RESEARCH AND DEVELOPMENT LABORATORY

September 1965

I. GENERAL

1. Primarily as a result of the somewhat remote location of the R&D Laboratory, newly assigned personnel tend to lose sight of the fact that they are a part of the overall Agency organization. As one method of alleviating this situation, a series of familiarization tours was arranged for the ten newest engineers and technicians assigned to the Laboratory. These tours, which were completed the last week in September included: [redacted] 25X1A6a Langley, SP/CEN, the TSD Laboratory and a comprehensive briefing of OC-E activities outside the R&D field.

2. During the spring of 1964 a new machine tool was installed in the Mechanical Fabrication area of the Laboratory. This device, a tape-controlled milling machine, cost approximately $20,000. Due to the speed with which the tape-controlled machine cycles from operation to operation and the lower level of skill required in operating manpower, the tape-controlled milling machine has proven to be quite a labor-saving device. The man-hour savings realized from the use of this machine, as compared to the conventional milling machine, was sufficient during the first year of operation (FY-65) to repay completely its basic cost. As a result of an increased production schedule commencing during the first weeks of the Fiscal Year 1966, operation of the hydropoint tape-controlled milling machine was placed on a 56-hour/week schedule. During the first 13 weeks of FY-66 it has been in operation 728 hours. The calculated time to produce the equivalent work on a conventional machine would have been 2,694 hours. The tape-controlled machine, therefore, has been responsible for savings of 1966 man-hours during this first quarter of FY-66. Allowing for a two-grade difference in the operating skill required and 150% overhead on labor, this saving amounts to over $18,000.00.

[redacted]

II. DESIGN

1. Two CRASH QRC-type programs were initiated and completed at the Laboratory during this reporting period. The first, the fabrication of a 6-element Yagi antenna operating on [redacted] Mc and capable of being transported in a mailing tube 36" long and 3" in diameter. This antenna was fabricated from design information furnished by the Systems Engineering Branch. It was gamma-matched to a 50-ohm coaxial transmission line providing a gain of 9 db and an E-plane beam width of 50 degrees. The second program required the modification of 13 General Electric mobile transceivers for operation with a noise-cancelling type headset and boom microphone rather than conventional equipment supplied by the manufacturer. The General Electric system was modified for use with a Motorola headset stocked in the warehouse and, after testing, the 13 units were supplied with these headsets along with the necessary modifications for proper operation.

25X1A12a

[redacted]

2. The RS-72 project was established to provide a waterproof case within which a GE Porta-Mobil transceiver might be installed with only the very minimum of modification. This system is intended to provide for communications from small boats or rubber rafts with a completely self-contained waterproof package. The cases will be supplied as a stock item and, when required, may be requisitioned along with conventional Porta-Mobil equipment. The design has been completed and the prototype will be delivered early next month for operational evaluation.

3. [redacted]

25X1C1a1

PROGRESS!

4. [redacted]

25X1C1a1

III. ANALYSIS AND APPRAISAL

1. Ten evaluations were published and distributed during September. Five evaluations were completed and the reports written. These are in process of being published and distributed. Twelve evaluations are presently in the testing phase.

25X1C1a1 [redacted]

IV. FABRICATION

1. During tests by a foreign sister service, the KE-8D keyer was discovered to have a minor malfunction which resulted in latch-up of the keying circuitry due to DC transits on the power supply. During this reporting period, 138 KE-8D keyers were modified by the R&D Laboratory to correct this defect.

2. Equipment delivered to the warehouse for stock this month included 10 RT-48A transistorized 6- to 8-watt Agency transmitters operating in the 4- to 16-megacycle range and 125 AU-8B charging cords designed to provide for charging the BS-48 battery supply from 110 V AC mains.

25X1C8c [redacted]

SECRET

OC-P NOTE

3. Twelve additional fabrication projects are presently receiving support from the Laboratory. These projects will result in the delivery to the warehouse of over 2,500 pieces of equipment with a combined value of better than $500,000 during the last three months of this calendar year.

4. The value of equipment delivered to the warehouse for stock this month amounted to $6,500.00.

V. ADMINISTRATIVE

TDY

N. A.

TRANSFERS

N. A.

PCS

N. A.

EOD

N. A.

RESIGNATIONS

N. A.

EFFECTIVE PROMOTIONS

N. A.

TRAINING

25X1A9a

[redacted]

SECRET