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GA-43

Director Aerospace Research Development Administration	INFORMATION
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- Draft of Memo for OSD re: info on Projects Lock-On, Combine and Think Fast
- 23 Apr Memo for Sp Staff Group re: information required regarding Project: LOCK-ON
- 23 Apr Memo for Sp Staff Group re: information required regarding Project: COMBINE
- 23 Apr Memo for Sp Staff Group from Directorate of Operations, DCS/O re: information required on Project: THINK FAST
- Undtd Memo for Director of Operations requesting concurrence or non-concurrence on the above mentioned projects.
- 30 Apr Memo for record forwarding Project LOCK-ON and explaining why COMBINE and THINK FAST were not being forwarded
- 30 Apr Memo for OSD, subj: Request for Information on Several Projects by Symington Subcommittee
- 2 May Memo for Secy, Air Force Council, Subj: "Status Report of Actions Taken to Eliminate Deficiencies Indicated in Report of Phase III, Project LOCK-ON"
- 16 May Memo for Col Anthis with memo from Potts to Stempler, and memo from Stempler to Gen Rouse attached.

MICROFILM ROLL K1272, ARIS Num 00473009

~~16 May 1964~~

DECLASSIFIED IAW EO 12958 BY EXECUTIVE ORDER REVIEW TEAM

DATE 19 NOV 1998 REVIEWER 61

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

GA-43

AFCSS-GA

16 May 1956

MEMORANDUM FOR COLONEL ANTHIS

Reference the attached six requests. Status reflected below in seriatim:

Memo to OSD dated 11 May
?? ?? ?? ?? ?? ??
?? ?? ?? ?? ?? ??
?? ?? ?? ?? 2 May
?? ?? ?? ?? ?? ??
?? ?? ?? ?? ?? ??

Additional requests do not appear to exist with respect to this paper.

Inclosure  
Memo fr Mr. Stempler  
w/requests attached

*Jack*  
JACK HIGGINS  
Major, USAF  
Special Staff Group

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MEMORANDUM

OFFICE OF THE GENERAL COUNSEL

14 May 1956

MEMORANDUM FOR BRIG. GEN. FRANK ROUSE  
Deputy Chief  
Special Staff Group

As per our telephone conversation  
of Friday, I am attaching herewith ~~a~~  
*copy of* the official request for the various  
reports enumerated therein.

*S. Ad.*

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UNITED STATES SENATE  
Committee on Armed Services

April 27, 1956

MEMORANDUM FOR MR. STEMLER

This will confirm request for information made orally to General Musgrave and his staff.

Following a conference with General Putt and General Power last week, we requested that the Subcommittee be furnished with three reports on Research and Development facilities and the scope of the R & D effort, which we understood were entitled:

Bovet Report  
Gillette Committee Report  
Schriever Report

Additionally we requested that we be furnished with the results of three air defense exercises entitled:

Project Combine  
Project Lockon  
Operation Think Fast

/s/ Ramsay Potts, Jr.  
Ramsay D. Potts, Jr.  
Associate Counsel  
Subcommittee on the Air Force

RDP/s

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

2 May 1956

MEMORANDUM FOR SECRETARY, AIR FORCE COUNCIL

SUBJECT: (C) Status Report of Actions Taken to Eliminate  
Deficiencies Indicated in Report of Phase III,  
Project Lock-On

1. Reference Memorandum from Secretary, Program Status Committee, to Secretary, Air Force Council, subject as above, 6 December 1955.

2. The following is a re-listing of deficiencies noted and the current status of action taken:

a. Training Targets. Air Defense Command has a requirement for additional suitable training targets. This requirement involves both the quantity and quality of targets and their availability is necessary to provide realistic training. Targets for both intercept and firing are included.

(1) Status:

(a) Banner Targets.

1. A new radar reflective nylon marquisette 6x30 banner target, designated the MA-7, is under procurement and will be available for issue during the 4th Quarter FY 56.
2. Service tests of a new type of metalized nylon marquisette target material have been unsatisfactory. The contractor is continuing development action of this item. The Materials Lab, WADC, is also conducting a development project for metalized target material.

(b) Frangible Target System. The last tow reels of 150 being manufactured by AMC were to be delivered by the end of Apr 56. An additional 135 tow reels are on contract; however, AMC

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has been unable to forecast a delivery date for these. The tow reel is the critical item of this target system.

