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 July-Dec. 1957
 Vol. IV
 RESEARCH
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CONAD / NORAD

HISTORICAL SUMMARY

(UNCLASSIFIED)

JULY - DECEMBER 1957

VOLUME III

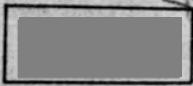
SUPPORTING DOCUMENTS

99 Through 131



RM-58-4933

4-2186-4





When filled in)

COPY OF INCOMING UNCLASSIFIED MESSAGE

100

This message in whole or in part is prohibited without approval of CONAD Ad/ops

SEE CRYPTO SECTION BEFORE DECLASSIFYING

29 Nov 1957

READING FILE

CONAD HIST FILE
306

CONC14
HQ.013
CR RJEPYB RJEDBR RJEDDN
DE RJPHQ 193
R 292206Z
FM HQ USAF WASH DC
TO RJEPYB/COMARDC BALTO MD
ZEN/COMAPGC EGLIN AFB FLA
RJEDBR/CINCSAC OFFUTT AFB OMAHA NEBR
RJEDDN/COMAIRDEFCON ENT AFB COLO
ZEN/DEWPC 229 CHURCH ST NYC
ZEN/RCAF ADC ST HUBERT CANADA
RJEDDN/CINCONAD ENT AFB COLO
BT

ACTION: COELC
X7-14294

[REDACTED] / CITE AFDRQ-AD/C. 53415 THIS IS AC CATEGORY MSG
FM 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
29/2225Z NOV RJEPHQ

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 AND 30044

READING FILE

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JOINT MESSAGE FORM

SECURITY CLASSIFICATION



ACTION	PRECEDENCE	TYPE MSG	BOOK	M	SINGLE	ACOUNTING SYMBOL	ORIG OR REFERS TO	CLASSIFICATION OF REFERENCE
	ROUTINE							
INFO	DEFERRED	SPECIAL INSTRUCTIONS						
FROM	COMADC							

Reproduced History

TO: COMAFPC EGE IN AFM FLA

INFO: COFS USAF WASHDC
 CI CSAC ONUTT AMB NEBR
 CHF LEW PROJECT OFFICE 220 CHURCH ST NY
 AOC CUNAIWDEF RCAF STA ST HUBERT QUE CANADA
 CINCPAC LEM AFB COLO (COMAIR)

AFRC-AD/C 53415
 CANSECURITY.
 Reference USAF message AFRC-AD/C 53415, 29 November, subject:
 AFPC Project No. AF3/ADA/1260A, Part III, Employment and Suitability,
 Test of LEW Line. Request this headquarters be advised at the
 earliest date as to what actions are required of this command in
 support of the above test.

Handwritten notes: 55, 21

DATE	TIME
DEC	21
MONTH	YEAR
DEC	1957

SYMBOL	ADCOOP-0	SIGNATURE	<i>John M. Kennedy</i>
	TYPED NAME AND TITLE (Sender, if required)		TYPED (or stamped) NAME AND TITLE
	S/L Anderson/lmd		JOHN M. KENNEDY, COL, USAF
	PHONE 276C		DIRECTOR OF OPERATIONS
SECURITY CLASSIFICATION	[Redacted]	UNCLASSIFIED	<i>22909</i>

FORM 173 (REV. 1-55)

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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.
- 43 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 Winisk, Ont.
- RCAF Station Knob Lake, Que.
- RCAF Station Great Whale, Que.

Info: Cmdr, USAF ADC, Colorado Springs, Colo
 Cmdr, CMBF, Grandview, Missouri
 CMB, AFHQ, Ottawa, Ont.

Visual Identification - Mid Canada Line

1 attached hereto is a copy of Air Navigation Order Series V, No. 14, which contains the regulations concerning flight through the CADIZ, MIDIZ and DEWIZ.

2 The regulations pertaining to the MIDIZ contain a requirement for pilots to request visual identification in circumstances where it is not possible for them to file a ground filed flight plan. This procedure was based on the assumption that DDS's at which beacons were located would not be unmanned until sometime in late 1958. It was recognized during the planning stages that the visual ident procedure was a temporary arrangement only and would ultimately have to be replaced.

3 As you are aware, unmanning of DDS's is already underway and therefore it is now necessary to revise our interpretation of the visual ident requirement until such time as a substitute method of identification can be devised to cover this type of traffic.

4 Accordingly, operations staffs on the Mid Canada Line are to perform visual identification as follows:

- (a) If the MIDIZ beacon nearest an aircraft requesting visual ident is a manned unit, visual identification procedures are to apply.

(c) In both the above cases, units are to ensure that an air filed flight plan is received from the pilot.

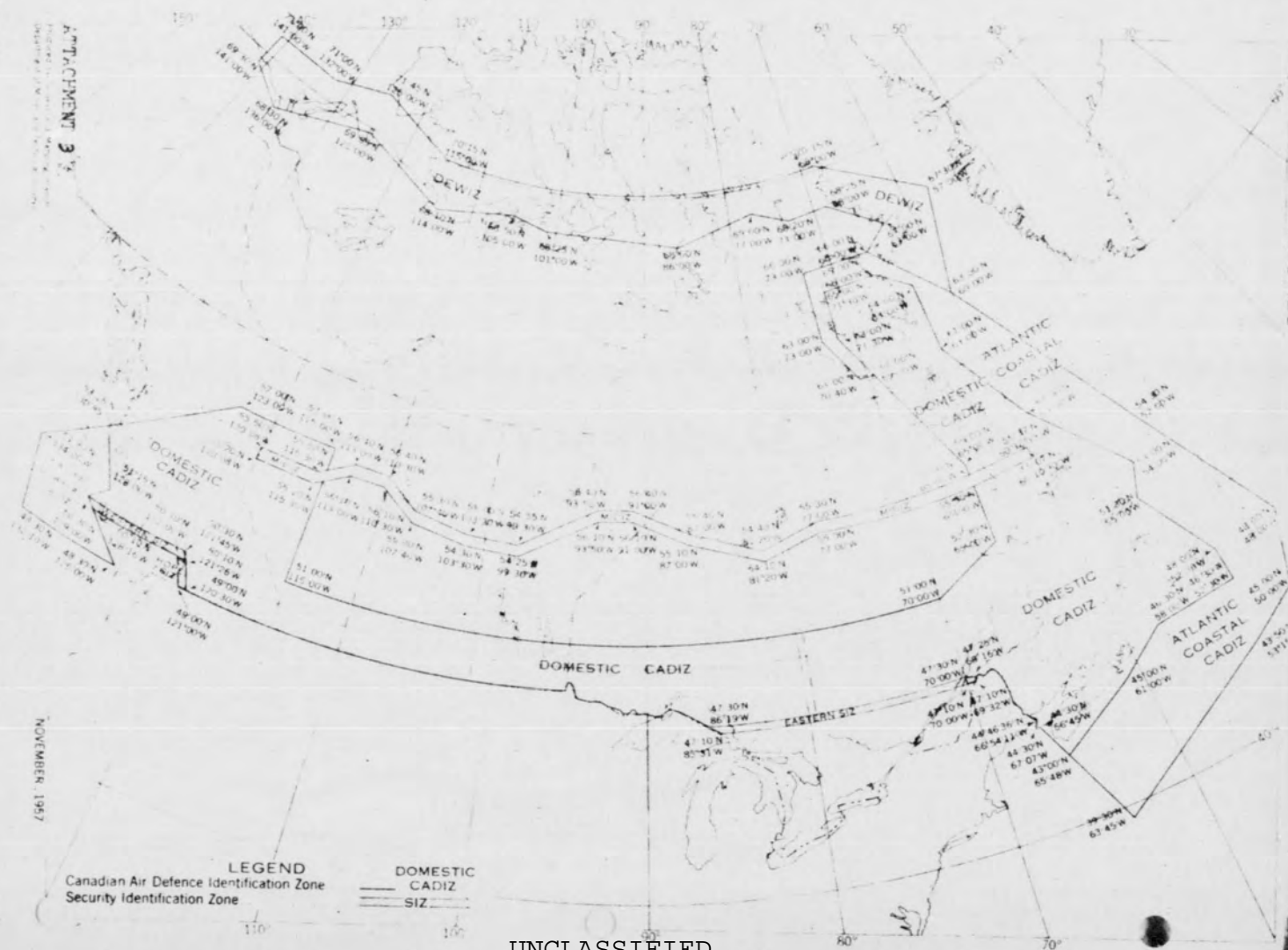
5 In reporting a penetration under para 4(b) above, units are to designate the aircraft as Unknown and in item 9 of the teletype telling sequence insert the words "Air File".

6 Distribution of the Air Navigation Order mentioned in para 1 above will be complete very shortly, therefore, units are requested to be on the alert and ready to assist aircraft in complying with the MIDIZ regulations.

D. H. Swinn
(D.H. Swinn) S/C.
for ACC ADC.

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ATTACHMENT 3
CANADIAN AIR DEFENCE IDENTIFICATION ZONE
SECURITY IDENTIFICATION ZONE



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AERONAUTICS ACT

Security Control of Air Traffic Order

AIR NAVIGATION ORDER, SERIES V, No. 14

The Minister of Transport pursuant to the Aeronautics Act and the Air Regulations, is pleased hereby to make the annexed Security Control of Air Traffic Order (Air Navigation Order, Series V, No. 14).

Dated at Ottawa, the 28th day of October, 1957

GEORGE HEES,
Minister of Transport

NOVEMBER 13, 1957
No. 21

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AIR NAVIGATION ORDER SERIES V No. 14

Security Control of Air Traffic

1. (1) In this Order,
- (a) "coastal CADIZ" or "Coastal Canadian Air Defence Identification Zone" means the airspace extending upward from those areas off the coast of Canada described in Schedule A,
 - (b) "domestic CADIZ" or "Domestic Canadian Air Defence Identification Zone", means the airspace extending upward from that area of Canada described in Schedule B,
 - (c) "DEWIZ" or "Distant Early Warning Identification Zone" means the airspace extending upward from the areas of Canada described in Schedule C,
 - (d) "DEWIZ aerodrome" means an aerodrome described in Schedule D,
 - (e) "DEWIZ beacon", means a non-directional low frequency radio navigation aid beacon operating on the DEWIZ and described in Schedule E,
 - (f) "DVFR" or "Defence Visual Flight Rules" means the rules governing a VFR flight conducted in accordance with the provisions of this Order,
 - (g) "DVFR Flight Plan", means a flight plan which
 - (i) the contents of a VFR Flight plan as set out in Schedule I of the Flight Plans Order, Aeronautics Order, Series V, No. 4, and
 - (ii) states the altitude above sea level to be flown.
 - (h) "MIDIZ" or "Mid Canada Identification Zone" means the airspace extending upward from that area of Canada described in Schedule F,
 - (i) "MIDIZ beacon", means a non-directional low frequency radio navigation aid beacon operating within the MIDIZ, and described in Schedule G,
 - (j) "MIDIZ clearance aerodrome", means an aerodrome described in Schedule H, at which communication facilities exist for the immediate forwarding of flight plans to a MIDIZ beacon or an appropriate air traffic control unit,
 - (k) "SIZ" or "Security Identification Zone" means an airspace extending upward to an altitude of 3,000 feet above the terrain over the area described in Schedule I,
 - (l) "southbound", means in a southerly direction on any route between 091° true and 269° true,
 - (m) "westbound" means in a westerly direction on any route between 153° true and 331° true.
- (2) In this Order, a reference to a time or estimated time shall be to Greenwich Mean Time.

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PART I

Domestic Cadiz Rules

2. In the airspace extending upward from that area where a portion of the MIDIZ lies within the CADIZ, the rules for flight within the MIDIZ shall apply.

