

28 June 1952

MEMORANDUM FOR RECORD

EO 3.3(h)(2)
PL 86-36/50 USC 3605

Subject: US/UK Conference on [redacted]

1. The subject conference was held at the Central Intelligence Agency (Bldg. N) during the period 16 - 27 June 1952.
2. The list of conferees is attached (Tab A)
3. The purpose of the conference was to discuss differences between preliminary documents prepared by CIA and by the British Directorate of Scientific Intelligence, on the present and future status of [redacted] Equipment for communications, radar, navigation, missile guidance, telemetering, computing, etc., and to prepare and issue a Joint UK/US Intelligence Document on the subject. The joint paper will include recommendations for future activities and for improvements in intelligence gathering methods.
4. The intelligence information reported in the documents was derived from all possible sources including: COMINT, "NOISE LISTENING" both covert and overt, agents, interrogations, covertly obtained literature, open literature, etc.
5. The administrative chain of command leading to the organizations represented at the conference is shown on Tabs B thru G. Tab G shows the committee organizations utilized by the British for establishing policy and for interchange of scientific intelligence information between workers in widely separated administrative organizations. It should be noted in Tab G that GCHQ is represented on nearly all committees because GCHQ has cognizance of all "Noise listening" (SIGINT) conducted by UK forces.
6. The JCEC Committee structure of the U.S. has not been included in this report because the author has very little knowledge thereof. It appears that the Joint Communications-Electronics Committee (JCEC) and its panels, is composed of representatives of the ARMY, NAVY, and AIR FORCE, including the COMINT branches of these Services but generally excluding AFSA, CIA and others having interests in the fields of "Noise Listening" and Electronics Scientific Intelligence.
7. In January 1952 the Chief of Staff AFSA signed a memorandum to the Director, Communications-Electronics (JCEC) requesting that representatives of DIRAFSA (OBT1; 334, 281N) be approved as official observers on the Joint Signal Analysis and Evaluation Sub-panel (J/SE) of the Joint Electronic Warfare Panel (J/EW) of JCEC. No reply has been received to date but it was through informal attendance at meetings of J/SE that the author first learned that the subject US/UK conference was to be held. Neither AFSA nor anyone of the Service COMINT agencies was invited to attend the subject conference.
8. The author, thru the intervention of Mr Friedman (AFSA-OOT), managed to gain admission to the meetings of the subject conference over the strenuous

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objections of [redacted]

[redacted] Office of Scientific Intelligence (OSI)), of CIA This statement is made not as a reflection on [redacted] but to emphasize that the objection was based on an almost complete lack of knowledge by [redacted] and his supervisor, [redacted] as to what AFSA is and what it does in the field of "Noise listening". As soon as the author explained the functions of AFSA-33 and AFSA-282 (but no other AFSA functions), [redacted] were most cooperative and they welcomed the author's participation.

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9. Since the conference consumed ten working days and time did not permit the author to attend each meeting and since the conference covered a vast field of electronic intelligence all of which will be reported in the official minutes of the conference (copy to AFSA), no attempt will be made herein to report all that transpired; instead the following paragraphs report only the highlights and include scattered notes made by the author.

10. One working paper prepared by the CIA delegation for consideration at the meeting contained the following statement: "COMMUNICATIONS INTELLIGENCE; the current policy concerning COMINT appears to be sound and adequate. The exploitation of this source, however, has been limited by the relatively low priority which electronics has in the programming of this intelligence source and by an inadequate integration of its program with the program of the NON-COMINT (electronic or noise listening) sources of scientific intelligence. The effectiveness of noise listening sources of intelligence is seriously limited, particularly in the USA, by the severe shortages of adequate equipments; inadequate number of listening posts; shortage and inexperience of operating personnel; absence of a coherent and unified program; and insufficient knowledge and use of techniques and phenomena that will permit the detection, recording, and analysis of signals. There is no significant liaison between the different organizational sources of noise listening intelligence and its customers. This situation is the result of the following factors: (1) Excessive, exaggerated and unwarranted use of the principle of security to cover all administrative, organizational, and operational aspects of the covert collection agencies, at all levels, including such aspects as procedures, methods and technological capabilities which are of direct interest to scientific intelligence analysts who might be of assistance to the collection agencies."

11. At this point the author will endeavor to present, by definition, his understanding and concept of the important difference between two major sources of intelligence:

COMINT: This source derives intelligence from the context of communication signals that are intercepted on a substantially continuous basis.

SIGINT: This source derives intelligence from the character and geographical origin of any electromagnetic radiations that are intercepted during searches of the entire spectrum. This source is sometimes called "Noise Listening" or "Signal reconnaissance". This

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source may derive collateral intelligence from
the context of voice or morse signals during short
intercept periods but not from continuous monitoring.



15 Mr Howe (ONI) stated that a JCEG paper now under consideration places a requirement on CIA for covert listening. He said that covert listening in U.S. merchant vessels has been considered and discarded because all U. S. merchant marine radio operators belong to a communist controlled union. He has a staff of four. He depends on ATIC and SCIA for guidance manuals. His COMINT

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liaison is with AHS.

