

~~TOP SECRET~~~~TOP SECRET - SECURITY INFORMATION~~DEPARTMENT OF DEFENSE SURVEY OF ELINT ACTIVITIESBACKGROUND INFORMATION

1. A draft memorandum for the Director, subject: Relationship Between Communications Intelligence and Electronic Countermeasures, has been prepared within Plans and Policy Division. A copy of the draft is attached as Tab A. Although the memorandum has not yet been submitted formally, the Director was informed of its existence, and on 12 November 1953, he obtained a copy for the purpose of delivering it informally to General Erskine, Assistant to the Secretary of Defense, on that date.

2. On 23 November 1953, the Secretary of Defense sent a memorandum (Tab B) to the Joint Chiefs of Staff and the Director, requesting that the Joint Chiefs of Staff, advising with the Director, undertake a study of the present ELINT effort and forward recommendations to the Secretary of Defense within one month. Thus far, the Joint Chiefs of Staff have not requested the Director to furnish advice on the matter.

CURRENT CONSIDERATION

3. A proposed position by the Director on how ELINT should be conducted is attached as Tab C. The principal points in Tab C are summarized below:

a. There is a need for thorough coordination (1) between the several ELINT activities, (2) between ELINT and the remainder of electronics countermeasures (ECM) activities, including jamming, counter-jamming, cover and deception, etc., and (3) between ECM and COMINT and COMSEC activities. Such coordination is required to resolve conflicting operations (e.g. jamming vs. COMINT) and to accomplish an exchange of information and services between closely related activities (e.g. COMINT and ELINT), whereby those activities may be conducted in the most effective and economical manner.

b. It is not considered possible to coordinate satisfactorily through a liaison network linking COMINT and COMSEC with the several ELINT and other ECM activities.

c. Coordination must be conducted with adequate speed and security, without excessive interference with missions and responsibilities, and under a coordination policy applying with equal force to all authorities concerned.

d. In view of the many activities and channels now concerned, rapid and secure coordination will require closer organizational ties.

e. COMINT, COMSEC and ECM should be reorganized along the following lines:

~~TOP SECRET~~

TOP SECRET SECURITY INFORMATION

- (1) USCIB, NSA, and the Service Cryptologic Agencies should be re-constituted, each retaining existing COMINT responsibility, and acquiring similar responsibility for ELINT.
- (2) The existing relationship between COMINT authorities and COMINT consumers should be expanded into a similar relationship between SIGINT (COMINT-ELINT) authorities and SIGINT consumers. Accordingly jamming would be a SIGINT consumer activity.
- (3) The COMSEC responsibilities of USCSB, NSA and the Service Cryptologic Agencies should be interpreted as applying to the whole field of signal security.

RECOMMENDATION

4. It is recommended that Tab C be approved as a basis for furnishing advice, as requested, to the Joint Chiefs of Staff.

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1. J.C.S. Memorandum of Policy entitled Joint Electronics Counter-measures Policy contains the following definition of ECM:

"That major subdivision of the military use of electronics involving actions taken to reduce the military effectiveness of enemy equipment and/or tactics employing or affected by electro-magnetic radiations."

2. ELINT falls within the scope of ECM activities. The term ELINT is generally understood to refer to knowledge derived from intercept and analysis of foreign non-communications electronic radiations.

3. Public Law 513, 81st Congress, 13 May 1950, defines communication intelligence as follows:

"The term 'communication intelligence' as used herein should be construed to mean all procedures and methods used in the interception of communications and the obtaining of information from such communications by other than the intended recipients."

4. "COMINT" is defined in NSCID No. 9 (Revised) as follows:

"As used in this directive, the terms 'communications intelligence' or 'COMINT' shall be construed to mean all procedures and methods used in the interception of communications other than foreign press and propaganda broadcasts and the obtaining of information from such communications by other than the intended recipients, *but shall exclude censorship and the production and dissemination

*See Public Law 513, 81st Congress, 1950

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Encl # 1

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of finished intelligence."

5. NSC 168, dated 20 October 1953, defines "communications security" (COMSEC) as follows:

"The protection resulting from all measures designed to deny to unauthorized persons information of value which might be derived from the possession and study of telecommunications, or to mislead unauthorized persons in their interpretation of the results of such a study. Communications security includes: (1) transmission security, (2) crypto-security, and (3) physical security of communications security materials and information."