3. No person shall operate an aircraft into or within a domestic CADIZ above 3,000 feet above terrain unless he has filed an IFR or DVFR flight plan with an appropriate air traffic control unit.

4. Position reports or estimates of domestic CADIZ penetration above 3,000 feet above terrain shall be provided to an appropriate air traffic control unit as follows:

- (a) an IFR flight within controlled airspace shall comply with normal IFR position reporting requirements;
- (b) an IFR flight outside controlled airspace or a DVFR flight shall report
 - (i) over the last reporting point on the route of the flight prior to entering the domestic CADIZ its position, altitude, time and estimated time of arrival over its next reporting point, or
 - (ii) if it is impossible to make the report and estimate referred to in subparagraph (i), it shall report its altitude and estimated time and place of penetration at least 15 minutes prior to penetrating the domestic CADIZ.

PART II

Coastal Cadiz Rules

5. No person shall operate an aircraft into or within a coastal CADIZ unless he has filed an IFR or DVFR flight plan with an appropriate air traffic control unit.

6. A flight shall not penetrate a coastal CADIZ toward Canada unless an appropriate air traffic control unit is provided with position reports required by the instrument flight rules and, in addition, a position report is made at the time of the penetration.

PART III

Security Identification Zone Rules

7. No person shall operate an aircraft southbound into the Eastern or Western SIZ or westbound into the Hope SIZ unless he has filed an IFR or DVFR flight plan with an appropriate air traffic control unit.

8. Subject to section 9, position reports or estimates of Eastern or Western SIZ penetration southbound or penetration of the Hope SIZ westbound shall be provided to an appropriate air traffic control unit as follows:

- (a) an IFR Flight within controlled airspace shall comply with normal IFR position reporting requirements,

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- (b) an IFR Flight outside controlled airspace or a DVFR flight shall report
- over the last reporting point on the route of flight prior to entering the SIZ its position, altitude, time and estimated time of arrival over its next reporting point, or
 - if it is impossible to make the report and estimate referred to in subparagraph (i) it shall report its altitude and estimated time and place of penetration at least 15 minutes prior to penetrating the SIZ.

9. If it is impossible to make the report and estimate required by paragraph (b) of section 8, an aircraft shall be operated for at least five minutes at an indicated airspeed of 110 knots and shall

- when penetrating the eastern or western SIZ southbound maintain a route between 170° true and 190° true, or
- when penetrating the Hope SIZ westbound maintain a route between 230° true and 250° true.

PART IV

Mid Canada Identification Zone Rules

10. The pilot-in-command of an aircraft departing from a location which has facilities for the immediate transmission of flight plans to an appropriate air traffic control unit shall

- file an IFR or DVFR flight plan for any flight which will operate within or penetrate the MIDIZ southbound,
- include in such flight plan the estimated time and place of MIDIZ penetration where applicable,
- establish radio contact with a MIDIZ beacon at least 5 minutes before penetrating the MIDIZ southbound or immediately after take-off from within the MIDIZ and make a position report, and
- obtain authorization before proceeding with the flight.

11. For a flight which will penetrate the MIDIZ southbound or operate within the MIDIZ, the pilot-in-command, when departing from a location which does not have facilities for the immediate transmission of flight plans to an appropriate air traffic control unit, shall

- land at a location which has facilities for the immediate transmission of flight plans to an appropriate air traffic control unit or MIDIZ beacon and proceed in accordance with section 10, or
- establish radio contact with a MIDIZ beacon at least 5 minutes before penetrating the MIDIZ southbound or immediately after take-off from within the MIDIZ, and
 - file an IFR or DVFR flight plan, and
 - request visual identification and in accordance with instructions proceed to the nearest MIDIZ beacon and circle the beacon VFR at an altitude not exceeding 4000 feet above terrain until an authorization is obtained from the MIDIZ beacon to proceed with the flight.

12. No person shall conduct a flight on a route through the MIDIZ or from point to point within the MIDIZ at an angle of less than 45° to the length of the MIDIZ unless special arrangements have been made through an appropriate air traffic control unit, or MIDIZ beacon.

PART V

Distant Early Warning Identification Zone

13. The pilot-in-command of a flight originating outside Canada or a non-stop flight originating in Canada which penetrates the DEWIZ inbound shall

- (a) file an IFR or DVFR flight plan before take-off from the last location prior to penetrating the DEWIZ inbound, and shall include in the flight plan the estimated location and time of inbound penetration,
- (b) prior to DEWIZ penetration, establish radio-telephone communications with an appropriate DEWIZ beacon and transmit a position report,
- (c) penetrate the DEWIZ within plus or minus one hour and plus or minus 100 nautical miles of his flight plan estimate of time and place of penetration,
- (d) when requested to do so by a DEWIZ beacon, amend his flight planned estimate of time and place of penetration of the DEWIZ in minutes early or late and nautical miles east or west,
- (e) maintain a continuous listening watch on the frequency on which communication has been established with the appropriate DEWIZ beacon until the flight is through the DEWIZ, and
- (f) maintain an altitude at least 6000 feet above terrain, unless the safety of the flight requires operation at a lower altitude.

14. A flight operating laterally within the DEWIZ shall only originate at a base having facilities to forward flight plan information to a DEWIZ beacon, and the pilot-in-command shall

- (a) before take-off, file an IFR or DVFR flight plan, with a DEWIZ beacon or an appropriate air traffic control unit,
- (b) establish radio-telephone communications with a DEWIZ beacon as soon as possible after take-off and provide a position report,
- (c) where practicable, conduct as much of the flight as is possible south of the DEWIZ and operate in accordance with radar advisory navigation provided through the DEWIZ beacon,
- (d) report any deviation in excess of 5 minutes of his estimate or 10 nautical miles of his flight planned track to a DEWIZ beacon, and
- (e) maintain a continuous listening watch on the frequency on which

15. The pilot-in-command of a flight originating north of the DEWIZ where facilities do not exist for forwarding flight plans to a DEWIZ beacon or an appropriate air traffic control unit shall

- (a) operate under VFR conditions while in the DEWIZ,
- (b) establish radio-telephone communication with an appropriate DEWIZ beacon prior to entering the DEWIZ and transmit a position report,
- (c) proceed in accordance with instructions issued by a DEWIZ beacon, which will normally require the flight,
 - (i) to proceed to the nearest DEWIZ beacon for visual identification, or
 - (ii) to land at a stated location,
- (d) maintain a continuous listening watch on the frequency on which communications have been established with a DEWIZ beacon until released by the beacon, and
- (e) maintain an altitude of at least 6000 feet above terrain, unless the safety of the flight requires operation at a lower altitude.

PART VI

General

16. The pilot-in-command of an aircraft shall revise his position report with the appropriate air traffic control unit or MIDIZ beacon when the aircraft is not within

- (a) a time tolerance of plus or minus 5 minutes of the estimated time over a reporting point, or point of penetration of a CADIZ, SIZ or MIDIZ or the point of destination within a CADIZ or MIDIZ, or
- (b) a distance tolerance of 10 nautical miles from the centre line of the route of flight indicated on the flight plan or the estimated point of penetration of a CADIZ, SIZ or MIDIZ.

17. No person shall operate an aircraft on an IFR or a DVFR flight plan into or within any identification zone unless it is equipped with a two-way radio capable of permitting the communications required by this Order.

18. No deviation shall be made from a DVFR or IFR flight plan filed for a flight into or within an identification zone unless

- (a) prior notification is given to the appropriate air traffic control unit or MIDIZ or DEWIZ beacon, or
- (b) where prior notification is not possible, the deviation is reported to an appropriate air traffic control unit or MIDIZ or DEWIZ beacon as soon as practicable.

19. When, due to an emergency, the pilot-in-command of an aircraft is unable to comply with any provision of this Order he shall submit a detailed report of the emergency in writing to the Director General, Air Services within 48 hours of the emergency.

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20. In the event of a radio failure, the pilot-in-command shall,
- (a) on an IFR flight, comply with the requirements of Air Navigation Order, Series V, No. 5, and
 - (b) on a DVFR flight, proceed in accordance with his flight plan or shall land at the nearest suitable aerodrome on the route of flight specified in his flight plan.

SCHEDULE "A"

1. The Pacific coastal CADIZ is the air-space extending upward from the area described as follows: commencing at

Latitude 48°30' North, Longitude 125°00' West; thence to
 Latitude 48°30' North, Longitude 132°10' West; thence to
 Latitude 51°30' North, Longitude 134°00' West; thence to
 Latitude 53°28' North, Longitude 130°35' West; thence to
 Latitude 51°15' North, Longitude 128°00' West; thence to
 Latitude 50°30' North, Longitude 129°00' West; thence to
 Latitude 50°10' North, Longitude 128°16' West; thence to
 the point of beginning.

2. The Atlantic coastal CADIZ is the airspace extending upward from the area described as follows, commencing at

Latitude 43°00' North, Longitude 65°48' West; thence to
 Latitude 45°00' North, Longitude 61°00' West; thence to
 Latitude 46°30' North, Longitude 58°00' West; thence to
 Latitude 46°30' North, Longitude 52°30' West; thence to
 Latitude 48°00' North, Longitude 52°30' West; thence to
 Latitude 51°30' North, Longitude 55°00' West; thence to
 Latitude 53°00' North, Longitude 54°00' West; thence to
 Latitude 57°00' North, Longitude 59°00' West; thence to
 Latitude 61°00' North, Longitude 63°00' West; thence to
 Latitude 64°00' North, Longitude 63°00' West; thence to
 Latitude 65°00' North, Longitude 66°00' West; thence to
 Latitude 65°00' North, Longitude 71°30' West; thence to
 Latitude 63°00' North, Longitude 71°30' West; thence to
 Latitude 61°00' North, Longitude 69°20' West; thence to
 Latitude 61°00' North, Longitude 70°40' West; thence to
 Latitude 63°00' North, Longitude 73°00' West; thence to
 Latitude 66°00' North, Longitude 73°00' West; thence to
 Latitude 66°00' North, Longitude 66°00' West; thence to
 Latitude 63°00' North, Longitude 60°00' West; thence to
 Latitude 54°30' North, Longitude 52°00' West; thence to
 Latitude 48°00' North, Longitude 48°00' West; thence to
 Latitude 45°00' North, Longitude 50°00' West; thence to
 Latitude 43°50' North, Longitude 53°15' West; thence to
 Latitude 39°30' North, Longitude 63°45' West; thence to
 the point of beginning.

SCHEDULE "B"

1. The domestic CADIZ is the airspace extending upward from the area described as follows: commencing at

Latitude 53°28' North, Longitude 130°35' West; thence to
 Latitude 57°00' North, Longitude 123°00' West; thence to
 Latitude 57°00' North, Longitude 115°00' West; thence to
 Latitude 51°00' North, Longitude 115°00' West; thence to
 Latitude 51°00' North, Longitude 70°00' West; thence to
 Latitude 52°30' North, Longitude 65°00' West; thence to
 Latitude 56°00' North, Longitude 65°00' West; thence to
 Latitude 63°00' North, Longitude 71°30' West; thence to
 Latitude 65°00' North, Longitude 71°30' West; thence to
 Latitude 65°00' North, Longitude 66°00' West; thence to
 Latitude 64°00' North, Longitude 63°00' West; thence to
 Latitude 61°00' North, Longitude 63°00' West; thence to
 Latitude 57°00' North, Longitude 59°00' West; thence to
 Latitude 53°00' North, Longitude 54°00' West; thence to
 Latitude 51°30' North, Longitude 55°00' West; thence to
 Latitude 48°00' North, Longitude 52°30' West; thence to
 Latitude 46°30' North, Longitude 52°30' West; thence to
 Latitude 46°30' North, Longitude 58°00' West; thence to
 Latitude 45°00' North, Longitude 61°00' West; thence to
 Latitude 43°00' North, Longitude 65°48' West; thence to
 Latitude 44°30' North, Longitude 66°45' West; thence to
 Latitude 44°30' North, Longitude 67°07' West; thence to
 Latitude 44°46'36" North, Longitude 66°54'11" West; thence along
 the United States-Canadian Boundary to
 Latitude 47°10' North, Longitude 69°32' West; thence to
 Latitude 47°10' North, Longitude 85°31' West; thence along
 the United States-Canadian Boundary to
 Latitude 49°00' North, Longitude 121°00' West; thence to
 Latitude 50°10' North, Longitude 122°00' West; thence to
 Latitude 50°10' North, Longitude 128°16' West; thence to
 Latitude 50°30' North, Longitude 129°00' West; thence to
 Latitude 51°15' North, Longitude 128°00' West; thence to
 the point of beginning.

