

EDITION "A"

**MANNED SPACE FLIGHT SCHEDULES**

**Volume III**  
**LAUNCH VEHICLES**

**Book 4 - Engines**

SATURN HISTORY DOCUMENT  
University of Alabama Research Institute  
History of Science & Technology Group  
Date \_\_\_\_\_ Doc. No. \_\_\_\_\_



**OMSF PROGRAM STATUS REVIEW OCTOBER 1965**

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# OMSF PROGRAM STATUS REVIEW PROGRAM SCHEDULE ROAD MAP

LEVEL 2

**PROPULSION**  
DEVELOPMENT, DELIVERY  
& OBLIGATIONS

LEVEL 3

**H-1 ENGINE**  
DEVELOPMENT,  
DELIVERY,  
COST & MANPOWER

**RL10 ENGINE**  
DEVELOPMENT,  
DELIVERY,  
COST & MANPOWER

**F-1 ENGINE**  
DEVELOPMENT,  
DELIVERY,  
COST & MANPOWER

**J-2 ENGINE**  
DEVELOPMENT,  
DELIVERY,  
COST & MANPOWER

**MANNED SPACE FLIGHT SCHEDULE  
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BOOK 4-ENGINES**

STATUS AS OF 9/30/65  
(Date)

EDITION A

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						<u>RL-10 ENGINES</u>	
2	2-400000-1	Propulsion Development Plan Summary	III-4-1				
2		Production Engines	III-4-2				
2		Production Engines (Con't)	III-4-3	3	3-404200-1	Development Plan	III-4-9
2		Funding Status Launch Vehicle Engines		3	3-404200-1a	Qualification Development Plan	III-4-10
		Development & Production	III-4-3a	3		Development Obligations/Cost/ Manpower Total Program	III-4-10a
2		Funding Status, Launch Vehicle Engines		3		Development Obligations/Cost/ Manpower Current Fiscal Year	III-4-10b
		Development & Production (Supporting Tabulation)	III-4-3b				
		<u>H-1 ENGINES</u>		3	3-314200-3	Total Delivery	III-4-11
3	3-404100-1	Development Plan	III-4-4	3		Delivery Obligations/Cost/ Manpower Total Program	III-4-11a
3		Engineering Class I Changes	III-4-5	3		Delivery Obligations/Cost/ Manpower Current Fiscal Year	III-4-11b
3		Engineering Class II Changes	III-4-6				
3		Development Obligations/Cost/Manpower Total Program	III-4-6a			<u>F-1 ENGINES</u>	
3		Development Obligations/Cost/Manpower Current Fiscal Year	III-4-6b	3	3-404300-1	Development Plan	III-4-12
3	3-324100-2	Total Delivery Saturn IB	III-4-7	3	3-404300-1a	Qualification II Development Plan	III-4-13
3		Follow on Engine Procurement for Vehicles SA-210 Thru 212	III-4-8	3		Qual II Component Qualification Status	III-4-14
3		Delivery Saturn I & IB Obligations/Cost/ Manpower Total Program	III-4-8a	3		Engineering Class I Changes	III-4-15
3		Delivery Saturn I Obligations/Cost/ Manpower Total Program	III-4-8b	3		Engineering Class II Changes	III-4-16
3		Delivery Saturn IB Obligations/Cost/ Manpower Total Program	III-4-8c	3		Development Obligations/Cost/ Manpower Total Program	III-4-16a
3		Delivery Saturn IB Obligations/Cost/ Manpower Current Fiscal Year	III-4-8d	3	3-404300-2	Development Obligations/Cost Manpower Current Fiscal Year	III-4-16b
				3		Delivery Saturn V	III-4-17
				3		Follow on Single Contract	III-4-18
				3		Delivery Saturn V Obligations/Cost/ Manpower Total Program	III-4-18a
				3		Delivery Saturn V Obligations/Cost/ Manpower Current Fiscal Year	III-4-18b