6. There are certain basic relationships between ECM, COMINT, and COMSEC. These relationships exist regardless of the arrangements whereby ECM, COMINT, and COMSEC functions are conducted. Among the basic relationships are:

a. Common purpose: ECM, COMINT, and COMSEC activities are conducted for the purpose of waging radio warfare, wherein each activity contributes toward the U.S. objectives of (1) deriving maximum benefits from U.S. and foreign signals and (2) reducing the benefits which the enemy may gain from U.S. and foreign (including his own) signals.

b. Related functions: COMSEC is largely a matter of protecting U.S. communications against enemy COMINT activity, and the functions of COMSEC and COMINT therefore are closely related. In the field of non-communications signals there are several functions similar to COMINT or COMSEC. In particular, COMINT and ELINT authorities employ similar types of facilities, personnel, and techniques in the collection and processing

~~TOP² SECRET~~

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of foreign signals.

c. Interdependence: An exchange of information and services between ECM, COMINT, and COMSEC is required. For example, selective jamming of foreign communications is not possible unless it is closely supported by COMINT.

3
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~~TOP SECRET SECURITY INFORMATION~~

COORDINATION BETWEEN ECM, COMINT, AND COMSEC ACTIVITIES

1. Coordination Required:

a. COMINT and COMSEC activities should provide the following types of information or services to ECM authorities:

- (1) Information on COMINT or COMSEC equipments and techniques which could be applied advantageously to ECM problems.
- (2) Information and proposals regarding conflicting operations or undesirable duplication of effort.
- (3) ECM functions when such services are specifically requested.
- (4) Sharing with ECM authorities certain COMINT or COMSEC resources.

b. Additional types of information or services which should be furnished by COMINT activities to ECM authorities include:

- (1) Technical intercept data for use in the control of active communications countermeasures, and for use in identifying signals encountered in the course of non-COMINT intercept.
- (2) COMINT end-products required for ECM plans and operations.
- (3) Non-communications signals encountered in the course of COMINT activities.

c. ECM activities should provide the following types of information or services to COMINT and COMSEC authorities:

- (1) Information on ECM equipments and techniques which could be applied advantageously to ECM problems.
- (2) Information and proposals regarding conflicting operations or undesirable duplication of effort.

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~~TOP SECRET SECURITY INFORMATION~~

(3) COMINT or COMSEC functions when such services are specifically requested.

(4) Sharing with COMINT or COMSEC authorities certain ECM resources.

d. Additional types of information or services which should be furnished by ECM activities to COMINT authorities include:

(1) Characteristics of non-communications signals for use by COMINT authorities in identifying signals encountered in the course of COMINT intercept.

(2) ECM end-products which would be required as collateral intelligence for COMINT problems.

(3) Communications signals and other COMINT materials obtained in the course of ECM activities.

2. Current Status. There is no policy governing the exchange of information and services between COMINT, COMSEC, and ECM authorities. In the absence of a coordination policy, liaison between the cryptologic and ECM authorities is conducted at the initiative of the responsible authorities of either side under whatever arrangements are mutually acceptable. For example, the Director, NSA, and the Director, Communications-Electronics have personally performed such liaison on frequent occasions. These directors have formed a committee wherein their representatives study matters of common interest. ECM authorities also have invited COMINT representatives (normally as observers) in various technical groups and such COMINT participation has been beneficial, especially as far as common research and development interests are concerned. Existing liaison arrangements, however, do not meet all coordination requirements. Further extensions of the liaison network will make it quite complex from the standpoint of organization, and will increase operating costs

~~TOP SECRET~~ Security Information~~TOP SECRET - SECURITY INFORMATION~~

in view of manner in which key personnel must devote a considerable portion of time in meetings and on other liaison duties. Additional deficiencies under existing liaison arrangements include frequent failures to obtain unanimity, the time-consuming processes of reaching acceptable compromises, and the security restrictions which often prevent a comprehensive exchange of information and services.

~~TOP SECRET~~

PROPOSED POSITION BY THE DIRECTOR REGARDING THE
DEPARTMENT OF DEFENSE SURVEY OF ELINT

1. In view of the vital importance of safeguarding COMINT, U.S. COMINT policy and techniques have developed under conditions of strict compartmentation. Although the principles of the policy and techniques thus developed ordinarily cannot, and are not intended to be applied to non-COMINT activities, it is expected that several such principles are applicable to the ELINT efforts of the U.S. A summary of applicable principles is furnished herewith for consideration by the Joint Chiefs of Staff in connection with their current survey of ELINT.

