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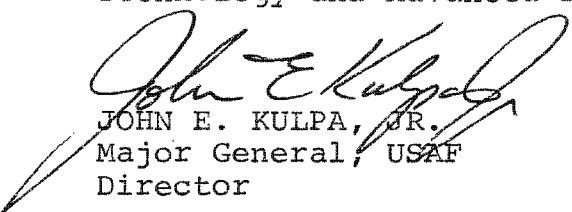
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21 JUN 1977

MEMORANDUM FOR THE DIRECTOR, NATIONAL RECONNAISSANCE
OFFICE

SUBJECT: Quarterly Program Report

Attached is the Program A Quarterly Program Report for the period from 1 April 1977 through 30 June 1977. Also attached is an Annex detailing Applied Research/Advanced Technology and Advanced Development contractual information.


JOHN E. KULPA, JR.
Major General, USAF
Director

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S A F S P
QUARTERLY PROGRAM REPORT
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QUARTERLY PROGRAM REPORT

Program 989 (P989)

Program Director: Col John H. Dean

1. Summary

a. During this reporting period, six P989 satellites were operational. The oldest, MABELI, continues to provide unique data on Soviet ABM radars, although aging components limit operational efficiency. URSALA I was calibrated for use during the European deployment of the Real Time Interactive Processor (RTIP) Van which has since been cancelled. URSALA II and TOPHAT continue to satisfy their respective Continuous Wave (CW) search missions. The status of RAQUEL I is fair. URSALA III is in excellent condition and is being tasked heavily.

b. The URSALA IV and RAQUEL IA development efforts are on schedule. URSALA IV has been placed in long-term storage in anticipation of an early 1979 launch. RAQUEL IA delivery is phased to support an October 1977 availability. It will be placed in temporary storage at that time.

c. The LORRI System development is in its initial stages. Contract negotiations with LMSC were concluded during this reporting period. An early 1980 launch date is anticipated for this 26-42 GHz SIGINT search mission.

d. Detailed technical documentation for the proposed FARRAH system has been developed and is now being reviewed.

2. Specific Status

a. On-Orbit Spacecraft

(1) Mission 7338/URSALA I. URSALA I has been on orbit since July 1972. Although normal mission tasking has terminated, URSALA I continues to be

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maintained in caretaker status so that it can be utilized during CONUS use of the RTIP Van.

(2) Mission 7339/MABELI. MABELI has been on orbit since January 1972. The overall health is poor; however, it continues to provide the unique capability of collecting emissions from Soviet ABM radars. The two remaining operational tape recorders continue to exhibit intermittent operations resulting in retrieval of less than seven percent of planned collection.

(3) Mission 7340/TOPHAT II. TOPHAT II has been on orbit since April 1974. TOPHAT II continues to support collection against the [] signal in addition to mapping of troposcatter and other communications signals. Overall spacecraft health is good.

(4) Mission 7341/RAQUEL I. RAQUEL I has been on orbit since October 1974. RAQUEL I continues to provide Search and TI mission support in addition to operational support. All three tape recorders are operational; however, tape recorders two and three are beginning to show signs of degradation. Overall spacecraft health is fair.

(5) Mission 7342/URSALA II. URSALA II has been on orbit since November 1973. URSALA II continues to support collections against CW signals. Overall spacecraft health is poor.

(6) Mission 7343/URSALA III. URSALA III has been on orbit since July 1976. During the reporting period, the Space Ground Link System (SGLS) filters that allow transpond operations in the 2-4 GHz band failed. This failure has no impact on normal operations. All other subsystems continue to exhibit excellent performance, and the overall health is excellent.

b. Vehicles under Development and Test.

