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(S) NATIONAL RECONNAISSANCE OFFICE, PROGRAM C

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OFFICE OF THE DIRECTOR

PM 16-5
24 JAN 1973

MEMORANDUM FOR DIRECTOR, NAVAL RESEARCH LABORATORY
DIRECTOR, NATIONAL SECURITY AGENCY (W8)
DIRECTOR, CENTRAL INTELLIGENCE AGENCY
DIRECTOR, NRO STAFF (SS-4) AND (SS-7)
COMMANDER, NAVAL SECURITY GROUP
CHIEF OF NAVAL OPERATIONS (OP-094W)

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

- (1) List of Attendees
- (2) TOG Agenda
- (3) POPPY Collection Highlights for 1972
- (4) Mission 7107 Engineering Evaluation Wrap Up

1. A TOG meeting was held at 0930 on 4 January 1973 at Headquarters, Naval Security Group. The list of attendees and the agenda are forwarded as enclosures (1) and (2).

2. The following specific items were discussed:

a. Mission 7107 Status. (NSG)

Recently, the field sites have reported several times that low voltages (below the nominal 12.0v) have been noted. The operational cutoff of 10.6 volts was discussed, as was the practice of reporting when the voltage drops to within .5v of the cutoff voltage (11.1v). The recent increase in reports is attributed to orbit orientation with respect to the sun and to solar cell performance degradation after a full year of operation. Both effects are expected and are predictable. The operational impact is that collection band combinations that draw more than 600 ma must be avoided. Combinations that exceed this limit generally provide system collection that exceeds the ground data processing capability. At tasks below 600 ma., the voltage sometimes falls toward the minimum and so the collection must be terminated prior to the satellites' disappearance over the horizon. In practice this means that only 11-12 minutes of a 15 min. pass are collected, occurring about once each week at []

Further degradation in power should be graceful but steady. Approximately 50 percent of the total expected degradation has been absorbed; thus decay appears to be exponential in nature.

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FARA 5B(2) AND (3) Automatically

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us report indicates that there is no operational impairment that was not known or predicted.

b. Mission 7107 Collection and Processing Highlights. (NSG)

A comprehensive resume of 1972 highlights was presented. The text of this presentation is included as enclosure (3).

c. Site Update Completion. (NRL)

All field sites are now reasonably standardized and future changes should be monitored to insure that this condition prevails. NRL has established five basic priorities for site equipments that relate to operator interface - those which must be seen and operated during a pass by site personnel being the highest priority and thus more critical in regard to standardization.

Documentation of site configuration is receiving increased emphasis at NRL and NSG maintains (at G54) a fact book on each site that is updated monthly. Given these efforts, a mechanism to insure that changes will be accurately reflected in both places is necessary. Also, it is necessary to continuously inform both the tasking authorities and the "users" of system capabilities.

The PM 16 POPPY Project Officer will explore ways to improve the communications and procedures described above.

d. Engineering Evaluation. (NRL)

A recent [] message provided a summary of the engineering evaluation conducted at [] during early December, 1972. As discussed in paragraph 2.a., no new problems with 7107 satellites were discovered, and this engineering evaluation verified that no operational impairment of the system exists. The NRL representatives expressed the feeling that the success of the site update and engineering evaluation at [] was due in large part to "the willing capable assistance of program personnel at []". A copy of this message is included as enclosure (4).

e. Disposition of Computer Equipment. (PM 16)

This subject was introduced at the previous TOG because two SEL810 computers (now at []) might become available for use within the POPPY system. Inquiries in the Washington area have disclosed only a listing of the "main frame" equipment. It is not known whether any peripherals will be made available. TOG members were asked to evaluate the possible applications for these machines. The general consensus is that given the currently known status of this equipment, no cost effective way to integrate them into POPPY exists. For about what it would cost to refurbish and upgrade these machines, new SEL86 machines could be acquired.

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[redacted] and the option to buy two additional systems was brought up, but discussion was deferred to the last agenda item.

f. Computer/Communications Interface. (PM 16)

An apparent problem that seems to be developing at [redacted] is that the SEL 86 will be able to produce information to be reported much faster than teletype operators can prepare transmission tapes. Several alternative approaches to alleviating this problem through some automation were mentioned and the further consideration of solutions will be carried out under the HRB software support contract for which [redacted] of the PM 16 SPO is the Contracting Officer's Technical Representative (COTR).