2. As one of the basic principles of COMINT (and it applies equally to ELINT and to intelligence derived from any other source), the officials who use the end-products in the planning and execution of operations should be relieved wherever possible of the tasks of producing, synthesizing, and evaluating intelligence. Such tasks require the full time efforts of large numbers of technicians and administrators skilled in a variety of highly specialized fields. Intelligence staffs therefore should be provided for the functions of

a. Ascertaining intelligence requirements and priorities in coordination with the officials who use the end-products, and

b. Obtaining the intelligence and furnishing it to those officials in a form best suited to their needs.

3. In order to avoid duplication of effort, the individual intelligence staffs ordinarily should not have operational or technical control over COMINT collection and production resources. Undesired duplication of effort

conceivably could occur in a program which is uneconomical and yet effective. However, in view of (a) the great quantities and types of foreign transmissions which should be intercepted and processed to meet the total requirements of COMINT consumers and (b) the present difficulties of meeting the minimum consumer requirements with existing collection and production facilities, any undesired duplication of effort would reduce the effectiveness of COMINT while increasing the cost. Operational and technical control of COMINT collection and production therefore must be centralized. Accordingly, the Director, NSA, is responsible under the Secretary of Defense for such control over all COMINT collection and production resources of the U.S. In exercising this responsibility, he furnishes COMINT to the intelligence staffs in accordance with requirements and priorities indicated by those staffs.

4. The several departments and agencies participating in COMINT activities may consider it necessary to advise and make recommendations to the Secretary of Defense with respect to matters relating to COMINT which fall within the jurisdiction of the Director, NSA. These departments and agencies may also consider it necessary to coordinate on other matters of COMINT policy or operations. The instrument for filling the needs indicated above is the United States Communications Intelligence Board (USCIB). A more detailed description of the Board and the National Security Agency is contained in National Security Council Intelligence Directive No. 9 (Revised).

5. The principles discussed in paragraph 3 and 4, above, if applied to ELINT, would place under one authority the responsibility for operational and technical control of ELINT collection and production resources. That authority would furnish ELINT to intelligence staffs in accordance with requirements and priorities indicated by those staffs. A Board would be established as

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an instrument whereby the several departments and agencies participating in ELINT activities would coordinate on matters of ELINT policy and operations.

6. The key to effective and economical conduct of ELINT is thorough coordination (a) between the several ELINT activities and (b) between ELINT and the related activities which influence or are affected by ELINT. The related activities include those which are engaged in other electronics countermeasures (ECM), COMINT, and the cover and deception aspects of COMSEC. The relationships between ECM, COMINT, and COMSEC are discussed in Inclosure 1. The arrangement indicated in paragraph 5, above, is one of several possible arrangements whereby coordination may be achieved between the several ELINT of ECM activities. For example, in lieu of centralized control of ELINT collection and production, it may be possible to maintain close liaison among the several ELINT collectors, producers and consumers. On ELINT and other ECM matters which influence or are affected by COMINT or COMSEC, however, the Director, NSA, does not consider it possible to achieve satisfactory coordination through a liaison network. The extent of coordination required between ECM, COMINT, and COMSEC activities and the current status of such coordination are outlined in Inclosure 2.

7. In the light of the information contained in the inclosures, it is considered essential that ECM, COMINT, and COMSEC coordination be achieved under a policy which would apply with equal force to all authorities concerned. Such a policy should be promulgated by the Secretary of Defense, as the authority having common jurisdiction over ECM, COMINT, and COMSEC activities. In formulating that policy, the requirements for exchange of information and services (as indicated in Inclosure 1) should be reviewed. In the course of the review, the following conditions should be considered and all foreseeable

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problems of full and free exchange under those conditions should be resolved:

a. Exchanges which would cause excessive interference with ECM, COMINT or COMSEC missions and responsibilities (such as the placing of a COMINT requirement on a FERRET mission which is already over-loaded with ECM requirements).

b. Exchanges which would be inconsistent with existing security safeguards (such as the release of COMINT codeword materials to non-indoctrinated personnel).

c. Exchanges which must be completed without delay through the minimum possible formal or informal channels (such as COMINT support to communications countermeasures).

8. The policy mentioned in paragraph 7, above, should provide guidance on how to resolve conflicts which may arise in the course of ECM, COMINT, and COMSEC activities. As an example of possible conflicts, jamming programs may interfere with COMINT efforts.