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		<u>J-2 ENGINE</u>				<u>J-2 ENGINE</u>	
3	3-404500-1	Development Plan	III-4-19	3		Delivery Saturn IB & V Program	III-4-29a
3	3-404500-1a	Qualification Development Plan	III-4-20			Cost/Manpower Total Program	
3		Qual II Component Qualification Status	III-4-21	3		Delivery Saturn IB & V Obligations/	
3		Engineering Class I Changes	III-4-22			Cost/Manpower Current Fiscal	
3		Engineering Class II Changes	III-4-23			Year	III-4-29b
3		Development Obligations/Cost/ Manpower Total Program	III-4-23a	3		Delivery Saturn IB Obligations/ Cost/Manpower Total Program	III-4-29c
3		Development Obligations/Cost/ Manpower Current Fiscal Year	III-4-23b	3		Delivery Saturn IB Obligations/ Cost/Manpower Current Fiscal	
3	3-404500-2	Total Delivery Saturn IB & V	III-4-24			Year	III-4-29d
3	3-334300-2	Total Delivery Saturn IB S-IVB Stage	III-4-25	3		Delivery Saturn V Obligations/ Cost Manpower Total Program	III-4-29e
3	3-334500-2	Total Delivery Saturn V S-IVB Stage	III-4-26			Delivery Saturn V Obligations/ Cost/Manpower Current Fiscal	
3	3-334500-2a	Total Delivery Saturn V S-II Stage	III-4-27	3		Year	III-4-29f
3		Follow on Engine Procurement 56-103 Engines	III-4-28				
3		Follow on Engine Procurement 104-157 Engines	III-4-29				

MANNED SPACE FLIGHT SCHEDULE

**MSFC CONTROL MILESTONES  
ENGINES**

STATUS AS OF 9/30/65  
(Date)

A. RL10 ENGINE

- (1) COMPLETE RL10-3-3 QUALIFICATION
- (2) COMPLETE RL10 RE-QUAL (SATURN 1B/CENTAUR)

B. J-2 ENGINE

- (1) COMPLETE J-2 ENGINE QUALIFICATION-200K
- (2) COMPLETE J-2 ENGINE QUALIFICATION-205/230K

C. F-1 ENGINE

- (1) COMPLETE F-1 ENGINE QUALIFICATION II

# SCHEDULE SYMBOLS

## MILESTONE SYMBOLS

	SCHEDULED COMPLETION DATE-CONTROLLED MILESTONE
	SCHEDULED COMPLETION DATE-SUPPORTING MILESTONE
	FIRST SCHEDULE REVISION-CONTROLLED MILESTONE*
	FIRST SCHEDULE REVISION-SUPPORTING MILESTONE*
	ACTUAL COMPLETION DATE-CONTROLLED MILESTONE
	ACTUAL COMPLETION DATE-SUPPORTING MILESTONE
	RESCHEDULING REQUEST-CONTROLLED MILESTONE
E	EXPECTED COMPLETION DATE
L	LATEST ALLOWABLE COMPLETION DATE
A	PROJECT (PROGRAM) MANAGERS' ASSESSMENT OF EXPECTED COMPL DATE
A E	EXPECTED AND ASSESSMENT DATES IDENTICAL
A E L	EXPECTED, LATEST ALLOWABLE & ASSESSMENT DATES IDENTICAL
E	SCHEDULED AND EXPECTED DATES IDENTICAL
E L	SCHEDULED, EXPECTED AND LATEST ALLOWABLE DATES IDENTICAL (CONTROLLED MILESTONE)**
E L	SCHEDULED, EXPECTED AND LATEST ALLOWABLE DATES IDENTICAL (SUPPORTING MILESTONE)
E L	SCHEDULED, EXPECTED AND LATEST ALLOWABLE DATES IDENTICAL (SUPPORTING MILESTONE)**

## USE OF SCHEDULE SYMBOLS IN CONJUNCTION WITH ACTIVITY BARS

### ACTIVITY INITIATION

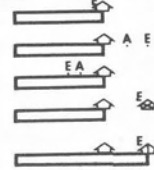
	PREDICTED INITIATION ON SCHEDULE
	PREDICTED LATE INITIATION
	PREDICTED EARLY INITIATION

### ACTIVITY PROGRESS TOWARD COMPLETION - BASIC SCHEDULE

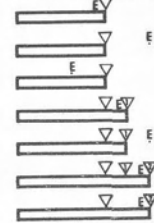
	ACTIVITY ON SCHEDULE
	ACTIVITY BEHIND SCHEDULE
	ACTIVITY AHEAD OF SCHEDULE
	PROGRESS AGAINST SCHEDULED DELIVERIES, TEST FIRINGS, ETC. (ON SCHEDULE)
	LATE INITIATION - BEHIND SCHEDULE
	EARLY INITIATION - AHEAD OF SCHEDULE
	BEHIND SCHEDULE - FOUR CUMULATIVE DELIVERIES
	AHEAD OF SCHEDULE - SEVEN CUMULATIVE DELIVERIES

\* THE 2 FOR 2ND RESCHEDULING, 3 FOR 3RD RESCHEDULING ETC.  
 \*\* SHOWN IN CONJUNCTION WITH A MILESTONE RESCHEDULED TWICE.