This subject also falls under the next agenda item.

g. POPPY Plan. (PM 16)

The PM 16 SPO addressed the need for a comprehensive "plan" for POPPY from now through its expected/projected lifetime [redacted]

[redacted] The disposition of computer equipments, interfaces, and other improvements to be made in the system must follow some approved plan. The POPPY Project Officer will be contacting individual TOG participants for inputs to this plan, to be discussed at the next TOG.

It is desired to include specific tasks with priorities

3. Because of the unexpected postponement of this meeting into January, the next TOG will be held at NSA at 0930 on 22 February 1973.

R. K. Geiger
R. K. GEIGER

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PM 16

NRL

Mr. M. Van De Walle
Mr. W. McDavit

NRO

NSG

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TOG AGENDA

- A. 7107 STATUS
- B. 7107 COLLECTION HIGHLIGHTS
- C. 7107 PROCESSING HIGHLIGHTS
- D. SITE UPDATE COMPLETION REPORT - NRL
- E. ENGINEERING EVALUATION REPORT - NRL
- F. DISPOSITION OF COMPUTER EQUIPMENT
- G. COMPUTER/COMMUNICATIONS INTERFACE
- H. INPUTS FOR POPPY PLAN

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POPPY COLLECTION HIGHLIGHTS FOR 1972

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THE POPPY SYSTEM FOR LAST YEAR EXPERIENCED MANY CHANGES AND IMPROVEMENTS. UNDOUBTEDLY THE MOST SIGNIFICANT IMPROVEMENT WAS THE LAUNCH OF THE 7107 SERIES PAYLOADS IN DEC 1971. THE SYSTEM WAS TURNED OVER TO THE FIELD SITES FOR COLLECTION OPERATIONS ON 15 JAN 72 AFTER AN ENGINEERING EVALUATION PHASE.

PERHAPS THE MOST SIGNIFICANT ADDITION TO THE POPPY COLLECTION SYSTEM WAS THE ADDITION OF THE NEW COLLECTION FACILITY AT [REDACTED] IN AUGUST. THE NEW FACILITY GIVES THE SYSTEM EXTENDED COVERAGE TO INCLUDE CUBA, CENTRAL AND SOUTH AMERICAN LANDMASSES AND EXTENDED OCEAN SURVEILLANCE COVERAGE OF THE NORTH ATLANTIC, GULF OF MEXICO, CARIBBEAN SEA, AND PORTIONS OF THE EASTERN PACIFIC. THE NEW SITE WILL PROVIDE THE SYSTEM WITH FACILITIES FOR THE TRAINING OF SISS ZULU PERSONNEL AND IS ALSO FUNCTIONING AS A [REDACTED] ROTATION POINT FOR SISS ZULU PERSONNEL WHO WISH TO REMAIN WITHIN THE PROJECT.

IN APRIL OF 1972 THE COLLECTION OPERATIONS AT [REDACTED] MOVED INTO A NEW SISS ZULU OPERATIONS BUILDING. AN SEL810 COMPUTER, THE FIRST AT [REDACTED] WAS INSTALLED IN THE NEW BUILDING AND COMMENCED OPERATIONS IN JUNE. THE ADDITION OF THE 810 AT [REDACTED] INCREASED THE SYSTEMS LOCATIONAL CAPABILITIES TO INCLUDE THE FAR EASTERN USSR, SEA OF JAPAN, SEA OF OKHOTSK, BERING SEA, AND THE PACIFIC OCEAN.

IN SEPTEMBER AN SEL86 COMPUTER WAS INSTALLED AT [REDACTED] [REDACTED] THE SEL86'S PROCESSING CAPABILITIES ARE A GREAT IMPROVEMENT OVER THAT OF THE SEL810 AND THE RESULTANT EFFECT HAS BEEN AN INCREASE IN LOCATION PRODUCTION OF BOTH LANDBASED AND SHIPBORNE LOCATIONS.

