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BYE-19806-71
as of 31 December 1970

QUARTERLY PROGRAM REVIEW

Overall General Summary

Program Director: Brig Gen W. G. King, Jr.
Vice Director : Col H. D. L'Heureux

1. Quarterly Summary of Operations

a. Project CORONA successfully launched Mission #1112 on 18 November with a QR-2 payload. Results showed that the aft-looking camera had a higher quality than any previous mission. The quality of the DISIC was good.

b. Project GAMBIT flew one mission, #4329, launched on 23 October. Both satellite recovery vehicles were recovered in the air on 31 October and 10 November respectively.

c. Project SIGINT successfully launched a P-989 vehicle (#4423 TOPHAT) on CORONA Mission #1112. Ground data processing is fully operational and is producing good data.

d. The following vehicles launched in previous periods were still operating as of 31 December:

<u>VEHICLE</u>	<u>PAYLOAD</u>	<u>PURPOSE</u>	<u>OPERATIONAL LIFE</u>
2736	STRAWMAN	TI/EOB	4 Months
4419	SAVANT II	Soviet <input type="text"/> <input type="text"/> collection	15 Months
4422	TIVOLI III	TI on ABM emitters <input type="text"/> search	10 Months
4421	TRIPOS IV/ SOUSEA III	General search/EOB ABM emitters, <input type="text"/> <input type="text"/>	7 Months

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BYE-15606-71
as of 31 Dec 1970

QUARTERLY PROGRAM REVIEW

Project 770

Program Director: Brig Gen W. G. King, Jr.
Project Director: Col D. D. Bradburn

1. Overview

a. Launches

There were no launches during this period.

b. On-Orbit Vehicles

(1) STRAWMAN II

STRAWMAN II has remained in a caretaker status since 28 August 1970; however, the [redacted] 50X1
[redacted] during this period.

(2) STRAWMAN III

This vehicle contains THRESHER and REAPER payloads. Its primary mission is to collect data for Technical Intelligence (TI) and Electronic Order of Battle (EOB) purposes.

(a) THRESHER: Frequency Range: 125 to 2100 MHz. Because of the failure of the THRESHER signal-of-interest recognizer, previously reported tasking in the TI mode was discontinued on 12 December 1970. The EOB mode has been optimized since then. The resulting data outputs are within all specifications for accuracy and quality.

(b) REAPER: Frequency Range: 1800 to 3300 MHz. REAPER is satisfying all of its TI and EOB mission requirements.

(c) Both payloads have been successfully used in support of two quick reaction projects, Flavor [redacted] 50X1

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and Penúltum In both missions, specific data have been collected, processed and shipped to the user in an average time of approximately 6 hours.

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(3) STRAWMAN IV

The STRAWMAN IV (FV 2737) vehicle has completed preliminary ground tests and is awaiting delivery of payloads now scheduled for mid-January 1971. This represents a one month delay and was caused by the need to replace a series of faulty integrated circuits. The earliest possible launch date is 30 April 1971; however, if FV 2736 is still operational, FV 2737 will then be placed in a hold condition at launch minus 40 work days.

(4) POPPY

The Naval Research Laboratory is considering slipping the launch of the next POPPY vehicle (FV 2707) from November 1971 to February 1972.

2. Program Direction

a. During this quarter, the 770 FY 1971 financial program increased to \$12.237 million. This was due to a \$.063 million requirement to complete funding on an expired MADS contract.

b. Total POPPY FY 1971 program authority increased to \$12.199 million. This was due to an increase of \$3.246 in NRL payload.

3. Technical Status (STRAWMAN, POPPY)a. On-Orbit Status

(1) STRAWMAN II - FV 2735

(a) FV 2735 was launched on 31 July 1969 and has exceeded 501 days of operation as of Rev 7650 (21 December 1970). The eighth yaw maneuver was successfully completed on 11 December 1970.

(b) No TI or EOB activity occurred during this reporting period. The THRESHER and REAPER payloads were

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turned off on Rev 5918 (26 August 1970) due to problems previously reported. The spacecraft has remained in a satisfactory status throughout this reporting period and the telemetry system is read out twice daily for state of health evaluation only.

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(d) The vehicle's attitude is still being determined by a computer attitude predict program, due to the failure of the horizon sensor heads. Although this program is completely passive, it continues to correlate with REAPER calibrations and is the only source for vehicle attitude data.

(2) STRAWMAN III - FV 2736

(a) This vehicle was launched on 26 August 1970 and has exceeded 117 days of operation on Rev 1786 (21 December 1970). The second yaw around was successfully completed on 11 November 1970.

(b) The Data Storage Units (DSU) are wide-band tape recorders. They have operated flawlessly since initial turn-on. DSU Number One was selected on Rev 13 and has remained the primary unit. There has been 51.75 hours of readout time on DSU #1 through Rev 1808 on 22 December 1970.

(c) THRESHOLD: When the THRESHOLD recognizer failed on Rev 8, the DSU was placed in steady state accurate mode to try to recover the TI data over defined frequency spans. This mode proved to be unsatisfactory to the user because of the lack of frequency words correlation to each frequency step of the receiver when utilizing the one-second scan rate. Other scan rates (4 or 16 seconds) could have been selected; however, EOB location accuracies would have been degraded. On Rev 1880 (12 December 1970) the Frequency Matcher was disabled thereby discontinuing the TI mode. If a future requirement exists for TI coverage of a high priority target, the Frequency Matcher can be re-enabled. Although this configuration would satisfy the TI requirements, the EOB mission would be affected. The

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MOB mode continues to be operational and ge positioning accuracies for all receiver bands are within specification and are as follows:

<u>Rank</u>	<u>AVG (MM)</u> <u>Miss Distance</u>	<u>95% (MM)</u> <u>Confidence</u>
2	9.35	16.64
3	10.78	19.71
4	11.02	17.43
5	10.74	20.95

(d) REAPER: The REAPER payload has operated on-orbit for 118 days without a single anomaly. All required data parameters are well within specification with frequency error typically below 0.5 MHz. The ge positioning accuracies for both bands are as follows:

	<u>AVG (MM)</u> <u>Miss Distance</u>	<u>95% (MM)</u> <u>Confidence</u>
Low Band	2.03	4.03
High Band	1.42	3.97

b. Vehicles In Process

(1) STRAWMAN IV - FV 2737

(a) The THRESHOLD payload is in final acceptance test and is scheduled to be delivered 7 January 1971.

(b) The REAPER payload is in final acceptance test and is scheduled to be delivered 13 January 1971.

(c) The HARVESTER payload will start antenna global life tests on 28 December 1970. The payload will be delivered 11 January 1971.

(d) The payload is progressing satisfactorily and is on schedule for delivery 12 February 1971.

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(f) The spacecraft will start systems test on 14 January 1971 and on through the normal test cycle through thermal vacuum orbital simulation. The thermal vacuum testing should be completed in mid-March and the spacecraft (S/C) will then be placed in a hold condition at forty work days from launch, pending the condition of FV 2736. The spacecraft can remain in a hold condition for sixty days and then it will have to be recycled for an abbreviated system test span of four days. The 60-day hold/test recycle plan can be repeated until 2 November 1971 when a 6-week major test recycle would be necessary.

