

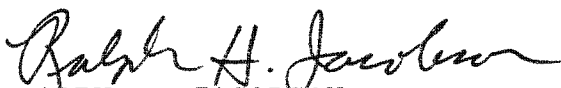
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As of 31 March 1983  
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MEMORANDUM FOR THE DIRECTOR, NATIONAL RECONNAISSANCE  
OFFICE

SUBJECT: Quarterly Program Report

Attached is the Program A Quarterly Program Report for  
the period 31 January 1983 through 31 March 1983.



RALPH H. JACOBSON  
Major General, USAF  
Director

1 Atch  
Quarterly Program  
Report, as of 31 Mar 83

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## QUARTERLY PROGRAM REPORT

### PROJECT 989

Program Manager: Colonel Paul F. Foley

#### Summary:

Three 989 satellites were operational during this reporting period. The average combined tasking level for the period was 499 minutes per day. Operations of all three vehicles (RAQUEL IA, URSALA IV, and FARRAH I) continued with no new anomalies occurring during the reporting period. FARRAH I continues to be fully operational with the exception of the previously reported sensitivity loss in the 12-18 GHz DF channel. The FARRAH II availability is continuing to be held for a possible launch in March 1984. The spacecraft bus is presently undergoing system level mechanical fit checks and alignments. The payload began acceptance testing on 23 Feb 83. A series of subsystem Critical Design Reviews (CDR) and a system level CDR were conducted for LORRI II. Preliminary design phase activities continued for FARRAH III. In addition, the FARRAH III acquisition proposal was evaluated and negotiations completed.

#### 1. Specific Status:

##### a. On-Orbit Spacecraft:

(1) Mission 7343/URSALA III: URSALA III, in its 81st month on-orbit, had its tasking terminated on 19 Aug 82. The spacecraft has been stored on-orbit with a recall timeline established at 5-7 days.

(2) Mission 7345/RAQUEL IA: RAQUEL IA, in its 60th month of operation, continued to provide technical intelligence collection in the 4-18 GHz region. This

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vehicle has continued to operate satisfactorily, but because only one recorder remains operational, the number of recorder cycles per day continues to be limited. At present, approximately 66 minutes per day of tasking are being supported by RAQUEL IA.

(3) Mission 7344/URSALA IV: The mission of URSALA IV consists of general search, operational ELINT, and technical intelligence in the 2-12 GHz region. URSALA IV is in its 48th month of operation and is supporting approximately 190 minutes of collection per day. No new anomalies have occurred during this reporting period.

(4) Mission 7346/FARRAH I: The mission of FARRAH I consists of general and directed search, operational ELINT and technical intelligence over the 2-18 GHz spectrum. The vehicle is in its 10th month of operation and is supporting approximately 275 minutes of collection per day. As a result of the data handler power supply turn on anomaly reported last period, the power supply is left on to prevent a reoccurrence of the failure. This increases the continuous power requirements of the vehicle and will impact tasking capabilities from mid-April 1983 through approximately July 1985. During this period the power provided from the solar arrays will be decreased as the vehicle exits maximum sun conditions and tasking may be reduced 50 to 60 percent relative to the current 275 minutes per day tasking level.

b. Vehicles Under Development and Test:

(1) Mission 73XX/FARRAH II: The FARRAH II vehicle development and testing is continuing satisfactorily to support a potential launch in March 1984. The spacecraft bus is complete with the exception of the flight transmitters and the orbital boost motors. All antennas have completed calibration. The spacecraft has completed mechanical fit checks of the solar arrays and support panel launcher assembly, and is presently having its antennas and attitude control sensor alignments completed in preparation for preliminary spin deployment tests during April 1983.

