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NRL SPECIAL PROJECTS CONTROL NO.
[illegible] B069-72

DATE
10 Mar 1972

JQ 7/6/94

ORIGINATOR	SERIAL NO.	ENCLOSURES
NAVY SPACE PROJECT OFFICE, WASHDC	NYA-52,209/72	D289

DATE REC'D IN NRL	COPIES REC'D	COPY NOS.	RECEIPT NUMBER
27 Mar 72	One	2	013-72

SUBJECT
POPPY II Technical Operations Group (TOG) Meeting; report of

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NRL INCOMING DOCUMENT
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52209-72

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DATE REC'D IN NRL	COPIES REC'D	COPY NOS.	RECEIPT NUMBER
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DEPARTMENT OF THE NAVY
EARPOP PROJECT OFFICE, CONTROL SYSTEM
WASHINGTON, D.C. 20360

IN REPLY REFER TO
PM-16-411:GRB
BYE 52,209/72

10 MAR 1972

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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) Operational Highlights

1. A TOG meeting was held at 0930, 24 February 1972, at NSA. The list of attendees and agenda are forwarded as enclosures (1) and (2).

a. 7105/7106/7107 Status

(1) NRL - Mission 7107 pairs will be parked in a 2 step thrusting operation, with major thrusting operations occuring in late March and late May 1972.

(2) NRL - 7107C pitch and roll are fairly predictable - ranges of $\pm 4^{\circ}$ and $\pm 1^{\circ}$ respectively - but yaw has been notably unpredictable, with a range of $\pm$ 1 1/2° displayed so far. The satellite's orientation will consequently be nearly impossible to predict accurately. No information on orientation can be stored within satellite memory without sunshine illumination.

(3) NSA - orientation information as a function of time is vital if SLM data is to be properly evaluated to yield emitter ERP's.

(4) NRL - NRL suggests the desirability of some scheme by which Channel A telemetry may be recorded at the station on analog tape for reference in SLM tasking. Sampling orientation data at [redacted] at a 2.50 minute rate results in a loss in data continuity and also restricts the satellite memory to a limited function of TM monitoring.

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PM-16 013-72

NRL S-00069-72

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(5) NSA/NRL - It would be well to form a working group to determine the cost and operational impacts of recording TM on the analog tape. NRL does not believe the recorders have enough FM record amplifiers available to record 6 tracks of analog data required. Perhaps a better approach would be to record only for those passes tasked for SLM collection.

(6) NRL - 7105 and 7106 satellites still operational are in a stable condition. 05C TM is still out. [redacted] will monitor this ball on a continuing basis, but it appears to be dead. 05 C/D are far apart, having passed each other once more. 05D is not thrustable owing to uncertainty in orientation; thus 05C/D as a pair appear to be functionally finished. [redacted] will monitor orientation data on each of the 7107 balls once every four days.

(7) NSG - The 7107 timers have been shown to increment too quickly, giving rise to resets over [redacted] when the satellites have been previously commanded via the timer in delay modes. This information has been provided by the command memory.

(8) NRL - Recent mission constraints levied on bands taskable as a function of total current drawdown were due to uncertainties following the failure of 7107C No. 2 voltage regulator/converter. 7107C is functioning satisfactorily on No. 1 voltage regulator/converter but now lacks the No. 2 backup. It has been determined that 7107C did not suffer from a load problem. Tests at NRL have confirmed that the elint payload is taskable up to a 750 MA (12 band) load on a continuing basis without any deterioration in power levels. The greatest current draw occurs in the video and pre-amplifiers and is bias current. For the near future a 600 MA load (9 bands) would be a prudent task group limit with full 12 band tasking available for special tasks. This matter is open to future examination.

b. Operational Highlights for 7105/7107

(1) See enclosure (3) for monthly highlights. The period was marked by increased ocean surveillance output and intercepts of new PRF modes for [redacted] radars in the [redacted] area of [redacted]

c. Processing Highlights

(1) NSA - SLM data has been lost on low elevation components of SA-6 intercepts. A meeting is set among NRL/SOC/

NSA on 9 March 1972 at 1300 at NRL to plan calibration of SLM data and assess orientation information on mission 7107. NSA desires a major increase in SLM tasking in 1972 to determine beam structure and power levels of some 40 emitters.

(2) SOC - SOC will need information on SLM collection priorities for these emitters in order to plan tasking adequately.

(3) SOC - NSA should specify 7106C bands of interest relative to the [redacted] emitter so that task groups and priorities may be assigned for SLM collection of this signal.

(4) NSA - Processing at NSA continues to be heavily dependent upon thorough search and analysis of data tapes at the field sites. Owing to recent cutbacks, it simply is not possible for NSA to perform the entire processing function against POPPY data without tipoffs concerning unidents/SOI's.

(5) NSA - NSA will shortly request that non SOI analog tapes be retained at the sites for 45 day periods, in contrast to the current 30 day backlog.

(6) NSA - NSA is procurring an SEL-810 computer and will use it in a technical intelligence analytical mode. Support in checkout and analysis of data will be available from HRB Singer and in the person of a recently discharged Navy analyst from [redacted]

(7) NSA and NRL - There were extended discussions on 7107 sensitivity settings. These discussions will be subject of a memorandum to follow from the Program Office.