[REDACTED]

17. Mr. Haller (Haller, Raymond and Brown) said that in connection with his contract with the Air Technical Intelligence Command, and with the assistance of the Air Force Security Service, he established a listening post near Salt Lake City, Utah. By monitoring H.F. voice signals emanating from Tyokern, White Sands, Point Mugu, Fort Bliss, etc., he was able to determine the entire U. S. Guided Missile program through 1954. He set up a VHF intercept station on the side of a mountain and intercepted 170 U.S. VHF signals (kinds not specified) but very few from guided missile ranges. His contract has been renewed for another year. His final report on the first year's contract was published in January 1952. Haller also has a contract with Signal Corps Intelligence Agency, Electronic Warfare Group, (Fort Monmouth) but he finds that no one in that group has COMINT clearance. OGA

18. Major Baker (Br.) said that he had examined the first year's report of Haller, Raymond and Brown, and found nothing that applied directly to the solution of the problem (He did not specify which problem).

19. Mr. Haller (Haller, Raymond and Brown) said that under his various contracts with the Air Force, Army [REDACTED] he will plan a program for noise listening search and intercept for the purpose of determining what use is being made of all electromagnetic radiations for purposes of navigation, fire control, missile control, IFF, telemetering and jamming. His studies will endeavor to determine what equipments the [REDACTED] have in development stage, in training, stage and in operating stage. He will also conduct studies to determine distances over which anomalous propagation can be expected under conditions of sporadic E layer propagation, ducting and scattering. For example, at his laboratory at State College, Pennsylvania, he has been observing the propagation of TV signals from distances of over 1500 miles. He will consider the possibility of conducting SIGINT from balloons, missiles, ground and air, etc. He will consider the application of Information Theory to the problem and the use of auto-correlation techniques. He hopes to produce a report on equipment development, data processing and integration of the overall effort. (Author's note: The name is Haller, not Atlas).

20. Mr. Cruikshank (Army G-2) said that attache reports filter through channels and that those dealing with electronics land on his desk. He lacks adequate personnel, his files are in bad shape. He has prepared no guidance manuals for use by interrogators. His biographical and industrial manual is so inadequate that he uses the CIA version. He relies much on Signal Corps Intelligence Agency. He writes letters saying yes or no on policy matters and relies mainly on CIA foreign documents division. He has access to COMINT

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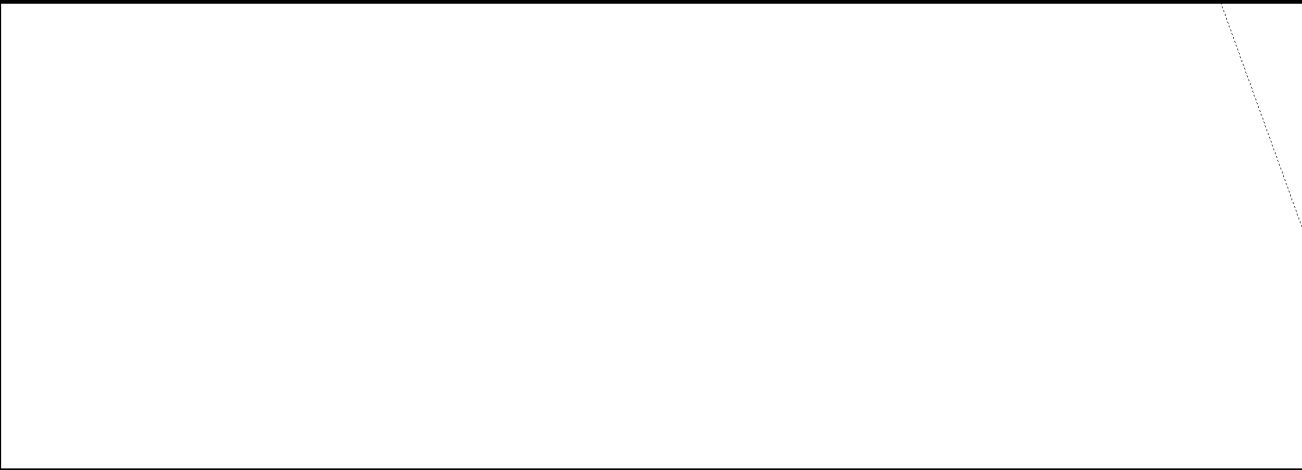
SUBJECT: US/UK Conference on [redacted]

through ASA. Now that some Signal Corps Intelligence Agency personnel are cleared for COMINT, he hopes to use that agency for access to COMINT.

21. Col. Masenga (Sig. Corps Intelligence Agency) said that his agency has undergone a major reorganization within the past 90 days. The agency has 6 officers and 90 civilians. There is a shortage of technicians and translators.

22. Major Libbert (ATIC) says that the Air Technical Intelligence Command at Dayton is staffed by approximately 300 persons. Air Technical Liaison Officers collect intelligence information in occupied countries and at strategically located embassies. ATIC operates its own signal analysis laboratory.