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SCHEDULE "C"

1. The DEWIZ is the airspace extending upward from the area described as follows: commencing at

Latitude 71°00' North, Longitude 141°00' West; thence to
Latitude 71°00' North, Longitude 132°00' West; thence to
Latitude 71°45' North, Longitude 125°00' West; thence to
Latitude 70°15' North, Longitude 115°00' West; thence to
Latitude 70°15' North, Longitude 68°00' West; thence to
Latitude 67°30' North, Longitude 57°00' West; thence to
Latitude 63°00' North, Longitude 60°00' West; thence to
Latitude 66°00' North, Longitude 66°00' West; thence to
Latitude 67°00' North, Longitude 63°00' West; thence to
Latitude 68°25' North, Longitude 68°00' West; thence to
Latitude 68°20' North, Longitude 73°00' West; thence to
Latitude 69°00' North, Longitude 77°00' West; thence to
Latitude 68°00' North, Longitude 86°00' West; thence to
Latitude 68°25' North, Longitude 101°00' West; thence to
Latitude 68°50' North, Longitude 105°00' West; thence to
Latitude 68°10' North, Longitude 114°00' West; thence to
Latitude 69°55' North, Longitude 125°00' West; thence to
Latitude 68°30' North, Longitude 136°00' West; thence to
Latitude 69°30' North, Longitude 141°00' West; thence to
the point of beginning.

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SCHEDULE "D"

1. The DEWIZ aerodromes are located as follows:

<i>Place</i>	<i>Location</i>
Cape Dyer	Latitude 66°34'30" North, Longitude 91°37'00" West
Proughton	Latitude 67°33'00" North, Longitude 64°03'00" West
Cape Hooper ..	Latitude 68°25'30" North, Longitude 66°46'30" West
Mid-Baiba	Latitude 68°39'20" North, Longitude 71°09'30" West
Foley	Latitude 68°56'30" North, Longitude 75°18'00" West
Rowley	Latitude 69°05'00" North, Longitude 79°02'00" West
Hall Lake	Latitude 68°46'30" North, Longitude 81°14'00" West
West Melville .	Latitude 68°18'13" North, Longitude 85°40'35" West
West Simpson .	Latitude 68°26'15" North, Longitude 89°39'00" West
Shepherd Bay .	Latitude 68°49'00" North, Longitude 93°24'30" West
King William .	Latitude 68°39'30" North, Longitude 97°48'00" West
Jenny Lind ...	Latitude 68°39'10" North, Longitude 101°43'39" West
Cambridge Bay	Latitude 69°06'00" North, Longitude 105°08'00" West
Unnamed Point	Latitude 68°45'10" North, Longitude 109°04'12" West
Lady Franklin .	Latitude 68°29'33" North, Longitude 113°13'11" West
Young Point ..	Latitude 68°56'10" North, Longitude 116°55'52" West
Clinton Point .	Latitude 69°35'32" North, Longitude 120°44'45" West
Cape Parry ...	Latitude 70°10'05" North, Longitude 124°41'10" West
Nicholson	Latitude 69°57'00" North, Longitude 128°54'30" West
Tuk Tuk	Latitude 69°26'45" North, Longitude 133°00'19" West
Shingle Point ..	Latitude 68°57'00" North, Longitude 137°12'00" West

SCHEDULE "E"

DEWIZ beacons are described as follows:

Name	Location	Identification	Frequency	Transmitting Frequencies	Receiving Frequencies
.....	Latitude 66°38'30" North Longitude 61°23'20" West	VN	248 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s
.....	Latitude 67°35'19" North Longitude 63°49'16" West	VM	230 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s
.....	Latitude 68°26'15" North Longitude 66°44'00" West	UZ	287 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s
.....	Latitude 68°40'47" North Longitude 71°14'48" West	UW	324 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s
.....	Latitude 68°53'45" North Longitude 75°09'38" West	UV	275 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s

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SCHEDULE "E" (Continued)

Name	Location	Identification	Frequency	Transmitting Frequencies	Receiving Frequencies
Rowley.....	Latitude 69°03'30" North Longitude 79°01'37" West	UG	257 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s
Hall Lake.....	Latitude 68°45'25" North Longitude 81°13'35" West	UX	239 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s
West Melville.....	Latitude 68°18'03" North Longitude 85°40'29" West	UU	212 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s
West Simpson.....	Latitude 68°26'42" North Longitude 89°45'14" West	UF	201 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s
Shepherd Bay.....	Latitude 68°48'38" North Longitude 93°25'57" West	US	321 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s
King William.....	Latitude 68°40'16" North Longitude 97°48'36" West	UR	300 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s

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SCHEDULE "E" (Continued)

Name	Location	Identification	Frequency	Transmitting Frequencies	Receiving Frequencies
Jenny Lind.....	Latitude 68°40'12" North Longitude 101°43'40" West	UQ	218 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s
Cambridge Bay.....	Latitude 59°06'47" North Longitude 105°07'10" West	VK (In operation only when CB beacon in-operative)	245 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s
.....	Latitude 69°06'00" North Longitude 105°08'00" West	CB	245 kc/s	4355 kc/s 4703.5 kc/s	4355 kc/s 4703.5 kc/s 3023.5 kc/s
Unnamed Point.....	Latitude 68°45'30" North Longitude 109°04'12" West	UK	272 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s
Lady Franklin.....	Latitude 68°28'42" North Longitude 113°12'32" West	UJ	227 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s

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SCHEDULE "E" (Concluded)

Name	Location	Identification	Frequency	Transmitting Frequencies	Receiving Frequencies
Young Point.....	Latitude 68°55'47" North Longitude 116°56'45" West	UI	200 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s
Clinton Point.....	Latitude 69°54'40" North Longitude 120°47'50" West	UH	209 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s
Cape Parry.....	Latitude 70°10'20" North Longitude 121°43'40" West	UE	203 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s
Nicholson.....	Latitude 69°53'33" North Longitude 128°58'13" West	UC	254 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s
Tuk Tuk.....	Latitude 69°26'38" North Longitude 132°59'34" West	UB	236 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s
Shingle Point.....	Latitude 68°56'41" North Longitude 137°13'06" West	UA	221 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s	122.2 mc/s 121.5 mc/s 236.6 mc/s 243.0 mc/s 5295 kc/s 3023.5 kc/s

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SCHEDULE "F"

1. The MIDIZ is the airspace extending upward from the area described as follows: commencing at

Latitude 55°50' North, Longitude 120°08'30" West; thence to
 Latitude 55°50' North, Longitude 115°30' West; thence to
 Latitude 56°40' North, Longitude 113°00' West; thence to
 Latitude 56°40' North, Longitude 110°30' West; thence to
 Latitude 55°30' North, Longitude 107°40' West; thence to
 Latitude 55°00' North, Longitude 103°30' West; thence to
 Latitude 54°55' North, Longitude 99°30' West; thence to
 Latitude 56°40' North, Longitude 93°50' West; thence to
 Latitude 56°40' North, Longitude 91°00' West; thence to
 Latitude 55°40' North, Longitude 87°00' West; thence to
 Latitude 54°40' North, Longitude 81°20' West; thence to
 Latitude 55°30' North, Longitude 77°00' West; thence to
 Latitude 55°30' North, Longitude 65°00' West; thence to
 Latitude 55°37' North, Longitude 60°10'30" West; thence to
 Latitude 55°07' North, Longitude 60°10'30" West; thence to
 Latitude 55°00' North, Longitude 65°00' West; thence to
 Latitude 55°00' North, Longitude 77°00' West; thence to
 Latitude 54°10' North, Longitude 81°20' West; thence to
 Latitude 55°10' North, Longitude 87°00' West; thence to
 Latitude 56°10' North, Longitude 91°00' West; thence to
 Latitude 56°10' North, Longitude 93°50' West; thence to
 Latitude 54°25' North, Longitude 99°30' West; thence to
 Latitude 54°30' North, Longitude 103°30' West; thence to
 Latitude 55°00' North, Longitude 107°40' West; thence to
 Latitude 56°10' North, Longitude 110°30' West; thence to
 Latitude 56°10' North, Longitude 113°00' West; thence to
 Latitude 55°20' North, Longitude 115°30' West; thence to
 Latitude 55°20' North, Longitude 120°08'30" West; thence to
 the point of beginning.

SCHEDULE "G"

1. The MIDIZ beacons are described as follows:

Name	Location	Identification	Frequency	Transmitting Frequencies	Receiving Frequencies
Harp Lake.....	Latitude 55°18'39" North Longitude 61°49'30" West	EB	358 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Border.....	Latitude 55°20'01" North Longitude 63°16'15" West	EC	318 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Advance.....	Latitude 55°16'10" North Longitude 64°49'15" West	EE	284 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Retty.....	Latitude 55°15'44" North Longitude 66°04'15" West	EF	220 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Knob Lake.....	Latitude 54°50' North Longitude 66°50' West	KL	203 kc/s	126.18 mc/s 121.5 mc/s 5680 kc/s	126.18 mc/s 121.5 mc/s 3023.5 kc/s 5680 kc/s
Gillespie.....	Latitude 55°10'52" North Longitude 67°35'25" West	EH	350 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Brass.....	Latitude 55°11'33" North Longitude 69°01'20" West	EJ	308 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Bulldog.....	Latitude 55°10'52" North Longitude 70°34'50" West	IQ	358 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s

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SCHEDULE "G" (Continued)

Name	Location	Identification	Frequency	Transmitting Frequencies	Receiving Frequencies
Robin.....	Latitude 55°14'43" North Longitude 72°12'05" West	EW	318 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Eagle.....	Latitude 55°14'55" North Longitude 73°44'45" West	EY	284 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Raven.....	Latitude 55°17'35" North Longitude 75°16'27" West	EZ	220 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Sparrow.....	Latitude 55°16'17" North Longitude 76°47'25" West	KB	350 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Great Whale River.....	Latitude 55°16' North Longitude 77°45' West	GW	371 kc/s	236.6 mc/s 243.0 mc/s 126.18 mc/s 121.5 mc/s 320 kc/s	236.6 mc/s 243.0 mc/s 126.18 mc/s 121.5 mc/s 3023.5 kc/s
Burton.....	Latitude 54°59'27" North Longitude 78°17'05" West	KE	308 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Cape Jones.....	Latitude 54°38'17" North Longitude 79°44'38" West	KH	358 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Bear Island.....	Latitude 54°20'29" North Longitude 81°05'40" West	KJ	318 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Big Owl.....	Latitude 54°44'00" North Longitude 82°24'15" West	KM	284 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s

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SCHEDULE "G" (Continued)

