, confining its efforts to the missile and launch system and the acquisition, tracking, and computer components required for an integrated missile system. The Air Force was to continue development effort on the portion of its WIZARD program that pertained to early warning radars, tracking and acquisition radars, communications links between the early warning radars and SAGE, and the data processing components required to form an integrated system.

THE NIKE ZEUS PROGRAM

On 14 February 1958, the Department of the Army provided guidance to appropriate Army agencies on the Nike Zeus effort. DA advised that the Secretary of Defense had directed the Army to continue development of the Nike Zeus as a matter of urgency, but that no decision had been made on an accelerated program proposed by the Army.¹ Therefore, the Army would continue development of the system at a maximum rate consistent with available funds. However, it would continue to plan for early implementation of the accelerated program. DA directed that there be the highest degree of coordination with Air Force agencies working in related fields.

The accelerated program referred to called for three operational batteries by December 1961, thirty by December 1962, and additional batteries thereafter at the rate of seven per quarter.² Currently, 116 Zeus batteries were planned. On 1 March 1958, the JCS advised COMAD that this program had been submitted and requested a proposed deployment plan based on the accelerated program.³

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Studies made at CONAD Headquarters showed that Nike Zeus deployment had to be considered together with all air defense objectives and therefore would be included in the North American Air Defense Objectives Plan 1958-1968 (NADOP 58-68). Because of this, CONAD asked, on 23 April, to defer submitting a deployment plan until proposals for NADOP 58-68 were firm.⁴

The JCS approved CONAD's proposal early in May. But the JCS asked that a deployment plan for the first 16 Zeus batteries be submitted as soon as possible. This had not been completed by 30 June 1958.

INTEGRATION OF ZEUS LOCAL ACQUISITION RADARS WITH SAGE

Investigation by NORAD of the effect of the Zeus system on the air defense system revealed that there would be great duplication of high altitude coverage by the Zeus local acquisition radars and the USAF ADC frequency diversity radars.⁵ If optimum coverage were achieved, NORAD discovered, exactly the same geographical locations would be involved in many cases. This obviously would result in a great waste of money, effort and time. According to current information, 91 local acquisition radars would be required for the 116 Zeus batteries (one radar could feed more than one battery).

Because of this situation, NORAD recommended to the executive agent on 5 June 1958 that the Defense Department study the feasibility and desirability of integrating the local acquisition radars with the SAGE system. In support of its recommendation, NORAD stated that:⁶

Based on tentative Zeus deployment plans, it appears that approximately 75 per cent of the Zeus Local Acquisition Radars could be located at the sites of existing USAF ADC prime radars and serve the requirements of air defense against both the air-supported and ballistic missile threat. If the marriage of the LAR program of the Zeus anti-missile system to the SAGE surveillance network is technically feasible, so doing will prove most beneficial to the electronics ground environment through the air defense system. The economic sav-

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ings alone would represent a significant portion of the air defense budget of the Department of the Army and Air Force.

NORAD made the same recommendation to the Army Chief of Staff and requested DA support of integration of local acquisition radars with SAGE.⁷

BALLISTIC MISSILE EARLY WARNING SYSTEM

On 14 January 1958, a memorandum from the Office of the Secretary of Defense authorized the Air Force to proceed immediately with development of a ballistic missile early warning system.*⁸ The system authorized and planned at that time was for three radar stations, one each in Alaska, Greenland, and Scotland, and a ZI computer central and display facility and interconnecting communications.

The OSD memorandum established priority one for the Greenland station, two for the Alaskan station, and three for the Scotland station. In regard to the Greenland site, the OSD memorandum stated that radars with scanning antennae should be installed with the objective of providing an operational capability by the end of calendar year 1959. The necessary local display, computer, and communications links to NORAD should be provided; and an expedited development program for tracking radars should be started immediately, with installation as soon as the Air Force considered that appropriate designs were available. The objective of the latter was to provide additional capability at the Greenland site before

* This would be Phase I of USAF Weapons System 224A. Phase II of this system was an active system. USAF issued a preliminary operational concept for Phase II on 18 April 1958, which, it said, was for the purpose of providing guidance for preparation of planning documents. USAF described Phase II as a system capable of missile detection, acquisition, tracking, control and destruction or neutralization. The capability for destruction or neutralization would be provided by interceptor missiles. The system would be manned, equipped and operated by the USAF ADC and by the designated Canadian command under the operational control of CINCNORAD.

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there were enough satellite vehicles to confuse the initial early warning system.

USAF informed ADC of its responsibilities for the BMEWS on 4 February 1958.⁸ ADC was to participate in site selection, preparing operations plans, and determining organization of the system; in planning for supervision of initial contractor operation of the system; in planning for eventual ADC manning and operation of the system; and in planning for personnel training. USAF emphasized that this was to be an all-out program. This "system has been directed by the President, has the same national priority as the ballistic missile and satellite programs and is being placed on the Department of Defense master urgency list."⁹

Despite the latter, the BMEWS program ebbed and flowed. On 20 March 1958, USAF advised that OSD authorization permitted the Air Force to proceed only with a radar station at Thule, Greenland, to include scanning radars, computer and display as required at this site, and communications to NORAD.¹⁰ Until further notice, USAF said, obligation of funds had to be limited to this effort. Tracking radars would be continued in development, however.

On 10 May 1958, USAF announced a partial restoration of the program. The Secretary of Defense had directed the Air Force to proceed with implementation on a two-station (Greenland and Alaska) basis.¹¹ Planning for the Scotland station was to continue, but implementation was indefinitely deferred. The two station system was to be funded within a total of \$822 million over a four year period. USAF set operational dates for planning purposes as follows: Thule scanners - September 1960, trackers - September 1961; Alaska scanners - September 1961, trackers - December 1961. The Greenland site was to be at Thule. The Alaskan site was not selected, but was tentatively to be placed in the Fairbanks area. The NORAD computer-display facility was to be phased in to meet operational requirements.

* In January 1958, the Air Force selected the Radio Corporation of America as prime contractor for design, development and construction of the radar gear, on-site communications and for the central computer in the U. S. Western Electric was chosen as prime contractor for BMEWS communications. The system was to meet the requirements of GOR 156, 7 November 1957.

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NORAD COMPUTER-DISPLAY FACILITY

On 10 June 1958, USAF outlined to the Ballistic Missile Project Office in New York, with an information copy to NORAD, preliminary guidelines for establishment of the NORAD central facility.¹² The central facility for NORAD was to service NORAD, USAF ADC, and ARADCOM. BMEWS displays should not be technically integrated with other NORAD COC displays, but should be collocated within the NORAD COC. The BMEWS minimum display should provide for display of warning, impact prediction, and status of major items of equipment at the forward sites. Provisions should be made for take-off of all useful data to give to other users, such as SAC, FCDA, and JCS. USAF asked NORAD to recommend the method and type of presentation, in addition to the above, and to coordinate with other users to determine take-off provisions.

NORAD replied that it agreed that the BMEWS display should not necessarily be technically integrated with the air-breathing threat displays.¹³ But NORAD felt that the growth potential should be such that data on the IRBM threat from the active defense system should be technically integrated into the BMEWS display, especially for the Atlantic and Pacific extensions. NORAD said that its concept for BMEWS operations had been given to ADC for forwarding to USAF. ADC was obtaining from other users their data requirements which would be coordinated with NORAD.

The NORAD concept referred to was a preliminary outline furnished to ADC on 11 June 1958. NORAD stated in this outline that it assumed that the BMEWS data would be sent directly to at least one point in the U. S., the NORAD COC.¹⁴ NORAD looked at the ZI portion of the BMEWS not only as an integral portion of the system, but as the heart of the entire ballistic missile defense system. As such, the NORAD COC should receive data from the BMEWS and all other sources, such as the active Ballistic Missile Defense System and satellites.

The operation of the entire AICBM system must be founded, NORAD stated, upon the premise that practically all tactical decisions would have been made in advance. Thus, certain portions of the data had to flow without interruption to the ultimate users.


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that it had informal information that certain technical parameters "may already be independently at the decision stage without regard to mutual compatibility. This is a matter of the gravest concern to NORAD."¹⁸

LOCATION OF NORAD HEADQUARTERS COMPLEX

The requirement for a ballistic missile defense system display facility at NORAD Headquarters brought renewed action on a long-felt need for a new command post. As stated by General Partridge in a letter to the JCS and CSC on 3 July 1958:¹⁹

It has been recognized for several years that the facilities at Ent are quite inadequate both from a point of view of availability of floor space as well as security. The Combat Operations Center is a concrete block building of extremely light construction and is exposed to the traffic on the adjacent street so that a man with a bazooka passing in a car could put the establishment out of commission.

Back on 7 February 1958, USAF asked NORAD for a decision on the location of the central computer and display facility.²⁰ NORAD replied on 14 February that its first choice was integration with a new NORAD COC underground in the Colorado Springs area.²¹ On 3 March, General Partridge advised the JCS that he considered that NORAD and component command headquarters had to be collocated and adjacent to the COC for rapid assembly of battle staff and joint planning functions.²² General Partridge also stated that the COC had to be hardened to withstand several hundred pounds per square inch overpressure and accompanying earth shock from a thermonuclear blast. The location should be away from other prime targets and convenient to diversified communication routes. However, he asked that a decision be deferred pending completion of a RAND Corporation study of possible locations.

On 23 April, General Partridge informed the JCS that RAND had concluded that location in the Colorado Springs area, with the COC in a readily accessible granite mountain formation, offered the best solution at the most reasonable cost.²³

Earlier, NORAD had recommended informally that the COC be placed underground in either the Rampart Range area north of Colorado Springs or in Cheyenne Mountain south of Colorado Springs.

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Along with the latter, NORAD recommended moving the headquarters to the Army's Fort Carson, also located south of Colorado Springs.²⁴ The Army provided, on 19 May, an interim reply to NORAD's proposal to move the headquarters to Fort Carson. The Army could provide NORAD with administrative support, but it could not foresee the availability of any permanent-type buildings for troop housing and headquarters space. Temporary-type buildings could be made available, however. Permanent buildings would have to be built by the Air Force as executive agent, DA stated.²⁵

In the meantime, USAF concluded that the best location for NORAD was Lowry AFB, Denver, Colorado (which would have quarters vacant because of the move of the Air Force Academy from Lowry to its permanent campus near Colorado Springs).²⁶

On 30 June, the JCS asked CINCNORAD for formal recommendations and justifications for a new headquarters location. Cost estimates were to be included. Criteria were provided for use by NORAD, which were not to be intended to be restrictive, the JCS stated. These criteria were:²⁷

(1) The location of the headquarters should be determined by the optimum location for the hardened COC.

(2) The COC, wherever located, will be a prime target. Consequently, the site should be selected, as far as practicable, remote from other key facilities so, if attacked, a minimum "bonus effect" to enemy would result.

(3) The structure should be designed for an overpressure of not more than 200 pounds per square inch.

(4) The conventional administrative headquarters should be located convenient to the COC site.

NORAD made a preliminary reply to the JCS on 31 July. NORAD recommended that the headquarters complex be located in the Colorado Springs area, with either the Air Force Academy site or Fort Carson preferred as the location.²⁸ Before a firm choice could be made, NORAD said, a detailed survey of the rock formations on the nearby mountains had to be made and also the extent of support which could be given the headquarters by the respective services had to be compared.

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APPENDIX ONE

CANADA-UNITED STATES AGENCIES

PJBD	PERMANENT JOINT BOARD ON DEFENSE, CANADA-UNITED STATES
MCC	CANADA-UNITED STATES MILITARY COOPERATION COMMITTEE
CUSRPG	CANADA-UNITED STATES REGIONAL PLANNING GROUP
MEG	CANADA-UNITED STATES MILITARY STUDY GROUP
CUSSAT	CANADA-UNITED STATES SCIENTIFIC ADVISORY TEAM
CCS-C	USAF CENTRAL COORDINATING STAFF - CANADA
	UNITED STATES-CANADA JOINT CABINET COMMITTEE ON DEFENSE

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PERMANENT JOINT BOARD ON DEFENSE, CANADA-UNITED STATES (PJBD)

The PJBD is a combined Canada-U.S. agency, the U.S. military section of which is jointly staffed and responsible to the Office of the Secretary of Defense and is also a part-time committee of the Joint Chiefs of Staff. The military membership functions as a part-time committee, the members being furnished by the Services. In addition to military representatives, PJBD has a chairman appointed by the President and a representative from the Department of State to handle the government-to-government matters that may arise as a result of PJBD deliberations. One of the military members acts as steering member and maintains an office for the chairman. He is provided two permanently assigned officers to assist in this responsibility. Meetings take place at various locations, primarily in the U.S. and Canada.

Responsibilities. 1. The Board was created by the President of the United States and the Prime Minister of Canada in 1940 and has no formal charter or terms of reference other than a press release, which states:

It will consider in the broad sense the defense of the north half of the Western Hemisphere.

2. The duties of the Office of the Steering Member, U.S. Section follow: a. Maintaining a central office of record for the U.S. Section, PJBD. b. Facilitating Canadian-U.S. liaison on matters within the cognizance of the PJBD. c. Facilitating coordination between the U.S. Services. d. Keeping in close touch with Canadian-U.S. relations.

MEMBERS - UNITED STATES SECTION

30 June 1958

Dr. John A. Hannah, Chairman, Pres., Michigan State University
Mr. Kenneth A. Byrns, Department of State
M/Gen Thomas C. Darcy, USAF, USAF & Steering & Coordinating Member, Mil. Representation, U.S.
M/Gen John C. Oakes, U.S. Army Member
Rear Adm. W. F. Peterson, U.S. Navy Member
Mr. James P. Parker, Department of State, Secretary, U.S. Sec.

ASSISTANTS TO MEMBERS OF U.S. SECTION

Col. J. M. Churchill, USA	Asst to USA Member
Capt. H. T. Johnson, USN	Asst to USN Member
L/Col D. F. Montgomery, USAF	Asst to USAF Member
Mr. James P. Parker	Asst to State Dept Member
Col. N. P. Ward, III, USA	Exec to Steering Member
Col. T. J. Dayharsh, USAF	Exec to Steering Member

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MEMBERS - CANADIAN SECTION

General the Honorable A.G.L. McNaughton, Canadian Army (Ret), Canadian
Chairman
Mr. Paul Trembley, Dept of External Affairs Member (Acting)
Rear Adm. Ernest P. Tisdall, Canadian Navy Member
AVM Douglas M. Smith, Canadian Air Member
M/Gen Jean V. Allard, Canadian Army Member
Mr. James McCardle, Dept of External Affairs, Secretary, Canadian Section.

ASSISTANTS TO MEMBERS OF CANADIAN SECTION

Cdr. John C. Smyth, RCN	Asst to RCN Member
Col. R. L. Houston, Canadian Army	Asst to Canadian Army Member
Group Capt. M. Lipton, RCAF	Asst to RCAF Member
Mr. J. McCardle	Asst to Dept of External Af- fairs Member

CANADA-UNITED STATES MILITARY COOPERATION COMMITTEE (MCC)

The MCC is a combined Canada-U.S. agency, the U.S. Section of which is jointly staffed and is a committee of the Joint Chiefs of Staff. The U.S. members are temporarily assigned, having primary duties in the planning sections of the Services. One additional officer is provided by the Air Force with permanent assignment as Secretary of the Committee, and is attached to the Joint Chiefs of Staff Secretariat.