9. The problem of full and free exchange, as mentioned in paragraph 7, above, and the conflicts referred to in paragraph 8, above, most likely cannot be resolved unless liberal concessions are made by ECM or COMINT and COMSEC authorities on (a) matters of responsibility for (1) their respective functions, and (2) for the supervision of exchange activities and other coordinated actions, (b) security practices, or (c) time-lags in the receipt of exchange materials and in the completion of other coordinated actions. Such concessions should not be made on the matters of timeliness and security. The possibilities of achieving suitable coordination by establishing closer organizational ties between ECM and COMINT-COMSEC activities should be investigated.

? 10. The Director, NSA, does not have any ELINT responsibilities and does not

possess detailed information regarding the present status of the ELINT or ECM effort. The Director therefore has not reached any final conclusions on the most suitable organizational arrangements for coordinating the ECM, COMINT, and COMSEC efforts. On the basis of a general knowledge of the ECM and a detailed knowledge of COMINT and COMSEC efforts, it is tentatively concluded that the most effective and economical organization structure for conducting these efforts would be as outlined below:

a. USCIB, NSA, and the Service Cryptologic Agencies should be re-constituted, each retaining existing COMINT authority or responsibility, and acquiring similar responsibility or authority for the ELINT activities of the U.S. Accordingly:

(1) From the standpoint of responsibilities, the distinction between communications signals and non-communications signals would cease to exist. (There actually has never been a clear demarcation between the two.) The terms "communications" and "signals" would be considered synonymous, and the present significance of "COMINT" and "ELINT", combined, would be embodied in the term "SIGINT" (signal intelligence).

(2) In general, the authority or responsibility of USCIB, NSA, and the Service Cryptologic Agencies would be stated in essentially the same terms as those now used, except for the substitution of "SIGINT" for "COMINT".

(3) No changes in USCIB representation would be required.

(4) The Director, NSA, would have a civilian deputy whose primary responsibility would be to ensure the mobilization and effective employment of the best available human and scientific resources in the fields of SIGINT and other cryptologic research and development.

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b. The existing relationship between COMINT authorities and COMINT consumers (including the machinery for stating requirements and resolving conflicts) should be expanded into a similar relationship between SIGINT authorities and SIGINT consumers. Accordingly, the jamming of enemy signals, initiative deception, and other ECM programs directly related to SIGINT would be based on SIGINT, coordinated with SIGINT authorities, and conducted by SIGINT consumers.

c. The COMSEC authority or responsibilities of the United States Communication Security Board (USCSB), NSA, and the Service Cryptologic Agencies should be interpreted as applying to the whole field of signal security. Accordingly, defenses against enemy jamming, U.S. manipulative deception, and other ECM programs directly related to signal security would be based on technical information furnished by cryptologic agencies, coordinated with signal security authorities, and conducted by the authorities responsible for the operation of signals equipment.

d. With respect to ECM matters having both SIGINT and signal security implications, no special problems of coordination are foreseen. For example, coordination channels have already been established between USCIB and USCSB, and in the case of NSA and the Service Cryptologic Agencies, it would be a matter of internal coordination.

11. An organizational structure such as is outlined in paragraph 10, above, is based solely on U.S. national considerations. Benefits of such an organization, however, would also be realized in British-U.S. liaison on SIGINT matters and in the planning and operation of SIGINT under allied headquarters. The British organization for SIGINT is essentially the same as outlined above, but the British, when collaborating with the U.S. at present, must handle COMINT and ELINT separately. SACEUR now is planning to organize COMINT and ECM activities in SHAPE, and has conducted a planning conference for that purpose. The

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conference was held during October 1953, and was attended by representatives of the U.S., SACEUR, the U.K., and France. The U.S. representatives (who were chosen from the staff of the Director, NSA) maintained that a consolidation of COMINT and ECM activities within SHAPE would not be in consonance with the current U.S. policy and that U.S. contingents to the SHAPE SIGINT organization would be trained and equipped for COMINT or ECM, but not both. All other delegates held firmly to the position that all SIGINT activities must be closely integrated within the SHAPE SIGINT organization. The conflict was not resolved, and SHAPE SIGINT planning thus has suffered a severe set-back.

12. It is recommended that the Joint Chiefs of Staff:

- a. Concur in the conclusions set forth in paragraph 10, above.
- b. Propose that those conclusions be approved by the Secretary of Defense.
- c. Propose that the Secretary of Defense appoint an ad hoc group for the purpose of drafting directives intended to reconstitute SIGINT and signal security activities in accordance with the approved conclusions.

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