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MONTHLY REPORT
FOR THE MONTH OF APRIL
1970

Prepared: 15 May 1970

Declassified and Released by the N R C

In Accordance with E. O. 12958

on NOV 26 1997

GP-1

EXCLUDED FROM AUTOMATIC
REGRADING; DOD DIR 5200.10
DCES NOT APPLY

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~~HANDLE VIA~~ [REDACTED]
CONTROL SYSTEM ONLY

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J-3 SYSTEM STATUS

ENGINEERING & OPERATIONS ANALYSIS SUMMARY

CR-10 SUPPORT (POST-FLIGHT)

ATTENDED PET MEETING AND REVIEWED FLIGHT MATERIAL. COMPLETED AND ISSUED PAT REPORT (OLD PET ACTION LIST). RECEIVED ENGINEERING MATERIAL AND COMPLETED PRELIMINARY REVIEW. COMPLETED TELEMETRY ANALYSIS REPORT. COMPLETED PLOTTING OF ORBITAL TEMPERATURE CURVES.

CR-11 SUPPORT

COMPLETED LAMP CONDITION AND AUXILIARY DATA ANALYSIS, SPECIAL DDSC AND CTA TEST ANALYSIS. COMPLETED LAUNCH WINDOW SELECTION, SLIT WIDTH AND PROGRAMMER REQUIREMENTS.

COMPLETED UPDATE ON CR-11 SYSTEM INTEGRATION AUDIT, BLACK BOX SCREENING, AND CSE AUDIT FOR FLIGHT ON AGENA 1656. CONDUCTED STORAGE AUDIT MEETING WITH CUSTOMER REPRESENTATIVES TO REVIEW FLIGHT READINESS.

PROVIDED THERMAL PATTERN AND MONITORED INSTALLATION OF TAPE.

CR-12 SUPPORT

COMPLETED PRE-STORAGE OPERATIONS AND LIGHT-LEAK VERIFICATION.

CR-13 SUPPORT

COMPLETED L. L. VERIFICATION, ANALYSIS OF VIBRATION LEVELS, AGT REVIEW AND CHAMBER ANALYSIS, DATA AND FILM. COMPLETED AUXILIARY DATA VERIFICATION AND RESO ANALYSIS.

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J-3 SYSTEM STATUS (CONT'D)

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○ ENGINEERING & OPERATIONS ANALYSIS (CONT'D)

○ CR-13 SUPPORT (CONT'D)

CONDUCTED PRE-CHAMBER AND POST CHAMBER CRITIQUES FOR FIRST HIVOS TEST. CRITIQUES WILL BE REPEATED FOR RETEST REQUIREMENTS. SYSTEM INTEGRATION AUDIT COMPLETED.

○ QR-2 SUPPORT

COMPLETED TEMP SENSOR AND TLM CALIBRATION. COMPLETED SPECIAL STROBE TEST, PROGRAMMER VERIFICATION AND VIBRATION LEVELS ANALYSIS. COMPLETED SYSTEM DYNAMIC VERIFICATION. COMPLETED CYCLE RATE CALIBRATION. COMPLETED HIVOS PREPS. COMPLETED T.U. POT CALIBRATIONS L CONDITION AND AUXILIARY DATA ANALYSIS.

○ CR-14 SUPPORT

COMPLETED VIBRATION LEVELS, CYCLE RATE CALIBRATION, TRACKING TEST ANALYSIS AND PCM AND T/M BOX CHECK. COMPLETED SYSTEM DYNAMIC VERIFICATION.

○ CR-15 SUPPORT

COMPLETED CYCLE RATE CALIBRATION, LAMP AND AUXILIARY DATA VERIFICATION, SLOPE PROGRAMMER CALIBRATION, PCM AND TM BOX CHECK. COMPLETED SYSTEM DYNAMIC VERIFICATION.

○ MANUFACTURING SUMMARY

○ CR11 DUE TO DEGRADATION OF THE THERMAL QUALITIES OF THE TAPE USED ON THIS SYSTEM, THE SYSTEM WAS RE-TAPED ON APRIL 29, 1970.

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J-3 SYSTEM STATUS (CONT'D)

○ MANUFACTURING SUMMARY (CONT'D)

○ CR12 THE PCM AND FILTER MODS WERE INCORPORATED INTO THE AFT T/M BOX. THE AFT T/M WAS ALSO REWORKED PER FEDR BECAUSE OF A BROKEN STUD ON THE DIFFERENTIAL AMPLIFIER AND RETURNED TO SYSTEMS TEST.

○ CR13 THE AFT T/M BOX WAS COMPLETED.

○ QR2 THE DISCONNECTS WERE REPLACED IN THE CONIC. ALL OPEN E.O.'S WERE INCORPORATED INTO THE BARREL. THE AFT T/M BOX WAS COMPLETED.

○ CR14 THE FAILURE OF THE RIPPLE-FILTER IN THE AFT T/M (S/N 211) CAUSED EXTENSIVE DAMAGE TO THAT BOX. THE FORWARD POWER BOX AND TWO CABLES WERE ALSO DAMAGED. AS A RESULT OF THIS FAILURE, CR14 (S/N 211) AND CR15 (S/N 214) AFT T/M BOXES WERE SWITCHED, THE FORWARD POWER BOX REPAIRED, AND THE TWO CABLES REPLACED.

○ CR15 THE CR14 AFT T/M (S/N 211) WAS REASSIGNED TO THIS SYSTEM AND IS BEING HELD IN THE ELECTRICAL SHOP PENDING DISPOSITION OF THE FEDR WRITTEN BECAUSE OF THE RIPPLE-FILTER FAILURE. ALL OTHER BOXES ARE COMPLETE AND DELIVERED TO TEST.

○ CR16 THE SYSTEM WAS CARTED TO Q. A. ON APRIL 9, 1970. ALL BOXES ARE COMPLETE EXCEPT THE AFT T/M BOX AND SWITCH PROGRAMMER, WHICH ARE IN FUNCTIONAL TEST.