The central office is located in Washington, as are all U.S. members. Meetings take place at various locations within the U.S. or Canada.

Responsibilities. The Canada-United States Military Cooperation Committee is charged with the following:

1. Preparation and continued revision of the Canada-United States Basic Security Plan.
2. Growing out of the above are numerous matters contingent upon military planning which are negotiated through the MCC if they are military in nature as contrasted with political problems.
3. Plans, reports and recommendations developed by the MCC are submitted to the U.S. Joint Chiefs of Staff and the Canadian Chiefs of Staff Committee for approval.
4. The U.S. Section, MCC, is authorized to:
 - a. Request the JCS, Service and governmental agencies and activities for information and assistance which may be required in connection with its functions, and, reciprocally, will furnish information and assistance to such agencies in conformance with established policies of the JCS.
 - b. Establish, with

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the cooperation of other agencies of the Services and the interested Executive Departments of the Government of the U.S., subcommittees for the preparation of the plans, reports, studies, or estimates as required.

5. Passage of military operating requirements.

UNITED STATES SECTION

30 June 1958

Members

Colonel V. P. Mock, USA
Captain H. T. Johnson
Colonel J. A. Dunning

United States Chairman
United States Navy
United States Air Force

Deputies

Lt Col W. W. Anderson
Commander J. C. Doyle
Lt Col D. F. Montgomery

United States Army
United States Navy
United States Air Force

Secretary

Major Melvin J. Spaur

United States Air Force

CANADIAN SECTION

Colonel R. L. Houston, Canadian Army
Captain J. A. Charles
Group Captain M. Lipton

Canadian Chairman
Royal Canadian Navy
Royal Canadian Air Force

Deputies

Lt Commander P. H. Grady
Major A. B. French
Sq Leader J. A. Arnott

Royal Canadian Navy
Canadian Army
Royal Canadian Air Force

Secretary

Major J. C. Newlands

Canadian Army

CANADA-UNITED STATES REGIONAL PLANNING GROUP (CUSRPG)

CUSRPG is a combined Canada-U.S. agency which as an entity is responsible to NATO. It is the one remaining Regional Planning Group of the North Atlantic Treaty Organization. The U.S. members consist of the Service chiefs who meet with the Canadian Service chiefs as the highest committee to form policy and guidance to the Regional Planning Committee. The U.S. members of the Planning Committee are temporarily assigned, having primary duties in the planning sections of the Services. The members of the Planning Committee are the same individuals as those on MCC. The

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permanent Secretariat is composed of one U.S. officer who is also the secretary of the U.S. Section of MCC.

The central office is located in Washington, as are all U.S. members. Meetings take place at various locations.

Responsibilities. 1. The Chiefs of Staff Committee establishes policies, gives guidance to the Regional Planning Committee, and approves plans or reports and studies developed by the Regional Planning Committee, which are then forwarded through the Standing Group to the North Atlantic Military Committee.

2. The Regional Planning Committee, within established policy and guidance, develops plans and other material related thereto for the defense of the Canada-U.S. region.

3. The Group will cooperate with the other Regional Planning Groups (now Commands) of NATO with a view to eliminating conflict in, and ensure harmony among, the various NATO plans.

4. Technical sub-committees, such as the CUSRPG Meteorological Committee, develop technical aspects of defense plans or other related technical studies for submission to the Regional Planning Committee.

UNITED STATES

30 June 1958

CHIEFS OF STAFF COMMITTEE (CSC)

Gen Maxwell D. Taylor, USA
Adm. Arleigh A. Burke, USN

Gen Thomas D. White, USAF

REGIONAL PLANNING COMMITTEE (RPC)

Col V. P. Mock, USA, US Chairman
Capt H. T. Johnson, USN

Col J. A. Dunning, USAF

Assistant Members

L/Col W. W. Anderson, USA
Cdr J. C. Doyle, USN

L/Col D. F. Montgomery, USAF

Secretary

Major Melvin J. Spaur

United States Air Force

CANADA

CHIEFS OF STAFF COMMITTEE (CSC)

V/Adm H. G. DeWolf, RCN
L/Gen H. D. Graham, Can. Army

A/M H. L. Campbell, RCAF

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REGIONAL PLANNING COMMITTEE (RPC)

Col R. L. Houston, Can. Army, Canadian Chairman G/C M. Lipton, RCAF
Capt J. A. Charles, RCN

Assistant Members

L/Cdr P. H. Grady, RCN S/Idr J. A. Arnott, RCAF
Maj A. B. French, Can. Army

Secretary

Major J. C. Newlands Canadian Army

CANADA-UNITED STATES MILITARY STUDY GROUP (MSG)

The Military Study Group was formed to study those aspects of the North American Air Defense System in general, and the Early Warning System in particular, which are of mutual concern to the two countries. The U.S. Section is jointly staffed with representatives from the Services and certain interested commands. A United States Scientific Advisory Team and a State Department representative are provided.

Responsibilities. 1. The U.S. Section, Military Study Group, is to study those aspects of the North American Air Defense System in general and the Early Warning System in particular, which are of mutual concern to the two countries.

2. Make appropriate recommendations. In Canada, these are made directly to the Chiefs of Staff Committee; in the U.S., through the Executive Agency of the Department of the Air Force to the Joint Chiefs of Staff.

3. Meetings will be held as directed by higher authority or when either chairman considers it expedient.

4. As the above responsibilities may involve a study of a wide range of subjects related to the Air Defense of North America which may need collaboration of other government agencies, civil and military, the chairman of the U.S. Section is empowered to delegate work of a detailed nature to ad hoc committees.

UNITED STATES SECTION

30 June 1958

Major General T. C. Darcy, USAF (Chairman)
Major General John C. Oakes, USA
Rear Admiral W. F. Petersen, USN
Brigadier General Charles G. Dunn, USA
Captain H. T. Johnson, USN

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Captain C. D. Simonsen, USN
Colonel L. A. Green, USAF
Colonel G. S. Weart, USAF
Mr. Kenneth Byrne, Department of State
Major Melvin J. Spaur, USAF (Secretary)

CANADIAN SECTION

Air Vice Marshal D. M. Smith, RCAF (Chairman)
Commodore A. G. Boulton, RCN
Brigadier G. C. Leech, Canadian Army
Air Commodore M. D. Lister, RCAF
Group Captain R. F. Turnbull, RCAF
Dr. W. Petrie, Defence Research Board
Squadron Leader J. A. Arnott, RCAF (Secretary)

OBSERVERS

Brigadier R. P. Rothschild, Canadian Army
Mr. J. J. McCardle, Dept of External Affairs
Group Captain W. Weiser, RCAF

CANADA-UNITED STATES SCIENTIFIC ADVISORY TEAM (CUSSAT)

The Canada-United States Scientific Advisory Team (CUSSAT) advises the MSG. The primary task of CUSSAT is to carry out such operational research and other scientific studies as are assigned by the MSG.

CUSSAT Members

Canadian Section

Dr. W. Petrie, Chairman
Operational Research Gp, DRB

United States Section

Mr. John Everett, WSEG, Chairman

The remainder of the membership of CUSSAT is not formally constituted, but is filled at the direction of the Chairman with scientists specializing in the particular problem under consideration by the Team. Such representation usually includes personnel from USN, USAF ADC, Hq USAF, etc.

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USAF CENTRAL COORDINATING STAFF - CANADA (CCS-C)

The CCS-C operates in accordance with the policies, programs, and requirements established by the Chief of Staff, USAF.

The staff coordinates and monitors USAF activities in Canada, excluding intelligence and diplomatic functions of the U.S. Air Attache, Canada, and acts as the principal liaison agent.

Functions

1. Establish and maintain liaison with USAF activities and Canadian military Services and governmental agencies which have an interest in USAF programs in Canada.
2. Promote and perpetuate the friendly and harmonious relationships that prevail between defense agencies of the Canadian government and the USAF.
3. In coordination with major air commands, be responsible for policy matters relative to administrative procedures required to implement agreed USAF programs in Canada. The Chief, CCS-C, will insure that coordination and liaison for such programs are conceived and proceed in accordance with agreements and/or arrangements by submitting recommendations to the appropriate USAF commanders or by action through the Chief of Staff, USAF. The Chief, CCS-C, also will provide support, assistance, and guidance to USAF activities in Canada as requested by them, or as directed by the Chief of Staff, USAF.
4. Absorb functions performed by the United States Air Attache, Canada, which are subordinate to his primary mission and are the responsibility of the CCS-C.
5. Upon request, represent USAF commanders in matters relating to the implementation of USAF programs in Canada.
6. Inform the Chief of Staff, USAF, and the appropriate USAF commanders of Canadian plans, policies, or actions that have a present or potential bearing on the execution of USAF programs in Canada.
7. Conduct a continuing study to determine which USAF offices in Canada may be eliminated, condensed, or absorbed by either the CCS-C or other USAF offices in Canada. The CCS-C will recommend to the Chief of Staff, USAF, the economies which may be realized.
8. Inform the Chief of Staff, USAF, when political problems arise in connection with service-to-service relations.
9. Insure that appropriate diplomatic and/or service level clearance has been received by the USAF activity concerned before any project requiring such clearance is initiated.

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UNITED STATES-CANADA JOINT CABINET COMMITTEE ON DEFENSE

Formed by the President of the United States and the Prime Minister of Canada on 10 July 1958.

Purpose: To strengthen civilian control over continental defense. The committee will make defense policy recommendations to the President and Prime Minister. It will also supervise the three existing joint defense committees and NORAD.

PERMANENT MEMBERS

United States

U. S. Secretary of State
U. S. Secretary of Defense
U. S. Secretary of Treasury

Canada

Minister of External Affairs
Minister of National Defence
Minister of Finance

Other cabinet members from both countries will participate from time to time.

Date of first meeting has not been established.

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APPENDIX TWO

USAF ADC ACW STATIONS

Data as of 30 June 1958

Div	Site No.	Location	Sq.	Search	Height	
9th	P-6	Curlew AFS, Wash.	638	FPS-3(A)	FPS-6(A)	
	P-11	Yaak AFS, Mont.	680	FPS-3(A) GPS-3	FPS-6	
	P-11A	Porthill, Ida.	680	FPS-14	---	
	P-11B	Eureka, Mont.	680	FPS-14	---	
	P-32	Condon AFS, Ore.	636	FPS-3(A)	FPS-6	
	P-40	Othello AFS, Wash.	637	FPS-3(A)	FPS-6	
	P-60	Colville AFS, Wash.	760	FPS-20	FPS-6 FPS-6(A)	
	M-118	Burns AFS, Ore.	634	MPS-7(A)	---	
	SM-151	Mica Peak AFS, Wash.	823	FPS-20	MPS-14(A)	
	20th	P-47	Hutchinson AFS, Kans.	793	FPS-10	FPS-6A
		P-64	Kirksville AFS, Mo.	790	FPS-10	FPS-6A
P-68		Fordland AFS, Mo.	797	FPS-3(A)	FPS-4(A)	
P-70		Belleville AFS, Ill.	798	FPS-3(A)	FPS-4(A)	
P-71		Omaha AFS, Nebr.	789	FPS-3(A)	FPS-6(A)	
P-72		Olathe AFS, Kans.	738	FPS-20	FPS-6A	
P-77		Bartlesville AFS, Okla.	796	FPS-10	FPS-6	
P-77A		Ottawa, Okla.	796	FPS-14	---	
P-77D		Winfield, Kans.	796	FPS-14	---	
P-81		Waverly AFS, Iowa	788	FPS-10	FPS-6A(A)	
P-85		Hanna City AFS, Ill.	791	FPS-20	FPS-4 FPS-6A	
SM-143		Walnut Ridge AFS, Ark.	725	MPS-11	FPS-6	
25th		P-1	McChord AFB, Wash.	635	CPS-6B	FPS-6(A)
		P-12	North Bend AFS, Ore.	761	FPS-3(A) GPS-3	FPS-6
	P-12A	Port Orford, Ore.	761	FPS-14	---	
	P-44	Makah AFS, Wash.	758	FPS-3(A) GPS-3	FPS-6	
	P-46	Blaine AFS, Wash.	757	FPS-10	FPS-6	
	P-57	Naselle AFS, Wash.	759	FPS-20	FPS-6	
	M-100	Mt. Hebo AFS, Ore.	689	MPS-11(A) GPS-3(A)	FPS-6(A)	

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Div	Site No.	Location	Sq.	Search	Height
26th	P-9	Highlands AFS, N.J.	646	CPS-6B	FPS-6
				GPS-3	
	P-9A	Gibbsboro, N.J.	646	FPS-14	---
	P-10	North Truro, Mass.	762	CPS-6B	FPS-6(A)
				GPS-3	FPS-6(A)
	P-10A	Westboro, Mass.	762	FPS-14	---
	P-10B	Ft. Dearborn, N.H.	762	FPS-14	---
	P-30	Benton AFS, Pa.	648	CPS-6B	FPS-6(A)
					FPS-6(A)
	P-30E	Ulysses, Pa.	648	FPS-14	---
	P-45	Montauk AFS, N.Y.	773	FPS-20	FPS-6(A)
					FPS-6(A)
	P-45A	Manorville, N.Y.	773	FPS-14	---
	P-45B	Chilmark, Mass.	773	FPS-14	---
	P-50	Saratoga AFS, N.Y.	656	FPS-20	FPS-6(A)
					FPS-6(A)
	P-50A	New Preston, Conn.	656	FPS-14	---
	P-50E	New Salem, Mass.	656	FPS-14	---
	P-54	Palermo AFS, N.J.	770	FPS-20	FPS-6
				FPS-6	
27th	P-2	Cambria AFS, Calif.	775	FPS-3	FPS-6
				GPS-3	
	P-15	Santa Rosa Is. AFS, Cal.	669	FPS-10	MPS-14
				GPS-3	
	P-39	San Clemente Is. AFS, Cal.	670	FPS-3	FPS-6
				GPS-3(A)	
	P-59	Boron AFS, Calif.	750	FPS-10	FPS-6
	P-76	Mt. Laguna AFS, Calif.	751	FPS-3(A)	FPS-6(A)
				GPS-3(A)	
	P-76A	Tecate, Calif.	751	FPS-14	---
	P-76D	Coyote Wells, Calif.	751	FPS-14	---
	SM-162	Vincent AFB, Ariz.	864	MPS-7	MPS-14
	SM-162A	Tacna, Ariz.	864	FPS-14	---
SM-163	Las Vegas AFS, Nev.	865	FPS-3A(A)	MPS-14	
28th	P-33	Klamath AFS, Calif.	777	FPS-20	FPS-6
	P-33A	Capetown, Calif.	777	FPS-14	---
	P-37	Pt. Arena AFS, Calif.	776	FPS-20	FPS-6
				GPS-3	
	P-37A	Laytonville, Calif.	776	FPS-14	---
	P-38	Mill Valley AFS, Calif.	666	CPS-6B	FPS-6
				GPS-3	
	P-58	Mather AFB, Calif.	668	CPS-6B	FPS-6
	P-74	Madera AFS, Calif.	774	FPS-3	FPS-6
	M-96	Almaden, Calif.	682	FPS-20	MPS-14
	M-127	Winnemucca AFS, Nev.	658	FPS-3(A)	FPS-6A(A)
	SM-156	Fallon, Nev.	858	MPS-7	MPS-14