## CONTROLLED MILESTONES



## SUPPORTING MILESTONES



## ACTIVITY OR EVENT COMPLETION

	PREDICTED COMPLETION ON SCHEDULE
	PREDICTED LATE COMPLETION WITH PROJECT MANAGERS' ASSESSMENT
	PREDICTED EARLY COMPLETION WITH PROJECT MANAGERS' ASSESSMENT
	PREDICTED LATE COMPLETION WITH PROJECT MANAGERS' REQUEST FOR RESCHEDULING
	RESCHEDULING REQUEST APPROVED, FIRST SCHEDULE REVISION. PREDICTED COMPLETION ON SCHEDULE

	PREDICTED COMPLETION ON SCHEDULE
	PREDICTED LATE COMPLETION (PROJECT MANAGERS' ASSESSMENT OPTIONAL)
	PREDICTED EARLY COMPLETION
	FIRST SCHEDULE REVISION-PREDICTED COMPLETION ON SCHEDULE
	FIRST SCHEDULE REVISION-PREDICTED LATE COMPLETION
	SECOND SCHEDULE REVISION-FIRST MONTH SUBMISSION
	SECOND SCHEDULE REVISION-2ND MONTH SUBMISSION

## RANDOM SITUATIONS

(E AND A SYMBOLS HAVE BEEN OMITTED IN PORTRAYING RANDOM SITUATIONS)

### PREDICTED LATE INITIATION & LATE COMPLETION

	CONDITION "A"-PROPOSED
	CONDITION "A"-ACCEPTED
	CONDITION "B"-PROPOSED (PREDICTED INITIATION LATER THAN SCHEDULED COMPLETION)
	CONDITION "B"-ACCEPTED

### PREDICTED EARLY INITIATION & EARLY COMPLETION

	CONDITION "C"-PROPOSED
	CONDITION "C"-ACCEPTED
	CONDITION "D"-PROPOSED (PREDICTED COMPLETION EARLIER THAN SCHEDULED INITIATION)
	CONDITION "D"-ACCEPTED

### NEW PREDICTED COMPLETION DATE

	EXISTING SCHEDULE	GRAPH CURVES
	PROPOSED	----- PLANNED
	ACCEPTED	————— ACTUAL
		..... CURVE ESTIMATE

### USE OF "LATEST ALLOWABLE" DATE SYMBOL

	KEY MILESTONE - PREDICTED EARLY COMPLETION
	SUPPORTING MILESTONE - PREDICTED LATE COMPLETION
	CONTROLLED MILESTONE - PREDICTED LATE COMPLETION



SCHEDULE RESPONSIBILITY Wernher von Braun

STATUS RESPONSIBILITY Leland F. Belew

MANNED SPACE FLIGHT SCHEDULE

**PRODUCTION ENGINES**

2  
LEVEL

ORIGINAL SCHED. APPROVAL \_\_\_\_\_ (Date)

LAST SCHED. CHANGE \_\_\_\_\_ (Date) (No.) (Initials)

STATUS AS OF 9/30/65 TPS FM B ML  
(Date) (Initials)

CONTRACTOR: NOT APPLICABLE

PROJECT: ENGINES  
SCH'D NO:

	<u>PROGRAM REQUIREMENTS</u>	<u>POP 65-3</u>	<u>CONTRACTED</u>
<u>H-1 ENGINE</u>			
S-I STAGE	139	139	139
VEHICLE GROUND TEST	(16)	(16)	(16)
FLIGHT	(80)	(80)	(80)
FLIGHT SPARES & STATIC TEST	(25)	(25)	(25)
DEVELOPMENT & SUPPORT SPARES (a)	(18)	(18)	(18)
S-IB STAGE	123	123	101
VEHICLE GROUND TEST	(0)	(0)	(0)
FLIGHT	(96)	(96)	(76)
FLIGHT SPARES & STATIC TEST	(18)	(18)	(16)
DEVELOPMENT & SUPPORT SPARES (a)	(9)	(9)	(9)
<u>J-2 ENGINE</u>			
S-IVB/IB	19	19	10
VEHICLE GROUND TEST	(3)	(3)	(2)
FLIGHT	(12)	(12)	(6)
SPARES AND STATIC TEST	(4)	(4)	(2)
S-II	115	115	38
VEHICLE GROUND TEST	(26)	(26)	(18)