23. Major Landon Hill (AFSS) said that the Air Force has decided to get into the ground-team SIGINT business. On 7 December 1951, AFSS was assigned responsibility to establish and maintain ground based SIGINT activities to search for non-communication types of signals. Air Force agrees with Mr. [redacted] (GCHQ) that COM and NON-COM noise listening is one common problem; that is why USAF assigned cognizance to AFSS. The separation of COM and NON-COM noise listening (SIGINT) isolates the search for air warning radar nets from the search for communication links which are necessary adjuncts to the operation of radar nets. USAF now has two ground based COMINT teams performing traffic analysis. These will be augmented by the addition of noise listening (SIGINT) personnel and equipment. USAF will utilize the COMINT communication traffic channels for rapid passing of SIGINT intelligence to AFSS at Brooks Field.



26. Mr. Howe (ONI) presented the following list of U.S. SIGINT Training Courses now operating:

<u>Location</u>	<u>SVC.</u>	<u>Duration</u>	<u>Type</u>	<u>Remarks</u>
Ft. Monmouth	Army	8 wks.	General ECM	Uses AN/MIQ-3 Simulator
Biloxi, Miss.	AF	40 wks.	" "	Sigs. recorded by Ferret Planes.

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<u>Location</u>	<u>SVC.</u>	<u>Duration</u>	<u>Type</u>	<u>Remarks</u>
Biloxi, Miss.	AF	1 wk.	Indoctrination	Staff officers only.
Omaha, Neb.	AF	8 wks.	"	Modified jammers and radar simulators.
Cheltenham	Navy	6-8 wks.	COMINT only	Recordings and simulators
Memphis	Navy	42 wks.	Air ECM	Sample signals and air equipment.
Chicago	Navy	42 wks.	Ship ECM	Also FTU San Diego and Norfolk.

27. Mr. Howe (ONI) presented the following list of U.S. "Data Processing Groups":

<u>Location</u>	<u>SVC.</u>	<u>Workers</u>	<u>Documents Produced</u>
Ft. Monmouth	Army	2	Monthly summary of own material.
Washington	Army	1/2	None
Washington	AF	4	Air Briefs; flash reports, etc.
Dayton	AF	7	Quarterly summary of all signals
San Antonio	AF	2	None
Omaha	AF	30	None yet. Planned for SAC use only.
Washington	Navy	4	ONI Serials. Evaluations to field teams.

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CONCLUSIONS:

1. There is much collateral scientific electronic intelligence produced by the U.S. Air Force, U.S. Army, U.S. Navy, British DSI and Canadian DSI that does not reach AFSA and the COMINT Service Agencies.
2. The scientific intelligence produced by COMINT activities is meagre.
3. Scientific intelligence, if adequately collated and coordinated, is capable of providing the COMINT Agencies and AFSA with advance notice of the advent of new foreign communication systems [redacted]
4. Scientific intelligence, particularly that derived from the SIGINT activities of other agencies, if adequately collated and coordinated may develop the fact that there now exist, unknown to COMINT agencies, locations on friendly territory where communications signals of the highest intelligence content are interceptable [redacted]
5. There is dire need for better coordination, at policy and working levels, of the programs of all agencies engaged in the production, analysis and summarizing of Electronic Scientific Intelligence, particularly in the field of SIGINT operations and the design and development of equipment for SIGINT usage.

[redacted]

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[redacted]

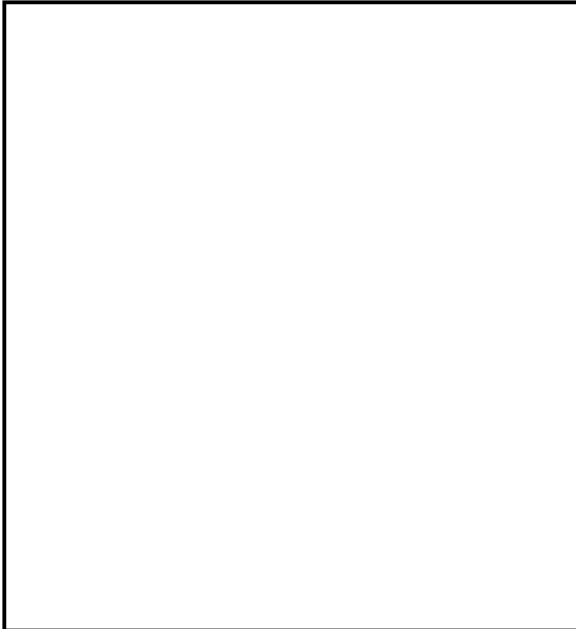
Office of Research and Development.

