CCO-TS-1706B
TOP SECRET

**WASHINGTON D.C. CONTROL-COLLECTION OFFICE**
**Headquarters, USAF Security Service**
**Arlington Hall Station**
**Arlington 12, Virginia**

Attn: CO USAFSS

Initials: Jim

WDC/CCO 319.1

8 April 1953

**MEMORANDUM FOR:** Rear Admiral J. N. Wenger, Deputy Director, Intelligence, NSA

**SUBJECT:** Department of the Army Historical Division Study of German Radio Intelligence

1. Attached for your information is a copy of a memorandum prepared for the Director of Intelligence, USAF, in connection with the Department of the Army, Office of the Chief of Military History Study, "German Radio Intelligence", MS No P-038. Copies of this manual were received from Dr. R. W. Pettengill of NSA-182B.

2. Not included in my memorandum but believed to be of "historical interest" to you is a statement to the effect that the Russians captured the files of a German intercept unit at Stalingrad and almost immediately introduced changes in their communications security procedures.

1 Incl
Report

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WASHINGTON D.C. CONTROL-COLLECTION OFFICE ~~000-25-1706~~
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WDC/CCO 319.1 7 April 1953

MEMORANDUM FOR: Chief, AFOIN-1A3

SUBJECT: Department of the Army Military History Study of German Radio Intelligence

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

1. Forwarded herewith are five copies of a Department of the Army, Office of the Chief of Military History, study subject: "German Radio Intelligence". This study was originally prepared by the Historical Division, Headquarters, European Command, under a CONFIDENTIAL security classification. It has been re-graded as SECRET by the Department of the Army. The study itself was prepared under the direction of German Lt General Albert Praun who was chief of the German Army and Armed Forces Signal Communications at the end of World War II. General Praun was assisted by a number of high ranking officers connected with German Army Signal Intelligence.

2. It is the opinion of the undersigned that this study even at its raised classification of SECRET is under-classified and that if not warrenting codeword classification it should be at least TOP SECRET and its dissemination closely controlled among COMINT recipients with a clear statement on the document that it contains information within the meaning of the Espionage Laws, Title 18, U. S. C., Sections 793, 794 and 797 and Title 50, U. S. C., Sections 46 and 46a. Transmission or revelation of its contents in any manner to an unauthorized person is prohibited by law. This opinion has been brought to the attention of Mr. John F. O'Gara, Supplemental Research Branch, G-2, and it is understood that he is pursuing the matter further within their own channels. However, if Mr. O'Gara's efforts meet with no response, it is recommended that the D/I, USAF, may wish to bring the matter to the attention of USCIB. Reasons for the recommended further up-grading of the study derives from the following considerations:

[redacted]

[redacted]

[redacted]

[redacted]

e. On page 123 of the study the following examples are given of the information which the Germans derived from Russian plain text:

"Strategic radio intelligence directed against the Russian war production effort provided a wealth of information for the evaluation of Russia's military potential. Owing to the general dearth of long-distance telephone and teletype land circuits, radio communication assumed an especially important role in Russia not only as an instrument of military leadership but also as the medium of civilian communication in a widely decentralized economy. In keeping with its large volume, most of this Russian radio traffic was transmitted by automatic means, as explained in Appendix 7. The German Army intercepted this traffic with corresponding automatic equipment and evaluated it at the communication intelligence control center. Multiplex radioteletype links connected Moscow not only with the so-called fronts or army groups in the field, but also with the military district headquarters in Leningrad, Tiflis, Baku, Vladivostock, and in many other cities. In addition, the radio nets used for inland navigation provided an abundance of information. Although this mechanically transmitted traffic offered a higher degree of security against interception, the Russians used the same cryptosystems as in the field for sending important military messages over these circuits. The large volume of intercepted material offered better opportunities for German cryptanalysis. Strategic radio intelligence furnished information about the activation of new units in the zone of interior, industrial production reports, requests for materiel and replacements, complaints originating from and problems arising at the production centers and administrative agencies in control of the war economy. All this information was indexed at the communication intelligence control center where reports were drawn up at regular intervals on the following aspects of the Russian war production effort:

"Planning and construction of new factories;

"Relocation of armament plants;

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"Coal and iron ore production figures;

"Raw material and fuel requirements for industrial plants;

"Tank and gun production figures;

"Transportation facilities and problems;

"Railway, inland shipping, and air communications;

"Agricultural production;

"Food distribution and rationing measures;

"Manpower, labor allocation, and other relevant matters.

"Strategic radio intelligence thus made a slight dent in the Iron Curtain, which during the war was drawn even more tightly than at present, and offered some insight into the operation of the most distant Siberian production centers and the tremendous war potential of that seemingly endless expanse of land."

