

Memorandum M-2431

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Division 6 - Lincoln Laboratory  
Massachusetts Institute of Technology  
Cambridge 39, Massachusetts

SUBJECT: SECRET SUPPLEMENT TO DIVISION 6 BIWEEKLY REPORT, September 25, 1953

To: Jay W. Forrester

From: Group 61 Staff

General

(C.R. Wieser) ~~(SECRET)~~

CLASSIFICATION CHANGED TO:
Auth: DD 254
By: K. X. G.
Date: 5-5-60

Since we are now getting into work that requires reporting under Secret classification, the biweekly will have a separate supplement (an "M" series note) for such reporting. People who use the Secret supplement should clearly mark the material SECRET. R.J. Horn will insert necessary references to the supplement in the regular Confidential biweekly.

We are now studying the use of the Boeing F-99 guided missile (Bomarc) in the Lincoln Transition System. Analysis work is being done in Linvill's Section, and programming studies are going on in Arnow's Section. In order to have one person who is aware of all the Bomarc work going on in Division 6, Arnow has been given the primary responsibility of keeping in touch with these developments. This type of study may be extended to other missiles in which the Air Force is interested, and Arnow will be responsible for following all of this type of work as well as supervising any studies carried out in his section.

Bomarc

(J. Arnow) ~~(SECRET)~~

Mr. Eliot Mock of Boeing Aircraft Company visited the Laboratory on September 21 to discuss problems that must be solved in order to use the F-99 with the Transition System. These problems included the fineness and accuracy of data required for guiding the F-99, use of Mark X for personal identification, and the Flight Test Program being conducted at Patrick AFB, Banana River, Florida.

Most of the discussion was concerned with the Flight Test Program and requirements for use of WWI to compute instructions for missiles in Florida. Later discussions with Boeing will determine the allocation of responsibility for implementing this Flight Test Program.

Bomarc (Continued)

(H.D. Neumann, S. Best) ~~(SECRET)~~

Work on the Bomarc system has been resumed. All available reports were studied, particularly those dealing with the characteristics of the F-99 interceptor. On this basis a program will be written which will simulate target interceptions.

This program will generate target flight paths, simulate missiles, track targets and missiles from simulated radar data, and compute the commands required for guidance. The program will also test for successful interceptions.

Block diagrams for most parts of the program have been prepared. It is hoped that the program will be ready for a first trial in about a month.

(W.I. Wells, B. Smulowicz) ~~(SECRET)~~

A study has been in progress to determine the accuracy requirements of the Lincoln Mid-Phase Guidance System with respect to the Bomarc Missile project.

The present accuracy of the Lincoln System has been evaluated and the results presented in M-2343, Statistical Analysis of the Slowed-Down Video System, August 4, 1953, W.I. Wells and B. Smulowicz.

The requirements of Bomarc are well understood and will be summarized in a forthcoming memo, as soon as the effects of limited missile acceleration during mid-phase are evaluated. This memo will give not only the requirements but also suggestions for necessary modifications in the Lincoln System.

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