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NAVY SPACE PROJECT OFFICE

(S) NATIONAL RECONNAISSANCE OFFICE, PROGRAM C

WASHINGTON, D.C.

OFFICE OF THE DIRECTOR

PME-106-5

SEP 19 1974

MEMORANDUM FOR DIRECTOR, NAVAL RESEARCH LABORATORY (1000 and 7030)
 CHIEF OF NAVAL OPERATIONS (OP-955)
 COMMANDER, NAVAL SECURITY GROUP
 DIRECTOR, NATIONAL SECURITY AGENCY (A81, R24, W2 & W34)
 DIRECTOR, NRO STAFF (SS-4, SS-4A and SS-7)
 DIRECTOR, CENTRAL INTELLIGENCE AGENCY (OSI)

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

Ref: (a) CONQUER 271452Z August 74 CITE 0315
 (b) CNSG ltr BYE-33310/74 of 2 August 1974, Subj: Promul-
 gation of Program "C" Operations Seminar 1974
 Summary Document
 (c) CONCERT 211544Z August 74 CITE 7278

Encl: (1) Agenda
 (2) List of Attendees
 (3) Minimum Daily Voltage Plot
 (4) Collection Highlights
 (5) Processing Highlights

1. A POPPY TOG Meeting was held at the Naval Research Laboratory (NRL) at 0930 on 29 August 1974. The Agenda and a List of Attendees are forwarded as enclosures (1) and (2).

2. The following specific items were discussed:

a. Status. (NRL)

The 7107 satellites are currently receiving only 73% sun exposure, having experienced low levels over the past month. As expected, malfunctioning options are being regularly experienced. Voltages have remained as predicted. Enclosure (3), the Minimum Daily Voltage Plot, shows a continuation of normal behavior. One anomaly can be seen in the high voltage on 7107D, ascribed to reduced collection tasking on this satellite due to failure of the SLM option some time ago. The NRL facility at [] continues to monitor health and status, particularly through low sun periods.

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

The delay time on 7107A has been checked by [] personnel and found to be functioning properly. Problems are still reported by the sites, however (in [] Reports). Since [] has secured operations (on 25 August, for MILCON [] will begin commanding delayed modes for [] on 1 September. This operation will be monitored closely by the NRL to discern any further problem.

[]

The NSG representatives brought attention to the fact that [] personnel have recommended the use of substitute data down-links in 7107D which can partially restore the general search capability to this satellite. Since [] has been inoperative, [] has performed some test collections which appear to be satisfactory. NSA personnel in the [] complex are prepared to process the tapes from these test collections to determine whether the new options present any processing problems.

The NSG representatives asked that action be initiated to maintain the AB spacing above [] Since the reaction wheels are normally activated to accomplish the necessary thrusting, several orbits are required to change the spacing.

The NSG representatives also reported that the SEL 86 at [] was out of operation 13-15 August because of a cracked pin connector and because of failure of some circuit boards. The circuit board problem is ascribed to poor cold solder joints, with a 50% failure rate after two years. Action is underway to locate boards in the system that are likely to exhibit this problem and to replace/resolder them.

B. Collection Highlights. (NSG)

Enclosure (4) was presented.

Additionally, the NSG representatives stated that the OSIS OPSCOMM circuit from [] to FOSIC Norfolk would be operational when this site returns to operation (on or before 1 November)

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

[REDACTED]

The NSG representatives also reported that a shipborne emitter, called the [REDACTED] look-alike" has been geo-located by [REDACTED] off the East Coast of the U.S. and by [REDACTED] in the Mediterranean and Black Seas. No resolution of the actual radar type has yet been made but the ELINT community is searching for explanations.

C. Processing Highlights. (NSA)

Enclosure (5) was presented.

Recently the SPO has requested some POPPY SLM Engineering Collection [REDACTED] The NSA representatives stated that current data libraries are being searched to locate already collected data that satisfies the stated requirement. R244 is continuing to staff the action within NSA.

D. On-Orbit Calibration. (NSA)

Two recent calibration collections were conducted in the periods 30 July - 3 August and 21-24 August using [REDACTED] as the receiving site. Because of the 3-5 weeks in ARFCOS transmission before NSA analysts will see the tapes, no immediate results are available. Preliminary information from [REDACTED] indicates that nearly all efforts were successful. A part of this effort is to perform calibration illumination on both POPPY [REDACTED] as nearly simultaneous as possible. The ultimate objective of the personnel in W24 and W25 that are engaged in these calibrations is to effect a more comprehensive and coordinated calibration program. They are anxious to improve the effectiveness of POPPY calibrations and to participate in planning for [REDACTED]

E. Additional Items.

Three short additional items were introduced, as follows:

(1) Personnel at the [REDACTED] site have recently proposed, by reference (a), that geolocation on some emitters is possible

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where data would normally be discarded. The point is that the automatic (or semi-automatic) digital processing of intercept data to a geolocation carries inherent thresholds to be effective, while off-line analysis of fragmentary data can be rewarding - and often the only way to achieve geolocation. Reference (a) is recommended as a contribution to the general knowledge on this topic.

