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NRL SPECIAL PROJECTS CONTROL NUMBER

NRL BTK-00056/73

DATE
15 March 73

100 10/5/94

ORIGINATOR CNM (PM-16)			SERIAL NO. BYE 55288/73	ENCLOSURES
DATE REC'D 23 Mar 73	TICKLER DATE ---	COPY NO. 2; 3	RECEIPT NO. 022/73	
SUBJECT Technical Operations Group (TOG) Meeting report of			DIST INFO	

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Lee				<i>has seen</i>		
Mark				<i>1/11/5/30</i>		
Fred						

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E-EVALUATION

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E-2 INFO

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BYEMAN-TALENT-KEYHOLE

NAVY SPACE PROJECT OFFICE (PM 16)

CONTROL SYSTEMS JOINTLY CONTROL SYSTEM

~~(S)~~-NATIONAL RECONNAISSANCE OFFICE, PROGRAM C

WASHINGTON, D.C.

OFFICE OF THE DIRECTOR

PM 16-5/lc

15 March 1973

MEMORANDUM FOR: DIRECTOR, NAVAL RESEARCH LABORATORY (1000 and 7030)
 DIRECTOR, NATIONAL SECURITY AGENCY (W24 and W84)
 DIRECTOR, CENTRAL INTELLIGENCE AGENCY
 DIRECTOR, NRO STAFF (SS4, SS4A and SS7)
 COMMANDER, NAVAL SECURITY GROUP
 CHIEF OF NAVAL OPERATIONS (OP094W)

Subj: Technical Operations Group (TOG) Meeting; report of

Encl: (1) List of Attendees
 (2) TOG Meeting Agenda
 (3) CNSF Collection Highlights Report
 (4) CONCERT 221620Z Feb. 73 Cite 4853, Subj: Mission 7107 On-orbit Calibration
 (5) Draft Basic POPPY Plan

1. A TOG meeting was held at 0930, 22 February 1973 at NSA. A list of attendees and the agenda are forwarded as enclosures (1) and (2).

2. The following specific items were discussed:

a. 7107 Status: (NRL)

The basic system status remains normal. Recent minor problems were discussed: in particular, the similarity in command between BUDL (Back-up Data Link) and the twenty minute timer. Unintentional activation of the BUDL bypasses the timer and sets a pre-determined collection payload configuration. Using the BUDL is an emergency procedure and is not desired at this point in 7107 life. The timer is used on nearly every pass and so this command similarity and occasional misactivation is more of an annoyance than a real problem. ? *not true - activation of*

Since the last TOG, a problem with the secondary (backup) power supply on 7107A arose which was expeditiously resolved by the NRL facility at [redacted] site monitored the entire operation and provided valuable support data for NRL diagnosis. The result is that the secondary/backup power supply on 7107A is not usable; but this does not inhibit normal operation of this satellite. The currently approved tasking level of 600 ma and the low-voltage limits for the sites remain in effect. It was discussed that a slowly changing procedure for ensuring the longest possible useful life for

BUDL can be dangerous to health of payload if not turned off!

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Subj: Technical Operations Group (TOG) Meeting; report of

the 7107 satellites should be considered. In particular, tasking reflective of solar cycle might be appropriate. Since the failure mentioned above, all task groups have been reviewed and those requiring more than 600 ma have been canceled. Further actions to conserve 7107 will be discussed at future TOG meetings.

b. 7107 Collection Highlights: (NSG)

Enclosure (3) is the NSG report on collection highlights since the previous TOG meeting.

c. 7107 Processing Highlights: (NSA)

The following items of interest were presented:

(1) There have been recent 7107 intercepts of B339Z operating in the high PRF range, but unstaggered. This occurrence has been previously interpreted as a malfunction, but these recent intercepts lead the analysts to believe that it might be a legitimate mode of operation.

(2) ELT's have been published on analyses of [] and [] These data were collected using 7107 under the special SLM tasking.

(3) Additional ERP measurement reports on [] [] are in various stages of coordination. These data were also collected using 7107 under the special SLM tasking.

(4) Project Departure is beginning to produce ELT's. This effort should greatly enhance the end product resulting from POPPY collections.

(5) It is currently planned to conduct an on-orbit calibration of Mission 7107 during the week from 5 to 10 March 1973. Heavy [] involvement will be required. The details of this operation are contained in enclosure (4).

(6) Another ELINT collector has intercepted probable [] signals exhibiting a stagger related to the 24th, 26th, 30th and 32nd countdown of an 80.905 KHZ crystal. Six and seven position staggers have been observed. This information may be useful to the POPPY sites in processing for this emitter.

(7) A possible self-sufficient mode for the [] target tracking radar has been intercepted by 7107 through [] A periodic azimuth scan was observed in addition to the rapid vertical sector scan.