NOTES:  
(a) RESULT OF CANCELLATION OF SATURN I OPERATIONAL FLIGHTS AND INCORPORATION OF "ALL-UP CONCEPT" ON SATURN IB. ELEVEN FLIGHT TYPE ENGINES ARE IN STORAGE AT NEOSHO FOR FLIGHT SUPPORT AND/OR DEVELOPMENT PURPOSES AS REQUIRED. SIX ADDITIONAL ENGINES ARE IN TEMPORARY USE OR STORAGE AT MSFC AND CAN BE RECALLED FOR FLIGHT/DEVELOPMENT SUPPORT ON SHORT NOTICE.



SCHEDULE RESPONSIBILITY <u>Dr. W. von Braun</u> STATUS RESPONSIBILITY <u>Leland F. Belew</u>	<b>MANNED SPACE FLIGHT SCHEDULE</b> <b>PRODUCTION ENGINES</b> <b>(CONTINUED)</b>	<div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> <div style="text-align: center;"> <b>2</b>  <small>LEVEL</small> </div> </div>	ORIGINAL SCHED. APPROVAL _____ (Date) LAST SCHED. CHANGE _____ (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> <u>SA</u> <u>SM</u> (Date) (Initials)
CONTRACTOR NOT APPLICABLE		PROJECT: ENGINES SCH'D NO:	
	<u>PROGRAM REQUIREMENTS</u>	<u>POP 65-3</u>	<u>CONTRACTED</u>
<b>S-II (CONTINUED)</b>			
FLIGHT	(75)	(75)	(13)
SPARES AND STATIC TEST	(14)	(14)	( 7)
<b>S-IVB/V</b>			
VEHICLE GROUND TEST	( 5)	( 5) (c)	( 5) (c)
FLIGHT	(15)	(15)	( 2)
SPARES AND STATIC TEST	( 3)	( 3)	( 0)
<u>RL-10 ENGINE</u>			
S-IV STAGE [CENTAUR STAGE]	78 [67] (d)	78 [67] (d)	78 [67] (d)
VEHICLE GROUND TEST	(31) [23]	(31) [23]	(31) [23]
FLIGHT	(36) [30]	(36) [30]	(36) [30]
SPARES	(11) [14]	(11) [14]	(11) [14]
<u>F-1 ENGINE</u>			
S-1C	109	109	76
VEHICLE GROUND TEST	(10)	(10)	(10)
FLIGHT	(75)	(75)	(50)
SPARES AND STATIC TEST	(24)	(24)	(16)
NOTES: (c) INCLUDES ONE COLD FLOW ENGINE. (d) QUANTITIES OUTSIDE BRACKETS WERE USED BY THE S-IV STAGE. QUANTITIES INSIDE BRACKETS ARE ADDITIONAL ENGINES FOR THE CENTAUR STAGE.			

SCHEDULE RESPONSIBILITY Dr. W. von Braun  
 STATUS RESPONSIBILITY Leland F. Belew  
 Leland F. Belew