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Div	Site No.	Location	Sq.	Search	Height	
28th (cont)	SM-157	Red Bluff AFS, Calif	859	MPS-11	FPS-6	
	SM-164	Tonopah AFS, Nev.	866	MPS-7	FPS-6A(A)	
29th	P-24	Cut Bank AFS, Mont.	681	FPS-20	---	
	P-24A	Browning, Mont.	681	FPS-14	---	
	P-24C	Sweetgrass, Mont.	681	FPS-14	---	
	P-25	Havre AFS, Mont.	778	FPS-3(A) GPS-3(A)	FPS-6(A)	
	P-25A	Galeta, Mont.	778	FPS-14	---	
	P-25B	Hogeland, Mont.	778	FPS-14	---	
	P-26	Opheim AFS, Mont.	779	FPS-3(A) GPS-3(A)	FPS-6(A)	
	P-26A	Whitewater, Mont.	779	FPS-14	---	
	P-26D	Whitetail, Mont.	779	FPS-14	---	
	P-27	Fortuna AFS, N.D.	780	FPS-20	FPS-6(A)	
	P-28	Minot AFS, N.D.	786	FPS-3(A) GPS-3(A)	FPS-6(A) FPS-4(A)	
	P-28A	Niobe, N.D.	786	FPS-14	---	
	M-97	Ellsworth AFB, S.D.	740	MPS-7(A)	MPS-14(A)	
	M-98	Miles City AFS, Mont.	902	MPS-7(A)	MPS-14(A)	
	SM-147	Malmstrom AFB, Mont.	801	FPS-20	FPS-6(A)	
	30th	P-20	Selfridge AFB, Mich.	661	CPS-6B	FPS-6
		P-20A	Burnside, Mich.	661	FPS-14	---
		P-21	Lockport AFS, N.Y.	763	CPS-6B	FPS-6(A) FPS-6(A)
		P-21A	Brockport, N.Y.	763	FPS-14	---
P-21B		Charlotte Center, N.Y.	763	FPS-14	---	
P-61		Port Austin AFS, Mich.	754	FPS-20	FPS-6	
P-62		Brookfield AFS, Ohio	662	FPS-3(A)	FPS-6(A) FPS-4	
P-62B		Lewisville, Ohio	662	FPS-14	---	
P-63		Claysburg AFS, Pa.	772	FPS-20	FPS-6(A) FPS-6(A)	
P-67		Custer AFS, Mich.	781	FPS-20	FPS-4	
P-67A		Midland, Mich.	781	FPS-14	---	
31st		P-17	Wadena AFS, Minn.	739	FPS-20	FPS-6(A)
		P-18	Chandler AFS, Minn.	787	FPS-20	FPS-6(A)
	P-29	Finley AFS, N.D.	785	FPS-20	FPS-6(A) FPS-4(A)	
	P-29A	Sheyenne, N.D.	785	FPS-14	---	
	P-29B	Grafton, N.D.	785	FPS-14	---	
	P-35	Osceola AFS, Wis.	674	CPS-6B	---	
	P-35B	Northfield, Minn.	674	FPS-14	---	
	P-69	Finland AFS, Minn.	756	FPS-20	FPS-6(A)	
	P-69C	Askov, Minn.	756	FPS-14	---	
	M-99	Gettysburg AFS, S.D.	903	MPS-7(A)	MPS-14(A)	

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Div	Site No.	Location	Sq.	Search	Height
31st (cont)	SM-138	Grand Rapids, Minn.	707	FPS-3A(A)	FPS-6(A)
	SM-139	Willmar AFS, Minn.	721	FPS-8(A)	---
	C-16	Sioux Lookout AS, Ont. Can.	915	FPS-3(A)	TPS-502(A)
				FPS-502(A)	---
	C-17	Beausejour AS, Manitoba, Can.	916	FPS-3(A)	TPS-502(A)
				FPS-502(A)	---
32nd	P-13	Brunswick AFS, Me.	654	CPS-6B	FPS-6(A)
				GPS-3(A)	FPS-6(A)
	P-13A	Sedgwick, Me.	654	FPS-14	---
	P-14	St Albans AFS, Vt.	764	CPS-6B	FPS-6(A)
					FPS-6(A)
	P-14C	Bangor, N.Y.	764	FPS-18	---
	P-49	Watertown AFS, N.Y.	655	FPS-20	FPS-6(A)
					FPS-6(A)
	P-49A	Suttons Corner, N.Y.	655	FPS-14	---
	P-49B	Oswegatchie, N.Y.	655	FPS-18	---
	P-65	Charleston AFS, Me.	765	FPS-20	FPS-6(A)
					FPS-6(A)
	P-80	Caswell AFS, Me.	766	FPS-10	FPS-6(A)
				GPS-3(A)	
M-103	North Concord AFS, Vt.	911	MPS-11A	MPS-14(A)	
				FPS-6A(A)	
M-110	Bucks Harbor AFS, Me.	907	MPS-11(A)	---	
33rd	P-52	Oklahoma City AFS, Okla.	746	FPS-10	FPS-6(A)
	P-75	Lackland AFB, Tex.	741	FPS-3	FPS-4
	P-78	Duncanville AFS, Tex.	745	FPS-10	FPS-6
	P-79	Ellington AFB, Tex.	747	FPS-10	FPS-6
				GPS-3	
	M-88	Amarillo AFB, Tex.	688	MPS-7	TPS-10D
	M-89	Sweetwater AFS, Tex.	683	MPS-11	TPS-10D
	M-91	Texarkana AFS, Ark.	703	FPS-20	MPS-14
	M-125	England AFB, La.	653	MPS-7	MPS-14
	34th	P-7	Continental Divide AFS, N.M.	769	FPS-3(A)
P-8		Tierra Amarilla AFS, N.M.	767	FPS-3(A)	FPS-6
P-51		Moriarity AFS, N.M.	768	FPS-20	FPS-6
M-90		Walker AFB, N.M.	686	MPS-7	MPS-14
M-90A		Orla, Tex.	686	FPS-14	---
M-92		Mt. Lemmon AFS, Ariz.	684	MPS-7(A)	MPS-14(A)
M-93		Winslow AFS, Ariz.	904	MPS-11(A)	---
M-94		West Mesa AFS, N.M.	687	MPS-7	MPS-14
M-95		Las Cruces AFS, N.M.	685	MPS-7	MPS-14
M-95A		El Paso, Tex.	685	FPS-14	---
M-95B		Columbus, N.M.	685	FPS-14	---
TM-186		Pyote AFS, Tex.	697	FPS-3A	FPS-6

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Div	Site No.	Location	Sq.	Search	Height
35th	M-111	Marietta AFS, Ga.	908	MPS-11	MPS-8
	M-111B	Barnesville, Ga.	908	FPS-18	---
	M-112	Hunter AFB, Ga.	702	MPS-7	TPS-10D
				GPS-3	MPS-14
	M-112A	Parris Island MS, S.C.	702	FPS-14	---
	M-112C	Alma, Ga.	702	FPS-14	---
	M-113	No. Charleston AFS, S.C.	792	MPS-7	MPS-8
				GPS-3	MPS-14
	M-113B	Georgetown, S.C.	792	FPS-14	---
	M-126	Houma NAS, La.	657	MPS-7	MPS-14
					TPS-10D
	M-126A	New Orleans, La.	657	FPS-14	---
	M-129	MacDill AFB, Fla.	660	MPS-7	MPS-14
				GPS-3	
	SM-159	Aiken AFS, S.C.	861	FPS-3A	TPS-10D
					MPS-14
	TM-198	Tyndall AFB, Fla.	678	FPS-20	FPS-6
				FPS-6A	
37th	P-16	Calumet AFS, Mich.	665	FPS-20	FPS-6(A)
	P-19	Antigo AFS, Wis.	676	FPS-20	FPS-6(A)
					FPS-4
	P-31	Williams Bay AFB, Wis.	755	CPS-6B	FPS-6(A)
	P-34	Empire AFS, Mich.	752	CPS-6B	FPS-6(A)
					FPS-6(A)
	P-34A	Petoskey, Mich.	752	FPS-14	---
	P-66	Sault Ste Marie AFS, Mich.	753	FPS-20	FPS-6(A)
C-14	Pagwa River, Ont. Can.	913	FPS-20	FPS-6(A)	
			FPS-502(A)	TPS-502(A)	
C-15	Armstrong, Ont. Can.	914	FPS-3(A)	TPS-502(A)	
			FPS-502(A)	---	
58th	P-42	Lake City AFS, Tenn.	663	FPS-10	FPS-6
	P-43	Guthrie AFS, W. Va.	783	FPS-20	FPS-6
	P-53	Rockville AFS, Ind.	782	FPS-10	FPS-6
					FPS-6
	P-73	Bellefontaine AFS, Ohio	664	FPS-20	FPS-6
					FPS-6A
	P-82	Snow Mtn. AFS, Ky.	784	FPS-20	FPS-6
	SM-145	Joelton AFS, Tenn.	799	MPS-11	TPS-10D
				FPS-6A	
SM-165	Flintstone AFS, Ga.	867	MPS-11	FPS-6	
85th	P-55	Manassas AFS, Va.	647	FPS-3	FPS-6
	P-55B	Hermanville, Md.	647	FPS-14	---
	P-55D	Hanover, Pa.	647	FPS-14	---

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Div	Site No.	Location	Sq.	Search	Height
85th (cont)	P-55F	Thomas, W. Va.	647	FPS-14	---
	P-56	Cape Charles AFS, Va.	771	FPS-3	FPS-6
				GPS-3	FPS-6
	P-56A	Temperanceville, Va.	771	FPS-14	---
	P-56B	Bethany Beach, Del.	771	FPS-14	---
	P-56C	Elizabeth City, N.C.	771	FPS-14	---
	M-115	Fort Fisher AFS, N.C.	701	MPS-7	MPS-14
				GPS-3	
	M-115A	Myrtle Beach, S.C.	701	FPS-14	---
	M-117	Roanoke Rapids AFS, N.C.	632	MPS-11A	FPS-6
					FPS-6A
	M-121	Bedford AFS, Va.	649	MPS-7	FPS-6
				MPS-11	FPS-6
	M-130	Winston Salem AFS, N.C.	810	MPS-11	FPS-6A

Definition of Symbols Used:

- A Modification of basic equipment
 (A) Arctic Tower/Radome

SOURCE: ADC ACW Status Report (RCS: AF-V20) and ADC Program Resume,
 30 June 1958.

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APPENDIX THREE

RCAF ADC ACW STATIONS

Data as of 30 June 1958

SITE	LOCATION	UNIT	RADAR	FUNCTION	SECTOR
C-1	Mont Apica	12 ACW Sq	CPS-6B EW Kit CPS-6B	GCI	1 ADCC
C-2	Lac St. Denis	1 ADCC		ADCC	
C-2	Lac St. Denis	11 ACW Sq	CPS-6B CPS-6B	GCI	1 ADCC
C-3	Foymount	32 ACW Sq	FPS-3 FPS-6 TPS-501	GCI	3 ADCC
C-4	Edrar	3 ADCC		ADCC	
C-4	Edgar	31 ACW Sq	FPS-3 FPS-6 TPS-501	GCI	3 ADCC
C-5	St. Margarets	2 ADCC		ADCC	
C-5	St. Margarets	21 ACW Sq	FPS-3 FPS-6 TPS-501	GCI	2 ADCC
C-6	St. Sylvestre	13 ACW Sq	CPS-6B EW Kit CPS-6B TPS-502	GCI	1 ADCC
C-7	Parent	14 ACW Sq	FPS-3 FPS-6 TPS-501	GCI	1 ADCC
C-8	Senneterre	34 ACW Sq	FPS-3 FPS-6 TPS-501	GCI	3 ADCC
C-9	Falconbridge	33 ACW Sq	FPS-3 FPS-6 TPS-501	GCI	3 ADCC
C-10*	Ramore	912 ACW Sq	FPS-3 TPS-502 FPS-502	GCI	3 ADCC
C-11	Beaver Bank	22 ACW Sq	CPS-6B EW Kit CPS-6B FPS-502 TPS-502	GCI	2 ADCC
C-14*	Pagwa	913 ACW Sq	FPS-3 TPS-502 FPS-502	EW	37 Air Div.