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THE INCREASED SPEED OF ON-LINE PROCESSING HAS REDUCED [REDACTED]
REPORTING TIMES OF PRIORITY ONE EMITTERS TO PRIMARY CONSUMERS
TO ABOUT 60 MINUTES.

THROUGHOUT THE YEAR, PDE'S (PRIORITY DATA EXTRACTORS)
WERE INSTALLED AT ALL SITES AND COLLECTION CONFIGURATION
UPDATES WERE PERFORMED. THE PDE HAS AIDED IN THE ISOLATION
OF PRIORITY ONE [REDACTED] ITEMS AND SOI'S AND DECREASED THE ON-LINE
PROCESSING TIMES FOR THESE ITEMS. COLLECTIONS CONFIGURATIONS
UPDATES HAVE INCREASED DATA RECORDING CAPABILITIES, AND, THE
ADDITION OF AUTOMATED TRACKING SYSTEMS AND COLLECTION EQUIPMENTS
HAVE FREED COLLECTION OPERATORS TO PERFORM MORE ON-LINE
ANALYSIS FOR TIP-OFFS OF SIGNALS OF INTEREST.

ALSO, THE DEVELOPMENT OF IMPROVED SOFTWARE FOR THE SEL810
COMPUTER HAS GREATLY ENHANCED THE PROCESSING CAPABILITIES OF
SISS ZULU SITES AND AIDED IN DECREASING REPORTING TIMES.

ALSO ADDED AS AIDS TO IMPROVE REPORTING TIMELINESS TO
CONSUMERS WERE OPSCOMM CIRCUITS FROM [REDACTED] TO FOSIF ROTA,
OPSCOMM CIRCUITS FROM THE SISS ZULU BUILDING AT [REDACTED]
[REDACTED] TO THE OCC AT THE NAVCOMMSTA. AND, AN
OPSCOMM CIRCUIT FROM [REDACTED] FOR THE
REPORTING OF [REDACTED] ITEMS DURING SPECIAL TASKS FOR THE SUPPORT
OF SPECIAL MISSIONS.

THESE IMPROVEMENTS AND ADDITIONS TO THE SYSTEM HAVE BEEN
A TREMENDOUS AID TO THE COMPLETION OF THE POPPY MISSIONS OF
OCEAN SURVEILLANCE, GATHERING OF TECHNICAL INTELLIGENCE, AND
SUPPORT OF THE EOB EFFORT.

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IN SUPPORT OF THE TACTICAL EOB EFFORT, POPPY SITES HAVE REPORTED AN AVERAGE OF 147 EMITTER LOCATIONS PER WEEK DURING 1972. THE HIGHEST WEEKLY TOTAL REPORTED WAS 247 LOCATIONS. THIS IS A LARGE INCREASE OVER 1971, IN WHICH WEEKLY LOCATION OUTPUT RARELY EXCEEDED 50 LOCATIONS. THIS SLIDE SHOWS YOU SOME OF THE VARIED EMITTER TYPES PRESENTLY BEING LOCATED AND REPORTED BY POPPY FACILITIES. IN 1971 THE BULK OF THE LOCATIONS REPORTED WERE OF [REDACTED] WITH A LIMITED NUMBER OF LOCATIONS OF SOI AND UNIDENT SOI SIGNALS. THE OPENING OF THE POPPY FACILITY AT [REDACTED] HAS GIVEN US ADDITIONAL EOB COVERAGE OF CUBA. SUCCESS HAS BEEN REALIZED AGAINST CUBAN [REDACTED]

[REDACTED] OBTAINED SEVERAL INTERCEPTS OF THE [REDACTED] SYSTEM OF THE MOSCOW ABM RING AND ACCOMPLISHED THE FIRST POPPY LOCATION OF THE [REDACTED]

