

Office of the Chief Signal Officer Action 1

SPSIS-3

Chief, Army Communications Service, Room 4E 254, Pentagon.

2 August 1944.

Security Classification of SIGSALY SPSIS 311.5

Signal Security Branch 3C 340 Code 8129, Ext. 215.

1. At the present time all phases of the SIGSALY system are classified as Secret and the handling of all papers--blueprints, specifications, keying devices, etc., is on a Top Secret basis, in accordance with directions from Chief, Army Communications Service.

2. The normal method of classifying secret cryptographic systems is to use a classification of confidential for the equipment involved and a classification of secret for the keying elements.

3. Specific SIGSALY clearance of personnel already cryptographically cleared is of a nominal nature only, in that it does not involve additional investigation, but operates mainly to restrict admittance to SIGSALY terminal rooms.

4. The basic principles of the SIGSALY system (the Vocoder) have been published in various technical journals and have been submitted for patenting although at the present time all of these patents are being withheld from issue under Public Law #77.

5. The development of AN/GSQ-2 is proceeding rapidly and it is expected that units will be available for field tests in March of 1945. This equipment is a condensed version embodying most of the principles of the SIGSALY system with the exception of the SIGBUS and the SIGGRUV equipment. Owing to its possible very wide distribution the AN/GSQ-2 equipment can only, with the exception of the keying elements, be classified as confidential.

6. a. The present classification imposes a burden on SSA personnel engaged in work on or in connection with this system as strict adherence to security regulations precludes disclosure to one who may be concerned with the system in a general way, or only on some minor problems, but who has not been specifically cleared for knowledge of this system although carrying a general clearance for cryptographic work.

b. This burden is also imposed on SSA personnel engaged in the development of AN/GSQ-2 who are prevented from discussing the equipment with all interested personnel owing to the lack of clearances. This burden will become extreme when the AN/GSQ-2 equipment reaches the service test stages.

~~SECRET~~

c. It would be clearly undesirable to clear all personnel engaged in AN/GSQ-2 development and service tests for SIGSALY.

d. AN/GSQ-2 when issued will be classified as confidential in accordance with current practice in the case of other classified equipments of similar nature. Keying elements pertaining thereto will, however, be classified as secret.

7. The following recommendations are intended to affect the physical equipment and its handling, only, and do not affect the system's use and its personnel.

8. It is recommended that:

a. The SIGSALY equipment be classified as Secret. The SIGBUS, SIGGRUV, and all key tables which are now classified as Secret would remain secret.

b. The present strict observance of admittance to terminal rooms be continued on a list basis. (This is normal cryptographic practice.) The list will not necessarily reflect the total number of people possessing knowledge of the system, but will include only those having access to a particular terminal room.

c. Plans for installation of terminals and their locations be classified as Secret unless the knowledge of such locations include knowledge of troop movements etc., or other matters which would require that the terminal locations be held as Top Secret.

d. The SIGSALY directory be continued as a secret document and that the people authorized to use the system be restricted as per the present arrangement.

e. The opeps be continued as a secret device and information thereof be handled in the normal manner for secret information.

f. The Recorders (RC-250-T1) (used for production of SIGGRUV) be classified as secret and all information thereof be handled in a normal secret manner.

9. If the recommendations of paragraph 8 are approved, it is recommended that the SSA be directed to take the necessary action to inform all concerned.

W. Preston Corderman,  
Colonel, Signal Corps,  
Chief, Signal Security Branch,  
SPSIS-1, Code 8129, Ext. 211

~~SECRET~~

SUBJECT: Security Classification of SIGSALY.

1. At the present time all phases of the SIGSALY system are classified as ~~Secret~~ and the handling of all papers - blueprints - specifications - keying devices etc., is on a "Top ~~Secret~~" basis, in accordance with directions from Chief, Army Communications Service.

2. The normal method of classifying secret cryptographic systems is to use a classification of confidential for the equipment involved and a classification of secret for the *keying elements,* ~~used to encipher the message.~~

3. Specific SIGSALY clearance of personnel already cryptographically cleared is of a nominal nature only, in that it does not involve additional investigation, but operates mainly to restrict admittance to SIGSALY terminal rooms.

4. The basic principles of the SIGSALY system (the Vocoder) have been published in various technical journals and have been submitted for patenting although at the present time all of these patents are being withheld from issue under Public Law #77.

5. The development of AN/GSQ-2 is proceeding rapidly and it is expected that units will be available for field tests in March of 1945. This equipment is a condensed version embodying

most of the principles of the SIGSALY system with the exception of the SIGBUS and the SIGGRUV equipment. Owing to its possible very wide distribution the AN/GSQ-2 ~~system~~ *equipment* can only, with the exception of the keying elements, be classified as confidential.