- (c) Radar Targets. Development is continuing with respect to this item and initial testing has been encouraging. This project has been hindered by a shortage of tow target aircraft for use in conducting the tests.
- (d) Action to standardize items is continuing and a number of items have been eliminated from the stock lists.
- (e) The Director of Operations queried ADC and obtained the quantitative requirements for actual aircraft targets to be used in practice intercepts. Subsequently Hq SAC has been requested to review ADC's requirements and to determine SAC's capability to satisfy these requirements.

b. Firing Error Indicators. Air Defense Command has a definite requirement for firing error indicators and ancillary equipment to be used for evaluation in conjunction with their training program.

(1) Status

- (a) Delivery of ten (10) of the AMC-manufactured firing error indicators was scheduled for 27 April 1956 and a total of seventy (70) by 1 Aug 56. The first thirty (30) of these are for ADC; the remainder, for training centers worldwide. Availability of additional indicators of this type is the 2d or 3d Qtr of FY 58. This delay is caused by the non-availability of the radars for this item.
- (b) The best estimate for availability of an internally packaged firing error indicator is the 2d or 3d Qtr of FY 58. Several commercial sources are available but no earlier estimate



appears probable. This type of system is the more desirable and since the time element is the same future action will be directed toward this item.

c. Firing Ranges. The requirement exists for more air-to-air firing facilities.

(1) Status

- (a) The USAF Weapons Range Board is currently studying the entire USAF range requirements through 1965, including the requirement for ADC. It is anticipated that this Board will complete its activities by the end of 1/57. For the purposes of this report it is recommended that this item no longer be considered as a deficiency.

d. Turn-Around Service Shelters. Operational ready shelters, or turn-around shelters, are required in certain geographical areas to provide protection for re-servicing and re-arming operational ready aircraft during periods of inclement weather.

(1) Status

- (a) Action: No further action has been taken since our previous report and it is recommended that this item be dropped from further consideration.

e. Revisions of Table of Organization. T/O 1-1289 (F-89D) needs to be revised and action to accomplish this should be resolved as quickly as possible.

(1) Status

- (a) T/O 1-1289 has been changed to O/T 1135 and a separate O/T is being issued for each model of the F-89 aircraft. Changes recommended by Hq ADC were incorporated to the extent considered feasible. Recommend this item be considered completed for the purposes of this report.

f. MG-10 Fire Control System Maintenance. This item is one which is not peculiar to the F-89 weapon system but to another weapon system. Action with respect to this item has been taken as a result of reviews of the F-102 weapon system and it is recommended that this item be eliminated from further reports.

g. Supply Tables and Procedures. A review of existing supply tables, equipment component lists and procedures for handling supply requisitions appears necessary.

(1) Status

(a) AMC has taken the following action:

1. Supply Tables pertaining to F-89D aircraft have been revised and purified.
2. Equipment Component Lists were reviewed and noted discrepancies were corrected.

(b) The supply priority requisitioning system initiated in February 1955 was designed to reduce the processing time in handling high priority requisitions. Actions initiated by this system included:

1. Reduction of depot stock to zero in order to fill requisition.
2. Use of premium transportation where necessary.
3. 24-hour depot operation for emergency type requisitioning.

(c) No further action other than routine activities to review supply tables and equipment component lists and to improve procedures is contemplated at this time.

h. ECM Training Equipment. A requirement exists for ECM training equipment. This requirement includes more modern aircraft and some modifications to some presently assigned aircraft.



(1) Status

- (a) Modification of 209 T-33 aircraft to provide them with AN/ALE-2 chaff dispenser equipment has been approved. The estimated completion date of this modification is 1st Qtr FY 57. ADC will receive 116 of these aircraft.
- (b) The program for the use of B-57E aircraft for ECM trainers continues without change. Present plans are for installing AN/ALE-2 chaff dispensers and AMC is still studying the feasibility of installing ALT-6 jammers in these aircraft. The modification request for these jammers has not been received in this Hq.
- (c) Modification of thirty (30) TB-29 aircraft to provide ECM training equipment is programmed for completion by 3d Qtr FY 57.
- (d) General Operational Requirement No. 127 for development of an ECM Training Aircraft Support System was published on 7 November 1955. The development program from ARDC is expected within thirty (30) days.

i. Aircraft Controllers. A requirement exists for more effective manning in the aircraft controller field. This requirement is both quantitative and qualitative and is expected to be greatly increased with the implementation of improved control systems planned for the future.