Name	Location	Identification	Frequency	Transmitting Frequencies	Receiving Frequencies
Crow.....	Latitude 54°51'55" North Longitude 83°24'45" West	KP	203 ke/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 ke/s
Wachi.....	Latitude 55°04'05" North Longitude 84°51'30" West	KQ	380 ke/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 ke/s
Winisk.....	Latitude 55°14' North Longitude 85°07' West	WN	215 ke/s	236.6 mc/s 243.0 mc/s 126.18 mc/s 121.5 mc/s 265 ke/s	236.6 mc/s 243.0 mc/s 126.18 mc/s 121.5 mc/s 3023.5 ke/s
1201 Gooseberry.....	Latitude 55°17'25" North Longitude 86°25'15" West	KU	308 ke/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 ke/s
Beaver.....	Latitude 55°35'40" North Longitude 87°52'10" West	KV	358 ke/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 ke/s
Canary.....	Latitude 55°58'25" North Longitude 89°13'25" West	KW	318 ke/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 ke/s
Beach.....	Latitude 56°17'25" North Longitude 90°39'40" West	KX	294 ke/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 ke/s
Hayes.....	Latitude 56°22'55" North Longitude 92°11'10" West	KZ	250 ke/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 ke/s
118 Penny.....	Latitude 56°23'37" North Longitude 93°20'30" West	OB	338 ke/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 ke/s

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SCHEDULE "G" (Continued)

Name	Location	Identification	Frequency	Transmitting Frequencies	Receiving Frequencies
Bird.....	Latitude 56°30'10" North Longitude 94°12'27" West	BJ	315 kc/s	236.6 mc/s 243.0 mc/s 126.18 mc/s 121.5 mc/s 365 kc/s	236.6 mc/s 243.0 mc/s 126.18 mc/s 121.5 mc/s 3023.5 kc/s
Kettle Lake.....	Latitude 56°10'02" North Longitude 94°42'07" West	OF	280 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Gunn Lake.....	Latitude 55°48'24" North Longitude 96°05'23" West	OH	201 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Lucky Bay.....	Latitude 55°18'58" North Longitude 97°15'22" West	OI	234 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Black Island.....	Latitude 54°54'58" North Longitude 98°30'28" West	OK	320 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Hayward.....	Latitude 54°37'50" North Longitude 99°53'10" West	OP	220 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Cranberry Portage.....	Latitude 54°35'05" North Longitude 101°22'16" West	BP	215 kc/s	236.6 mc/s 243.0 mc/s 126.18 mc/s 121.5 mc/s 269 kc/s	236.6 mc/s 243.0 mc/s 126.18 mc/s 121.5 mc/s 3023.5 kc/s
Millwater.....	Latitude 54°36'52" North Longitude 101°20'36" West	OJ	335 kc/s		

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SCHEDULE "G" (Continued)

Name	Location	Identification	Frequency	Transmitting Frequencies	Receiving Frequencies
Hanson.....	Latitude 54°39'04" North Longitude 102°43'03" West	OU	347 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Swallow.....	Latitude 54°53'48" North Longitude 104°16'15" West	OZ	227 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Egg Lake.....	Latitude 54°55'50" North Longitude 105°43'44" West	VF	204 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Tippo Lake.....	Latitude 55°04'29" North Longitude 107°08'20" West	VH	375 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Canoe.....	Latitude 55°19'23" North Longitude 108°05'46" West	VS	246 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Peter Pond.....	Latitude 55°59'46" North Longitude 109°17'00" West	VY	308 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Birch Lake.....	Latitude 56°21'35" North Longitude 110°23'43" West	VZ	249 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Stony Mountain.....	Latitude 56°23' North Longitude 111°16' West	TN	371 kc/s	236.6 mc/s 243.0 mc/s 126.18 mc/s 121.5 mc/s 312 kc/s	236.6 mc/s 243.0 mc/s 126.18 mc/s 121.5 mc/s 3023.5 kc/s

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SCHEDULE "G" (Concluded)

Name	Location	Identification	Frequency	Transmitting Frequencies	Receiving Frequencies
Horse.....	Latitude 56°31'00" North Longitude 111°47'25" West	XM	299 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Livock.....	Latitude 56°24'17" North Longitude 113°04'15" West	XX	318 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Nipisi.....	Latitude 55°49'20" North Longitude 114°39'20" West	XV	308 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Buffalo Bay.....	Latitude 55°32'30" North Longitude 116°07'15" West	XW	249 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Watino.....	Latitude 55°31'06" North Longitude 117°43'30" West	YA	347 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Saddle Hill.....	Latitude 55°34'02" North Longitude 119°13'23" West	YH	299 kc/s	255.4 mc/s 122.2 mc/s	255.4 mc/s 122.2 mc/s 3023.5 kc/s
Dawson Creek.....	Latitude 55°47' North Longitude 120°12' West	DQ	394 kc/s	236.6 mc/s 243.0 mc/s 126.18 mc/s 121.5 mc/s 352 kc/s	236.6 mc/s 243.0 mc/s 126.18 mc/s 121.5 mc/s 3023.5 kc/s

2. All MIDIZ beacons operate only on request except for Knob Lake, Great Whale River, Winisk, Bird, Cranberry Portage, Stony Mountain and Dawson Creek which are on continuous operation.

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SCHEDULE "H"

The MIDIZ clearance Aerodromes are located as follows:

<i>Place</i>	<i>Location</i>
Great Whale River	Latitude 55°17' North, Longitude 77°46' West
Winisk	Latitude 55°14' North, Longitude 85°07' West
Churchill	Latitude 58°45' North, Longitude 94°04' West
Ilford	Latitude 56°04' North, Longitude 95°37' West
Flin Flon	Latitude 54°45' North, Longitude 101°50' West
Lac La Ronge	Latitude 55°05' North, Longitude 105°20' West
Buffalo Narrows	Latitude 55°52' North, Longitude 108°29' West
McMurray	Latitude 56°39' North, Longitude 111°13' West
Peace River	Latitude 56°14' North, Longitude 117°26' West
Fort St. John	Latitude 56°14' North, Longitude 120°44' West

SCHEDULE "I"

1. The Western SIZ is the airspace extending upward from the area described as follows: commencing at

Latitude 50°30' North, Longitude 129°00' West; thence to
Latitude 50°30' North, Longitude 121°45' West; thence to
Latitude 50°10' North, Longitude 121°26' West; thence to
Latitude 50°10' North, Longitude 128°16' West; thence to
the point of beginning.

2. The Eastern SIZ is the airspace extending upward from the area described as follows, commencing at

Latitude 47°25' North, Longitude 69°16' West; thence
along the United States-Canada Boundary to
Latitude 47°10' North, Longitude 69°32' West; thence to
Latitude 47°10' North, Longitude 85°31' West; thence
along the United States-Canada Boundary to
Latitude 47°30' North, Longitude 86°19' West; thence to
Latitude 47°30' North, Longitude 70°00' West; thence to
the point of beginning.

3. The Hope SIZ is the airspace extending upward from the area described as follows: commencing at

Latitude 50°10' North, Longitude 122°00' West; thence to
Latitude 50°10' North, Longitude 121°26' West; thence to
Latitude 49°00' North, Longitude 120°30' West; thence to
Latitude 49°00' North, Longitude 121°00' West; thence to
the point of beginning.

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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

SUBJECT: Assignment of Operational Control and Contract Administration
of the DEW Line

TO: Commander
Air Defense Command
9th Air Force Base
Colorado Springs, Colorado

1. References:

- a. Letter this Headquarters, subject: "Decisions Relative to Operation of the DEW Line," dated 30 July 1955.
- b. The USAF-RECAF Operations Plan Distant Early Warning and Mid-Canada Lines, dated 1 June 1956.
- c. DEW Logistics Plan, dated 1 August 1957.
- d. AAC letter, subject: "Delineation of DEW Line Responsibilities," dated 21 November 1957.
- e. ADC letter, subject: "Command Responsibilities for the DEW Line," dated 2 December 1957.
- f. ADC message ADCDO 113, dated 3 December 1957.

2. The Air Defense Command recommendations for assignment of operational control of that part of the DEW Line extending from Cape Dyer to Cape Lisburne is approved by this Headquarters. Effective 15 February 1958 ADC will assume responsibility for operational control of the Cape Lisburne-Cape Dyer DEW Line. Direct coordination with concerned commands and agencies will be affected as required.

3. Action concerning establishment of a standardized identification zone to include Alaska is withheld pending the results of the Identification Study being conducted by CUSGAT.

4. This decision negates the recommendation made by the Alaskan Air Command concerning changes in the plan for contract administration of the DEW Line.

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Ltr to ADC, Subject: Assignment of Operational Control and Contract
Administration of the DE/Line (Cont'd)

5. An identical letter has been sent to Alaskan Air Command.

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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[REDACTED]

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-MEL 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. (FECO)
K. C. Wilson	Civilian	FECO
L. W. Dyer	Civilian	FECO
J. H. Westlake	Civilian	FECO
J. R. Kelley	Civilian	FECO
R. J. Dorn	Civilian	FECO
H. F. Hafemaier	Civilian	FECO
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. Grimm	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 MEETING19 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,

[REDACTED]

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.

[REDACTED]

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 Umnak 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 Umnak 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 Umnak 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.

[REDACTED]

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:

[REDACTED]

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 EWOWG. 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 EWOWG 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

[REDACTED]

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. Clezen, 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 EWONG 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 requirements 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.




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.




MINUTES OF EWOWG MEETING20 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.

[REDACTED]

Mr. Swinney, FECO, 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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[REDACTED]

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 McKelvic 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

[REDACTED]

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.

[REDACTED]

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 EWOWG 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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[REDACTED]

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.


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.


MINUTES OF EWOWG MEETING21 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.

[REDACTED]

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

[REDACTED]

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.


MINUTES OF EWOWG MEETING22 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 FECO 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 FECO 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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[REDACTED]

(The EWOWG agreed in the previous day's meeting that, as an interim measure, recommended changes to the present USAF-RCAF 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 EWOWG 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

[REDACTED]

[REDACTED]

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

The EOWG 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 EOWG 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.

[REDACTED]

[REDACTED]

The EWOWG 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

[REDACTED]

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 Pow 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 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):

[REDACTED]

(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 COG'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 ADDC."

(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

(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 l.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 l.f.(2), add:

COB to King Salmon

(11) Page 86, paragraph l.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 l.j.(2), add:

COB to:

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

(13) Page 88, paragraph l.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 l.n.(1)(b), add:

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



- (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 Lisburner "King Salmon and Anchorage, etc."
- (19) Page 92, paragraph 2.b.(1)(b) add, after 11th Air Division: "From COB at King Salmon ADCC and 10th Air Division."
- (20) Page 93, paragraph 2.b.(2), add:
Addressed to:
1
O
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 ADCC (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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(i) 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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[REDACTED]

(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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JOINT MESSAGEFORM		SECURITY CLASSIFICATION	
SPACE BELOW RESERVED FOR COMMUNICATION CENTER			
[REDACTED]			
PRECEDENCE	TYPE MESSAGE	ACCOUNTING SYMBOL	ORIG. OR REFERS TO
ACTION	BOOK MULTI SINGLE		
INFO	ROUTINE	AF	
FROM:	CINCNORAD		SPECIAL INSTRUCTIONS
TO:	COMADC ENT AFB COLORADO SPRINGS COLO (COUPIER)		
INFO:	CANAIRDEL ST HUBERT QUEBEC CANADA		
	COMCFECC STEWART AFB NEW YORK		
	COMCFCCP RICHARDS-GEBAUR AFB MO		
	COMCFWCR HAMILTON AFB CALIFORNIA		
	CINCAL ELMENDORF AFB ANCHORAGE ALASKA		
	COM64CADD PEPPERRELL AFB NEWFOUNDLAND		
	[REDACTED] FROM NOESS-C <u>X008</u>		
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. (OVER FOR MEMO FOR RECORD)			
SYMBOL		SIGNATURE	
NONES-C		VDC	
TYPED NAME AND TITLE (Signature, if required)		TYPED (or stamped) NAME AND TITLE	
DEW F Col P.K. Nichols, Dir Systems		J. W. LEDOUX	
PHONE 2029		LCDR, USN	
SECURITY CLASSIFICATION		Asst Adjutant	

DUPLICATE

UNCLASSIFIED

105

M/R: There are serious organizational problems concerning the response of the individual contractors to the corrective action DEW Line and the status of the public. The purpose of requesting ADC to be the principal agent for coordinating the efforts of the contractors is to discuss the results of ADC, and they are in agreement.

