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ARMY SECURITY AGENCY

WASHINGTON 25, D. C.

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SUMMARY ANNUAL REPORT

ARMY SECURITY AGENCY AND SUBORDINATE UNITS

1 JULY 1948 - 30 JUNE 1949

FISCAL YEAR 1949

~~APPENDED DOCUMENTS CONTAIN CODE WORD MATERIAL~~

HISTORICAL SECTION G-2

HEADQUARTERS ARMY SECURITY AGENCY

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SUMMARY ANNUAL REPORT

ARMY SECURITY AGENCY

FISCAL YEAR 1949

In the Fiscal Year 1949 the Army Security Agency carried out important changes in connection with the streamlining of the Communication Intelligence and Communication Security Fields in line with the unification of the Armed Forces and completed the missions of its various stations and operational units on an increased scale. An extensive program of Research and Development was accomplished. In the top echelon reorganization, its Air missions and the units and personnel for carrying them out were transferred to the U. S. Air Force. Provision was made for the Armed Forces Security Agency to assume responsibilities for high level cryptologic operations, research and development of specialized equipment for Communication Intelligence and Communication Security, and matters of high echelon Communication Security policy.

Monitoring centered on [redacted] military, and commercial traffic from Russia and its satellites [redacted] the Balkans. Already there was considerable interest in Chinese Communist traffic. Valuable material was processed and direction finding and traffic analysis yielded much of value to the intelligence agencies of the government. It was the last year this traffic was processed by cryptanalysts at headquarters ASA, the mission having been turned over to AFSA.

In 1 July 1948, the Headquarters, three Operational Divisions, and part of the School were at Arlington Hall Station. Theater headquarters

were ASA Europe at Frankfurt, ASA Pacific at Tokyo, and ASA Hawaii at Fort Shafter, T. H.

Headquarters and Headquarters Company, ASA Europe, consisted of Operations and Administrative Divisions, the Operations Division being subdivided into Intelligence and Security Branches and the Administrative Divisions into the office of the Adjutant and the Service Branches. There was a control officer directly under the Chief. The Security Branch ran a Cryptographic Repair School. Ginnheim Repeater Station, a teletype intercept unit was directly under the Intelligence Branch. There were also three teletype intercept units, one at Frankfurt outside the post, one at Nurnberg, and in Berlin under control of the 7956 United States Service Command Agency. ASA Pacific was likewise a highly organized Headquarters. ASA Hawaii, much smaller, had a less complex organization.

Monitoring units were widely separated; most of them were Army units.

The 1st Detachment, 2d Signal Service Battalion (USM-1) was at Vint Hill Farms Station, Warrenton Virginia. Here until 2 June 1949 were also two Signal Service Companies, the 508th and the 507th, both inactivated at that date, and the 3d Signal Service Platoon.

The 2d Detachment of the 2d Signal Service Battalion (USM-2) was at Two Rock Ranch Station near Petaluma, California, north of San Francisco. The 60th Signal Service Company was at Fort Lewis, Washington, the 5th Detachment of 2d Signal Service Battalion (USM-5) at Helemano, Hawaii,

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1. Summary Annual Report, ASAE, Fiscal Year 49, (TS), pp 2, 14, and 16. (Page 4 Annual Report (Hq, ASA Europe contained in Summary Annual Report, ASA EUROPE, F.Y. 49).

and the 4th Detachment (USM-4) was at Asmara. At Herzo were the 6th Detachment of 2d Sig, (USM-6) the 52nd Signal Service Detachment (Security), the 114th Signal Service Company, and the 7830 Signal Service Platoon. The 116th Signal Service Company was at Scheyern, Germany. In Japan there was the 126th Signal Service Company, and the 50th and 51st Signal Service Detachments (both Security) on Honshu, The 9th Detachment of the 2d Signal Service Batallion (USM-9) was in the Philippines and the 111th Signal Service Company was at Seoul in Korea. In Alaska, the 7th Detachment of 2d Sig (USM-7) was at Fairbanks. Each installation included a headquarters, with a headquarters detachment or headquarters company. A small liaison section was maintained at Headquarters Army Ground Forces, Fort Monroe.[2] Air Force units still under the Agency at the beginning of the period included some Radio Squadrons Mobile and several Radio Security sections. The authorized strength of the Agency at the start of the period was officers, Warrant Officers, and men.[3]

PL 86-36/50 USC 3605
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A theater monitoring detachment, a Regular Army Signal Service Company, a Signal Service Company, National Guard; and several Reserve units were established or provided for. Concurrences were obtained from the Commander in Chief, Caribbean Command and the Commanding General, United States Army, Caribbean, on the establishment of a Special Security Monitoring Detachment (Caribbean).[4] Authority was obtained from the

Note: The 7830th was under the operational control of the Signal Division, EUCOM, and only administratively under ASAE.

2. Summary Annual Report, ASAE, Fiscal Year 1949 ~~(TS)~~, p. 1.

3. Annual Report, Organization and Training, Fiscal Year 1949, p. 7 ~~(TS)~~

4. Ltr, GSGAS 380.23, 14 Oct 48, subj: Availability of Security Monitoring Team, and 1st Indorsement (2 Nov 48)and 2d Indorsement (17 Nov 48).

Department of the Army[5], and tables of distribution and allowances were prepared. Action was taken for an establishment directive from the Adjutant General.[6]

The 53d Signal Service Company, Regular Army, was established by the reorganization and redesignation of the 3d Signal Service Platoon with a T/O and E of 10 officers, 4 Warrants, and 236 enlisted personnel.[7] As a platoon it consisted of 5 officers and 75 men.[8]

The National Guard Unit organized was the 129th Signal Service Company (Radio Intelligence) which received Federal recognition on 14 April 1949. As of 30 June 49 its strength was three officers and 56 enlisted men. It was organized at Allentown, Pennsylvania, after ground work was laid by Lt Col Milton E. Sayers in February.[9]

During the year four Reserve field units were activated. The 318th Signal Service Company (Radio Intelligence) was activated at Dayton, Ohio by orders of 14 July 1948, the 405th (Radio Security) at New York by orders of 1 December 1948, the 848th (Radio Intelligence) at Washington, D. C. by orders of 1 March 1949, and the 995th (Radio Security) at Minneapolis on 23 July 1951. A Security Agency Training School was opened in New York City, a Training Agency (Radio Intelligence) at Washington, D. C., and two Signal Service Training Companies at Los Angeles.[10]

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5. Ltr, D/F subj: Establishment of A Security Monitoring Detachment in the Caribbean Command, 21 April 49, and comments 2, 3, and 4.
6. ICM subj: Establishment of Security Monitoring Det, (Caribbean) 24 June 49.
7. Annual Report Organization and Training Section, Fiscal Year 49 Tab 3.
8. Ibid, Tab 4.
9. Ibid, p. 39.
10. Annual Report, Organization and Training Section, Fiscal Year 49, pp 36, 37.

Fiscal Year 1949 was the last in which the Agency was responsible all year for cryptanalysis of commercial and diplomatic traffic and for all Army research and development projects and related liaison activity in its field. Colonel Harold G. Hayes, Chief of the Agency was occupied with problems related to the establishment of a separate communications intelligence agency for the Air Force and the redistribution of responsibilities in this field throughout the military establishment. The move, in which the Agency assumed considerable initiative, called for the consolidation of non-tactical cryptologic activities and related research and development in a new Agency to be known as the Armed Forces Security Agency and for strengthening the tactical position and improving the command relations for Agency units. The new organization was to be a coordinating agency for the three field services on the same staff level with them.

Plans for the reorganization were formulated within the Armed Forces early in the year. A committee was designated by the Secretary of Defense to consider the problems involved and advise on the advantages of a joint or united Agency for all the Armed Forces. According to plans, the unification would take place during the first part of Fiscal Year 1950. The new organization, to be known as the Armed Forces Security Agency, was to procure, process, and disseminate certain kinds of communication intelligence formerly accomplished by ASA and the Communications Supplementary Activity, Washington (CSAW), the latter the Navy counterpart of ASA.[11] By 30 September 1948, a report for the committee on the creation of the new Agency had been redrafted by the Drafting Committee of the three services. The report examined thoroughly the necessity for joint control over communication

11. Annual Report, Plans and Operations Fiscal Year 49 (TS) Chapter I (N paginatio

security matters and then outlined and investigated every possible arrangement for achieving joint control ranging from informal liaison to complete unification. An organization to provide centralized direction but retaining individual service operating facilities was recommended.

The working committee headed by Colonel Hayes approved the report and forwarded it to the committee appointed by the Secretary of Defense to study the problem.[12]

The drafting committee met daily for two weeks on measures for increasing the effectiveness of joint communication security activities acceptable to all services.[13] On 27 May 1949, Secretary of Defense Johnson issued a directive establishing the Armed Forces Security Agency effective 1 July 1949.

Likewise plans for separating the Air Force units from the Agency were carried out. On 21 September representatives of ASA and of the Air Force met to determine the quantities of special equipment to be transferred to the Air Force with the Radio Squadrons Mobile. It was agreed to turn over a considerable amount of budgeted specialized equipment.[14]

The separation of Air Force and Army units responsible for communications intelligence and security was accomplished by General Staff Intelligence Division Memo, 24 September 1948. As the arrangements stated, the Army was to perform a common service in the production of information from strategic signal intelligence sources. The Air Force was to participate in such

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12. Semi monthly Activities Report, CSGAS-61, 30 Sep 48. ~~(TS)~~

13. Semi Annual Report, CSGAS-61, 15 Sep 48. ~~(TS)~~

14. Annual Report, Plans and Operations, Fiscal Year 49, Chapter 1 near end.

operations on a basis agreeable to it and to the existing Army organization.[15] The Air Force was to assume responsibilities for the security of its communications and for low-level air tactical-type signal intelligence activities. It was to be responsible for air-to-air traffic, air-to-ground, and for such items of special interest to Air such as weather in ground-to-ground traffic. The Air Forces was likewise to be responsible for the storage, distribution, and accounting for of their own equipment. At the same time, except for equipment of primary interest to the Air Force, the Army was to be responsible for the procurement of cryptologic equipment. Intercept stations, including the construction, manning, and operation of new ones, was an Army responsibility. When impractical for the Army to conduct an intercept station, as in a case when the facilities would be an adjunct to facilities organically assigned to the Air Force, the latter would conduct them. Training was to be by the Army, but the Air Force would provide certain instructors. The Army was to be responsible for the determination of doctrine and techniques, the Air Force being limited to the development of doctrine for its own specialized organization. The Army was to operate a laboratory for secret inks.[16] The US Air Force Security Service was established on 20 October 1948 with Headquarters at Arlington Hall to operate under the control of the Chief of Staff, US Air Force, with the procedural functions and responsibilities of a major air command. Administrative and housekeeping equipment was authorized.[17]

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15. Annual Report Plans and Operations Fiscal Year 49, Chapter II.

16. Annual Report Logistics Section, GAS 24, Fiscal Year 49, p. 4 Tab 5, Also ASAH Fiscal Year 49, Tab 184.

17. Ltr, Secy AF to CG, USAF Secrutiy Service, Sub Establishment of USAF Security Service, 20 Oct 48, in Annual Report, USA, Hawaii, FY 49, Tab 184.

~~SECRET~~

The Army Security Agency was to be responsible for the greater part of research and development including communication security equipment not integrated into the Air Force; it was to share in the development of integrated equipment.

On 31 December JAFAR 1-11 removed Radio Squadrons Mobile and Radio Security Detachments and certain bulk allotments from ASA troop basis. The transfer of the Radio Squadron Mobile, Radio Security Detachment and Section from the Department of the Army to the Department of the Air Force was accomplished by D/A and AF letter of 28 January 1949.[18] Equipment went with them. The Army continued to be responsible for communication security activities in connection with Army units and even in theaters predominately air force without regard to theater subordination.

Effective 1 February 1950 in the Pacific Theater, the 17th Radio Security Section Hickam Field, Hawaii, the 18th Radio Security Section, Guam, the 20th Radio Security Section, Clark Field in the Philippines, and the 1st Radio Squadron Mobile, Irumagawa, Japan, were transferred to the Department of the Air Force. In Hawaii the 136th Radio Security Squadron was transferred, effective 16 May 1950 and a new T/D was based on continuing the Air Force missions, which was still effective at the end of the year. Although there was considerable lessening of Air Force responsibility by ASA Hawaii, no reorganization or reduction in strength was contemplated.[19]

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18. Ltr D/A and AF, AGAO-1 370.5 28 January 1949. The Army continued to be responsible for communication security activities in connection with Army units even in theaters predominately Air Force without regard to theater subordination. Also Summary Annual Report ASA, Hawaii.

19. Annual Report, ASA Hawaii Fiscal Year 49, p. 6.

On 1 June 1949 the Pacific Air Command was discontinued and all powers, installations, and facilities transferred to the Commander, Military Air Transport service. By the end of the fiscal year, two Air Force installations, the 81st Fighter Wing, Wheeler Field, and Detachment A, 614th Aircraft Control and Warning Squadron, had turned in their equipment, and ASA responsibility for their crypto maintenance ceased. The 1910th AAAC Group took over communications for MATS and their crypto account was closed out by ASA Hawaii.[20]

In Europe on 1 February 1949, the 15th Radio Security Squadron, and the 2d Radio Squadron Mobile, Herzo Base (USM 33) which had become operative, in early October 1948, were transferred to the Air Force.[21] The latter was to take over all monitoring of Soviet Air traffic, freeing facilities at Herzo for ground military missions.[22] In the Caribbean the 6th Radio Security Fort Simmons, Jamaica, went over to the Air Force. Units transferred in the Zone of Interior included the Hq, 136th Radio Security Detachment, Mitchell Field, the 2d Radio Security Detachment, Presque Isle, Maine, the 3d Radio Security Detachment, Daly City, California, and the 8th Radio Squadron Mobile, Vint Hill Farms Station.

By as early as October 1948 the responsibility for the administration of the Air Attache System, including their cryptosystems, was transferred from the Department of the Army to the Department of the Air Force with 60% of spaces and personnel to be allocated to the Army and the rest to the Air Force. The ASAM 5 (SIGROD) Cryptosystems were furnished Headquarters, United States Air Force.[23]

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20. Annual Report, ASA Hawaii, Fiscal Year 49, p. 55.
21. Summary Annual Report, ASAE, Fiscal Year 49, pp 35-36.
22. Ibid, p. 45.
23. Annual Report Materiel Branch, Security Division, Fiscal Year 49.

In regard to the security mission of the Agency, the establishment of the Air Force Security Service had only a limited effect on the scope of ASA responsibilities. By the end of the fiscal year, the US Air Force in Europe had not set up its own facilities for the storage and issue of cryptomaterial. The cryptocenter for the Air Force in Europe had supervised transmission security in the previous year, and to this was added responsibility for physical security shortly before the beginning of the year.

The US Air Force, Europe Cryptosecurity Center was responsible for the cryptosecurity of Air Force Traffic, decrypting and scanning such traffic and preparing notifications of violations. The Air Force was still using Army systems so that the Army Security Agency retained a legitimate interest in the violations of these systems, receiving copies of violation letters. When beyond the capabilities of local air personnel, repair of Air Force crypto equipment was performed by ASA Europe technicians.[24] The situation was similar elsewhere.

In line with the program of the unification of the Armed Forces, the Secretary of Defense directed that the construction programs of the three services be integrated and four committees of the three services were set up, the first for interior housing, the second for inter-operational construction, the third for overseas construction, and the last for construction in connection with Research and Development. The Army, the Navy, the Air Force, and the Board of Research and Development in this order, furnished the chairmen. The committees received projects submitted by the services and established relative priority of approved projects.[25]

24. Summary Annual Report, ASAE, Fiscal Year 1949. p. 51.

25. Annual Report, Logistic Div, GAS 24, Fiscal Year 49, p. 6 (S)

During the Fiscal Year 1949 the fixed stations and mobile units engaged in intercept handled a heavy volume of traffic. For example the 7th Detachment at Fairbanks, Alaska took in 16,755 groups a month at the beginning of the year and 21,338 at the end.[26] By the end of the year, the 114th in German was handling 420,000 groups a month or 100,000 a week.[27] The 116th (USM-32) handled from 171,000 to 251,000 groups.[28] In Alaska the low month was September and the high April.[29] Heaviest month for Vint Hill Farms was November.[30] Heaviest total for SGCUM Traffic Helsmano was in May 1949 when 914,269 groups were sent. The smallest was in January 1949 when 469,916 groups were handled. For SIGTOT traffic, June was highest with 34,834 groups. The year started in July with 32,503 groups. Station totals amounted to 2,280 messages monthly.[31]

A report from Field Station 8607 indicates the breakdown regarding type of operation. At the beginning of the year about 60% was manual operation, but this dropped to 30% before the year was over. Then the remaining 70% was chiefly Simplex (60%) with 10% high speed automatic.[32]

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26. Annual Report, Field Station 8607, Tab 3.
27. Summary Annual Report ASAE, Fiscal Year 1949.
28. Ibid, p. 45.
29. Annual Report 8607, Tab 3.
30. VHFS Fiscal Year 49, Tab B, p. 3.
31. Annual Report, Fifth Detachment, Fiscal Year 1949, (S), p. 15.
32. Annual Report, Field Station 8607, Fiscal Year 1949.

An average of 250 messages a month of special interest to G-2 and other intelligence agencies was developed by one team in Austria.[33]

Soviet and satellite communications targets were covered from both sides of continental United States and from Europe and Japan. [redacted] Radio circuits from Russia and satellite sources were covered including such circuits as [redacted] Two Rock Ranch Station handled Russian Taper Domestic Simplex and Taper Domestic traffic. The [redacted] circuit links and the [redacted] links were handled from Herzo.[35] Herzo handled [redacted] mainline nets.[36] Russian Military and Air Missions were handled for the East by Two Rock Ranch Station[37] and by the 126th (USM-30) at Kyoto.[38] Reports of the 14th and 15th Armies of the Carpathian and Baltic military districts and many Yugoslav circuits were intercepted at Herzo.