[redacted]

3. The study itself is of considerable interest in the review it presents of German Army experience with signal intelligence before and during World War II. It may be noted, however, that the British and U. S. COMINT authorities conducted thorough investigation of Axis signal intelligence in World War II immediately after the close of hostilities. This investigation was known as "TICOM" and a complete nine volume history incorporating the results of the investigation was prepared by Army Security Agency in 1946 (European Axis Signal Intelligence in World War II as Revealed by TICOM Interrogations). The German authors of the present report have not been completely candid in their write-up and a number of omissions have been observed as well as a number of very interesting points which they were able to make in reviewing their war-time organizations. Among the points which they have covered are the following:

a. In discussing German radio intelligence during the Polish campaign they point out the success of German radio intelligence in identifying the Polish Army deployment areas due to the Poles' failure to observe radio silence. They commented that the German Army suffered from an insufficiency of motorized intercept. However, they failed to mention that this deficiency was met by a loan of motorized intercept facilities from one of the rival German signal intelligence agencies, the Forschungsamt, which was the Nazi party signal intelligence agency responsible to Goering. They also comment on the panic among the Polish communications troops resulting from German air

supremacy and the apparent fear of the Poles that any transmission resulted in the location of the transmitter by German D/F and immediate air attack on the transmitter. They further comment that the German communications troops themselves expressed similar panic during the Normandy invasion and finally comment that the fear was actually groundless since it is impossible to provide the D/F which would be necessary. A result of the Polish communications failure was that the Poles general staff was unable to communicate with its own units and, therefore, could only tell the actual situation of their forces from the German official news releases. The Germans commented that they corrected this mistake in future campaigns but that they themselves depended on Allied news broadcasts during the latter stages of the War in the west.

b. In connection with the German invasion of Norway, the German authors discuss some of the successes which German Army intercept achieved but there is no mention of the reported German tactics from COMINT of British and French plans to launch an occupation of Norway before the German invasion. TICOM investigations of German Navy COMINT activities elicited a statement to the effect that the Germans had read such British and French plans and, therefore, launched the German invasion of Norway as a preventative measure.

c. The German authors refer to their successful interception of U. S. Army traffic from units in training within the ZI and they indicate that one of their most useful tools was the APO number which they could identify in training activities and then follow to a POE and eventually overseas. TICOM investigations did not develop the point that the Germans had been able to monitor U. S. training activities within the ZI. Obviously, German ability for such successful intercept can be replaced by the Russians at the present time.

d. In connection with Rommel's African campaign, the German authors discuss the value which Rommel placed on German signal intelligence but the present paper implies that this was derived solely from units in support of the African Corps. Accordingly, the German Army High Command Signal Intelligence Agency provided special intercept facilities in Italy to monitor the enciphered traffic of the U. S. Military Attache in Cairo and the solutions of his messages were teletyped to Rommel. However, the present German study makes no reference to this "Fellers" incident.

e. The German authors refer to the security of U. S. high level communications but make the positive statement that the American field cipher device (presumedly the M-209) was compromised and continues ". . . messages enciphered by this system could at first be solved only after a delay from two to four days. Later on when more data had been gathered, only a few hours were needed.. ." U. S. communications security people have tended to deny German claims to have solved M-209 traffic in less than 48 hours.

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f. The German authors refer to a new kind of intercept operations during the closing days of the war when VHF traffic was monitored. The interesting point to this reference to the successful intercept of VHF traffic by the German Army at this late date is that this intercept was actually provided by German Air Force units who had been intercepting VHF traffic for some time previously. The German Army authors of this study apparently prefer to gloss over the fact that one of their rivals had made the intercept possible.

g. In connection with German COMINT efforts against espionage, the German authors began to present a not quite accurate picture. The uncritical reader of the present study would infer that the German High Command of the Armed Forces and the German Army Signal Intelligence people had been responsible for a carefully worked out program for intercepting the traffic, D/Fing the location of the radio transmitters, and suppression of the agents involved. Actually, the Germans were caught by surprise by the volume of agent traffic and the High Command of the Armed Forces accordingly were forced to improvise so that the German Army provided the cryptanalysis, the German Navy provided intercept operators and the German Air Force detached a complete intercept company for work in occupied France. (It was this intercept company which provided the VHF intercept mentioned above) The Germans do refer to their embarrassment at detecting two Russian agents among the cryptanalysts of the High Command of the Armed Forces agency. Closely related to the radio agent traffic in the west was the fantastic number of radio transmissions emanating from the Russian partisan and guerrilla units committed behind the German lines in the east. The number of these transmissions became so great that in 1944 the Germans were forced to remove a complete signal intelligence regiment from copying Russian Army traffic and assigning it to the partisan and guerrilla units. This is indicated in the present study by the German Army authors but they do not refer to the close relationship necessary with the German Air Force radio intelligence which arose from the Russian employment of their long range Air Forces to supply the guerrilla bands and to drop parachute agents behind the lines. One German report available to TICOM indicates that Soviet planes ranged over western Europe and even into Spain as late as 1945 on such missions.

h. TICOM records reveal that German signal intelligence units were in place as early as January 1941 along the east front and captured files show a fairly detailed Russian order of battle on the various Russian army groups awaiting the German attack. German authoris, however, indicate that these results were not as complete as had been previously inferred.

i. In the field of German cryptographic security, the present study implies that the German authors directed all phases of a coordinated German cryptographic security program from their position in the High Command of the Armed Forces and the Army High Command. Actually, both the German Navy and the German Air Force differed severely with the German High Command of the Armed Forces on the question of the security

of the German high level cipher machine. As a matter of fact, German Air Force cryptographers disagreed with the opinion of the experts in the High Command of the Armed Forces and introduced certain changes in the enigma which made it, as far as the German Air Force was concerned, secure against Allied cryptanalysis. If the High Command of the Armed Forces had followed the recommendations of the German Air Force cryptographers, U. S. and British cryptanalysis would have been somewhat handicapped. It is interesting to note, however, that apparently the German authors continued to have no qualms as to the security of their high level cryptographic devices, at least up to the time they wrote the present study.

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