UNCLASSIFIED

[Redacted]

(when filled in)

COPY OF INCOMING CRYPTIFIED MESSAGE

106

(Reproduction of this message in whole or in part is prohibited without approval of CONAD Adjutant)

SEE CRYPTO SECTION BEFORE DECLASSIFYING

CONAD HIST FILE

306

READING FILE

PRIORITY 52

COMH011V

0-100-04

P 030100Z

FM COMDR 11 AIR DIV WFF LADD AFB ALA

TO COMDR AAC ELMEBROFF AFB ALA

ORIG COMAD EIT AFB COLO

ACTION: NOCCC

INFO: NOELC

NOOOP

SUSPENSE: 10 OCT 1957

N7-11870

[Redacted] / FROM 11 COM/CS KOM64-10. FOLLOWING MESSAGE RECEIVED FROM 11 MILITARY COMMAND AT PIRNAL STATION IS QUOTED FOR YOUR INFORMATION AND/OR ACTION QUOTE
READ AND SURVEILLANCE CIRCUIT IS OPERATIONAL FOR ESTIMATED 6 WEEKS. EXISTING RANGE WAS SUSPENDED AT 1000Z TO 1100Z AS BY 100 STOR 3-0 OCTOBER. SURVEILLANCE MESSAGES AT PRESENT PATCHED THROUGH CAN. REQUEST ACKNOWLEDGMENT OF RECEIPT OF SURVEILLANCE MESSAGES FROM DIA AT AAC, COMAD, AND DECS (COMBAT OPERATIONS CENTERS) UNQUOTE.
BT
05/01/57

AC--PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY 1 DECRYPTED -- PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE-TIME GROUP PRIOR TO DECLASSIFICATION--NO UNCLASSIFIED REFERENCES IF DATE-TIME GROUP IS WANTED.

READING FILE

UNCLASSIFIED

Copy 5 of 6 Copies

(when filled in)

(when filled in)

COPY OF INCOMING CLASSIFIED MESSAGE

107

SEE CRYPTO SECTION BEFORE DECLASSIFYING.

1 NOV 57

CON011

CON011
 A-37-02
 R 012035Z
 FM COMR 54ADIV (O) PEPPERRELL
 TO COMR ADC ENT AFB COLO
 INFO COMR CINCORAD ENT AFB COLO
 COFS USAF WASH DC
 COMR AACG ANDREWS AFB MD

READING FILE
 CONAD 5
 ACTION: COGIC

INFO: COCCO 17-13078

BT
 // [REDACTED] CITE OCC 5206. REFERENCE YOUR MESSAGE
 ADOCE-LP 3255 AND MY MESSAGE OCC-5202 NOTAL. BYE VOICE CIRCUIT
 CONNECTED AND OPERATIONAL THROUGH 54AD (O) 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 QUOTED.

//ADVANCE COPY HAS BEEN DELIVERED TO COC//

DUPLICATE

(when filled in)

COPY OF II MING CLASSIFIED MESSAGE

59108

SEE CRYPTO SECTION BEFORE DECLASSIFYING.

2 NOV 57

READING FILE

CONAD HIST FILE

51

CONDO4N1.00AGC003
 NI RJEPPON
 DE RJKDAS 1C
 M02C2002
 FM CINCAL ELMENDORF AFB ALASKA
 TO RJEPPON/CINCNOGRAD ENT AFB COLC
 INFO/COMFAC ELMENDORF AFB ALASKA
 BT

ACTION: COELC
 INFO: 0000P, SUSPENSE 7 Nov 57
 X7-13079

FROM COM 5388
 INFORMATION HERE INDICATES BAR-ACEX FPIE 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 USIF OF UNSATISFACTORY
 OPERATION AND RECOMMENDING THAT DEUPC BE REQUESTED TO EXPEDITE
 ACTION TO BRING CIRCUIT TO SATISFACTORY OPERATIONAL EFFICIENCY

BT
 02/0206Z FM NCV RJEPPON 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 CQC//

DECLASSIFICATION
 //ADVANCE COPY HAS BEEN DELIVERED TO CQC//

ELMENDORF

PRECEDENCE		TYPE MSG (Check)			ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION	PRIORITY	BOOK	MULTI	SINGLE			
INFO				X	AF	OKD 5388	CONF.
FROM: CINCHORAD						SPECIAL INSTRUCTIONS	
TO: COFS USAF WASH DC							
INFO: COMADC (COURIER)							
<p>NOESS-C <u>XO14</u> . COFS, 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 DEMPO TO EXPEDITE ACTION TO BRING CIRCUIT UP TO SATISFACTORY OPERATIONAL EFFICIENCY.</p> <p>REFERENCE WOULD</p> <p>W/A: At CINCHORAD suggestion, requesting USAF, as Executive Agent for NORAD, to direct DEMPO to expedite necessary improvement of BAR-AGEX FPIS circuit.</p> <p>W - 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</p>							
						DATE	TIME
						8	2030Z
						MONTH	YEAR
						NOV	1957
SYMBOL				SIGNATURE			
NOESS-C							
TYPED NAME AND TITLE (Signature, if required)				TYPED (or stamped) NAME AND TITLE			
Lt. Col. K.W. Keyte, Chief, Comm. Div. PHONE 2039 PAGE 1 NR 1 PAGES 1				W. GANVEX JR Major, USAF Army, USA			

DUPLICATE

[REDACTED] (when filled in)

COPY OF INCOMING CLASSIFIED MESSAGE

110

SEE CRYPT TO SECTION BEFORE DECLASSIFYING.

COMAD HIST FILE

READING FILE

57

POR
 NOR010HQA014
 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: COELC
 X7-13646

15 NOV 57

[REDACTED] 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 FPI'S 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
 15/2520Z NOV RJEPHQ

DUPLICATE

READING FILE



en filled in) COPY OF 1. MING CLASSIFIED MESSAGE

111

SECTION BEFORE DECLASSIFYING.

5 Dec 1957

CON011HQA012
MM RJEDDN
DE RJKDAG 2C
M 05/0

READING FILE

COMMINT FILE
57

HQA012
AGCO05

ACTION: COOP
INFO: COOOP. COC, COINT,

X7-14449

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

DUPLICATE

FROM ALCOM CED 5444
REF MY MSG CITE CED 5388. ACTION BY FAPUSJCEC REDUCED VHF FREQ ASGMT
AT BARTER ISLAND. THE AAC REQUESTED DEWPC TO REINSTALL HIGH FREQ
CAPABILITIES AT BARTER AND AGEX AS BACKUP FOR FPIS. IN VIEW OF THE
IMPORTANCE OF THIS AD CIRCUIT IT IS STRONGLY RECOMMENDED THAT CINC-
NORAD SUPPORT THE AAC REQUEST.

BT
05/0307Z DEC RJKDAG

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

//ADVXXXXXXXXXXXXXXXXXXXX

//ADVANCE COPY XMITTED TO COC//

112

when filled

COPY OF INCOMING CLASSIFIED MESSAGE

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SEE CRYPTO SECTION BEFORE DECLASSIFYING

3 JAN 1958

NOR017HQ015

RR RJEDDN RJKDAG RJEPFF

DE RJEPHQ 216

R 032134Z

FM HQ USAF WASHDC

TO RJEDDN/CINCNOAD 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

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 WIX CIRCUIT AND THOSE RECENTLY DEACTIVATED ON AACs OPERATED ELMENDORF-RIELSON

ACTION: COMAC
X8-113

READING FILE

57

PAGE TWO RJEPHQ 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 RJEPHQ

READING FILE

T
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.

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NOEPR

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 Strytchout).
- 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 MCL).

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 adequate, 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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[REDACTED]

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.

[REDACTED]

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,

[REDACTED]

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 CMC.

(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 Fox-Churchill Troposphere Systems (DEW to ECL).

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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[REDACTED]

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

[REDACTED]

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 DEW system and the ZI. 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 52 to 73 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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[REDACTED]

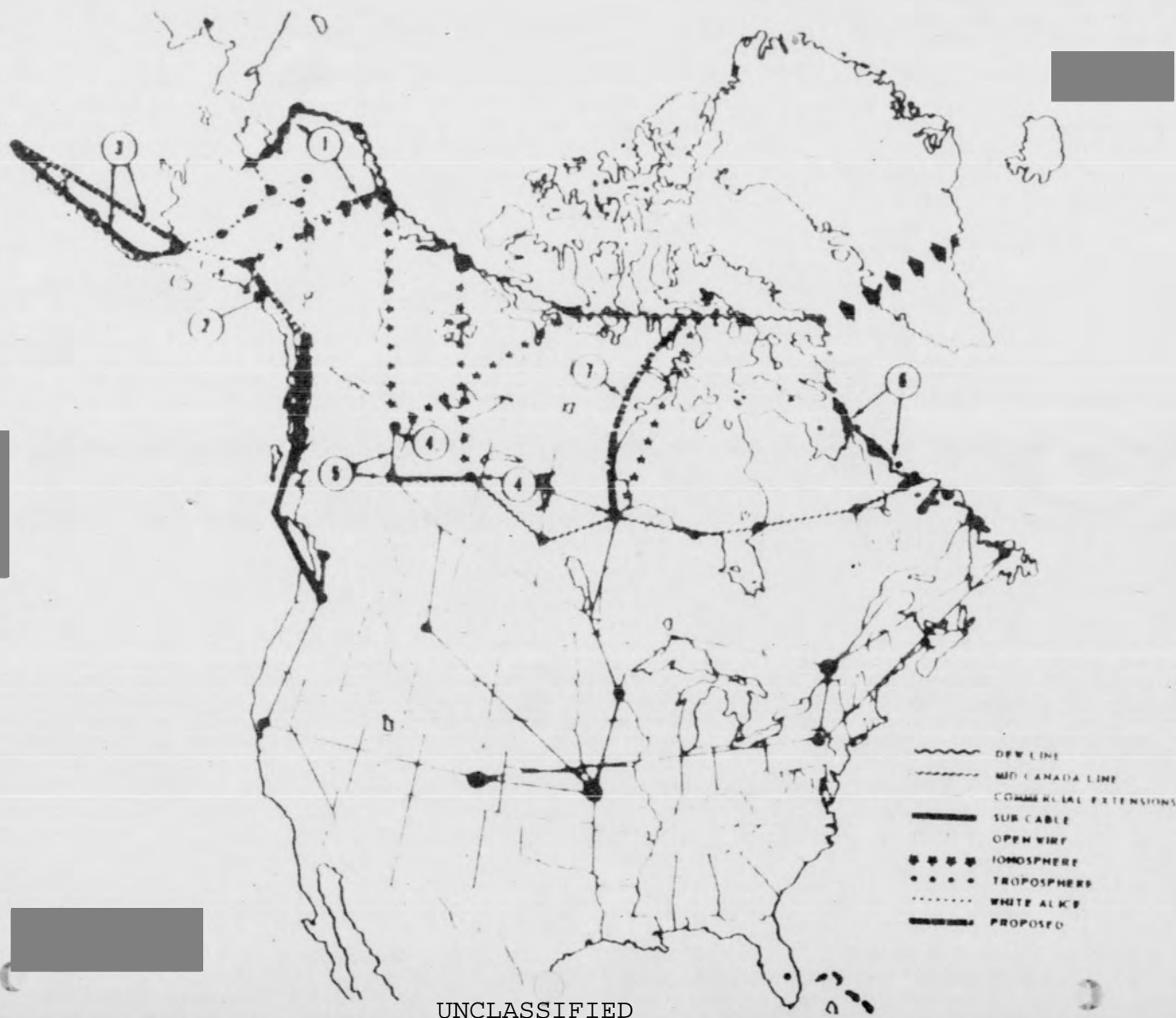
Tab 1 -	\$21,000,000
Tab 2 -	12,000,000
Tab 3 -	4,000,000
Tab 4 -	(only incremental)
Tab 5 -	5,000,000
Tab 6 -	8,000,000
Tab 7 -	<u>10,000,000</u>
Total	\$63,000,000

Attached:
Map and
Tabs 1 through 7

[REDACTED]

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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 (BAI). 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 Barter Island will cost in the order of 20 million dollars.