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SITE	LOCATION	UNIT	RADAR	FUNCTION	SECTOR
C-15*	Armstrong	914 ACW Sq	FPS-3 TPS-502 FPS-502	EW	37 Air Div.
C-16*	Sioux Lookout	915 ACW Sq	FPS-3 TPS-502 FPS-502	EW	31 Air Div.
C-17*	Beausjour	916 ACW Sq	FPS-3 TPS-502 FPS-502	EW	31 Air Div.
C-18	Holberg	53 ACW Sq	FPS-3	GCI	5 Air Div.
C-19*	Puntzi Mt.	917 ACW Sq	FPS-3 TPS-502 FPS-502	GCI	5 Air Div.
C-20*	Baldy Hughes	918 ACW Sq	FPS-3 TPS-502 FPS-502	EW	5 Air Div.
C-21*	Saskatoon Mt.	919 ACW Sq	FPS-3 TPS-502 FPS-502	EW	5 Air Div.
C-33	Moisie	211 ACW Sq	FPS-3 TPS-502 FPS-502	EW	2 ADCC
C-34	Sydney	221 ACW Sq	FPS-3 TPS-502 FPS-502	EW	2 ADCC
C-35	Comnox	51 ACW Sq	FPS-502 TPS-502 FPS-502	EW	5 Air Div.
	Vancouver	5 AD COC		ADCC	
	St. Hubert	COC		COC	

* USAF Manned

SOURCE: RCAF ADC Air Defence Command Data and Progress Book, 1 April 1958,
W/1 change, 1 May 1958
USAF ADC, ACW Status Report (2-AF-V20), 30 June 1958

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APPENDIX FOUR

64TH AIR DIVISION ACW STATIONS OPERATIONAL
Data as of 30 June 1958)

SITE	LOCATION	SQ	SEARCH	HEIGHT	FUNCTION
MCC-16	St. Johns, Nfld	Hq	--	--	CC
C-22	Red Cliff, Nfld	642	CPS-6B FPS-502(A)	TPS-502(A)	EW/GCI
C-22B	Elliston Ridge, Nfld	642	FPS-14	---	GF
C-23	Stephenville, Nfld	640	CPS-6B FPS-502(A)	TPS-502(A)	DC
C-24	Melville, Labr	641	CPS-6B FPS-502(A)	TPS-502(A)	DC
C-25	Gander, Nfld	228*	FPS-3(A) FPS-502(A)	TPS-502(A)	EW/GCI
C-26	St. Anthony, Nfld	921	FPS-3(A) FPS-502(A)	TPS-502(A)	EW/GCI
C-26A	Fox Harbour, Labr	921	FPS-14(A)	---	GF
C-26B	La Scie, Nfld	921	FPS-14(A)	---	GF
C-27	Cartwright, Labr	922	FPS-3A FPS-502(A)	TPS-502(A)	EW/GCI
C-27A	Cut Throat Is., Labr	922	FPS-14(A)	---	GF
C-27B	Spotted Isle, Labr	922	FPS-14(A)	---	GF
C-28	Hopedale, Labr	923	FPS-3(A) FPS-502(A)	TPS-502(A)	EW/GCI
C-28A	Cape Makkovik, Labr	923	FPS-14(A)	---	GF
C-29	Saglek, Labr	924	FPS-3(A) FPS-502(A)	TPS-502(A)	EW/GCI
C-30	Resolution Is. NWT	920	FPS-3(A) FPS-502(A)	TPS-502(A)	EW/GCI

* Manned by RCAP ADC

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SITE	LOCATION	SQ	SEARCH	HEIGHT	FUNCTION
C-31	Baffin Is., NWT	926	FPS-3(A) FPS-502(A)	TFS-502(A)	EW/GCI
G-32	Thule AB, Grnld	931	FPS-20	FPS-6(A) FPS-4(A)	DC

SOURCE: ADC ACW Status Report (RCS: AF-V20) and ADC ACW Program Resume, 30 Jun 1958

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APPENDIX FIVE

AAC ACW STATIONS OPERATIONAL
(Data as of 31 July 1958)

SITE	LOCATION	SQ	PRIMARY SEARCH	PRIMARY HEIGHT	FUNCTION
F-1	Fire Island AFS	626	CPS-6B(A)	CPS-6B(A)	DC
F-3	King Salmon Aprt.	705	FPS-3(A)	FPS-6(A)	DC
F-5	Cape Newenham AFS	794	FPS-3(A)	---	EW
F-6	Cape Romanzof AFS	795	FPS-3(A)	---	EW
F-15	Sparrevohn AFS	719	FPS-3(A)	FPS-6(A)	GCI
F-22	Middleton Island AFS	720	FPS-3(A)	FPS-6(A)	GCI
F-25	Ohlson Mountain AFS	937	FPS-3(A)	FPS-6(A)	GCI
F-16	Indian Mountain AFS	708	FPS-3(A)	FPS-6(A)	GCI
F-2	Murphy Dome AFS	744	---	---	DC
F-4	Tin City AFS	710	FPS-3(A)	---	EW
F-7	Cape Lisburne AFS	711	FPS-3(A)	---	EW
F-8	Campion AFS	743	FPS-3(A)	FPS-6(A)	DC
F-9	Northeast Cape AFS	712	FPS-3(A)	---	EW
F-10	Tatalina AFS	717	FPS-3(A)	FPS-6(A)	GCI
F-14	Fort Yukon AFS	709	FPS-3(A)	FPS-6(A)	GCI
F-20	Unalakleet AFS	718	FPS-8(A)	FPS-4(A)	GCI
F-24	Kotzebue AFS	748	FPS-8(A)	FPS-4(A)	GCI
F-11	Elmendorf AFB	10AD	---	---	CC
F-12	Ladd AFB	11AD	---	---	CC

SOURCE: AAC Quarterly ACW Status Report, RCS: 1-AF-V20, 31 July 1958

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APPENDIX SIX

USAF ADC FIGHTER-INTERCEPTOR SQUADRONS

As of 30 June 1958

Air Div	Sqdn	Location	Base Asgmt	Type Acft	Acft		Crews	
					Asgd	Opr Rdy	Asgd	Opr Rdy
EASTERN AIR DEFENSE FORCE								
26th	2	Suffolk	ADC	F-102A	16	8	31	2
	5	Suffolk	ADC	F-102A	15	8	33	0
	46	Dover	MATS	F-94C	--Preparing for inactivation--			
	49	Hanscom	ARDC	F-86L	28	17	35	8
	58	Otis	ADC	F-89J	3	0	3	1
	*58	Vincent	ADC	F-89J	22	19	24	14
	60	Otis	ADC	F-94C	20	13	31	22
	98	Dover	MATS	F-89J	27	20	37	23
	330	Stewart	ADC	F-86L	28	20	34	26
	331	Stewart	ADC	F-86L	28	20	25	0
	332	McGuire	MATS	F-102A	25	18	34	26
	337	Westover	SAC	F-86L	5	1	15	0
	337	Westover	SAC	F-104A	24	8	15	0
	337	Westover	SAC	F-104B	2	0	0	0
539	McGuire	MATS	F-86L	23	8	33	0	
30th	47	Niagara	ADC	F-102A	13	6	31	14
	71	Selfridge	ADC	F-86L	23	21	29	28
	86	Youngstown	ADC	F-102A	10	4	30	0
	94	Selfridge	ADC	F-86L	24	23	31	23
	445	Wurtsmith	ADC	F-89J	26	14	29	21
	18	Wurtsmith	ADC	F-102A	24	13	33	0
32nd	27	Griffis	AMC	F-102A	16	14	34	1
	37	Ethan-Allen (Burlington)	ADC	F-102A	21	11	26	0
	75	Presque Isle	ADC	F-89H	21	17	31	13
	465	Griffis	AMC	F-89J	25	21	31	26
35th	444	Charleston	MATS	F-86L	26	23	31	29
	76	McCoy	SAC	F-89H	19	16	33	23
37th	62	O'Hare	ADC	F-86L	27	9	32	26
	325	Truax	ADC	F-102A	24	19	32	3
	61	Truax	ADC	F-102A	25	19	33	0
	438	Kinross	ADC	F-102A	2	0	0	0
	*438	K.I. Sawyer	ADC	F-102A	23	16	36	19
	484	K.I. Sawyer	ADC		No aircraft and/or aircrews assigned			

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Air Div	Sqdn	Location	Base Asgmt	Type Acft	Acft		Crews	
					Asgd	Opr Rdy	Asgd	Opr Rdy
58th	56	Wright-Patt	AMC	F-86L	18	9	35	23
	56	Wright-Patt	AMC	F-104A	2	0	0	0
	87	Lockbourne	SAC	F-86L	27	22	37	34
	319	Bunker Hill	SAC	F-89J	26	19	30	0
85th	18	Langley	TAC	F-102A	9	2	26	1
	95	Andrews	Hq Com	F-102A	15	10	29	0
	482	Seymour-Johnson	TAC	F-102A	2	0	0	0
	*482	Tyndall	ADC	F-102A	17	17	20	0

CENTRAL AIR DEFENSE FORCE

20th	13	Sioux City	ADC	F-86L	28	15	33	28
	14	Sioux City	ADC	F-86L	28	15	33	28
	85	Scott	MATS	F-86L	0	0	0	0
	*85	Vincent	ADC	F-86L	23	20	32	30
	326	Richards-Gebaur	ADC	F-102A	16	10	26	23
29th	29	Malstrom	SAC	F-89J	26	12	34	0
	54	Ellsworth	SAC	F-89J	28	15	35	0
31st	11	Duluth	ADC	F-102A	4	0	0	0
	*11	Tyndall	ADC	F-102A	20	7	27	22
33rd	None							
34th	15	Davis-Monthan	SAC	F-86L	27	16	28	22
	93	Kirtland	ARDC	F-86L	28	19	30	19

WESTERN AIR DEFENSE FORCE

9th	322	Larson	MATS	F-86L	27	24	27	22
	497	Geiger	ADC	F-86D	--unit reassigned as of 20 June '58			
	498	Geiger	ADC	F-102A	28	15	32	21
	538	Larson	MATS	F-86L	11	10	24	21
25th	64	McChord	ADC	F-102A	22	14	30	24
	318	McChord	ADC	F-102A	23	15	29	10
	321	Paine	ADC	F-89J	28	17	25	11
	460	Portland	ADC	F-89D	6	6	28	20
	460	Portland	ADC	F-102A	7	1	0	0
27th	327	George	TAC	F-102A	-- deployed to Thule --			
	329	George	TAC	F-102A	25	19	34	3
	437	Oxnard	ADC	F-89J	23	17	26	24
28th	82	Travis	MATS	F-102A	15	10	23	0
	83	Hamilton	ADC	F-104A	20	4	23	0
	83	Hamilton	ADC	F-104B	3	1	0	0

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Air Div	Sqdn	Location	Base Asgmt	Type Acft	Acft		Crews	
					Asgd	Opr Rdy	Asgd	Opr Rdy
28th	84	Hamilton	ADC	F-89J	25	18	34	16
	456	Castle	SAC	F-86L	11	8	24	7
	456	Castle	SAC	F-102A	5	2	6	0
	518	Kingsley	ADC	-- No aircraft and/or aircrews assigned				

64th AIR DIVISION (DEFENSE)

64th	59	Goose Bay	SAC	F-89J	27	18	30	28
	*59	Thule	SAC	F-89D	6	5	6	6
	74	Thule	SAC	F-89D	-- Inactivated on 25 June 1958 --			
	323	Harmon	SAC	F-102A	25	20	28	23

* Fighter Flights away from home base.

SOURCE: RCS 1-AF-VII, 30 June 1958

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APPENDIX SEVEN

RCAF ADC FIGHTER-INTERCEPTOR SQUADRONS

1 May 1958

Air Div/ADCC	Sqdn	Location	Type Acft	Aircraft		Crews	
				*Estab	Asgd	Estab	Asgd
1 ADCC	416	St. Hubert	CF100	2	2		
			MK 3D			25	25
	CF100 MK5	18	18				
	425	St. Hubert	CF100	2	2		
			MK 3D			25	25
	CF100 MK5	18	18				
	413	Bagotville	CF100	2	2		
			MK 3D			25	25
	CF100 MK5	18	18				
3 ADCC	410	Uplands	CF100	2	2		
			MK 3D			25	25
	CF100 MK5	18	18				
	428	Uplands	CF100	2	2		
			MK 3D			25	25
	CF100 MK5	18	18				
	414	North Bay	CF100	2	2		
			MK 3D			25	25
	CF100 MK5	18	18				
	433	North Bay	CF100	2	2		
			MK 3D			25	25
	CF100 MK5	18	18				

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Air Div/ADCC	Sqdn	Location	Type Acft	Aircraft		Crews	
				*Estab	Asgd	Estab	Asgd
5th Air Division	409	Comox	CF100	2	2		
			MK 3D			25	25
			CF100	18	18		
			MK5				

* Authorized

SOURCE: ADC, Air Defence Command Data and Program Book, 1 April 1958,
with Change 1, 1 May 1958

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APPENDIX EIGHT

KEY PERSONNEL - HEADQUARTERS NORAD

30 June 1958

Commander-in-Chief General E. E. Partridge, USAF	DCS/Plans and Operations Maj. Gen. H. T. Alness, USAF
Deputy Commander-in-Chief Air Marshal C. R. Slemon, RCAF	Asst. DCS/P&O Brig. Gen. T. V. Stayton, USA Capt. E. Tatom, USN
Chief of Staff Maj. Gen. M. S. Carter, USA	Director/Plans and Requirements Brig. Gen. A. J. Pierce, USAF
Asst. Chief of Staff, (Secretariat) Col. C. H. Scott, Jr., USAF	Asst. Director Col. W. H. Murray, USA G/C G. S. Austin, RCAF Col. J. F. Kirkendall, USAF
Executive Assistant to CINCPAC Col. H. Zemke, USAF	Ch, Systems Coordination Division Capt. G. W. Snider, USN
Director of Administration Lt. Col. E. W. Metzger, Jr., USAF	Ch, Policy and Plans Division Col. R. T. Carlisle, USAF
Director of Audio-Visual Svs. Lt. Col. R. A. Bassler, USAF	Director of Operations Col. L. R. Seibert, USMC - (Acting)
Director of Protocol Maj. J. J. Costello, USAF	Asst. Director (Vacant)
Deputy Director of Protocol Maj. C. Miniotta, USA	Ch, Training and Exercise Division Cdr. E. C. Smith, USN
Command Information Services Officer Col. A. B. Oldfield, USAF	Ch, Tactics and Techniques Division Lt. Col. V. E. Matteson, USA
Asst. Command Info. Svs. Officer Lt. Col. C. E. Towne, USA	Director of Operational Evaluation Capt. N. H. Head, USN
Chief, Special Projects Branch Cdr. J. R. English, USN	Director of Combat Operations Center Col. H. W. Shoup, USAF
Chief, Press Branch Maj. S. A. West, USAF	Asst. Director Cdr. J. W. Lawyer Lt. Col. L. H. Tyree
Chief, Radio/TV Branch Maj. M. S. Azzolina, USAF	Plans and Evaluation Officer Maj. J. A. Reding, USAF
Director of Command History Mr. L. H. Buss	

Director of Combat Ops. Center (contd.)

Ch, Combat Reporting Center
Capt. K. O. Butler, USAF

Director of Plans Analysis
Col. E. H. Callahan, USAF

Executive Officer
Lt. Col. K. K. Howenstine, USAF

Ch, Feasibility Division
Col. O. K. Marshall, USA

Ch, War Gaming Division
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Director of Operations Analysis
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Asst. Director
(Vacant)

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Mr. R. E. Donegon, Jr.

Ch, Ident. & Raid Rec. Div.
Mr. H. A. Schuck

Ch, Interceptor & Missile Division
Mr. E. C. Helfrich

Ch, Systems Analysis Division
Mr. R. S. Thackeray

DCS/Communications and Electronics
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Lt. Col. D. G. Roath, USAF

Ch, Plans and Policy Division
Lt. Col. D. G. Roath, USAF

Ch, Operational Rqmts. Division
Lt. Col. F. W. H. Wehner, Jr, USAF

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Lt. Col. J. A. Gahr, USA (Acting)

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Lt. Col. G. P. Williams, USAF

Ch, Communications Division
Lt. Col. J. A. Gahr, USA

DCS/Intelligence
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Asst. DCS/I
Capt. J. E. Lang, USN

Special Asst. to DCS/I
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Director Collection and Dissemination
Col. J. D. Hand, USA

Ch, Collection Service Division
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Ch, Military Capabilities Division
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Director of Operational Intelligence
Col. J. F. Setchell, USAF

Asst. Director
Cdr. T. C. Schaible, USN

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Dir. of Operational Intelligence (contd.)