(2) STRAWMAN V - FV 2738

The FV 2738 vehicle has been contractually terminated and negotiations are in process.

(3) POPPY - FV 2707

The FV 2707 vehicle manufacturing phase is now in process.

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as of 31 Dec 1970

QUARTERLY PROGRAM REVIEW

Mission Optimization

Program Director: Brig Gen W. G. King, Jr.
Project Director: Col K. R. Duncan

OTHER PROJECTS - PART III

1. General

The purpose of this project is to improve and maintain total mission effectiveness through operational analysis, special studies, and improved program capabilities.

2. Program Status

a. Project GAMBIT software has existed in two configurations during this reporting period.

(1) Block 10.1: This software package operates under the System IIB executive with the Advanced Orbital Ephemeris (AOES) software system. The Block 10.1 software package was maintained as a backup to Block 11.1 on Mission #4329.

(2) Block 11.1: This software package operates under the same system configuration as Block 10.1, but also contains the capability to handle up to 15,000 point targets versus the previous limit of 10,000. Block 11.1 was used for operational support of Mission #4329 and performed successfully.

(3) Updates to selected Block 11.1 computer programs have been delivered and validated to maintain a low corrector configuration for Mission #4330 support and to implement a modification that will eliminate crab servo motion during high resolution photography.

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b. A Milestone 1 was released on 1 Nov 1970 containing design specifications to modify the GAMBIT Command and Control software for HIGHERBOY mission support. The first Pilot Project Demonstration (PPD) was successfully conducted on 16 Nov 1970 and a second is scheduled in February 1971. Required software changes identified through PPD activities will be scheduled into the GAMBIT/HIGHERBOY software with a Milestone 5 event of 1 Apr 1971.

c. The HEXAGON orbit software contract with TRW provides for a two-phase development with each phase consisting of three incentivized events. Phase one, the Initial Operating Capability (IOC) phase, completed the operational demonstration on schedule 8 Oct 1970, which was the final IOC incentivized event. In preparation for first flight, two successful flight rehearsals will be undertaken prior to first flight. Phase two, the Full Operating Capability (FOC) phase, has passed Milestone 2 and is completing subsequent critical design reviews. Milestone 4 reviews are currently under way, with the first FOC incentivized event scheduled for 5 Feb 1971.

d. Operational computer programs developed for Program 770 (EARPOP) STRAWMAN vehicle are on contract with General Electric for development, maintenance, and improvement. The command programs generate payload, station acquisition and "load logic" commands to support the on-orbit operation of the loadable programmer used by STRAWMAN. These programs also format and check command messages prior to transmission to the vehicle and provide history and post-pass command summaries as inputs to data processing programs.

(1) The Block IV version of this software is presently operationally on line supporting FV #2735 (STRAWMAN #2).

(2) The Block V version of the system is presently operationally on line supporting FV #2736 (STRAWMAN #3).

(3) Development of required changes to the Block V software for support of FV #2737 is in progress and will be delivered on 22 Jan 1971 for operational use in April 1971.

e. The computer program RCASP (Command and Scheduling Program) is on contract with Planning Research Corporation

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as of 31 December 1970

QUARTERLY PROGRAM REVIEW

Financial

Program Director: Brig Gen W. G. King, Jr.
 Dep Dir for Programming: Col C. C. McBride

1. General

On 1 Oct 1970, the total SAFSP approved program stood at [redacted]
 [redacted] Including all changes received during
 the past three months, our approved program at the end of December
 now stands at [redacted]
 [redacted] Major program changes occurring
 and the amounts of each are as follows:

<u>Date</u>	<u>Authority</u>	<u>Description</u>	<u>\$ in Millions</u>
8 Oct 70	WHIG 0905	770	.063
8 Oct 70	WHIG 0905	[redacted]	[redacted]
9 Oct 70	WHIG 0908	GAMBIT	(8.489)
9 Oct 70	WHIG 0975	GAMBIT	.503
14 Oct 70	WHIG 0921	POPPY	1.220
19 Oct 70	WHIG 0944	CORONA	(4.140)
23 Oct 70	WHIG 0953	HEXAGON	4.200
12 Nov 70	WHIG 1018	HEXAGON	1.037
12 Nov 70	WHIG 1018	GAMBIT	1.455
24 Nov 70	WHIG 1053	HEXAGON	.266
24 Nov 70	WHIG 1060	[redacted]	50X1
3 Dec 70	WHIG 1084	Applied Research	.621
11 Dec 70	WHIG 1123	AFSCF	.225
15 Dec 70	WHIG 1133	HEXAGON	.900
16 Dec 70	WHIG 1134	[redacted]	[redacted]
22 Dec 70	WHIG 1163	AFSPPF	.425
22 Dec 70	WHIG 1156	POPPY	2.026
31 Dec 70	WHIG 1193	Vulnerability R&D	(.073)

2. Personnel Actions

a. [redacted] departed SAFSP on a permanent change
 of station assignment on 30 Nov 1970.

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as of 30 Sep 1970

QUARTERLY PROGRAM REVIEW

Overall General Summary

Program Director: Brig Gen W. G. King, Jr.
 Vice Director : Col H. D. L'Heureux

1. Quarterly Summary of Operations

a. Project CORONA successfully launched Mission #1111 carrying a CR-12 payload on 22 Jul 1970. Results showed that the overall photographic quality of the main cameras was above average for a J-3 mission and DISIC quality was equal to the best yet taken.

b. Project GAMBIT flew one mission (#4328 - launched successfully on 18 August). SRV #1 was successfully air-recovered on 26 August and SRV #2 on 3 September. In terms of mission length, targets attempted, and total targets framed, this mission exceeds all others. On the prior Mission #4327 launched on 25 June, the peak resolution of [redacted] is the best ever obtained on this program.

c. Project SIGINT successfully launched the third STRAWMAN series vehicle on 26 August. The THRESHER payload malfunctioned but a redundant unit was selected on 1 September and EOB collection has been normal. The REAPER payload is functioning properly.

d. [redacted]

[redacted]

e. The following vehicles launched in previous periods were still operating as of 30 September:

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<u>Vehicle</u>	<u>Payload</u>	<u>Purpose</u>	<u>Operational Life</u>	
2735	STRAWMAN	TI/EOB	14 months	
[REDACTED]				
4418	TIVOLI II	TI on ABM emitters [REDACTED] search	18 months (placed in dormant status on 24 Sep)	
4419	SAVANT II	Soviet type [REDACTED] [REDACTED] collection	18 months	50X1
4422	TIVOLI III	TI on ABM emitters & [REDACTED] search	7 months	
4421	TRIPOS IV BOUSEA III	General search/EOB ABM emitters, [REDACTED]	6 months	

2. Quarterly Summary of Projects Not Yet Operational

a. Project HEXAGON has experienced problems in the sensor subsystem which have caused the December launch date to be delayed to at least March 1971. As a result of these problems, the SPO requested that certain SAFSP, contractor, and Aerospace personnel serve on two Tiger teams to review the overall conduct of the program at the east and west coast locations and to investigate specific problems with the film path. The written report is scheduled for delivery to Mr. Crowley on 2 October. Similar reviews will be conducted by the SPO at LMSC and McDonnell Douglas during October.