(2)^c The POPPY [] Operations Seminar conducted at the Naval Security Station, Washington, in late June 1974 has been summarized and was promulgated by reference (b).

(3) By reference (c), NSA has directed a change to the EOB update reporting format (known as a "Supplementary Location Report") used by the POPPY sites. The timing coincides with the deployment to [] of a PAPS III software update package that contains the new format. [] is the only site that has the capability to automatically generate (from the SEL 86) these reports. The other sites prepare intercept reports manually.

3. The meeting closed with a walk-through tour of the NRL facility []

4. The next TOG meeting is scheduled for 26 September 1974 at the Naval Security Station.


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STATUS

COLLECTION HIGHLIGHTS

PROCESSING HIGHLIGHTS

CALIBRATION

A-59 WALK-THROUGH

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Enclosure (1) to

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LIST OF ATTENDEES

SPO:

NRL:

OPNAV:

NSG:

NSA:

NRO/SOC:

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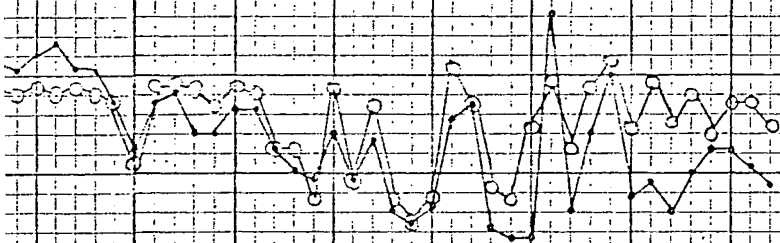
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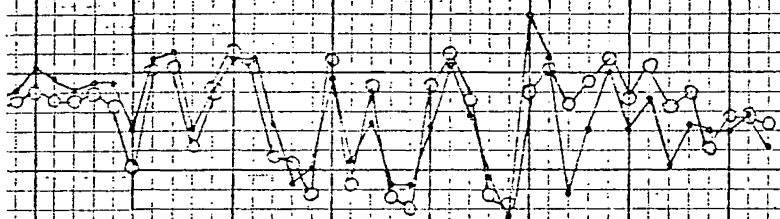
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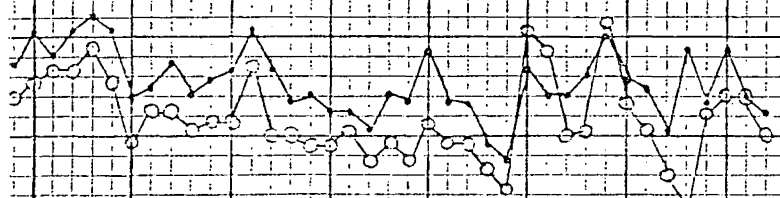
ENCLOSURE 3. MINIMUM DAILY VOLTAGE PLOT



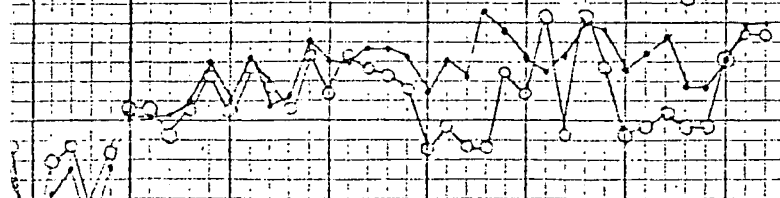
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7107B



7107C



7107D

Enclosure (3) to

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COLLECTION HIGHLIGHTSOCEAN SURVEILLANCE (23 JULY - 26 AUGUST)

Since the last TOG meeting, there have been a total of 4617 [] locations. Seven hundred and ninety six of these were equated to major combatants and/or auxiliaries. Nine hundred and six intercepts were combatant associated but could not be correlated to a specific hull. Fifty two intercepts were of [] emitters, none of which were out of area. Two thousand eight hundred sixty three intercepts of merchant associated radars were reported.