Russian facsimile transmissions provided another target for Herzo.[39]

A new facsimile recorder AS-8 with a wider range of signals was installed at Vint Hill Farms.[40]

33. Summary Annual Report, ASAE, (TS) p. 45.
34. Operations Reports, ASA 1948. 16-30 July.
35. Operations, 1-15 July 48.
36. Annual Report, Herzo Base, Fiscal Year 1949, p. 24.
37. Annual Reports, 1949.
38. Plans and Operations, Annual Report, Fiscal Year 1949. Chapter II.
39. Operations Reports, 1e15 July 1949.
40. Annual Report VHFS, Tab B, p. 9 (S).

Helsmano intercepted Taper targets employing manually keyed transmissions, two channel Taper messages and Taper simplex teletype transmissions. They also intercepted Chinese [redacted] targets which utilized high speed automatically keyed Morse transmissions.[41]

Most intelligence for the Far East Command was handled by the 126th.[42] Intercept at Kerso was the responsibility of the Commanding Officers of the 114th and the 6th Detachment.[43]

In July, August and September 1948, coverage of two channel multiplex signals was given top priority. Very good results were obtained with approximately 84 different circuits being monitored at Vint Hill Farms Stations. Continual search was made throughout the year for Russian radio telephone conversations. Very few were records, as the Russians utilize low frequency for the greater part of their transmissions, which in turn, could not be picked up in America. A Vint Hill International Commercial Radio intercept traffic total for Fiscal Year 1949 were three times greater than that produced in the Fiscal Year 1948. Noteworthy was the large increase in the intercept of government traffic of foremost interest to ASA.[44]

Traffic received went through some processing in the field for intelligence use. In ASA Europe all traffic processed passed through the State control section where it was scanned for items of immediate intelligence value by linguists of the language sub section.[45]

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41. Annual Report, Plans and Operations, Fiscal Year 1949, Chapter II (TS)
42. Plans and Operations Reports, Fiscal Year 1949, Chapter II.
43. Summary Annual Report, ASAE, Fiscal Year 1949.
44. Summary Annual Report VHFS, Fiscal Year 1949, Tab B, p. 3.
45. Summary Annual Report, ASAE, Fiscal Year 1949, p. 24.

At Headquarters, ASA, the Cryptologic Branch spent a great deal of machine time on Russian, Yugoslav, Roumanian, [redacted] Bulgarian, [redacted] and [redacted] systems. [redacted] countries were being intercepted by Vint Hill Farms operators.[46] Work was continued on the attempt to solve the method of [redacted] The programming for the [redacted] occupied a large part of the machine operating time of the Branch. The work was without significant results.

Work however, was not limited to Soviet nets. In a study of [redacted]

[redacted]

Much was done with traffic analysis at Headquarters ASA, in ASA Europe, and at Vint Hill Farms, among other units.

Early in June 1948, a new ASA Intelligence Division report series entitled Russian Traffic Analysis for operational Air items was established to provide a medium for reporting items related to Soviet Air operations as opposed to organizational and order of battle items, which continued to be reported. Ground control interception training and Soviet Military Aircraft flights were included.[48]

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46. Plans and Operations Report, Fiscal Year 1949 (TS) Chapter II.

47. Annual Report, Cryptologic Branch, Fiscal Year 48, p. 7 (TS)

48. Op Reports, 1-15 July 1948.

In ASA Europe, the net of the Hungarian Border Police was reconstructed by traffic analysis.[49]

At Vint Hill Farms upon completion of Direction Finding installations, assignments were made covering the Voice of America jammings by the Russians. A cinderblock hut was constructed for the AN/CRD-2 and a hardstand for the antenna.[50] Good results were obtained with about 30 different bearings reported. Simultaneously bearings were reported on Russian manual radio stations with some limited success. As these stations operate intermittently, [redacted] of Russian radio stations was begun with the installation of the transmitter identification unit and darkroom at Vint Hill.[51]

At Herzo Base, a Direction Finding net was set up with the Control station (Station L) at Herzo, and other units at Pfäffenhofen (Station 2), Rothwestern (Station 3), and Darmstadt (Station 4).[52]

In ASA Europe intelligence activity was greatly expanded and significant improvements over the previous year were made in physical facilities for intercept and analysis of traffic. Locally produced traffic analysis, processed traffic from Hq ASA, and from the London Signal Intelligence Center, and from all other available collateral sources.

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49. Summary Report, ASAE, Fiscal Year 49, p. 45.
50. Summary Report, VHFS, Fiscal Year 49, Tab B, p. 9 (S).
51. Summary Annual Report, VHFS, Fiscal Year 49, p. 3.
52. Annual Report, 6th Det, Fiscal Year 49, (S) p. 17.

During July 1948, traffic analysis personnel arrived at Herso with information regarding traffic types and other technical knowledge to assist in traffic analysis work.[53]

At Helemano in July the Traffic Analysis unit consisted of one officer and six enlisted personnel who aided the intercept operators in identification of monitored circuits, the checking and logging of intercept, and processing of messages before they were routed to the communications center. Records and files were maintained on pertinent identifying characteristics of all TAPER circuits and a daily Traffic Analysis report went to Headquarters, ASA by radio.[54]

The Agency carried on its customary security missions exercising security supervision of American military communications in the various theaters. This activity stood at a higher level than in the previous year.[55]

Communications were monitored. Standing operating procedure for the security mission for the Zone of Interior was for copies of all messages in such circuits to be forwarded to headquarters, ASA, where they were processed for transmission or crypto security violations. Overseas nets were monitored.

Out of 164 radio reports of suspected cryptographic compromises and radio reports of suspected physical compromises 5,909 routine mail reports of cryptosecurity violations, only 15 cryptographic compromises and two physical compromises were declared by Headquarters ASA after study by Methods Branch. An entire system was compromised in four cases, a day's

53. Annual Report, 6th Detachment, Fiscal Year 1949, p. 26.

54. Annual Report, 5th Detachment, Fiscal Year 1949, (S) p. 12

55. Annual Report ASAE Fiscal Year 1949, p. 51.

traffic in nine cases, and indicators were compromised in four others.[56]

In ASA Europe violations totaled 2,359 out of 3,745 messages or 68 per cent. For the second half of Fiscal Year 1949, violations were only 710 out of 2,841 messages, or 25 per cent.[57]

In Fiscal Year 1949 Methods Branch, Headquarters ASA devised a method of scoring crypto-violations. A very serious violation, in which the exact circumstances occurring did not result in compromise, is marked X and COM is used when a compromise was actually declared as a result of the violations. Scoring values for individual violations ran from 5 to 50, for the second occurrence twice the first, and for the third twice the second.[58]

During the year every military and air attache post, every installation in ZI and every installation in the Far East, Pacific and European Commands were inspected by Army Security Agency representatives.[59]

In the Plans and Operations Section, the communicating security effort was directed toward development and improvement of secure, practical cryptographic systems for all means of military communication. Considerable attention was given to the reduction in size and weight of machines and the use of subminiature components. It was desired to reduce multiplicity of equipment items and to make use of "packaged" sub assemblies and printed, circuits. Improvements of this type would serve to reduce the dimensions and

56. Volume II, Annual Report Security Section, Fiscal Year 49, Tab C, Methods Branch, p. 24.

57. Annual Summary Report, ASAE, Fiscal Year 1949, p. 55.

58. Security Section, Fiscal Year 1949, Tab C12.

59. Security Division, Methods Branch, Tab C, p. 23.

weight of equipment and simplify maintenance and operation.[60] Efforts were increased to maintain communication security techniques in advance of possible foreign cryptanalytic capabilities.

The program was directed by a crypto requirements plan based upon established and anticipated requirements of the Army and other governmental agencies for whom ASA had cryptographic responsibilities. It was also necessary that the program be coordinated with and kept abreast of rapid advances in technical knowledge and engineering techniques of communications. This was accomplished by active liaison with other government agencies and commercial concerns engaged in communication developments.[61]

Working panels of the Joint Communications-Electronics Committees members of the Protective Branch and others in the Security Division made a number of contributions to material or improved combined operations. A new authentication system, JSC 100, and JNAL 122 (A), Joint Communications Instructions, Part II Security (a revision), were produced and a system of titles to apply to all Joint Cryptodocuments entitled Joint Cryptographic Aides was given consideration without action. A special weather security and cryptographic subpanel was formed. A special system was provided for use of a numerical cipher in certain joint commands. A change in indicator procedure, overcoming a danger to the system, was developed, and later extended to all types of off line systems using the repeated type indicator. Military characteristics for one time tapes were standardized for interservice use; a procedure for handling possible compromises of joint systems was drawn up, a one-

60. Annual Report, Plans and Operations, Chapter VII

61. Ibid, Chapter VII.

volume directory of holders of joint cryptosystems for bi-monthly publications was prepared. A joint policy was established for a procedure to be followed in a combined communication affecting Joint crypto systems; and a combined plan for recognition signals was written.[62] A proposed AG letter for implementing JCS 35, Joint Electronics Countermeasures Policy was concurred with at a conference called by Scientific Branch on 12 July 1948.[63]

Methods Branch devised an emergency enciphering procedure for military and air attaches and for special security officers who were holders of SIGROD. The use of a key phrase, previously selected by each attache and filed in a triple-sealed envelope with the Agency, was outlined. In the event the normal phrase used throughout the Army is compromised, immediate contact with a particular attache may be established by using the special key phrase.[64] A new cryptosystem, 2215, was prepared by Material Branch for issue to headquarters and regional offices of the Counter Intelligence Corps in the European area.[65] The 7970 Counter Intelligence Corps Group with officers in Frankfurt, Stuttgart, Heidelberg, Munich, Regensburg, Nuremberg, Berlin, Bad Wildungen, and Augsburg were issued SIG ROD and ASAK 2215 key lists to replace a system of insufficient security.[66]

A renumbering of cryptosystems assigned blocks 6500-7399 to the Air Force and 3200-3699 to all other.[67]

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62. Security Division Annual Report, Fiscal Year 1949, pp 1, 2.

63. Plans and Operations, Fiscal Year 1949, Chapter III.

64. Annual Report, Security Division, Volume II, Methods Branch, p. 24

65. Annual Report Security Division Hq, Fiscal Year 1949, Tab B, Material Branch, p. 10.

66. Summary Annual Report ASAK Fiscal Year 1949, p. 52.

67. Summary Annual Report ASAE Fiscal Year 49, p. 55. (TS)

SIGTOT cryptosystems were provided for use between Headquarters US Air Force, Headquarters US Strategic Air Command, and Third Air Division, Marham, England. These SIGTOT systems were issued to Headquarters USAFE, Wiesbaden; EUCOM, Heidelberg; Militache, London; OMGUS, Berlin; Special Security Officer, USFA Berlin; and US Armed Forces Austria-US Forces, Trieste.

The Salzburg Communication Center, the Army Cryptographic Center, and the Department of the Army Conference Room were connected by another SIGTOT system. A label bearing pertinent information was supplied to replace a basic document for the holders.[68]

Cryptonets serviced in ASAE included 15 Army World Wide, 17 Air Force, 40 Joint Army, Navy, Air Force; 49 Military Attache systems. The major cryptonet for which ASA Europe had responsibility was European Command Net 22, which included in addition to Headquarters, EUCOM, US Forces, Austria, Office of Military Government, US, and all major units and military posts in Germany. The number of holders rose from 34 to 44.[69]

ASA Hawaii replaced the Category B SIGCUM, cryptomachine with the Category A ASAM 2-1 in all technical and line joint teletype circuits.[70]

At Headquarters ASA further studies were made on various proposals for ASAM 10, an authenticator being developed for the Army Field Forces. One device, known as RSVP, was accepted and another, the Double Lifesaver

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68. Annual Report Security Division, Tab MB, Material Branch, pp 13-14.

69. ASAE Fiscal Year 1949, p. 52.

70. ASAH, Fiscal Year 1949, p. 78 (S).

authenticator, was returned to the contractor for further engineering development.[71]

The solution Unit in the Cryptologic Branch of Headquarters ASA, made substantial progress in the collation and evaluation of solution studies in the machine cipher field, especially Enigma, [redacted] and [redacted] type devices. [redacted].[72]

Designs of the motions systems of cryptographic devices and security studies of the cryptographic elements were carried forward by the Cryptologic Branch on ASAM 7, an off-line literal cipher device for all echelons of the Army and Air Force, and ASAM 9, an on-off line cipher device for similar use. Study was begun on ASAM 17, a manual, mechanical cipher device for low echelons was begun.[73] Work was also continued on ASAM 11. The work on ASAM 9 was for a 40 pound portable, high security cipher machine for use with teletypewriter to provide secret transmission over wire or radio channels for use by the highest administrative headquarters down to and including the Corps. The Half JODO to provide direct operation between the perforated and the SIGABA, was another project. Work was also carried out on a subminiature cold cathode electronic tube capable of performing functions of electromechanical relays currently used in cipher equipment.

The ASAM 7 was to be a 15 pound off-line machine for use from Division headquarters down to and including battalion. It was keyboard operated and

71. Annual Report of R & D Division, Tab F, Cryptologic Branch, Fiscal Year 49 (TS

72. Ibid, Tab F, Cryptologic Branch.

73. Ibid, Tab F, Cryptologic Branch, Fiscal Year 49, p. 4. (TS)

produced printed tape at normal typing speeds. The ASAM 13 was teletypewriter equipment for automatically enciphering and deciphering a message using a one-time key for multiple points.

Work was also done on the ASAP 3 key generator equipment to produce random perforated five letter key for use as a cipher key. It was designed to produce from 2 to 20 of the clean punched tapes at a minimum rate of 450 characters a minute. The tapes were to be printed at intervals of 250 characters with a serial number, classification, and a vertical set line. Project RIM was a security study of reflect wiring and irregular periods applied to Hebern type enciphering maze with settable tires.[74]

Synchronization, speech recording and reproduction, commutation and code changing methods were objectives of work on ASAY 4, Low echelon Ciphony System. Preliminary designs of most of the component parts were completed and tested and were being assembled in a breadboard model.[75]

General Research, hampered by lack of personnel, considered speech clipping and the use of a narrower bandwidth. This study and the sampling of the intelligibility of speech was carried over from the previous fiscal year. A clipping circuit and a sampling circuit was built in the Ciphony Branch of Research and Development Division at Headquarters ASA. The circuit was intended to indicate the relationships between intelligence clipping and sampling, but limited results were accomplished. Two systems with narrower bandwidth were proposed.

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74. Annual Report D & D, Rab D, pp 4-5. (TS)

75. Annual Report R & D Tab B, Ciphony and Cifax p. 9 (S)

Frequency halving and doubling and fundamental pitch were further subject of research. In connection with a contract on Vocoder research to improve the intelligibility and to search for new Vocoder principles many improvements were sought. Through redesign of circuits and use of standard commercial miniature parts, a model miniature Vocoder was constructed which performed as well as the larger original. Weight as well as size was reduced. Simplification of filter designs for both ciphony and cifax and development of an electric key generator to replace mechanical key generators were other objectives. A breadboard model of the electronic key generator was constructed.[76]

A laboratory model of ASAY 6, a high echelon ciphony system, was put in operation over radio for up to 1,000 miles in length and on a wire line of 1,200 miles, tests being made between Arlington and a mobile station at Fremont, Nebraska. Speech, facsimile, and electrotype transmission were tried out with satisfactory operation.

At the same time these projects were being developed in the Ciphony laboratory, in the Electronics Branch of Research and Development, a comprehensive long range program to develop special tubes for use in electronic equipment was being undertaken with the objective of replacing whole circuits and components by a single tube. The development of acoustic delay line for memory storage was undertaken so that large quantities of data could be stored and compared at electronic speeds.

A general purpose, even-level high speed teletype comparator was also under development, and three fourths completed by the end of the year.

76. Annual Report, R & D, Fiscal Year 1949, Vol II, Tab B, pp 11, 12 (S)

A general purpose electronic digital computer for use on cryptanalytic and cryptographic problems within the Agency was under development. The recorder was under test in the Electronic Branch at the end of the period.

In addition several research problems were being carried on there regarding double transposition, rotary writing, and highspeed electronic sorting.

Need for more work to solve the cross plugging problem was revealed when a special piece of equipment was put under development to solve the [redacted] problem. Good progress, however, was made on the digital computer, the tape comparator, other phases of the [redacted] tube development, and the application of mercury delay lines to cryptology.[77]

Double outsert rotors, containing thin disks providing random wiring were found to create no new reconstruction problems in use and to result in greatly increased security as a result of tests by Methods Branch, GSCCAS-84.[78]

[redacted]

77. Historical Report, R & D, Tab G, Electronic Branch, pp 7-8. (p. 13-14 Report Security Board, FY 49, TS)

78. Annual Report, Security Division, FY 49, p. 14 (TS).

In the course of the year, Methods Branch worked over 10,000 groups from the [redacted] and broke it down in a test of its security.[79]

A new research unit performed work on letter frequency data completing studies of 12 languages. Time was also devoted to Inverse Probabilities of Digraphs.[80]

In the fiscal year the Patent Section of Research and Development Division obtained the issue of four patents to ASA Personnel, took an appeal from a patent office action, and executed more than a hundred matters such as responses to Patent office actions, recommendations regarding the inclusion of Armed Forces Procurement patent clauses in contracts, and matters regarding disclosures of inventions and the consideration of applications for patents.

In the contest of priority of the inventions of Lynn W. Marsh of ASA and Arthur H. Dickson of International Business Machine Company, the parties agreed to settle on the basis of cross license without formal settlement or litigation. Certain Hagelin contracts regarding the M-209 converter were reviewed. A report was made on the Hebern patent infringement allegations.[81]

A Russian Place Name Project was started and had reached 45,750 place names.[82] During this year the ASA Museum was rehabilitated.[83]

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79. Annual Report Security Division, FY 49, pp 13-14. (TS)

80. R & D, Col II, FY 49, p. 8.

81. Plans and Training, Report, FY 49, p. 43 (TS)

82. R & D FY 49, Col II, Tab A (S)

83. Annual Report Operations, Operations Division, 1-15 June 1949.

Progress was also made in Fiscal Year 1949 in equipment and devices for the reception, recording and relay, and transmission of traffic. The main technical effort of the Intercept Equipment Branch of Research and Development was devoted to projects concerned with the design and development of terminal equipment for the purpose of demultiplexing and printing time-multiplexed radio printer signals.