[REDACTED]

3. Key Personnel Changes

T/Sgt W. H. Barr, Illustrator, [REDACTED] retired on 30 September.

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as of 30 Sep 1970

QUARTERLY PROGRAM REVIEW

Project 770

Program Director: Brig Gen W. G. King, Jr.
Project Director: Col D. D. Bradburn

1. Overviewa. Launches

FV 2736 was successfully launched on 26 Aug 1970.

b. On Orbit Vehicles(1) STRAWMAN II

STRAWMAN II was launched on 31 Jul 1969 and has operated in the Electronic Order of Battle (EOB) mode only since 13 October 1969 when the second wideband recorder failed. The payloads were turned off 23 Aug 1970 in preparation for the launch of FV 2736 because AFSCF resources permit operation of only one STRAWMAN vehicle at any given time. FV 2735 is now in a caretaker status and the telemetry system is read out twice daily.

(2) STRAWMAN III

STRAWMAN III (FV 2736) was launched successfully on 26 Aug 1970.

(a) THRESHER: On 26 Aug 1970, the recognizer load enable/disable function became stuck in enable position, thereby preventing access to all recognizer words. The Data Storage Unit (DSU) was placed in steady state actuate mode, bypassing the recognizer, thereby permitting the Technical Intelligence (TI) mode to be performed by use of the frequency matcher. On 29 Aug 1970, bands 2 and 4 digital output stopped. The problem was isolated to the primary local oscillator. The redundant unit was selected on 1 Sep 1970 and EOB collection has been

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normal since that time.

(b) REAPER: The REAPER is performing excellently in both the TI and EOB modes.

(3) STRAWMAN IV

FV 2737. The vehicle manufacturing is complete and the payloads (THRESHER, REAPER, HARVESTER, and FM-13) are progressing satisfactorily toward a March 1971 launch.

(4) POPPY

FV 2707. The manufacturing of this vehicle is in process with a capability to launch the primary POPPY payload, a Naval Research Laboratory (NRL) payload, and a P-989 payload in November 1971.

2. Program Direction

The initial approved financial program for FY 1971 was established at [redacted] Aerospace adjustments resulted in an increase [redacted] The current approved program for FY 1971 is [redacted]

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3. Technical Status (STRAWMAN, POPPY)

a. On Orbit Status

(1) FV 2735 - STRAWMAN II

(a) This vehicle was launched on 31 Jul 1969 and has exceeded 417 days of operation as of Rev #6302 (21 Sep 1970). The seventh yaw maneuver was successfully completed on 17 Aug 1970.

(b) No TI activity occurred during this reporting period because of the DSU failures, reported previously. EOB activity was stopped on Rev #5918 (23 Aug 1970) because of the STRAWMAN resource processing limitation. FV 2735 was placed in a caretaker status and will remain so until 15 Oct 1970. On 15 Oct and through mid-November 1970, [redacted]

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(c) EOB data from THRESHER band 3 (260 to 540 MHz), band 5 (1060 to 2100 MHz), and band 4 (above 800 MHz) continued to be processed and shipped until THRESHER turn off on Rev #5918 (23 Aug 1970).

(d) During this reporting period, THRESHER band 2 (125 to 260 MHz) boresight remained intermittent. The EOB data from this band was, therefore, unprocessable and was not shipped to the user.

(e) The REAPER payload (EOB only) was tasked in the partial scan mode until Rev #5918 (23 Aug 1970). The payload was operated in this mode because each digital intercept word failed to contain 13 bits which included frequency information. By operating in the partial scan mode, the frequency was assumed to be the midpoint of the scan. All collected and processed data has been shipped to the user.

(f) The vehicle attitude is being determined by a computer attitude predict program. To date, this predict program is functioning satisfactorily. However, this predict program is passive because of the failure of the horizon sensor heads as previously reported.

(2) FV 2736 - STRAWMAN III

(a) This vehicle was launched 26 Aug 1970 and has exceeded 26 days of operation as of Rev #397 (21 Sep 70). The first yaw around was successfully completed on 10 Sep 1970.

(b) The vehicle was placed in a near perfect orbit and all launch objectives were met. Apogee 273.5 N.M., Perigee 270.3 N.M. with an inclination angle of 75 degrees.

(c) The power system is functioning properly with a total usage of 7210 Amp-hrs for a net usage of 0 Amp-hrs. The battery temperatures are normal with all three batteries sharing the load equally.

(d) The DSUs are functioning completely nominal. DSU #2 was selected on Rev #13; ground recorded engineering data was readout and DSU #1 was reselected. There has been 16,377 seconds of readout time on DSU #1 through Rev #415 (22 Sep 1970).

(e) THRESHER has experienced one major and three minor anomalies. The recognizer load enable/disable function is stuck in the load enable position preventing payload access

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to all recognizer words. The TI function is being performed by positioning the DSU in the steady state actuate mode and collecting data by use of the Frequency Matcher over defined frequency spans. There is limited impact on TI mission in that the DSU is pulling tape over the entire pre-selected target area rather than being collected when recognition occurs. In this mode of operation, the TI function of REAPER is not affected because REAPER has priority of the DSU and can record TI data when it receives a recognized signal. The minor anomalies are:

1. The band 3, four (4) second scan rate was continuously enabled on Rev #30. The scan rate problem prevents use of the 16 second rate, but allows operation of both one (1) and four (4) second rates. The 16 second rate is a seldom used mode of operation.

2. Frequency Matcher Word 8 stuck in the disabled position on Rev #99. This problem prevents use of Word 8 only. Words 1 through 7 function properly and there is no effect on the TI or EOB missions.

3. The Frequency Matcher enable/disable relay became stuck in the enable position on Rev #134. The Frequency Matcher is now enabled continuously with no mission impact.

(f) The THRESHER payload was turned off on Rev #144 (4 Sep 1970) for anomaly investigations and turned on at Rev #308 (15 Sep 1970). Operation is satisfactory through Rev #414 (22 Sep 1970). Based upon the EOB data from calibration vans, the location accuracy (95% confidence) for the THRESHER bands is as follows:

Band 2 - 21 N.M.
 Band 3 - 15 N.M.
 Band 4 - 15 N.M.
 Band 5 - 26 N.M.

All THRESHER TI data and EOB data from bands 3, 4, & 5 is being processed and shipped to the user. The band 2 EOB data will be processed and shipped to the user after the differential program has been completed which is expected on or about 1 October 1970.

(g) The REAPER payload has performed excellently. The calibration van (location) data for 95 percent confidence is 4.03 N.M. for the lower band and 3.69 N.M. for the upper band and frequency accuracy is typically better than 1 MHz. All TI and EOB data from the REAPER is being processed and shipped to the user.

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b. Vehicles in Process

(1) FV 2737 - STRAWMAN IV

(a) The THRESHER payload has completed its manufacturing cycle and is in final stages of acceptance test.

(b) The REAPER payload has also completed its manufacturing cycle and is in final stages of acceptance test. Delivery is scheduled for mid-December 1970.

(c) The HARVESTER payload is in final stages of manufacture. Estimated delivery date is mid-December 1970.