○ CR8 THE THERMAL PAINT WAS BOUGHT-OFF AND THE STRUCTURES DELIVERED TO THE ELECTRICAL SHOP APRIL 9, 1970. HARNESS FABRICATION WAS COMPLETED. INSTALLATION OF HARNESES IS 80% COMPLETE IN THE FAIRING AND 20% COMPLETE IN THE BARREL. INSTALLATION OF TEMP SENSORS WAS COMPLETED.

J-3 SYSTEM STATUS (CONT'D)

o MANUFACTURING SUMMARY (CONT'D)

o CR8 SIX BOXES ARE COMPLETE AND READY FOR INSTALLATION. THE AFT T/M, COMMAND BOX, PYRO BOX, SLP CONDITIONER, AND SLOPE PROGRAMMER ARE IN FUNCTIONAL TEST. THE SWITCH PROGRAMMER IS IN INSPECTION WITH AN ECD OF MAY 5, 1970 TO FUNCTIONAL TEST.

THE ECD TO CART THE SYSTEM IS JUNE 1, 1970.

o SRV SUBSYSTEMS

o CR14 THE FOREBODY RETROFITS FOR "A" AND "B" UNITS WERE COMPLETED AND DELIVERED TO TEST.

o THE THERMAL COVER MODS WERE INCORPORATED INTO THE FOLLOWING SYSTEMS AND DELIVERED TO TEST.

<u>SYSTEMS</u>	<u>S/N'S</u>
CR11	821 & 822
CR12	823 & 824
CR13	825 & 826
QR2	827 & 828

o SUB-ASSEMBLIES

o TUNA TWO SPARE UNITS WERE COMPLETED AND DELIVERED TO TEST. THE ECD FOR THE THIRD UNIT IS MAY 13, 1970.

o PMU CR8 UNIT WAS COMPLETED AND DELIVERED TO TEST.

J-3 SYSTEM STATUS (CONT'D)

o MANUFACTURING SUMMARY (CONT'D)

o SPARE BOXES

o THE DSR AND FIRST SLP (S/N 217) WERE RECEIVED FROM SV. SLP (S/N 217) IS IN FUNCTIONAL TEST. THE SECOND SLP (S/N 218) IS IN WORK IN SV (ECD TO AP, JUNE 15, 1970). THE REMAINING BOXES ARE ALL IN WORK AT AP WITH AN ECD TO FUNCTIONAL TEST OF JULY 1, 1970.

o AGE

o MECHANICAL

MOTORIZED TILT SLING - THE CONNECTING LINKS WERE MODIFIED. BOTH UNITS WERE DELIVERED FOR LOAD TEST.

o ELECTRICAL

APC CONSOLE - S/N 105 IS BEING UPDATED TO THE LATEST CHANGES (ECD TO AGE, MAY 8, 1970).

J-3 SYSTEMS CONSOLE - S/N 03 WAS UPDATED TO THE LATEST CHANGES AND DELIVERED TO AGE.

PAYLOAD SIMULATOR - S/N 05 WAS MODIFIED PER THE LATEST ENGINEERING AND DELIVERED TO AGE. S/N 06'S DIGITAL COMMAND PANEL WAS UPDATED TO THE LATEST CHANGE AND RETURNED TO AGE.

SINGLE-CHANNEL PROGRAM TIMER CHECKOUT PANEL - THE UNIT WAS COMPLETED AND DELIVERED TO AGE ON APRIL 13, 1970.

FOUR-CHANNEL PROGRAM TIMER CHECKOUT PANEL - THE UNIT WAS COMPLETED AND DELIVERED TO AGE ON APRIL 22, 1970.

○ MANUFACTURING SUMMARY (CONT'D)

○ ELECTRICAL EMERGENCY POWER BACK-UP UNIT - THE FIRST UNIT IS IN MANUFACTURING FOR INCORPORATION OF MODS (ECD TO AGE, MAY 8, 1970).

HIVOS CONSOLE - THE COMMAND AND CONTROL PANEL, AND RECORDER PANEL WERE UPDATED TO THE LATEST CHANGES AND RETURNED TO AGE.

○ TEST

○ CR8 INSTRUMENTS ARE BEING REFURBISHED AT BOSTON.

○ CR11 FLIGHT PREPS.

○ CR12 STORAGE.

○ CR13 HIVOS PREPS.

○ QR2 HIVOS PREPS.

○ CR14 FUNCTIONAL TESTS.

○ CR15 ASSEMBLED. HOLDING FOR SRV'S AND FOREBODIES.

○ ELECTRICAL AGE

○ P/L SIMULATOR

S/N 05 - T/M AND DISTRIBUTION PANEL RETURNED TO MANUFACTURING FOR MOD TO UNREGULATED LINES TO BE INCORPORATED AND UNIT TO BE RETURNED TO AGE FOR CHECKOUT 5-1-70. CHECKOUT ECD 5-8-70. S/N 02, 03, 04 IN USE. S/N 06 AVAILABLE FOR BACKUP.

J-3 SYSTEM STATUS (CONT'D)

- TEST (CONT'D)
 - ELECTRICAL AGE (CONT'D)
 - SECONDARY PAYLOAD SIMULATOR
S/N 001 - IN SV VST. S/N 002 AT VAFB. S/N 003 IN MANUFACTURING FOR REWORK - MANUFACTURING ECD 5-4-70.
 - SYSTEM CHECKOUT CONSOLE
S/N 04, 05 and 01 IN USE (SYSTEM TEST). S/N 02 IN MANUFACTURING FOR REWORK. S/N 03 IN AGE FOR CHECKOUT 4-30-70. CHECKOUT ECD 5-6-70.
 - AUTOMATIC PROGRAMMER CONSOLE
S/N 103 CHECKOUT COMPLETED 4-26-70, UNIT AVAILABLE FOR TEST USE. S/N 104 IN TEST AREA. S/N 105 IN MANUFACTURING. ECD 5-15-70.
 - HIVOS CONSOLE
RECOVERY CONTROL PANEL AND COMMAND PANEL INSTALLED IN CONSOLE AND CHECKOUT OF ALL FUNCTIONS COMPLETED 4-30-70.
 - GHE
 - TILT SLING ASSEMBLY
MOTORIZED SLING CHECKED WITH A SYSTEM 4-30-70.