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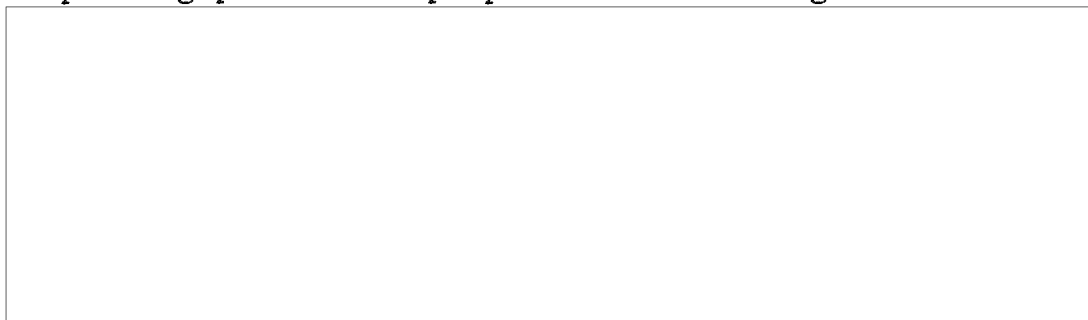
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Two transmitters (one - Type 27 - 2 watt and one - Type 28 - 10 watt) completed their acceptance testing satisfactorily in February 1983. The remaining two Type 28 transmitters are in acceptance testing and are due to be completed in April 1983. Final acceptance testing of the payload began on 23 Feb 83 following resolution of all discrepancies observed in preacceptance testing. The payload delivery date is now projected as 21 Jul 83.

(2) Mission 72XX/LORRI II: Development activities for LORRI II have continued during the reporting period. A series of CDRs of the pallet subsystem and the payload were completed during February 1983. A system level CDR was held on 24 Mar 83. In addition to the design activities being pursued for the VHF front end assembly, the manufacture of fabrication details for the Extremely High Frequency (EHF) and Very High Frequency (VHF) antennas, the power switching and distribution assembly, and the basic pallet structures began. Activity in the payload area includes the completion of fabrication and assembly of the prototype VHF polarimeter, receiver, and the initiation of prototype testing to fully characterize the VHF receiver design and performance before committing to the manufacturing. Fabrication and assembly of the flight item EHF modules were initiated during the reporting period.

(3) Mission 73XX/FARRAH III: During the reporting period the proposal fact-finding was held.



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DEPARTMENT OF THE AIR FORCE  
OFFICE OF SPECIAL PROJECTS (OSAF)  
PO BOX 92960, WORLDWAY POSTAL CENTER  
LOS ANGELES, CALIFORNIA 90009



MEMORANDUM FOR THE DIRECTOR, NATIONAL RECONNAISSANCE  
OFFICE

SUBJECT: Quarterly Program Report

Attached is the Program A Quarterly Program Report for  
the period 1 April 1983 through 30 June 1983.

A handwritten signature in cursive script, reading "Ralph H. Jacobson", is positioned above the typed name.

RALPH H. JACOBSON  
Major General, USAF  
Director

1 Atch  
Quarterly Program  
Report, as of 30 Jun 83

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## QUARTERLY PROGRAM REPORT

### PROJECT 989

Program Manager: Colonel Paul F. Foley

#### Summary:

Three 989 satellites were operational during this reporting period. The average combined tasking level for the period was 430 minutes per day. Operations of RAQUEL IA and URSALA IV continued with no new anomalies during the reporting period. FARRAH I sustained a Low Voltage Cut Off (LVCO) occurrence on 26 Jun 83 which turned off the data handler. FARRAH I tasking has been suspended until the cause for the LVCO occurrence is determined and safe operating constraints established. As previously reported, the sensitivity loss in the 12-18 GHz DF channel continues. FARRAH II availability is continuing to be held for a possible launch in March 1984. The payload has successfully completed vibration testing and thermal vacuum testing and is now in final acceptance testing. Development activities continued for LORRI II. An add-on W-Band (92-96 GHz) mainbeam search system was initiated. Preliminary design phase activities for FARRAH III were concluded during the reporting period. The FARRAH III acquisition phase contract was signed and full scale development was initiated on 1 May 1983.

#### 1. Specific Status:

##### a. On-Orbit Spacecraft:

(1) Mission 7343/URSALA III: URSALA III, in its 84th month on-orbit, had its tasking terminated on 19 Aug 82. The spacecraft has been stored on-orbit with a recall timeline of 5-7 days established.

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(2) Mission 7345/RAQUEL IA: RAQUEL IA, in its 63rd month of operation, continued to provide technical intelligence collection in the 4-18 GHz region. This vehicle has continued to operate satisfactorily, but because only one recorder remains operational, the number of recorder cycles per day has continued to be limited to two. At present, approximately 57 minutes per day of tasking are being supported by RAQUEL IA.

(3) Mission 7344/URSALA IV: The mission of URSALA IV consists of general search, operational ELINT, and technical intelligence in the 2-12 GHz region. URSALA IV is in its 51st month of operation and is supporting approximately 173 minutes of collection per day. No new anomalies have occurred during this reporting period.