Ch, Intelligence Watch Division
Lt. Col. W. F. Zeller, USAF

Ch, Combat Intelligence Division
Lt. Col. C. E. Becker, USAF

Ch, Procedures Branch
Maj. A. B. Harper, USAF

Ch, Systems Analysis Branch
Capt. F. C. Allen, USAF

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Lt. Gen. J. H. Atkinson

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Lt. Gen. C. E. Hart

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RCAF ADC (ATTN: Camp Commandant).....	3
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REFERENCE NOTES

CHAPTER ONE

1. Canadian-U. S. Notes, 12 May 1958 (DOC 1).
2. Ibid., C. A. Herter to N. Robertson, 12 May 1958.
3. Msg., JCS to CONAD, JCS 943043, 10 Jun 1958 (DOC 2); Msg., USAF to ADC, AFXPD-PL-30895, 13 Jun 1958 (DOC 3).
4. Revised Terms of Reference for the CINCNORAD, 10 Jun 1958 (DOC 4).
5. NORAD to CSC, "Policy Guidance," 3 Jul 1958 (DOC 5).
6. Ibid.
7. JCS Memorandum for the CINCONAD, # SM-36-58, "Terms of Reference for CINCONAD," 10 Jan 1958 (DOC 6).
8. CONAD to C/S USAF, "Terms of Reference for CINCONAD," 24 Jan 1958 (DOC 7).
9. As in n. 3, JCS to CONAD.
10. Terms of Reference for CINCONAD, 10 Jun 1958 (DOC 8).
11. CONAD to USAF ADC, USARADCOM, NAVFORCONAD, "Ad Hoc Committee for the Reorganization of the CONAD," 21 Jul 1958 (DOC 9).
12. NORAD GO 6, 5 Aug 1958 (DOC 10).
13. Msg., CINCNORAD to CONAD Regions, NOOPR 035, 30 Jun 1958 (DOC 11).
14. Msg., CINCNORAD to 64th CONAD Div., NOOPR 036, 30 Jun 1958 (DOC 12).
15. Msg., CINCNORAD to CANAIRDEF, NOOPR 033, 30 Jun 1958 (DOC 13).
16. Msg., CINCNORAD to CINCAL, NOOPR 034, 30 Jun 1958 (DOC 14).
17. Msg., CONAD to C/S USAF, COOPR X001, 10 Apr 1958 (DOC 15); ADC to NORAD, "ADC Comments on CINCONAD Message COOPR X001," 9 May 1958 (DOC 16).
18. 64th CADD to NORAD, G-006, 8 May 1958 (DOC 17).

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19. Msg., NORAD to C/S USAF, NOOPR X011, 20 May 1958 (DOC 18).
20. Msg., USAF to USAF CCS-C, AFXPD 51440, 29 May 1958 (DOC 19).
21. Msg., USAF CCS-C to USAF, CCS-C-25, 3 Jun 1958 (DOC 20).

CHAPTER TWO

1. NORAD to C/S USAF, "Plans for Collocated Missile Master/ADC Radar Sites," 23 May 1958 (DOC 21); Msg., ARADCOM to 2d Rgn, 322 ADCDI, 11 Apr 1958 (DOC 22); Msg., ARADCOM to ADC 321 ADCDI, 11 Apr 1958 (DOC 23).
2. M/R: "Radar Meeting Between General Partridge and General Hart," 11 Feb 1958 (DOC 24); M/R: "Missile Master Briefing to CINCNORAD and Component Commanders on 11 Feb 1958," 13 Mar 1958 (DOC 25); Memo for C/S from CINCNORAD, "Collocation and Compatibility of Radars with Ground Control Centers," 28 Jan 1958 (DOC 26). See also: DA to ARADCOM, "Joint Manual Direction Centers - Resolution of Major Problem Areas Affecting Land Acquisition, Design and Construction Planning," 2 Apr 1958 (DOC 27).
3. ADC to NORAD, "Use of the CAA ARSR-1 Radar at Pittsburgh," 28 Feb 1958 (DOC 28).
4. Msg., CINCNORAD to C/S USAF, NOESS-E X035, 10 Mar 1958 (DOC 29).
5. Msg., C/S USAF to CINCNORAD, AFODC, 58813, 31 Mar 1958 (DOC 30).
6. NORAD to ADC, ARADCOM, "Collocation and Competibility of Radars with Ground Control Centers," 14 Mar 1958, w/2 Inds (DOC 31).
7. Ibid., 1st Ind, ADC to NORAD, 24 Apr 1958; ARADCOM to CONAD, "Collocation and Competibility of Radars with Ground Control Centers," 30 Apr 1958 (DOC 32); Memorandum for General Uhrhane, "Collocation of Missile Masters and ADDC's," 7 Jul 1958 (DOC 33).
8. Msg., USAF to SAGE Proj Off, AFODC-E/A 55112, 15 Jan 1958 (DOC 34); Msg., CINCNORAD to C/S USAF, NOESS-E X012, 29 Jan 1958 (DOC 35).
9. Msg., C/S USAF to CINCNORAD, AFODC 56870, 24 Feb 1958 (DOC 36).
10. As in n 7, Memo for General Uhrhane.

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11. M/R to letter NORAD to ADC, "Joint Use of CAA Radar ARSR-1," 24 Feb 1958, w/1 Ind (DOC 37).
12. Ibid., NORAD to ADC.
13. As in n 11, 1st Ind, ADC to NORAD, 24 Mar 1958.
14. 1st Ind, ADC to NORAD, 15 Jan 1958 (DOC 38).
15. Ibid. See also, Minutes of the CAA/ADC Joint Radar Planning Group Meeting No. 12, 17 Apr 1958 (DOC 39).
16. NORAD Study, "Integration of functions performed by the AADCP and the ADDC," 21 Nov 1957 (DOC 40).
17. DF, NOOPO to NOHCS, "Integration of Functions Performed by the AADCP and the ADDC," 26 Mar 1958 (DOC 42). Also see NORAD, Minutes of AADCP/ADDC Conference, 10 Jan 1958 (DOC 43).
18. NORAD to ADC, ARADCOM, "Collocation of ADDCs and AADCPs," 24 Feb 1958 (DOC 44).
19. 3d Ind, CFWCR to NORAD, 14 Feb 1958 (DOC 45).
20. 4th Ind, NORAD to CFWCR, 22 Apr 1958 (DOC 46).
21. DF, NOOPO to NOHCS, "Collocation at Geiger," 4 Apr 1958 (DOC 47).
22. Interview with Maj F.D. Reeves, NOOOP, 8 Aug 1958. See also, Msg., Cmir CFWCR to CONAD, CWDPL 8C-5038, 11 Apr 1958 (DOC 48); DF, NOOOP to NOOPO, "Visit to CONAD Control Center, Geiger Field, Wash.," 26 May 1958 (DOC 49).
23. Msg., ADC/ARADCOM to NORAD, ADCDI/ADAIR, 4477, 4 Apr 1958 (DOC 50). See also, ADC to ARADCOM, "Collocation Nike Hercules and AADCP with USAF ADC Air Force Stations," 28 May 1958 (DOC 51).
24. 2nd Ind, 4th Rgn to ARADCOM, 14 Mar 1958 (DOC 52); Msg., COMNAVFORCONAD to CNO, NAV830, 21 Feb 1958 (DOC 53); Msg., CNO to NAS Olathe, 24 Feb 1958 (DOC 54).
25. 3d Ind, ARADCOM to CONAD, 20 Mar 1958 (DOC 55).
26. As in n 23, Msg., ADC/ARADCOM to NORAD; 4th Ind, ADC to CONAD, 21 Mar 1958 (DOC 56).
27. 5th Ind, NORAD to ARADCOM, 22 Apr 1958 (DOC 57).

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28. ARADCOM thru ADC to CONAD, "Collocation of AADCP's and ADDC's," 14 Feb 1958, w/1 Ind, ADC to CONAD, 28 Feb 1958 (DOC 58).
29. NORAD to ARADCOM, "Collocation of AADCPs and ADDCs," 17 Mar 1958 (DOC 59).
30. As in n 7, Memo for General Uhrhane. See also, ARADCOM to CONAD, "Collocation of AADCPs and ADDCs," 3 Apr 1958, w/1 Ind (DOC 60).
31. NORAD to ADC, "Collocation of ADDCs and AADCPs," 6 Jun 1958 (DOC 61).
32. 64th ADiv to ADC, "Collocation of ADDC and AAOC," 10 Mar 1958, w/2 Ind (DOC 62).
33. 4th Ind, NORAD to ADC, 30 Jun 1958 (DOC 63).
34. NORAD to USAF, "Semi-Automatic Ground Environment System," 14 May 1958 (DOC 64).
35. NORAD to USAF, "Evaluation of Closed Circuit TV Between AADCP/ADDC Facilities," 29 Nov 1957 (DOC 65).
36. DF, NOOPO to NOHCS, "Chronology on Test of Closed Circuit TV," 25 Mar 1958 (DOC 66).
37. NORAD to ARADCOM, "Closed Circuit TV Test Between AADCP/ADDC Facilities in the Norfolk/Cape Charles Area," 5 Feb 1958 (DOC 67); Msg., NORAD to OCSIGO, NOOOP-T 092, 23 Jun 1958 (DOC 68); NORAD Minutes of Meeting on Closed Circuit TV Test, 22-24 Apr 1958 (DOC 69); DF, NOOOP to NOOPO, "Meeting on Closed Circuit TV Test," 29 Apr 1958 (DOC 70).

CHAPTER THREE

1. ADC, ADC ACW Status Report (RCS: AF-V20) and ADC ACW Program Resume, 30 June 1958 (NORAD HRF 302)(Hereinafter cited ADC, Radar Status Report, 30 June 1958); ADC, Monthly ADC ACW Status Change Report (RCS: 2-AF-V20) and ADC ACW Program Resume, 31 December 1957 (CONAD HRF 302.1).
2. CONAD/NORAD Historical Summary July-December 1957, pp 40-41.
3. Ibid., pp 41-42.
4. Ibid.

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5. Ibid.; Interview with Capt H.C. Dewey, ORQ, ADC, 21 Jul 1958. See also: Msg., CONCFECR to CINCINORAD, CFEOP-S 009, 8 Jan 1958 (DOC 81); Msg., CFECR to Comdr 26th CADD, et al, CFEOP-S 017, 23 Jan 1958 (DOC 82); CFECR to Comdr 26th CADD, et al, "Test Deployment Stations for Elements of the Seaward Extension," 5 Feb 1958 (DOC 83); Msg., CFECR to COMNAVFOREASTCONADREG and 551st AEW&C Wg, CFEOP-S 076, 27 Mar 1958 (NORAD HRF 302.13); Msg., CFECR to CINCINORAD, CFEOP-S 115, 16 Apr 1958 (DOC 84).
6. CONAD/NORAD Historical Summary July-December 1957, p 45; Interview with Capt H.C. Dewey, ORQ, ADC, 21 Jul 1958.
7. WADF to ADC, "Change of AEW&C Mission," 19 Nov 1957, w/ 3 Inds. and 1 Incl. (DOC 85).
8. Ibid., 2nd Ind, WADF to ADC, 28 Jan 1958.
9. Msg., CINCINORAD to COMCFWCR, NOOOP-T X028, 19 Feb 1958, w/1 Incl (DOC 86).
10. 3d Ind (WADF to ADC, "(U) Change of AEW&C Man," 19 Nov 1957), ADC to WADF, 4 Mar 1958 (DOC 87); As in n 7, Incl 2, 5 Mar 1958, and 1st Ind, 12 Mar 1958; Also see: Msg., WADF to Comdr 552d AEW&C Wg, et al, WDOTN-X 8C8120, 28 Jan 1958 (DOC 88); Msg., CFWCR to CINCONAD, CWOOP 8C-5016, 18 Feb 1958 (DOC 89); Msg., WADF to Comdr 552d AEW&C Wg, WDOTN-X 8C8364, 11 Apr 1958 (DOC 90).
11. COMNAVFORCONAD to CINCINORAD, "Contiguous Surveillance, Identification and Aircraft Control Systems," 10 Apr 1958, w/1 Ind and 1 Incl, (DOC 91).
12. NORAD to COMUSAFADC, "Seaward Extensions to the Contiguous Radar Coverage System (U)," 30 Apr 1958 (DOC 93); 1st Ind (NAVFORCONAD to CINCINORAD, "Contiguous Radar Coverage System: planning requirements for," 1 May 1958), NORAD to NAVFORCONAD, 9 May 1958 (DOC 94); Also see: DF, NOOPO to NOELC, "AEW&C Aircraft with Associated Radar Equipment," 28 Apr 1958 (DOC 95).
13. NORAD to COMUSAFADC, "Elements of the Seaward Extension (U)," 14 Apr 1958, w/2 Inds (DOC 96).
14. Ibid., 2nd Ind, 8 May 1958.
15. Msg., CINCINORAD to COMCFWCR, NOOOP-T X066, 2 Jun 1958 (DOC 97); Interview with W/C J.F. Edwards, NOOOP, 21 Jul 1958; Msg., COMDR CFECR to Comdr 551st AEW&C Wg, CFECP 143, 12 Jun 1958 (DOC 98).

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16. Interview with W/C J.F. Edwards, NOOOP, 21 Jul 1958; Also see: Msg., CINCNORAD to COMCFECR & COMCFWCR, NOOOP-T 093, 24 Jun 1958 (DOC 99); Msg., CINCNORAD to COMCFECR & COMCFWCR, NOOOP-T 0109, 3 Jul 1958 (DOC 100).
17. Interview with Capt. H.C. Dewey, ORQ, ADC, 21 Jul 1958; Msg., ADC to Dir. Stat Svcs, USAF, ADCST-O 8257, 3 Jul 1958 (DOC 101).
18. CONAD/NORAD Historical Summary July-December 1957, p 44.
19. USAF to CINCNORAD, "Reduction of Flying Hours for AEW&C Aircraft," 17 Jan 1958, w/1 Incl (DOC 102).
20. NORAD to CFECR, "Operability of NORAD Forces," 21 Mar 1958, w/1 Incl (DOC 103); NORAD to CINCSAC, "Seaward Extension Elements (U)," 19 Mar 1958 (DOC 104); ADC Radar Status Report, 30 June 1958 (NORAD HRF 302.1B); Interview with Capt H.C. Dewey, ORQ, ADC, 21 Jul 1958.
21. ADC Commend Summary, p 4, C-23, 31 Mar 1958; C-26, 23 May 1958; C-24, 30 Apr 1958 (CONAD HRF 702B); ADC to USAF, "FY 59 Funding," 6 May 1958 (DOC 105).
22. Msg., CINCONAD to C/S, USAF, COOPR 003, 6 May 1958 (DOC 106).
23. Msg., USAF to CINCONAD, AFCCS 5745, 12 May 1958 (DOC 107); USAF to ADC, "FY 59 Funding," 29 May 1958 (DOC 108); ADC to C/S, USAF, "FY-59 AEW&Con Funding," 16 Jun 1958 (DOC 109).
24. ADC, Radar Status Report, 30 June 1958 (NORAD HRF 302.1); Also see: NORAD to CINCSAC, "Seaward Extension Elements (U)," 19 Mar 1958 (DOC 104).
25. Msg., USAF to CINCNORAD, AFXPD 57024, 27 Feb 1958 (DOC 110); Msg., CNO to CINCLANT, 14 May 1958 (DOC 111).
26. Msg., CINCNORAD to C/S, USAF, NOESS-E X024, 4 Mar 1958 (DOC 112).
27. Interview with Major F.D. Reeves, Jr., NOOOP, 5 Aug 1958.
28. Interview with Capt. H.C. Dewey, ORQ, ADC, 21 Jul 1958.
29. CONAD/NORAD Historical Summary July-December 1957, p 47.
30. ADC to CINCNORAD, "AEW&Con Coverage in the Gulf of Mexico and South Atlantic Areas," 20 May 1958, w/1 Ind & 1 Incl (DOC 113); Msg, COMDR CFECR to COMDR 26 CADD, et al, CFEP-8 017, 23 Jan 1958 (DOC 82).