J-3 SYSTEM STATUS (CONT'D)

COMPONENT STATUS

- o ALL SYSTEMS FLIGHT BOXES ARE COMPLETED WITH THE EXCEPTION OF:
 - o QR2 SWITCH PROGRAMMER - IN SYSTEM WITH NON-FLIGHT TIMER.
 - o CR14 AFT T/M - IN TEST PRE-SHAKE.
 - o CR15 AFT T/M IN SYSTEM BUT NEEDS VIBRATION TESTS.
 - o CR16 AFT T/M - IN TEST IN PRE-POT (NO PCM OR ELECTRICAL COMMUTATOR) SWITCH PROGRAMMER IN MANUFACTURING FOR FLO COAT (NO TIMER).
 - o CR8 AFT T/M IN TEST - PRE-POT
 PYRO BOX IN TEST - POST SHAKE
 SLOPE PROGRAMMER IN TEST - PRE-POT
 SWITCH PROGRAMMER IN MANUFACTURING
 COMMAND DSR IN MFG. FOR FLO COAT
 SLP CONDITIONER IN TEST - POST SHAKE

VECTOR PCM DELIVERY SCHEDULE AS OF 30 APRIL 1970

S/N 3	IN HOUSE
6	IN HOUSE
7	IN HOUSE
8	8 MAY 1970
9	22 MAY 1970
10	7 JUNE 1970
11	29 JUNE 1970

o TUNA COMPLETE THRU CR-16. CR-8 AWAITING ACCEPTANCE, (THREE SPARES TO BE ACCEPTANCE TESTED).

o PMU COMPLETE THRU CR-14. CR-15, CR-16 AND CR-8 AWAITING ACCEPTANCE TEST.

J-3 SYSTEM PROBLEMS

○ ENGINEERING

○ CR-13

PMU PRODUCED IMPROPER PRESSURE LEVELS DURING FIRST HIVOS TEST. ANALYSIS INDICATED IMPROPER TIMER SETTINGS A CONTRIBUTING FACTOR. ANALYSIS IS CONTINUING AND CHECKOUT METHODS ARE BEING REVIEWED. UNIT WILL BE VERIFIED DURING HIVOS RETEST. DSR EXHIBITED ONE DOUBLE SHIFT DURING FIRST HIVOS TEST. BENCH TESTS HAVE NOT REVEALED A RECURRENCE IN OVER 500 SHIFTS. NOISE ON THE SHIFT LINE WILL BE ANALYZED ON THE SYSTEM LEVEL TO EVALUATE EFFECT. THIS SYSTEM IS SCHEDULED FOR RETEST IN HIVOS DUE TO 'C' MARKING ON CR AND DISIC SUBSYSTEMS.

○ QR-2

DISIC S/N 14 ASSIGNED TO QR-2 INADVERTENTLY SUBJECTED TO EXCESSIVE HEAT ON THE TERRAIN LENS DURING TESTS IN THE NEW YORK LAB. HEAT GENERATED BY FOGGING LAMPS RESULTED IN A CRACKED ELEMENT. UNIT WAS RETURNED TO NEW YORK FOR REPLACEMENT OF ELEMENT AND RECALIBRATION. UNIT ALSO EXHIBITED AN INTERMITTENT INVERTER FAILURE SIMILAR TO THE FLIGHT FAILURE ON MISSION 1108 (CR-9). NEW YORK TESTS INDICATE THE FAILURE IS DUE TO TRANSISTOR OVERHEATING FROM 2 POWER RESISTORS. THESE RESISTORS ARE BEING REMOUNTED ON ALL SYSTEMS. UNIT WILL BE REASSIGNED TO CR-15.

○ CR-14


SHORT CIRCUIT OCCURRED IN AFT T/M BOX. PROBLEM TRACED TO SHORTED CAPACITOR IN THE REFLECTED RIPPLE FILTER. FAILURE ANALYSIS INCLUDED COMPONENT LAB ANALYSIS, CIRCUIT DESIGN APPLICATION AND DERATING AND COMPONENT RELIABILITY. CAPACITOR IS A HI-REL COMPONENT WITH VENDOR BURN-IN, AND ACCEPTED CIRCUIT APPLICATION. ORIGINAL CAUSE OF FAILURE IS INDETERMINATE DUE TO OVERHEATED CONDITION. VENDOR IS CONTINUING EXAMINATION BEYOND THAT CONDUCTED BY THE LMSC LABORATORY. ALL RIPPLE FILTERS WERE X-RAYED TO ENSURE PROPER VOLTAGE TERMINAL CLEARANCE WITH THE CAPACITOR CASE AND FOUND ACCEPTABLE. ONE UNIT WAS SUBJECTED TO A SPECIAL POWER SWITCHING TEST, WITH 1,000 SUCCESSFUL ON/OFF CYCLES, TO VERIFY DESIGN INTEGRITY. UPON SUCCESSFUL COMPLETION OF THE X-RAYS, UNITS ARE CERTIFIED FOR FLIGHT SYSTEMS.

J-3 SYSTEM PROBLEMS (CONT'D)

MANUFACTURING

- o PCM - S/N 06 AND S/N 07 WERE RECEIVED. S/N 06 WAS TESTED AND FOUND TO BE GOOD. S/N 07 WAS DAMAGED AND DISPOSITIONED FOR NON-FLIGHT USE ONLY.
- o MECHANICAL COMMUTATORS 1464617-2 AND -6. ONE -6 WAS RECEIVED FROM SV. THE ECD FOR THE -2 ORDERED FROM SV SLIPPED FROM APRIL 29, TO MAY 4, 1970, BECAUSE OF TEST EQUIPMENT PROBLEMS. OF THE FOUR UNITS RETURNED FROM LCL REFURBISHMENT, TWO ARE DUE BACK BY MAY 1, AND TWO BY MAY 19, 1970.

o TAPE RECORDERS - THE FIRST TAPE RECORDER RECEIVED ON APRIL 28, 1970, WAS IN ACCEPTANCE TEST AT THE MONTH END.

o T33-5122 FOUR-CHANNEL  TIMERS - ONE UNIT WAS RECEIVED APRIL 29, 1970. NO ECD IS AVAILABLE FOR THE REMAINING TWO UNITS.