(1) Status

- (a) The production of aircraft controllers has been increased to 1500 per year. All qualitative deficiencies indicated in the Lock-On report which could be corrected without the extension of course lengths or additional equipment have been entered into the training program. Correction of deficiencies which may require course lengthening or additional equipment are being held in abeyance pending the final determination



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of the quantity deficiency.

3. The Program Status Committee will continue to monitor the progress of action taken with respect to this project and will report to the Air Force Council as appropriate.



R. E. KOON  
Brigadier General, U. S. Air Force  
Secretary, Program Status Committee

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

24 April 1956

MEMORANDUM FOR COLONEL HUBBARD

SUBJECT: Operation "Think Fast"

"Think Fast" is a code name used in Eastern Air Defense Force for an air defense force wide training exercise. Operation "Think Fast" is run in conjunction with a SAC redeployment or training exercise. The SAC aircraft in the course of their mission penetrate the air defense force area and are target aircraft to exercise the AC&W and interceptor squadrons. It is emphasized that this is an informal training exercise, not a test, and occurs approximately eight (8) times per year. (UNCL)

A handwritten signature in cursive script, reading "W. N. Houston", is positioned above the typed name.

W. N. HOUSTON  
Lt. Colonel, USAF  
Executive Officer  
Directorate of Operations, DCS/O

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AFCS-GA

30 April 1956

GA 43

MEMORANDUM FOR THE RECORD

SUBJECT: Subcommittee Request for information on LOCK-ON, COMBINE and THINK FAST

1. Mr. Potts requested verbally of General Musgrave, 20 April, copy of projects LOCK-ON, COMBINE, AND THINK FAST. Request for this information, LOCK-ON and THINK FAST, was transmitted verbally to AFOOP. Project COMBINE had never been received officially in this Headquarters. A copy was found in WSEG (Colonel Beverly) which had been forwarded ADC at the specific request of Colonel Beverly.
2. Concerning Project LOCK-ON, copies of the APGC report and Program Status Committee reports were obtained from AFDRQ/AD. General Bergquist did not believe this should be forwarded for reasons of his own. After further discussion he concurred that the report could be forwarded if Program Status Committee's action for correcting deficiencies was attached at the same time.
3. Concerning Operation THINK FAST, there are no formal reports in this Headquarters concerning this operation. It is purely a training exercise run by Eastern Air Defense Force in connection with SAC training missions. Its purpose is to exercise aircraft control warning and interceptor units. AFOOP furnished a short statement to this effect which has been incorporated in the memo to the General Counsel, OSD.
4. Concerning Operation COMBINE, this is a study by ADC to determine effectiveness and costs of separate air defense systems. The study has never been accepted by Commander, ADC and no reports have officially left that Headquarters. It is the opinion of the Vice Commander, ADC (Major General Fred Smith) that this report should not be released due to its inconclusive findings, and its being unacceptable to Commander, ADC.
5. A memo went forward to Mr. Stempler on 30 April, with Project LOCK-ON and Program Status Committee reports attached. The memo also states that Project COMBINE and Operation THINK FAST were not being forwarded for reasons given above.

Case File Copy

Major Higgins

MARK E. HUBBARD  
Colonel, USAF

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

AFCSS-GA


MEMORANDUM FOR DIRECTOR OF OPERATIONS  
ATTN: GENERAL BERQUIST

SUBJECT: Information for Symington Subcommittee Concerning Several Projects.

1. Attached is our proposed reply to the Symington Subcommittee request for information concerning LOCK-ON, COMBINE, and THINK FAST.

2. Reference the LOCK-ON report, it is intended that only the Phase III Report be submitted. Attached to it will be a copy of the latest Program Status Committee Report on action to overcome the deficiencies of Phase III, LOCK-ON.

