

06/14 C03026422
NKL SPECN PROJECTS CONTROL NUMBER

№1. B-000184-74

DATE
19 JUN 74

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ORIGINATOR

11.0 (3) PROGRAM C

SERIAL NO.

BY: 59,855-74

ENCLOSURES

ENCLOSURES

- (1) AGENDA (2) LIST OF ATTENDEES
- (3) MINIMUM DAILY VOLTAGE LOG
- (4) COLLECTION HIGHLIGHTS (5) N C H H
- ING HIGHLIGHTS

DATE REC'D

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RECEIPT NO.

WA 0281921

DIST INFO

SUBJECT

POPPY TECHNICAL OPERATIONS GROUP
MEETING: REPORT

☐ BASIC DOCUMENT ON R/S

☐ BASIC DOCUMENT NOT HELD.

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CODES HAVING PRIMARY INTEREST CHECK ONE

☐ RETAIN INDEFINITELY. (REFERENCE VALUE).

☐ RETAIN _____ MONTHS. (INFO MATERIAL
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REMARKS

REMARKS

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C-COMMENT
R-RETAIN
E-EVALUATION

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BYEMAN-TALENT-KEYHOLE

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EARPOP

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par 8-105
PLG 048/74
WA 80,621
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GROUP 1
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downgrading and declassification

NAVY SPACE PROJECT OFFICE
(S) NATIONAL RECONNAISSANCE OFFICE, PROGRAM C
WASHINGTON, D.C.

PME-106-541/wms

JUN 19 1974

OFFICE OF THE DIRECTOR

MEMORANDUM FOR THE DIRECTOR, CENTRAL INTELLIGENCE AGENCY (OSI)
CHIEF OF NAVAL OPERATIONS (OP955)
DIRECTOR, NRO STAFF (SS4, SS4A and SS7)
COMMANDER, NAVAL SECURITY GROUP COMMAND
DIRECTOR, NAVAL RESEARCH LABORATORY (1000 and 7030)
DIRECTOR, NATIONAL SECURITY AGENCY (R244, A81, W24
and W34)

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

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

1. The POPPY Technical Operations Group (TOG) met at the Naval Security Group Command Headquarters at 0930 on 30 May 1974. The agenda and a list of attendees are forwarded as enclosures (1) and (2).

2. The following specific items were discussed:

a. System Status. (NRL)

The POPPY 7107 satellites are currently in low sunlight (today's reading is 70%) and appear to be performing routinely. Some BAND options are not functioning properly but will be checked out at the next engineering evaluation. There were a few occasions of low voltages but no impact on operations has occurred. There is a minor problem with IRIG 6 on 7107C. The analog has shifted into noise but the sites have been made aware of it. IRIG 6 is a housekeeping channel.

The spacing is [redacted] for the

[redacted] The NSG representatives reported that the payload times appear to be running fast on 7107A (15-16 minutes of operation on the 20 minute cycle), causing problems at [redacted] in particular. Unless the timers work properly the [redacted] collection plan cannot be effectively executed.

b. Collection Highlights. (NSG)

Enclosure (4) was reported.

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

c. Processing Highlights. (NSA)

Enclosure (5) was reported.

d. Engineering Evaluation. (NRL)

The NRL is planning to conduct an engineering evaluation, at [] in July. Three partial days of down time will be required to conduct the evaluation. The specific revolutions will be spelled out in a separate message. Tom Lawton, [] and Bob Wilson will be conducting the evaluation for NRL.

There have been at least seven new bands that have experienced malfunctioning options since the last evaluation. These previous problems, and the remaining bands will be checked. A couple of reported cross-talks will also be checked, plus the 7107A timer, if problems still exist.

e. Attitude Data Processing. (SPO)

In the second quarter of FY 73 it was necessary to secure the reaction (momentum) wheels on 7107A, B and D (C wheel had not been activated because of the boom deployment problem experienced just after launch), because of satellite power balance difficulties. Since that time, SLM data reduction has required that satellite attitude data (and emitter geolocation) be provided so that the antenna patterns can be used to measure the signal level of intercepts. That is, with the reaction wheels active, it could be assumed that the satellites (hence the antennas) were aligned with the flight path and aspects were input to the antenna patterns on that basis. Mr. Lawton of the NRL provided the following:

Two types of information derived from telemetry readouts are used to resolve the attitude of a satellite at any given time:

- earth's, magnetic field effect
- sun angle

The 7107 satellites provide this information in two forms:

- (1) each ground site reads and records telemetry (PCM) every 2.5 seconds while the satellites are within view. These data are transmitted continuously by the satellites.