TEST

o LOST TIME

<u>PAYLOAD</u>	<u>DAYS LOST</u>	<u>PROBLEMS</u>
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CR11	5	CTA'S OUT FOR REWORK. REMOVED CTA FROM INSTRUMENT #1 - ROUGH SPOT ON SHAFT. SENT OUT FOR REWORK AND RETURNED. DDSC PROBLEMS - FINALLY REPLACED ORIGINAL WITH NEW DDSC. UNREGULATED VOLTAGE RINGING PROBLEM. FOUND 99/101 CLUTCH BINDING ON INSTRUMENT #1. REMOVED AND REPAIRED.
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J-3 SYSTEM PROBLEMS (CONT'D)

O TEST (CONT'D)

O LOST TIME

PAYLOAD DAYS LOST

PROBLEMS

CR12

-

BOSTON REMOVED CTA'S FROM SUPPLY CASSETTE FOR REWORK. RINGING SEEN ON SHUTDOWN. CONTROL PACKAGE REMOVED AND REWORKED.

CR13

11

DISC T/U PROBLEMS, REQUIRED REPLACEMENT. IN THE HIVOS TEST THERE WAS CORONA ON THE NO. 2 INSTRUMENT AND DISIC REQUIRES RETEST. SHORT BLOCK TEST REQUESTED BY CUSTOMER. INSTRUMENT REMOVAL AND ROLLERS REPLACED BECAUSE OF CORONA FROM HIVOS TEST.

QR2

-

MAIN T/U TENSIONS ADJUSTED 'A' 25 OZ, 'B' 26 OZ. CHANGE TO 'A' 27.5 OZ, 'B' 28 OZ. DISIC INVERTER PROBLEM. DISIC TERRAIN GLASS FOUND TO BE CRACKED.

CR14

-

CTI TEST, TRACKING TEST AND VIBRATION TEST COMPLETED.

CR15

-

FOUND DEFECTIVE R7 POT IN INTERFACE BOX - REPLACED. STICKY LINKAGE IN SLIT FILTER ACTUATION. RESISTORS CHANGED IN HIGH EFFICIENCY AMPLIFIER FOR INSTRUMENT #1 TO BRING START UP TIMES UP TO PAR.

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ENGINEERING & OPERATIONS ANALYSIS STATUS

○ ENGINEERING AND INTEGRATION

- SYSTEM TEST PLAN REVISED TO REFLECT CURRENT TEST METHODS AND SEQUENCE.
- AP/BOSTON INTERFACE SPEC REVISED TO INCORPORATE SCN'S AND STANDARDIZE TERMINOLOGY.
- COORDINATED LOGACS AND QUANTIC SECONDARY PAYLOAD REQUIREMENTS WITH WEST COAST PROJECT OFFICE AND CSE RELATIVE TO AFFECT ON PROGRAM SECURITY. ATTENDED CSE DESIGN REVIEW.
- CONTINUED PREPARATION OF AN ADDENDUM TO THE J-3 TRAINING MANUAL REFLECTING SYSTEM CHANGES INCORPORATED SINCE ORIGINAL RELEASE OF MANUAL. ECD 22 MAY 1970.
- PREPARED OUTLINE OF TRAINING AID TO BE UTILIZED IN THE SV TRAINING SESSIONS.
- COMPLETED ROUGH DRAFT FOR MECHANICAL PORTION OF TRAINING CLASS FOR NEW SV TECHNICIANS.
- CONTINUED REVIEW AND UPDATING OF GHE MANUAL FOR USE BY SV TECHNICIANS.
- COMPLETED ENGINEERING DESIGN OF 400 Hz BACKUP POWER TO SYSTEM CONSOLE AND HIVOS CONSOLE.
- SYSTEM FUNCTIONAL SCHEMATIC IS IN FINAL STAGE OF PREPARATION. ECD 5-15-70.
- DESIGN AND DEVELOPMENT CONTINUING ON THE SINGLE AND FOUR-CHANNEL PROGRAM TIMER BY AUTRONICS.
- PARTICIPATED IN ANALYSIS OF NOISE PROBLEM DURING AGENA/AP PAYLOAD SIMULATOR TESTING. PERFORMED ENGINEERING ON P/L SIMULATOR.
- COMPLETED REVIEW OF PARACHUTE THERMAL COVER MOD.

ENGINEERING & OPERATIONS ANALYSIS STATUS

o MISSION PROGRAMMING AND OPERATIONS

o A MAJOR EFFORT DURING THE SUBJECT REPORT PERIOD WAS THE SUCCESSFUL PHASE-OVER TO THE 360-65 COMPUTER FACILITY AT BUILDING 156. IT WAS DEMONSTRATED THAT THE MAY FLIGHT OF SYSTEM CR-11 CAN BE SUPPORTED ON THE 360-65. EVERY FLIGHT SUPPORT PROGRAM WAS SUCCESSFULLY COMPILED AND EXECUTED ON THE 360-65. THIS CHECKOUT PHASE ALSO PROVIDED THE OPPORTUNITY TO ESTABLISH DATA SET SPACE REQUIREMENTS AND TO SET UP USER DISK PACKS TO PROVIDE OPTIMUM USAGE FOR FLIGHT SUPPORT. AFTER THE CHECKOUT PHASE A FLIGHT SUPPORT SIMULATION WAS CONDUCTED. THIS INCLUDED THE FOLLOWING:

- GENERATING SOC AND A/P PLANNING DATA.
- GENERATING AN H-TIMER SEQUENCE.
- PREPARATION OF POST VERIFICATION DATA.
- RUNNING WITH THE FLIGHT SUPPORT PROGRAMS THAT PROVIDE DAILY UPDATES AND REPORTS.
- GENERATING POST RECOVERY REPORTS AND POST FLIGHT DATA.

