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TR 583-69.

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TO: K4/SP

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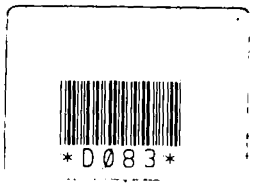
FROM: K46
Abplanalp, Roman, 5606s, ph



SUBJECT: Trip Report (4-22 February 1969)

I. INTRODUCTION:

A. This TDY was jointly conducted by representatives from both NSG and NSA. Lt. Andrew Michael represented NSG while Mr. Stephen Roman and Mr. Raymond Abplanalp represented NSA. Visited during this TDY were the following three POPPY Collection Sites:

B. The primary purpose of this trip was to establish at each of these sites a closer and more meaningful working rapport between those responsible for the analysis of data derived from the POPPY Mission and the site personnel. To evaluate the operations and analysis capabilities of each site and provide technical assistance as needed.

C. The following discussion has been divided into three areas. The first area deals with the general itinerary and tasks performed at each location. The second area is concerned with our observations and assessments of the operations of each site and the third area is concerned with general comments and specific recommendations where applicable.

II. ITINERARY AND TASKS PERFORMED:

A. The following schedule shows the time spent at each site with the interim times used for travel to and from these sites:

DATES	STATION	NO. FULL WORK DAYS
5 February - 8 February		2
12 February - 14 February		2
17 February - 21 February		3

B. At each site both the administrative and the operational personnel were briefed on:

1. The re-alignment within the K4/SP Office and the significance of these changes for the POPPY Program.

2. The data flow within NSA with emphasis on K4/SP processing and analysis of POPPY data.

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3. Mission 7106. This was conducted with emphasis on the changes incorporated within Mission 7106 and the impact on each of the collection sites in regard to these changes and the planned conversion to on-line A/D conversion at [redacted]

C. During these briefings it was specifically emphasized that:

1. With the creation of K46 and a separate analysis branch (K462) a freer and more meaningful technical exchange should exist between the sites and K46. This could only be accomplished if the sites, within their capabilities, offered a more complete dialogue with less concern in being 100% correct before such action is taken. In return K46 will insure that each station received adequate and timely feedback.

2. Since only those analog tapes which are preceeded by an SOI alert message are manually scanned within K461 it is of paramount importance that each station exercise care to insure the identification of all SOIs.

3. In order to process the data received from each site, a minimum time of two weeks is required, after the receipt of the tape, and it is not unreasonable for stations to expect this delay in receiving a response to a specific inquiry.

D. The time spent briefing the station personnel in the above areas was followed by a round table discussion of the stations operations, procedures, problems and ability to accomplish its assigned task. Particularly at [redacted] these discussions were most fruitfull and quite candid. Although part of these items are more concerned with either NSG or NRL, all will be reviewed in the following section.

E. At both [redacted] one full day was devoted to the analysis personnel. At [redacted] two full days were expended in the area, with the additional times required in lieu of the forthcoming installation of the computer equipments. This time was spent in a complete review of the analysis techniques procedure equipments and problems with emphasis on providing first hand technical assistance as needed.

III. OBSERVATIONS:

A. The following observations and problem areas encountered have been grouped into four categories:

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1. Buildings and physical facilities

2. Equipment

3. Personnel

4. Operations

B. Buildings and Physical Facilities:

1. Building power requirements exceed available power [redacted].

2. Inadequate lighting in the office spaces. (2 low wattage incandescent lamps) [redacted]

3. Emergency power turn-on procedures are inadequate and hazardous [redacted]

4. Inadequate cable troughs and poor routing. [redacted]

5. Rehabilitation of building is difficult because of clearance status of station personnel who must perform the work [redacted]

6. Difficulties in obtaining funding for improvements [redacted]

7. Inadequate air conditioning during the warm months [redacted]

8. Inadequate six foot wooden picket security fence around building [redacted]

9. Cramped quarters in all work area; office, operations and computer area [redacted]

C. Equipment (Emphasis on quality control/analysis position)

1. Rack configurations have been modified with no overall rehabilitation. General appearance is one of open-back rats nests [redacted]

2. Unprofessional work when compared with an RCA installation of equipment of the station [redacted]

3. Acute analog recorder problems voiced by maintenance [redacted]

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4. Visicorder fuse blows when connected to tape machine output

5. Interrogation equipment not functioning properly. Requires multiple interrogations of payloads before the proper tasking is accomplished.