3. Request comments as to your concurrence or nonconcurrence with the proposed reply, *or, as we discussed, an alternate reply.*

  
FRANK E. ROUSE  
Brigadier General, USAF  
Deputy Chief  
Special Staff Group

*Hand carried to General Berquist on Saturday 28 Oct. Discussed with General B personally on 30 Oct. He concurs with sending Lock-On forward and holding Combine & Think Fast. He recommended many changes to the covering memo which are incorporated in the final*

*WCH*

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

AFCSS-GA

23 April 1956

MEMORANDUM FOR GENERAL MUSGRAVE

SUBJECT: Request for Project "LOCK-ON" by Symington Subcommittee

1. This project has been going on for almost two years. Its purpose is to determine the capabilities of fighter interceptor squadrons to perform their assigned mission in the present Air Defense Command. The project is actually an operational suitability test conducted by AFGC. It was conducted in three phases, one each phase for the F-86D, F-94C, and F-89D aircraft squadrons. Final reports for each phase have been received by this Headquarters. The latest (Phase 3) is dated October 1955. In general each of the three phase reports conclude that the three types of fighter interceptor squadrons are unable to perform their assigned mission for various reasons.

2. The Program Status Committee has reviewed action to overcome the deficiencies given in these reports for the past 18 months. In general, action has been completed for most of the deficiencies. Some actions are still continuing. The Program Status Committee has presented its recommended course of action to the Air Force Council several times in the past year.

3. General Bergquist has been contacted to determine his opinion on the release of these reports to the Subcommittee. He strongly recommends that they not be released *unless accompanied by detailed explanations of actions & progress to correct deficiencies.*

4. I do not entirely concur with General Bergquist's opinion for the following reasons:

- a. The report is classified "Confidential".
- b. The deficiencies are being corrected, although some still remain.
- c. The deficiencies do not reflect any lack of funds available to the Air Force.
- d. Failure to submit the report may cause the Subcommittee to think there is much more behind it than the deficiencies, which in general everyone knows of, concerning the capabilities of Air Defense Command.

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5. Inasmuch as General White is very familiar with Project "LOCK-ON" I suggest that he be the approving authority for release of these reports if in your opinion they should be released. I further suggest that if the report is released, a list of corrective actions be attached in order that the Subcommittee may realize what the Air Force is doing and may realize that it is not the fault of lack of funds.



MARK E. HUBBARD  
Colonel, USAF

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


AFCSS-GA

23 April 1956

MEMORANDUM FOR GENERAL MUSGRAVE

SUBJECT: Subcommittee request for Report on Project "COMBINE"

1. It has been found that Project "COMBINE" is an incomplete study which was not approved by Commander, ADC.
2. One copy of the study is in WSEG, which was furnished by ADC, at the specific request of one of the Air Force members of WSEG. The letter of transmittal from ADC states that the report is not complete, nor accepted by that Command, that it is for information only and it is requested that it not be disseminated outside of WSEG's own office.
3. The purpose of the report is to evaluate complete air defense systems in order to establish policy as to the level of air defense expenditures in comparison to costs for complete weapons systems.
4. The report concludes that this study is not sufficiently comprehensive to permit final decisions regarding levels of air defense expenditures. It recommends that these results be taken into account in detailed planning of an air defense system for 1960 only.
5. I talked with Major General Fred Smith, asking ADC's opinion of release of this report to the Senate Committee. He reaffirmed that it is not complete nor approved by ADC and that Headquarters considers it is not useable in its present form. General Smith believed that the report could be very misleading except in the hands of an expert in air defense matters. He further believed that parts of the report would be misleading if they were extracted out of context of the whole report. He felt that it should not be released but if circumstances required it, that full explanation of the above conditions be given to the parties receiving the report.
6. It is recommended that the report not be released to the Subcommittee for the reasons given above.

  
MARK E. HUBBARD  
Colonel, USAF

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DRAFT

*re-write by  
M/C Bergquist*

MEMORANDUM FOR GENERAL COUNSEL, OSD  
ATTN: MR. STEPLER

SUBJECT: Request for Information on Several Projects by Symington Subcommittee

1. Mr. Ramsay Potts, Assistant General Counsel, Symington Subcommittee, requested reports on the following projects:

Project LOCK-ON  
Project COMBINE  
Operation THINK FAST

2. Attached is a copy of the Phase III Report, Project LOCK-ON, submitted by Air Proving Ground Command. This project was conducted in three phases, one each phase for the F-86D, F-94C and F-89D aircraft squadrons. As the reports on each phase are very similar, only the report on Phase III (F-89D) is being forwarded. Also attached is a copy of the latest Air Force findings and actions to overcome the deficiencies listed in the Phase III Report. Action is continuous to overcome these deficiencies, ~~and a report is submitted quarterly as to the status of remaining deficiencies and action.~~