(2) FV 2738 - STRAWMAN V

Contractual changes cancelling FV 2738 have been completed. Contractor proposals have been received and negotiations are scheduled.

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(3) FV 2707 - POPPY

The manufacture of FV 2707 is in progress. The capability to carry a Project 989 payload exists on this vehicle and contractual action is in process. The launch in November 1971 is dependent upon delivery of NRL payloads.

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as of 30 Sep 1970

QUARTERLY PROGRAM REVIEW

Mission Optimization

Program Director: Brig Gen W. G. King, Jr.
Project Director: Col K. R. Duncan

OTHER PROJECTS - PART III

1. General

The purpose of this project is to improve and maintain total mission effectiveness through operational analysis, special studies, and improved program capabilities.

2. Program Status

a. Project GAMBIT software has existed in two configurations during this reporting period.

(1) Block 10.1: This software package operates under the System IIB executive with the Advanced Orbital Ephemeris (AOES) software system. The Block 10.1 software package has supported the flights of Missions #4327 and #4328 and is scheduled as a backup to Block 11.1 on Mission #4329.

(2) Block 11.1: This software package operates under the same system configuration as Block 10.1. It also contains the capability to handle up to 15,000 point targets versus the current limit of 10,000. The use of Block 11.1 has been advanced based on a revision in the GAMBIT launch schedule and the quality of this software product.

b. A Milestone 1 is scheduled for release by 1 Nov 1970 which will contain design specifications to modify the GAMBIT Command and Control software to support the HIGHERBOY mission.

c. The HEXAGON orbit software contract with TRW provides for a two-phase development with each phase consisting of three

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incentivized events. Phase one, the Initial Operating Capability (IOC) phase, successfully completed Milestone 5 incentivized event this quarter. Additionally, Milestone 6 testing by the integrating contractor leading to the Milestone 8 turnover of the computer programs to SCF was completed on schedule on 25 Sep 1970. The final IOC incentivized event, the Operational Demonstration, is scheduled for 6 October. The Full Operating Capability (FOC) phase has passed Milestone 2 and is beginning Critical Design Review of Milestone 4 level material. Milestone 4, the first FOC incentivized event, is scheduled for 5 Feb 1971. The recent operational exercises at the AFSCF exercised the software in an operational environment, and the results have been surprisingly optimistic.

d. Operational computer programs developed for Program 770 (EARPOP) STRAWMAN vehicle are on contract with GE for development, maintenance, and improvement. The command programs generate payload, station acquisition and "load logic" commands to support the on-orbit operation of the loadable programmer used by STRAWMAN. These programs also format and check command messages prior to transmission to the vehicle and provide history and post-pass command summaries as inputs to data processing programs.

(1) The Block IV version of this software is presently operationally on-line supporting FV #2735 (STRAWMAN #2).

(2) The Block V version of the system is presently operationally on-line supporting FV #2736 (STRAWMAN #3).

(3) Development of required changes to the Block V software for support of FV #2737 is in progress and will be delivered in December 1970 for operational use in March 1971.

e. The Computer Program RCASP (Command and Scheduling Program) is on contract with Planning Research Corporation for operational computer program development and maintenance in support of Program 989. This software system performs mission planning to optimize payload read-in by computing payload "On" and "Off" commands and vehicle conflict resolutions such that targets are scheduled in order of priority.

(1) The Block V version of this software system is presently supporting all orbiting 989 vehicles.

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(3) MC DONNELL/DOUGLAS. The "White" (\$20.1 million) and "Black" (\$7.8 million) follow-on contracts for twenty-four additional re-entry vehicles were distributed in Aug 1970.

(4) GE/AES. A "White" (\$9.9 million) follow-on contract for six additional command subsystems was distributed in Aug 1970.

(5) GE/RESD. A "Black" (\$3.3 million) contract for six flight Satellite Recovery vehicles (Mark V's) was negotiated in Jul 1970 and distributed in Aug 1970.

(6) TRW. An overrun proposal of \$1.6 million on the \$8.2 million command generation and targeting software contract was received in Aug 1970. Formal recognition of the overrun on the contract will be in Oct 1970.

c.

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d. Project 770

(1) AIRBORNE INSTRUMENTS LABORATORY (AIL), LTV, LMSC.

Supplemental agreements were issued to the three Contractors on this program to extend the performance incentive life of vehicles 2736 and 2737 from six months to nine months. The total fee payment remains the same as originally negotiated; however, now the Contractors can earn fee at a slightly faster rate during the first three months.

(2) LMSC. Proposals have been received on the "White" (\$1.3 million) and "Black" (\$2.5 million) contracts to realign the launch dates of 2736 and 2737, extend the period of performance of the contracts, and delete the launch of 2738. Proposals will be negotiated in Oct 1970.

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as of 30 Sep 1970

QUARTERLY PROGRAM REVIEW

Financial

Program Director: Brig Gen W. G. King, Jr.
Deputy Director for Programming: Col C. C. McBride1. General

The initial FY 1971 program approvals released [redacted] to SAFSP, consisting of [redacted] WHITE and [redacted] BLACK. As a result of various changes made during the quarter, the total approvals on 30 Sep 1970 were: [redacted] composed of [redacted] WHITE and [redacted] BLACK. The major program changes were:

<u>Date</u>	<u>Authority</u>	<u>Description</u>	<u>\$ in Millions</u>
17 Jun 70	WHIG 0443	VHR	(.370)
16 Jun 70	WHIG 0451	[redacted]	[redacted]
13 Jul 70	WHIG 0539	[redacted]	[redacted]
22 Jul 70	WHIG 0581	GAMBIT	.113
22 Jul 70	WHIG 0585	AFSPPF 50X1	.208
29 Jul 70	WHIG 0617	P-989	.500
30 Jul 70	WHIG 0622	GAMBIT	4.100
1 Aug 70	WHIG 0636	Readout Technology	3.416
18 Aug 70	WHIG 0696	P-989	.400
18 Aug 70	WHIG 0689	HEXAGON	(.158)
18 Aug 70	WHIG 0689	GAMBIT	(.052)
18 Aug 70	WHIG 0689	770	.262
18 Aug 70	WHIG 0689	Applied Research/Advanced Tech	(.053)
18 Aug 70	WHIG 0689	VHR	(2.121)
19 Aug 70	WHIG 0704	[redacted]	[redacted]
19 Aug 70	WHIG 0705	AFSCF	1.378
21 Aug 70	WHIG 0713	AFSPPF	1.190
26 Aug 70	WHIG 0738	Readout Technology	5.687
27 Aug 70	WHIG 0743	[redacted]	[redacted]
31 Aug 70	WHIG 0751	[redacted]	[redacted]
1 Sep 70	WHIG 0757	HEXAGON	(2.850)
9 Sep 70	WHIG 0790	CORONA	.023
9 Sep 70	WHIG 0790	GAMBIT	.001
9 Sep 70	WHIG 0791	AFSPPF	.100
18 Sep 70	WHIG 0834	Vulnerability [redacted]	[redacted]
23 Sep 70	WHIG 0852	GAMBIT - HIGHERBOY	.901
25 Sep 70	WHIG 0862	Readout Technology	2.150

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as of 30 Jun 1970

QUARTERLY PROGRAM REVIEW

Overall General Summary

Program Director: Brig Gen W. G. King, Jr.
 Vice Director : Col H. D. L'Heureux

1. Quarterly Summary of Operations

a. Project CORONA flew one mission (#1110) launched on 20 May 1970, and both capsules were successfully air-recovered on 31 May and 8 June respectively. Photographic quality was somewhat below average for a J-3 mission.

b. Project GAMBIT flew two missions (#4326, launched on 15 April, and #4327, launched on 25 June). Both capsules of the first mission were successfully air-recovered on 22 and 29 April. Best resolution was approximately 13.5 inches, with average resolution at 19 inches. Results of Mission #4327 were not available as of 30 June and will be reported in the next issue of this publication.