A secondary effort was directed toward the design and development of precision recording equipment, antenna multicouplers, and other miscellaneous projects.[84] A corner reflector antenna for use in frequency range 6 to 20 megacycles was constructed at Arlington Hall Station and was useful in intercepting signals for testing demultiplexing equipment.[85] In connection with a 2-channel, all electronic demultiplexer, ASAN 6, progress was made in the plotting of small plug-in units. Extensive investigations and experimentation with thermosetting casting resins resulted in a process which produced plug-in units satisfactory in the temperature range from 55 degrees below zero centigrade to 85 below, which were free from cracks and crazes. Two commercial contracts in magnetic recorder reproducers were continued during Fiscal Year 1949. One recorder was being developed for fixed station operational use and the other for fixed station and research laboratory analysis purposes.[86]

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84. Annual Report R & D, Fiscal Year 49, pp 7, 8.

85. Annual Report R & D, Fiscal Year 49, Tab C, p. 10 (8).

86. Annual Report R & D, Fiscal Year 49, Tab C, p. 9. (8).

At Vint Hill Farms Station it was believed that modern radio communications equipment and techniques had advanced to the point where the installed equipment then at the station had become considerably outmoded and much new equipment was provided.[87] Two diversity high frequency oscillators for use with diversity receiving equipment were built by Radio Maintenance there. This type equipment, peculiar to ASA, was not available through normal supply channels. Better stability of operations, greater power output, and a higher degree of ruggedness was achieved.[88] An electric model of the electronic three channel simplex terminal equipment was installed and later removed to Arlington Hall Station. After a few minor adjustments, it was anticipated that the model would be released to the manufacturer.[89] A Hetrofill audio filter, designed and built by Radio Maintenance to minimise interference, was successfully tested and put into service. A TWIN TRAX tape recorder was tested for high fidelity recording of baudot type signals with unmonitored signals, played back to the terminals during idle time.[90] Twin electronic golf balls filled an urgent need for monitoring Russian combination type transmissions.[91]

At Herso Base it was found that German multicouplers and terminating resistors did not stand up to prolonged hard use and efforts were made to replace them with American models. The base used German Alternating current

87. Annual Report VHFS, Fiscal Year 49, Tab B, p. 11 (S).

88. Ibid, Tab B, p. 10 (S).

89. Ibid, Tab B, p. 8.

90. Ibid.

91. Ibid, Tab B, p. 9.

of cycles and the Americans used 60, requiring adjustments. There were some German tools and test sets used, necessitating either translation of terms or rapid learning of the German by the American repairmen. Personnel who could not say "Good Morning" in German were found to be perfectly familiar with difficult technical terms.[92]

In the meantime at the Intercept Equipment Branch at Headquarters, progress was being made in the development of twelve service test models of an all electoric equipment for processing and printing Russian TAPER three-channel page printer signals. Four of these units were constructed by the Research and Development Training Laboratory and a contract was negotiated with the National Electrical Machine Shops to develop the remaining eight.[93]

Additional equipment was planned for fixed stations, especially Rock terminals, and demultiplex equipment. Plans and Operations Division at Headquarters, ASA had extensive plans for ASA Pacific including three 2-channel Rock Terminals, three 2-6-9 channel Rocks, six 42-channel Electronic Demultiplex Equipment, and two reperforators, Model 14 for modification in connection with ST 35 TAPER code. Two gold ball equipments for separating double frequency shift transmissions were also planned for ASA Pacific.[94]

The first phase of Grapple II, an all electronic non-Morse equipment for processing double current cable code was completed with the delivery of two completed units for service test and operational use. There were indications of improvements over the original Grapple equipment.

92. Summary Annual Report ASAE, Fiscal Year 49, pp 42,43. (TS).

93. Annual Report R & D Vol II, Fiscal Year 49, Tab C, p. 9. (S)

94. Annual Report Plans and Operations, Fiscal Year 49, Chapter 2 (TS).

Since frequency shift signals had proved superior to older forms of transmission and were being adopted to a greater extent by communication lines carrying intelligence of importance to the Agency, work was performed on ASAM 5, equipment designed for intercepting and separating double frequency carrying shift signals. Ten of these terminals for signal receiver operation and two for three major phases for diversity receiver operation were completed during the year. The first ten were turned over for service testing. The drift in super pro receivers makes the single receiver somewhat difficult to use, but it was believed that the diversity combining units would eliminate that difficulty.[95]

A supply committee of the Research and Development Division continued a project for standardizing component parts such as resistors and condensors, consolidating requests for supplies.[96]

In the Electron Mechanical Branch of the Research and Development Division, technical progress was characterized by refinements and establishment of more precise standards of performance. The problem was of paramount importance because many devices under development presented major departures from conventional enciphering mechanisms. This coupled with more stringent performance and environmental requirements necessitated extensive and long testing at extreme temperatures, under shock, vibration, high humidity, and similar environments to insure that equipment being procured would be capable of manufacture without extensive modifications because of unforeseen wear or field conditions.

95. R & D Report, Fiscal Year 49, Tab C, pp 7, 8. (S)

96. R & D Report, Vol II, Fiscal Year 49, p. 6.

Typical of this work was the research conducted on operating cases. They had to be immersion proof, proof against salt spray, and capable of standing the shock of a parachute drop or abuse of low echelon field usage. Deep drawn magnesium, laminated fiber glass, dimpled stainless steel, laminated wood-metal, and many other materials were used for a light rugged material capable of protecting the equipment for 15 foot drops.[97]

A minor development was that during the year a tool design subsection in the Machine and Design Drafting Section of the Laboratory Service Branch of the Research and Development Division was established and various dies, fixtures, special tools, and devices were made for any part were interchangeability was important and the volume justified the expenditure. Electro plating and Heat treating equipment was installed during the year and made progress in the plating of non-metallic polystyrbe, and similar plastics.[98]

During the year plans were made for the use of three panel truck equipment for mobile intercept and direction finding in ASA Europe. The trucks were obtained and preliminary planning was completed by that headquarters.[99]

A survey of the records of the various units reveals a number of significant developments from month to month.

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97. Annual Report R & D, Fiscal Year 49, Tab D, p. 4. (25)

98. Annual Report, Tab E, Laboratory Research Branch, p. 7.

99. Annual Report, ASAR, Fiscal Year 49, p. 47.

In July 1948, the beginning of the fiscal year, attention of Headquarters ASA was turned to the Far East Command where action was being taken about the change of station by three units. The 111th Signal Service Company moved from Seoul, Korea to Okinawa and construction at Clark Stotsenberg, Republic of the Philippines, in preparation for the removal there of the 9th Detachment from Las Pinas was approved. on 23 July and part of the 126th went to Japan.

On 9 July, General Orders No 18, General Headquarters, Far East Command established the Ryuykus Command and the Philippine Command to cover the area of the Philippines-Ryukyus Command. The two ASA units affected, the 9th Detachment at Las Pinas, and the operations Platoon of the 126th Signal Service Company in Okinawa, were relieved from assignment to the Philippine Ryukyus Command and assigned to the new commands respectively.[100]

At the time the 111th in Korea was assigned to headquarters, ASA Pacific, and attached to Headquarters, XXIV Corps and further attached to the 76th Signal Battalion in Korea. On 15 July the company was relieved from these commands and attached to Headquarters of the Ryukus Command with Station in Okinawa. The First Operating Platoon of the 126th, less personnel and equipment, was tranferred to Kyoto, officers, men and equipment were soon transferred to the 111th.

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100. Summary Report, ASA PAC, Fiscal Year 49 (TS) p. 2.

Likewise on 15 July the personnel of the 111th, less 8 enlisted men departed Korea by air, arriving at Kadena Air Force Base the same day and were quartered with personnel of the First Operating Platoon, 126th Signal Service Company. Morale, at a low ebb in Korea rose noticeably. On 20 July the eight enlisted men arrived at Naha Post harbor with the organizational equipment for which they acted as guards. They were conveyed from Korea by an LST.[101] After this date the company began messing with the 8104th Service Detachment, an arrangement which continued until 2 December.

Transfer of the First Operating Platoon, less personnel and equipment to Kyoto and transfer of officers and men to the 111th occurred on 21 July.[102] Shortly after arrival in Okinawa, the 111th was designated a major subordinate command and authorized to draw directly from various depots. The operation of US Monitoring Station 36 was taken over by the 111th on 23 July. Operations were carried out at the Shimabuku Site, used jointly with the First Air Division and The Radio Corporation of America. The transmitter building was located in a 10-foot section of the BOQ in the company area. Two rhombic antenna and two sloping vee antennae were used for reception. Transmitting antennae consisted of a 72-foot quonset hut raised on a 6-foot concrete foundation and divided into three sections: code and telatype, receiving, and maintenance. Facilities included one trick chief's position and 60 double manual

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101. Annual Report, 111th Fiscal Year 49, p. 1. (TS).

102. Ibid, p. 2. (TS).

intercept positions.[103] An increase of ten positions was possible. They changed from the old-type straight rack to desk positions.[104]

Units in ASA Pacific encountered their share of communication problems during the year. In July the First Radio Squadron Mobile at Johnson Air Force Base, Irumagawa, Honshu, Japan, had one sloping V antenna out of service due to a break in the transmission line, which was a straight, short run from the nearest antenna to the terminal rack. The pull of the weights and the heating effect of the Sun caused the wires to stretch and snap. The line was restrung with No 12 copperweld wire.

Elsewhere in ASA Pacific, teletype lines were inoperative at times due to continued power failure and to cable failure. Administrative traffic was handled by radio and operational traffic by couriers whenever such emergency measures were necessary.[105]

In July a comparative report regarding the volume of cryptographic violations was prepared in Headquarters, ASA, Pacific and forwarded to Headquarters, Eighth Army at their request. In spite of careful instructions and painstaking inspections as a result of this report, security violations continued. Improper use of operating signals, excessive operator chatter, use of operators names in transmission, association of units with call signs in the clear, frequencies given in the clear, and errors regarding indicators were some of the common violations.[106]

103. Annual Report, 111th, Fiscal Year 49, p. 4. ~~(TS)~~

104. Annual Report, 111th, Fiscal Year 49 (S).

105. Summary Annual Report, ASAPAC, Fiscal Year 49, p. 21 (TS)

106. Summary Annual Report, ASAPAC, Fiscal Year 49 p. 5, 6 (TS)

In the Fiscal Year 1949, Headquarters, ASA Pacific was located at the First Tokyo Arsenal and was under the command of Lt Col Russel H. Horton. The broad mission of ASAPAC remained unchanged. Low and high frequency radio direction finding service for Japan, which had been requested by General MacArthur at the end of the previous year became a reality in July. The direction finding net was set up by the 126th at Kyoto, the 111th, on Okinawa, and the 1st Squadron Mobile at Irugawa. A blanket request was made on all stations for identity of TAPER characteristics with special emphasis on Russian nets in North Korea and vicinity.[107]

Japanese national who had been employed in various capacities by Japanese, Russian, and Chinese government were interviewed and much information obtained. Two manuals received from the Intelligence Division of FECOM in July were purportedly used by a Japanese radio operater who had been working for the Russian government prior to repatriation.[108]

Some processing was performed at Headquarters, ASA Pacific, to supply intelligence for use in the Far East Command. All intercept traffic was relayed to Headquarters, ASA.

ASA, Pacific exercised administrative control only over the 9th Detachment in the Philippines. Operational Control was held by the Chief, ASA and Traffic intercepted was forwarded directly from the Philippines to him.[109]

107. Summary Annual Report, ASAPAC, Fiscal Year 49, p. 21 (TS)

108. Summary Annual Report, ASAPAC, Fiscal Year 49, (TS) p. 7 and 8.

109. Annual Report, Plans and Operations, Fiscal Year 49 (TS), Chapter II.

In July ASAPAC personnel in Tokyo completed the familiarisation and qualification course with the carbine. First three graders trained with the 45 caliber pistol as well. Four hours a week were devoted to drill, military courtesy and applied subjects.[110]

In ASA Europe, a new antenna field was practically completed at Herso Base in July. A considerable volume of supply for the field continued to arrive.[111]

A project for construction of a new double fence at Herso with 13 guard towers and special telephones was well along in July. The Security fence around Operations was completed and four guard towers were constructed but not yet manned in July. The major guard needs were met by Police guards furnished by the 4086th Labor Service Company. They manned posts at the gate, antenna field, motor pool, and in other areas.[112]

At Herso Base receiving conditions throughout the year were fairly good. Few fadeouts were encountered and these were of short duration.[113] For International Commercial Radio, 32 racks were mounted as closely together as possible, 8 with long range (Navy type) receivers, one with a super pro, one with a BC-1016 Tape recorder; 21 racks had only the super pro receiver and the BC-1016 recorder. Two of the racks were 2 superpro diversity set ups, both inoperative. The section had two patch panels

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110. Annual Report, Plans and Operations, FY 49 (TS) p. 13.

111. Summary Annual Report, ASA Europe, FY 49, p. 25 (TS)

112. Summary Annual Report ASAE, FY 49, p. 19 (TS)

113. Annual Report, 6th Detachment, FY 49 (S), p. 26.

which made it possible to couple the output of any receiver to the input of an BC 1016 recorder. Two model 19 Teletypewriters were fitted with tape bridges and used to transcribe BC 1016 tape, making a perforated teletype tape for forwarding to the Signal Center and a simultaneous page copy for filing, the procedure for coded government traffic. Plain text was transcribed on a continuous roll and forwarded by mail.[114]

Two super pro receivers mounted one above the other in racks was used for Taper manual at Herso. The installation of a patch type antenna selector switch at the trick chief's console made available to the trick chief a total of ten antennas, making it possible for the trick chief to pick out almost immediately the proper antenna for any signal and have it patched in by the RF room. Much better signals and consequently better results were obtained by the use of this system. There were from six to twelve operators for each trick working manual.[115]

Manual search, manned by high caliber operators with at least six months experience with manual, was utilized for the development of various circuits. An undeveloped assignment was usually provided. Due to personnel shortage, one man per trick was all assigned for the search missions, previously three or four man were so assigned. Most of the personnel volunteered for the duty.[116]

Most replacements at Herso were operational personnel already trained in their specialties, and very few basic soldiers for overhead duties, resulting in the filling of overhead positions by valuable operative

114. Annual Report, 6th Det, FY 49 (S), p. 28.

115. Ibid, (S) p. 25.

116. Annual Report, 6th Det, FY 49 (S), p. 25.

personnel so that a trained and experienced radio operator was last to operations to provide a First Sergeant. New operators were assigned for a week or two to cover a case assigned to an experienced operator and results were compared with the faults of the newcomer corrected as they appeared. The trick chief personally supervised each new man in this on the job training.[117]

Other units of ASA Europe were likewise carrying out their routine missions in July. ASA Europe was assigned to the European Command, US Army for the purpose of furnishing Signal Intelligence and to represent the Chief, ASA in all matters concerning Signal Intelligence, and Signal Security.[118] Among the subordinate units, Rothwestern had progressed from nothing to a unit intercepting traffic for 72 voice circuits and 38 C/W nets in the interval from the middle of May to the middle of July.[119] Field units in ASAE were fairly well prepared and ready to undertake field operations.[120]

At the beginning of Fiscal Year 1949 the theater of third interest was Alaska where ASA Liaison Detachment Alaska was established in July and attached to Headquarters, Alaskan Command, with station at Fort Richardson, eventually to evolve into a theater headquarters. The new

117. Annual Report, 6th Det FY 49 (87) p. 23.

118. Annual Report, Plans and Operations, FY 49 (39), Chapter II.

119. Summary Annual Report, ASAE FY 49, (25), p.45

120. Annual Report, Plans and Operations, FY 49, Chapter III.

unit was given as its function to assist in any advisory capacity the Commanding Officer, Alaskan Command and his Director Intelligence in Signal Intelligence and Communication Security matters as to exercise operational control over such ASA units and facilities as might be allocated to meet the operational requirements of the command.[121]

The other unit in Alaska, Field Station 8607, lay four and a half miles west of Fairbanks in a triangular cleared area about a mile east and west, and a mile and a quarter in the other direction. Beyond was brush country. The Cema River ran through a forested area a mile or so to the south, and north of the station were huge clearings and low, timber-covered hills.[122] There were 19 personnel at this station in July,[123] carrying on their mission with success. Early in the fiscal year, they encountered interference from a local radio station and also from their own maintenance shop since one power unit supplied the whole station. A project was developed and approved in August by the Ladd Air Force Base to move an old operations building to the present site, adding approximately 700 feet for floor space of maintenance and some other units, allowing space in the original building for a supply room. A power line for receiving equipment only, removed the interference from the shop. Certain electro mechanical sources of interference were also removed.[124]

121. Annual Report Plans and Operations, Chapter II. (S)

122. Annual Report, Field Station 8607, FY 49 (S), Tab 4.

123. Ibid, p. 2.

124. Annual Report, Field Station 8607, FY 49 (S), p. 8

Far south of Alaska at Fort Shafter, ASA Hawaii, increased to a Class II activity about five months before the beginning of the fiscal year, was continuing to expand. In July 1948, with the arrival of additional personnel an Operations Branch was established there.[125]

The new operations branch had four sections, Cryptographic Production, Distribution, and Accounting Section, Communications Security Section, Security Monitoring and Analysis Section, and Maintenance. In addition to the Operations Branch there was a headquarters branch with a headquarters section, a supply section, and a communication and message center section.

The most important section in the Operations Branch was Cryptographic Production, providing graphic and clerical work on production of codes and ciphers for local use in one unit and including a Receiving and Storage Unit, a Distributing Unit, and an Accounting Unit.[126]

Following a study requested by US Army, Pacific, ASA Hawaii provided classified communication facilities for all ships other than local small harbor craft of the 55th Medium Port for use while on sea duty away from Oahu. A SOI cryptosystem using converter M-209 with special instructions was prepared for them. A dozen vessels consisting of freight ships, and light transports, and LST's, were included.[127]

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125. Summary Annual Report, ASA Hawaii (S) pp 3. 4.