*[Handwritten signature/initials]*

3. Project COMBINE *was set up to evaluate the effectiveness and determine the cost of the major components of the Air Defense System, which was not approved by Commander ADC. The purpose of this including each weapon system, present or planned, individually and then project was to evaluate complete Air Defense systems in terms of combined in various combinations in order to attempt to insure the relative costs in order to establish policy as to the level of most effective and economical overall Air Defense system. This type Air Defense expenditures for complete weapon systems. The study of study as of course continuous but the idea here was to try to is not sufficiently comprehensive to permit decision regarding assemble and correlate a vast amount of studies into one document. This is indeed an ambitious undertaking. It involves working with a great number of changing assumptions and an almost infinite number of permutations and combinations. It is far from complete but the work done thus far has been*



beneficial to our Air Defense planners. Use of any of the levels of Air Defense expenditures. It recommends only that its preliminary partial results has been strictly limited due to the great danger findings be considered in further planning of Air Defense systems of false conclusions when taken out of context and without thorough correlation for 1960. For the above reasons, and particularly in view of lack with all other pertinent parts and factors. For this reason, there is no Combined Report of acceptance by the Commander of Air Defense Command. It is the not part thereof that has the approval of Air Force opinion that ~~this study~~ <sup>any available parts of this incomplete study</sup> could serve no useful purpose to the Symington Subcommittee. It is therefore respectfully requested that they be advised of our reluctance to provide this material study.

4. Operation THINK FAST is a code name used in Eastern Air Defense Force for <sup>a routine</sup> Air Defense training exercise. This operation is run <sup>monthly</sup> in conjunction with SAC training exercises in order to exercise air control and warning and interceptor squadrons. There is no formal directive nor are there <sup>no</sup> any formal reports submitted in conjunction with this operation. For these reasons, it is requested that the Subcommittee be advised that no report can be submitted.

THOMAS C. MUSGRAVE, JR.  
Brigadier General, USAF  
Chief, Special Staff Group

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SUSPENSE DATE \_\_\_\_\_

DATE 2 May 56

GENERAL MUSGRAVE ~~2~~

COL ANTHIS (+)

GENERAL HARDY \_\_\_\_\_

COL GROSSMITH \_\_\_\_\_

GENERAL ROUSE \_\_\_\_\_

COL HUBBARD \_\_\_\_\_

COL ZUERNER \_\_\_\_\_

MAJ HIGGINS \_\_\_\_\_

MR. AREEDA \_\_\_\_\_

PROF LEACH \_\_\_\_\_

MAJ BERRY \_\_\_\_\_

CAPT MATTHEWS \_\_\_\_\_

INFO 2 FILE \_\_\_\_\_

NOTE AND RETURN \_\_\_\_\_

NECESSARY ACTION (+)

SIGNATURE \_\_\_\_\_

COORDINATION \_\_\_\_\_

COMMENTS: See Musgrave.

Mr Johnson - Think  
this is OK - suggest  
this is a good way  
to dispose of this one.  
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by Capt M.

AFCS-CA

30 April 1956

MEMORANDUM FOR MR. J. L. STEPLER, ASSISTANT GENERAL COUNSEL, OSD

SUBJECT: Request for Information on Several Projects by Symington Subcommittee

1. Mr. Ramsay Potts, Associate Counsel, Symington Subcommittee, requested reports on the following projects:

- Project LOCK-ON
- Project COMBINE
- Operation THINK FAST

*Maj Higgins*

2. Attached is a copy of the Phase III Report, Project LOCK-ON, submitted by Air Proving Ground Command. This project was conducted in three phases, one each phase for the F-86D, F-94C and F-89D aircraft squadrons. As the reports on each phase are very similar, only the report on Phase III (F-89D) is being forwarded. Also attached is a copy of the latest Air Force Program Status Committee's action report to overcome the deficiencies listed in the Phase III Report.

3. Project COMBINE is an incomplete air defense study which has not been approved by Commander, Air Defense Command. It was established to evaluate the effectiveness and costs of the major components of the air defense system, including each weapon system, present or planned, individually and in various combinations, in order to attempt to insure the most effective and economical over-all air defense system. The study is not sufficiently comprehensive to permit decision regarding levels of air defense expenditures. It recommends only that its findings be considered in future planning for air defense systems. For the above reasons, and particularly in view of the lack of acceptance by the Commander, Air Defense Command, Project COMBINE would not contribute to the Subcommittee's deliberations.