THE SIMULATION EXERCISE PROVIDED THE GROUP WITH AN OPPORTUNITY TO GET SETUP FOR THE MAY FLIGHT AND SHOULD MINIMIZE THE DIFFICULTIES THAT WOULD NORMALLY BE EXPECTED WHILE OPERATING FOR THE FIRST TIME IN A NEW ENVIRONMENT.

o THE GENESIS PROGRAM WAS COMPLETED AND IS NOW PROVIDING THE ORBITAL ELEMENTS USED IN PLANNING DATA PREPARATIONS.

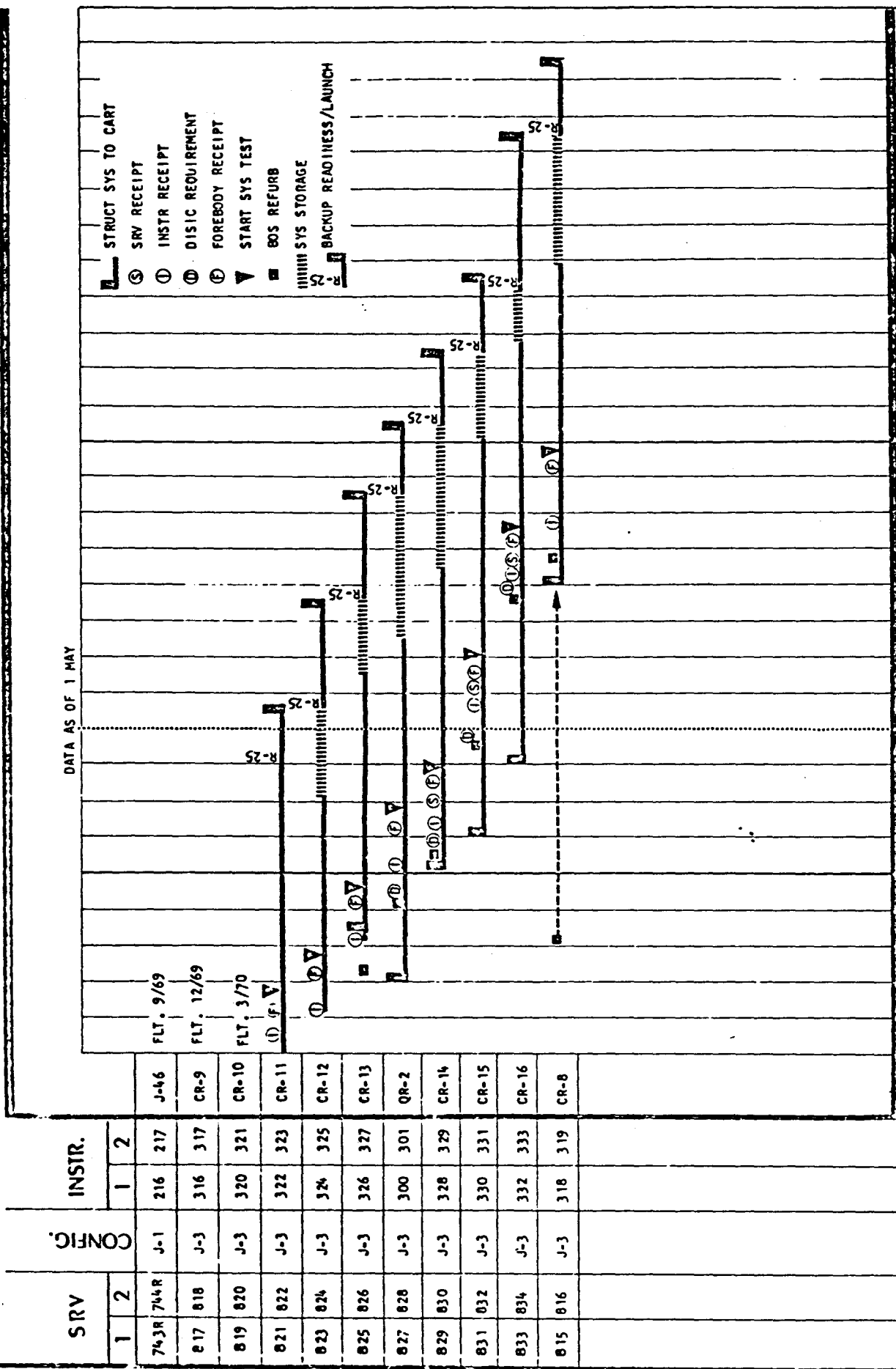
o THE PROGRAM (PET) THAT PREPARES A PERFORMANCE ACTION TABLEAU FOR PERFORMANCE EVALUATION PERSONNEL WAS COMPLETED.

ENGINEERING & OPERATIONS ANALYSIS STATUS

- o [REDACTED]
- o THE FOLLOWING PROGRAMS WERE INTEGRATED AT HEADQUARTERS:
 - o READER - NEW PROGRAM.
 - o SWAP - MODIFIED PROGRAM.
 - o POSTPASS - EXTENSIVELY REVISED PROGRAM.
 - o PRDCTR - NEW PROGRAM.
- o AREA HISTORY FILE
 - o MISSION PERFORMANCE SUMMARY (MPS) AND REVISIONS OF SEVERAL PROGRAMS DELIVERED TO HEADQUARTERS. EXCEPT FOR ON CALL MAINTENANCE, WORK ON THIS SET OF PROGRAMS IS NOW COMPLETE.

