

DECLASSIFIED

Authority NND 978245

By cdg NARA. Date 7/13/91



DEPARTMENT OF THE NAVY
SPECIAL PROJECTS OFFICE
WASHINGTON 25, D. C.

IN REPLY REFER TO

SP2433-RLF:njv
H-2
Ser: 0747-SP
6 April 1959

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OPERATIONS
AIDS TO NAVIGATION DIV.

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From: Chief, Bureau of Ordnance
To : Commandant
U. S. Coast Guard Headquarters (EEE)
Washington 25, D.C.

Chief of Naval Research
Department of the Navy
Washington 25, D.C.

Handwritten initials: WBS and DM

Subj: LORAN-C; classification of information relating to (U)

Ref : (a) BuOrd ltr SP2513-RLF:ms X11/2 Ser 32623 of 28 Jan 1957
(b) CNO ltr OP341 D/jk Ser 467P34 of 5 Apr 1957 to Dist. list
(c) BuOrd ltr SP2513-RLF:mm LORAN-C Ser 0403-SP of 7 Apr 1958
(d) BuOrd mssge 111533 of June 1958
(e) BuOrd Secret ltr to ONR Ser 002756 of 10 May 1957 ? see para 5. b (?)

1. By reference (a) the original security classification of LORAN-C (CYTAC) information was established by the Bureau of Ordnance. In that document the classification was established according to the nature of the information.

2. By reference (b) the Chief of Naval Operations declassified the navigational portion of CYTAC, which is LORAN-C, except for the connections with classified projects when such connection would compromise these projects.

3. By references (c) and (d) the security classification of LORAN-C information was modified by the Bureau of Ordnance. In references (c) and (d) the information was separated as to the source, with a result that a strict interpretation of references (a), (c), and (d) leaves areas of uncertainty regarding the classification of information on the accuracy of LORAN-C.

4. The security classification of LORAN-C information is hereby re-stated as follows:

(a) All information indicating the Special Projects Office (POLARIS) interest in LORAN-C outside of the East Coast network is classified "CONFIDENTIAL" or higher as determined by other instructions.

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4740

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SP2433-RLF:njv

H2

Ser: 0747-SP
6 April 1959

(b) All information and all equipment or devices which reveal coding or antijamming capabilities of LORAN-C shall be classified "CONFIDENTIAL", with the following three specific exceptions which are "UNCLASSIFIED."

(1) The double eight pulse sequence now used in the East Coast net-work which is

	Master	Slave
Pulse Number	123456789	1345678
Repetition Int. 1	++---+--+	++++---+
Repetition Int. 2	+---+++++	+--+---+
Repetition Int. 3	++---+---	++++---+
Repetition Int. 4	+---++++-	+--+---+

+ indicates 0° phase of RF within pulse envelope
- indicates 180° phase of RF within pulse envelope

(2) The single pulse slave, double pulse master coding pattern of the type utilizing only 0° and 180° phase shifts and having a complete coding cycle of four or less pulse repetition intervals.

(3) The equipment now in use in the East Coast Network including transmitters, synchronizers, monitoring equipment, frequency sources and all supporting equipment and receivers for use with the system.

5. The following material may be considered "UNCLASSIFIED" subject to the restrictions given above. Specifically, the accuracies of LORAN-C revealed by the material are "UNCLASSIFIED."

(a) The Special Projects Office interest in and connection with the East Coast Loran-C Network.

(b) The project established under reference (e).

What is this project

(c) All calibration data and analysis taken by the East Coast Network ground monitors, by aircraft, land vehicles and surface craft other than the EAG-153. Specifically, the data and results of the aircraft surveys and the Jansky and Bailey analysis obtained under the project established by reference (e) are included.

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Ser: 0747-SP
6 April 1959

(4) All data from the East Coast Network and analysis of it from the EAG-153 where reference positions are taken by standard navigational means, by LORAN, SHORAN, LORAC, RADAR or other unclassified electro-magnetic systems, and by unclassified optical devices or methods. This includes the material from the Cape Hatteras and Eleuthera Calibration work in 1957.

(5) Current requirements on equipment accuracies as indicated in specifications or otherwise.

6. The security status indicated herein applies only to the East Coast LORAN-C system and information from and pertaining to that system.

W. F. RABORN
Director, Special Projects

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