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U.S.-U.K. ELECTRONICS CONFEREES

BRITISH (London)



U. S. ARMY (G-2)

Dr. L. Woodruff
Col. L. R. MacAdam
Col. S. Whipple, Jr.
Lt.Col. R. C. Masenga (SCIA)
Mr. K. Gerhard (SCIA)
Mr. D.B. Cruikshank
Maj. P. L. Gudgin (British)

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U. S. NAVY (ONI)

Rear Admiral Felix L. Johnson
Capt. R. N. McFarlane
Capt. C. L. Gilbert
Comdr. L. E. Darby
Mr. Donald P. LeGalley
Mr. W. E. W. Howe

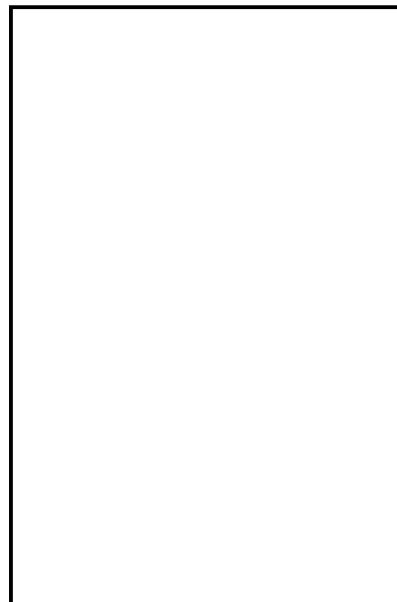
U. S. AIR FORCE (D/I)

Maj.Gen. J. A. Sanford
Col. E. H. Porter
Col. J. G. Erickson
Lt.Col. E. H. Vaughn
Lt.Col. H. C. Johnston
Lt.Col. D. E. Teberg
Major C. L. Reynard
Major J. E. Libbert
Mr. W. M. Reith
Mr. J. A. O'Mara
Col. D. L. Bower
Sqr.ldr. R. Mitchell (British)

CANADIAN (DSI)



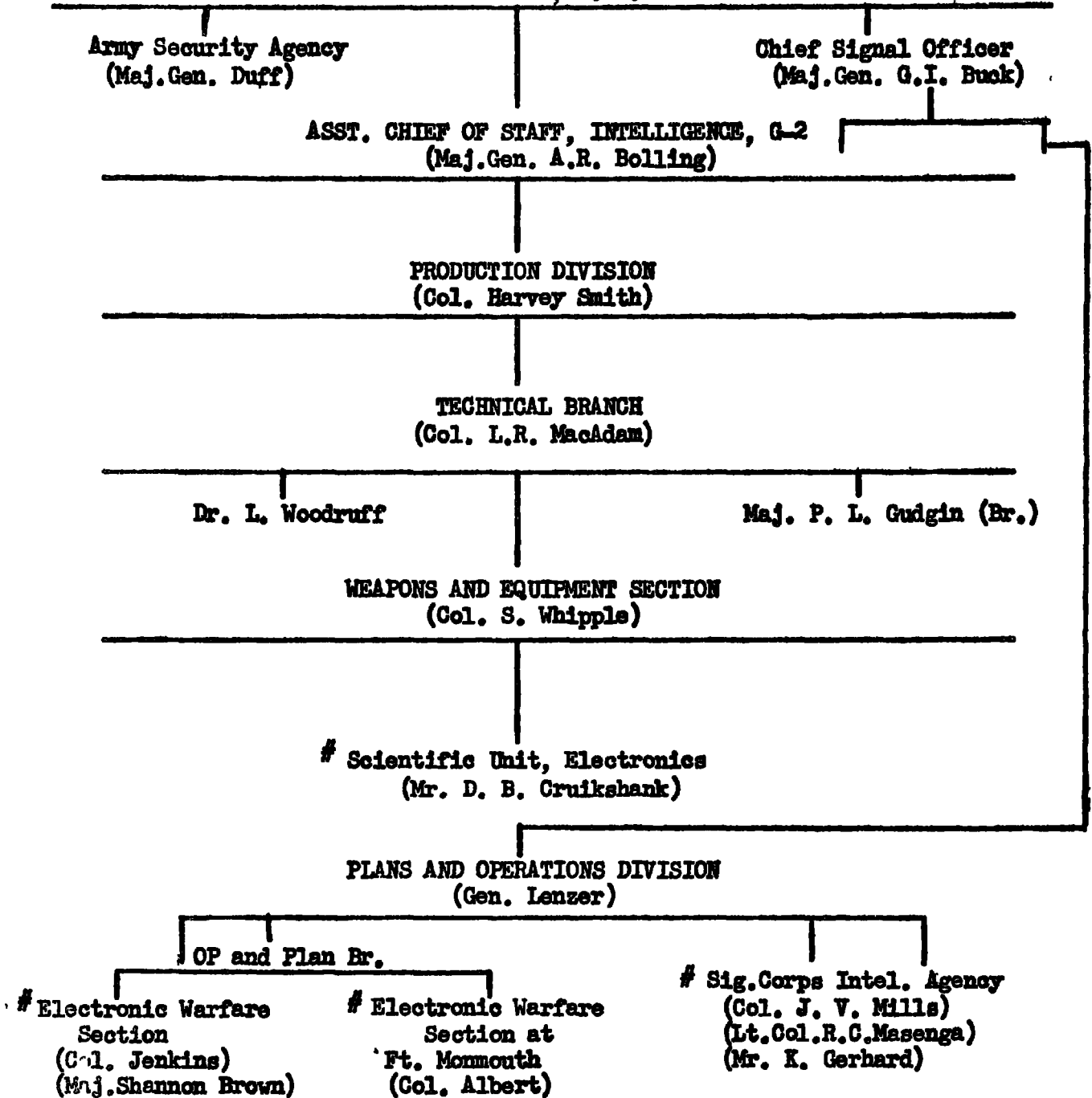
CIA



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CHIEF OF STAFF, U. S. ARMY



Represented at Conference

TAB. B

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CHIEF OF NAVAL OPERATIONS
(ADM. W. M. Fechteler)