ISCHEDULE I

Manufacturing & System Test



SRV	CONFIG.		INSTR.	
	1	2	1	2
743R	744R	J-1	216	217
817	818	J-3	316	317
819	820	J-3	320	321
821	822	J-3	322	323
823	824	J-3	324	325
825	826	J-3	326	327
827	828	J-3	300	301
829	830	J-3	328	329
831	832	J-3	330	331
833	834	J-3	332	333
815	816	J-3	318	319

'69 A S O N D J F M A M J J A S O N D J F M A M J J A S O N D 1971

J1-J3 Flight Schedule - contracted

Category	1970							1971											
	S	O	N	D	J	F	M	A	M	D	J	F	M	A	M	D	J	F	M
FLIGHT SYSTEM				CR-9 FLOWN			CR-10 FLOWN				CR-11				CR-12				CR-13
R-15 BACKUP											CR-12				CR-13				QR-2
STORAGE											CR-13				QR-2				CR-14 CR-15
MISSION				1108			1109				1110				1111				1112
VEHICLE				1655			1657				1656				1654				1659

Category	1971							1972										
	D	J	F	M	A	M	J	A	S	O	N	D	J	F	M	A	M	J
QR-2				CR-14			CR-15				CR-8							
QR-14				CR-14			CR-15				CR-8							
QR-15				CR-16			CR-16				CR-8							
1113				1114			1115				1116				1117			
1658				1660			1661				1662				1663			

NOTE: 1655 AND SUBSEQUENT VEHICLES WILL USE SOLAR ARRAYS AND SGLS FOR COMMAND AND T/M.

O UNNEGOTIATED AWA'S

<u>AWA NO.</u>	<u>CHANGE</u>	<u>PLANNED PRICE</u>
[REDACTED] *	SPARE BOXES AND T/R SYSTEMS	[REDACTED]
[REDACTED] *	GFE COMPUTER OPERATION	[REDACTED]
[REDACTED] *	TIMERS	[REDACTED]
	ROM TOTAL	[REDACTED]

* APPROVED AWA TO BE NEGOTIATED AT A LATER DATE.
PARTIAL COSTS INCLUDED IN ACTUALS.

[REDACTED]

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RELOCATION

<u>AWA</u>	<u>PLANNED COST</u>	<u>FUNDED COST</u>	<u>ACTUAL EXPENDED AND COMMITTED</u>
* - 5 FACILITIES	[REDACTED]	[REDACTED]	[REDACTED]
** - 8 VAULT STORAGE THIRD FLOOR	[REDACTED]	[REDACTED]	[REDACTED]
** - 10 CONFERENCE ROOM PRODUCT ROOM	[REDACTED]	[REDACTED]	[REDACTED]
** - 12 STORAGE AREA SECOND FLOOR	[REDACTED]	[REDACTED]	[REDACTED]
PENDING RELOCATION COSTS	[REDACTED]	[REDACTED]	[REDACTED]
TOTAL	[REDACTED]	[REDACTED]	[REDACTED]

* NEGOTIATED (NON FEE BEARING)

** PENDING AWA'S (NON FEE FEARING)

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[REDACTED]
HANDLER-VA
CONTROL SYSTEM ANUX

PROGRAM OFFICE
 ADMINISTRATION & CONTROLS
 OPS & ANAL, ENGRG & INTEC-
 MANUFACTURING & TEST
 QUALITY ASSURANCE

LEVEL OF EFFORT - FY '70 - - - CONTRACT SUMMARY

TOTAL

HOURS

	J	A	S	O	N	D	J	F	M	A	M	J
PLANNED (mo)	32,989	28,193	27,433	35,385	24,978	21,911	27,996	29,845	28,065	33,239	26,541	26,910
PLANNED (cum)	32,989	61,182	88,615	124,000	148,978	170,889	198,885	228,730	256,795	290,034	316,575	343,485
ACTUAL (mo)	26,170	23,075	26,297	40,743	28,075	26,739	33,195	27,963	25,268	32,811		
ACTUAL (cum)	26,170	49,245	75,542	116,285	144,360	171,099	204,294	232,257	257,525	290,336		

DOLLARS (000) (price/cost-fee)

	J	A	S	O	N	D	J	F	M	A	M	J
PLANNED (mo)												
PLANNED (cum)												
ACTUAL (mo)												
ACTUAL (cum)												

PROGRAM OFFICE
ADMINISTRATION & CONTROLS
OPS & ANAL, ENGRG & INTEG-
MANUFACTURING & TEST
QUALITY ASSURANCE

LEVEL OF EFFORT - FY '70 - - - CONTRACT SUMMARY

HOURS

	J	A	S	C	N	D	J	F	M	A	M	J
PLANNED (mo)	825	686	654	858	617	584	701	610	581	763	581	610
PLANNED (cum)	825	1,511	2,165	3,023	3,640	4,224	4,925	5,535	6,116	6,879	7,460	8,070
ACTUAL (mo)	650	388	603	646	528	446	843	665	644	987		
ACTUAL (cum)	650	1,038	1,641	2,287	2,815	3,261	4,104	4,769	5,413	6,400		

DOLLARS (000) (price/cost-fee)

	J	A	S	O	N	D	J	F	M	A	M	J
PLANNED (mo)												
PLANNED (cum)												
ACTUAL (mo)												
ACTUAL (cum)												

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PROGRAM OFFICE

ADMINIS & CONTROLS

CPS & ANAL, ENGRG & INTEG-

MANUFACTURING & TEST

QUALITY ASSURANCE

LEVEL OF EFFORT - FY '70 - - - CONTRACT SUMMARY

HOURS

	J	A	S	O	N	D	J	F	M	A	M	J
PLANNED (mo)	1,833	1,525	1,743	2,287	1,507	1,298	1,576	1,372	1,307	1,715	1,307	1,372
PLANNED (cum)	1,833	3,358	5,101	7,388	8,895	10,193	11,769	13,141	14,448	16,163	17,470	18,842
ACTUAL (mo)	1,641	1,295	1,417	2,015	1,425	1,362	1,745	1,581	1,365	2,140		
ACTUAL (cum)	1,641	2,936	4,352	6,367	7,792	9,154	10,899	12,480	13,845	15,985		

DOLLARS (000) (price/cost-fee)

	J	A	S	O	N	D	J	F	M	A	M	J
PLANNED (mo)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
PLANNED (cum)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
ACTUAL (mo)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
ACTUAL (cum)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