126. Summary Annual Report ASA Hawaii, Fiscal Year 49, Feb51. (S)

127. Summary Annual Report, ASA Hawaii, Fiscal Year 49, p. 58 (S)

In Hawaii, the 5th Detachment at Helemano was monitoring manual Taper targets sixteen hours a day with continuous search missions during the other eight hours. Chinese [redacted] were monitored using high speed automatically keyed Morse transmissions. Morse unit operators increased in number from nineteen to twenty-six. There were two men on each of four rotating non Morse tricks covering 24 hours a day. At the beginning of the year the equipment available to the non Morse unit for accomplishing its Taper two channel and Simplex mission, included five triple diversity type receivers, two double receiving positions, a dual Presto-Recorder, a Pebble Machine, two typing reperforators with cyrillic pallets, a Model 15 teletype machine used for simplex in conjunction with a frequency shift converter and one facsimile recorder AS-3.[128]

Traffic analysis was carried on from 1731 to 1000 hours, five days a week.[129]

In Asmara, Eritrea, the 4th Detachment was carrying out its mission of intercept with a station complement of 5 officers, 1 Warrant Officer, and 68 enlisted men.[130]

Back in the Zone of Interior, Intercept activity at Two Rock Ranch Station was closing down at fifteen hours daily because of personnel shortage.[131] Vint Hill Farms Station was making considerable use of

128. Annual Report Field Station 8605, Fiscal Year 49 (S), p. 10.

129. Ibid, p. 12 (S).

130. Annual Report 4th Det, 2d Sig, p. 1.

131. Operations Report, 15-31 July 49 (TS)

sound recording apparatus in July.

Two Ediphone recording units were installed and immediate good results obtained.[132] The 3d Signal Service Platoon was kept in readiness at Vint Hill Farms for mobile operations. In July a cadre of the Platoon served with the ROTC summer camp at Fort Meade.[133]

The ASA School was still at Vint Hill Farms Station. Here Major Alex R. Helms was replaced by Lt Colonel Burnis M. Kelly as commandant of the school.[134]

Intercept material was just beginning to be received from the 60th Signal Service Company at Ft Lewis, Washington; there were prospects of monitoring Russian military and air links.[135]

Focal center for all this activity by ASA organizations world wide was the Operations Division in Headquarters, ASA, to which intercept from the various detachments was sent for processing in the Intercept Control Branch. In the first half of July the Plaintext Unit of this Branch scanned 64,438 messages, extracted 6,268 messages, and processed 1,241 messages for IBM treatment.[136] By 25 July overtime was needed in the Branch to clear a backlog of traffic from all sources.[137]

A study of 250 Chinese Communist messages in early July showed discrimination and indicator characteristics similar to those found in

132. Annual Report Plans and Operations, Fiscal Year 49 (TS), Chapter 2. (Np)

133. Operations and Plan Division Report, Fiscal Year 49 (TS) Chapter II. (Np)

134. ASA School Fiscal Year 49 (S) B. 3.

135. Semi Monthly Report, Operations Division, 16 Aug 48.

136. Operations Report, Semi Annual, 1-15 July 48 (TS).

137. Ibid.

[redacted] 1946 and 1947 traffic. A find of some importance. Later in July some apparent similarities between Chinese Communist traffic and certain Russian systems were noted.[138]

There was considerable interest in Operations Divisions [redacted] A total of 925 groups in the Code [redacted] had been identified by July. The best key pages were punched on tape and the tapes used for deciphering. Toward the end of July the [redacted] code were applied to [redacted] A complete new set of wiring with six cipher wheels was recovered for the new machine writing [redacted]

The Operations Division was interested in new equipment. In early July a modified Converter M-228 (SIGCUM) was tested on a teletype circuit between ASA and the First Detachment with a minimum of equipment trouble.[140] The First Detachment also received one Rock intercept unit on 9 July which was placed in immediate operation. A shipment of Rockex tapes for use in communication with the London Signal Intelligence Center consisted of 180 reels out of OUT tapes and 364 reels of IN tapes - an estimated supply for five months.[141]

In July Colonel Harold G. Hayes, Chief, ASA, visited ASA Europe and concurred in a decision to reorganize Herzo Base.[142]

138. Semi Monthly Operations Report 15-31 July 48.
139. Semi Monthly Report Operations Division, 1-15 July 48. (TS)
140. Ibid 16 June 48 (TS).
141. Ibid 1-15 July (TS).
142. Summary Annual Report ASAE, FY 49.

In August a special mission was set up to cover [redacted] For this purpose the [redacted] were monitored with varying degrees of success.[143] A special emphasis was placed on interception of traffic from the [redacted] regarding [redacted] Reception of the [redacted] was fairly good and the general coverage was good. A decrease in traffic for the [redacted] was noted[145] at Vint Hill Farms Station. In this connection some difficulty was noted at Vint Hill Farms Station with the Rock Terminal #20.[146]

Prior to 16 August the first Russian Order of Battle processed by card operated typewriter methods was completed. A [redacted] machine was being used to [redacted][147]

One position at Vint Hill Farms Station was assigned to search and development of [redacted] links. The maximum number of messages intercepted on Taper links by Helemano during any month was 3,102 messages in August, as compared to a previous of 2,211. (April 1948)[148] In August the first Detachment, Vint Hill Farms Station had a special mission observing International Commercial Radio non Morse links, Asmara was

143. Annual Report, Plans and Operations Fiscal Year 49, Chapter 2 (TS)
144. Semi monthly Report Operations Div, 1-15 August 1948 (TS)
145. Annual Report Vint Hill Farms Station Fiscal Year 49, Tab B, p. 2 (S)
146. Annual Report Plans and Operations, Fiscal Year 49, Chapter 2 (TS)
147. Semi-monthly report 1-15 August 1948 Operations Div. (TS)
148. Annual Report, 5th Detachment Fiscal Year 49, p. 9. (S)

watching all Moscow transmitters for the new use of [redacted] This was in addition to the Morse on the high priority links regularly assigned there. International Commercial Radio printer equipment was ready on 16 August for operations at Vint Hill Farms, Two Rock, Asmara, Helemano, Herzo and Clark Stotsenberg.[149]

In August a project for low echelon, Airborne Cifax equipment for point to point and air to air and air to ground transmission over wire or radio circuits and Cifax adapters were reviewed and started. ASAX 3, the Cifax system device was communication security equipment for the transmission of black and white graphic material and printed copy. It was to weigh about 35 pounds and occupy 3 cubic feet. It was designed to provide crypto security for six months. It was for operation with facsimile equipment AN/AXC. The adapter was equipment to process a standard Signal Corps facsimile signal for transmission over ASAY 2, 3 equipment. Normal transmission and optimum definition was to be obtained.

Disruption caused by atmospheric conditions or radio teletype communications between Frankfurt and Washington backlogged messages from 9 August through the middle of the month.[150] Late in August a fade-in signal 1200-1600 was caused by echo. Using the antenna 180 degrees out of phases produced fair results.[151]

By 18 April 1948, the [redacted] used from some time in 1947 through April 1948, had been completely recovered.[152] A [redacted] An IBM procedure located isomorphic pairs on this stecker.

149. Semi monthly Report Operations Division, 1-16 August 1949 (TS)
150. Semi monthly Operations Report 1-16 August 1949 (TS)
151. Semi Monthly ReportPlans and Operations Fiscal Year 49, Chapter 2,
152. Semi Monthly Report Operations Div., 1-16 August 49 (TS).

[redacted]

sages on European [redacted] links. [redacted] ceased, and there were [redacted] The volume of plain text was not decreased.[153]

In August a reorganisation of Herso Base worked out during the visit of Colonel Hayes to ASA Europe. Responsibilities of the Commanding Officer, Herso Base included the command of all ASA Europe units stationed at the base and supervision of all base wide activities, administrative and operational. Base orders were authorised for assignment and transfer of personnel.[154] Operational Control, formerly directly under Chief, ASA, was then exercised through Chief ASA, Europe. Additional operational facilities were made available through the coordination of the Base Technical Operations Officer.[155] In August, the 52d Signal Detachment was attached for rations and administration to the 6th Detachment at Herso and remained attached for the rest of the fiscal year.[156]

In late August, 22 ASAM 5 machines were shipped to ASA Europe to replace CSP 1700 machines held by military attaches in the European area. Several of the SCP machines had been in use for three years.[157]

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153. Semi Monthly Report Operations Div., 1-16 September 1948 ~~(TS)~~.

154. Summary Annual Report, ASAE, Fiscal Year 49, p. 3. Also Ltr, Chief, ASAE to CO, Herso Base, 31 August 1948. ~~(TS)~~

155. Semi Annual Report, 6th Detachment, Fiscal Year 49 ~~(S)~~, p. 15.

156. Summary Annual Report, ASAE, Fiscal Year 49 ~~(TS)~~ p. 6.

157. Material Branch, Security Division, TAB B, p. 6 ~~(TS)~~ p. 6.

Another reorganization in the Agency in August occurred back in Headquarters, ASA where Supply Branch, CSGAS-62 reorganized from a triangular organization with an accounting section, a Requisition Section, and Storage and Issue Section.c Effective 8 August 1948 a new set up with an Administrative Section, a Quartermaster Section, and a Signal Supply Section, was formed. The former arrangement was scrapped because all classes of supply had to be handled by virtually all the personnel in the Branch. The new arrangement avoided this consequence.

The Administrative Section reviewed the application of directives from mail sources, and carried out the administrative details of supply. The Quartermaster Section, consisting of a section chief, a warehouse foreman, a master mechanic, and a supporting component of supply clerks, storekeepers, laborers, and a carpenter. These personnel could procure, receive, store, handle stock control, inventory, and account for quartermaster equipment and supply and handle small amounts of Chemical, Engineer, Medical and Ordnance items.

The Signal Supply Section similarly handled signal equipment.[158]

In Fiscal Year 1949 technical services were obtainable by requisition from Army depots and items requiring local procurement were obtained by purchase requests to Purchase Section, Field Office, of Signal Corps or to the Procurement Supply Division of the Office of the Secretary, Department of the Army. Items peculiar to ASA were obtained by purchase requests to the local purchase section of the Signal Corps and processed locally or forwarded to the Philadelphia Signal Corps Procurement Agency for supply action.[159]

158. Annual Report, Supply Branch, p. 5.

159. Annual Report, Supply Branch, Fiscal Year 49, pp 6, 7.

The requisition of Quartermaster supplies was expedited in July when the responsibility for the supply of stations in Virginia was transferred from a Columbus, Ohio, General Distribution Depot to the Richmond Virginia General Depot.[160]

A total of 29,214 line items or an increase of 26 per cent over 1948, were submitted to Supply Branch by using organizations. A total of 9,826 lines of requisitions, a 25 per cent increase, were processed. Purchase requests amounted to 10,201 line items. Approximately 10,000 pounds of supplies were shipped or received by the Branch during the year.[161]

While these developments were all on a peace-time basis, serious thought was being given in August to plans to be put into effect in the event of an emergency. For in that month Eighth Army made an informal request for 8 radio intelligence companies for use in their emergency plan.[162] The Chief ASA Pacific directed an inquiry to Chief, ASA, regarding the types of field units planned in the event of an emergency. All ASA personnel in the Far East were made available to support the Eighth Army and the theater, and all ASA field units, World Wide, were contacted to insure that equipment and personnel were held in maximum practicable readiness for transition to mobile operations. The Chief of ASA Pacific stated that no mobile field exercises could be held until sufficient personnel were available. He felt that due to terrain

160. Annual Report, Supply Branch, Fiscal Year 49, pp 8Q.

161. Ibid, p. 9.

162. Annual Report Plans and Operations, Fiscal Year 49, Chapter II.

in Japan, air lift movement was more practical then motor transport. The units remained in semi fixed station.

Plans and Operations at Headquarters ASA prepared a reply to the request from ASA Pacific regarding the types of field units planned outlining the organizations of the various ASA Field Units envisaged for Corps, Army, Army Corp, and theater support. Communications Intelligence, Communications Security, and Liaison units were included. The reply was forwarded on 2 September.

In the meantime Plans and Operations were working on a preparedness plan for selected units of the General Reserve. It was the BLACKSTRAP Operations, formerly WORKDAY AND MOHAWK, which dated back to 1947. The 53d Signal Service Company, still the 3d Signal Service Platoon, was included in the plan.

D/A letter, 2 August 1948 prescribed in detail the advance preparation to be accomplished by Technical Services in order that the plan would be in readiness for immediate implementation should an emergency arise. Action to be taken in preparing for overseas shipment and for shipment to depots was indicated.[163]

In August over at Kyoto, Japan, the 126th was awaiting new equipment and personnel after departure from Okinawa. It still consisted of only one man.[164] With the receipt of D/F SCR 503, Direction finding operations were resumed.[165]

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163. Annual Report Plans and Operations Div, Fiscal Year 49, Chapter III (TS).

164. Annual Report, 126th, p. 1. (S)

165. Ibid, p. 28 (S).

A small change occurred at Headquarters, ASA Pacific in Tokyo. The storage and issue unit of the Material Section, Security Branch was moved into the Security Building in the interest of greater security and efficiency.[166]

In September progress was made in Operations at Headquarters ASA and a number of changes were made in the field. In the Operations Division in the first half of September, the cryptanalytic effort was concentrated on [redacted] used mainly between [redacted] This followed solution of [redacted] A break-in was made in the [redacted] messages, which had been sent earlier in the year. One set of pluggings for each motion period was recovered. The [redacted] system designated [redacted] was found to be a additive encipherment of the [redacted].

Later in the month Code recovery began on the major [redacted]. A break-in was made in three new motion periods: All of the 732 messages in the periods could then be deciphered. During an SIGD Project discussion with IBM Engineers at Endicott, New York, it was estimated that a model capable of handling the [redacted] system would be completed by the end of December. A total of 275 tapes were run in the [redacted]. A recent addition to the procedure has permitted progress to be made.

Using IBM [redacted] messages of the 1945-1946 period on the [redacted]

[redacted]

Test unit scanned 84,171 messages during the period.[167]

In September, information was received that the Signal Corps advisor to the Korean constabulary was endeavoring to provide advice and assistance in the preparation of codes and ciphers similar to those currently in use in the United States. An officer dispatched to Seoul, Korea, contacted him and informed him that he was not to discuss any detail of the cryptographic systems of the US Army with the Korean constabulary.[168]

Complete replacement of the key generator, replacement of the multiplexing and demultiplexing relays with electronic circuits, and modification of the control panel for ASAY 2, 3 (SIGRIT) were approved in September.[169]

Units in ASA Europe were busy with intercept in October. Herzo Base was assigned the block cover of Polish Police Net.[170] The 114th Signal Service Company went into the field on October and monitored several Russian nets from nine intercept positions.[171] When it returned it was assigned 12 operating positions,[172] covering air traffic in Germany and in some cases w[redacted] series covering Soviet military traffic. This target

167. Semi Monthly Report, Operations, 1-15 and 16-30 Sept 1948 (TS)

168. Summary Annual Report, ASAPAC, Fiscal Year 49, p. 19.

169. Notes on Project No 29-22-007, Historical Office G2.

170. Semi Monthly Report, Operations Div, 16-30 Oct 49 (TS).

171. Summary Annual Report ASAE, Fiscal Year 49, p. 18.

172. Ibid, p. 35.

had top priority until January.[173] After a stay in the field, intercepting several Russian and Yugoslav[174] nets, the 116th monitored [redacted] nets. In ASAPAC a voice radio D/F net was instituted with other ASA units of the Theater. By this net, requests and reports could be received immediately and transmitted to ASA Pacific by use of a one time pad system.[175]

In operations at Headquarters, ASA, in October use of 38 M-209 systems was decided upon as an interim solution for combined lateral communications between elements of American, British, and French troops.[176]

Progress was made in cryptanalysis. [redacted] problem was continuing. A total of 9 of 98 messages were translated. In the rest approximately 35 per cent were readable.[177]

[redacted]

173. Summary Annual Report ASAE, Fiscal Year 49, p. 36.

174. Ibid, p. 18.

175. Annual Report, 111th Signal Service Company, Fiscal Year 49, p. 6.

176. Annual Report, Plans and Operations, Fiscal Year 49, Chapter II.

177. Semi Monthly Report, Op Div, 16-30 October 49. ~~(TS)~~

178. Ibid.

179. Ibid.

being overlapped. Work with [redacted] continued. Emphasis was placed in the reconstruction of [redacted]

[redacted]

Hawaii, and five RCA, DR-89 diversity receivers rehabilitated for use with the Rocks. There were only enough Model 14 typing perforators at this time to equip three of the Rock terminals for 2-channel operation in addition to the PEBBLE Machine. Also installed at this time were five additional Model 15 teletype machines which were converted with cyrillic pallets and used in conjunction with modified Waters Connolly BC-1016 Tape Recorders for TAPER implex operations.

This additional non-Morse equipment made possible nearly complete coverage of the entire non-Morse assignment. When the PEBBLE and all ROCK terminals were operating simultaneously, the Presto-recorder was used frequently to record 2-channel transmissions and the recordings transcribed the following day when eleven of the terminal equipment was not in operation.

Experiments were conducted on six and nine channel signals with the Rock equipment at various times when the equipment was not required for two channel assignment and the information thus obtained filed for future reference.

180. Semi Monthly Report, Operations Division, 16-31 October 1949.

The Facsimile Recorder AX-3, has been used extensively to identify the various types of non-Morse signals encountered. During the month of May another type of facsimile recorder the RD-41A/U, Model RX 28, and a magnetape, "Twin-Trax," sound recorder, were added to the non-Morse equipment. The Twin-Trax tape recorder was employed to good advantage in the recording of sample non-Morse transmissions, particularly six and nine channel signals, the samples being used to train operations in the recognition and recording of these signals on the Rock terminals. This recorder was also used for recording Russian radiotelephone transmissions until the supply of magnetic tape was exhausted.

Additional Model 14 reperforators were received making it possible to equip all the rock terminals with ten reperforators each. Additional terminal equipment had been received but not installed by the end of the fiscal year.

During the year the strength of the non-Morse unit increased from 10 to 22 operators.