4. Operation THINK FAST is a code name used in Eastern Air Defense Force for a routine air defense training exercise. This operation

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is run monthly in conjunction with SAC training missions in order to exercise Air Control and Warning and Interceptor squadrons. There are no formal reports submitted in conjunction with this exercise; therefore, no report can be submitted.

2 Incis.

- 1- Phase III Report
- 2- Program Status Comte report  
dtd 6 Dec 55

THOMAS C. MUSGRAVE, JR.  
Brigadier General, USAF  
Chief, Special Staff Group

cc: Mr. Johnson, OSAF General Counsel

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

MGT 3-2  
projects

- 6 DEC 1955

+ Pub 3-2  
misc memo

MEMORANDUM FOR SECRETARY, AIR FORCE COUNCIL

SUBJECT: (C) Status Report of Actions Taken to Eliminate  
Deficiencies Indicated in Report of Phase III,  
Project Lock-On

1. Reference: Memo from Program Status Committee to  
Sec, AFC, subj: "(C) Report of Deficiencies Indicated in Phase  
III, Project Lock-On, 24 Oct 55.

2. The following is an enumeration of the items listed as  
deficiencies in reference above and the current status of action  
taken with respect to each item:

a. Training Targets. Air Defense Command has a  
requirement for additional suitable training targets. This require-  
ment involves both the quantity and quality of targets and their  
availability is necessary to provide realistic training. Targets  
for both intercept and firing are included.

(1) Action:

(a) Banner Targets.

1. The radar reflective nylon marquisette  
9x45 banner for bomber tow is satisfactory  
for training use. Its performance is limited  
by fabric deterioration at high speeds and  
high altitudes (above 200 K - I. A. S. or  
30,000 ft.)
2. The type MA-3 polyethylene radar reflec-  
tive 6x30 banner target for fighter tow has  
proven to be unsatisfactory because of high  
drag characteristics. A radar reflective  
nylon marquisette 6x30 banner target with  
lower drag characteristics has been desig-  
nated as tentative standard to replace the  
MA-3. Procurement action to meet quan-  
titative requirements is presently being  
initiated.

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document consists of 9 pages,  
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A F O O R C A U N C I L



3. Service testing of a new type of metalized nylon marquisette target material is presently being conducted at Yuma Air Force Base under the supervision of Air Force Armament Center personnel. If results are favorable, this material will be used in future banner targets.
- (b) Frangible Target System. A lightweight, low drag frangible target system for high speed fighter tow has been developed and classified tentative standard. Thirty (30) of the 257 programmed units have been issued. Procurement and distribution for the remaining frangible target systems will probably be completed in February 1956. Initial issue has been set at two (2) units per Air Defense Squadron, plus sufficient quantities to support Air Defense Command unit training centers. The frangible target system will provide Air Defense squadrons with a capability of home base training.
- (c) Radar Targets. This item is presently in development status. A prototype item at the Air Force Armament Center, Eglin Air Force Base, is being tested on a priority basis.
- (d) Three Dimensional Rigid Target. This item is presently in development status. It is primarily intended to support day fighter gunnery training.
- (e) Standardization. The several types of banner targets presently in tentative standard classification are required to meet variations in unit mission and tow capability. Reduction in numbers of types and standardization will be accomplished as soon as tow target development provides suitable items.
- (f) Quantitative Requirements. No indication of quantitative deficiencies for targets classified and available for issue has been received by this headquarters. Accurate determination of quantitative requirements is hampered by local purchase



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of non-standard items by various units. Development action to produce items to meet the low target requirements as stated in Operational Support Requirement (OSR) No. 94 is presently being given a priority of 1C.

- (g) Action has been initiated by Director of Operations to determine the qualitative and quantitative requirements of ADC for actual aircraft targets to be used in practice intercepts. No specific action can be taken until requirements have been determined.

b. Firing Error Indicators. Air Defense Command has a definite requirement for firing error indicators and ancillary equipment to be used for evaluation in conjunction with their training program.