1. Increased [] and surface search radar activity in the Cape Terran area of the Baltic suggests a possible missile firing exercise.
2. The KYNDA VARYAG, AOR KOLYCHITSKIY, and a converted KRUPNYY, the KANIN GNEVNYY, departed the Sea of Japan enroute to the Phillipine Sea. The KYNDA and AOR have detached and entered the southern Sea of Okhotsk, leaving the GNEVNYY in the Phillipine Sea in its first deployment out of area since conversion.
3. Current tasking places emitters in the Phillipine Sea as high priority; interest being in observing a Soviet Force consisting of an AGOR, TWO AGI, KANIN GNEVNYY, [] These units are expected to observe US OPS in the same area.
4. The previous high level of AGI activity in the Norwegian Sea has decreased, possibly ending the hydroacoustic operations considered to be engaged in special tasking of surface radars was discontinued on 27 August.
5. [] has continued to monitor the [] activity in the Mediterranean. New arbitrary designators up to [] have been assigned. There have been 373 intercepts, 144 of which have been equated to an arbitrary designator.
6. A high level of [] activity in the area of Sevastopol was observed in the period of 3 - 4 August.

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7. KYNDA GROZNYYY returned to the Black Sea on 25 July after a Mediterranean deployment and then returned to the Med on 13 August.

8. AGI KRYM has assumed watchdog duties off the coast of Cyprus. Other Soviet activity in respect to the Cyprus situation has been negligible. Two KRESTA II's, Sverdlov, and Kashin were active in the area. The two Kresta's are moving to the Western Med.

9. The new construction KRIVAK DDGSP, DOBLESTNY and two GRISHA completed a transit from the Black Sea to the North Fleet. This was the KRIVAK's first out-of-area deployment. This ship has apparently been assigned to the North Fleet.

10. A major ASW exercise is being monitored in the North Fleet area.

11. A possible new construction Kresta II Bal VII is active in the Baltic Sea along with two new construction Krivaks Bal V & VI.

12. The CHG Leningrad, Kashin Skoryy, and a Chilikin AOR continue mine clearing activities in the Northern Red Sea. Kresta II Bal VI remains active in Northwest Indian Ocean.

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CONTROL SYSTEMTECHNICAL INTELLIGENCE AND EOB:

1. PROJECT FLAVOR: TCR WAS DROPPED ON ALL EMITTERS EXCEPT [REDACTED] TWENTY-FIVE [REDACTED] LOCATIONS WERE REPORTED DURING THE MONTH. SEVENTEEN OF THESE HAVE BEEN REPORTED THIS WEEK. NONE WERE REPORTED THE FIRST TWO WEEKS OF AUGUST.
2. SLM DATA WAS COLLECTED ON TARGET EMITTER [REDACTED] BY [REDACTED] ON TWELVE OCCASIONS. NO SLM TARGET EMITTERS WERE INTERCEPTED FROM PACIFIC.
3. [REDACTED] REFLECTED THE FIRST POPPY INTERCEPTS OF THE SA-8 SYSTEM FROM THE FAR EASTERN USSR. THIS SYSTEM IS APPARENTLY NOW IN FULL DEPLOYMENT. [REDACTED] HAS RECENTLY REPORTED LOCATIONS OF THE SYSTEM IN THE MOSCOW AREA. WITHOUT A LOCATION OF AN SA-8 INTERCEPT IDENTIFICATION AMBIGUITIES ARISE WITH [REDACTED] THERE MAY BE A SLIGHT DIFFERENCE IN SCAN RATE BETWEEN THE TWO EMITTERS TO MAKE A DEFINITE IDENT OF SIGNAL SOURCE. HOWEVER, THERE IS NOT YET ENOUGH DATA AVAILABLE TO CONFIRM THIS.
4. ON 03 AUGUST, [REDACTED] REPORTED AN INTERCEPT OF [REDACTED] FROM THE BLACK SEA. EMITTER WAS USING A SEVEN POSITION PULSE STAGGER. THIS WAS FIRST POPPY INTERCEPT OF THIS EMITTER OPERATING IN A STAGGER MODE.
5. DURING MONTH, POPPY SITES REPORTED VARIANT MODES OF OPERATION FOR KNOWN EMITTERS [REDACTED]
6. [REDACTED] IS CONSISTENTLY REPORTING [REDACTED] INTERCEPTS FROM [REDACTED] THIS IS THE ONLY LOCATION IN [REDACTED] FROM WHICH WE ARE REFLECTING SA-6 ACTIVITY.
7. THIRTY EIGHT INTERCEPTS OF 17 UNIDENTS WERE REPORTED SINCE 25 JULY.

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