EXCELLENT SUCCESS WAS REALIZED AGAINST THE SA-6 MISSILE SYSTEM. LOCATIONS FROM [REDACTED] PROMPTED THE USE OF PHOTO RECON MISSIONS WHICH CONFIRMED THE PRESENCE OF THE SA-6 EMITTERS IN THIS AREA. THE EMITTERS WERE REMOVED FROM THE [REDACTED] ASKED THE SOVIETS TO LEAVE. SHORTLY THEREAFTER, [REDACTED] CONFIRMED THE EXISTANCE OF NEW SA-6 EMITTERS INSTALLED AT [REDACTED] THROUGH [REDACTED] THE SETS WERE DETERMINED TO BE NEW IMPORTED SETS, VICE THOSE REMOVED FROM [REDACTED] ALSO AIDED IN CHARTING THE DEPLOYMENT OF THE SA-6 WITH INITIAL INTERCEPT AND LOCATION FROM [REDACTED] AREA IN [REDACTED]

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[] IN THE PACIFIC SUCCESSFULLY CHARTED THE DEPLOYMENT OF THE SA-6 TO THE FAR EAST USSR. SITES WERE ESTABLISHED BY THE SOVIETS, AND LOCATED BY POPPY, AT CHITA, [] AND []

[] PROVIDED THE FIRST INDICATIONS OF DEPLOYMENT OF [] TO NORTH KOREA, AND THEY HAVE SUCCESSFULLY CHARTED THE DEPLOYMENT OF THE [] EMITTER WITHIN CHINA.

[] IS PRESENTLY LOCATING THE HIGH INTEREST [] SIGNAL RECENTLY DEPLOYED TO NORTH VIET NAM [] IS BELIEVED TO BE AN I-BAND MODIFICATION OF THE [] RADAR. IT IS SPECULATED THAT THE [] IS BEING USED IN CONJUNCTION WITH THE SA-2 SYSTEM AND MAY BE RESPONSIBLE FOR THE LOSS OF B-52'S IN THE RECENT RAIDS NORTH OF THE 20TH PARALLEL.

THROUGHOUT THE YEAR, POPPY SITES HAVE BEEN TASKED WITH MANY VARIED SPECIAL TASKS IN SUPPORT OF TECHNICAL INTELLIGENCE, OCENA SURVEILLANCE, AND OTHER VARIED OPERATIONS. TO COVER EACH IN DEPTH WOULD REQUIRE MORE TIME THAN IS AVAILABLE TO US, SO, I WILL TRY TOUCH ON THOSE TASKS OF HIGHER INTEREST.

CONSIDERED THE MOST IMPORTANT SPECIAL TASKS, AND MOST PRODUCTIVE ASSIGNED TO POPPY INSTALLATIONS THROUGHOUT THE YEAR, WERE THE TASKS FOR COLLECTION OF SIGNAL LEVEL MEASUREMENT DATA AGAINST SPECIFIED EMITTERS. SHOWN ARE SOME OF THE HIGH INTEREST EMITTERS ON WHICH SLM DATA HAS BEEN COLLECTED. COLLECTION AGAINST THESE SEM TASKS WAS CONSIDERED HIGHLY SUCCESSFUL AND IT IS HOPED THE INTELLIGENCE GATHERED WILL AID NSA IN THE PRODUCTION OF TECHNICAL INTELLIGENCE ON THESE EMITTERS.

[] POPPY SITES, [] ARE UNDER CONTINUING

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[]
SPECIAL TASKS. THEY ARE 17-006-71, PROJECT FLAVOR, AND
27-006-72, PROJECT WINEGLASS. THE PROJECT FLAVOR TASK IS THAT
OF INTERCEPT AND LOCATION OF THE SA-6 MISSILE SYSTEM IN THE
[] ALSO REPORTED UNDER THIS SPECIAL TASK ARE SA-2 AND SA-3
LOCATIONS DEVELOPED FROM THIS AREA. PROJECT WINEGLASS WAS
ESTABLISHED TO EXPLOIT THE SOVIET MISSILE SYSTEMS IN SOUTH
EAST ASIA, SPECIFICALLY []
ARE SOME OF THE SIGNALS OF INTERSET THAT HAVE BEEN LOCATED
AND REPORTED UNDER THIS TASK.