(8) NSG - [redacted] is using the analog pulse width selector with very good results in its SOI search. [redacted] and possibly [redacted] could use two of these devices.

(9) NSA/NRL - NRL will decide if more PW selectors should be ordered and NSA will fund them. Possibly they should be used in an on-line signal recognition mode as well. If so, more will be needed.

(10) NRL/NSA - A decision point is approaching with respect to the time when the first SEL-810 from [redacted] should be brought back to [redacted] and when the [redacted] machine should deploy to [redacted] will be operational 1 July 1972 but [redacted] will not receive the SEL-86 until Sept 1972.

(11) SOC/NSG - SOC needs further experience and knowledge concerning fruitful tasking of the comb filter. NSG suggests possible rotation of tasking among elements over a 10 day cycle. Experience has shown that some [redacted] targets present on the 7107 C/D 1 band do not occur within expected comb elements on 7107A/B, despite the latter's higher sensitivity (but smaller beamwidth).

d. Tasking for [redacted]

(1) Consideration of this topic was postponed since further information will be available at the next TOG meeting from an analyst who will have returned from [redacted] the site.

e. Procurement of a fifth SEL-86 computer

(1) NSA - NSA will undertake no commitment for a computer to be used exclusively for training and ocean surveillance processing at [redacted] Furthermore, it is not even clear that the SEL-86 computer will be the processing system finally agreed upon for these functions. Until major questions concerning POPPY's future are resolved, no promise of augmented digital processing will be made by NSA for [redacted]

2. The next TOG meeting is scheduled for 23 March 1972 at 0930 at NSG.

R. K. GEIGER

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BYE 52,209/72

LIST OF ATTENDEES

PM-16

NSA

[redacted]

NSG

[redacted]

LT MORGAN

[redacted]

NRL

MR. MAYO
MR. WILHELM
MR. VAN DER WALLE

SOC

[redacted]

TOG

0930, 24 February 1972

AGENDA

1. 7105/6/7 status. (NRL)
2. 7105/6/7 operational highlights. (NSG)
3. 7105/6/7 processing highlights. (NSA)
4. Tasking of [redacted] (P/M)
5. Procurement of additional SEL-86. (P/M)

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BYE 52,209/72

POPPY OPERATIONAL SUMMARY

11 JANUARY 1972 - 20 FEBRUARY 1972

1. A total of 192 landbased SOI intercepts were obtained during this reporting period with the majority attributed to [redacted] intercepts were of recently deployed Far East emitters.)

2. Project Override, which was levied against Soviet vessels deployed into the Bay of Bengal area, was terminated on 17 January 1972. A total of 12 intercepts were obtained in support of this tasking. Since its termination, an additional eight intercepts have been obtained from the vicinity of the Malacca Straits and Bay of Bengal.

3. Two special tasks were levied in support of SELLOUT missions. SELLOUT IX was implemented on 7 January against Vladivostok, Komsomolsk and Sakhalinsk Air Defense Zones. SELLOUT X was implemented on 19 January against the Severmorsk Air Defense Zone on the KOLA Peninsula. Intercept activity related to these missions was sparse.

4. All stations were tasked to obtain 10 SLM tapes of [redacted] emitters in both the Western and Far Eastern areas. [redacted] is the only site which has completed this tasking.

5. All stations have been tasked to process [redacted] like emissions intercepted from the 4910-5808 Mhz region which are in excess of 30 seconds duration and are extremely stable. No intercepts have been obtained.

6. Since 22 January 1972, 22 [redacted] intercepts have been made in support of Project Flavor. The coordinates in the [redacted] area for these recent intercepts impact in approximately the same general locations as those established by previous reports. Of interest is the fact that a new PRF range is now being reported from intercepts within the [redacted] area. Previous intercepts displayed a PRF of 1875 pps with recent intercepts displaying PRF's of 1922 and 1939 pps.

7. [redacted] was tasked for one week to report SA-3 related activity from within North Viet Nam. This tasking resulted in possible locations of two [redacted] emitters from within the targeted area. (13 of these were not from [redacted]

8. POPPY field sites have reported a total of 539 Soviet Shipborne locations during this reporting period. The breakdown for these intercepts are:

MED	164
BLACK SEA	203
BALTIC SEA	68
NORTH FLEET	17
LANT FLEET	39
PAC FLEET	48

a. During this reporting period, CLGM 298 and DDG 343 have become active off the coast of West Africa. These units were tracked by [redacted] in transit from the Mediterranean into the Cape Verde area. Collateral sources indicated that a WARSAW exercise has been in progress since 1 February. Since late December 1971 a total of 33 intercepts have been made on these units.

b. 22 intercepts were obtained on DD 514 between 2 and 6 February 1972 while the vessel was in transit from the Baltic Sea to Murmansk.

c. DLG's 529 and 523 which have previously been operating in the Eastern Mediterranean were recently deployed off Cyprus. Perhaps this deployment is related to the recent tension reported in Cyprus in recent CNO briefs. 18 intercepts were obtained of these vessels during the last week.

9. A pulse width filter has been installed at [redacted] to enhance analog analysis. In the first few days of evaluation, the PWF has been found to be invaluable to the site in analyzing 7107 data, permitting searching for SOI's or unidents in heavy bands.