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

(2) the NRL [] facility takes telemetry readouts once each day from each satellite. The data are recorded aboard the satellite once each 2.5 minutes and provide the same information as is available at the sites-recorded at a slower rate. Because the satellites rotate (yaw, etc.) slowly, the decrease in data rate is not significant.

The reason that this subject was discussed is that, because of SLM tasking at each overseas site once each day, a significant amount of attitude data must be processed. The basic requirement is that the SLM analysts have attitude data available for all SLM ELINT data. This attitude data may be produced in any/all of three ways:

(1) Process from (1) above at each site and forward to analysts with SLM data. This solution is not feasible because the data are analog and must be A/D converted prior to aspect resolution. The sites do not have A/D capability for these data.

(2) Forward data from either (1) and/or (2) above to NSA for processing. This could also involve an A/D conversion if the raw data were sent. A version of this approach was attempted in FY 73 and was not successful.

(3) NRL personnel can continue to process the data from (2) above (daily telemetry readout) and forward hard copy to NSA SLM analysts. This is the current method and the one that has proven effective. It was agreed that a continuation of this approach is probably the most cost effective means of providing attitude data.

R. K. Geiger
R. K. GEIGER

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~~SECRET~~ EARPOPAGENDA

STATUS

COLLECTION HIGHLIGHTS

PROCESSING HIGHLIGHTS

ENGINEERING EVALUATION

ATTITUDE DATA PROCESSING

ENCLOSURE (1) to BYE 55,855-74

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~~SECRET~~ EARPOPLIST OF ATTENDEES

SPO:

PME 106:

NRO SOC:

OPNAV:

NRL:

MR. LAWTON

NSA:

MR. GALLAGHER

NSG: LT MORGAN

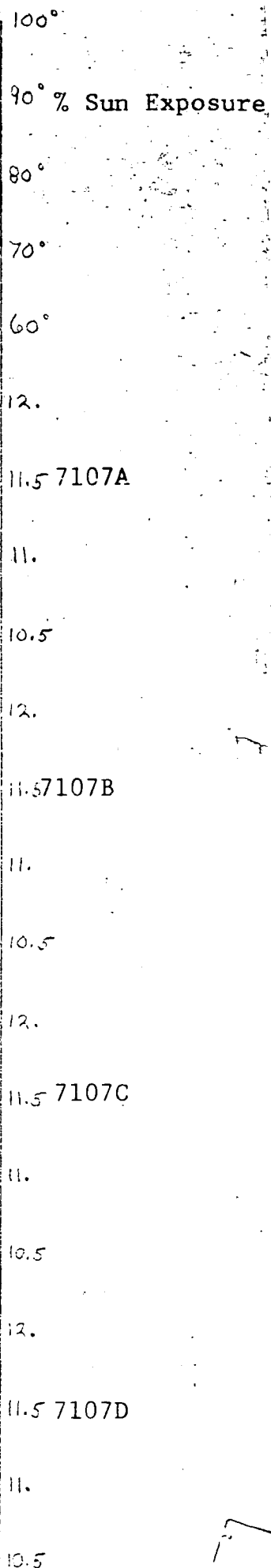
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Enclosure (2) to BYE 55,85574

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MINIMUM DAILY VOLTAGE PLOT



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SINCE THE PREVIOUS TOG MEETING, THE FOLLOWING HAS OCCURRED:

OCEAN SURVEILLANCE:

[] REPORTING OF MAJOR COMBATANTS HAS REFLECTED EXTENSIVE OPERATIONS IN ALL FLEET AREAS. PRESENTLY THE OPERATING SCENARIO IS AS FOLLOWS:

THE TWO KRIVAKS, SILNIY AND BODRIY, CONTINUE THEIR OUT OF AREA (OOA) DEPLOYMENT IN THE CARIBBEAN AND THE AGI ZAKARPATE IS STILL DILIGENTLY CONDUCTING SURVEILLANCE OPS OFF THE U.S. EAST COAST. THERE ARE NOW FOUR MAJOR COMBATANTS IN THE MED, THE CHG MOSKVA, KARA NIKOLAEV, AND TWO KASHINS. THE KYNDA ADM GOLOVKO RETURNED TO THE BLACK SEA LAST WEEK AND THE KOTLIN NAKHODCHIVYY DEPARTED THE MED FOR CONAKRY. THE NEW CONSTRUCTION KRESTA II OKTYABRSKIY DEPARTED THE BALTIC EARLIER IN THE MONTH AND IS NOW IN CONAKRY. THIS VESSEL IS EXPECTED TO ENTER THE INDIAN OCEAN AND BECOME THE SECOND KRESTA II OF THE PACFLT. SEVEN MAJOR COMBATANTS, A KRESTA I, TWO SVERDLOVS, A KASHIN, AND THREE KANINS, EXITED THE BARENTS LAST WEEK AND ARE NOW CONDUCTING OPS IN THE NORWEGIAN SEA. A KRIVAK IS LINGERING IN THE AREA OF NORTH CAPE. [] ARE REFLECTING A HIGH VOLUME OF INTERCEPTS FROM THESE VESSELS. ALL ARE BEING INTERCEPTED DAILY. ALL KRESTA II'S OF THE NORTH FLEET HAVE BEEN OBSERVED IN OPERATIONS IN THE BARENTS.

ENCLOSURE (4) to BYE 59,855-74

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IN THE PACIFIC [] IS MAINTAINING A TRACK ON THE KRESTA II VOROSHILOV WHICH HAS DEPARTED THE INDIAN OCEAN FOR THE SEA OF JAPAN. THIS IS THE FIRST KRESTA II ASSIGNED TO THE PACFLT. [] ARE REFLECTING SOVIET EXERCISES WEST OF HOKKAIDO AND SOUTH OF PETRO. SITES HAVE ALSO REFLECTED THE OPERATIONS OF THE AGM'S SIBIR AND CHAZMA.

TECHNICAL INTELLIGENCE:

SLM DATA WERE COLLECTED ON TARGET EMITTERS [] ALL TOTALLED THERE WERE SEVENTY REVS TASKED AMONG [] STATIONS TO OBTAIN THE AFOREMENTIONED RESULTS.

DURING THE MONTH INTERCEPT REFLECTED ACTIVITY AT ALL THE [] SITES OF THE MOSCOW [] AND THE DOG HOUSE ARRAY AT CHEKOV.

SEVERAL VARIANTS OF KNOWN EMITTERS WERE INTERCEPTED DURING THE MONTH. NEW PRF MODES WERE REPORTED FOR []

[] ALSO EXHIBITED A SIX AND TEN POSITION [] WHICH HAD NOT BEEN LISTED FOR THE EMITTER. A POP GROUP OR SA-X-8 EMITTER WAS OBSERVED OPERATING IN THE 7900-8600 MHZ BAND. THIS IS 600 MHZ ABOVE ITS KNOWN OPERATING RANGE. A [] EMITTER WAS INTERCEPTED FROM EUROPE DISPLAYING PFM OF 17 HZ. INTERCEPTS OF THIS MODULATION HAVE

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BEEN ACCOMPLISHED IN THE PACIFIC BUT THIS WAS THE FIRST FROM EUROPE. A [] MODEL WAS INTERCEPTED OPERATING WITH AN STI PRF OF 1000 PPS AND OPERATING IN BOTH THE 1800-2100 MHZ AND 3120-3300 MHZ BAND. SIGNAL WAS NOT UP SIMULTANEOUSLY IN BOTH BANDS AT ALL TIMES THEREBY PRECLUDING THE POSSIBILITY OF CROSSTALK.

ELECTRONIC ORDER OF BATTLE:

107 INTERCEPTS WERE REPORTED IN SUPPORT OF PROJECT FLAVOR. OF THESE, THE [] WAS INTERCEPTED 88 TIMES FROM [] OTHER EMITTERS REPORTED WERE []

[] CONTINUES TO INTERCEPT THE SA-6 FROM [] EQUIPMENTS WERE RECENTLY DEPLOYED TO THIS COUNTRY. BOTH [] ARE REFLECTING INTERCEPTS OF THE SA-6 FROM THE [] HAS REPORTED SEVERAL INTERCEPTS OF THE DEVELOPMENTAL SIGNAL [] FROM THE FEDOSIYA AREA OF THE BLACK SEA. SA-X-8 ACTIVITY FROM THE [] HAS BEEN VERY HEAVY FOR THE LAST MONTH.

