

Message Text

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71-62

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TO AMEMBASSY OSLO IMMEDIATE

INFO AMEMBASSY LONDON IMMEDIATE

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AMEMBASSY REYKJAVIK

COGARD IMMEDIATE

CINCUSNAVEUR IMMEDIATE

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COMNAVELEXSYSCOM WASHDC

COMNAVTELCOM WASH

CMDT COGARD

C O N F I D E N T I A L STATE 269489

E.O. 11652: XGDS-3 DECLAS 31 DEC 1995

TAGS: MARR, NO

SUBJECT: CLARINET PILGRIM ASPECTS OF LORAN C

REF: (A) OSLO 4915

(B) STATE 265819

(C) OSLO 5043

1. UNCLASSIFIED RESPONSES TO MOD NORWAY QUESTIONS (REF A)

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ARE PROVIDED PARA 2 BELOW. BACKGROUND IN THIS PARAGRAPH

IS CLASSIFIED CONFIDENTIAL AND IS CLEARED FOR DISCLOSURE TO NORWEGIANS. EXTREME CARE SHOULD BE EXERCISED TO MAKE NORWEGIANS AWARE OF SECURITY CLASSIFICATION AND OUR DESIRE FOR PROTECTION AGAINST UNAUTHORIZED DISCLOSURE. THE LORAN-C CHAIN CALLS FOR THE INSTALLATION OF A SINGLE BROADCAST CHANNEL SYSTEM IF AND WHEN NORWEGIAN APPROVAL IS OBTAINED. MULTICHANNEL PILGRIM DEVELOPMENT, CURRENTLY PROGRAMMED FOR DEVELOPMENT IN MEDITERRANEAN, WILL RESULT IN BACKFITTING OF NORWEGIAN SEA LORAN-C CHAIN LATE IN CALENDAR YEAR 1979 IF CLARINET PILGRIM APPROVAL IS RECEIVED

FROM NORWAY. THE UNCLASSIFIED DESCRIPTION OF CLARINET PILGRIM IS A COMMUNICATION SYSTEM WHICH SUPERIMPOSES FLEET BROADCAST MESSAGES ON LORAN-C NAVIGATION SIGNALS.

INFORMATION DISCLOSING SUBMARINES AS USERS IS CLASSIFIED CONFIDENTIAL BUT AUTHORIZED FOR DISCLOSURE. IT IS ANTICIPATED THAT THE MULTICHANNEL DEVELOPMENT MAY PERMIT THE POSSIBILITY OF A NORWEGIAN MILITARY CHANNEL. A LIMITED INFORMATION RATE INTERSTATION COMMUNICATION CHANNEL CAN BE MADE AVAILABLE WITH EITHER THE SO CALLED SINGLE CHANNEL OR MULTICHANNEL SYSTEMS. THE INFORMATION RATE OF USN CHANNELS IS 50 BAUD.

2. FOLLOWING TEXT IS CLEARED FOR UNCLASSIFIED RELEASE.
BEGIN TEXT: FOLLOWING RESPONSES ARE PROVIDED FOR INFORMATION

3. IN ADDITION TO THE PROPOSED USN CHANNEL, A PLAIN LANGUAGE CHANNEL CAPABLE OF 44 CHAR/MIN TRANSMISSION RATE CAN BE MADE AVAILABLE FOR INTERSTATION COMMUNICATIONS. INCREASE IN INFORMATION CAPACITY IS CURRENTLY UNDER CONSIDERATION BY USN AND TOTAL EXPECTED TRANSMISSION RATE IS LIMITED TO ABOUT 200 BITS/SEC BY THE LORAN-C GROUP REPETITION INTERVAL (I.E. RATE 7970). NUMBER OF CHANNELS AND SPECIFIC CHANNEL RATE DEPENDENT UPON SYSTEM DESIGN. INCREASE OF INFORMATION CAPACITY UP TO 200 BITS/SEC SHOULD NOT AFFECT NAVIGATIONAL ASPECTS OF LORAN-C. FINAL DETERMINATIONS WILL BE MADE IN TEST PROGRAM CURRENTLY SCHEDULED IN 1976.