At the beginning of the year, there were two men on each of the four rotating tricks for 24 hours a day, seven days a week. With the addition of personnel, the tricks were gradually increased in size throughout the year and on 30 June 1949, there were five men on each trick. Two supervisors worked five days a week alternately from 0201 to 1000 and from 1001 to 1730 EMT. The Chief Operator of the station supervised the non-Morse Unit throughout the year.[181]

181. Annual Report, Field Station 8605, Fiscal Year 49.

The manual for Rock Terminal equipment was completed about this time and sent to Helemano and also to Vint Hill Farms, Two Rock Ranch, Herso, ASA Pacific, and the Vint Hill School. Service tests reports on the preproduction model of the Rock Terminal equipment under construction at the Industro Matic Corporation were compiled and forwarded to the Signal Corps Procurement Agency.[182]

Arrangements were made in October for extended service tests of the ASA-12. It was estimated that 36 of these machines would be available by January, and it was planned that these be issued to various commands within ZI and overseas for a two year test period.[183]

A project for the development of ASAN-5 Golfball, was initiated.[184]

Service tests on the manufacturers sample model of a facsimile recorder indicated a necessity for several minor modifications of the unit before final acceptance.[185]

Effective 15 October, the Combined Cipher Machine cryptosystem was reinstated on a worldwide basis by action of the Combined Communication Board. Earlier the system had been reinstated in the Western Pacific and Far East.[186]

At Headquarters, ASA, a study was made by Protective Security Branch evaluating the effect of cryptonet reconstruction on enemy intelligence in August and October 1944 in New Caledonia revealed that the nets could

182. Semi Monthly Report, Operations Div, October 1949, ~~(TS)~~.

183. Annual Report, Plans and Operations, Fiscal Year 1949, ~~(TS)~~.

184. Annual Report, Logistics Section, Fiscal Year 49, p. 15 ~~(S)~~.

185. Semi Monthly Report, Operations Div 15-30 Oct 49.

186. Annual Report, Security Division, Tab B

could be reconstructed expeditiously by the enemy and that the classification of indicators could be determined, thus disclosing the security classification of the message. As a remedial action, it was recommended that only one indicator be assigned to each crypto system, and that the security classification of the message be hidden in the text.[187]

In ASA Europe a number of intelligence reports of interest were developed. A daily Soviet Flight report indicating Airport locations, flight plans, and general air information was absorbed into a new daily Communication Intelligence Summary, which included weather and the number of type of aircraft used. The new report was disseminated to Headquarters ASA and Special Security Officers, Berlin and Wiesbaden.

A daily Soviet Military Air Traffic Analysis report, developed in October for distribution to Headquarters ASA and the British. Call signs, frequencies, and similar items of technical traffic analysis interest were included. Periodic reports were compiled on Polish Police Traffic Analysis and Czech Police Traffic Analysis. Special reports were made on such items as radio silence and other unusual occurrences. Special traffic analysis reports were published on frequency and call sign changes when warranted.[188] ReportTraffic analysis techniques had procured several isologs between readable [redacted] systems, permitting further reconstruction and analysis of [redacted].[189]

In the Pacific Theater, personnel were joining the 126th at Kyoto. A small increment of 13 arriving in October.[190]

187. Annual Report Security Division, Vol II, Tab D.

188. Summary Annual Report, ASA Europe, Fiscal Year 1949, pp 45, 46.

189. Annual Report Plans and Operations 1-15 Oct 49.

190. Annual Report 126th Signal Service (1st) Fiscal Year 49, p. 1.

Double direction finding bearings were obtained by the ASAPAIC D/F net on the Russian Far Eastern targets and plotted on a daily basis. [redacted] was then forwarding CCR's and traffic resulting from its search of coverage of Russian Far Eastern Morse Links. Progress had been made in identifying [redacted] introduced as routing designations for the [redacted] and the [redacted] and in identifying new call signs and [redacted][191]

In the Far East in November, a registered document was lost when the B-29 in which it was being transported was lost at sea between Okinawa and Guam. Under the circumstances the document was not considered compromised. The policy of permitting couriers to utilize only 4-motored aircraft for the transmission of cryptographic material had to be amended because of the shortage of such aircraft, which were being used in Operation Vittles in the European Command. The C-46 was then used to carry cryptographic material.[192]

In the Philippines, the 9th Detachment transferred its operations from Las Pinas, a temporary installation 13 miles South of Manila, to Clark-Stotsenberg, a permanent installation on an airfield located 75 miles North of Manila. The change of station was carried out smoothly with a minimum of distraction from mission.[193] Before the end of the month, a Chinese internal domestic net was assigned to the station in its new position. ASAPAC was also devoting two positions to top priority search for

191. Semi Monthly Report, Operations, Division, 1-15 October 1949.

192. History ASA Pacific, Fiscal Year 1949, p. 17.

193. Annual Report Field Station 8609, Fiscal Year 1949.

Chinese internal domestic net which was assigned to the station in its new position. ASAPAC was also devoting two positions to top priority search for Chinese Communist links [redacted] The work was carried out as USM-30 and USM-36. Suspected CHG links had been heard.[194]

[redacted]

At Headquarters, ASA Hawaii in November, the Operations Branch was reorganized with a new Security Monitoring and Analysis Section.[196]

The Headquarters was divided into a Headquarters unit and an Operations Branch.[197] At Helemano through a break in security on the part of

[redacted]

The Chief, ASA, praised the station for its success. He stated that its reporting of ChatterCirb and cover addresses and call sign changes on [redacted] net were proving most helpful in research.[198]

In this month the 60th Signal Service Company at Fort Lewis, Washington was given a three fold mission, Signal Intelligence intercept, communication security, and training for participation as a mobile field unit.[199]

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194. Semi Monthly Report, Operations Division, 16-30 November 1948.

195. Summary Annual Report, ASA Pacific, Fiscal Year 1949, p. 8 (TS).

196. Summary Annual Report, ASA Hawaii, Fiscal Year 1949, Tab 12.

197. Ibid, Tab 11.

198. Annual Report Field Station 8605, Fiscal Year 1949, p. 13.

199. Annual Report, Plans and Operations, Fiscal Year 1949, Chapter II (TS)

In November, the 116th Signal Service Company in Germany began an operational training program consisting of weekly meetings of trick chiefs and noncommissioned officers during which the latest information was disseminated about target procedures and characteristics.[200]

Russian traffic was dropped by the 116th and done at Herzo Base.[201] [redacted] airground nets constituted the targets. At Herzo the coverage was poor at first, but improved as the personnel became familiar with them. The [redacted] formerly assigned to Herzo were given to USM-31. The [redacted] airground net was most active during winter months.[202] Marked improvement was indicated in the coverage of Polish [redacted] targets.[203]

The operational mission of the 1st Detachment, Vint Hill Farms Station was the interception of foreign radio traffic, of a governmental or literary nature, and search for, analysis, and identification of new type radio signals. Operational tests of new equipment and techniques were conducted for the improvement of monitoring facilities.[204]

[redacted]

200. Summary Annual Report, ASAE, Fiscal Year 49, p. 17.
201. Summary Annual Report, ASAE, Fiscal Year 49, p. 37.
202. Annual Report, 6th Detachment (Herzo), Fiscal Year 49, p. 24.
203. Ibid.
204. Summary Annual Report, VHFS, Fiscal Year 49, Tab B.
205. Semi Monthly Report, Operations Div, 16-30 Nov 48.

In the field of cryptographic equipment, a cyclic delay generator of a type projected for speech encipherment was under construction. The device was attached to a reproducer and about 20,000 elements of key were generated to permit study of key characteristics.[206] Security Division was authorized to place 18,000 SIGCUM (ASAM 2) units in a War Reserve stock. However, after initial planning, it was recommended that Maintenance Branch effect certain modifications in SIGCUM during the rehabilitation process. The revised cryptographic machine was to be designated ASAM 2-1, of which the Maintenance Branch began the construction of 2200 units. Four hundred of these were intended to meet current requirements and as a replacement for SIGCUM and SIGHUAD. Others were to be placed in long term storage.

A phonetic message indicator for ASAM-5 type messages was put into operation for Army and Air Force cryptosystems. Investigation revealed that the new indicator was more effective than the former[207] one calling for selection and transmission of a 5-letter group.

Early in November, all TAPER military and Air Morse coverage by US Navy interceptions was discontinued because the Navy organization CSAW, was reserved for coverage of targets primarily of Navy interest.[208]

During November, the ASA School sought a new location from Vint Hill Farms.[209]

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206. Semi Monthly Report, Operations Div, 16-30 November 48.
207. Annual Report, Security Div, p. 8.
208. Semi Monthly Report, Operations Division, 1-15 Nov. 48.
209. Annual Report, ASA School, Fiscal Year 49, p. 2 (R).

In December, a site on Ancon Hill was selected for a security monitoring unit in the Caribbean Theater. It was planned to establish sufficient types of personnel to provide an adequate organization there for a peace or war.[210]

A regular non-Morse Section was also created at Field Station 8607, Fairbanks, Alaska. Prior to this time, simplex coverage has been the responsibility of the trick chiefs of the various shifts. One Master Sergeant, and two operators, all MOS 799, were assigned exclusively to simplex circuit coverage. Non-Morse became one of the most productive phases of station operation.[211]

When two Army transports departed Hawaii in December for Europe via the Panama Canal without their Transportation Corps Strip System, ASAK 12, ASA Hawaii brought the matter to the attention of Headquarters AWA and the equipment was forwarded by air courier to Balboa with additional copies to be retained by the US Army, Caribbean for any future emergency. Vint Hill Farms discovered a new manual net with a control station utilizing different call signs in contracting each out station. A total of 850 messages were intercepted monthly.[212]

In Europe, a new Table of Distribution for ASA, Europe called for 75 officers and 504 enlisted men. The 116th Signal Service Company was carrying out a search mission in Albanian targets.[213]

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210. Annual Report, Plans and Operations, Fiscal Year 49, Chapter III.

211. Annual Report, Field Station 8607, Fiscal Year 49, p. 2.

212. Annual Report, Vint Hill Farms Station, Fiscal Year 49, p. 2.

213. Summary Annual Report, ASA, Fiscal Year 49, p. 37.

Back at Headquarters ASA, the duties of career management were transferred from the Training Unit, Organization and Training Section, to a newly established Test Analysis unit. The new unit was to survey the occupational specialty requirements in the job fields of primary interest to ASA, to prepare job specifications, and technical proficiency examinations in accordance with career management policies of the Army.[214] The Maintenance Branch of Security Division completed the construction of the last 600 SIGROD units delivering 250 units to the vault. Difficulty was experienced for some time in security air tight seal when soldering the corners of the metal containers.[215]

An ASAM 1 System, designated ASAX 57 was distributed to certain Air Force Units. On 31 December, however, the Radio Squadrons Mobile, the Radio Security Detachments, and certain ASA bulk spaces were removed from the ASA Troop basis, now being carried by the Air Force. There was no loss of personnel resulting because the Agency had more personnel assigned than authorized.[216]

In the field of Communication Security, the Material Branch at Headquarters Army Security Agency indicated that system indicators for cryptosystem 1503 were compromised four times during the first six months of Fiscal Year 1949.[217]

In the Operations Division at Headquarters, ASA about 400 hours a week were being spent on a search for [redacted] All of

214. Annual Report, Organization and Training Section, Fiscal Year 1949, p. 10.

215. Summary Annual Report, Security Division, Fiscal Year 1949, p. 7.

216. Annual Report, Organizations and Training, Fiscal Year 1949, p. 9.

217. Materiel Branch, Annual Report, Fiscal Year 1949, p. 7.

the traffic in two lanes was processed and several good results were found.[218]

[redacted]

For one system, one substitution rectangle and 7,387 keys were recovered, for another 18 keys, and for a third, 545 keys.[220]

In January, Colonel Carter Clarke, long an interested supporter of Agency missions in the Special Branch, G2, became Chief of the Agency, replacing Colonel H. G. Hayes. The new Chief was soon promoted to Brigadier General. Authority was given for the removal of the ASA School to Carlisle Barracks. The 3d Signal Service Platoon from Vint Hill Farms Station, acting as cadre for the ROTC Summer Camp at Fort Meade, also took part in EXERCISE ASSEMBLY at which it was proved that the Communication Intelligence Platoon as organized was not capable of supporting a task force.[221] As a result, a draft was made at Headquarters, ASA, for a proposed Table of Organization for a Corps size, Radio Intelligence Company. An operational chart was completed that separated the administrative and operational functions with breakdown for each function necessary to perform an assigned mission. A list of typical RI Signal equipment as compiled to facilitate the selection of the required equipment. MOS Personnel were selected and grade ratings were adjusted in

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218. Semi Monthly Report, Operations Div, 1-15 December 48.

219. Semi Monthly Report, Operations Div, 15-31 December 48.

220. Semi Monthly Report, Operations Div, 1-15 January 49.

221. Annual Report, Plans and Operations Div, Fiscal Year, Chapter II.

accordance with D/A policies.[222]

Action was initiated to organise a special intercept survey team to investigate reception conditions within Alaska.[223] In Japan, the 51st Signal Service Detachment was relieved from the 6112 Air Base Unit and placed on detached service with the 49th Fighter Wing, Misawa Air Force Base for administrative purposes; the personnel remained at Chitose Air Force Base. Monitoring positions have been added. Operations for the 51st were just begun when fire destroyed the barracks at Chitose, five days after arrival. The Unit remains without personnel or equipment.[224]

On Okinawa an incident occurred indicating the need for vigilance in remote stations. The supply warehouse, three enlisted barracks, and quarters containing the equipment of the commanding officer were broken into. Numerous small articles were taken from the warehouse, clothing and footlockers from the quarters of the enlisted men, and $40 worth of clothing and equipment from the commanding officer of the 111th Signal Service Company.[225] The 111th was restricted in the success of its mission, largely due to poor antenna. The unit was engaged in government and Air and military traffic, and considerable search activity. These missions met with varying degrees of success.[226]

The 126th in Japan traffic increased 3000 per cent. Two Rock Terminal units for non-Morse and for 2 channel RTT reception were installed and made operative. The Morse intercept mission of the 126th continued to be predominately specific TAPER missions and a position or two of TAPER search.

222. Semi Monthly Report, Operations Division, January 49.

223. Semi Monthly Report, Operations Division, 1-15 Jan 49.

224. Summary Report ASAPAC, Fiscal Year 49, p. 3.

225. Summary Annual Report, ASA Pacific p. 22.

226. Annual Report, 111th, Fiscal Year 49, p. 4.

Some security monitoring was also done. Certain Japanese radio stations, and military, naval and police nets were covered. A D/F radio control net between the 126th and ASAPAC for D/F control and TAPER search was discontinued in January.[227]

On 13 January a Chinese [redacted] mission was assigned the 8605th in Hawaii. Four point to point links and one search assignment on a twenty four hour daily coverage was involved. The Chinese commercial targets utilized high speed automatically keyed morse transmissions. The traffic was recorded on a Waters Connolly Tape Recorder, BC-1016, and transmitted during slack periods with most of the traffic being intercepted during the hours 0700-1400 Greenwich time. The traffic increased from 1210 messages in January to 3954 in April.[228]

Provision was made in January to issue ASAK 12 equipment to freighter type transport troop vessels departing San Francisco. This was the sequel to the action taken by Headquarters, ASA, Hawaii in equipping transports the month before.

On 1 January ASA Europe and subordinate units consisted of 90 officers and 840 enlisted men. Herso Base employed from 524 to 580 German civilians and the 116th used from 102 to 121 of those nationals. All ASA Europe units together had only 72.6 per cent of operational strength but 135 per cent of non-operational strength. By operational personnel was meant intercept operators, non-operational personnel includes Headquarters, Staff and Administrative personnel. It was difficult to get the personnel for operative missions.[229]

227. Annual Report 126th, Fiscal Year 49, pp 25.

228. Annual Report, Field Station 8605, Fiscal Year 49, p. 9.

229. Summary Annual Report ASAE, Fiscal Year 49, pp 10-12.

The communications set up for ASA Europe was extensive. Headquarters ASA, Frankfurt, Herzo Base, the 52d Signal, the 114th, and the 116th were on the ASA Europe net. There was no lateral line between Herzo and the 116th at Scheyern. Two circuits connected Headquarters ASA, Europe with European Command and Signal Center, respectively. Circuits were installed tying in Heidelberg Radio Control Center for teletype monitoring.

Czech and Polish Police nets and Russian Military nets and Russian nets of unknown origin [redacted] had precedence at USM-31.[230] In January a [redacted] was solved by the European Command special intercept group work in Vienna.[231]

The special Intelligence Team B (USM-83) began intercept in Triest in early January. Traffic was mainly order of battle. The primary mission was Yugoslav military, second, Yugoslav [redacted] and air nets. At Ravna Gora was a Royalist Yugoslav monitoring station which used SIGNA, Intelligence for propaganda purposes. The Chief, ASAE believed that the operation as conducted was not a serious threat to the Signal Intelligence Program of the United States.[231a] A team consisting of two officers and twenty men was sent to Rothwestern, near Kassel Germany called Tohwestern Station USM-31A, an offshoot of the 114th. Maneuver traffic was picked up.

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230. Summary Annual Report, ASAE, Fiscal Year 49, p. 36.

231. Semi Monthly Report, Operations Division, 1-15 Jan 49.

231a. Annual Report, Plans and Operations, Fiscal Year 49. (S).

A direction finding net had stations at Herzo, Pfaffenhofen, and Fritzlar.[232]

In Africa the 4th Detachment reached a peak figure of more than 400,000 groups intercepted for January. A sharp increase through Autumn and winter was followed by a decline into early Spring.[233] Weather traffic intercept was discontinued to reduce the load.[233a]

Back in the Zone of Interior, the 1st Detachment at Vint Hill Farms Station was using RG-8SOU coaxial cable in place of four wire transmission lines and a substantial reduction in noise level was noted.[234]

During Fiscal Year 1949 every military and air attache post, every installation in the Far East, Pacific, and European Commands was in the process of being inspected by representatives of the Army Security Agency. In January military and air attaches in Central and South America were inspected.[235]

A project was initiated for an Agency wide standardization of Direction Finding, methods of control, tracing codes, tracking charts, operating procedures, reporting procedures, plotting, construction, and equipment.[236]

In January the Operations Division was interested in recent developments of magnetic speed recorders by the Press Wireless Company and by

232. Summary Report ASAE, Fiscal Year 49, p. 36-40.

233. Annual Report 4th Detachment, Fiscal Year 49.

233a. Semi Monthly Report, Operations Division, 15-31 January 49.