(1) Mission 7334/RAQUEL IA. The RAQUEL IA payload was delivered on the scheduled date,

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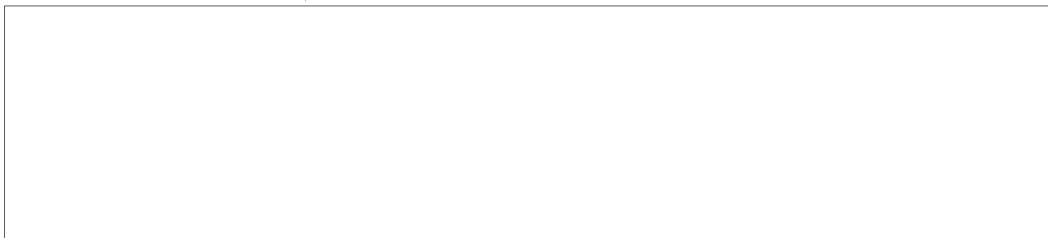
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4 April 1977, by E Systems, Garland Division. Integration of the spacecraft has been completed and system level testing is underway. The current scheduled completion date makes RAQUEL IA available for launch as early as October 1977. The spacecraft will, however, be placed in temporary storage at that time to await anticipated launch in early 1978.

(2) Mission 7345/URSALA IV. URSALA IV remains in long-term storage awaiting launch on Space Vehicle (SV) 15 of the Host Program now scheduled for March 1979. The Program Office is presently studying an option to add encryption to the payload downlink for transpond operations. The addition of this modification will permit operations in support of the RTIP Van. The incorporation of an on-board computer is also being studied.

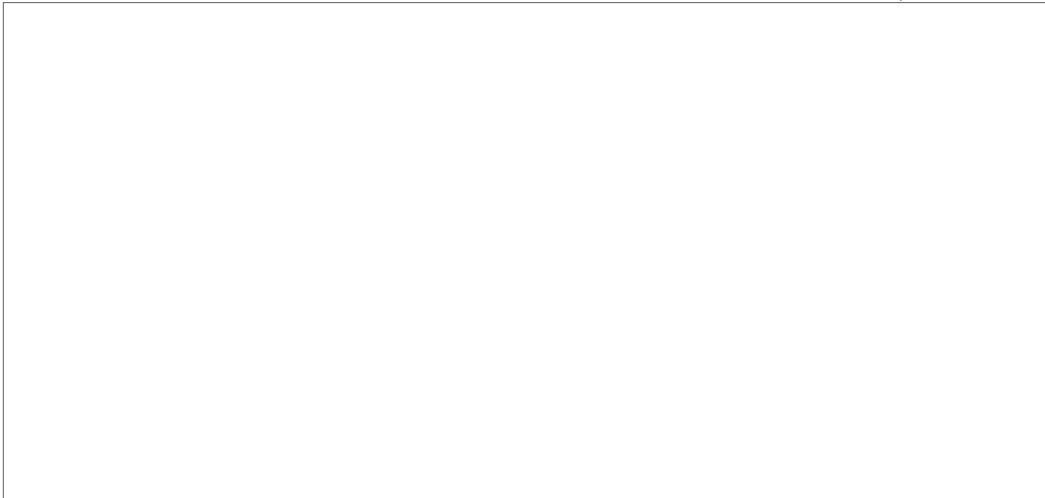
(3) Mission 7250/LORRI. Full contract authorization has been granted to ARGO Systems and Lockheed Missiles and Space Company (LMSC) to provide the 26 to 42 GHz Search experiment mission (LORRI). LORRI will be launched on, and stay attached to, SV 16 which is scheduled for launch in March 1980.

(4) FARRAH. LMSC has delivered technical documentation for the FARRAH System (i.e., System Specification, Payload Concept Definition, Payload Specification, Antenna Specification, Ground Data Processing System Concept Definition). These documents are being reviewed in detail by various organizations to support system development go ahead in October of this year. FARRAH utilizes the basic concepts of the URSALA System but incorporates a pre-detection recording capability, a wider frequency range, and greatly improved parametric measurement accuracy.

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