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31. As in n 30 (DOC 113); Also see: COMNAVFORCONAD to CINC-NORAD, "ZPG-2W Airships," 26 Feb 1958 (DOC 114).
32. Incl 2 to ADC to CINCINORAD, "AEW&Con Coverage in the Gulf of Mexico and South Atlantic Areas," 20 May 1958 (DOC 113).
33. ARADCOM to ADC, CONAD, "Relocation of AN/FPS-36 Radars," 12 Dec 1957, w/2 Inds (DOC 74).
34. Ibid., 1st Ind., ADC to CINCONAD, 29 Jan 1958.
35. NORAD to Each Comp. Comd, "NORAD Surveillance System," 20 Mar 1958 (DOC 75).
36. As in n 33, 2d Ind, NORAD to ADC, 21 Mar 1958. Also see: NORAD to CG, ARADCOM, "(U) Deployment of AN/FPS-36 Radars," 21 Mar 1958 (DOC 76).
37. Memo to Gen. Atkinson and Hart from Gen. Partridge, "FPS-36 Radars," 24 Apr 1958 (DOC 77).
38. M/R, to NORAD to Comdr USAF ADC, et al, "(U) AN/FPS-36 Radars and Surveillance Requirements of Nike Defenses," 5 Jun 1958 (DOC 78).
39. As in n 38. Also see: Memo for General Partridge from Gen. Atkinson, "FPS-36 Radars," 5 May 1958 (DOC 79).
40. NORAD to Comdr ADC, et al, "(U) AN/FPS-36 Radars and Surveillance Requirements of NIKE Defenses," 5 Jun 1958 (DOC 78).
41. ADC to CONAD, "Master Direction Center Concept of Operations," 30 Jan 1958, w/5 Inds and 1 Incl (DOC 80).
42. Ibid., 1st Ind, NORAD to ADC, 20 Feb 1958.
43. As in n 42, 2d Ind, ADC to CONAD, 2 Mar 1958.
44. As in n 42, 4th Ind, ARADCOM to CONAD, 19 Apr 1958.
45. As in n 42, 5th Ind, NORAD to ADC, 1 May 1958.
46. NORAD to ADC, "Surveillance and Identification," 27 Sept 1957 (CONAD HRF 200).
47. ADC to CINCINORAD, "Surveillance and Identification," 22 Oct 1957 (CONAD HRF 200).
48. ADC to CINCINORAD, "Surveillance and Identification," 14 Jan 1958, w/1 Ind (DOC 116).

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49. ADC to D/C, USAF, "Designation of Air Defense Identification Zones (U)," 23 Jan 1958 (DOC 117).
50. NORAD to C/S, USAF, "Designation of Air Defense Identification Zones (U)," 21 Mar 1958 (DOC 118); DF, NOOPO to NOHCS, et al, "Designation of ADIZs (U)," 21 Apr 1958, w/1 Incl (DOC 119).
51. Ibid., Incl 1, USAF to CINCNORAD, 16 Apr 1958.
52. ADC to CINCONAD, "Southern Perimeter ADIZ (U)," 23 May 1958 (DOC 120); Interview with Maj J. H. Fuss, NOOOP, 15 Aug 1958.
53. NORAD to C/S, USAF, "Change in the Alaskan Coastal ADIZ (U)," 2 Jun 1958 (DOC 121).

CHAPTER FOUR

1. ADC, Radar Status Report, 30 June 1958 (NORAD HRF 302.1). Also see: CONAD/NORAD Historical Summary July-December 1957, pp 37-38; RCAF ADC Data and Program Book, 1 Apr 1958 (NORAD HRF 706B).
2. ADC to NORAD, "Manning of Canadian Sited Aircraft Control and Warning Activities," 4 Apr 1958 (DOC 123).
3. NORAD to COMUSAFADC, "Manning of Canadian Sited Aircraft Control and Warning Activities," 16 Apr 1958 (DOC 124).
4. NORAD to C/S, USAF, "Ground Environment Extension and Improvement in Canada," 21 Feb 1958 (DOC 125).
5. Ibid. Also see: ADC to CINCNORAD, "(U) Review of Radar Site Reports, Operation Pillow," 3 Mar 1958 (DOC 126); ADC to CINCONAD, "Preliminary Operational Concept for Frequency Diversity Radars (FD) (U)," 13 Feb 1958, w/1 Incl (DOC 127); Msg., USAF to CINCNORAD, AFOAC-E/A 55971, 31 Jan 1958 (DOC 128); Msg., USAF to CINCNORAD, AFOAC-E/A 45322, 13 Feb 1958 (DOC 129); Msg., CINCNORAD to COPS USAF, NOEEW X013, 5 Feb 1958 (DOC 130).
6. As in n 4.
7. USAF to CINCNORAD, "(U) Ground Environment Extension and Improvement in Canada," 20 Mar 1958 (DOC 131).
8. RCAF ADC to CINCONAD, "Air Defense Ground Environment Employment of DOT Radar Information," 27 Sept 1957, w/1 Incl and 1 Incl (DOC 132).

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9. Ibid., 1st Ind, 20 Dec 1957; Msg, CINCNORAD to CANAIRDEF, NOESS-E XC30, 18 Dec 1957 (DOC 133).
10. Msg., COMDR ADC to AOC CANAIRDEF and CAS CANAIRHED, ADORG-E 0170, 12 Feb 1958 (DOC 134).
11. CONAD/NORAD Historical Summary July-December 1957, p 38; AAC to ADC, "(U) Monthly ACW Status Change Report, RCS: 2-AF-V20, 17 Jul 1958 (data as of 30 June 1958) (NOESS files); AAC to ADC, "(U) Monthly ACW Status Change Report, RCS: 2-AF-V20," data as of 31 May 1958 (NOESS files).
12. CONAD/NORAD Historical Summary July-December 1957, pp 38-39.
13. Memo to CG, USARADCOM, "Air Defense Warning," 16 Jan 1958, w/1 Incl (DOC 135); NORAD to CINCAL, "Air Defense Warning," 17 Jan 1958, w/5 Incls (DOC 136).
14. As in n 12.
15. Msg., COMDR ADC to C/S, USAF, ADOCE-AN 3741, 14 Mar 1958 (DOC 137); Msg., COMDR ADC to COMDR AAC, ADOCE-AN 3748, 14 Mar 1958 (DOC 138); Also see: Msg., COMAAC to COMDR ADC, OF-3A 4539, 8 Mar 1958 (DOC 139); Msg., USAF to COMRAFD, AFMES-EA-2 59016, 3 Apr 1958 (DOC 140).
16. Msg., COMAAC to C/S, USAF, OC-3C7030, 20 Jan 1958 (DOC 141); 1st Ind (AAC to USAF, "C-E Package Plan for Fire Island and Murphy Dome," 31 Jan 1958), USAF to AAC, 14 Apr 1958, w/1 Incl (DOC 142); AAC to CINCAL, "Second AN/FPS-6 for F-1 and F-2 (Unclassified)," 27 May 1958, w/2 Incls and 2 Incls (DOC 143).
17. Ibid., 2nd Ind, 2 Jul 1958.
18. CINCAL to CINCNORAD, "(S) Radar Coverage Deficiency East of Anchorage," 3 Apr 1958, w/1 Ind (DOC 144).
19. Ibid., 1st Ind, 21 Apr 1958.
20. CONAD/NORAD Historical Summary July-December 1957, p 48, 50-51.
21. DF, ADOOP to ADODO, "(U) Survey of the DEW Radar System (DEW Line) 7 April - 5 May 1958," 11 Jun 1958 (DOC 145); Interview with Major D. Shelton, ADOOP, 15 Jul 1958; Also see: Msg., CANAIRDEF to CANAIRHED, AC 235, 14 Feb 1958 (DOC 146); Msg., COMDR 64th ADiv. to DOT AMIS Goose AB, OCC 5211, 10 Jun 1958 (DOC 147); Msg., Comdr 64th ADiv to Comdr ADC, V-003, 18 Feb 1958 (DOC 148).

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22. As in n 21. Also see: "ADC, Interim Instructions for DEW Line Operations," 1 Apr 1958 (DOC 149).
23. Interview with Major D. Shelton, ADOOP, 15 Jul 1958. Also see: Msg., COMDR APGC to COMDR BAF, PGY 225C, 13 Jun 1958 (NORAD HRF 306).
24. As in n 20.
25. As in n 20; Msg., COMAAC to COMADC, OC-07117, 14 Feb 1958 (DOC 150).
26. Msg., CH DEW/WA PO, to Dir of Comm, USAF, MCPYMP-3-E, 16 Jan 1958 (DOC 151); Msg., USAF to CINCAL, AFOAC-S/E 55625, 25 Jan 1958 (DOC 152); Msg., COMADC to COMAAC, ADOCE-CS 3657, 24 Feb 1958 (DOC 153); Interview with Major D. Shelton, ADOOP, 15 Jul 1958.
27. ADC to CINCNORAD, "Traffic Survey on DEW Line Rearward Circuits," 11 Feb 1958, w/1 Ind (DOC 154); DF, ADOOP-E to ADOCE-CS, "(U) Status of DEW System Communications Programs," 11 Jun 1958, w/1 Incl (DOC 155).
28. Ibid.
29. Ibid.
30. Ibid.
31. CONAD/NORAD Historical Summary July-December 1957, p 51; Also see: ADC to CINCNORAD, "Consolidated Northern Area Communications Requirements," 17 Jan 1958 (DOC 156).
32. USAF to CINCNORAD, "Review of North American Long Lines Facilities Related to Air Defense," 29 May 1958 (DOC 157); USAF to CINCNORAD, "Review of North American Long-Lines Facilities Related to Air Defense," 27 Jan 1958 (DOC 158).
33. USAF to CINCNORAD, "Operational Responsibilities Concerning the Land-Based DEW Line (U)," 14 Apr 1958 (DOC 159).
34. NORAD to C/S, USAF, "Operational Responsibilities Concerning the Land-Based DEW Line (U)," 17 Feb 1958 (DOC 160).
35. NORAD to ADC, "Distant Early Warning Line (U)," 31 Mar 1958 (DOC 161). Also see: DF, NOOOP-T to NOOOP, "Operational Control of DEW Line (U)," 17 Apr 1958 (DOC 162).
36. As in n 33. Also see: General E. E. Partridge to Lt. Gen. Frank A. Armstrong, Jr., "DEW Line," 25 Apr 1958 (DOC 163).

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37. EWOWG, "Summary of EWOWG Recommendations EWOWG Meeting, 19-22 Nov 1957," n.d., w/2 Incls (DOC 104 CONAD/NORAD Historical Summary July-December 1957); NORAD to C/S, USAF, "Termination of Early Warning Operations Working Group," 11 Feb 1958 (DOC 164); USAF to CINCNORAD, "Termination of Early Warning Operations Working Group," 28 Mar 1958 (DOC 165).
38. Msg., CINCPACFLT to COMNAVFORCONAD, 812, 1 Jul 1958 (DOC 167); CONAD/NORAD Historical Summary July-December 1957, p 56.
39. Interview with Capt. E. Tatom, NOOPO, 26 Aug 1958; Also see: Msg., CINCNORAD to COMCFWCR, NCOOP-T X057, 16 Apr 1958 (DOC 168); Msg., CINCPACFLT to CINCNORAD, CINCPACFLT 100322Z Jan 1958 (DOC 169); Msg., CINCAL to CINCNORAD, ALCOM CED 5016, 14 Jan 1958 (DOC 170); Msg., CINCNORAD to COMCFWCR, NOEPR-R X-025, 7 Mar 1958 (DOC 171).
40. Western Electric Company Inc., Quarterly Report, "Implementation of the Aleutian Segment of the Distant Early Warning System Project 540," w/2 Supplements, 30 Apr 1958, 30 Jun 1958, Section 1 (ADCOF-O files); Interview with Major D. Shelton, ADCOF-O, 15 Jul 1958.
41. As in n 40.
42. As in n 40. Also see: CONAD/NORAD Historical Summary July-December 1957, p 55.
43. Ibid., pp 55-56; USAF to CINCNORAD, "Review of North American Long-Lines Facilities Related to Air Defense," 27 Jan 1958, w/1 Incl (DOC 158); USAF to CINCNORAD, "Review of North American Long Lines Facilities Related to Air Defense," 29 May 1958, w/1 Incl (DOC 157). Also see: Msg., CINCNORAD to C/S, USAF, NOEPR X008, 17 Jan 1958 (DOC 166); Msg., CINCNORAD to COMUSAFADC, NOEPR-R X086, 19 May 1958 (NORAD HRF 57); Msg., CINCAL to CINCNORAD, ALCOM CED 5112, 4 May 1958 (NORAD HRF 306); Msg., CINCNORAD to CINCAL, NOEPR-R X074, 23 Apr 1958 (NORAD HRF 306).
44. CONAD/NORAD Historical Summary July-December 1957, p 54.
45. NORAD to C/S, USAF, "Reduction of Flying Hours for AEW&Con Aircraft," 27 Sept 1957 (DOC 86 in CONAD/NORAD Historical Summary July-December 1957).
46. Memorandum to CG, USAFADCOM from CINCNORAD, "Air Defense Warning," 16 Jan 1958, w/1 Incl (DOC 135).

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47. CNO to C/S, USAF, "Reduction of Flying Hours for AEW and Control Aircraft," 3 Jan 1958, w/1 Incl (DOC 102); CINCLANT to CINCNORAD, "Air Defense Warning," 10 Feb 1958, w/1 Incl (DOC 172); Msg., CNO to CINCLANT, MY 221472, 15 Jan 1958 (DOC 173); Msg., COMASDEFORLANT, CAT ALFA, 24 Apr 1958 (DOC 174).
48. CONAD/NORAD Historical Summary July-December 1957, p 53.
49. ADC to CINCONAD, "(U) Operational Plan for Greenland Segment (Interim)," 15 Jun 1958, w/1 Ind and 1 Incl (DOC 175).
50. Ibid. Also see: DF, NOOPO to NOHCS, "DEW Line Extension Across Greenland," 6 Feb 1958 (DOC 176); Msg., COMADC to CH DEW/WA Proj Office, ADOOP-0 0149, 10 Apr 1958 (DOC 177); Msg., DEW PO to CINCNORAD, MCPYL-85-E, 30 Apr 1958 (DOC 178); Msg., CINCNORAD to ASDEFORLANT, NOEPR-P X080, 1 May 1958 (DOC 179); Msg., CINCLANT to CINCNORAD, CAT ALFA, 24 Jun 1958 (DOC 180); Msg., CINCNORAD to CINCLANT, NOEPR-P X097, 25 Jun 1958 (DOC 181); CONAD to ADC, "(U) Operational Plan for Greenland Segment (Interim)," 3 Jul 1958, w/1 Incl (DOC 182).