IN 1972, [] WAS TASKED FOR SUPPORT OF PROJECT MILLBOARD,
THE LOCATION OF SA-6 AND OTHER RADAR SYSTEMS IN EUROPE, AND,
PROJECT LUTE FOR SUPPORT OF SAC MISSIONS BEING FLOWN AGAINST
SOVIET BLOC MISSILE SYSTEMS. [] WAS ALSO SPECIALLY TASKED
FOR THE INTERCEPT, LOCATION, AND COLLECTION OF SLM DATA AGAINST
THE [] SIGNAL. ALTHOUGH INTERCEPTS
OF [] HAVE BEEN ACCOMPLISHED, NO LOCATIONS WERE DEVELOPED,
NOR SLM DATA COLLECTED BECAUSE OF THE EXTREMELY SHORT DURATIONS
OF THE INTERCEPTS.

[] HAVE BEEN TASKED PERIODICALLY, AND HAVE BEEN
SUCCESSFUL IN, SUPPLYING LOCATION DATA ON SOVIET MAJOR
COMBATANTS [] TO SPECIAL MISSIONS OPERATING IN THE
SEA OF OKHOTSK AND THE SEA OF JAPAN.

IN 1972 [] WAS TASKED WITH PROVIDING [] DATA TO
PARTICIPANTS IN SILVER FOX EXERCISES. SILVER FOX IS THE OPERATION
OF U.S. DESTROYERS IN THE BLACK SEA. [] ALSO OPERATED IN
SUPPORT OF OPERATION MUSKETEER CATHY II, TO LOCATE, ISOLATE,
AND PREP TO HULL CORRELATE UNITS OF THE SOVIET BLACK FLEET.

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[] IS PRESENTLY UNDER A SPECIAL TASK TO LOCATE THE KOMAR MISSILE BOATS OF NVN. THIS IS BEING DONE THROUGH INTERCEPT OF THE [] EMITTER CARRIED ABOARD THESE BOATS. SOME [] EMITTERS HAVE BEEN LOCATED IN THE YELLOW SEA, AND THE SEA OF JAPAN, BUT NONE HAVE BEEN ACCOMPLISHED IN THE GULF OF TONKIN AREAS NEAR NORTH VIET NAM.

THERE IS A CONTINUING REQUIREMENT OF THE POPPY SYSTEM TO REPORT SIGNALS OF INTEREST AND UNIDENTIFIED SIGNALS. DURING 1972, POPPY SITES REPORTED 108 NEW AND UNUSUAL SIGNALS, THIS WAS AN INCREASE OF 22 OVER 1971. THIS INCREASE CAN BE ATTRIBUTED TO THE INCREASED CAPABILITIES OF THE 7107 SERIES PAYLOADS. MANY OF THE UNIDENTIFIED SIGNALS HAVE BEEN IDENTIFIED AS MALFUNCTIONS OF, OR NEW OPERATIONAL MODES OF SOI SIGNALS, OR, NON-THREAT ALLIED EMITTERS UPON WHICH LITTLE PARAMETRIC DOCUMENTATION IS AVAILABLE. MANY OF THE REMAINING UNIDENTS ARE STILL ACTIVE AND OF HIGH INTEREST. POPPY INSTALLATIONS REPORTED OVER 2600 SOI INTERCEPTS, THIS IS APPROXIMATELY THE SAME NUMBER AS REPORTED IN 1971. NUMBERS HOWEVER, ARE MISLEADING. EARLIER IN THE YEAR SOI REPORTING OF NON-LOCATEABLE SOI'S SUCH AS SA-6 AND SA-4 WERE DROPPED BECAUSE THE ENORMOUS VOLUME OF INTERCEPT OF THESE SIGNALS WERE SATURATING THE PROCESSING AND REPORTING MECHANISMS IN THE FIELD. NOW, SEVERAL SOI SIGNALS ARE REPORTED ONLY WHEN LOCATIONS ARE ACCOMPLISHED.

DURING THE YEAR 1972 SOME OF THE POPPY SYSTEM'S CONTRIBUTIONS TO THE FIELD OF TECHNICAL INTELLIGENCE WERE:

A. EFFECTIVE RADIATED POWER AND SIDE LOBE LEVEL MEASUREMENTS FOR []

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B. EFFECTIVE RADIATED POWER AND BEAMSTRUCTURE
MEASUREMENTS OF THE [REDACTED] OF THE
SA-N-4 MISSILE SYSTEM.