234. Semi Monthly Report, Operations Division, Fiscal Year 49.

235. Annual Report Methods Branch, Security Divisions, Tab C.

236. Semi Monthly Report, Operations Division, 1-15 Jan 49.

the Dictaphone Corporation, which appeared to present a promising basis for the development of a recorder for high speed Morse, overcoming the deficiencies of the RC 179 then in use. Rock Terminals were being made at the Elektra Laboratories and men were being readied to install the new equipment in the new building at Clark Stotsenberg.[237] Arrangements were made for service tests of the ASAX 2, High Echelon Cifax equipment between Andrews Air Base and Offutt Air Force Base, Nebraska.[238] Training programs for operators was started in January. A total of $20,000 was transferred to the Chemical Corps for research on destructive devices in connection with the development of cryptographic equipment.[239]

During Fiscal Year 1949, the Machine Processing Section of Materiel Branch dismantled 5,863 units of 7,000 SIGHEK pluggable rotors, originally designed for use with the SIGABA, but declared obsolete by the ASA Technical Committee on 7 January 1949.[240]

In January, due to the swiftly changing situation in China, and the elimination of US intercept coverage of the Chinese military network, USM net analysis was discontinued. Personnel previously engaged on this problem were concentrating on studies of Chinese Communist and [redacted] networks. Current emphasis in the Chinese section was placed on the Communist

237. Semi Monthly Report, Operations Division, 15-31 January, 1949.

238. Annual Report R & D Division, Tab A, p. 15.

239. Annual Report R & D, Tab D, p. 3.

240. Annual Report Security Divisions, Fiscal Year 49, p. 24.

problem. A group of CSAW personnel was given indoctrination in CHG systems in preparation for Navy research participation in the problem.[241]

[redacted]

During the last of January, only traffic bearing priority precedence was received from ASA Europe units as a result of disruptions caused by poor atmospheric conditions of radio teletype communications between Washington and Frankfurt; these adverse conditions also affected [redacted] Only high priority traffic was cleared between ASA [redacted] after 24 January.

A project to carry out Direction Finding of Russian transmitters by the use of ferret planes over Germany was suspended for lack of airborne D/F equipment.

A situation map providing order of battle data on Soviet Ground forces was under construction. The European Section was completed in January and the Far Eastern areas were being prepared.[243]

Two streamlined language courses on all aspects of Russian Grammar were started on 24 January.

Progress in Cryptanalysis continued. Photostat pages of [redacted] enabled the reading of 26 messages from [redacted] In January medium to high echelon [redacted]

241. Semi Monthly Report, Operations Division, 15-31 January 49.

242. Semi Monthly Report Operations Division 1-15 January 49.

243. Semi Monthly Report Operations Division, 15-31 January 49.

[redacted] traffic was approximately 50 per cent readable. The [redacted] The Intelligence Division expressed particular interest in the intelligence received from this source. Three other intersystems had been broken two weeks earlier. More than 100 mes-

[redacted]

Work continued in the field of Communication Security. As a result of confusion regarding universal stereotypes disclosed by violation reports, a study by Methods Branch initiated action with the Security and Cryptographic Panel of the Joint Communications Electronics Committee, causing all existing instructions regarding stereotypes to be rescinded and JNAP 122 (Joint Communications Instructions, Part II Security) was changed to eliminate need for further precautions regarding stereotypes.[245] Studies by Methods Branch indicated the CSP 1270, (Joint Pacific Aircraft Code) could be broken in a few hours, and work was initiated in the preparation of a new vocabulary.[246]

On 23 February, AR 10-125, Organizations and Functions, Army Security Agency, was published under the signature of General Omar N. Bradley, Chief of Staff outlining the organization and responsibilities of the Army Security Agency and defining the terms employed in stating its mission.

244. Semi Monthly Report, Operations Division, 15-31 January 49.

245. Annual Report Security Division, Fiscal Year 49, p. 12.

246. Ibid, p. 21.

The Agency is stated to consist of the Chief and such military and civilian personnel as authorized by the Secretary of the Army and to comprise all communication intelligence and communication security installations, units, and personnel of the Army, not otherwise assigned.

The relation of the Agency to the rest of the Army is indicated. Operationally its units may be assigned or attached to the various echelons of command, fixed installations being retained under Headquarters, D/A control while mobile units will be attached or assigned to theater or major tactical units. Administratively, ZI and overseas commanders will furnish logistic support and exercise disciplinary control over the ASA units in their areas. Officer personnel are to be furnished by the various arms and services and enlisted personnel to be assigned from the replacement stream under established allocations or by transfer.

It is stipulated that Military personnel are not to be transferred from the Agency without prior concurrence of the Chief, ASA if fixed Army policy is not involved.

The Army Security Agency is directed and controlled by the Director of Intelligence, who receives from other General Staff directors and the Army Controller, appropriate staff direction on matters within their primary interest. Otherwise, the Chief formulates and implements plans, policies, and doctrine communication intelligence and communication security for the Army.

The Chief commands all installations, units, and personnel, not otherwise assigned. He produces COMINT for the Department of the Army, investigates clandestine communications, including secret inks, microphotographs, and open codes and ciphers. His technical supervision of D/A

communication security activities include cryptocenter activities, cryptographic instruction, and surveillance of friendly traffic. He maintains liaison with the Navy, Air Force, and other agencies for coordinating security and special equipment. He conducts research and development, procurement, and maintenance of special equipment, and establishes a basis of issue for non T/A and non T/E cryptoequipment, preparing organization and equipment authorizations and standard publications. The preparation, production, storage, distribution, and accounting of all registered cryptomaterial is his responsibility, which includes publication of appropriate instructions. He conducts military specialist training, technical training programs, and standards for instruction of civilian components, an ASA Reserve is supervised and mobilization assignments recommended. He advises on organization and equipment of ASA civilian components, and monitors Agency career fields.[247]

During this month, the personnel and functions of the Communications Research Section, of Headquarters, ASA were transferred from ASA Staff to the Office of the Chief and redesignated Office of the Special Assistant to the Chief.[248]

The Army Printing Board formally approved the issuance of a Transmission Security and Procedure Bulletin, designed to acquaint Army communication personnel, especially outside the Agency, with development in transmisaion security and communication procedures.[249]

247. AR 1-125, 23 February 49.

248. Annual Report, Personnel and Training Branch, Fiscal Year 49, p. 1.

249. Annual Report, Security Division, Fiscal Year 49, p. 23.

In February, the practice of transcribing all traffic from recorded undulator tape from International Commercial Radio targets was discontinued. A new policy of transcribing only government specific service, and commercial traffic was inaugurated at Vint Hill Farms. The constant fluctuation of trained intercept operators resulted in continual shuffling of personnel throughout the operating tricks.[250]

Here and there throughout the Agency world wide, there were a few items of note in February. SIGABA ASAM-1, equipment was issued for special maneuvers of V Corps at Fort Bragg, North Carolina. Another was issued to an Airborne Signal Company at Camp Campbell, Kentucky. The Army Field Force Board at Fort Bragg service tested five ASAM-4 Signal machines and associated cryptomaterial, suggesting end of the line indicator and a modification in the cam assembly. The ASAM-4 was declared adequate as special interim equipment for use by Army Field Forces. Headquarters ASA, stated that the modifications indicated would be made.[251]

On Okinawa, the 111th D/F installation took many successful bearings. An AN/CRD-2 was substituted for an SCR 502, which shorted due to condensation of salt water in the connectors.[252]

The number of British Rockex enciphering and deciphering machines received from GCHQ was raised to 4.

At Fairbanks the results of revised assignment procedures were found not to work out with entire success. Missions were assigned to specific positions during fixed hours. This proved somewhat inflexible. A new procedure was then tried in which missions were assigned in priority order, the known period of activity of each link were outlined, and the station

250. Annual Report Vint Hill Farms Station, Fiscal Year 49, Tab B, p. 78.
251. Annual Report, Materiel Branch, Tab B, p. 67.
252. Annual Report 111th, Fiscal Year 49, p. 9.

requested to devote a fixed number of hours daily to coverage of the link at any time within the known scheduled periods.

In Washington, a Binary Motion Setting Generator for a 3-wheel cipher machine was constructed.

In the field of operations there were some discouragements in February.

[redacted]

circuit. In Yugoslavia, air nets appeared to have undergone a reorganization. Teleprinter use was thought to have reduced military traffic.[253]

As a result of a serious ASAM-5 violation, the five rotors and four effective notch patterns of this device were entirely reconstructed.[254]

In March a check list of implementing activity for "logger" a plan of action to be implemented by the National Military Establishment in various stages preceding and during an outbreak of hostilities. It was forwarded to the Intelligence Division.[255]

A study entitled "Emergency Planning Logistical," was made for supporting the various theaters of operations by ASA units in the event of war. Commanders of Task Forces were to engage in Signal Intelligence operations where Army Security troops for this purpose had been alloted to commands.

The question of operational control of ASA units was thoroughly investigated by the Department of the Army and the Chief of Staff decided that no changes in the present methods of Army Security Operations would be made. Attached ASA Liaison Detachments were to keep their respective commanders advised regarding matters pertaining to Signal Intelligence and communication security and to supervise and insure coordination of the technical activities of attached ASA units.

253. Semi Monthly Reports, Operations Division, 15-28 February 1949.

254. Annual Report, Security Division Fiscal Year 1949, p. 23. ~~HANDLE VIA COMINT CHANNELS ONLY~~

255. Annual Report, Plans and Operations Fiscal Year 1949, Chapter III.

Countermeasures programs and signal intelligence activities were to be coordinated by the authority having common jurisdiction over all friendly services, it was determined under JCS Policy No 35, dated 6 March 1947.[256]

New policy in the field of personnel was establishment of a five percent civilian personnel margin over and above the authorized ceiling in the position control file. This was to increase the actual civilian strength to equal authorized strength. In March this differential was cut to three per cent.[257]

The move of the ASA School from Vint Hill Farms Station to Carlisle Barracks, Pennsylvania, was carried out in March. Movement Orders No 1, Headquarters ASA, 18 March 1949 provided for the Movement. Government owned motor vehicles, rail, and commercial carriers were used. The Movement was carried out in various serials and was completed on or about 15 April. Colonel Ben F. Hurless was made commandant of the school, a school secretary was assigned, and a plans and training officer provided.[258] The antenna field at Carlisle Barracks was oriented by a representative of the Operations Division, Headquarters, ASA.[259]

Also at Vint Hill Farms Station, the 3d Signal Service Platoon was redesignated the 53rd Signal Service Company, one of the first of numerous new tactical units. After being redesignated, the organization participated in Exercise TARHELL at Fort Bragg. On its return, the company personnel were qualified in carbine.[260] At TARHEEL, intercept equipment was installed

256. Annual Report, Plans and Operations Fiscal Year 49, Tab 19.

257. Annual Report Personnel and Training, Fiscal Year 49, p. 12.

258. Annual Report, ASA School, Fiscal Year 1949, pp 3, 8, 9, and Tab 1.

259. Semi Monthly Report, Operations Division, 15-30 March, Fiscal Year 49.

260. Annual Report Vint Hill Farms Station, Fiscal Year 1949, p. 10.

in K-53 vans for use of the organization.[261]

The movement of the School reduced the size of Headquarters and Headquarters Company, Vint Hill Farms Station, and authorized strength of the latter was changed from 179 to 193, to provide for increased administrative duties at the post.[262]

In March, the Engineering section at ASA Europe, previously dormant, came to life and a qualified engineer was assigned who took an active part in the planning, construction, and alternation of intercept and D/F sites.[263] The 116th in ASA Europe, inaugurated a full time training platoon for those men who demonstrated need for further military training, another indication of emphasis on tactical activity by Agency units.[264]

On the opposite side of the world, much activity continued on Okinawa where the 111th Signal Service Company moved to its new operations building in the company area near Futema, better known as the Sukiran Area. Two 72 foot quonsets were joined by a six foot hall forming an H shaped Building.

The radio transmitters were moved into half of a 24-foot quonset. Receiving equipment included 3 eloping Vees and 2 doublets. Transmitting antennae consisted of 2 "Q" antennae. There were 14 double manual intercept positions with space available to increase them to 24.[265] A 6 foot antipersonnel security fence was constructed. Rolls of barbed wire at the top and flood lights at each corner added to the protection.[266]

105.2

105/1

261. Annual Report Operations, Division, Fiscal Year 49.
262. Ibid, pp 1, 2.
263. Summary Annual Report, ASA, Fiscal Year 49.
264. Summary Annual Report, ASAE, Fiscal Year 1949, p. 1
265. Annual Report, 111th, Fiscal Year 49, p. 4.
266. Ibid, p. 11.

Headquarters ASA suggested alternate plans when the Navy requested a site on Okinawa for a small intercept station with transmitting facilities. Possible interference with the ASA mission was feared.[267] Since results of the 111th indicated the location on Okinawa ideal for intercept of all East Asia traffic actions and plans were initiated at Headquarters, ASA for a permanent ASA intercept station on Okinawa to cost for Fiscal Year 1950 a total of $1,800,000.[268]

In Hawaii the 5th Detachment was attached to the 8297th Service Unit, Signal Radio Operations Company for rations only, and to Headquarters, Signal Service, US Army Pacific for rations, quarters, and Special Courts Martial jurisdiction, the Headquarters Unit assigning the responsibility for rations to the Service Unit.[269] Operational changes were made at the 8605th. In order to eliminate the possibility of the reperferator breaking out of synchronization unknown to the operators, some circuits were changed from automatic duplex operation to semi automatic half duplex operation. This also permitted the checking of encipherment of all traffic prior to transmission. The percentage of reencipherment of each day's traffic was reduced from 12.5 per cent to 9.9 per cent in June.[270] The following new equipment was sent to Hawaii in March: ASAK 36 (ASAM 2-1 system for off line operations), ASAK 59, (the same for on line one direction system), and ASAK 60, (for on line multi directional system).[271]

267. Summary Annual Report, ASAPAC, Fiscal Year 49, p. 7.

268. Annual Report, Plans and Operations Fiscal Year 49.

269. General Orders No 1, Hq Signal Service, US Army, Pacific 18 March 49, and also General Orders, No 25, HUSARPAC, 12 Mar 49.

270. Annual Report, 8605th, Fiscal Year 49, p. 15.

271. Annual Report Security Division, Fiscal Year 49, Tab B, p. 16.

In March, additional Rock equipment was shipped to Vint Hill Farms Station, Two Rock Ranch, Asmara, and Clark Stotsenberg.[272]

Model 14 reperforators for use with Rock Equipment were enroute to Rock Holders.[273]

In Japan in March, the major portion of the technical facility Construction Program for the 126th were completed. In July 3 reperforators were installed in the Simplex, non-Morse Section along with the printers in operation. The installation allowed cyrillic copy to be prepared on formal transmitter-distributor positions, affording simultaneous reception of 3 channels. New jack panels were constructed and installed, so that individual intercept positions could be given a selection of any antenna. The antennas were permanently connected to the multicoupler and the outputs were availabel for patching to any position.[274]

In March the amount of intercept increased. The 1st Detachment at Vint Hill Farms was copying a variety of [redacted] traffic.[275] After the assignment of two traffic analysists the interception of YUGOSLAV targets by USM-32 improved.[276] The first shipment of traffic from USM-83 mostly Yugoslav messages, was received in March. The first intercept of internal Roumanian targets was provided by a search mission which copied 43 messages.[277]

272. Semi Monthly Report, Operations Division, 1-15 March 1949.

273. Semi Monthly Report, Operations Division, 15-30 March 1949.

274. Annual Report, 126th, Fiscal Year 1949, pp 21,22.

275. Semi Monthly Report, Operations Division, 1-15 March 1949.

276. Ibid.

277. Ibid.

ASA Europe was assigned [redacted] net for D/F, at the request of CSAW. Previous results were very satisfactory.

In order to reduce the volume of traffic teletyped from Herzo Base, and from USM-9, plaintext copied from [redacted] circuits began to be forwarded by courier in March. A new procedure was initiated at Headquarters ASA to use information files in classifying Russian Plaintext messages whose subject matter could not be determined by ordinary techniques.

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PL 86-36/50 USC 3605

Asmara was assigned special capability check on [redacted] a Black Sea Naval circuit, so that reception there could be compared with that obtained at Port Lyautey.[278]

In March by the use of [redacted] material, 95 Soviet Divisions were identified in Operations Division, at Headquarters ASA. The radio telephone unit of specific studies was rapidly compiling files providing an adequate source of intercept control data for Russian radio-phone problem.

Both the rapidity of recovery and the [redacted] Far Eastern [redacted] was of considerable aid in maintaining traffic analysis continuity on the 10th Air Army at Dolinsk during a period of daily changing call signs.[279]

A formal contract was signed by the Navy for rehabilitating 1200 ASAM 1 (SIGABA units including reconditioning them and placing them in moisture proof, vapor proof metal barriers. The processed units were known as ASAM 18. The project was part of the War Reserve Program and was undertaken through the Bureau of Ships after effort had been made to effect an agreement with the Teletype Corporation. The cost was $200. a unit.[280]

278. Semi Monthly Report, Operations Division, 1-15 March 1949.

279. Semi Monthly Operations Report 15-31 March 1949. ~~HANDLE VIA COMINT CHANNELS ONLY.~~

280. Annual Report, Security Division, Fiscal Year 1949, pp 5, 6.

In the Spring, an improved model of a high frequency diversity oscillator was constructed and tested.[281]

Regarding Maintenance, Special Regulation 750-445-1, Maintenance of Supplies and Equipment, 28 March 1949, outlined the basic principles of crypto-equipment maintenance, specifying the channels of maintenance support and supply as administered under staff supervision of ASA.