(1) Action:

- (a) A firing error indicator is being fabricated in limited quantity at Ogden AMA for issue to Air Defense Command and rocketry training units of the other major commands. This device is packaged in a fuel tank and carried on the normal wing pylon. It requires an additional radar set to provide range information and for this reason is considered suitable to meet only the immediate requirements of the using commands. AMC has issued a production directive for the manufacturer of fifty (50) of these scoring devices, of which thirty (30) are scheduled for the Air Defense Command Training Center at Yuma, Arizona.
- (b) Additional action has been taken by this headquarters to provide an internally packaged firing error indicator utilizing the aircraft's airborne intercept radar for range information. OSR No. 112 was published 29 July 1955 for this purpose. Informal information from Wright Air Development Center indicates proposals meeting the requirements stated in OSR No. 112 have been received and are being evaluated.

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- (c) The internally packaged device is the more desirable equipment; therefore, action is being taken to expedite the evaluation of this equipment. It is estimated that with priority procurement action, such equipment could be available within one year.

c. Firing Ranges. A requirement exists for more air-to-air firing facilities.

- (1) No specific requirement for additional range facilities has been received in this Headquarters.

(2) Action:

- (a) The increased use of Yuma Air Force Base, plus the interim use of Moody Air Force Base and the use of Buckingham Air Force Base, when completed, will meet all the known requirements of Air Defense Command for air-to-air firing ranges. To date, the Air Defense Command has not submitted any new requests for additional range facilities. However, this Headquarters has information that ADC is interested in using the lower portion of the Wendover, Utah, Bombing and Gunnery Range. Facilities for the construction of Buckingham Air Force Base as an air-to-air firing range were included in the FY-56 Military Construction Program. Facilities for the completion of Buckingham and the necessary expansion of Yuma Air Force Base are included in the proposed FY 57 MCP.

- (b) A message has been sent to ADC requesting that total Air Defense Command range requirements be forwarded to this Headquarters.

d. Turn-Around Service Shelters. Operational ready shelters, or turn-around shelters, are required in certain geographical areas to provide protection for re-servicing and re-arming operational ready aircraft during periods of inclement weather.

- (1) Action: The proposed FY 57 Military Construction Program includes four (4) aircraft shelters

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per squadron for thirty-four (34) squadrons, each shelter having a capacity of two (2) aircraft. It has been determined that six (6) aircraft can be sheltered in the field maintenance hanger, six (6) aircraft in the organizational maintenance hangars and four (4) aircraft in the alert hangar. These facilities will provide for coverage of twenty-four (24) of the twenty-five (25) aircraft assigned to each squadron.

e. Revision of Table of Organization. T/O 1-1289 (F-89D) needs to be revised and action to accomplish this should be resolved as quickly as possible.

- (1) The detailed report of the Phase III tests has not been received and no specific recommendations are available to the Director of Manpower and Organization.
- (2) Action: Director of Manpower and Organization has requested ADC to expedite their recommendation for specific changes to T/O 1-1289 (F-89D) so that appropriate action may be taken.

f. MG-10 Fire Control System Maintenance. Present indications are that personnel qualified to perform maintenance on the MG-10 fire control system will not be available when aircraft employing this system begin entering the ADC inventory.

(1) Action.

- (a) The technical training of MG-10 Aircraft and Weapons Control System maintenance personnel to support Air Defense Command is being provided by two sources: Factory training by Hughes Aircraft Corporation, and informal courses of the Air Training Command. The qualitative timewise requirements were established in accordance with PE 57-2 (Squadron Activations) and against Table of Organization authorizations per Fiscal Quarter.

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- (b) In the interim it has been established that training by Hughes Aircraft will not support an increase load due to equipment allocations and trained Hughes instructors. This factory course will provide technicians only and is supported by each major command. The production from this factory course will not supply sufficient technicians for Air Defense Command during the months of September, October, and November 1956, basing their requirement on assigned aircraft. However, beginning in December 1956 the production will again exceed aircraft assignment.
- (c) Air Training Command has established two courses of 58 weeks' duration to train pipeline airmen in Radar Maintenance and Computer Controls Maintenance. Combining the output of the factory course with the above two courses, 30% of Air Defense Command maintenance requirement will have received over one year technical training. The balance (70%) are trained in a 37-week course of the "Data-Flow" concept.
- (d) The Data Flow concept of training was selected because:
1. A reduction of training time from courses of 58-week duration for first term enlistees was economically necessary.
  2. The number of airmen within the pipeline with the necessary intelligence level would not support the large numbers required in courses desired by Air Defense Command.
  3. The equipment and system design lends itself to "Data Flow" training.
  4. Advance courses are offered for personnel having the prerequisites for re-enlisting in the USAF.
  5. A change in the 70-30 ratio of Data Flow specialist to technician would reduce the

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number of Air Defense Command personnel being trained in the first factory courses; thus aggravating the present shortages in October and November, and will extend into the next fiscal quarter.