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... provided in the region. The link and the ... link will enable voice and telegraph services to the ... line and to stations Lix, Pw (Point ...), Car and ... (the ...) with ... more than the main station link requires laterally ... the ... line. This considerably strengthens the reliability of communications in the westerly area of the ... line. It will be necessary to provide some additional equipment at the ... line stations to give the additional channel capacity required. The amount of this equipment must be determined when all circuit requirements have been generated.

0

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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 TI is now provided by open-wire lines between Anchorage and Fairbanks 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 Boswell 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.

TAB 3.

CONSTRUCTION OF ALTERNATE FACILITIES FOR EXTENSION OF NEW 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 Unalak. 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.

1AB 4.

INSTALLATION OF REPEAT-BACK EQUIPMENT TO DEW REARWARD
TELLING CIRCUITS

1. Non-spheric scatter radio systems have been provided from Bar, Pin, Cas, and Cox on the DEW Line to Anchorage, Ft. Nelson, Waterways, 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 lead-back facility. Only a few minor costs are involved to accomplish this work.

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

[REDACTED]

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.

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.

TAB 7

SUPPORT OF PROPOSED FOX-CHURCHILL TROPOSPHERIC 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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[REDACTED]

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.

JOINT MESSAGEFORM		SECURITY		
SPACE BELOW RESERVED FOR COMMUNICATION CENTER				
306 COMBAT UNIT FILE		[REDACTED]		
ACTION INFO	PRECEDENCE PRIORITY	TYPE MSG BOOK MULTI SINGLE	ACCOUNTING SYMBOL AF	ORIG. OR REFERS TO X
FROM: CINCORAD				CLASSIFICATION OF REFERENCE
TO: CANA/DIET ST HUBERT QUEBEC CANADA				SPECIAL INSTRUCTIONS
<p>[REDACTED] FROM NOEHR <u>X013</u>. CANSECURITY.</p> <p>FOR B/C OWING. THIS MESSAGE IN TWO PARTS. PART I. REFERENCE TELEPHONE CONVERSATION WITH LT COL ROUTH, THIS MO. WE CONTEMPLATE AS THE FORTHCOMING EWONG MEETING PRESENTING A REQUEST FOR ADDITIONAL COMMUNICATIONS TO THE NEW LINE FROM GOLD AND SPRINGS. SPECIFICALLY, WE PLAN TO ASK FOR A FULL-DUPLEX CIRCUIT TO THE DAWSON CREEK AREA, AND ALSO FOR HALF-DUPLEX TELETYPE COMMUNICATIONS FROM THAT AREA TO THE DEN MAIN STATIONS BRANCHING WEST AND EAST FROM BAR AND CAN OVER SPARES NOW AVAILABLE ON NEW REAR IONOSPHERIC SYSTEMS. IN ADDITION WE PROPOSE A FULL-PERIOD VOICE CIRCUIT BETWEEN DAWSON CREEK AND COLORADO SPRINGS. PART II. A STUDY OF THE USAF ROCAF JCS PLAN REVEALS MID-CANADA LINE LATERAL COMMUNICATIONS SYSTEM AND TROPO SYSTEM LEADING SOUTH FROM WINISK WITH CONSIDERABLE SPARE CHANNEL CAPACITY. REQUEST YOU ADVISE FEASIBILITY OF PROVIDING THE PROPOSED CIRCUITRY THROUGH USE OF (WINISK-NORTH BAY TROPO AND MCL HIGH WAVE) CAPABILITY OF EXISTING</p>				
SYMBOL		SIGNATURE		
TYPED NAME AND TITLE (Signature)		TYPED NAME AND TITLE		
LT COL DG ROUTH		[REDACTED]		
PHONE		PAGE NR. 1 NR. OF PAGES 2		
SECURITY CLASSIFICATION		[REDACTED]		
DATE		TIME		
OCT 57		2330 Z		
MONTH		YEAR		
OCT		57		

JOINT MESSAGEFORM - CONTINUATION SHEET		SECURITY	114
FROM			
<p>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.</p>			
<p><u>FILE NOELC</u></p> <p>M/R Not required.</p>			
<p>CANARDEF is authorized to receive classified material, and the material is releasable to Canada.</p>			<p>LT COL DG ROTH 2019 4 Nov 57</p>
<p>Lt Col DG ROTH</p>			<p>sc</p>
<p>PHYSICALLY REFERENCES BY DATA CLASSIFICATION.</p>			
NOELC	2	2	INITIALS
SYMBOL	PAGE NR	NR OF PAGES	SECURITY

UNCLASSIFIED

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BELL TELEPHONE LABORATORIES

INCORPORATED

WHIPPANY LABORATORY

WHIPPANY, NEW JERSEY

TUCES 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 D&W-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,

R. A. Cushman
R. A. CUSHMAN
Military Communication Systems
Engineering Department

WH-4131-RAC-RRY

Att.
Memorandum dtd 10/23/57
by R. A. Cushman - [REDACTED]
#26973-W3-1340-2

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"When separated from enclosures, handle this document as unclassified."

This document contains information that is exempt from automatic declassification under Executive Order 13526, 3.25.2008. It is the policy of the Department of Defense to release this information to the public, unless it is determined that the release of this information would be injurious to the national defense. This document is being released to the public in accordance with the policy of the Department of Defense.

20973-W3-1340-

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Briefing L. L. Glezen, Room, on Conditions of DSW-Line
Cases 20973-44, 3-18 and 2177-20

October 23, 1957

RECOMMENDATION 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 for a meeting on the above subject. This was held at BTL, Whippany, on Wednesday, October 23. Besides Mr. Glezen, the following met in Mr. R. P. Booth's office:

Messrs. J. M. Matthews
W. C. Arnold
R. A. Cushman
J. F. Morrison
C. A. Smith
A. R. Grinn
R. M. Hawekotte

The Strategic Air Command has set up a requirement to talk with aircraft flying over the DSW-Line chiefly for recall purposes, it is understood.

1. SAC would prefer to talk from Ghana directly to the airplane, two-way.
2. Lacking the above, SAC would like to telephone a message to main stations on the DSW-Line. The nearest main station would repeat the message by radio-telephone to the airplane and obtain its acknowledgment.
3. A more immediately feasible plan would be to teletype to main stations on the DSW-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, NORAD might suggest that this facility be shared with SAC.

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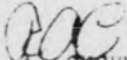
Mr. Glezen said he would like to have a clear picture of the current ability to provide a telephone connection to DEW-Line stations from either the east or the west end. Mr. Smith said that complete circuits and equipment from LIZ-1 to RES-1 at Resolution Island are installed, but not arranged for three 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


R. A. CUSHMAN

Copy to
Mr. L. L. Glezen, NORAD, Colorado Springs



PRECEDENCE		TYPE MEG (Check)			ACCOUNTING SYMBOL	ORIG OR REFERS TO	CLASSIFICATION OF REFERENCE
Priority		BOOK	MULTI	SINGLE		AFCIN-54281	CONF
FROM:					X	AF	
TO:		KINCORAD			SPECIAL INSTRUCTIONS		
		COFS USAF WASH D C					
<p>FROM NOIRE-X 016 . FOR AFCIN. Re your message 54281.</p> <p>Reference A-2506. No capability exists beyond 65,000 feet with present or planned equipment at the DEW line. It appears that an ICBM radar similar to that proposed by MELPAR, RCA, GE and Lincoln Lab offers the only possible solution to ICBM or satellite detection. Detailed information concerning the proposals of the above organizations is available in Headquarters USAF, AFOAC or AFDRQ. It is recommended these directorates be contacted for any desired information.</p> <p>M R: Message from AFCIN requests USAF detailed information concerning what optical, electronic or other tracking facilities suitable for use in Soviet satellite tracking and observation exist at the DEW line. This message is NORAD's answer to query.</p>							
						DATE	TIME
						23	2300Z
						MONTH	YEAR
						Dec	1957
SYMBOL		NOIRE-X					
TYPED NAME AND TITLE (Signature, if required)		<div style="border: 1px solid black; padding: 2px; display: inline-block;">READING FILE</div>					
W R ALFRED J. ROMAN, LT COL, GS 2745		NR OF PAGES		1		TYPED (or stamped) NAME AND TITLE	
SECURITY CLASSIFICATION						W. J. ROMAN Lt Col USAF Adjutant	
622-57							

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The Rad Corporation
170 Main Street
Santa Monica, California

Attention: Patricia C. Keith

Dear Madam:

Reference is made to your letter L-14290, dated 12 Aug 47, (attached as inclosure 1).

All available information on existing and planned radar sites in Greenland and Iceland is attached as inclosure 2. It is suggested that your office contact Headquarters USAF if further planning information is required on these sites.

If inclosures are withdrawn or not attached, this correspondence may be downgraded to Unclassified in accordance with AFR 205-1.

Respectfully,

F. F. URRHANE
Brig General, USA
ICS/Comm and Elect

CW Westfay

2834

28 Aug 57

X7-10172

bb

- 2 Incls:
1. Ltr L-14290
w/2 Incls
2. 2d Ind, ADCCB-EG

Above addressee is authorized to receive classified material and can adequately safeguard same in accordance with AFR 205-1.

It is believed that you could obtain any additional information required through their office at HQ USAF with minimum delay. The following personnel could not furnish additional information: I/C C'Dell, AICOPR; Maj Murphy, AICOPR; Maj Faulkner, COCNR; Maj Goodrich, COCNS; Maj Myers, COCNS; Mr. Carven, AICCB; T/Sgt Erright, ADCCB.

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RAND

August 12, 1951

L-14290

Commander-in-Chief
 Continental Air Defense Command
 Deput. Chief of Staff, Communications
 and Electronics
 Ent Air Force Base
 Colorado Springs, Colorado

Attention: Colonel O. W. Miller

Dear Colonel Miller:

The Engineering Division at RAND is currently trying to complete a study for General Patt, Hq USAF, for which we have a September deadline. One of the inputs required for this study is a complete description of the locations and equipments of all the radar sites which will comprise the Atlantic extension of the DEW Line. In particular, we cannot seem to pin down the presently existing and planned radar sites for Greenland and Iceland. Ed S. Swedel has shown me some data on this subject which your office provided for him and mentioned that you might be able to send us some additional information and possibly bring us up to date on the old data.

I have enclosed two pages describing the information we have and what we need. It would be very useful to us if you could verify the material and fill in some of the missing information and then return the sheets to us.

Sincerely,

Paulette C. Keith
 Operations Department

PCK:md
 Encl. (2)

[REDACTED]

Ltr, Rand Corporation, L-14290, 18 Aug 57

COESM

1st Inc

19 AUG 1957

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

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

1. In response to the basic request from Rand Corporation, it is requested that the required radar information for the Greenland and Iceland complexes be provided this headquarters.