OFFICE OF NAVAL INTELLIGENCE (OP-32)
(ADM. F. L. Johnson)

Intelligence Branch (OP-322)
(Capt. R.N. McFarlane)

Operational
Section
(OP-322Y)

Navy Gr. at AFSA
(OP-322Y1)

Foreign Section (OP-322F)
(Capt. B. VanMater)

Technical Unit (OP-322F2)
(Capt. C.L. Gilbert)

Naval Ordnance (OP-322F2D)
(Mr. Donald P. LeGalley)

Electronics (OP-322F2D4)
(Mr. W.E.W. Howe)

DIRECTOR OF NAVAL COMMUNICATIONS (OP-02)
(ADM. W. B. AMMON)

Electronic Countermeasures (OP-20K)
(Capt. K. M. Gentry)

Communications
Security (OP-202)
(Capt. J.A. Morrison)

Special Operations
(OP-202K)
(Cdr. Noack)

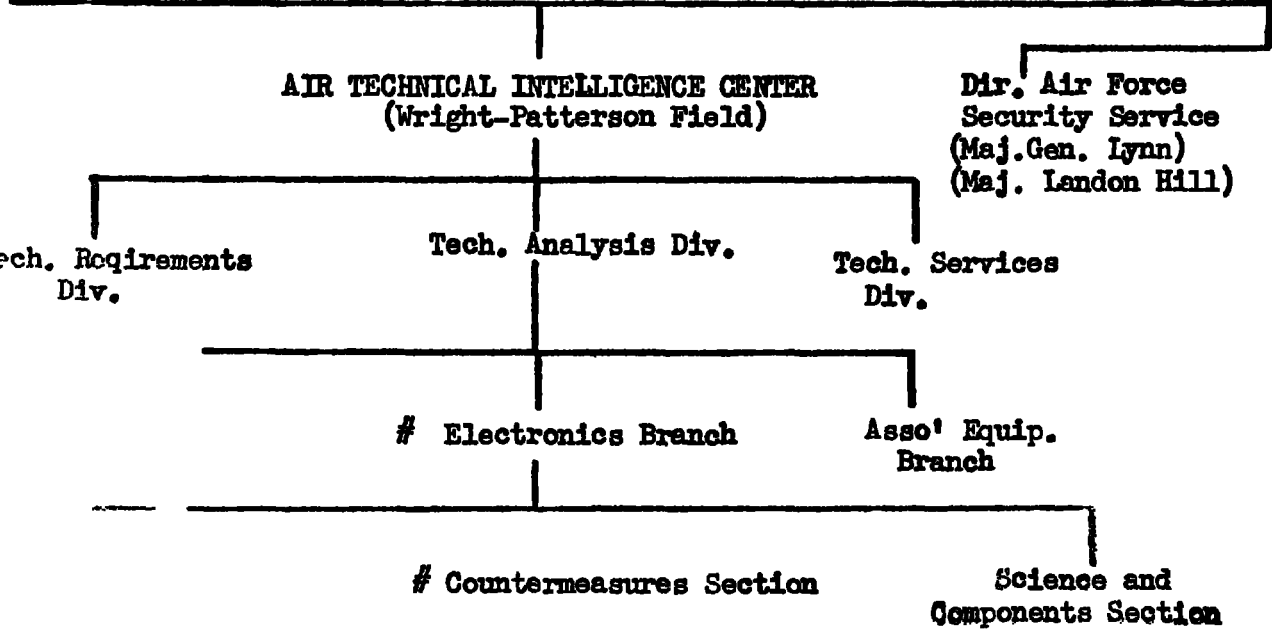
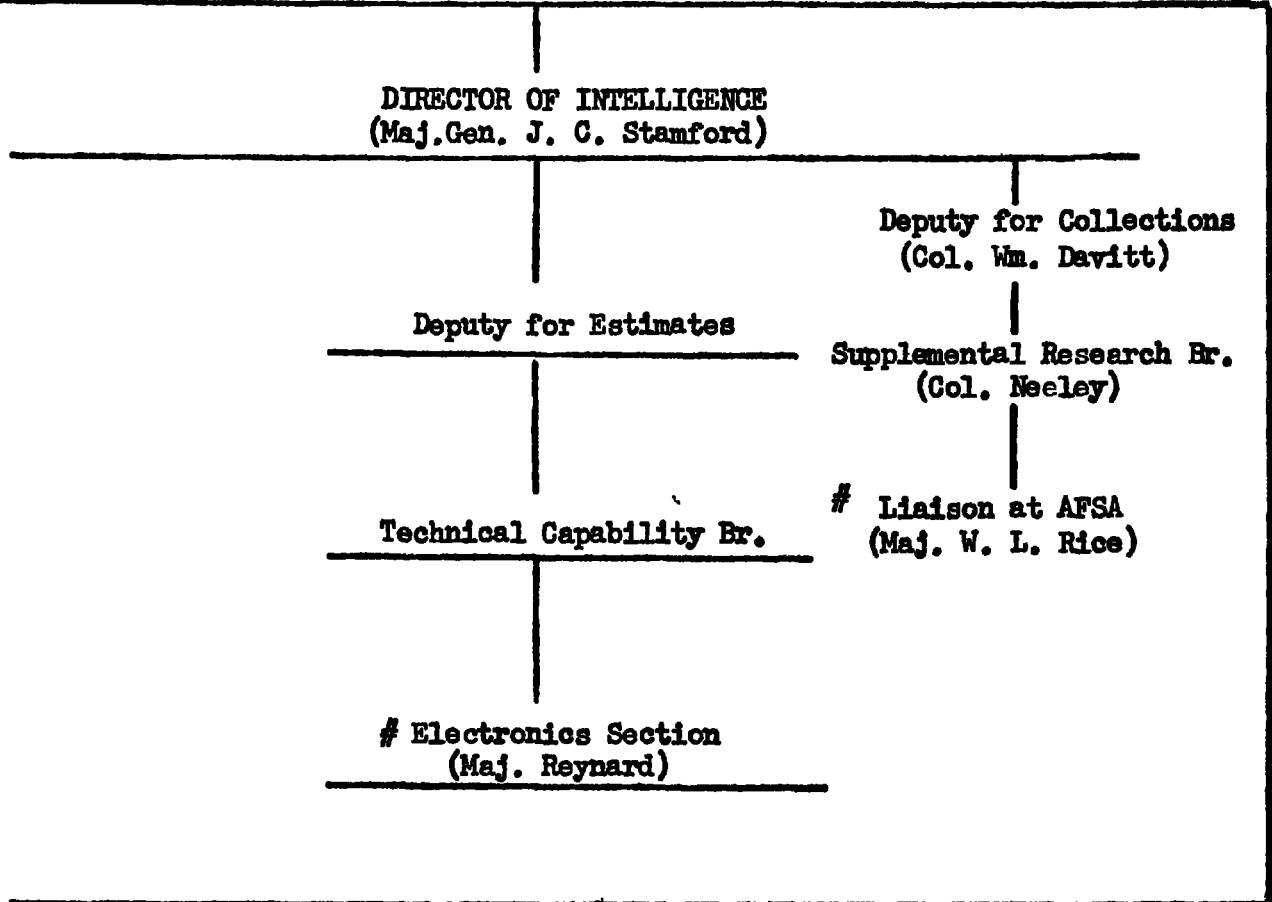
at Conference.