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d. Project SIGINT successfully launched a P-11 (TRIPOS IV/SOUSEA III payloads) on 20 May.

e. The following vehicles launched in previous periods were still operating on 30 June:

<u>Vehicle</u>	<u>Payload</u>	<u>Purpose</u>	<u>Operational Life</u>
2735	STRAWMAN	TI/EOB	11 months

4418	TIVOLI II	TI on ABM emitters & [redacted] search	15 months
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as of 30 Jun 1970

QUARTERLY PROGRAM REVIEW

Project 770

Program Director: Brig Gen W. G. King, Jr.
Project Director: Col D. D. Bradburn

i. Overviewa. Launches

There were no launches during the quarter.

b. On Orbit Vehicle

The second STRAWMAN, Flight Vehicle (FV) 2735, which was launched on 31 Jul 1969, continued to be operated during this quarter. This vehicle contains the THRESHER, REAPER, and CONVOY II payloads. The THRESHER and REAPER payloads provide Technical Intelligence (TI) and Electronic Order of Battle (EOB) data over the frequency range of 125 to 3300 MHz. The CONVOY II payload provides TI data from the Dog House, Hen House, and [] radar.

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(1) As reported in the last quarterly report, the TI collection capability was lost on 13 Oct 1969 when the second Data Storage Unit (DSU) failed. Therefore, only EOB data are being obtained from the THRESHER and REAPER and no data are being collected with CONVOY II.

(2) REAPER EOB tasking continued in the partial scan mode. Limited data is being generated and shipped to the user.

(3) EOB data from three of the four THRESHER bands are being shipped to the user. The THRESHER Band 2 (125 to 260 MHz) boresight shift stabilized during the period of 16 Nov 1969 to 24 Jan 1970. Location correctors for this period of time have been determined and applied to the TALL KING frequency region [] of Band 2. This corrected data, a total of 122 readouts, have been shipped. Since 24 Jan 1970, Band 2 has again become intermittent and its data are no longer being processed or shipped.

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c. Vehicles in Process

FVs 2736, 2737, and 2707 are proceeding as scheduled to programmed launch dates. Contractual changes cancelling 2738 have been completed and negotiations for this change are in process.

d. Programmed Launches

<u>FV</u>	<u>PAYLOAD</u>	<u>LAUNCH DATE</u>
2736	STRAWMAN (THRESHER, REAPER)	25 Aug 70
2737	STRAWMAN (THRESHER, REAPER HARVESTER & <input type="text"/>)	Mar 1971
2707	POPPY and NRL Research Payload	Nov 1971

NOTE: The launch date for FV 2736 changed as a result of changes to launch schedules for other SAFSP programs. The launch date for FV 2707 reflects the NRO guidance and does not include the capability of launching a Project 989 spacecraft.

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2. Program Direction

a. The approved financial program for STRAWMAN remained at \$22.178 million. Additionally, funds in the amount of

b. The POPPY approved financial program was \$10.621 million at the beginning of this quarter. WHIG 0359 provided a \$.500 million increase in the NRL payload line, which brought the final FY 1970 approved program to \$11.121 million.

3. Technical Status (STRAWMAN, POPPY)

a. On Orbit Status.

(1) FV 2735 - STRAWMAN

(a) This vehicle was launched on 31 Jul 1969 and has exceeded 334 days of operation. The sixth yaw maneuver was successfully completed on 12 Jun 1970.

(b) No TI activity occurred during this reporting period because of the Data Storage Unit (DSU) failure which was reported previously.

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(c) EOB data from THRESHER Band 3 (260 to 540 MHz) and Band 5 (1060 to 2100 MHz) continued to be shipped to the user. The accuracy of the EOB data from Band 4 (540 to 1060 MHz) is presently being re-evaluated. In recent calibrations of Band 4 at frequencies above 800 MHz, the location accuracy remains the same and is acceptable. However, some of the recent calibrations below 800 MHz indicate an unacceptable location accuracy. These latter data are being evaluated.

(d) Location correctors have been successfully applied to the THRESHER Band 2 EOB data which were collected during the periods of 16 Nov 1969 and 24 Jan 1970. These correctors are applicable to the TALL KING frequency range [redacted] only. The corrected EOB data, a total of 122 readouts, have been shipped to the user. 50X1

(e) THRESHER tasking was slightly reduced during the period of 9 May 1970 to 21 May 1970. This was necessary to preclude exceeding critical temperatures in the THRESHER power supply.

(f) The REAPER payload continues to be tasked in the partial scan mode with no further degradation. Generated data are being shipped to the user.

(g) On 3 Apr 1970, one Horizon Sensor failed and on 14 May 1970, the second Horizon Sensor failed. As a result, it was not possible to determine vehicle attitude in the normal manner. However, through the use of an attitude predict program in conjunction with calibration data from the REAPER payload, it was determined that the attitude predict program is efficient and does not significantly degrade the location accuracy.

(h) On 17 May 1970, a command constraint was inadvertently violated. The effect of this action was that the payloads (THRESHER, REAPER) remained on for one full revolution (90 minutes). The potential for this condition to recur has been eliminated through special instructions to the Satellite Control Facility and the remote tracking stations. In addition, for Vehicles 2736 and 2737, a 30-minute timer has been added which will turn off the payloads in the normal sequence if they are inadvertently left on when departing the cone of coverage of each remote tracking station.

b. Vehicles in Process.

(1) FV 2736 - STRAWMAN

The additional testing of payloads and vehicle components has been completed. In addition, all 900 series

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integrated circuits have been replaced in the REAPER payload. System testing was resumed on 18 Jun 1970 and the Thermal Vacuum Testing was completed on 24 Jun 1970. FV 2736 will be placed in a hold status during the week of 6 Jul 1970 for approximately two weeks. This will result in a launch date of 25 Aug 1970.

(2) FV 2737 - STRAWMAN

(a) The THRESHER payload is undergoing systems testing. The expected delivery date is early September 1970.

(b) The REAPER modifications are complete and the suspect 900 series integrated circuits are in the process of being replaced. System testing will start in mid-July 1970 with a delivery date in late November 1970.

(c) The design and development of the HARVESTER payload is progressing satisfactorily with the expected delivery date of late September 1970.

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(3) FV 2738 - STRAWMAN

Contractual changes cancelling FV 2738 have been completed and the negotiations for this change are in process.