2. Attention is invited to the short time period indicated by Rand to complete their study.

FOR THE COMMANDER-IN-CHIEF:

2 Incls
n/c

Paul H. ...
P. F. UHLMANN
Brig General, USA
DCS/Comm and Elect

117

Ltr, Rand Corporation, L-14290, 12 Aug 57

ADOCB-EG

2nd Ind

406-28 757

Hq AIR DEFENSE COMMAND, Ent Air Force Base, Colorado Springs, Colorado

PO: Commander, Continental Air Defense Command, ATTN: COBAM, Ent Air Force Base, Colorado Springs, Colorado

1. The following information is furnished per your request:

a. Greenland

N-32	931	AGLW	Pingassuit, Greenland	76° 21' N	63° 44' W
N-33 and N-34 have been deleted.					
?	?		Holsteinsberg, Greenland	67° N	54° W
?	?		Ikateq, Greenland	66° N	36° W
X	?		Icecap, Greenland	65° 30' N	43° W
Y	?		Icecap, Greenland	66° N	48° W
?	?		Kangek Island, Greenland	60° 30' N	46° 30' W

Sites X and Y have not yet been surveyed and locations are approximate. Sites X and Y and Holsteinsberg and Ikateq will tie into the Dew Line, but N-32 will not. All Dew Line Greenland sites will be FPS-30 radars. Kangek will tie into the Azores Line but not the Dew Line.

b. Iceland. The coordinates shown below were taken from the World Aeronautical Chart #97 Vatna Glacier (Iceland) and are approximate.

H-1	Keflavik	64° 01' N	22° 39' W
H-2	Langanes	66° 17' N	15° 02' W
H-3	Hofn	64° 17' N	15° 10' W
H-4	Straumnes	66° 26' N	23° 05' W

All these Iceland sites will tie into the Dew Line. USAF has suggested that the data station for all the sites above, which tie into the Dew Line, be at Sondrestrom. ADC has recommended that the data station be at Dye. Communications will be by tropospheric scatter.

FOR THE COMMANDER:

2 Incls
n/c

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

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3 AUG 57

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HRA022

RR RJEDEN RJEDWP RJEDMH

DE RJEPHQ 90

R 031638Z

FM HQ USAF WASH DC

TO RJEDEN /COMAIRDEFCON ENT AFB COLO

RJEDWP/COMAHC WAPAFB OHIO

INFO RJEDEN/CINCONAD ENT AFB COLO

ZEN/CINCLANFLT NORFOLK VA

RJEDMH/CINCSAC OFFUTT AFB OMAHA NEBR

ZEN/CHIEF DEW PROJ OFFICE 220 CHURCH ST NEW YOR NY

ZEN/COMAIRDIV SIXTY FOUR PEPPERRELL AFB NFDL

ZEN/USAF INSTALLATION REPR OFC NORTH ATLANTIC REGION FEDERAL OFFICE

BLDG RM 1205 90 CHURCH NY

ZEN /COMAFEIGHT WESTOVER AFB MASS

ZEN /COMICEAIRDEFOR KEFLAVIK ICELAND

BT

// FROM AFOOP-OC-F/3 59852

RE: INCE MESSAGE THIS HEADQUARTERS, AFOAC-E/A 56995, 7 JUNE 1957.

NOTAL. SUBJECT: GREENLAND EXTENSION DEW LINE. DESIRE FOLLOWING

CHANGES FOR PLANNING PURPOSE IN CONCEPT OF GREENLAND EXTENSION DEW

LINE: A. HOLSTEINDORG, FORMERLY DESIGNATED MAIN STATION SHOULD BE

DESIGNED AND CONSTRUCTION AS AUXILIARY STATION COMPARABLE IN

SCOPE TO IKATER AND KANGEK. B. EXISTING DEW 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 DEW STATION. IN THIS CONNECTION ALL FACILITIES,

(HOUSING, POL STORAGE, ETC) MUST BE CONSIDERED ADDITIONAL REQUIREMENTS

AS BASE HAS NO EXISTING FACILITIES TO SUPPORT DEW FUNCTION.

BT

03/1652Z AUG RJEPHQ

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

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ADLAN-C

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

119

TEL: MELROSE 2-551
EXT: 2183

OCT 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 AFMPP-EQ-1 50106 COMAMC pass to MCPRE. Chief, EDSB 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 icecap links.

DUPLICATE

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-CS.

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:

UNCLASSIFIED

EDGAR B. CRAVETTE
Colonel, USAF
Director of Plans

ADLAW-C, Hq ADC, 8 Oct 57, Subj: Distant Early Warning Line Programming Change

NOOPR-R

1st Ind

28 OCT

Hq North American Air Defense Command, Ent AFB, Colorado

TO: Commander, Air Defense Command, Ent AFB, Colorado

Concur with your proposed action indicated in paragraph 2 of basic letter in that Headquarters USAF be advised that it would be operationally desirable to install two stations immediately with the remainder to follow as funding permits.

FOR THE COMMANDER-IN-CHIEF:

HARVEY T. ALNESS
Maj Gen, USAF
DCS/Plans & Operations

CONFIDENTIAL

M/R: Self explanatory

2437 4/4
23 Oct 57

N7-11913

bh

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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: ADC Dated: 8 Oct 57
Classification: CONF Panfold# WT-11913 Suspense: 21 Oct 57
Action Office: NCCPO

SUMMARY: Subject is DISTANT EARLY WARNING LINE PROGRAMMING 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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COPY OF DURING CLASSIFIED MESSAGE

120

SEE CRYPTO SECTION BEFORE DECLASSIFYING.

6 SEP 57

CON030HQ031
 PP RJEDHH RJEDEN
 DE RJEPHQ 162
 P 062033Z

ACTION: C000P
 INFO: C00FO
 X7-10691

FI HQ USAF WASHDC
 TO RJEDHH/CINCSAC OFFUTT AFB OMAHA NEBR
 RJEDEN/CINCONAD ENT AFB COLO
 ZEN/COMAFLIGHT WESTOVER AFB MASS
 ZEN/COMDR 64TH AB PEPPERRELL AFB ST JOHN'S NEWFOUNDLAND
 INFO ZEN/CHIEF DEWPO 220 CHURCH ST NYK
 BT

FROM AFOOP-OS-T 50042
 REFERENCES: 64TH AIR DIVISION MESSAGES ADOOP 5641, 1 JUL 57; CONAD
 C0004, 1 SEPT 57; USAF HEADQUARTERS MESSAGES AFGAC-E/A 56995, 7 JUN 57;
 AFOOP-OS-S 47521, 8 JUL 57; AFOOP-OS-T 59845, 2 SEPT 57; 8TH AF MSG
 DOGIC 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 8TH AF AND 64TH AIR DIVISION, HELD AT THIS HEADQUARTERS ON 5 SEPT
 57.

BT
 06/2100Z SEP RJEPHQ

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

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[redacted] when filled .)

COPY OF INCOMING CLASSIFIED MESSAGE

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SEE CRYPTO SECTION BEFORE DECLASSIFYING 30 Dec 1987

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CONAD MESSAGE

307

H
 NORO14
 A-528-31
 M 302041Z
 FM CNO
 TO USNMR SHAPE
 INFO CINCLANT
 CINCNELM
 CINCNOB
 SACLANT NORVA
 HQ USAF
 BT

ACTION: COOPR
 INFO: COOP, COCOC, COINT, COELC
 X7-15608

/ [redacted] /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
 REQUIREMENT. CROSS TELLING COORDINATION FAROES RADAR WITH ADJACENT
 PICKET SHIP AND AIRCRAFT STATIONS ESSENTIAL TO INTEGRITY OF COMPLETED
 DEFENSE SYSTEM. CONTINGENCY PLANNING INDICATES POSSIBLE REQUIREMENT
 TROPO LINK FAROES-ICELAND. RECOMMEND CONSIDERATION THESE REQUIREMENTS
 IN SHAPE ENGINEERING STUDY FAROES FACILITIES.
 BT

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COPY OF INFORMATION CLASSIFIED MESSAGE

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CONAD HIST FILE

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See
X7-16262 27 Aug 57

TH

CONG10 A-358-2
R 272130Z
FM ADMINO CINCLANT
TO CNO
CINCONAD
INFO COMNAVFORCONAD
COMASDEFORLANT
COMNAVFREASTCONAD
COMBARLANT

BT
[REDACTED] NOT MAINTAINING 2 AIRCRAFT AIRBORNE
ON BARRIER. REDEVELOPMENT NECESSARY TO SHORTAGE OPERATING FUNDS.
BT

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

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123

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EWA 1881740

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FM RIEDEN
DE RDEPU 36B
M 122204Z
FM CININFO
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 CLIN
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 CLIN (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 SUCHN

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 IN 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

UNCLASSIFIED

JOINT MESSAGEFORM		SECURITY CLASS		124	
SPACE BELOW RESERVED FOR COMMUNICATION CENTER					
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PRECEDENCE	CONRAD MSG FILE		ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION INFO	ROUTINE	BOOK MULTY SINGLE	X AF	X	
FROM:	CINCRAD	57		SPECIAL INSTRUCTIONS	
TO:	CINCAL ELMENDORF AFB ANCHORAGE ALASKA				
<p>FROM NOSE <u>X010</u>.</p> <p>INFORMATION AVAILABLE TO THIS HEADQUARTERS INDICATES SPECIFICATIONS FOR ALEUTIAN EXTENSION COMMUNICATIONS WILL NOT PROVIDE SUITABLE ALTERNATE FACILITIES TO MAINLAND; I.E. CONNECTION TO WHITE ALICE IN EVENT ANY ISLAND SEGMENT FAILS. A PROPOSAL HAS BEEN ADVANCED WHICH WOULD SATISFY THIS REQUIREMENT BY CONSTRUCTION OF AN IONOSPHERIC SCATTER LINK WITH TERMINALS AT WESTERNMOST ALEUTIAN POINT AND MAINLAND OF ALASKA. THIS MESSAGE TRAFFIC ORIGINATED ON THIS CHAIN WOULD BE ASSURED OF RAPID HANDLING REGARDLESS OF LOCATION OF FAILED COMMUNICATIONS LINKS ON LINE. REQUEST YOU REVIEW DETAILED PLANS CONCERNING COMMUNICATIONS IN THIS AREA, AND IF OUR UNDERSTANDING OF ITS LIMITATIONS ARE CORRECT, YOUR COMMENTS CONCERNING THE REFERENCED PROPOSAL WOULD AID THE EVALUATION.</p> <p style="text-align: right;">LT COL DG ROATH 2040 30 Oct 57</p> <p style="text-align: center;">SC</p>					
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<p>A PROPOSAL FOR A REQUEST FROM PRINCIPAL TO CATEGORY IN SYSTEM. PHYSICALLY REMOVE ALL INTERNAL REFERENCES BY DATE TIME GROUP PRIOR TO DECLASSIFICATION.</p> <p>FILE NO: LC</p>					
SYMBOL		M/R		Not necessary.	
NOEPR					
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LT COL DG ROATH					
PHONE		PAGE	NR. OF		
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SECURITY CLASSIFICATION					
308 UNCLASSIFIED					

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AFCAC-S/O

29 NOV 1957

SUBJECT: Project STRETCHOUT

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

1. Following is extracted for your information from a letter from this headquarters to Alaskan Air Command, Subject: Recent Visit of Bureau of Budget Representative, dated 29 May 1957:

"Project STRETCHOUT was approved over a year ago and yet the Navy's JCS directed FPIS facility to Adak (part of the intercontinental FPIS plan) has not been cross-related.

"This matter has been referred to the Early Warning Operations Working Group (EOWG). For your information, Continental Air Defense Command provides the chairman and administrative support to this group."

2. Comments of the Alaskan Air Command, in an indorsement dated 11 July 1957 are:

"The cross-relating between Project Stretchout and Navy's JCS directed FPIS facility to Adak is not clearly understood; however, it is noted that both the Army and Air Force have been allocated channels in the FPIS System. Further, the Navy can tie in to Stretchout at Kodiak via the White Alice System. Adak is an air-ground emergency alternate facility for Airborne Early Warning forces for passing unfiltered information back to the Commander Pacific. Therefore, the tie in to FPIS by Stretchout for Early Warning purposes does not appear to be necessary."