C. ESTABLISHMENT OF NEW PRF RANGES FOR [REDACTED]

D. SCAN INFORMATION ON THE [REDACTED] BELIEVED
TO BE ASSOCIATED WITH THE [REDACTED]

E. EFFECTIVE RADIATED POWER AND BEAM STRUCTURE MEASUREMENTS
OF THE 5000 MHZ COMPONENT OF THE SA-6 SYSTEM.

F. EFFECTIVE RADIATED POWER MEASUREMENTS OF THE [REDACTED]
[REDACTED]

G. ASSOCIATION OF SIGNALS TO THE SA-N-4 MISSILE SYSTEM.

H. ASSOCIATION OF THE [REDACTED] TO HARDWARE.


NOW FOR A LOOK AT OCEAN SURVEILLANCE. POPPY HAD OUTSTANDING
SUCCESS IN THE FIELD OF OCEAN SURVEILLANCE DURING THE YEAR 1972.
SHOWN ON THE SLIDE ARE THE WEEKLY AVERAGES FOR THE MONTHS OF
1972. THE HIGHEST WEEKLY PRODUCTION OF [REDACTED] ITEMS WAS REACHED
THE WEEK OF 19 DECEMBER WHEN 999 WERE REPORTED.

THE INCREASE IN [REDACTED] PRODUCTION IN MAY AND JUNE WAS THE
RESULT OF THE SOVIET REACTION TO THE MINING OF NVN WATERS AND
THE COMMENCEMENT OF COMPUTER OPERATIONS AT [REDACTED] INCREASED
PRODUCTION FROM AUGUST THROUGH THE END OF THE YEAR WAS THE RESULT
OF THE INSTALLATION OF THE SEL86 COMPUTER AT [REDACTED] AND
THE OPENING OF THE POPPY FACILITY AT [REDACTED]


PDE
not new
computer


POPPY COLLECTION FACILITIES ESTABLISHED PRF TO HULL
CORRELATIONS ON 91 SOVIET MAJOR COMBATANTS, FLEET SUPPORT
VESSELS, AND INTELLIGENCE COLLECTORS. AS IN THE CASE OF THE [REDACTED] SYSTEM ONLY
LARGER COMBATANTS, SUCH AS CHG'S, CLGM'S, AND DLG'S, MORE THAN
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ONE OF THE VESSELS RADARS HAVE BEEN PRF TO HULL CORRELATED
ALLOWING MORE FLEXIBILITY IN IDENTIFICATION.

OF ALL THE EMITTERS CARRIED ABOARD SOVIET COMBATANTS,
THAT WHICH IS BEST EXPLOITED, IS THE  EMITTER.

OTHER EMITTERS THAT ARE SUSCEPTIBLE TO CORRELATION ARE THE


POPPY FACILITIES WERE SUCCESSFUL IN TRACKING ALL SOVIET
OUT OF AREA DEPLOYMENTS AND MAJOR TRANSITS THROUGHOUT THE
YEAR. JUST SOME OF THE MOVEMENTS TRACKED, WERE THE SOVIET
UNITS THAT SHADOWED THE NATO STRONG EXPRESS EXERCISES, RELIEF
FORCE TRANSITS TO AND FROM THE MEDITERRANEAN, SOVIET REACTIONS
TO THE MINING OF NVN WATERS, SOVIET TASK FORCE THAT TRANSITED
THROUGH THE HAWAIIAN ISLANDS, AND MOST RECENTLY, THE CUBAN TRANSIT.
AS SHOWN ON THIS SLIDE. DURING THE CUBAN TRANSIT, 
PROVED ITS WORTH BY INDEPENDENTLY TRACKING THE TRANSIT VESSELS FROM
THE AZORES TO THE CUBAN AREA.  STILL MAINTAINS DAILY
CONTACT WITH THE TWO UNITS AS THEY OPERATE IN THE CARIBBEAN.