~~TOP SECRET/C~~

HANDLE VIA
CONTROL SYSTEM ONLY

ADMINISTRATION & CONTROLS
OPS/ANAL-ENG/INTEG
MANUFACTURING & TEST
QUALITY ASSURANCE

~~TOP SECRET/C~~

LEVEL OF EFFORT - FY '70 - - - CONTRACT SUMMARY

HOURS

	J	A	S	O	N	D	J	F	M	A	M	J
PLANNED (mo)	11,181	9,330	8,977	11,514	8,190	7,759	10,430	9,896	9,620	12,137	9,622	9,897
PLANNED (cum)	11,181	20,511	29,488	41,032	49,222	56,981	67,411	77,307	86,927	99,064	108,686	118,583
ACTUAL (mo)	9,739	8,230	8,356	11,778	8,276	8,500	10,968	9,834	10,147	12,297		
ACTUAL (cum)	9,739	17,969	26,325	38,103	46,379	55,279	66,247	76,081	86,228	98,525		

DOLLARS (000) (price/cost-fee)

	J	A	S	O	N	D	J	F	M	A	M	J
PLANNED (mo)												
PLANNED (cum)												
ACTUAL (mo)												
ACTUAL (cum)												

~~TOP SECRET/C~~

PROGRAM OFFICE
 ADMINISTRATION & CONTROLS
 OPS & ANAL, ENGRG & INTEG-
 MANUFACTURING & TEST
 QUALITY ASSURANCE

~~TOP SECRET/C~~

LEVEL OF EFFORT - FY '70 - - - CONTRACT SUMMARY

HOURS

	J	A	S	O	N	D	J	F	M	A	M	J
PLANNED (mo)	16,335	13,680	13,225	17,193	12,131	10,018	12,484	14,547	13,245	14,849	12,016	11,939
PLANNED (cum)	16,335	30,015	43,240	60,433	72,564	82,582	95,066	109,613	122,858	137,707	149,723	161,662
ACTUAL (mo)	11,806	10,848	13,199	22,216	14,655	13,330	15,822	12,636	10,497	14,196		
ACTUAL (cum)	11,806	22,654	35,853	58,069	72,724	86,054	101,876	114,512	125,009	139,205		

DOLLARS (000) (prloc/cost-fee)

	J	A	S	O	N	D	J	F	M	A	M	J
PLANNED (mo)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
PLANNED (cum)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
ACTUAL (mo)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
ACTUAL (cum)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

~~TOP SECRET/C~~

PROGRAM OFFICE
ADMINISTRATION & CONTROLS
OPS & ANAL, ENGRG & INTEG-
MANUFACTURING & TEST
QUALITY ASSURANCE

LEVEL OF EFFORT - FY '70 - - - - - CONTRACT SUMMARY

HOURS

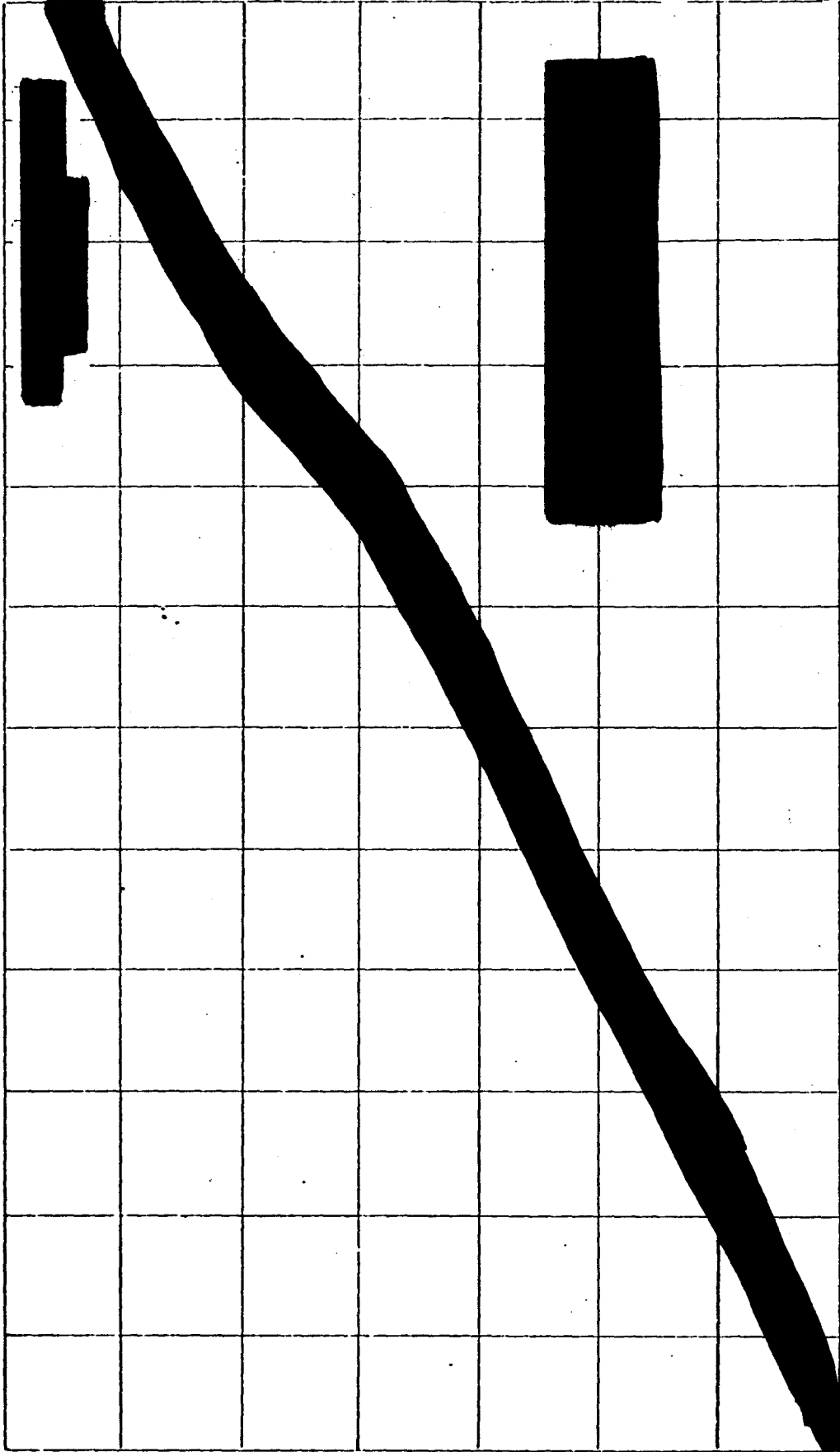
	J	A	S	O	N	D	J	F	M	A	M	J
PLANNED (mo)	2,815	2,972	2,834	3,503	2,533	2,252	2,805	3,420	3,312	3,775	3,015	3,092
PLANNED (cum)	2,815	5,787	8,621	12,124	14,657	16,909	19,714	23,134	26,446	30,221	33,236	36,328
ACTUAL (mo)	2,334	2,315	2,722	4,088	3,191	2,701	3,817	3,247	2,615	3,191		
ACTUAL (cum)	2,334	4,649	7,371	11,459	14,650	17,351	21,168	24,415	27,030	30,221		

