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Serial: N 4718

30 NOV 1962

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MEMORANDUM FOR THE ASSISTANT SECRETARY OF DEFENSE (COMPTROLLER)

ATTN: Mr. Clifford S. Livermore

SUBJECT: NSA FY 1962 Budget for the Research, Development, Test and Evaluation Appropriation (U)

1. The Department of Defense staff evaluation of the FY 1962 budget recommends that an amount of \$34,000,000 be included for National Security Agency in the President's budget for the Research, Development, Test and Evaluation Appropriation. This represents a reduction of \$3,086,000 from the estimate of \$37,086,000 submitted by this Agency.
2. Attached for your consideration is a special request for restoration of \$2,500,000 of the proposed reduction. These funds will be needed to permit the National Security Agency to meet urgent national needs in the several important areas of endeavor which have been indicated.
3. Much of the Agency's future success or lack thereof will depend to a large extent on NSA's ability to capitalize on available technology and developments in the cryptologic field. While the evaluation of potential cryptologic success is indeed difficult to measure in dollars, we are confident that even by this measure the anticipated pay-off will far outweigh the investment. However, the indisputable fact remains that rapidly changing world conditions and the changes in secure communication techniques of target nations dictate the necessity for timely application of resources in order to maintain or improve our cryptologic capability. Failure to obtain and apply adequate resources to the establishment of our cryptologic readiness in the immediate future will be apparent for years to come and the responsibility for future conditions must be attributed to today's actions. NSA cannot be held completely responsible for failure to achieve certain successes if amounts of resources considered to be minimum are not allowed for application to areas where our considered opinion indicates future pay-off. This responsibility must be shared with those who in fact control the allocation of the resources.
4. Upon request, this Agency will provide any additional information which may be required.

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5. This memorandum may be downgraded to Confidential upon removal of inclosures.

L. H. FROST
 Vice Admiral, USN
 Director

Incl:
 a/s

Copy Furnished:
 General G. B. Erskine, USMC-Ret,
 Asst to SecDef, Sp Opns

Director of Defense Research & Engineering

cc: DIR: ←
 AG
 Reading File
 COMP-4
 COMP-01

M/R: On 22 November 1960, Admiral Frost approved the recommendation made by Mr. Barlow (R/D) that the Agency submit a reclama for \$2.6 million in FY 1962 RDT/E Appropriation. The initial reclama statement prepared by R/D, and provided to COMP on 23 November, was comprised of items which represented either new or expanded programs from the budget originally submitted to SECDEF/BOB. This matter was presented to Dr. Tordella by the Comptroller on 23 November. Dr. Tordella directed that the reclama be made only on the basis of items previously included in the NSA FY 1962 Budget. A revised reclama conforming with Dr. Tordella's decision was provided to COMP by R/D on 25 November. This statement has been used, substantially as submitted, as the inclosure to this letter. In addition, paragraph 3 of the letter was inserted verbatim at R/D's request.

R. L. Wignall
 R. L. Wignall, COMP-41, 3119, 28 Nov 60, gjh

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~~SECRET~~~~HANDLE VIA COMINT CHANNELS ONLY~~Reclaim for FY 1962 RDT/E Budget

1. Of the proposed reduction of \$3,086,000 in the NSA FY 1962 RDT/E budget, an amount of \$2,500,000 is intended for application in three areas of endeavor considered to be of sufficient importance to warrant reconsideration by the Department of Defense. These concern the enhancement of capability to collect desired signals, to exploit target cryptographic systems, and to conduct a test and evaluation program for SIGINT/COMSEC equipment urgently needed by the Services for a national cryptologic effort. Details on the planned use of FY 1962 funds in these areas are provided in the following paragraphs.

2. Approximately \$800,000 is intended for application to a program aimed toward the development of a readiness capability for the interception of new, and the identification of known, signals. The NSA field research and technical search programs are becoming increasingly important due to the geographical restriction of intercept sites. As further geographical restrictions are placed on intercept site locations, our state of readiness to intercept new signals will decrease further, unless an adequate program is carried out to develop the techniques and the equipment necessary to increase our intercept ranges from less desirable geographical locations. Furthermore, there are indications that during this budget period, target nations will be employing new cryptographic systems in which operational procedures have not been finalized. The acquisition and analysis of these signals is of utmost importance to the derivation of intelligence, since procedural weaknesses and equipment malfunctions provide tremendous opportunities for exploitation. Our ability to intercept traffic from these new systems will depend to a considerable extent on the success of our field research and technical search programs.

3. The sum of \$1,000,000 is required in FY 1962 to begin the development of a general purpose wired rotor device. Many of the cryptographic systems against which our analytic efforts are directed employ wired rotors in one form or another to achieve their cryptographic security. Normally, one of the first steps in an attack on such a system is to construct a specific wired rotor analog of at least a part of the equipment. In each case these are specific, tailor-made devices applicable to only one rotor equipment. It is proposed to develop a universal rotor analog which can be applied to any cryptographic rotor system as soon as basic facts about the system become known. The development of such a device would result in obvious efficiencies and economies of time and money. Application of such a device on a problem would decrease considerably the amount of resources required for the development of the exploitation equipment necessary for final solution. Present technology has reached the point where such a device can be developed in FY 1962. The deletion of this project from the NSA R/D program will make necessary the continuance of the policy to design and build a specific rotor device for each specific rotor problem which occurs in the future.

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4. The sum of \$1,300,000 is required for the proper conduct of an adequate test and evaluation program in support of SIGINT and COMSEC developments. Service test models of SIGINT/COMSEC equipment must be tested in FY 1962 in order to proceed with the production of operational equipment. Of the test and evaluation requirements for FY 1962, about 83 per cent are a direct result of research and development programs in SIGINT and COMSEC which are under way at NSA or within the Military Departments. The other 17 per cent of the test and evaluation requirements are for the purchase of commercially-developed equipments required for the proper evaluation of intercept and data processing systems. The research and development programs under way at the present time are, for the most part, in direct response to requirements placed on NSA by the Services and the SIGINT Community. It is only with the proper monetary support for test and evaluation that these developments can be carried through to completion and eventual placement in operational units. Only with this support can NSA hope to capitalize on the technical advances in deriving intelligence information made possible by recent cryptologic equipment developments.