CHAPTER FIVE

1. CONAD/NORAD Historical Summary July-December 1957, p 61; Msg., Comdr ADC to Dir Stat Svcs, USAF, ADCST-O 8257, 3 Jul 1958 (DOC 101).
2. As in n 1. Also see: Msg., COMCFWCR to COM9CADD, CWOOP CW8S-5030, 22 Mar 1958 (CONAD HRF 402); Msg., ADC to CADF, ADLPR C58-L8, 7 Mar 1958 (DOC 186); Msg., USAF to COMATC, AFOOP-UP-U 57348, 5 Mar 1958 (CONAD HRF 402).
3. Msg., COMDR ADC to Dir Stat Svcs, USAF, ADCST-O 8257, 3 Jul 1958 (DOC 101); ADC to CONAD, "Aircraft Summary," 6 Mar 1958 (DOC 187); ADC Program Vol. I, "Operating Forces," 15 May 1958, w/1 Change, 15 Jul 1958 (NOOPR files).
4. Memo for: DCS/Plans & Operations, "Conversion from One Type of Aircraft to Another," 7 Jan 1957 (DOC 188); ADC, FIPO to Comdr ADC, "Weapons Systems Stand-Down during Testing," 7 Apr 1958, w/2 Inds (DOC 189).
5. Ibid., 2nd Ind, 1 May 1958.
6. Msg., USAF to ADC, AFOOP-OP-U 54640, 3 Jan 1958 (DOC 190).
7. Msg., ADC to C/S, USAF, ADOOP-0 0026, 21 Jan 1958 (DOC 191).

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8. Msg., CINCNORAD to C/S, USAF, NOHCR X-007, 31 Jan 1958 (DOC 192).
9. Msg., USAF to CINCNORAD, et al, AFCRC 56458, 11 Feb 1958 (DOC 193).
10. DF, NOOOP to NOOPO, "Sterialization of ADC Bases," 17 Feb 1958 (DOC 194); Also see: Msg., CADF to ADC, CDOOT-F 0178, 20 Mar 1958 (DOC 195).
11. NORAD to COMJSAFADC, "F-104A/B Programming," 29 Jan 1958 (DOC 196); Msg., CINCNORAD to C/S, USAF, NOHCR X-001, 6 Jan 1958 (DOC 197); Msg., ADC to Dir Stat Svcs, USAF, ADCST-0 8257, 3 Jul 1958 (DOC 101).
12. Ibid.
13. Msg., Comdr 5040th ACW Gp to Comdr NORAD, ACW-COC 2018, 23 Jun 1958 (NORAD HRF 403).
14. DF, NOOOP to NOOPO, "Augmentation of FIS in Alaska," 1 Aug 1958 (DOC 200); USAF PG-60-1B, Program Guidance, June 1958 (NOOPR files).
15. CINCAL through CINCNORAD to DAF, "Fighter Interceptor Requirements for Alaska-1960 (UNCLASSIFIED)," 20 Mar 1958, w/1 Ind (DOC 201).
16. Ibid.
17. Msg., CINCNORAD to CINCAL, NOOPR X005, 1 Apr 1958 (DOC 202).
18. Msg., CINCAL to CINCNORAD, OPN 5097, 9 Apr 1958 (DOC 203); Also see: Msg, CINCAL to COMDRADC, OPN 5030, 25 Jan 1958 (DOC 204).
19. Msg., CINCNORAD to CINCAL, NOOPR X007, 22 Apr 1958 (DOC 205); As in n 15, 1st Ind, NORAD to C/S, USAF, 28 Apr 1958 (DOC 201).
20. USAF to CINCNORAD, "(U) Fighter Interceptor Aircraft Requirements for Alaska-1960," 19 May 1958, w/1 Ind (DOC 206).
21. Msg., CINCNORAD to C/S, USAF, NOOPR X026, 11 Jun 1958 (DOC 207).
22. Msg., USAF to CINCONAD, AFXPB 52515, 25 Jun 1958 (DOC 208).
23. As in n 14.

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24. As in n 14.
25. Msg., CANAIRDEF to CINCNORAD, AC 125, 16 Apr 1958 (DOC 209); Msg., CANAIRDEF to NORAD, AP 139, 24 Jun 1958 (NORAD HRF 302.1); RCAF ADC Data and Program Book, 1 Apr 1958, w/Change 1, dtd 1 May 1958 (NORAD HRF 706B); RCAF ADC Operations Plan 1/58, 1 Jan 1958 (NOOOP-T files).
26. Interview with Major D. C. Carlson, ADOOP-P, 7 Aug 1958.
27. Ibid.; Interview with Major A. W. Swigler, Jr., ADOOP-P, ADC, 4 Sept 1958.
28. 1st Ind (USAF to CONAD, "(U) Mobilization Assignment of Air National Guard Units," 6 May 1958), CONAD to C/S, USAF, 28 May 1958 (DOC 210).
29. Interview with Cmdr C.M. Craig, NAVFORCONAD, 1 Aug 1958. (Information from Navy Augmentation Monthly Reports, 30 Jun 1958).
30. RCAF ADC Operations Plan 1/58, 1 Jan 1958 (Annex B), Annex C (NOOOP-T files); RCAF ADC Operations Plan, 1 Jul 1958 (NOOOP-T files).
31. Interview with Mr. W. F. Mesch, Civ, G-3, O&T, USARADCOM, 1 Aug 1958; Interview with Lt. Col. R. J. Fitzsimmons, NOOPR, 5 Aug 1958.
32. CONAD/NORAD Historical Summary July-December 1957, p 66; Interview with Mr. W. F. Mesch, Civ, G-3, O&T, USARADCOM, 1 Aug 1958.
33. Ibid.
34. As in n 32.
35. USARADCOM, "Recommended Deployment Plan," 13 Mar 1958 (DOC 211). Also see: USARADCOM to CONAD, "USARADCOM NIKE Program, FY 59 (U)," 2 Nov 1957 (DOC 212); NORAD to CINCSAC, "NORAD Surface-to-Air Missile Deployment Plan (U)," 19 Feb 1958 (DOC 213); NORAD to CCFECC, "Nike Plans for the 58th Air Division (U)," 20 Feb 1958 (DOC 214); 1st Ind (USARADCOM to NORAD, "ARADCOM Recommended Deployment Plan (U)," 13 Mar 1958), NORAD to USARADCOM, 31 Mar 1958 (DOC 215).
36. CONAD/NORAD Historical Summary July-December 1957, pp 67-68.
37. USARADCOM, "ARADCOM Recommended Deployment Plan," 13 Mar 1958 (DOC 211); Interview with Lt. Col. Lewis H. Kirk, Jr., NGB In Off, USARADCOM, 4 Aug 1958.

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38. USARADCOM to DCS/O, D/A, "Legislation Governing National Guard On-Site Missile Units," 3 Feb 1958 (DOC 216); Interview with Lt. Col. Lewis H. Kirk, Jr., NGB Lia Off, USARADCOM, 4 Aug 1958.
39. Ibid.; CONAD/NORAD Historical Summary, July-December 1957, p 67.
40. USARAL to CINCAL, "Conversion to NIKE-Hercules (S)," 8 Jan 1958 (DOC 217); 1st Ind (USARADCOM to CONAD, "USARADCOM Recommended Deployment Plan (U)," 27 May 1958), CONAD to COMUSAFADC, 3 Jun 1958 (DOC 218).
41. NORAD to C/S, USAF, "(U) Employment of Reserve Forces," 7 Apr 1958 (DOC 219); Also see: Msg., USAF to CINCNORAD, AFKPD 47050, 29 Apr 1958 (DOC 220); Interview with Lt. Col. P. B. Aurand, NOOPR, 13 Aug 1958.

CHAPTER SIX

1. CONADR 55-8, "(Unclassified) Alert Requirements for Air Defense Units During Normal Preparedness," 1 Mar 1957 (DOC 211, in CONAD H.S. #1); CONADR 55-8A, "Alert Requirements for Air Defense Units During Normal Preparedness," 3 Jun 1957 (DOC 212, in CONAD H.S. # 1).
2. Msg., CINCONAD to COMUSAFADC, et al, COOOP-T X037, 21 Mar 1958 (DOC 221); CONAD/NORAD Historical Summary July-December 1957, p 72.
3. Ibid.
4. ADC Operations Plan 10-58, "Air National Guard Alert Program," 15 Apr 1958 (NORAD HRF 430.3); Interview with Major A.W. Zwigler, Jr., ADCOOP-P, ADC, 4 Sept 1958.
5. Interview with Major D.C. Carlson, ADCOOP-P, ADC, 15 Aug 1958.
6. CONAD/NORAD Historical Summary July-December 1957, pp 73-74; RCAF ADC, Operations Plan 1/58, 1 Jan 1958 (NOOOP-T files).
7. 64th CADD, Air Defense Plan Northeast Area 1-57, 1 Jul 1957, w/Change 1, dtd 25 Mar 1958, Annex C (NOOOP-T files). Also see: RCAF ADC Operations Plan 1/58, 1 Jan 1958 (NOOOP-T files).
8. ALCOM Regulation 55-11, 10 Oct 1957 (CONAD HRF 420).

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9. ALCOM Regulation 55-11, 11 Feb 1958 (DOC 230).
10. Msg., USAF to CINCONAD, AFOOP 53273, 15 Jul 1958 (CONAD HRF 257).
11. CONAD Regulation 55-3, "Increased Intelligence Watch, States of Preparedness, Air Defense Emergency, and Air Defense Warnings," 1 Nov 1955 (HRF Regulations).
12. Msg., CINCNOAD to CANAIRDEF, NOOOP X106, 17 Jul 1958 (NOOOP files). Also see: Msg., CANAIRDEF to CINCNOAD, A82, 16 Jul 1958 (NORAD HRF 420); Msg., COM NFENR to CINCNOAD, AC 748, 17 Jul 1958 (NORAD HRF 403).
13. Msg., CINCNOAD to COMCFECR, et al, COIOI-W-X154, 15 Jul 1958 (CONAD HRF 257).
14. Msg., CINCNOAD to COMNFENR, et al, NOOOP X101, 15 Jul 1958 (NORAD HRF 257); Msg., COMCFWCR to COMWESTSEAFRON, CWTC G-025, 16 Jul 1958 (NORAD HRF 257).
15. Msg., CINCNOAD to COMENR, et al, NOOOP X118, 22 Jul 1958 (DOC 231); Chart, Alert Commitments, prep for Weapons Div, NORAD, n.d. (DOC 232); ADC to CINCNOAD, "(U) Air Defense Command Status Under States of Preparedness," 21
16. Msg., CINCNOAD to COMENR, et al, NOOOP X120, 24 Jul 1958 (NORAD HRF 257). Also see: Msg., USAF to ALMAJCOM, APEX 000026, 18 Jul 1958 (CONAD HRF 257); Msg., CINCNOAD to COMNFENR, et al, NOOOP X105, 17 Jul 1958 (NORAD HRF 257); Msg., CINCNOAD to COMENR, et al, NOOOP X111, 18 Jul 1958 (DOC 234).
17. Chart, Alert Commitments, prep for Weapons Div, NORAD, n.d. (DOC 232); Msg., CINCONAD to CFECR, et al, COIOI-W-X181, 11 Aug 1958 (CONAD HRF 257); Msg., CINCNOAD to COMENR, et al, COC 08-003, 1 Aug 1958 (DOC 235); Msg., CANAIRDEF to CANAIRVAN, et al, AC 741, 2 Aug 1958 (DOC 236).
18. Msg., CINCNOAD to COMCFWCR, et al, NOOOP-T 084, 28 May 1958, w/1 Incl (DOC 237); Msg., ADC to WADF, et al, ADOOP-C 680, n.d. (DOC 238); Also see: CONAD Regulation 55-6, "Rules of Engagement," 13 May 1957 (DOC 217, in CONAD H. S. #1).
19. Msg., CINCNOAD to COMCFWCR, et al, NOOOP-T 084, 28 May 1958, w/1 Incl (DOC 237).
20. ALCOM Supplement #1 to CONADR 55-6, "Rules of Engagement," 4 Nov 1957 (DOC 173 in CONAD/NORAD H.S. July-December 1957); ALCOM Supplement #1 to CONADR 55-6, "Rules of Engagement," 27 Feb 1958 (DOC 239).

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21. RCAF to CINCNORAD, "Rules of Engagement Signalling of Intercepted Aircraft," 15 Oct 1957 (DOC 240).
22. NORAD to AOC RCAF ADC, "Rules of Engagement - Signalling of Intercepted Aircraft," 19 Feb 1958 (DOC 241).
23. NORAD to AOC RCAF ADC, "Rules of Engagement - Signalling of Intercepted Aircraft," 21 Mar 1958 (DOC 242).
24. Msg., CANAIRHED to NORAD, et al, AO 950, 3 Jun 1958 (DOC 243).
25. NORAD to CAS, RCAF, "Employment of the ME-1 Air-to-Air Rocket in NORAD Operations," 28 Oct 1957 (Doc 159, CONAD/NORAD H.S. Jul-Dec 1957).
26. Memorandum for DCS/P&O, "Authority to Use Atomic Weapons in Air Defense," 15 Apr 1958 (NORAD HRF 420). Also see: CONAD/NORAD Historical Summary July-December 1957, p 72.
27. As in n 26. Also see: NORAD to C/S, USAF, "Authority to Employ ME-1 Air-to-Air Rockets in NORAD Operations at Goose Bay, Canada," 28 Jan 1958 (DOC 222).
28. As in n 26, CONAD/NORAD Historical Summary July-December 1957, p 72.
29. Msg., CINCNORAD to C/S, USAF, NOOOP-T X042, 9 Apr 1958 (DOC 223); Msg., CINCNORAD to CANAIRHED, NOOOP-T X043, 9 Apr 1958 (DOC 224).
30. USAF to CINCNORAD, "(UNCLASSIFIED) Extension of Overflight Rights," 15 Jul 1958 (DOC 225); Msg., USAF to CINCNORAD, AFXPD 59989, 25 Apr 1958 (CONAD HRF 420); Msg., USAF to CINCNORAD, AFXPD-PY 52813, 2 Jun 1958 (DOC 226).
31. CINCNORAD to C/S, USAF, NOOOP-T X086, 25 Jun 1958 (DOC 227).
32. Msg., USAF to CINCNORAD, AFXPD 52738, 30 Jun 1958 (DOC 228); Msg., USAF to CINCNORAD, AFXPD 52676, 27 Jun 1958 (DOC 229); Also see: Msg., CINCNORAD to CINCAL, NOOOP-T X045, 3 Apr 1958 (CONAD HRF 420).
33. RCAF ADC Air Staff Instructions 2/14 "Air Defence Warnings," 30 Apr 1958, w/1 Incl (DOC 244); RCAF ADC Air Staff Instructions 2/13, "Air Defence Readiness," 30 Apr 1958 (DOC 244). Also see: NORAD to AOC RCAF ADC, "RCAF Air Staff Instructions - Reissues of ASI 2/13 and 2/14," 24 Feb 1958, w/1 Incl (DOC 245); CONAD/NORAD Historical Summary July-December 1957, pp 84-85.