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4. MULTIPLE CHANNELS CAN BE OPERATED INDEPENDENTLY, FOR EXAMPLE, ASSUMING TWO CHANNEL OPERATIONS, THE US COULD OPERATE ONE CHANNEL ON ONE, SOME OR ALL TRANSMITTERS IN A CHAIN WHILE OPERATION OF THE OTHER CHANNEL BY NORWAY ON

OPERATION OF SEPARATE STATIONS ON INDEPENDENT CHANNELS, WHILE NOT CONTEMPLATED, IS POSSIBLE. DOUBLE RATED STATIONS

ARE CAPABLE OF INDEPENDENT OPERATIONS FOR EACH RATE. TEST PROGRAM SHOULD CLARIFY ANY AMBIGUITY.

5. EACH SEPARATE LORAN-C STATION CAN BE OPERATED AS AN INDEPENDENT COMMUNICATIONS TRANSMITTER. THIS IS THE MODE UTILIZED FOR INTERSTATION COMMUNICATIONS. FOR FLEET BROADCAST TRANSMISSION, HOWEVER, IT IS ADVANTAGEOUS TO HAVE ALL TRANSMITTERS IN THE CHAIN TRANSMITTING THE SAME COMMUNICATIONS TO TAKE ADVANTAGE OF MAJORITY VOTE AND DIVERSITY RECEPTION. MASTER AND SLAVE STATIONS HAVE NO FUNCTIONAL RELATIONSHIPS FOR COMMUNICATIONS TRANSMISSION. WHERE POSSIBLE IT IS PLANNED TO FEED FLEET BROADCAST DIRECTLY TO EACH TRANSMITTER. THIS IS PROBABLY IMPRACTICAL FOR JAN MAYEN WHICH WOULD THEN RELAY SIGNAL RECEIVERS FROM ANOTHER LORAN-C TRANSMITTER.

6. THE PROPOSED SYSTEM CAN BE PROVIDED WITH LIMITED (44 CHAR/MIN) INTERSTATION COMMUNICATIONS. IT IS EXPECTED THAT FUTURE DEVELOPMENTS WILL INCLUDE A SIMILAR INTERSTATION COMMUNICATION CHANNEL. TEST PROGRAM SHOULD CLARIFY THIS.

7. BECAUSE OF THE INDEPENDENT NATURE OF THE COMMUNICATION CHANNELS AND THE FUNCTIONALLY INDEPENDENT OPERATION OF MASTER AND SLAVE STATIONS IN COMMUNICATIONS TRANSMISSIONS, INTRODUCTION OF ADDITIONAL STATIONS ON THE NORWEGIAN SEA LORAN-C CHAIN WOULD NOT INFLUENCE CLARINET PILGRIM OR VICE VERSA.

8. SINGLE CHANNEL SHIPBOARD RECEIVERS HAVE BEEN DEVELOPED WHICH ARE INDEPENDENT FROM NAVIGATION RECEIVERS AS HAVE RECEIVERS FOR INTERSTATION COMMUNICATIONS. EXPANSION OF INFORMATION RATE WILL REQUIRE DEVELOPMENT OF

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NEW RECEIVERS. NEW RECEIVERS FOR USN UNITS ARE PART OF DEVELOPMENT TEST PROGRAM AND WILL ALSO BE INDEPENDENT FROM NAVIGATION RECEIVERS.

9. CONVENTIONAL CABLE OR TELEGRAPH LEASED LINES ARE ANTICIPATED FOR INPUT TO US CHANNELS AT BQ. A SPECIAL RECEIVER/CORRELLATOR WOULD BE UTILIZED AT JAN MAYEN.

10. US COMMUNICATION CHANNELS WOULD CARRY FLEET BROADCAST OPERATIONAL AND ADMINISTRATIVE TRAFFIC. INTERSTATION COMMUNICATION CHANNELS WOULD CARRY LORAN-C CONTROL TRAFFIC.

11. IN GENERAL, TECHNICAL CHARACTERISTICS OF SYSTEM ARE UNCLASSIFIED. OPERATIONAL CHARACTERISTICS OF US CHANNELS ON SYSTEM ARE CLASSIFIED IN ACCORDANCE WITH USN DIRECTIVES.

IMPLEMENTATION PLANS ARE CLASSIFIED CONFIDENTIAL UNTIL
IMPLEMENTATION IS APPROVED BY HOST COUNTRY. ALL PILGRIM
HARDWARE IS UNCLASSIFIED.

12. COMMON CONTROL OF LORAN-C TRANSMITTERS IS CONSISTENT
WITH USN USE OF CLARINET PILGRIM. END OF TEXT.

13. ASSUME AMEMBASSY LONDON COORDINATING TIME AND PLACE
FOR MEETING WITH ALL CONCERNED (REF B AND C). KISSINGER

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