6. ~~(a)~~. The present classification imposes a burden on SSA personnel engaged in work on or in connection with this system as strict adherence to security regulations precludes disclosures to one who may be concerned with the system in a general way, or only on some minor problems, but who has not been specifically cleared for knowledge of this system although carrying a general clearance for cryptographic work.

~~(b)~~. This burden is also imposed on SSA personnel engaged in the development of AN/GSQ-2 who are prevented from discussing the ~~system~~ *equipment* with all interested personnel owing to the lack of clearances. This burden will become extreme when the AN/GSQ-2 equipment reaches the service test stages, *since* *such*

~~(c)~~. It would be clearly undesirable to clear all personnel engaged in AN/GSQ-2 development and service tests for SIGSALY. *AN/GSQ-2 when issued will be classified as confidential, in accordance with current practice in other classified equipments of similar nature. Keying elements pertaining thereto will however be classified as secret.*

7. The following <sup>recommendations</sup> ~~requests~~ are intended to affect the physical equipment and its handling, only, and do not affect the system use and its personnel.

8. It is recommended that:

(a). The equipment be classified as ~~confidential~~ <sup>Secret.</sup> with the following exceptions: The SIGBUS, SIGGRUV, and all key tables, <sup>are now classified as Secret word</sup> which remain Secret. ~~As in usual cryptographic practice, the higher classification would govern when two items are~~ ~~combined.~~

(b). The present strict observance of admittance to terminal rooms be continued on a list basis. <sup>(This is normal cryptographic practice)</sup> The list will not necessarily reflect the total number of people possessing knowledge of the system, but will include only those having access to a particular terminal room.

(c). Plans for installations of terminals and their locations be classified as ~~confidential~~ <sup>Secret.</sup> unless the knowledge of such locations include knowledge of troop movements etc., or other matters which would require that the terminal locations be held as <sup>Top</sup> Secret.

(d). The SIGSALY directory be continued as a secret document and that the people authorized to use the system be restricted as per the present arrangement.



(e). The opeps be continued as a secret device and information thereof be handled in the normal manner for secret information.

(f). The Recorders (RC-250-T1) (used for production of SIGGRUV) be classified as secret and all information thereof be handled in a normal secret manner.

9. If the recommendations of paragraph 8 are approved, it is recommended that the SSA be directed to take the necessary action to inform all concerned.

~~CONFIDENTIAL~~

11 March 1948

Mr. P. W. Blye  
Bell Telephone Laboratories  
463 West Street  
New York 14, New York

Dear Mr. Blye:

In response to your telephone conversation with Mr. Friedman on 9 March 1948, there is enclosed herewith a brief report regarding the SIGSALY terminals, which may be of assistance to you in preparing your recommendations based upon your visit on 5 March.

We shall be glad to try to answer any further questions that may occur to you and to supply whatever additional data you may need in connection with the preparation of your report.

Very truly yours,

1 Incl  
Report on SIGSALY  
Terminals

HAROLD G. HAYES  
Colonel, Signal Corps  
Chief, Army Security Agency

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DATA ON SIGSALY TERMINALS

<u>Terminal No.</u>	<u>Location</u>	<u>Approximate Dates in Actual Use</u>	<u>Total Time</u>
1	London	About Jul 43 - 31 Oct 45	2 yrs. 3 mon.
2	Pentagon	About Jul 43 - 1 Aug 46	3 yrs.
3*	Algiers	About Jul 43 - 19 Sep 44	1 yr. 2 mon.
4	Brisbane	15 Jun 44 - 5 Jan 45	
	Manila	1 Jul 45 - about 1 Jul 46	1 yr. 6 mon.
5	Honolulu	15 Jun 44 - about 1 Aug 46	2 yrs. 2 mon.
6	Left U.S. about Mar 44. Not installed in <u>Frankfurt</u> until <u>May 45</u>	1 Jun 45 - about 1 Aug 46	1 yr. 1 mon.
7	Pentagon	About Jul 44 - 1 Aug 46	2 yrs.
8	Paris	25 Oct 44 - 10 Dec 45	1 yr. 1 mon.
9	New Guinea Manila Tokyo	About 15 Nov 44 - (This terminal was About 2 Jan 45 - installed on a communi- About 1 Oct 45 - cations barge.)	
10	Guam	About 15 Apr 45 -	1 yr. 4 mon.
11	Oakland	About Oct 44 - 31 Oct 45	1 yr.
	(This terminal was later shipped to Tokyo, but was not installed due to lack of personnel.)		
12	Berlin	About 1 Jun 45 -	1 yr. 1 mon.
	(Stored in New Cumberland until 17 Apr 45.)		

\*This terminal now stored at New Cumberland Depot