In April, the opening of Headquarters, ASA School at Carlisle Barracks, as a Class 1 Installation with T/D 32-1022, was officially announced. The authority of the commandant was increased to include control of the preparation of budget estimates and expenditures and direct dealings with the Commanding General in which the installation was located. He effected and maintained liaison with other service schools as well as with colleges and universities and service agencies on matters relating to ASA activities.[282]

In April a new Table of Allowances was compiled and forwarded to Headquarters ASA, recommending that all operations and equipment in Operations Building, Herzo Base be removed from the T/A of the 6th Detachment and transferred to the T/A of Herzo Base. No unit stationed at Herzo would have to support Base activities with unit equipment, but could hold such equipment ready for field operations at all times.[283] Herzo Base was a subordinate command of ASAE. During the year the 6th Detachment was assigned to Headquarters ASA Europe for operational control and shared the facilities of ASAE at Herzo Base, remaining assigned to ASA, Washington. Although the Units/at Herzo were, there was a strong trend to centralize Headquarters ASA

281. Annual Report, Plans and Operations, Fiscal Year 49, Chapter II.

282. Annual Report, ASA School Fiscal Year 1949, pp 6-8.

283. Summary Annual Report, ASA Europe, Fiscal Year 49, p. 23.

functions pertaining to the base.[284] For example the organic vehicles of the 2d Radio Squadron Mobile constituted half of the Herzo Base Motor Pool, and their departure created a vehicle shortage. ASA Europe requested the Chief of Ordnance, EUCOM to increase the vehicle authorization of Nurnberg Military Post and to authorize the post to lend vehicles to Herzo Base, Herzo Base vehicles hence replacing vehicles of subordinate units to that extent.[285] The base motor pool section combined with utilities, and a Central personnel section, handled all aspects of military and technical training of all personnel on the base. Special Services were consolidated and there was one large enlisted men 'a club.

Completion of the Herzo Base antenna field was a major engineering project undertaken by ASA Europe during the Fiscal Year.[286]

In the Fiscal Year 1949 for the first time, troops of ASA Europe participated a full scale command-wide maneuvers in Operation SNOWDROP, setting up as a mobile monitoring unit and intercepting maneuver traffic. Security for the maneuver was found to be poor with operation chatter and poor physical security.[287] They also served in Operation SHOWERS.

During April back in the United States, personnel of the 53rd Signal Service Company were still taking part in Exercise TARHEEL. In the trip from near Warrenton, Virginia to Fort Bragg, North Carolina, the motor of six officers and 141 enlisted men left at 0500 and arrived at 1930. The

284. Annual Report 2d Signal Units, Fiscal Year 49, 6th Detachment, Herzo Base.

285. Annual Report ASAE, Fiscal Year 49, p. 24.

286. Annual Report, 2d Signal Service Units, Fiscal Year 49, Herzo Base.

287. Summary Annual Report, ASAE, Fiscal Year 49, p. 59.

unit engaged in radio interception of the Aggressor Force Radio network, locating radio stations of the enemy by D/F, and performing security monitoring missions.[288]

At this time, Headquarters ASA was especially interested in Field Station 8604 at Asmara. A staff study investigated the possible need for relocating this station, and the study indicated that Asmara was the most desirable location for an intercept station to cover the European, Russian Middle East, and Eastern Mediterranean area and that all possible effort was to be made to retain the use of the present facilities there in Eritrea.[289]

Of interest to the Headquarters, ASA was the establishment of the Finance Office, Fort Myer, Virginia with 1st Lt A. Elias designated as disbursing officer for the Army Security Agency. Previously the Finance Office had been at Army War College.[290]

In April, Headquarters ASA set up new procedures for handling Top Secret material dispatched between the various branches and divisions of the Army Security Agency. Seven Top Secret Control offices were established at various points where Top Secret material destined to individuals and offices with the Agency is picked up.[291]

In April the issue of Rock equipment continued. By the middle of the month, sets had gone to Field Station 8605 at Helemano, Hawaii, to Fairbanks, Alaska, to ASA Pacific, and to Herzo.

288. Annual Report Vint Hill Farms Station, TAB E, p. 3.

289. Annual Report Plans and Operations, Report Fiscal Year 1949, Chapter II.

290. Annual Report, Personnel and Training, Fiscal Year 1949, p. 24.

291. Annual Report, AG, Fiscal Year 1949, p. 10.

The growth of Traffic Analysis led to the development of the Traffic Analysis Unit at Helemano. The Unit assisted the intercept units in accomplishing their missions by aiding the intercept operator in identification of monitored circuits and in checking and logging intercepted traffic and processing messages before they were routed to the communication center. In April this service was extended to cover the entire 24-hour period, 7 days a week.[292]

Increased activity and better reception caused intercept of Russian civil traffic to increase sharply at Field Station 8607 during April. Volume of civil messages from simplex and high speed Morse links was 7,500 messages higher than in March.[293] The use of diversity receiving units and the creation of a non Morse section were contributing factors.[294]

At Two Rock Ranch Station top priority was changed from TAPER Radio Printer to Taper Military. Military Police and Air Traffic was monitored from Intra Russian Circuits. Two, six, and nine channel intercept equipment was utilized. Additional reperferators made possible full coverage of all assigned circuits. Commercial traffic copied from 6 and 9 channel circuits occasionally intermingled with Army traffic.[295]

In late April Headquarters, ASA announced that five radio links carrying traffic which bore all known characteristics of Chinese Communist Non press traffic were isolated. Traffic in the Chinese Communist [redacted] late April had reached a total of approximately 325 [redacted]

292. Annual Report Field Station 8605, Fiscal Year 49, p. 12.

293. Semi Monthly Report, Operations Division, 16-31 May 49.

294. Annual Report Field Station 8607, Fiscal Year 49.

295. Summary Annual Report, TRRS, Fiscal Year 49, p. 2. (80)

Messages.[296]

During April transcription of traffic on [redacted] Radio Stations bearing [redacted] destined to or from Moscow and the Balkan countries was initiated. An average of 85 [redacted] domestic [redacted] circuit was assigned to Herzo Base. A civil air message provided the first available information on Air Defense Measures for the Moscow Central Zone.

In early April it was reported that operator chatter on the Port [redacted] radio printer circuit indicated that a Port Arthur radio operator was relieved because he transmitted an address in both the clear and in enciphered form. In this month, also, the net of the Eighth Army, GDS had been identified through statistical analysis of practice traffic. Work on [redacted] was terminated by the recovery of [redacted] all traffic on the book was logged. It was [redacted]

In late April, Vint Hill Farms Station and Herzo were instructed to copy and forward by mail [redacted] traffic from [redacted][298]

296. Semi Monthly Reports, 15-30 April 1949.

297. Semi Monthly Report, Operations Division, 1-15 April 1949.

298. Semi Monthly Report Operations Division, 15-30 April 1949.

A Daily Intelligence Bulletin of the Chief, ASAE was started in April and received very favorable comment.[299]

Technical Staff of Security Division recommended to the Provost Marshal General a revision of D/A Memorandum 380-5-10 for persons unfamiliar with military terms. It was believed that the Memorandum should be sufficiently complete in content and straightforward in wording so that any plant executive or contracting officer unfamiliar with the intricate requirements of classified contract work could understant it.[300]

In late April, a 3-day conference was held with Mr. Anthony Kline, Army Pictorial Service, OCSIGO, in preparation for the production of a film to portray the activities of a radio intelligence company. Lt. Palioca and Capt Atchinson were detailed from the Agency as technical advisers.[301]

Progress in the research and development of several new pieces of equipment including a teletypewriter adapter and four cyphony systems was reviewed by the Research and Development Division in April. The Adapter, the Teaser for ASAY 2, 3 would enable the use of ASA 2, 3 for secure transmission of teletype signals and make possible to reproduce teletype copy preserving normal transmission time with optimum definition. Three channels could be used simultaneously for transmission. The project was originally approved in 1947 and two and a half years additional was needed for completion.

ASAY 4 and ASAY 8 were low echelon ciphony systems, the latter airborne. The former was a 15 pound man-packed unit for field use at

299. Summary Annual Report, ASA Europe, Fiscal Year 1949, pp. 45, 46.

300. Annual Report, Security Division, Tab 5, p. 6.

301. Semi Monthly Report, Operations Division, 1949.

regimental level and lower and would be capable of operation over any normal telephone or radio telephone. Approved originally in 1945, its estimated date of completion was 1951. The ASAY 8 for use with line-of-sight on wide band radio, was also a compact light weight unit. It consisted of a high quality pulse code system for use over very high frequency radio in low echelons. The system was point to point, air to air, and air to ground.

The ASAY 5, was a medium echelon ciphony system for installation in a 3/4 ton weapon carrier and was transportable in any standard cargo aircraft. It was to provide medium security used over any normal telephone and radio telephone circuit.

Finally, the ASAY 6 promised high echelon crypto security for at least five years. It was a high-level, high security - vocoder-type system employing on-off signals. It was for fixed or mobile operation and for use in command and conference purposes at high and medium echelons. It was to occupy about four bays and he capable of air shipment and installation at a fixed station or in mobile equipment for field use. It was capable of transmitting over normal long range choice circuits (wire, carrier, radio). In April a laboratory model was constructed. Continued tests were in prospect.

In April, research work in certain special vacuum tubes had been completed.[302]

In May the movement to the ASA School to Carlisle Barracks from Vint Hill was completed. On 3 May the administrative companies of the Enlisted

302. From Annual Report, Research and Development, Fiscal Year 49. (The last item was developed by Contracts W44-114-sc-21 and W44-114-sc-110 under project No. 29-70-002.)

Training Division of the school were still present at Vint Hill Farms Station.[303] B Company was redesignated A Company, ASA School Battalion, and was transferred to Carlisle Barracks on 3 May, becoming a Student Company. Part of B Company had been transferred earlier as an advanced party to set up the school and all officers and enlisted men assigned to staff and faculty were transferred to this Company, also part of the Battalion. On 10 June it was redesignated as Headquarters Company, ASA School Battalion. Company C, also transferred to Carlisle, became Company C of the School Battalion.[304]

In Hawaii, the authorized strength of the 5th Detachment at Helemano was substantially increased by receipt of T/D 32-1005.[305]

In May radio printer intercept totals from all stations, particulary Two Rock Ranch dropped off sharply due to poor receiving conditions. Normal seasonally atmospheric disturbances caused a severe decrease in the number of targets covered by Fairbanks.[306] Interference from an adjacent broadcasting station, KFRB, operated by the Alaska Broadcasting Company, also interferred with operations. A wave trap effectively trapped the income signal of the offending station, completely eliminating the spurious harmonics.[307] In Europe a prolonged period of radio silence led to the belief that the Soviet Army in Germany was planning extensive maneuvers in their Zone of Occupation.[308]

303. Annual Report, ASA School, Fiscal Year 49, p. 2.

304. Annual Report ASA School Fiscal Year 49, P. 24.

305. Annual Report Field Station 8605, Fiscal Year 49, p. 3.

306. Semi Monthly Report, Operations Division, 1-15 June 1949.

307. Annual Report Field Station 8607, Fiscal Year 1949.

308. Summary Annual Report, ASAE, Fiscal Year 1949, p. 39.

At Herzo in May, [redacted] military nets and Yugoslav air, police, and search, constituted more than 80 per cent of Yugoslav traffic. The 116th dropped Albanian search as unproductive. The 52d Signal Service Detachment received assignments from Headquarters, ASA to monitor from 10 to 15 radio nets and special missions such as investigations of jamming.[309]

Vint Hill Farms Station was assigned Direction Finding on the Voice of America jamming stations and [redacted] cases picked up on search during May.[310]

On 1 May, it was stated that the Traffic analysis group at Clark Stotsenberg was being used as a pilot unit to test the feasibility of expanding the scope and usefulness of traffic analysis at field stations. [redacted] and [redacted] material was performed at Clark Stotsberg and the original mailed to ASA for further processing.[311]

In the Communication Security field the most striking news came from Nanking China, which was occupied by Communists. At the Naval Radio Station all publications accessory to the SIGROD were destroyed except key lists. Thereafter Cryptographic work was carried on indefinitely from indoctrinations and memory. It was the responsibility of ASA Pacific to keep the officer in charge of the Nanking Radio station informed of current changes or supressions assumed by ASA Pacific.[312]

309. Summary Annual Report, ASAE, p. 41 and nearby pages.

310. Semi Monthly Report, Operations Division, 1949, 16-31 May.

311. Semi Monthly Report, Operations Division, 16-31 May 1949.

312. Annual Report ASA Pacific, Fiscal Year 49, p. 18.

At a conference of all ASA staff sections in May 1949, it was agreed that the present policy regarding the issue of Cryptologic equipment to echelons below the Division stood in need of revision. It was believed that specific instructions regarding the cryptocomponent should be incorporated in the training. This revision was necessary so that the development of cryptoequipment would progress to meet current and future training requirements.[313]

During Fiscal Year 1949, 34 cryptocenters in World Capitals were investigated and cryptocenter inspection in the Zone of Interior was resulted and inspection of the centers West of the Mississippi was started in May. In the East, Fort Monroe was inspected a little later.

It was planned to establish a permanent inspectorate for ASA. The Liaison Officers with each of the six armies were looked to for the solution of the problems of cryptocenter inspection in the Zone of Interior. The ASA unit in Panama was to solve the problems of cryptocenter inspections in Central and South America.[314]

In May in Europe the 52d put on a second monitoring shift, making coverage for communication security 16 hours a day. The number of monitoring hours was almost doubled.[315]

On 6 May at Helemano a procedure violation occurred. Two different messages were sent on the same date using the same message indicator. A

313. Annual Report Plans and Operations, Fiscal Year 49, Chapter VII.

314. Annual Report, Plans and Operations, ASA Fiscal Year 49.

315. Summary Annual Report, ASA Europe, Fiscal Year 49, p. 58.

complete report was made by the Chief, ASA Hawaii, indicating steps to prevent recurrence.[316]

May witnesses several developments in Operations. Two messages in

[redacted]

had changed. The Russian Plain Text section published a number of messages.[317]

A new ASA Intelligence Division Russian Traffic Analysis Fusions Communications series, was established to fulfill certain requirements of the [redacted] subsection. The first report covered the establishment of an automatic relay for [redacted] on one channel of the [redacted] [redacted] nine channel radio printerlink.

The first copy of a new [redacted] Code was received at Headquarters, ASA. Approximately 90,000 five digit or four letter code groups were available.[318]

In ASA Europe interrogation of former German cryptologists for TICOM was continuing. [redacted] were chief contributors. Arrangements had already been made to purchase [redacted] was completing his volume

316. Annual Report Field Station 8605, Fiscal Year 49, p. 16.

317. Semi Monthly Report, Operations Division, Fiscal Year 49.

318. Semi Monthly Report, Operations Division, 16-30 May 49.

entitled [redacted] chapters of which were forwarded to ASA Europe by European Command as soon as completed.

[redacted] a cipher machine expert of the German High Command, fled from the Soviet Zone with his family in May 1949 and after a delay in Berlin was sent to the intelligence center for interrogation. A questionnaire was prepared to submit to [redacted] also a High Command cipher machine expert, who had been located at Goettingen, British Zone.[319]

In the field of Research and Development, eight models of ASAD-1, a crypto device designed for the encipherment and decipherment of meteorological data, transmitted to aircraft in flight were received in Methods Branch Security Division for registeration.[320]

In June Typhoon Delta descended on the 111th on Okinawa and tore down some wires between the downleads of the Vee antennae and the transmission lines and two transmitting antennaes.[321]

Construction rather than destruction was the chief interest in June throughout the Agency. In Hawaii acquisition was authorized for land not far from the 5th Detachment at Helemano for construction of a Direction Finding unit.[322] At Helemano, the Day room was redecorated and provided with new furniture. Flood lights were added to the tennis court, the Post Exchange was enlarged, and a lounge provided. A large transit type bus was provided for transporting personnel to and from Schofield Barracks.[323]

319. Summary Annual Report, ASAE, Fiscal Year 1949, p. 47.

320. Annual Report, Security Division, Fiscal Year 1949, p. 19.

321. Annual Report, 111th, Fiscal Year 1949, p. 5.

322. Annual Report, ASAH, Fiscal Year, 1949, p. 43.

323. Annual Report Field Station 8605, Fiscal Year 1949.

Contract was let for four Non Commissioned officers quarters at Two Rock Ranch.[324] A project for construction of eight NCO quarters at Vint Hill Farms and for some improvement in the Operations Buildings at Vint Hill Farms had reached the Bureau of the Budget. Bids were opened for construction of $85,385 swimming pool at Vint Hill Farms.[325]

All told, 14 sets of NCO quarters were projected for the Agency.[326]

In Europe, a 270 foot transmitting antenna for Herzo Base, and a very high frequency antenna for the roof of the operations building was completed. The main antenna field was finally operative with 360 degree coverage, one double curtain rhombic, 4 sloping Vee's, 4 - 8-13 megacycle double doublets, five 4.5 megacycle doublets, and one 4 megaculce doublet. The 116th constructed a telephone pole line between the Company D/F site and the switchboard. At the 116th, interiors and exteriors of all buildings were painted, and a "ready room", to store individual field equipment, a flag pole, a snack bar and another kind of bar were constructed. At Headquarters ASA, Europe, the barracks in the Gibbs area were painted and a cryptographic repair school plant was instituted. Concrete foundations for the emergency power generator, a new post chapel, conversion of a building into a gymnasium, and the rebuilding of a bombed out structure for the post motor pool, and the installation of a dial telephone system.[327]

During the fiscal year, long term leases were negotiated on Italian owned land comprising the Receiver site at 4th Detachment, in Asmara.[328]

324. Annual Report TRRS, Fiscal Year 1949, p. 4.

325. Annual Report, Logistics Section, Fiscal Year 1949, p. 6.

326. Annual Report, Plans and Operations, Fiscal Year 1949.

327. Annual Report, ASA Europe, Fiscal Year 1949, p. 27.

328. Annual Report, 2d Signal Service Units, 4th Detachment, Fiscal Year 1949, p.

By this time, the Enlisted Personnel Section of the ASA School were well settled and functioning at Carlisle Barracks. Messes were operated by the Post with a proportionate part of the help supplied by the school. There was a similar arrangement for policing the post area, with a definite area made the responsibility of the School Commandant. The Motor Pool was operationed by the post with a share of the mechanics, and drivers provided by the School. A Summary Court Officer, and a member of the Board of Governors for the Post Officer Club were provided by the School.[329] The instruction staff consisted of six military and four civilian instructors.[330] The School distributed approximately 4,500 sub courses to students during the year.[331]

While the sections of the School devoted to enlisted personnel was well established at Carlisle Barracks, the Officer Training Division and the Extension Training Division had not yet moved from Arlington Hall Station.[332]

In Europe, military training of ASA personnel was being emphasized. At Frankfurt two training periods a week and a weekly inspection were held. Personnel from the unit also took part in Retreat Parades by the Frankfurt Military Post.[332a] Military Training at Herzo Base consisted of inspections, drill, and lectures. For training purposes the unit was divided into five platoons, each of four operational platoons consisting of personnel from all the operational section who worked on the same schedule

329. Summary Annual Report ASA School, Fiscal Year 49, pp 7, 8.

330. Ibid, Tab 21.

331. Ibid, pp 86, 87.

332. Annual Report ASA School, Fiscal Year 49, p. 7.

332a. Annual Report, ASAE, Fiscal Year 49, p. 13.

and trained only when the trick was on swing shift. The remaining platoon consisted of personnel on straight time.[332b]

Other training in ASA Europe was in operational duties. Extensive use was made of European Command Schools which offered courses in supply, other technical subjects, intelligence, and military justice.[332c]

Maintenance Training at Herzo Base was on the job instruction. Training of intercept operators for both foreign traffic intercept and security monitoring was achieved mainly on the job. This was supplemented on the 114th Signal Service Company by instruction in the production and operating characteristics of target stations. The 52d, broadened the training of their non commissioned officers by having them work with the 6th Detachment on foreign intercept. The Statistical Control Section was obliged to train replacements localling in traffic analysis. Extension courses and work in cryptanalysis were provided.[332d] At Vint Hill Farms Station, four hours a week were devoted to Basic Training. At least two hours were devoted to subjects related to Security. A regularly scheduled range season, an innovation, was provided.[332e]

By June, all paperwork was completed for the formation of the Armed Forces Security Agency, which was to be formed on 1 July 1949 as an Agency of the Joint Chiefs of Staff by direction of the Secretary of Defense.