6. No disc recorder or repeat playback capability).

7. No accurate PRF measurement capability for reporting to NSA on signals of interest

D. Personnel:

1. Questions concerning the structuring of billets at the field sites to ensure required talent for planned digital operations

2. Contractor personnel (HRB Singer) who require family housing should get requests in well in advance if they desire concurrent travel as housing is quite critical for all personnel.

3. Need for ELINT trained personnel

4. As the need for increased field operations has grown, there has been no increase in the total number of assigned site personnel .

E. Operations

1. Inadequate feedback messages from NSA to field sites.

2. Operators are continually being replaced by new untrained personnel with little knowledge of previous correspondence. More complete feedback reports would help bridge the gap.

3. Inadequate reference materials. Old EPL listing with no up-date messages. No STIC Manual or listing of friendly emitters. is using a 1963 ERM)

4. Need for a glossary of terms describing such terms as "white noise", "regenerative data", "regenerative noise" etc. These terms have been used in technical feedback messages from NRL to describe payload anamolies.

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5. Need for an updated SOP to standardize operations at all of the field sites. Present SOP (dated 1965) is not adequate to cover the present site configurations.

6. When, what and how to report an SOI never documented. Present information is passed on by word of mouth.

7. Tech feedback messages from NSA contain references that the field sites don't have.

8. Need for an SOI list tailored to the sites geographical area with periodic up-dates. Sites do not have the parameters of some signals presently on the SOI list.

9. Difficulty in getting messages out which reflect the analysts original thoughts. A complete chain of command exists between originator and message output with each echelon chopping out material.

10. Operating personnel feel that the site commanders consider the operation a pat hand, simply because there have been no waves generated and the isolation of the compartmented operation.

IV. GENERAL COMMENTS AND RECOMMENDATIONS:

A. We feel that many of the site problems encountered on this TDY are a result of "acute isolation" of the site from both internally and externally related organizations. Security restrictions cut these operations off from the main stream of the site operations. Distance and infrequent personal contact with NSG, NRL and NSA personnel cuts them off from the knowledge of support and processing functions. Many of the questions we asked on the trip indicated that the present communications channels, or use of such channels, are inadequte to meet the need of those using them. A general break down in the free exchange of information was evident.

B. It is hoped that the recent trip has helped to bridge this "communication gap" and surface the problem areas. We think it has and recommend such trips be continued in the future. This was the first trip since November 1966.

C. In addition, we feel that technical up-date trips should be planned to keep the sites current on signal knowledge and interpretation of data. In this regard, K46 has acquired 1 new man CTl [redacted] and is in the process of getting one more, CTl [redacted], who has POPPY experience to work in K46. When these men return to the field [redacted] they will be able to take valuable techniques and technical information for updating the station personnel. Four Navy

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billets are being established within K46 so that NSA can be used as a rotation point for POPPY trained personnel.

D. In the area of equipment we will recommend to NRL that all site QC positions be equipped with a PRF synthesizer and a suitable disc recorder. Pictures of the field stations QC positions all on file in K46.

E. In the area of buildings and physical facilities, it appears that the present sites are using their resources to the limit. We believe that a long hard look should be given to any planned rehabilitation or addition to the buildings reflect a piecemeal attempt to adjust to the increased requirements placed on them by the program. [redacted] is particularly cramped for space with the addition of the digitizer and computer. To add an addition to this building would cause severe security problems during construction and whether the resultant complex would really be suitable is doubtful.