- (e) The major limiting factors are: Availability of training equipment and personnel inputs with the required Stainine scores. The time-wise availability of equipment to train instructors and to support early factory courses, predicated class slippages.
- (f) The shortage of technicians (only) for 100% assignment during September, October, and November 1956 was discussed by Air Defense Command project officer, Air Training Command, Hughes Aircraft, and a representative from this Directorate on 24-26 October 1955. The possible solutions were explored, and no immediate solution appeared likely.

g. Supply Tables and Procedures. A review of existing supply tables, equipment component lists and procedures for handling supply requisitions appears necessary.

- (1) The final detailed report of Phase III tests has not been received and therefore the deficiencies in these areas cannot be definitized at this time. Upon receipt of the detailed report appropriate action will be taken.

h. ECM Training Equipment. A requirement exists for ECM training equipment. This requirement includes more modern aircraft and some modifications to some presently assigned aircraft.

(1) Action.

- (a) ADC is presently authorized AN/ALE-2 chaff dispensers equipment for eight (8) T-33 aircraft assigned to Yuma. This is a base level modification and is to be accomplished during the 2d and 3rd Quarter of FY-56. An ADC request for AN/ALE-2 authorization for unit T-33 aircraft



and some U. E. aircraft has been forwarded by this headquarters to AMC for additional modification information.

- (b) A program has been approved to modify twelve (12) B-45 aircraft with jamming equipment and AN/ALE-2 chaff dispensers. The latest information indicates these aircraft will be replaced by B-57E beginning in Fourth Quarter of FY 56. A total of forty-eight (48) B-57E aircraft are programmed for ADC. These aircraft will be equipped with ECM training devices.
- (c) A requirement was established 11 Feb 55 for installation of ECM equipment in TB-29 aircraft assigned to ADC. A recent (1) Oct 55) change in the requirement (from AN/ALE-1 to AN/ALE-6 equipment), caused re-engineering of the installation. This delayed accomplishment of the modification which is now estimated to be completed by Fourth Quarter FY 56.
- (d) A General Operational Requirement (SC-2g-1-57) dated 11 Feb 55, authorized modification of nineteen (19) TB-29 aircraft to install electronic jammers and two (2) each AN/ALE-1 chaff dispensers. This program will be completed in the First Quarter of FY 57.
  - (2) The above actions will satisfy all known Air Defense Command qualitative requirements for ECM training equipment. Action is being taken to expedite the above programs.
  - (3) When quantitative requirements are received from ADC appropriate action will be taken.

i. Aircraft Controllers. A requirement exists for more effective manning in the aircraft controller field. This requirement is both quantitative and qualitative and is expected to be greatly increased with the implementation of improved control systems planned for the future.

- (1) At the present time, this skill is manned at 78% and is on the Limited Resource List.

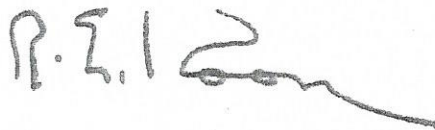


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(2) Action

- (a) Air Training Command was advised on 21 October 1955 to submit to this headquarters a plan to increase annual production of interceptor controllers from approximately 1,250 to 1,820. Of this increased figure, approximately 260 will be MDAP, Air National Guard, or U. S. Navy. The balance will be USAF production. It is expected that this increased production can be reached by 1 Mar 56 with very little additional equipment and personnel.
- (b) A conference to discuss quantitative and qualitative requirements was held at Tyndall Air Force Base in November and was attended by representatives of Air Training Command, Air Defense Command and this Headquarters. The results of this conference have not been finalized but will be reflected in subsequent reports.

3. The Program Status Committee will continue to monitor the progress of action taken with respect to this project and will report to the Air Force Council as appropriate.



R. E. KOON  
Brigadier General, U.S. Air Force  
Secretary, Program Status Committee

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