DOLLARS (000) (price/cost-fee)

	J	A	S	O	N	D	J	F	M	A	M	J
PLANNED (mo)												
PLANNED (cum)												
ACTUAL (mo)												
ACTUAL (cum)												

L.O.E. DOLLARS - FY '70
TOTAL AP - SV - APC

APRIL 1, 1970



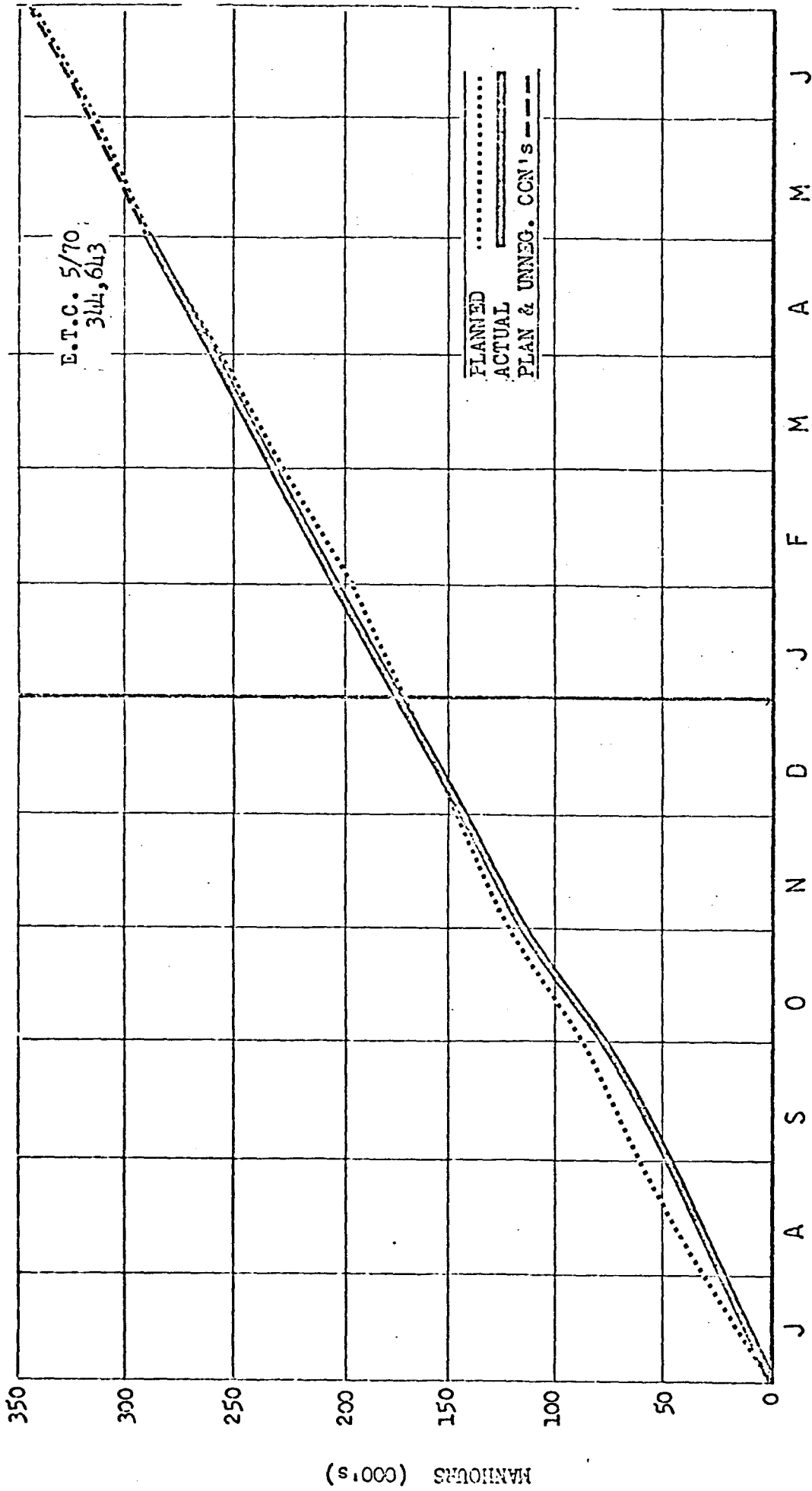
MILLIONS OF DOLLARS

J A S O N D J F M A M J

(Relocation)

LOE ESTIMATED/ACTUAL HOURS - FY 70
TOTAL AP - SV - APC

MAY 1, 1970



	J	A	S	O	N	D	J	F	M	A	M	J
PLANNED BUDGET (CUM)	32,989	61,182	88,615	124,000	148,978	170,889	198,885	228,730	256,795	290,034	316,575	343,485
ACTUALS (CUM)	26,170	49,244	75,542	116,285	144,365	171,099	204,294	232,257	257,525	290,336		