F. We feel that the increased operational requirements of the program such as:

1. Increased analysis effort at the sites.

2. Handling of more data as a result of the future Mission 7106 configuration.

3. Digital handling of data and preliminary location reporting.

4. Physical requirements associated with site preparation for installation of digital equipments.

5. Site security restrictions should warrant the consideration for a more durable, well planned first-class facility.

G. In our view, the cost of the POPPY Project is more than adequately justified by its inherent intelligence production potential. This potential could be more fully realized by improving or correcting the conditions noted in this report. K46 intends to proceed accordingly, and will take whatever action is necessary to implement the recommendations contained in this report through NSG, NRL. NAVINTCOM, or on our own.

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H. The above observations and recommendations were presented to the TOG (Technical Operation Group for POPPY) shortly after the TDY.

Raymond T. Abplanalp

RAYMOND T. ABPLANALP
D/Chief, K46

Stephen Roman

STEPHEN ROMAN
Chief, K462

cc: K461
K462
K463
NAVINTCOM
NRL
NSG
P-T/ASST (LIBBERT)
SAFSS (BOENNING)
K4
K
A67
B/SPO

April 28, 1969

Comments on NSG "Concept Paper on the Development of Surveillance Capability," 17 Apr 69, addressed by COMNAVSECGRU to COMNIC and DIVIZL.

General - The paper is a well-considered and valuable contribution to Navy planning on ocean surveillance. NSG is to be complimented for taking this initiative. Hopefully what is now a predominantly NSG vehicle can be developed into an OPNAV paper and, in time, grow into a formal plan. While a number of enhancements are offered, they are intended to be constructive and in no way detract from the previous statement.

III. BACKGROUND

P. 2 C - The Navy needs to recover its earlier expertise in signal analysis and operational intelligence, to develop once again a close team among NSG, NIC (including STIC), and NRL. No one of these commands can do the job by itself. (Appendix 17, for example, needs interpretation to make it useful as intelligence.) Perhaps some re-classification of command [redacted] help, to include relations with the [redacted] Services, other commands

JW 4/28/69

P. 3 G - Con[redacted]g more work in demonstration of technical and operational feasibility of the P— system to do part of the ELINT job for ocean surveillance is called for. Meanwhile we should all collaborate to do a much more thorough task with the limited data, background, and opportunities we have. (And these are quite respectable!) For one thing, we need a lot more attention to correlation of sensors and collection, to evaluation of same.

Pp. 3-4 G-H - As I understand it this is essentially an intelligence analysis and production function — though admittedly highly technical in part. NSG and NRL ought to be working under NIC.

P. 4 J - On the national requirements aspect, Navy has an effort under way (mentioned on p. 12) to get USIB recognition and approval of certain limited ocean surveillance requirements. So far so good, but a much more comprehensive action is called for once the Navy has done its homework.

IV. DISCUSSION - As implied above (under III. G., J.), NRL considers a longer-range, better documented, more [redacted] planning job is called for to support the mission and budget under discussion.

JW
4/28/65

The NSG paper moves in the right direction but does not go far enough. (There are many more

~~TOP SECRET~~ [redacted] NSG reflects.) All sources should be considered and the full spectrum of the ocean surveillance mission (with its many interfaces) — not just P—, should be covered.

P.5 A - The respective command roles need adjustment to insure better coordination and mutual support.

C - Here and elsewhere the detailed future concept may be premature in light of the foregoing comments, although much of the work can be used.

P.7 D.3 - Again question the NSG understanding of the intelligence problem. (The Navy still has much to learn on this subject, as does the community in general.)

P.8 E - Recommendations on collection sites and manning should follow from the requirements and other homework alluded to above. (It is possible that there will be national requirements beyond those the Navy envisages.)

P.10 E.4 - There may be a jurisdictional issue here. We need to consult with NIC (NIPSSA) on the dissemination problem.

F.3 - Stateside training facility is a "must."

~~TOP SECRET~~ [redacted] a start.