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~~SECRET~~ ~~EARPOP~~PROCESSING HIGHLIGHTS

THE FOLLOWING WAS PRESENTED:

(1) IT WAS REPORTED AT THE LAST TOG THAT [] HAD INTERCEPTED AN APPARENT HIGH INTEREST EMISSION IN THE 350-450 MHZ RECEIVER BAND. THE SIGNAL WAS GEOPOSITIONED ON SEVERAL OCCASIONS TO THE BERING SEA, OFF THE COAST OF KAMCHATKA, PENINSULA. THE CONFIDENCE REGION IN ALL CASES INCLUDED PORTIONS OF THE KAMCHATKA LANDMASS, SPECIFICALLY THE IMPACT AREA FOR THE SOVIET SS-X-18,19 ICBMS. HENCE THE HIGH PRIORITY ASSIGNED TO THIS EMISSION.

THE SIGNAL HAS BEEN RESOLVED AS A UNIQUE UHF RADAR ABOARD THE ADVANCED RADAR INSTRUMENTATION SHIP (ARIS-I) THE []

[] THE SHIP IS CURRENTLY ON STATION IN THE BERING SEA AT OR NEAR THE REPORTED LOCATIONS PROVIDED BY [] THE MISSION OF THE ARIS-I IS TO COLLECT VARIOUS DATA ASSOCIATED WITH SOVIET I.C.B.M.'S IMPACTING AT THE KLYUCHI RANGE.

(2) 17-210 NEW [] RADAR

970-1200 MHZ

783 PPS - 3 POS STGR

3.8 SPR, CIR

FOR THE PAST MONTH [] HAS REPORTED APPROXIMATELY 25 INTERCEPTS OF A SIGNAL THAT REMAINS UNIDENTIFIED. THE SIGNAL HAS NOT BEEN GEOPOSITIONED, HOWEVER, ASSUMING A UNIQUE SOURCE,

ENCLOSURE (5) to BYE55,855-74

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A PLOT WAS MADE OF THE RADIO HORIZON FOR ALL INTERCEPTS. THE RESULTS SHOW THE SOURCE AS [REDACTED] THE PARAMETERS ARE INDICATIVE OF AN AIR TRAFFIC CONTROL RADAR. THERE IS A GOOD POSSIBILITY THAT THE SIGNAL MAY EMANATE FROM THE [REDACTED] WE ARE CURRENTLY REVIEWING [REDACTED] SPECIFICATIONS PUBLICATIONS TO DETERMINE IF ANY RADARS HAVE BEEN DOCUMENTED THAT MAY EQUATE TO 17-210. REQUESTS FOR FURTHER SITE COLLECTION WILL BE TERMINATED.

(3) ON THE 11TH AND 12TH OF APRIL 74, MISSIONS 7338/42 INTERCEPTED AN UNIDENTIFIED 2826 MHZ SIGNAL THAT GEOPOSITIONED TO THE VICINITY OF VLADIVOSTOK. ADDITIONAL INTERCEPTS ON 15 AND 16 APRIL INDICATE THE SIGNAL TRANSITIZED FROM VLAD TO THE COAST OF TIMOFEYEVKA. A CHECK OF THE 7338 DATA BASE REVEALED AN ADDITIONAL INTERCEPT 73/10/30 GEOPOSITIONED TO THE TATAR STRAIGHT. ALL INTERCEPTS HAVE BEEN ON A RF OF 2826 MHZ WITH PRF'S 574,582,583 and 589 PPS. PD'S WERE 0.9 USEC. IT IS DESIRED THAT POPPY SITES BE ALERT TO THIS UNIDENTIFIED, PROBABLY SHIPBORNE EMITTER. NOTE --- VQ-1 ALSO INTERCEPTED THE SIGNAL ON THE 18TH OF APRIL 74 IN THE SEA OF JAPAN.

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