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Subj: Technical Operations Group (TOG) Meeting; report of

(8) A short viewgraph presentation on the SLM collection results against the [] acquisition radar and the [] target tracking radar was given. The presentation also contained a summary of signals that have been exploited to date using the SLM option on the 71XX series.

(9) The recent meetings and exchange of messages on the 7107 effort at [] were briefly discussed. The NSA representatives appeared to be satisfied with the current collection plan.

d. Engineering Evaluation: (NRL)

The NRL representatives introduced the tentative planning to conduct the next 7107 engineering evaluation at [] in May 1973. This coincides with the six month cycle for these evaluations. It is anticipated that about four days of station down time will be required.

Previously in the meeting, the NSA representative had inquired about obtaining [] intercept geolocational data, using 7107 and one of the 7106 satellites that is still capable of operation. The NRL representatives agreed to research the status of the 7106 birds, orbital opportunities to accomplish this collection from [] during the engineering evaluation, and the problems associated with the site collecting from three satellites simultaneously. This subject will be discussed further at the next TOG.

e. POPPY Plan: (SPO)

The SPO is engaged in major efforts with respect to the POPPY program which include current operations, upgrades in capabilities and the coming transition to the follow-on system. The basic plan, included as enclosure (5), was introduced as a first draft of those actions that must be taken in the POPPY program. TOG representatives were asked to consider elements of this document that impact their interests. Each specific task was discussed briefly. The next level of detail of this plan will be aimed at providing the basic information required for FY 1974 budget planning. The SPO POPPY Officer will pursue actions on each of the tasks to the level of detail necessary to accomplish this planning. Inputs were solicited from the TOG representatives. This plan will be discussed at the next TOG.

f. Operations Seminar: (NSG)

The NSG representatives announced the schedule for the 1973 POPPY Operations Seminar which will be held at NSG Command on 9-13 April. Site personnel will be in the Washington area on the preceding Wednesday, and will visit areas/organizations of interest on Thursday and Friday. Details will be promulgated by NSG.

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3. The next TOG meeting will be hosted by PM 16 (SPO) at NRL on 22 March 1973.


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List of Attendees

PM 16 (SPO)

NSA

NSG LT Morgan

NRL Mr. Mayo
Mr. Frankovic

OPNAV

NRO SOC

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TOG MEETING AGENDA

7107 Status

7107 Collection Highlights

7107 Processing Highlights

Engineering Evaluation

Draft POPPY Plan

Operations Seminar

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CNSG Collection Highlights Report

Since the previous TOG meeting, the following collection summary highlights have occurred:

I. Ocean Surveillance

3219 [] reported ship locations, including
690 [] equated to previously reported emissions, nearly all reported by ship name.
128 []

Three temporary designators for repeated intercepts were correlated to specific ships as follows:

BS-005-72 to Kotlin DDG 169, now operating in the Mediterranean Sea
RF-003-72 to Kotlin DDG 448, now operating in the Petropavlovsk area
BS-004-72 to Kara CLGM 538, now operating in the Black Sea.

During the first week of Project High Boy operation, 7107 made the following contributions:

17 emitters were located by []

18 emitters were located by []

5 emitters were observed as individually distinguishable as follows:



These emitters are assigned temporary designators until the specific ship correlations become available.

A Soviet Task Group that has been operating the the Caribbean Sea is now being observed transiting to home waters. Emissions from both the Kresta 293 and Kanin 290 have been intercepted and correlated by [] locations have been reported and [] continues to report intercepts during the transit.

II. General Search

30 unidentified signals have been reported.

III. Technical Intelligence

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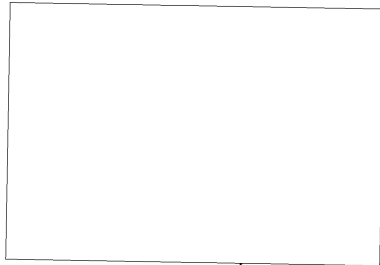
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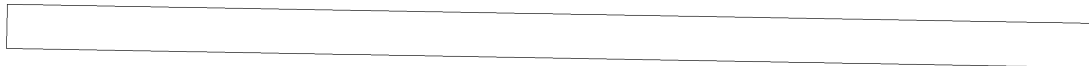
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[redacted] have been executing the special SLM tasking for two weeks. Results have been reported from the following emitters:



IV. Electronic Order of Battle



[redacted] is monitoring the deployment of the SA-X-8 missile system. In the last six weeks there have been 14 emission intercepts geolocated near Bogoduklov, USSR; and there has been one reported intercept near Bryansk, USSR.

[redacted] intercepted emissions from [redacted] radars from four sites (E-0S, E-24, E-31 and E-33) in the Moscow area during the week of 11 February. Individual site correlations were made from pulse train analyses.

