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P-101C

4 April 1957

DOCUMENT NO. 36

NO CHANGE IN CLASS.

DECLASSIFIED

CLASS. CHANGED TO: TS S C02010

NEXT REVIEW DATE: _____

AUTH: HR 70-2

DATE: 14/01/80 REVIEWER: 010956

MEMORANDUM FOR: THE RECORD

SUBJECT : Monitoring of Contract with Raytheon

[Redacted]

1. **TIME AND PLACE OF MEETING:** The meeting was held 28-29 March 1957 at

[Redacted]

2. **ATTENDANCE:**

[Redacted]

3. **DISCUSSION:**

a. **Task I - Model "B" IR Transmitter-Receiver**

Four model "B" units are due for delivery 30 June 1957. Work on this project is proceeding according to the schedule laid out by the project engineer, [Redacted]. All of the mechanical sections have been finished and most of them are in the process of being anodized or painted. All of the electrical components that required long delivery dates have been received. Assembly of the "B" units will start in about 3 weeks. The only problem encountered at the present time is that of the mirrors. A sample has been received from [Redacted] and does not meet the Specifications that were submitted. The sample mirror had considerable ripple on the finished surface and many pinholes in the coating. The pinholes can be corrected but the ripple could be a major problem. [Redacted] stated that he would call [Redacted] before returning the sample mirror and would contact the undersigned immediately thereafter.

b. **Task V - "C" Units**

The four remaining "C" Units were completed and tests were run on these units 28 March. Below is the results of these tests:

Condition of Test:

Temperature - 80° F

Humidity - 25 %

Time - 1030 hours - bright sunlight

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Contact was first established at one quarter mile; alignment was made with the optical sight only. All units were tried at the distance and functioned very well. Contact was then attempted at .75 miles across a deep canyon; alignment was made with the optical sight and finalized with the find tone. At this distance all units functioned well, although the signal to noise was not as good as it was at one quarter mile. The two prototype "C" units were tried at this distance and communication was established although they were considerably more noisy than the others. Because of the noise factor at long range, it was decided that approximately .75 miles was the maximum distance at which reliable communications could be attained.

Later in the afternoon the units were taken out onto an asphalt runway where heat waves could be seen being emitted from the surface. Contact was established at .25 miles using the optical sight for alignment. The noise from the heat waves was noticeable but not excessive. The distance was then increased 300 yards and contact again established. With this increase in distance the noise did not increase appreciably.

The units were then taken down by the ocean and contact was established at .6 miles over a sandy beach. All units functioned well at this distance. The

The six "C" units with drawings, instruction book, and spare parts were returned to Washington by the undersigned.

c. Task VII - "D" Units

The "D" units are due to be finished and tested during the last week of May. Work is progressing satisfactorily on this project. It is thought that this project might have suffered a little because of the lack of uncleared personnel which necessitated the same engineering personnel working on both Task V and Task VII. Most of the electronic sub-assemblies have been wired; and at the present time, there appears to be no problem in completing the production of the units by 31 May.

d. Task VIII - Audio Surveillance System

Work has begun on modification of the "E" units to extend the frequency response and checking of the physical limits of the galvanometer.

The frequency response of the system can be greatly improved by using degeneration; however, this would increase the power consumption thereby causing a greater load on the power supply. If degeneration is

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used, it is felt by the [redacted] project engineer that the regulation specification of the existing power supply would have to be relaxed. I informed them that I would look into this before giving any reply and requested that they look further into the problem.

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[redacted]

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