FOR THE CHIEF OF STAFF:

DUPLICATE

AFOAC-S/O, Hq USAF, 16 Aug 1957, subj: Project STRETCHOUT

NOEPR-R

1st Ind

5 DEC 1957

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

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

1. The possibility of cross-relating Project Stretchout and the Navy Adak FDIS facility was discussed at a recent meeting of the Early Warning Operations Working Group (EWOWG), which convened in New York City 19 to 22 November.

2. This Headquarters feels that an alternate route to the White Alice System must be provided from the Aleutian area over and above the lateral tropo system, which will be furnished by Project Stretchout. This requirement was presented to the EWOWG and is predicated on the assumption that if any of the Project Stretchout stations on the chain should fail, all early warning data westerly of the point of failure would be lost to the air defense system. By providing an alternate means of communication to the Alaskan Mainland from the Unalak region, the receipt of early warning data in the air defense system could be assured regardless of the operational status of Project Stretchout communications, at any time.

3. This Headquarters suggested to the EWOWG that it may be more feasible to extend the lateral system of communications provided by Stretchout to the Adak region and joining with the Navy FDIS project at that point. This would satisfy the requirement for alternate communications to the Mainland and would also make available to the Navy certain voice facilities connecting with White Alice on the Mainland, should they so desire.

4. It is the opinion of this Headquarters that the subject of this paper should be studied further. Of primary importance to us, of course, is the provision of alternate communications to the Alaskan Mainland from the Aleutian extension of the DEW Line, as discussed above, but further study of the subject of this paper may be desirable, due to economic and systems considerations, in the long-range view.

5. The requirement for additional communications from the Aleutian area (alternate for Stretchout) will be reaffirmed in additional correspondence now being prepared at this Headquarters. This correspondence will propose several major revisions to long-line communications systems in the North American land area.

FOR THE COMMANDER-IN-CHIEF:

F. F. URRHANE
Brig Gen, USA
CS/Comm and Elect

Copy furnished:
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G 1219 C/4
G 1218 C/4

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 SEE CRYPTO SECTION BEFORE DECLASSIFYING

NOV 28
 A-232-10
 M 100322Z

FM CINCPACFLT
 TO CINCPAC
 INFO CNO
 COFS DEPTAF
 CINCPAC
 COMBARPAC
 COMNAVFORCOMAD ENT AFB
 COMDR ADC ENT AFB
 CINCPAC
 CINCPAC
 CINCPAC
 COMCRUDESPAC
 BT

READING FILE

ACTION: COOPR
 INFO: COOOP
 COCCO
 COINT
 COELC
 COOEV

18-525

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 TUILD-UP TO REACH 18 ABOUT APR 59. PLAN 5 DER STATIONS IN NORTHERN SECTOR COMMENCING ABOUT 5630 NORTH 15615 WEST THEN SW TOWARD MIDWAY. SPACING ABOUT 200 MI. UV 2 OPER OUT OF MIDWAY IN RACE TRACK PATTERN TO OVERLAP DER LINE ABOUT 400 MI. PLAN OCCUPY MAX NO DER STATIONS AT ALL TIMES COMPATIBLE WITH NR DER AVAIL,

PAGE TWO A-232-10

OPERATING ON 1 TO 1 AT SEA INPORT 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 RANROTIME/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. D. 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 RACE TRACK PATTERN MAKING CONTACT WITH LAND BASED RADAR COVERAGE AT NORTH END. BOTH INTERIM AND ULTIMATE BARRIERS CAN BE AUGMENTED IN EMERGENCY.
 BT

A-PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY B ENCRYPTION--
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30 Dec 1957

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COMM FILE

308

PRIORITY

NOR002
 BV002
 PP RFVVBV RJEDNG RJEDDN RJWPSB RJWPDJ RJENFX
 DE RFEMVB 17/30
 RJWPDJ-T-RFVVBV
 RJENFX-T-RFEQDK
 P 301510Z
 FM CANAIRDEF
 TO RFVVBV/CANAIRVAN
 RJEDNG/31 AIR DIV SNELLING AFB MINN
 RJEDDN/NORAD ENT AFB COLO
 RJEDDN/USAF ADC ENT AFB COLO
 RJWPSB/WADF 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: COCOC
 COELC
 COOPO
 X7-15598

[Redacted] 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 B ENCRYPTION-
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4 NOV 57

CONAD HIST FILE

HEADING FILE

CONAD

4-53-04

P 041221Z

FM CANADA

TO VANARHEB SECTION ST MARGARETS STATION WOOD LAKE

COMER ABC

COMPR NORAD

CATH ADIV

C41 ACY COOSE BAY

C23 ACW HOPETON

INFO 041221Z

BT

/

[redacted] /AC 200. 4 NOV. EFFECTIVE 31 OCTOBER 57 THE WOOD LAKE
 VANARHEB SECTION OF THE NCL COMMENCED LIMITED OPERATIONS ON A
 24 HOUR BASIS. DATA HANDLING WILL BE IN ACCORDANCE WITH USAF/CAF OPS
 PLAN DATED 1 JUNE 56. IDENTIFICATION PERFORMED BY NORAD WILL NOT
 BE OF THE HIGH CALIBRE ENVISIONED IN ABOVE MENTIONED OPS PLAN AS
 NORMAL PROBLEMS WITH NEW EQUIPMENT MAY CAUSE SOME DEGRADATION IN
 QUALITY OF DETECTION SUCH AS FALSE ALARMS BEING REPORTED AS LIVE
 CONCENTRATIONS. IN VIEW OF ABOVE, YOU ARE REQUESTED TO EXERCISE
 CAUTION IN THE INITIATION OF TACTICAL ACTION BASED ON NCL TRAFFIC
 UNTIL FURTHER ADVISED THAT NCL ALTERATIONS HAVE BECOME STABILIZED
 AND ALL FACILITIES ARE AVAILABLE.

ACTION: COOP
 INFO: COPO
 SUSPENSE: 8 Nov 57
 N7-13108

AC---PARAPHRASE NOT REQUIRED EXCEPT PRIOR TO CATEGORY 3 ENCRYPTION---
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 IS OBTAIN.

DUPLICATE

SECRET HIST FILE

308

COM 007 VT004
 FR: RVEDEN RJEDEN
 DE RFEVNB 16/30
 P 302043Z
 RM CANAIRDEF
 TO RVEDEN/USAF/ADC EFT AFB SOLO
 RVEDEN/COMAD
 ZEN CANAIRDEF
 ZEN/3 SECTOR
 ZEN/UNISK
 ZEN/RCAF BIRD
 INFO RVEDEN/54 AIR DIV ENELLING AFB MEMPH
 ZEN/RCAF GREAT WHALE
 ZEN/CANAIRDEF/COG
 ZEN/3 SECTOR
 BT

ACB13 30 SEP

EFFECTIVE 0001Z 2 OCT 57 THE UNISK SECTION WILL CONDUCT LIMITED OPERATIONS ON A 24 HOUR BASIS FROM SLICE 727 EAST TO 410 EAST ON NORTHERN LINE AND FROM 510 WEST TO 421 EAST ON SOUTHERN LINE PD DATA HANDLING WILL BE IN ACCORDANCE WITH US/RCAF OPS PLAN DATED 1 JUNE 53 PD SINCE CERTAIN FACILITIES WILL NOT BE AVAILABLE BY 2 OCT CEN IDENTIFICATION PERFORMED BY UNISK WILL BE ONE OF THE HIGH CALIBRE EQUIPMENT IN THE ABOVE MENTIONED OPS PLAN IS A MAJOR PROBLEM WITH NEW EQUIPMENT MAY CAUSE SOME DEGRADATION IN QUALITY OF DETECTION SUCH AS FALSE ALARMS BEING REPORTED AS LOW PENETRATIONS PD IN VIEW OF ABOVE YOU ARE ADVISED TO EXERCISE CAUTION IN THE SITUATION OF

PAGE TWO RFEVNB 16/30
 TACTICAL ACTION BASED ON NCL TRAFFIC UNTIL ADVISED THAT OPERATIONS ON NCL HAVE BECOME STABILIZED AND ALL FACILITIES ARE AVAILABLE PD FOR RCAF BIRD ONLY PD EFFECTIVE 0001Z 2 OCT YOUR UNIT TO CEASE RECORDING INFO ON BBS'S IN UNISK SECTION PD ASSOCIATED RECORDERS TO BE PLACED ON STANDBY AS PER MY MESSAGE ACB73 DATED 22 JULY 57
 BT
 30/2043Z SEP RFEVNB

MESSAGE

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30 Sep 57

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SEE CRYPTO SECTION BEFORE DECLASSIFYING 23 OCT 57

READING FILE

CONO 014 V
A-376-24
P 1545Z
FM CANAIRDEF
TO CANAI
A-376-24
P 231545Z
FM CANAIRDEF
TO CANAIRDEF USAF
ADC ENT AFB
NORAD ENT AFB
3 SECTOR
2 SECTOR
KNOB LAKE
INFO GREAT WHALE
64 AIR DIV
925 ACAN SON HOPEDAVE

PRIORITY CONAD HIST FILE
308

ACTION: N OOP
INFO: NOCCC, NOZLC, NOOBO

#7-12541

DUPLICATE

BT
/ AC569 23 OCT
EFFECTIVE 0001Z 25 OCT 57 THE KNOB LAKE SECTION OF THE MCL WILL COMMENC
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 C.M
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-S DATED 22 OCT REFERS
BT

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23 OCT 57

READING FILE

CONSIDV 002
PP RJEDEH
DE RFEHVD 7/23
P 231450Z

PRIORITY

ACTION: RCOOP

INFO: RCOOC & NCOFO

R: CANAIRDET
TO RJEDEH/USAF/ADJUTANT AIR SOLO SPRINGS COLO

17-1252

CONAD HIST FILE

308

RJEDEH/NORAD
ZEN/CANAIRDET
ZEN/SECTOR EDGAR
ZEN/STN GREAT WHALE
INFO ZEN/STN WILSON
ZEN/STN KNOX LAKE
BT

// 231450Z 23 OCT

EFFECTIVE 0001Z 24 OCT 57 THE GREAT WHALE SECTION OF THE NCL WILL
COMMENCE LIMITED OPERATIONS ON A 24 HOUR BASIS. DATA HANDLING WILL BE
IN ACCORDANCE WITH HCAT/GREAT OPS PLAN DATED 1 JUN 56. SINCE CERTAIN
FACILITIES WILL NOT BE AVAILABLE BY 24 OCT, IDENTIFICATION PERFORMED
BY GREAT WHALE WILL NOT BE OF THE HIGH CALIBRE ENVISIONED IN THE ABOVE
MENTIONED OPS PLAN. NORMAL PROBLEMS WITH NEW EQUIPMENT MAY CAUSE
SOME DETERIORATION IN QUALITY OF DETECTION SUCH AS FALSE ALARMS BEING
REPORTED AS LIVE PENETRATIONS. IN VIEW OF ABOVE YOU ARE ADVISED TO
EXERCISE CAUTION IN THE INITIATION OF TACTICAL ACTION BASED ON DATA

DUPLICATE

PAGE TWO RFEHVD 7/23
RECEIVED FROM NCL UNTIL ADVISED THAT OPERATIONS HAVE BECOME MORE
STABILIZED AND ALL FACILITIES ARE AVAILABLE. FOR GREAT WHALE ONLY
YOUR A021 DATED 21 OCT REFERS.
BT
23/1500Z

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PRIOR TO DECLASSIFICATION

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