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MADAM FOR [] COGNAC FOR MR. HELLRICH; CHARGE
FOR []

SUBJECT: MISSION 7107 ON-ORBIT CALIBRATION

1. THE DATA PACKAGE SENT BY COURIER FROM MADAM CONTAINING THE CHANGE-OVER MATRIX AND THE CALIBRATION VAN CAPABILITIES NECESSARY FOR POPPY CALIBRATION HAS NOT YET BEEN RECEIVED. THEREFORE, A CALIBRATION SCHEDULE WAS MADE BASED ON THE PRESENT UNDERSTANDING OF CALIBRATION CAPABILITIES.

2. THE ORBITAL GEOMETRY FOR THE FIRST WEEK IN MARCH HAS BEEN REVIEWED AND THE FAVORABLE ORBITS IDENTIFIED. BASED ON THESE ORBITS, CALIBRATION LIMITATIONS, AND RF BAND PRIORITIES, THE FOLLOWING SCHEDULE IS PROPOSED.

DAY	TIME(Z)	ORBIT	RF (MHZ)	POLARIZATION
5 MAR	0602	6131D	5000	HOR
	1538	6137AB	6650/172	VERT/VERT
6 MAR	0538	6145AB	6650/172	VERT/VERT
	1516	6150D	8000	VERT
7 MAR	0607	6159AB	6650/172	VERT/VERT
	1452	6164AB	6650/172	VERT/HOR
8 MAR	0545	6172D	5000	VERT
	1429	6177D	5000	VERT
9 MAR	0520	6186AB	6650/172	HOR/HOR
	1450	6191AB	6650/172	HOR/HOR
10 MAR	0458	6199D	8000	HOR
	1434	6205AB	6650	HOR

(A) TIME (Z) IS THE TIME OF EQUATOR CROSSING. ACTUAL COLLECTION WILL BE 05-35 MIN LATER.

(B) THE CHARACTERS FOLLOWING THE ORBIT NUMBERS INDICATE WHETHER 7107AB OR 7107D IS BEING CALIBRATED.

3. IN ORDER TO ACCOMPLISH 18 CALIBRATIONS IT WILL BE NECESSARY TO EXTEND THE TIME PERIOD OF CALIBRATION TO SIX DAYS. IF NECESSARY, LESS THAN 18 CALIBRATIONS CAN BE PERFORMED THIS QUARTER WITH THE DIFFERENCE BEING MADE UP AT ANOTHER TIME WHEN THERE IS MORE CALIBRATION HARDWARE AVAILABLE.

4. IF THERE IS A NEED TO MODIFY THIS PROPOSED CALIBRATION SCHEDULE, OR IF THERE ARE RECOMMENDATIONS FOR IMPROVEMENT, PLEASE RESPOND BY 23 FEBRUARY.

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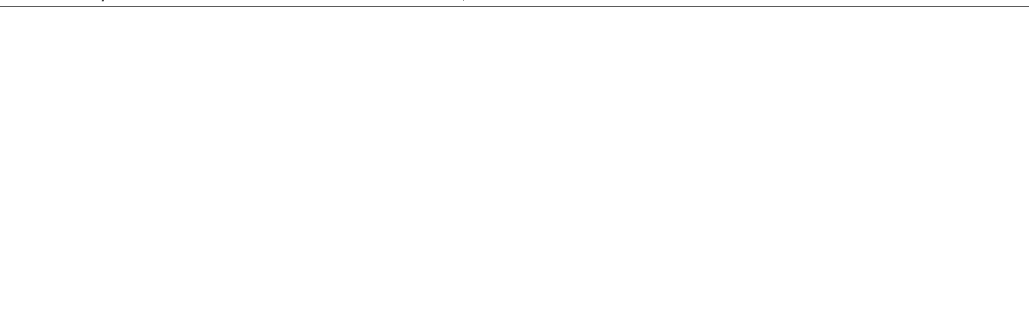
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DRAFT/BASIC POPPY SYSTEM PLAN

I. Background and Purpose.

Mission 7107 is the only currently operating and planned set of satellites in the POPPY System. Present guidance requires that:

A. Mission 7107 be operated in accordance with SORS Guidance, and that ground operation improvements to enhance performance and response be undertaken.

II. Objectives:

A. Accomplishment of the POPPY mission as specified by USIB/SORS Mission Guidance.

B. Improvements to the POPPY System to enhance mission performance.

The POPPY upgrade is a part of this action as are any other efforts which lead to improved system performance. Since no new POPPY satellites are currently planned, this effort concentrates on improving the capability to exploit the on-orbit satellites and the data derived therefrom. It may also include the improved usage of data supplied from other sources to increase the utility of the POPPY products. The ultimate aim of actions under this phase is to transition into the first activity - mission performance.

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