332b. Annual Report, Herzo Base, pp 89.

332c. Summary Annual Report ASAE, Fiscal Year 49, p. 15.

332d. Ibid, p. 17.

332e. Annual Report VHFS, Fiscal Year 49, p. 8.

Brigadier General Clarke, Chief of the Agency, whose experience with aspects of the Agency mission through many years, was a leader in the formation of this new Agency. Responsibilities in the communication intelligence and communication security field were distributed between this organization, the Army Security Agency, the Security Service of the Navy and the Air Force Security Service. The Armed Forces Security Agency was to be a headquarters and operating organization, the command of which was to be taken in rotation by the Navy, the Army, and the Air Force with similar rotating representation of other military personnel. The Army Security Agency was to command theater headquarters, fixed intercept station, and adequate technical units for an emergency. Command relations, training doctrine, and supply channels for these units, which were developed by chance for the World War II emergency, were at length carefully worked out. The Army Security Agency was to develop tactical doctrine and provide adequate training for the personnel of the units under the command of its Chief. An extensive Reserve Organization, including ROTC and Reserve Units, was to be developed and mobilization plans provided. Certain aspects of research, applying directly to the tactical units and fixed stations, and a complete staff organization similar to a theater headquarters were included in the plans.

The new Army Security Agency was to lose a large part of its highly trained technical civilian personnel, and much of the building space and equipment in the large operations buildings at Arlington Hall Station were to be manned by the new Armed Forces Security Agency. But it was to retain

one Operations Division consisting of most of the old Security Division, and its building area, equipment, and technical personnel. The Army Security Agency was to gain in military responsibility, and to be a more effective organization than it had ever been before.

In comparison with the changes in connection with the setting up of the Armed Forces Security Agency, developments in June were unimportant. It was recommended that ASA Class II installations be exempted from Operation TACT through which Class II installations would be placed under command of the Commanding General 3d Army, and become an extension of the Territorial Command program. Staff comments were that the command and operational control of ASA installations should be exercised by the Chief, Army Security Agency as provided in AR 10-125 because the missions and operations of these installations must be coordinated on a global basis. The Chief, ASA retained these responsibilities.[333] The activation of ASA Caribbean was imminent as the month ended.[334]

In the reorganizations carried out to provide more effective tactical support, the 507th and 508th Signal Service Companies at Vint Hill Farm Station were inactivated, and the personnel used elsewhere.[335]

Within some of the units, there were organizational changes. In Asmara, the 4th Detachment administered all records for the 9434th TSU and part of the records for US Navy Communication Unit No. 3 there. At the end of the period, personnel records of these units were separated.[336]

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333. Annual Report, Plans and Operations Fiscal Year 49, Chapter VII.

334. Annual Report, Security Division, Fiscal Year 49, p. 11.

335. General Orders No. 6, Vint Hill Farms Station, 2 June 49.

336. Annual Report 2d Signal Units, Fiscal Year 49, Report for 4th Detachment.

At Fort Shafter, ASA Hawaii, took over detailed administration of its own enlisted personnel to include all personnel and supply records and files formerly handled by Headquarters Company, Special Troops.[337] The Statistical Control Section at Herso brought under sectional control such activities as Machine Records and D/ F Control.[338]

At Headquarters, ASA, progress was made in the field of Security Control. The personnel of the Security Control Section had increased from one Lieutenant and five civilians to two Lieutenants and eight clerical personnel. The section was destined to become the office of the ACofS, G2, of the new ASA Headquarters structure, a Lieutenant Colonel being authorized for G2, Chief of the section.[339] The section strengthened security safeguards regarding the use of the telephones, and by introduction of a new identification badge system. The system which called for dividing the area into two restricted areas, A and B Building, and a restricted area with provision for yellow, cherry, and green badges, depending on extent of admission to classified areas and material, the yellow badge giving the most extensive access. Procedures for the forwarding of personnel history statements was changed by transferring this responsibility to the Training Divisions, reducing the number of investigations of personnel not retained in the Agency.[340]

By June, the Security Control Section had processed 5,712 reports of

337. Annual Report, ASA Hawaii, Fiscal Year 49, Tab 16.

338. Summary Annual Report, ASA Europe, Fiscal Year 49, p. 46.

339. Annual Report Security Control Section, Fiscal Year 49, p. 2.

340. Ibid, pp 3, 4, and Tab 10, 11.

investigations of military personnel of which 527 were derogatory. A total of 766 civilians were cleared and 15 were found to have derogatory reports. A total of 34 clearances were revoked.[341] In ASA Europe, 51 clearances were revoked, causes including foreign marriages or other connections with foreigners and convictions of court martials. Clearance for German Nationals employed at Herzo Base were handled by S-2 Herzo Base and by the Company Administrative Officer of the 116th.[342]

In June the problem of communication security for Atlantic Pact Nations came up and a staff study entitled release of Communication Intelligence and Communication Security Information to signatory nations of the Atlantic Pact, recommended that no direct communication security assistance be furnished to members of the Atlantic Pact at that time, but the plans be prepared for providing such assistance in the event of hostilities.[343] During the year, the electromatic Branch made efforts to improve the liaison with the Air Force, the Army Ground Forces, and the Signal Corps. Liaison activities of the Agency were extensive. Contacts were made with the Bureau of Aeronautics, the Bureau of Ordnance, the Bureau of Ships, and the Bureau of Supply and Accounts, the Naval Research Laboratory, the Naval Gun Factory, and with Naval Ordnance Laboratory.[344]

341. Annual Report Security Control Section Fiscal Year 49, pp 5, 6.

342. Annual Report ASAE, Fiscal Year 49, p. 19.

343. Annual Report Plans and Operations, Division, Chapter IV.

344. Annual Report, Research and Development Division, Laboratory Services Branch, Tab E.

By the end of the fiscal year, Agency personnel in communication security work at Headquarters, ASA, were giving special attention to the various systems being used. In ASA Europe, the Security mission remained unchanged, including the storage, issue, and accounting for crypto material, and repair and maintenance of crypto equipment and security supervision for American military communications in Europe and adjacent areas. In all phases of this mission, activity stood at a higher level than in the previous fiscal year.[345] In June new cryptosystems became effective for sensitive areas in various parts of the world. The United States Communications Intelligence Board in a special report classified the Geographic areas being serviced by Special Security Officers as either sensitive, semi sensitive, or normal. Certain European areas warranted the sensitive classification and plans for revision of the world wide special security officer cryptographic network were made. The systems used in the European area were divorced from those employed in the rest of the world and ASAK 77, a new ASAM 5 system, was provided to replace ASAK 1 and AWAK 20. In addition, the offices in Washington, London, Heidelberg, Wiesbaden, Frankfurt, and Salzburg received ASAK 78 for the transmission of special traffic. Also, the London-Berlin and Berlin-Washington officers were each given a one-time, two-way ASAM 5 system based on individual systems of rotors with key lists prepared in pad form.[346]

A reassignment of holder numbers for designating cryptographic accounts was made effective by Headquarters, ASA in June. Army accounts were to

345. Summary Annual Report, ASAE, Fiscal Year 49, p. 51

346. Annual Report, Material Branch, Security Division, Fiscal Year 49, p. 9.

include the numbers 1 to 4,999 and Air Force accounts numbers 5,000 to 9,999.[347]

In the Pacific, a Sigtot system using triplicate takes was recommended for the situation created when D/A was required to encipher and pass all traffic between the Supreme Commander for the Allied powers in Japan, General Headquarters, FECOM, and STATE.[348]

By the end of the year, Research and Development had recorded considerable progress. At the 5th Detachment, 73 units of cryptographic and teletype equipment recently installed was actually in operation approximately 16 hours a day. A total of 200 SIGRODS were requested to keep up stock levels at ASAE Europe. These machines were used to replace the CSP 1700 machines, of which 17 were still held by military attaches.[349]

To fill an order for Central Intelligence, 3,700 of 28,960 one-time pads were completed in Headquarters, ASA in June.[350]

In Research and Development of separate devices, it was decided in June to install geared timing machanism in ASAY 3. The system control Manual was redesigned, saying in the use of telephone type patch cables and permitting the rapid handling of all telephone transmissions.[351]

A contract was negotiated with Melpar, Inc., for the development of three high frequency multicouplers, ASAN1, ASAN 2, and ASAM 3. Tests indicated progress toward reducing cross modulation and inherent noise in

347. Annual Report, Security Divisions, Fiscal Year 49, p. 16.

348. Summary Annual Report, ASA Pacific, Fiscal Year 49, p. 8.

349. Summary Annual Report ASAE, Fiscal Year 49, p. 53.

350. Annual Report, Security Division, Fiscal Year 49, p. 15.

351. Annual Report, Research and Development Division, Vol II, pp 6, 7.

the field of the antenna mouticouplers. Further research in the problem of intercepting a great many radio frequency signals simultaneously over a broad frequency spectrum was provided in an agreement with the Signal Corps.[352]

A breadboard model of ASAY-8 the low echelon, airborne cyphone system, had been constructed by the close of the fiscal year, using conventional tubes instead of special vacuum tubes which had not been made available.[353] Military characteristics of this device, and also of ASAY-7, were adopted by the ASA Technical Committee.[354]

In June, a device performing automatic decipherment of SIGABA Traffic, which had already been given preliminary tests at the US Air Force communication center and the D/A Cryptographic Center, was sent out for extensive service testing.[355] Fifteen electrical mechanical demultiplexers, ANAN 13 were completed and tested and were able to provide usable traffic for intelligence purposes.[356]

The following publications were put out by the Army Security Agency in Fiscal Year 1949:

ASA MANUAL S-601 - Rock Terminal Equipment.
TM 32-250 - - - -- Fundamentals of Traffic Analysis (Radio Telegraph).
AR 10-125 - - - -- Organization and Functions, Army Security Agency
ASA MANUAL S-900 - USSR Preamble Perminology.
TM 32 - - - - - -- Basic Cryptography-Revision of outdated Signal Corps Manual TM 11-484 and 11-485.
PROJECT FM 32 - -- Communication Intelligence and Communication Security-Manual of organization, operation, and employment of ASA in relation to the other services.

352. Annual Report, Research and Development Division, p. 10.

353. Ibid, Tab B.

354. Annual Report Logistics Section, Fiscal Year 49, p. 16.

355. Annual Report Security Division, Fiscal Year 49, p. 20.

356. Summary Annual Report, Research and Development, Fiscal Year 49, Vol II, p. 10.

PROJECT 32 -- Radio Intelligence.
PROJECT 32 - Tactical Communication Security - low echelon communication security for all arms.

During the year, a Research and Development Training Laboratory was established by the Intercept Equipment Branch at Headquarters, ASA to enable engineers and laboratory mechanics to do unclassified work for research and development while awaiting clearance.[357]

While the technicians at Headquarters ASA were busy with research and development of new equipment, the men in the fixed stations and field units continued their mission with success. In Korea, the withdrawal of American forces led to changes in the communication intelligence situation. On 6 June the closing of the Code Center of the US Army forces in Korea resulted in the transfer of necessary crypto equipment to military attaches in Korea. The rest of this equipment was transferred to the Korean Military Advisory Group.[358]

At Fairbanks when a recorder RD-41 A/U was received in damaged condition, it was repaired locally. Lack of facsimile recorder paper delayed its use. Two Boehme Frequency Shift Converters had defective tubes.[359]

At Helemano, Hawaii, a heavy backlog was crested by a sharp increase in intercepted traffic volume and shortage of skilled crypto technicians and equipment failures. A third automatic encipher-decipher room circuit was installed to eliminate time lost due to equipment failure. Two M-19 teletypewriter page printers were installed as punching units to relieve room circuits of straight work. All Communist China material was being

357. Summary Annual Report, Research and Development Division, Vol II, Tab C, p.4.

358. Summary Annual Report ASA Pacific, Fiscal Year 49, p. 20.

359. Annual Report Field Station 8607, Fiscal Year 49, p. 4.

carefully checked to determine Communist use of Chinese links. Evidence indicated a major Soviet reorganization of forces in the Chukotsk area took place, including establishment of a ground force of at least an Army at Provideniya, was noted. At Helemano through careful observation and ingenious deduction the problem resulting from a change in the system [redacted] was solved. At the end of the year all records on cases, call signs, NR blocks, [redacted] was augmented by text received from Arlington Hall Station.[360]

Upon recommendation from ASA Hawaii, permission was granted to establish a communications link between ASA Hawaii and Navy [redacted] This circuit was to be used for exchange of certain technical intercept information and direction finding liaison.[361]

In the Philippines one simplex printer was in operation on general civil search in addition to the regular intercept activities.[362]

Two Rock Ranch Station was carrying on almost continuous search missions for additional Taper circuits, and as a result was able to give very fine coverage of Taper Military circuits. It was intercepting six of these.[363] At Two Rock Ranch Station, the first TWIN TRAX recording of Russian domestic commercial radiophone conversation were received from Vint Hill Farms Station.[364]

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360. Annual Report Field Station 8605, Fiscal Year 1949.

361. Annual Report, Plans and Operations, Fiscal Year 1949, Chapter II.

362. Semi Monthly Report, Operations Division, 15-30 June 1949.

363. Summary Annual Report, TRRS, Fiscal Year 49.

364. Semi Monthly Report, Operations Division 1-15 June 1949.

Calibrating and inspection of equipment allocated to day personnel was made to keep night maintenance at a minimum.[365] [redacted] films on [redacted] targets were received in Headquarters ASA from Vint Hill Farms Station.[366]

Over in Europe, Team "B" USM-83, at Trieste had produced better than 10,000 groups a week since January. In addition to raw traffic, it had extracted economic information and Yugoslav [redacted] as items of direct interest to G2, US Forces, Trieste.[367]

Elsewhere in Europe Herzo picked up multiple radio printer links between Tbilisi and Moscow and between Moscow and Baku. Extremely valuable radio telephone intercept was received from the mobile team at Rothwestern in regard to tactic training communications units of the 16th Russian Air Army. Possible reinforcement of the Chukotsk area was seen in a link connecting the Far East Military District and two [redacted] in the Vladivostock Razdelnoe Area. Identification of [redacted] a large network in the Constanza, Black Sea Fleet and Odessa Military District was made by call sign activity.[368]

At the close of the Fiscal Year the Army Security Agency had an authorized strength of 4,797 military personnel, an increase of 811 military spaces. The authorized civilian strength of Headquarters, ASA was 2808 and the

105-2

103-1

365. Annual Report, Vint Hill Farms Station, Fiscal Year 49, Tab B, p. 4.

366. Semi Monthly Report, Operations Division, 1-15 June 1949.

367. Summary Annual Report ASAEurope, Fiscal Year 49, p. 45.

368. Semi Monthly Report Operations, Division, 15-30 June 1949.

actual strength 2,730 at the close of the fiscal year. This did not include the personnel of the 7005th engaged in headquarters maintenance duties.[369] Here are a few examples of the personnel situation throughout the Agency. During Fiscal Year 1949, Headquarters ASA Pacific showed a steady gain of from 25 to 200 personnel. The 126th Signal Service Company grew from about 80 to 200 personnel, the 111th from about 80 to about 150, the Casual Detachment from about 50 to more than a hundred. At Clark Stotsenberg were 10 officers and 130 enlisted men. The totals for units under the Chief, ASA Pacific rose from 344 to a final figure of 617.[370] During the Fiscal Year 573 enlisted men were processed at Two Rock Ranch Station for staging for the Pacific Area.[370a]

Assigned strength of Herzo Base fluctuated from a low of 172 to a high of 197.[371] Vint Hill Farms consisted of an organization of 58 officers, and warrant officers, 93 civilians, and 818 enlisted men.[372]

Thus the Army Security Agency came to the end of its last full year as both a great technical operational headquarters for research, development, and security, and a world wide military organization, with better physical conditions, better trained personnel, stronger organization, and sub-station scientific and military accomplishments on a peacetime basis.

369. Annual Report, Personnel and Training Section, Fiscal Year 49, p. 34.

370. Summary Annual Report ASA Pacific, Fiscal Year 49, Tab 19.

370a. Summary Annual Report Two Rock Ranch Station, Fiscal Year 49.

371. Annual Report Herzo Base, Fiscal Year 49, p. 6.

372. Annual Report VHFS, Fiscal Year 49, pp 1, 2 and Tab 1.

While carrying the full load of high echelon technical activity, the Agency was beginning to emphasis the military side of its mission by special training in military duties, and new interest in tactical problems.

It was a peacetime organization, with continuing struggles for adequately trained personnel. But even a year before the invasion of North Korea, Chinese Red intercept was being given high priority, and the importance of tactical activity was receiving appropriate attention.