TAB. C

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CHIEF OF STAFF, U. S. AIR FORCE

(Gen. Hoyt S. Vandenberg)

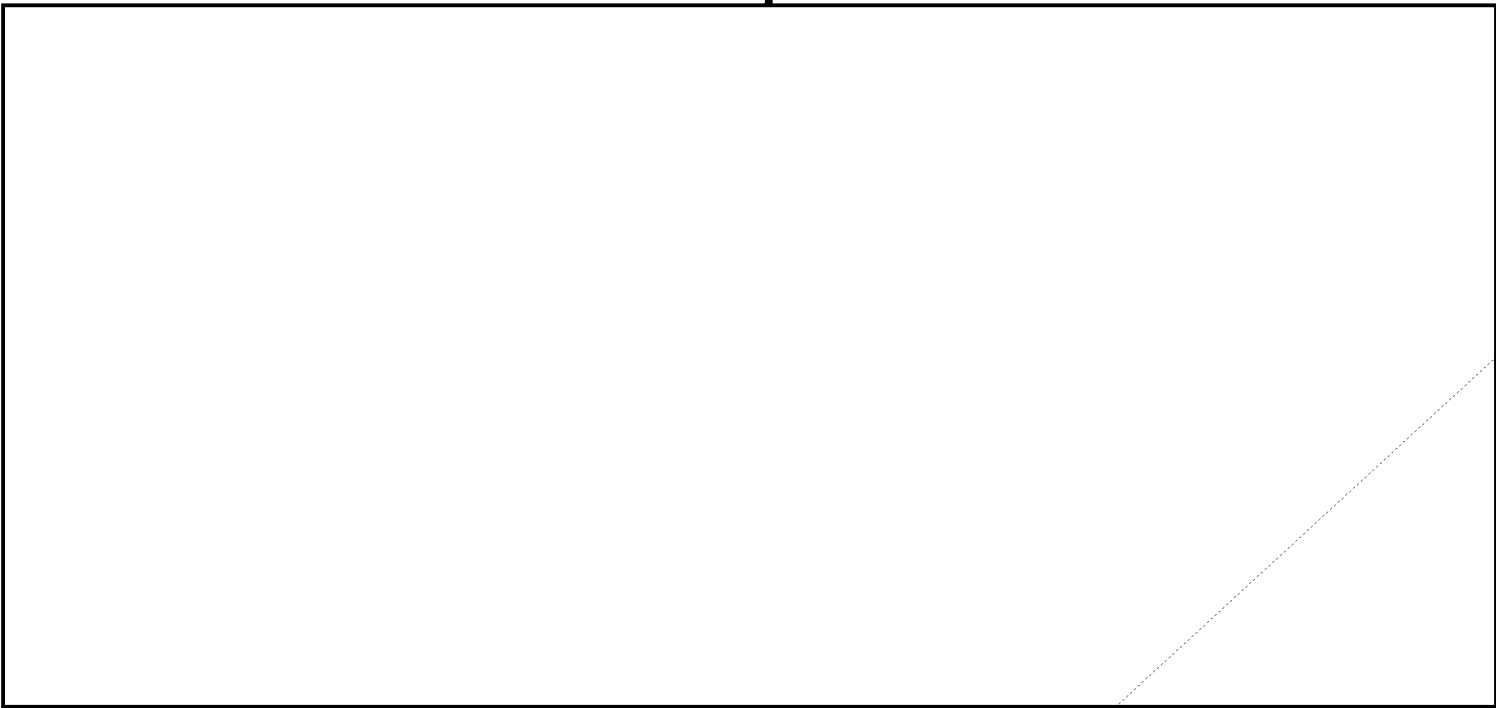
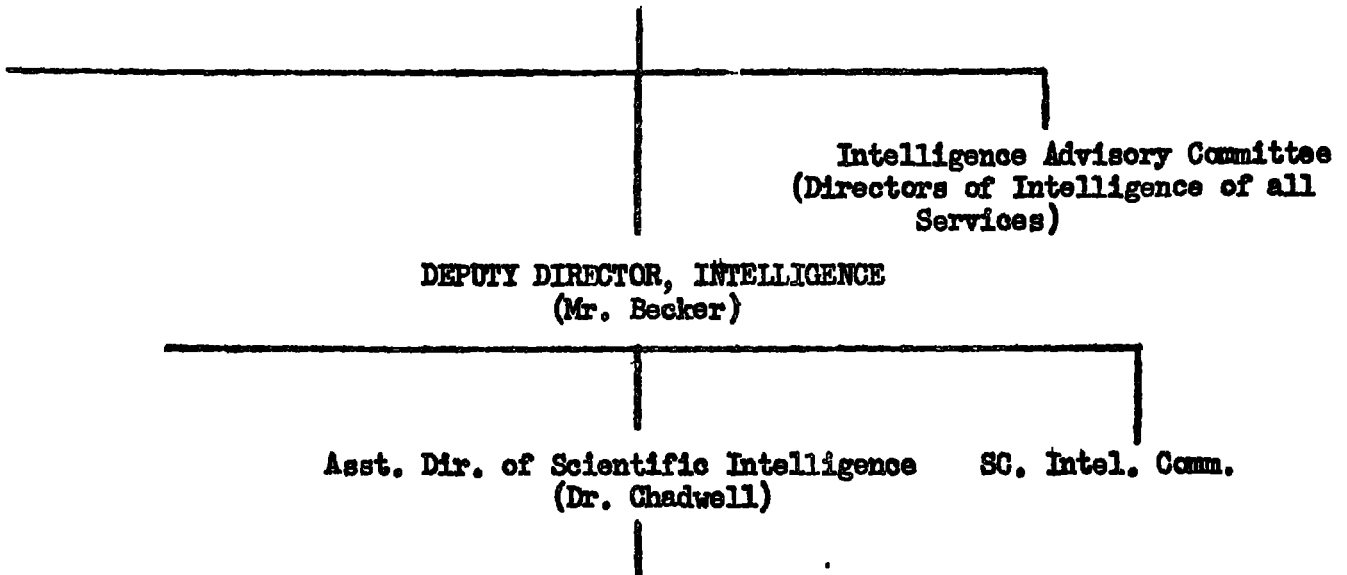


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DIRECTOR, CENTRAL INTELLIGENCE AGENCY