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JTW
11/25/69

P. 12 V. ACTION - For the reasons stated above, and others as well, the [redacted] at once with specific [redacted] approach and many of the specific inputs could be used to advantage in future study and planning. An early OPNAV-directed planning effort is obviously called for, if one is not already under way. The problem is becoming urgent.

[redacted]

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NRP Mission statements 1967 era. Rady

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Last 4/13/69
Canyon launched
pre Jul 69

HANDLE VIA
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CONTROL

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actual ~~SECRET~~

720/Strawman

7164/Thrasher EOB T/I (124-3300)

7233/Reaper EOB T/I (1800-3300)

7238/Convoy ABMELINT (386-426)

Projected:

7165/Thrasher July 69 EOB T/I 125-2100 3 ea @ 6 mo interval

7234/Reaper July 69 EOB T/I 1800-3300 3 ea @ 6 mo interval

7234/Convoy July 69 ABM/AES (153-163 / 380-425)

7106 Aug 69 } 18 mos

7107 Feb 1971

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CONTROL SYSTEMS JOINTLY

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P-11

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7322/Tampon G/S ABM Elint 100-1000
7326/Tripos III " " 4000-8000
7327/SOUSEA II " " 8000-12000
7328/LAMPAN II " " " 1000-2000
7329/SAMPAN III G/S ABM Elint 2000-4000
7330/TIVOLI T/I " 50-4020

Projected

7313/Weston Aug 69 D/C COMINT 60-20 MC 375-425
7336/SAVANT II Sept 69 " TM
7332/TRIPOS IV Mar 70 Type B + M G/S DF + CW 4000-8000
7333/Sousea II " " " " 8000-12000
7335/TIVOLI III May D/C TI ABM Chicom TM 50-4000
7334/TOPHAT July 70 D/C Map/Copy Tropo 450-1000
7331/VAMPAN II Nov 70 G/S DF ABM 100-1000

/LAMPAN III Nov 70 G/S DF + CW
SAMPAN IV " G/S DF + CW
[redacted] Jan 71 [redacted]
ARROYO I Mar 71 Map/Format
Comint: RVB 902/903/R400
R60/120, R600

Tripos V [illegible] Aug 71 [redacted]
[redacted] Aug 71

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CONTROL [redacted]

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PROGRAM 770A/STRAWMAN

The ELINT potential of this low altitude program has been adequately demonstrated by the success of the Multigroup/Setter payloads against ABM ELINT targets and ROB requirements where threat emitters have been located repeatedly with accuracies [redacted]. Add-on payloads of the SQUARE 20 and DONKEY type in this program have proven the capability to identify and locate communications emitters as a planning input to other programs. The success enjoyed by the Multigroup series of collectors justified the follow-on STRAWMAN system with a capability to collect for EOB and technical intelligence in the spectrum 124 through 3300 mhz. This program consists of five programmed launches at approximately six-month intervals from the first in October 1968.

PROGRAM 770C/POPPY

The POPPY program is a long life low altitude program designed for general search against unidentified high powered radar emitters. The system possesses a location capability on some emitters and covers the frequency spectrum from 100 to near 15000 mhz with gaps depending upon individual missions. POPPY provides crystal video, transponded collection with horizon cover from a nominal 500 nm altitude. The system currently requires a number of downlink monitoring and command facilities in the peripheral area.

[redacted]

PROGRAM 989/P-11

The P-11 program is a sub-satellite system which depends upon other programs for a ride into orbit. The P-11's are low altitude collectors. Some have been the source of a large amount of technical intelligence particularly on ABM/AES radar emitters, some provide [redacted] and one has proven a capability to collect telemetry. The [redacted] payloads [redacted]lly configures to specific functions. The mission objects have [redacted] EOB, General Search, and Directed Cover. A collector in this [redacted]o be launched in the near future is designed to detect and record [redacted]nel communications signals of the [redacted] type.