(4) Mission 7346/FARRAH I: The mission of FARRAH I consists of general and directed search, operational ELINT, and technical intelligence over the 2-18 GHz spectrum. The vehical is in its 13th month of operation and has been supporting approximately 140 minutes of collection per day. On 5 Apr 83, the vehicle exited from a 100 percent sun condition and is presently at 70 percent sun. An attitude control maneuver was completed 14-15 May to reorient the spin axis, providing better coverage of the southern latitudes (to 60 degrees S. Latitude) while preserving coverage to 72 degrees N. Latitude for both ascending and descending passes.

On 26 June 83, a Low Voltage Cut Off (LVCO) occurred turning off all the subsystems connected to the vehicle's switched power bus including the payload data handler subsystems. A stored program command subsequently executed and turned on the data handler and then the switched power bus. All operational tasking has been suspended until the cause for the LVCO occurrence is determined and safe operating constraints are established. The existence of an abnormally faster rate of degradation in battery system capacity is being assessed. On-orbit tests are presently being conducted to determine the useable operating capacity of the

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batteries. Once these tests are concluded and safe operating constraints are established, limited tasking will be resumed. Alternative methods of accomplishing on-orbit battery reconditioning are being investigated.

b. Vehicles Under Development and Test:

(1) Mission 73XX/FARRAH II: The FARRAH II vehicle development and testing activity continued during the reporting period. The remaining Type 28 (10 watt) transmitters successfully completed their acceptance tests and were integrated into the vehicle. The FARRAH II spacecraft has successfully completed its mechanical fit checks, the first of two acoustic tests, vacuum spin deployment test, preliminary electrical tests and Flight Support compatibility testing with the Satellite Control Facility. At present, the spacecraft is undergoing Data Handling Verification and bit error rate testing. During the reporting period, the payload completed random vibration and thermal vacuum testing and is presently in final acceptance testing with a projected 27 Jul 83 delivery.

(2) Mission 72XX/LORRI II: Development activities for the LORRI II pallet have continued during the reporting period. Development of the Ground Development Processing System and the addition of a W-Band (92-96 GHz) mainbeam search system were also initiated. Fabrication of the payload boxes and antenna systems continued. Integrated payload testing will begin on 15 Jul 83.

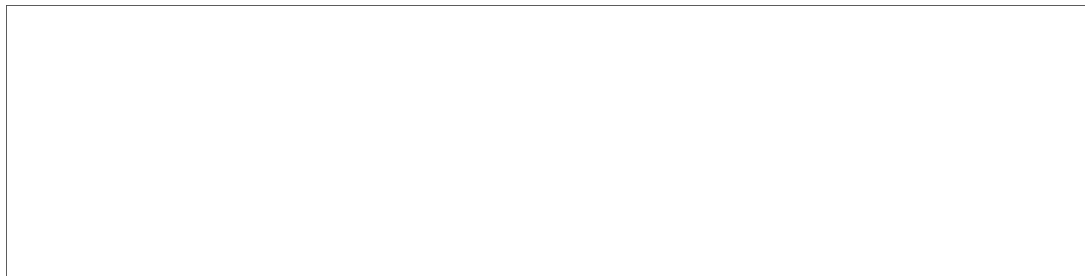
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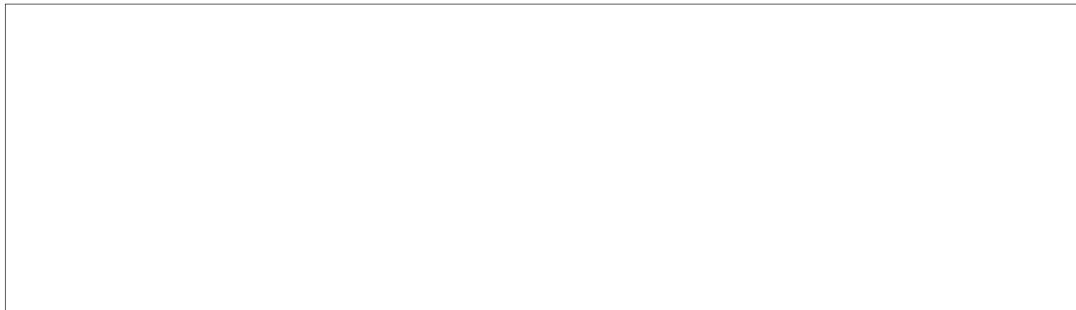
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