(4) The November 1971 launch of this vehicle is based upon the POPPY payloads and the NRL research payload to be mounted on the aft rack of the Agena vehicle. Although this vehicle does not presently have the capability to launch a Project 989 payload, a study is presently in process to determine the feasibility of launching a 989 payload in addition to the POPPY payloads and the NRL research payload.

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the same computer format (System II). Initial evaluation indicates data is better than that obtained with OES. In-track errors were smaller in magnitude and number of time bias messages were reduced.

d. STRAWMAN

Iron 8285, launched 31 Jul 1969, was supported on 1086 of the 1645 passes scheduled. Transition from Model "A" to 11.5 occurred 15 April, resulting in significantly improved station support. Command generation software master 5.1 was delivered 21 May 1970 for use with the next vehicle.

e. 989

(1) The vehicles in orbit at the beginning of the quarter received the following support:

(a) Iron 2285, launched 19 Mar 1969, was supported on 412 of the 449 scheduled passes.

(b) Iron 4710, launched 22 Sep 1969, was supported on 915 passes while only 879 were originally scheduled.

(c) Iron 1807, launched 30 Sep 1969, was supported on 266 passes with only 206 being originally scheduled.

(d) Iron 3402, launched 4 Mar 1970, was supported on 790 of 815 passes scheduled.

(2) An 8 revolution rehearsal for Iron 8520 was conducted on 11 May 1970 in conjunction with CORONA. The results were completely satisfactory. This satellite, the second all UHF for the program, was launched on 20 May 1970 and 245 passes of the 253 scheduled were supported.

(3) The new "block commanding" capability became operational on 12 Jun 1970. It allows up to 32 commands in each of five blocks to be sent to the vehicle by a single command. The capability results in considerable saving of commanding time.

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(3) Block 11.1: This software package operates under the same system software configuration as Block 10.1. The Block 11.1 software was a well defined configuration baseline and is on schedule for a Milestone 8 (delivery of completed and tested software package) date of 1 Aug 1970. Block 11.1 will contain the capability to handle up to 15,000 point targets. The Block 11.1 software package is scheduled to support Project GAMBIT as of Mission 4330.

b. The scope of the GE and TRW software contracts for Project GAMBIT has been reduced to provide for computer program maintenance and operational support to SAFSP and AFSCF.

c. The HEXAGON orbit software contract with TRW includes targeting, commanding, and reporting of the contents of each frame of photography. The coding and checkout phase of the development has been accomplished during this period. The completion of all system and acceptance tests and DD 250 acceptance is scheduled for 14 Aug 1970. The coding and checkout of the product has proceeded on schedule and the turnover of programs to product assurance (contractor's internal testing of product) on 1 Jun 1970 was accomplished with very few problems. The work on the Final Operational Capability (FOC) to be delivered in Oct 1971 has been initiated.

d. Operational computer programs developed for the Program 770 (EARPOP) STRAWMAN vehicle are on contract with GE for development, maintenance, and improvement. The command programs generate payload, station acquisition, and "load logic" commands to support the on-orbit operation of the loadable programmer used by STRAWMAN. These programs also format and check command messages prior to transmission to the vehicle and provide history and post-pass command summaries as inputs to data processing programs.

(1) The Block IV version of this software is presently operationally on-line supporting FV 2735.

(2) The Block V version of the system was delivered for operational use 8 Apr 1970. This Block will support FV 2736, Missions 7166 and 7235, beginning in Aug 1970.

(3) Definition of the required changes to the Block V software for support of FV 2737 is in progress. Block VI will be delivered in Dec 1970 for operational use in Mar 1971.

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e. On contract with Planning Research Corporation (FRC) for computer program development and maintenance to support SAFSP and AFSCF is the Computer Program RCASP (Command and Scheduling Program) developed to support Project 989 (EARPOP) to optimize payload readin, compute payload commands, and perform multi-989 vehicle conflict resolution for payload readout.

(1) The Block V version of this software system is presently supporting all orbiting 989 vehicles.

(2) Block VI RCASP modifications have been defined and work is in progress by the contractor. Delivery to the integration contractor is scheduled for 20 Aug 1970, with operational use tentatively set for 28 Sep 1970.

(3) Activities defining necessary changes to Block VI by the MABELI and URSALA payloads have continued this quarter.

(4) Changes to the Block VI configuration to be compatible with the ARROYO payload have been defined and are in work.

f. Computer usage for the CDC 3800 computer used jointly by SAFSP and the Foreign Technology Division of SAMSO (SMF) averaged 365 hours per month during this quarter. Operational time was scheduled around-the-clock on a five and one-half days-per-week basis. This computer was turned over to SAMSO for budgeting, scheduling, and operational control on 1 Jul 1970. At that time, SAFSP began scheduling computer time requirements through the AFSCF.

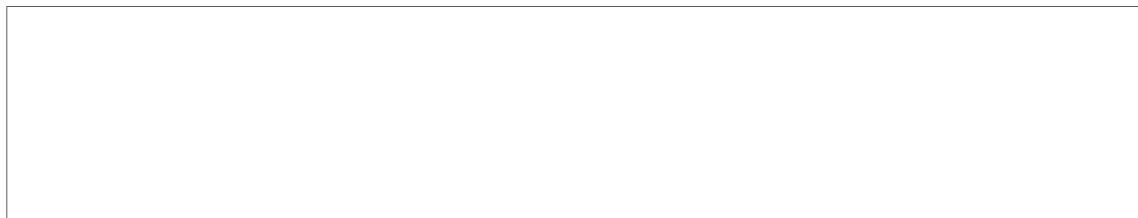
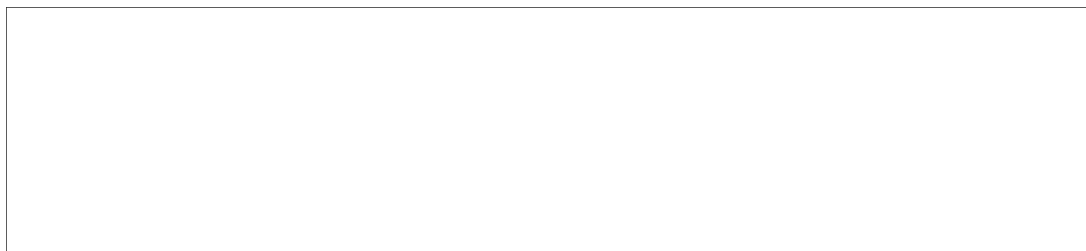
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(6) TRW. The contractor formally forecasted an overrun of \$1.6 million on the \$8.2 million command generation and targeting software contract. A proposal for the overrun is expected in Jul 1970.