HANDLE VIA [redacted] CONTROL SYSTEMS ONLY

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ACTIVE PROGRAM 770A/STRAWMAN

MISSION NUMBER/NAME	MISSION	FREQ	REMARKS
7164/THRESHER	EOB T/I	124-3300 mhz	
7233/REAPER	EOB T/I	1800-3300 mhz	
7238/CONVOY	ABM ELINT	386-426 mhz	

PROJECTED PROGRAM 770A

MISSION NUMBER/NAME	ANTICIPATED LAUNCH	MISSION	FREQ	REMARKS
7165/THRESHER	Jul 1969	EOB T/I	125-2100 mhz	Three subsequent missions planned appro. 6 month spacing throug 1970
7234/REAPER	Jul 1969	EOB T/I	1800-3300 mhz	Three subsequent missions planned appro. 6 month spacing throug 1970
7239/CONVOY	Jul 1969	ABM/AES	153-163 mhz 380-425 mhz	

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ACTIVE PROGRAM 770C/POPPY

MISSION NUMBER/NAME	MISSION	FREQ	REMARKS
7104/A	G/S ELINT	170-4800 mhz w/gaps	
7105/A		153-3300 mhz w/gaps	
B		153-3600 mhz w/gaps	
C		100-9500 mhz w/gaps	
D		200-14800 mhz w/gaps	

PROJECTED PROGRAM 770C

MISSION NUMBER/NAME	ANTICIPATED LAUNCH	MISSION	FREQ	REMARKS
7106/A	Aug 1969	GS EOB	153-10000 mhz	
B			153-10000 mhz	
C			153-14900	
D			153-14900	
7107/A	Feb 1971	GS EOB		
B				
C				
D				

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ACTIVE PROGRAM 989/P-11

MISSION NUMBER/NAME	MISSION	FREQ	REMARKS
7325/VAMPAN	G/S ABM ELINT	100-1000 mhz	
7326/TRIPOS III	G/S ELINT	4000-8000 mhz	
7327/SOUSEA II	G/S ELINT	8000-12000 mhz	
7328/LAMPAN II	G/S ABM ELINT	1000-2000 mhz	
7329/SAMPAN III	G/S ABM ELINT	2000-4000 mhz	
7330/TIVOLI	T/I ELINT	50-4020 mhz	

PROJECTED PROGRAM 989/P-11

MISSION NUMBER/NAME	ANTICIPATED LAUNCH	MISSION	FREQ	REMARKS
7313/WESTON	Aug 1969	D/C COMINT	60-70 mhz 375-425 mhz	
7336/SAVANT II	Sep 1969	D/C TELEM Type B and M		
7332/TRIPOS IV	Mar 1970	G/S, DF CW Capability	4000-8000 mhz	
7333/SOUSEA III	Mar 1970	G/S, DF CW Capability	8000-12000 mhz	
7335/TIVOLI III	May 1970	D/C TI ABM CHICOM Telemetry	50-4000 mhz	HANDLE VIA YEMAN-TALENT-KEYHOLE-COMINT CONTROL SYSTEMS JOINTLY
7334/TOPHAT	Jul [illegible]	D/C Map/Copy Troposcatter	450-1000 mhz	
7331/VAMPAN II	Nov 1970	G/S DF ABM	100-1000 mhz	

SECRET

SECRET [redacted]

MISSION NUMBER/NAME	ANTICIPATED LAUNCH	MISSION	FREQ	REMARKS
Unnumbered/ LAMPAN III	Nov 1970	G/S DF CW Capability		
Unnumbered/ SAMPAN IV	Nov 1970	G/S DF CW Capability		
Unnumbered/ [redacted]	Jan 1971	[redacted]		
Unnumbered/ ARROYO I	Mar 1971	Map/Format COMINT RVB 902/903, R400 R 60/120, R600		
Unnumbered/ TRIPOS V	Aug 1971	G/S DF CW Capability		
Unnumbered/ [redacted]	Aug 1971	[redacted]		

SECRET [redacted]

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