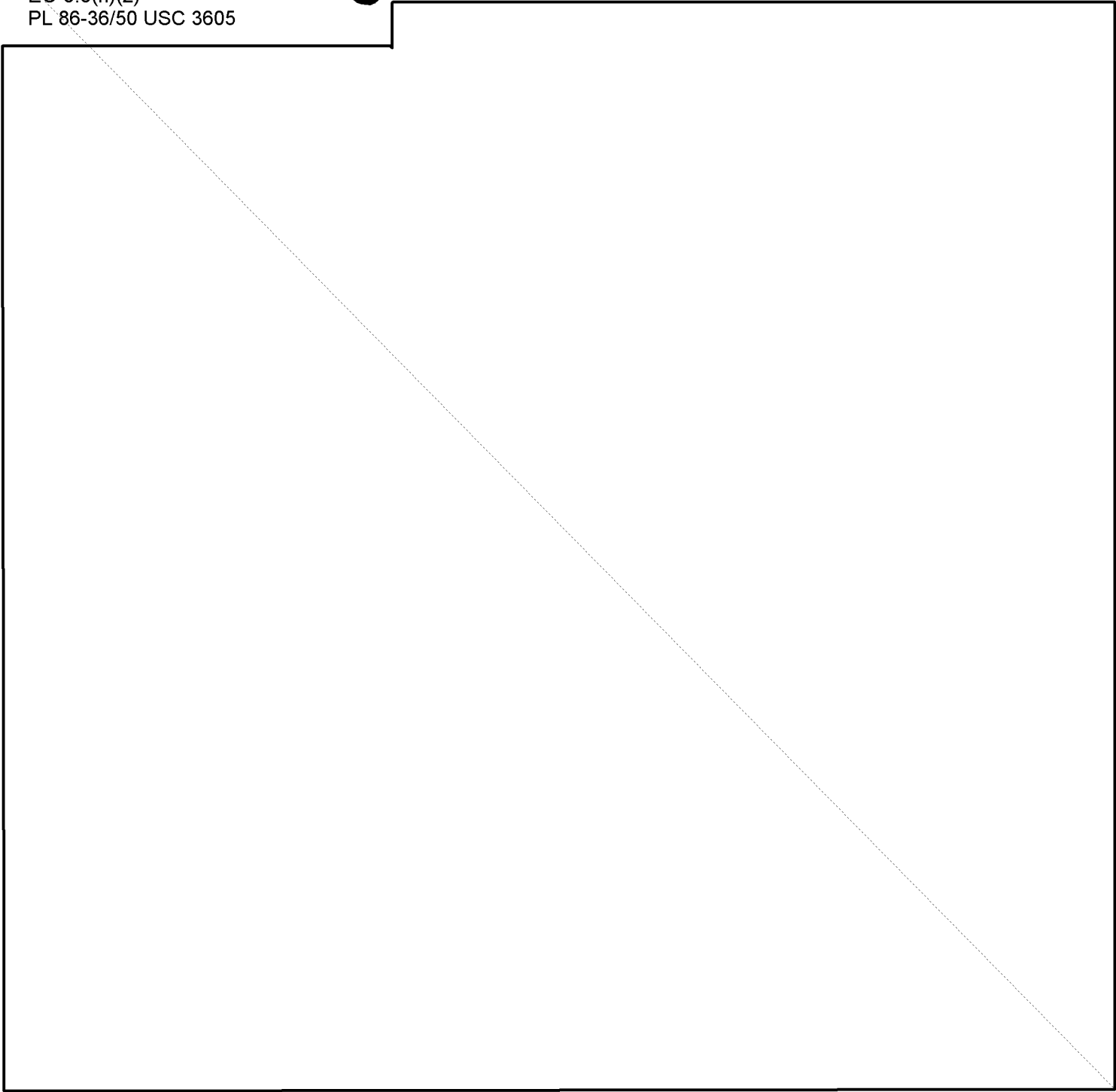


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TAB. E

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TAB. F



SIGINT MATERIAL MENTIONED AT CONFERENCE

AN/AIR-1	AN/MIQ-1	RAK-8 ^f
AN/ANQ-1A	AN/GNQ-9	RB-50 (Br.)
AN/APA-11	AN/PRD-1	RDO
AN/APA-17	AN/PRR-4	R-274A/FRR
AN/APA-29X (XB)	AN/SIR-1	S270 (130-210 mc)
AN/APA-64	AN/SPR-1	S-27U (28-143 mc)
AN/APA-69	AN/SPR-2	SL-28
AN/APA-92	AN/TLR-1	SCR522
AN/APD-4	AN/TLR-3	TIGRESS (Br.) (Long range S band D/F uses P64 recvr.)
AN/APD-6	AN/TLR-4	
AN/APD-42	AN/TFQ-1A	XA-2
AN/APR-4 (40-1000 mc)	AN/THR-4	167-F (60-300 mc)
AN/APR-4Y	AN/VIR-1	
AN/APR-5-1 (1000-6000 mc)	AN/VRM-6	
AN/APR-3	CX-406 (S&X Band)	
AN/APR-7	DEM	
AN/APR-9 (1000-10,000 mc)	FLANGE (Br.) (2-10,000 mc prototype Det. video)	
AN/APR-13	G-100 (Br.) (Tape Recorder)	
AN/APR-14	P-58 (Br.) (280-680 mc)	
AN/ARD-6	P-64 (Br.) (2400-3700 mc)	
AN/ARR-5 (S27U)	R-216 (30-150 mc)	
AN/ARR-8A	R-308 (20-150 mc)	
AN/BIR-1	R-464 (XB) ("ARL")	
AN/ARQ-5		