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CONTROL SYSTEMNAVY SPACE PROJECT OFFICE (PM 16)
(S) NATIONAL RECONNAISSANCE OFFICE, PROGRAM C

WASHINGTON, D.C.

OFFICE OF THE DIRECTOR

PM-16-411/wtc
7 August 1972

MEMORANDUM FOR DIRECTOR, NAVAL RESEARCH LABORATORY
DIRECTOR, NATIONAL SECURITY AGENCY
DIRECTOR, CENTRAL INTELLIGENCE AGENCY
DIRECTOR, NRO STAFF (SS-4) (SS-7)
COMMANDER, NAVAL SECURITY GROUP

Subj: POPPY Technical Operations Group (TOG) Meeting;
Report of

Encl: (1) List of Attendees
(2) TOG Agenda
(3) POPPY Operational Highlights

1. A TOG meeting was held at 0930 6 July 1972 at PM-16.
The list of attendees and agenda are forwarded as enclosures
(1) and (2).

a. 7107 Status

(1) NSG - 7107B has recently encountered some power supply problems, starting about 28 June. Consequently all satellites are now being tasked using the 20 minute timer mode instead of the 50 minute mode in order to conserve power. Apparently operation of 7107B in the 50 minute mode and during reduced sunlight exposure causes a serious drawdown in power. It was noted that during the command sequence for the timer, if one particular tone pair is dropped, the satellites will go into the delay mode and not shut down. All stations have been so advised.

(2) NSG - 7105A/B and 7106C are still being utilized for training, tipoff, and some [] and special tasking. 7106C continues, additionally, to provide selected SLM data.

b. Collection Highlights

(1) NSA - NSA is eager for POPPY to collect SLM data against []

(2) NSG - Efforts have been underway at [] to calibrate ground collection system timing delays. The current delay compensation method involves choosing a best delay value for a calibration signal run at constant PRF and power level, through the collection system.

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CONTROL SYSTEM

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Report of

This best value is extracted from the systac maintenance program, then input to the ELINT processing software and used for all signals processed through the particular logical receiver channels. This method is obviously not responsive to signal parameter and power fluctuations, and consequently leads to timing errors in [] and ultimately geolocation errors. [] using on line scope displays, derived DB above tangential vs. volts curves which were then used to provide absolute delay vs. DB above tangential curves. In this way a series of values for delay were derived as a function of signal strength, which can be related to satellite elevation angle to the site. HRBLOC runs can then be modified with delay values which are most nearly correct for the elevation angle of satellite to ground site for each lop. In this way [] locations were iterated using improved delays. Location accuracies for good geometries were not appreciably changed but for bad geometries location accuracies improved by as much as 15 percent using variable values for system delay.

(3) NSG - The RFI problem in [] will be dealt with via USEUCOM informing [] that NRL is conducting an experiment to run through 1975. USEUCOM will request that the [] area taxis change their transmitter crystals, at U.S. expense if necessary.

(4) NSG - During this period [] produced a new record of 56 [] in one 9 hour interval. Further collection highlights appear in enclosure (3).

c. Processing Highlights

(1) NSA - There have been some important personnel changes at NSA which affect the POPPY processing community. [] has replaced Mr. John Conlon (who has retired) in W24 processing. [] has taken over W8 from [] who has moved into communications security.

(2) NSA - Project Departure, the computer aided radar signal analysis effort at ITT, will go operational on 1 August. The SEL 810 computer to be used for this work has completed acceptance testing at HRB SINGER.

(3) NSA - The additional analog pulse width selectors which have been ordered for on line use should be delivered by 1 August for further distribution by NRL to the field sites.

(4) NSA/NRL - Analog data tape quality from [] has not been completely satisfactory. The problem is believed to reside with recorders. New recorders will be sent soon.

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CONTROL SYSTEMd. Tasking Constraints on Mission 7107

(1) SOC - When sunlight illumination falls below 78 percent, band 10 option 2 and band 14 option 2 in 7107D become inoperative. SOC will task the total mission 7107 capability except for the following: 7107C band 13 option 1, band 19 option 2; 7107D band 10 option 1, band 19 option 2, band 21 option 1. SOC must be promptly informed of any other mission technical problems which impact upon selection of task groups and tasking rotations.

(2) SOC/NRL/NSG - NRL will continue to receive task group configurations for testing at [] concurrent with their implementation in the field. Before sites report cross talk problems they should test the data using the VICAP program display. Quarterly data quality, and environmental sampling will be planned by NRL, tasking implemented by the SOC, and coordinated with the sites via NSG. These periods for engineering evaluations will also be used as required to test special task groups for ocean surveillance and other special collection.

e. Plans for Future Engineering Evaluations

(1) NRL/SOC - The next engineering evaluation is scheduled for [] in September.

f. Effects of Spacing on Location Accuracy

[]

g. Feedback on Site Developed O/S Tasking

(1) NSG - Site developed and implemented tasking for ocean surveillance on selected orbits has provided an opportunity for innovation at the sites and increased the output of data. Further highlights will be provided at future meetings, as available.

h. Miscellaneous Items

(1) NSG - There remains a strong requirement for a technical opscom circuit linking the field sites to each other and to the POPPY net control. This circuit would be used for technical exchange and mission coordination.

(2) NSG/NRL - A basic SOP is required and will be developed to define technical and reporting procedures when various satellite malfunctions occur. At this time reaction to such problems is largely a matter of field site judgment.

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(3) NSG/NRL - [] equipments should be operational by 15 July with PDE capability by 1 September. There will be a technical phase-in period from 1 August to 1 September prior to operational reporting.

(4) The next tog meeting will be held at NSG on 24 August 1972.

[]
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CONTROL SYSTEMLIST OF ATTENDEES

(6 July 72 TOG Meeting at PM-16)

PM-16NSANRL

Mr. Mayo
Mr. Wilhelm
Mr. Rose

Mr. Wilson
Mr. Eisenhower
Mr. Van de Walle

NSG

LT Morgan
LT Lentz
ENS Kellog

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CONTROL SYSTEMTOG AGENDA

1. MISSION 7107 STATUS (NRL)
2. MISSION 7107 COLLECTION HIGHLIGHTS (NSG)
3. MISSION 7107 PROCESSING HIGHLIGHTS (NSA)
4. TASKING CONSTRAINTS ON MISSION 7107 (NRL/SOC)
5. PLANS FOR FUTURE ENGINEERING EVALUATIONS (NRL/SOC)
6. EFFECTS OF SPACING ON LOCATION ACCURACY (NSG)
7. FEEDBACK ON SITE-DEVELOPED O/S TASKING (NSG).

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CONTROL SYSTEMOTHER SPECIAL TASKS

ENVIRONMENTAL STUDY AT ALL STAS
ETE/EPH STUDY AT ALL STAS
O/S S.E. ASIA TASKING 9 MAY -16 JUNE

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