ALTHOUGH EMPHASIS HAS BEEN PLACED ON SOVIET COMBATANTS,
POPPY HAS ENJOYED SUCCESS AGAINST OTHER NAVIES. SUCCESSES INCLUDE
PRF TO HULL CORRELATIONS OF THE MAJOR COMBATANT IN THE POLISH
NAVY, SAM KOTLIN 275 WARSAW, LOCATION OF CHICOM 
AND  RADARS IN THE YELLOW SEA, INTERCEPT/

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LOCATION OF THE SLIM NET FITTED RIGA CLASS DESTROYERS OF THE CHICOM
NAVY AND ALSO THEIR KOMAR MISSILE BOATS. LIMITED SUCCESS HAS
BEEN REALIZED AGAINST THE INDIAN NAVY THROUGH LOCATION OF THEIR

CARRYING OSA
MISSILE BOATS. WHEN TASKED, THE POPPY SYSTEM HAS ALSO HAD
EXCELLENT SUCCESS IN LOCATING AND PRF TO HULL CORRELATING
U.S. SHIPBOARD EMITTERS.

ALTHOUGH GREAT ADVANCES WERE REALIZED BY THE POPPY SYSTEM
DURING THE YEAR 1972, EVEN MORE CAN BE EXPECTED IN 1973.
TO BE EXPECTED ARE IMPROVED SOFTWARE FOR THE SEL86, FURTHER
DEPLOYMENT OF THE SEL86, A FULL DUPLEX OPSCOMM SYSTEM FOR POPPY
SITES AND CONSUMERS, AN OPSCOMM CIRCUIT FROM TO
FOSIF NORFOLK, AND, THE ESTABLISHMENT OF THE SISS ZULU OPERATIONS
AND MAINTENANCE SCHOOL AT

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MISSION 7107 PHASE IV ENGINEERING EVALUATION WRAP-UP

1. [] PERSONNEL HAVE COMPLETED A SYSTEM EVALUATION

AT [] ALL BAND OPTIONS WERE EXAMINED AND THE

FOLLOWING HAVE BEEN DETERMINED TO BE INOPERATIVE.

7107C: DL 3, OPT 1; DL 13, OPT 1; DL 10, OPT 2; DL 13,

OPT 2. 7107D: DL 8, OPT 1; DL 10, OPT 1; DL 11, OPT 1;

DL 10, OPT 2; DL 14, OPT 2; DL 21, OPT 2. IN ADDITION

7107C, DL 13, OPT 2 WORKED INTERMITTENTLY AND SHOULD

NOT BE USED IN NORMAL TASKING. SLM OPTION TWO ON

7107C AND SLM OPTION ONE ON 7107D ARE STILL INOPER-

ATIVE. THERE WERE NO PROBLEMS WITH 7107A AND 7107B.

2. RECENT PROBLEMS WITH 7107A TIMER AT [] PROMPTED

[] PERSONNEL TO EXAMINE THE DELAY MODE OF THE

TIMER IN DETAIL ON ALL FOUR PAYLOADS, CHECKING TIME

INCREMENTS AND OPERATION IN THE DELAY MODE. THE

TIMER WAS SET IN A 10 MINUTE DELAY MODE AT THE

PAGE 2 [] 0568 ~~TOP SECRET~~BEGINNING OF THE PASS. THE INCREMENT WAS MEASURED
AND PAYLOAD ACTIVATION WAS OBSERVED.

PAYLOAD	NO. OF OBSERV'S	AVERAGE	HIGH	LOW
7107A	5	3-44	9-02	3-25
7107B	5	9-33	9-46	9-32
7107C	2		9-53	9-43
7107D	2		3-48	3-40

IT SHOULD BE NOTED THAT THE TIMER ACTIVATED ON ALL
RNGS EXAMINED BY [] PERSONNEL. NO PROBLEMS WERE
OBSERVED.

3. DURING THE PERIOD OF ENGINEERING EVALUATION, THE
SIGNAL QUALITY RECEIVED AT THE BLUE COMPLEX WAS OUT-
STANDING. NO COMMANDING PROBLEMS WERE EXPERIENCED
AND NO SYSTEM DEGRADATION WAS OBSERVED.

4. SUCCESS OF PHASE IV ENGINEERING EVALUATION WAS
DUE IN LARGE PART TO THE WILLING CAPABLE ASSISTANCE
OF PROGRAM PERSONNEL AT []

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WORLD VIA
CONTROL SYSTEM ONLY

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