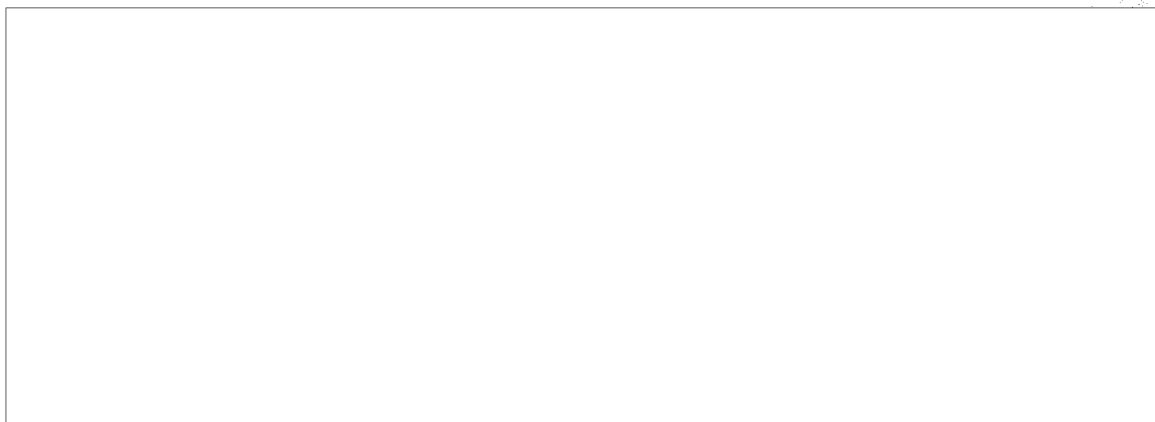
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d. Project 770

(1) LMSC. Negotiations were completed for the addition of the HARVESTER and the [redacted] to Vehicle 2737. The price for this effort is [redacted]

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(2) LMSC. Unpriced supplemental agreements have been issued on the "Black" and "White" contracts to realign the launch dates of 2736 and 2737, extend the period of performance of the contracts, and delete the launch of 2738.



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as of 30 Apr 1970

QUARTERLY PROGRAM REVIEW

Overall General Summary

Program Director: Brig Gen W. G. King, Jr.
Vice Director : Col H. D. L'Heureux

1. Quarterly Summary of Operations

a. Project CORONA flew one mission (1109, launched on 4 Mar 1970) and both capsules were successfully air-recovered on 11 and 23 March respectively. Results of the photography were average for a J-3 mission.

b. Project GAMBIT flew one mission (4325, launched on 14 Jan 1970) after a one-day delay. The first capsule was successfully air-recovered on 21 Jan, but the attempt to recover the second capsule on 28 Jan was a complete failure. Some of the photography of this mission was the best produced to date.

c. Project SIGINT launched a P-11 (TIVOLI III payload) during this period.

d. The following vehicles launched in previous periods were still operating on 31 March 1970:

<u>Vehicle</u>	<u>Payload</u>	<u>Purpose</u>	<u>Operational Life</u>
2735	STRAWMAN	TI/EOB	8 months
4418	TIVOLI II	TI, [redacted] search	12 months 50X1
4419	SAVANT	Soviet type [redacted] [redacted] collection	6 months
4407	WESTON	COMINT sampling	6 months
[redacted]			

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Control System

BYE-16743-70
as of 31 Mar 1970

QUARTERLY PROGRAM REVIEW

Project 770

Program Director: Brig Gen W. G. King, Jr.
Project Director: Col D. D. Bradburn

1. Overview

a. Launches

There were no launches during the quarter.

b. On Orbit Vehicle:

The second STRAWMAN, Flight Vehicle (FV) 2735, which was launched 31 Jul 1969, continued to be operated during this quarter. This vehicle contains the THRESHER, REAPER, and CONVOY II payloads. The THRESHER and REAPER payloads provide Technical Intelligence (TI) and Electronic Order of Battle (EOB) data over the frequency range of 125 to 3300 MHz. The CONVOY II payload provides TI data from the Dog House, Hen House, and [] radars.

(a) The TI data collection capability was lost on 13 Oct 1969 when the second Data Storage Unit (DSU) failed.

(b) EOB data from three of the four THRESHER bands are being shipped to the user. The THRESHER Band 2 (125 to 260 MHz) data are not being shipped because of an intermittent failure in the antenna feed structure which occurred at launch. This condition has subsequently stabilized to an apparent fixed boresight shift. Location correctors have been determined for the TALL KING frequency region [] and corrected data are being evaluated for possible shipment.

(c) REAPER EOB tasking continued in the partial scan mode. Data were shipped during the report period.

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c. Vehicles in Process

FV's 2736, 2737, and 2707 are proceeding as scheduled to programmed launch dates. Contractual changes to reflect cancellation of FV 2738 are imminent.

d. Programmed Launches

<u>FV</u>	<u>PAYLOAD</u>	<u>LAUNCH DATE</u>
2736	STRAWMAN (THRESHER, REAPER)	29 Jul 1970
2737	STRAWMAN (THRESHER, REAPER, HARVESTER)	Mar 1971
2707	POPPY - Project 989	Sep 1971

NOTE: The launch date of FV 2736 reflects additional confidence, testing and the retrofit of all 9900 series integrated circuits in the REAPER payload. The launch date of FY 2737 reflects FY 1971 Budget Guidance from NRO.

2. Program Direction

a. The approved financial program at the beginning of the quarter was \$22.478 million for STRAWMAN and \$10.621 million for POPPY. WHIG 9882 decreased approvals by \$.800 million due to termination action for STRAWMAN 5 (Vehicle 2738). WHIG 0107 increased STRAWMAN approvals by \$.500 million for HARVESTER payload for launch on vehicle 2737. Program approvals at the end of the quarter were \$22.178 million for STRAWMAN and \$10.621 million for POPPY.

b. WHIG 0107 specifies the following search capability for the HARVESTER payload against the SA-5 (Square Pair Radar).

- (1) Frequency coverage: 2 to 12 GHz
- (2) Sensitivity: 96 DBM (4 MHz bandwidth) or better
- (3) Control: Allow flexible tasking between STRAWMAN systems (i.e., capability to preempt HARVESTER by THRESHER/REAPER).

3. Technical Status (STRAWMAN, POPPY)a. General Status

- (1) FV 2735, STRAWMAN

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(a) This vehicle was launched on 31 Jul 1969 and has exceeded 244 days of operation. The fourth yaw maneuver was successfully completed on 13 Feb 1970.

(b) No TI activity occurred during the report period because of the Data Storage Unit (DSU) failure reported last quarter.

(c) EOB data from THRESHER Bands 3, 4, and 5 continued to be shipped to the user.

(d) Location correctors have been determined for the Tall King portion of the Band 2 spectrum and indicate a 10 to 20 mile location accuracy. These correctors are presently under evaluation.

(e) THRESHER tasking was reduced or terminated during the third and fourth high Beta periods, from 1 Jan 1970 to 23 Jan 1970 and 4 Mar 1970 to 28 Mar 1970, respectively. The reductions were made to preclude exceeding critical temperatures in the THRESHER power supply.

(f) On 4 Mar 1970, the DC-DC converter went into the current limiting mode. This shift was apparently caused by a short in the input regulated 28V line to the THRESHER payload. The DC-DC Converter has since returned to normal operation; however, the THRESHER payload has lost the regulated 28V input. Despite this loss, it continues to operate. Minor operational procedures have been incorporated to preclude impacting mission objectives.

(g) The REAPER payload continues to be tasked in the partial scan mode and data are being shipped.

(2) FV 2736, STRAWMAN

System Integration testing commenced on 18 Feb 1970. The testing will continue through the thermal vacuum phase, after which the REAPER payload will be recycled for retrofit of all "9900" series integrated circuits. Testing will then be resumed in early Jun 1970.