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34. NORAD Manual 55-1, "NORAD Combat Surveillance and Tactical Action Reporting Procedures," Chp II, pp 9-10, April 1958 (DOC 246); NORAD to CINCAL, et al, "Nuclear Detonation Reporting (Uncl)," 12 Mar 1958 (DOC 247). Also see: TAC to CINCNORAD, "(U) Transmission of NUDET Reports," 19 May 1958, w/1 Ind (DOC 248).
35. Interview with Capt. M. E. Young, ADC, 13 Aug 1958; Also see: DF, NOELC to Brig Gen Tom Stayton, "Alert #1 Teletype Network," 31 Jan 1958 (DOC 249); ADC to NORAD, "New Alert #1 Network," 25 Jun 1958, w/1 Ind (DOC 250).
36. As in n 35.
37. NORAD to ADC, "Improvements to Alert Net #1," 28 Jul 1958 (DOC 251).
38. USAF to CINCNORAD, "Military Requirements for the Control of Electromagnetic Radiations (CONELRAD)," 8 Jan 1958, w/1 Incl (DOC 252).
39. Ibid., Incl 1, NORAD to C/S, USAF, 30 Jan 1958 (DOC 252); 1st Ind (USAF to CINCNORAD, "Military Requirement for the Control of Electromagnetic Radiations (CONELRAD)," 8 Jan 1958), NORAD to C/S, USAF, 11 Apr 1958 (DOC 253); Also see: Msg., CINCNORAD to CINCPACAF, NOOOP-T X023, 12 Feb 1958 (DOC 254).
40. Memorandum of Agreement Concerning the Emergency Control of Electromagnetic Radiations (CONELRAD), 9 May 1958 (DOC 255). Also see: Msg., CINCNORAD to C/S, USAF, NOOOP-T 036, 12 Feb 1958 (DOC 256).
41. Interview with Major J.T. Fuss, NOOOP, 15 Aug 1958.
42. NORAD to Each Rgn, "Installation of Operational Lines from SAC Control Tower to AADCP's," 21 Jan 1958, w/1 Ind (DOC 257).
43. Ibid., 1st Ind, Eastern Rgn to NORAD, n.d.; Central Rgn to NORAD, "Installation of Operational Lines from SAC Control Towers to AADCP's," 4 Mar 1958 (DOC 258).
44. NORAD to Each Rgn, "Installation of Operational Lines from SAC Facilities to Air Defense Direction Centers (U)," 2 Jun 1958 (DOC 259).
45. RCAF ADC to CINCNORAD, "Electronic Warfare Unit," 27 Feb 1958, w/1 Incl (DOC 260).

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46. Ibid., Incl 1, 24 Mar 1958.
47. RCAF ADC Program and Data Book, chg 1, 1 Apr 1958 (NORAD HRF 706B).
48. NORAD to C/S, USAF, "(U) NORAD ECCM Training," 24 Apr 1958 (DOC 261).
49. Ibid.

CHAPTER SEVEN

1. CONAD/NORAD Historical Summary July-December 1957, pp 90-91.
2. Msg., CINCNORAD to COMCFWCR, NOOOP-E X006, 13 Jan 1958 (DOC 262). Also see: General Curtis E. LeMay to General E.E. Partridge, "[Drones]," 24 Jan 1958 (DOC 263).
3. DF, NOOOP-E to NOOOP-E, "Observer Report Stationed at 28th ADCC Exercise 'Fir Fly', Phase I, 10 January 1958," 14 Jan 1958 (DOC 264). See Also: ADC to CINCNORAD, "Observer's Report Exercise 'Fir Fly'," 20 Jan 1958 (DOC 265); NORAD to ADC, "Commander's Summary Report of Exercise 'Fir Fly' Conducted 8-15 January 1958," 14 Feb 1958, w/2 Incls (DOC 266); Msg., COMCFWCR to CINCONAD, CWOOP 8S-5015, 17 Feb 1958 (DOC 267).
4. NORAD to CCFWCR, "(Unclassified) Exercise FIR FLY, Phase I," 17 Feb 1958, w/1 Ind (DOC 268).
5. 1st Ind (CFWCR to NORAD, "Exercise FIR FLY," 31 Dec 1957), NORAD to ADC, 4 Feb 1958 (DOC 269).
6. ADC to NORAD, "ADC Ground Environment Detection Capability," 1 Apr 1958 (DOC 270); Interview with Comdr E.C. Smith, Ch, T&E Div, NORAD, 7 Jul 1958. Also see: Msg., COMCFECCR to CG 1st RAADCOM, et al, CFECP-W 140, 7 May 1958 (CONAD HRF 601); ARADCOM to DCS/MO, D/A, "Exercise Pegasus (U)," 3 Jun 1958 (DOC 271).
7. Msg., COMCFECCR to Comdr 26th CADD, et al, CFEOP-W 052, 21 Feb 1958 (DONAD HRF 601); CFECCR to CINCNORAD, et al, "(U) Exercise Ocean Waves," 2 Jan 1958 (DOC 272); Interview with Comdr E.C. Smith, Ch T&E Div, NORAD 7 Jul 1958.
8. DF, NOOOP-E to NOOOP-E, "Observer Report Station at Hw NORAD COC Exercise 'Ocean Waves', 3 Mar 1958, 5 Mar 1958 (DOC 273); DF, Major Mooney to ADGCS, "Trip Report on Exercise OCEAN WAVES," 10 Mar 1958 (DOC 274).

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9. NORAD to CINCLANT, "NORAD Simulated Submarine-Launched Missile Exercise (Exercise OCEAN WAVES) (U)," 2 May 1958 (DOC 275); CFEER to CINCNORAD, "Summary and Evaluation Reports on Exercise 'Ocean Waves'," 2 Apr 1958, w/4 Incls (DOC 276).
10. As in n 9.
11. As in n 8; Interview with Comdr E.C. Smith, Ch T&E Div, NORAD, 7 Jul 1958.
12. CONAD/NORAD Historical Summary July-December 1957, pp 92-93.
13. Ibid.
14. DF, NOOPO to NOHCS, "SAC Bomber/ADC Fighter Interceptor Training," 28 Mar 1958, w/2 Incls (DOC 277); Msg., CINCNORAD to CINCASAC, NOOOP-E X018, 7 Feb 1958 (DOC 278); Interview with Lt Col E. B. Nuckols, NOOOP, 7 Jul 1958. Also see: Msg., COMADC to CINCASAC, ADOOP-A 0067, 18 Feb 1958 (DOC 279).
15. Msg., CANAIRDEF to CINCNORAD, A240, 1 Apr 1958 (DOC 280).
16. Msg., COMDR AAC to C/S, USAF, IG 02569, 17 May 1958 (DOC 281); Also see: Msg., CINCASAC to COMDR AAC, DOTRPW 4501, 15 Apr 1958 (DOC 282).
17. Msg., USAF to CINCASAC, AFOOP OC F/2 49548, 9 Jun 1958 (DOC 283). Also see: Msg., CINCASAC to C/S, USAF, DOTRPW 6397, 2 Jun 1958 (DOC 284); Msg., USAF to CINCASAC, et al, AFOOP OG 50771, 13 May 1958 (DOC 285).
18. Interview with Lt Col E.B. Nuckols, NOOOP-E, 7 Jul 1958. Also see: General E.E. Partridge to General Thomas S. Power, "Training," 6 May 1958, w/2 Incls (DOC 286).
19. Interview with Lt Col E.B. Nuckols, NOOOP-E, 7 Jul 1958; Msg., CINCNORAD to CINCASAC, NOOOP-E X081, 19 Jun 1958 (NORAD HRF 601); Msg., CINCNORAD to CINCASAC, NOOOP-E X083, 24 Jun 1958 (NORAD HRF 601). Also see: Msg., CINCNORAD to COMAF 15, NOOOP-E X088, 25 Jun 1958 (NORAD HRF 601).
20. Interview with Lt Col E.B. Nuckols, NOOOP-E, 7 Jul 1958. Also see: Msg., CINCNORAD to COMTAC, NOOOP-E 057, 3 Apr 1958 (NORAD HRF 601).
21. CONAD/NORAD Historical Summary July-December 1957, p 94; Interview with Mr. Roy E. Donegon, Jr. NOCOA, 9 Jul 1958.

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22. Plan for Phase I of the Evaluation of ECM Effectiveness, 22 Nov 1957 (NOEEW files).
23. Interview with Mr. Roy E. Donegon, Jr., NCOOA, 9 Jul 1958.

CHAPTER EIGHT

1. DA to DCS Intell., R&D, Ordnance, Engineers, ARADCOM, "Guidance for Conduct of Nike Zeus Program," 14 Feb 1958 (DOC 287).
2. Msg., JCS to CONAD, A937816, 1 Mar 1958 (DOC 288).
3. Ibid.
4. CONAD to USAF, "Proposed Deployment for Nike Zeus," 23 Apr 1958 (DOC 289).
5. NORAD to USAF, "Integration of Zeus Local Acquisition Radars with SAGE," 5 Jun 1958 (DOC 290).
6. Ibid.
7. NORAD to C/S, Army, "Integration of Zeus Local Acquisition Radars," 12 Jun 1958 (DOC 291).
8. Memorandum for the Sec of the Air Force from the Ass't Sec of Def, "Ballistic Missile Early Warning Program," 14 Jan 1958 (DOC 292); NORAD, M/R: BMEWR Briefing, " 7 Feb 1958 (DOC 293); Presentation on the AF Ballistic Missile Early Warning System to the PJBD, 22 Apr 1958 (DOC 294); ADC to NORAD, "Ballistic Missile Early Warning System (BMEWS)," 26 Mar 1958 (DOC 295); Msg., NORAD to USAF, COOPR X002, 28 Mar 1958 (DOC 296).
9. Msg., USAF to ADC, AFOAC-E/q 56124, 4 Feb 1958 (Doc 281, NORAD Hist Summary July-December 1957).
10. Msg., USAF to Ch BMEWS Proj Off, AFOAC 58309, 20 Mar 1958 (DOC 297).
11. Msg., USAF to AMC, AFOAC 50700, 10 May 1958 (DOC 298); Msg., USAF to AMC, AFOAC-E/A 50794, 13 May 1958 (DOC 299); Msg., AAC to Ch BMEWS Proj Off, OD-3 07171, 6 Mar 1958 (DOC 300); Msg., USAF to Ch BMEWS Proj Off, AFOAC-E/A 50921, 16 May 1958 (DOC 301); Memo for CINCNORAD from Cmir USAF ADC, "BMEWS Implementation," 29 May 1958 (DOC 302).

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12. Msg., USAF to Ch Ballistic Proj Off, AFDRQ 51908, 10 Jun 1958 (DOC 303).
13. Msg., NORAD to USAF, NOESS-E X095, 13 Jun 1958 (DOC 304).
14. NORAD Concept of BMEWS Operation, 11 Jun 1958, incl to 1st Ind, NORAD to ADC, 11 Jun 1958 to ADC to NORAD, "Central ZI Display," 28 May 1958 (DOC 305).
15. NORAD BMEWS and AICBM System Display, 30 Jun 1958, incl to NORAD to ADC, "ICBM-IRBM Defense Display System, NORAD," 30 Jun 1958 (DOC 306).
16. Msg., NORAD to USAF, NOEPR X014, 12 Feb 1958 (DOC 307).
17. Msg., USAF to NORAD, AFDRD-AD 58361, 21 Mar 1958 (DOC 308).
18. NORAD to C/S, USAF, USA, "AICBM Defense System," 7 Jul 1958 (DOC 309).
19. Gen Partridge to Gen Twining, 3 Jul 1958 (DOC 310).
20. Msg., USAF to NORAD, AFOAC-E/A 56339, 7 Feb 1958 (DOC 311).
21. Msg., NORAD to USAF, NOCPO X001, 14 Feb 1958 (DOC 312);
Msg., NORAD to USAF, NOHCR X010, 10 Feb 1958 (DOC 313).
22. Msg., NORAD to JCS, NOHCR X013, 3 Mar 1958 (DOC 314).
23. Msg., NORAD to JCS, NOHCR X034, 23 Apr 1958 (DOC 315).
24. Msg., NORAD to C/S, USA, NOHCR X036, 23 Apr 1958 (DOC 316).
25. Msg., DA to NORAD, DA 941954, 19 May 1958 (DOC 317).
26. Msg., USAF to NORAD, AFCVC 59831, 22 Apr 1958 (DOC 318).
27. JCS, Memo for CINCNORAD, SM-449-58, "Location of NORAD Headquarters," 30 Jun 1958 (DOC 319).
28. NORAD to ADC, "Location of NORAD Headquarters," 13 Aug 1958, v/1 Incl (DOC 320).

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MISSILE-GUN ALERT REQUIREMENTS *
(NORMAL PREPAREDNESS CONDITION)

30 June 1958

TABLE 12

AREA	FIRE UNITS	10-Min.	15-Min.	30-Min.	One-Hr.	Three-Hr.
CONUS	NIKE		25% at: Loring, Boston-Providence, Hartford-Bridgeport, Wash-Belt, New York, Phil, Norfolk, Travis, Hanford, Seattle, San Francisco, Los Angeles and Fairchild	25% at: Niagara- Buffalo, Pitts., Cleveland, Detroit, Chicago, Milwaukee, and Ellsworth		Remaining Operational
	90-120mm			25%		Remaining Operational
	75mm			33 1/3%		Remaining Operational
Thule	90mm	75%			25%	
Alaska	120mm			50%		Remaining Fire units

- * Source: (1) CONUS-ARADCOM: ARADCOM Tactical Operating Procedures Guide, 24 Jan 1958. CONADR 55-8, 1 Mar 1957.
(2) THULE: 64th CADD Air Defense Plan N. E. Area, 1 Jul 1957, Change 1, 25 Mar 1958.
(3) ALASKA: ALCOMR 55-11, 11 Feb 1958.

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DOCUMENT TO ROLL INDEX

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Frame Number	Classification Number	Date Period	Vol.	Pt.	Title	Security Classification	Remarks
4	K410.01-8A	Jul-Dec-57	3		History Air Defense Command	S	
164		Jul-Dec-57	4			S	
297		Jul-Dec-57	5			S	
454		Jul-Dec-57	6			S	
583	K410.01-8A	Jul-Dec-57	7			S	
715	K410.01-8B	Jan-Jun-57				S	
741	K410.01-8B	Jul-Dec-57				S	
782	K410.01-8C	Jul-Dec-57				S	
830	K410.01-9	Jan-Dec-58	7			U	
930	K410.01-9A	Jan-Jun-58	1		History Air Defense Command	S	
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