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(3) FV 2737, STRAWMAN

(a) THRESHER is undergoing payload system testing. The expected delivery date is early Jun 1970.

(b) REAPER modifications are nearing completion. Payload system testing will begin in late Jun 1970 with an expected delivery date in Oct 1970.

(c) Negotiations for the HARVESTER payload should be completed in Apr 1970. Expected delivery of the 2737 HARVESTER payload is Dec 1970.

(4) FV 2738, STRAWMAN

Termination procedures are expected to be completed in Apr 1970.

(5) FV 2707, POPPY

Sep 1971 launch is based on the availability of the POPPY payloads from the Naval Research Laboratories. This vehicle will also have the capability to launch a Project 989 payload.

BYE-16743-70
as of 31 Mar 1970

QUARTERLY PROGRAM REVIEW

Mission Optimization

Program Director: Brig Gen W. G. King, Jr.
Project Director: Col K. R. Duncan

OTHER PROJECTS - PART III

1. General

The purpose of this project is to improve and maintain total mission effectiveness through operational analysis, special studies and improved computer program capabilities.

2. Program Direction

The approved program remained at \$3.276 throughout the period. Initiation and obligation increased significantly from 39% and 9% to 92% and 71%.

3. Project Status

a. Project GAMBIT software has existed in three configurations during the reporting period:

(1) Block 10: This software package operates under the System IIB executive with Orbit Ephemeris System (OES) data stored in an Advanced Orbital Ephemeris System (AOES) format. The Block 10 software package is planned to support Project GAMBIT until FV 4777.

(2) Block 10.1: This software package operates under the System IIB executive with the Advanced Orbital Ephemeris (AOES) Software System. The Block 10.1 software package is scheduled to support the Solo phase of Vehicle 4776 and the entire flight of Vehicle 4777.

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(3) Block 11: This software package operates under the same system configuration as Block 10.1 and will contain the capability to handle up to 15,000 point targets. The Block 11 software package is scheduled to support Project GAMBIT as of FV 4780.

b. On contract with TRW and GE for computer program development, maintenance, product improvement, and operational support to SAFSP and AFSCF are the following:

(1) Block 11 (TRW): The TRW MS-5 for Block 11 has been delivered and was turned over to the AFSCF for integration.

(2) Block 11 (GE): GE is on schedule for a MS-5 date on Block 11 of 4 May 1970.

c. On contract with TRW for Project HEXAGON is the TUNITY Computer Program, including the mission planning, command and control and mission performance reporting programs, which is in the early stage of development. The Initial Operational Capability (IOC) version of the software is currently planned for MS-5 delivery 14 Aug 1970 and the first incentivized event, MS-4 was accomplished on schedule (20 Feb 1970). Computer program coding and development testing is proceeding according to schedule.

d. Operational computer programs developed for the Program 770 (EARPOP) STRAWMAN vehicle are on contract with GE development, maintenance and improvement. The command programs generate payload, station acquisition and "load logic" commands to support the on-orbit operation of the loadable programmer used by STRAWMAN. These programs also format and check command messages prior to transmission to the vehicle and provide history and post-pass command summaries as inputs to data processing programs.

(1) The Block IV version of this software is presently operationally on-line supporting FV 2735.

(2) The Block V version of the system was delivered by GE 5 Mar 1970 and is presently in the integration and checkout cycle. This block will be used to support FV 2736 beginning in Jul 1970.

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(3) Definition of the required changes to the Block V software for support of FV 2737 is in progress. Block VI will be delivered in Dec 1970 for operational use in Mar 1971.

e. On contract with Planning Research Corporation (PRC) for computer program development and maintenance to support SAFSP and AFSCF is the Computer Program RCASP (Command and Scheduling Program) developed to support Project 989 (EARPOP), to optimize payload readin, compute payload commands and perform multi-989 vehicle conflict resolution for payload readout.

(1) The Block V version of this software system was brought on-line and is operationally supporting all presently orbiting Project 989 vehicles.

(2) Block VI RCASP modifications have been defined and work is in progress by the Contractor. Delivery to the integration Contractor is scheduled for 20 Aug 1970, with operational use tentatively set for 28 Sep 1970.

(3) Activities defining necessary changes to Block VI caused by the MABELI and URSALA payloads have been initiated this quarter.

f. Computer usage for the CDC 3800 computer used jointly by SAFSP and the Foreign Technology Division of SAMSO (SMF) averaged 356 hours per month during this quarter. Operational time is being scheduled around-the-clock on a five and one-half days per week basis. The computer operator force is approximately 75% manned which permits normal operation around-the-clock on a six days per week basis, or seven days per week for short durations. This computer will be turned over to SMF for budgeting, scheduling and operational control on 1 Jul 1970. At that time SAFSP will begin scheduling computer requirements through the AFSCF.

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2. MC DONNELL/DOUGLAS. The follow-on "White" effort for twenty-four re-entry vehicles has been proposed for \$21 million and a follow-on "Black" effort for \$8.2 million; both to be performed during the period from May 1970 to Dec 1973.

Existing contracts, which are scheduled for completion in Dec 1971, are being overrun in the amounts of \$16 million and \$5 million respectively for the "Black" and the "White" contracts.

3. GE/AED. Follow-on proposals are being evaluated for production of six additional programmers to be produced in the period from Jun 1970 through Dec 1973 at an estimated cost of \$10.3 million. An overrun of \$2.4 million was recognized on the existing contract in March of this year.

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d. Project 770

Negotiations for Poppy vehicle 2707 were completed with LMSC for a CPIF price of \$3 million, with delivery of the vehicle scheduled for Jan 1972.

BYE-16743-70
as of 31 Mar 1970

QUARTERLY PROGRAM REVIEW

Financial

Program Director: Brig Gen W. G. King, Jr.
Deputy Director for Programming: Col C. C. McBride

1. General



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Approved Program Changes During Quarter

<u>Date</u>	<u>Authority</u>	<u>Description</u>	<u>\$ in Millions</u>
13 Jan 1970	WHIG 9822	HEXAGON Increases	12.856
13 Jan 1970	WHIG 9822	GAMBIT Decreases	(13.460)
28 Jan 1970	WHIG 9786	Applied Research Increase	.155
12 Feb 1970	WHIG 9923		
18 Feb 1970	WHIG 9953		
28 Feb 1970	WHIG 9982	P-770 Decrease	(.800)
12 Mar 1970	WHIG 0050	CORONA Increase	.255
12 Mar 1970	WHIG 0050	GAMBIT Decrease	(2.673)
12 Mar 1970	WHIG 0050	Miscellaneous Operating Increase	.002
16 Mar 1970	WHIG 0061	CORONA Increase	.100

2. Special Actions

a. By memorandum dated 13 Feb 1970 from Dr. Mc Lucas to General King, the FY 1971 Financial Program/FY 1972 Budget Recommendations, guidance was transmitted to SAFSP. Preparation was begun immediately on both budgets and the FY 1971 Financial Program was due in Washington on 28 Apr 1970, to be followed by the FY 1972 Budget on 11 May 1970.