MANNED SPACE FLIGHT SCHEDULE

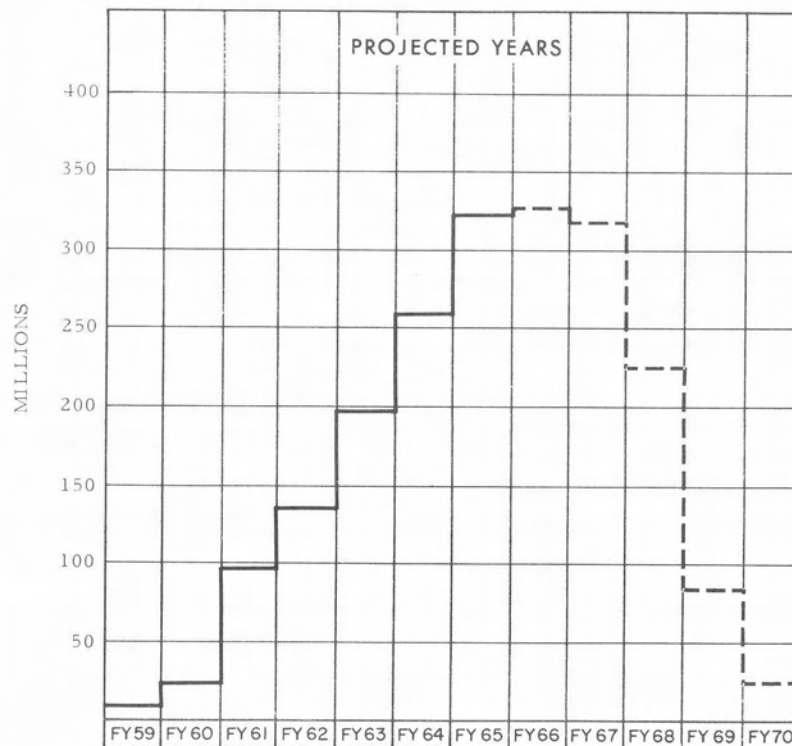
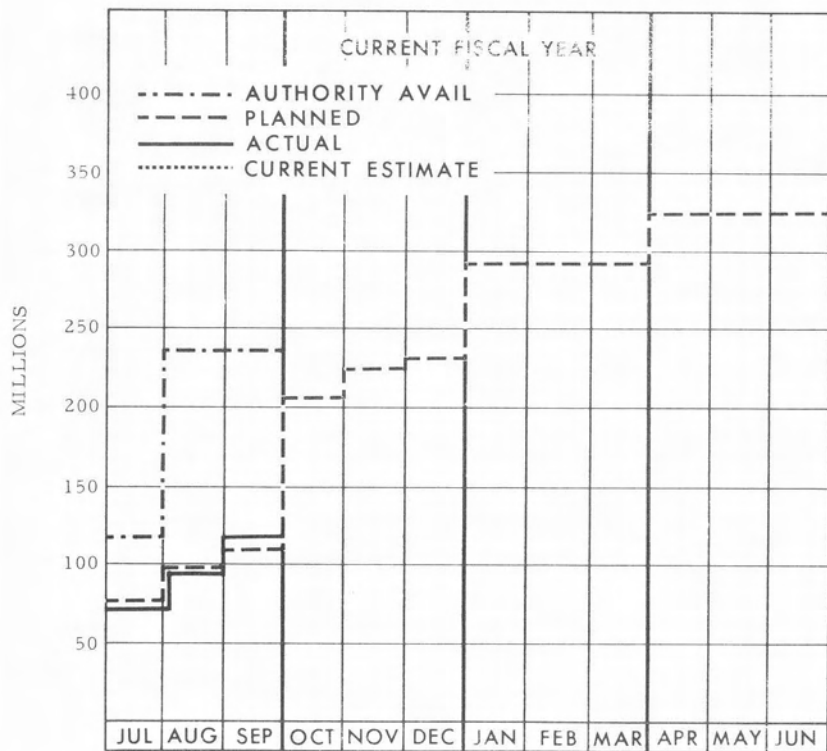
FUNDING STATUS  
 LAUNCH VEHICLE ENGINES  
 DEVELOPMENT & PRODUCTION

2  
 LEVEL

ENGINES  
 PROJECT: SATURNS/CENTAUR  
 SCH'D NO:

CONTRACTOR: NOT APPLICABLE

ORIGINAL SCHED. APPROVAL 7/31/65  
 (Date)  
 LAST SCHED. CHANGE 7/31/65  
 (Date)  
 STATUS AS OF 9/30/65 SM (No.) DF (Initials)  
 (Date) (Initials)



CUM.	PLANNED	77.3	98.0	109.4	205.0	225.4	232.2			292.9			326.2
	ACT./EST.	72.1	95.6	117.1									
RATE	PLANNED	77.3	20.7	11.4	95.6	20.4	6.8			24.3			12.5
	ACT./EST.	72.1	23.5	21.5									

PLANNED										326.2	318.2	225.8	83.0	22.1	} RATE
ACT./EST.	10.0	23.1	98.8	135.7	198.9	259.8	322.6								
PLANNED										1,375.1	1,693.3	1,919.1	2,002.1	2,024.2	} CUM.
ACT./EST.	10.0	33.1	131.9	267.6	466.5	726.3	1,048.9								

NOTES

SCHEDULE RESPONSIBILITY <u>Dr. W. von Braun</u>	MANNED SPACE FLIGHT SCHEDULE <b>FUNDING STATUS LAUNCH VEHICLE ENGINES</b> <b>DEVELOPMENT &amp; PRODUCTION</b> <b>SUPPORTING TABULATION</b>			2 LEVEL	ORIGINAL SCHED. APPROVAL <u>7/31/65</u> (Date)
STATUS RESPONSIBILITY <u>Leland F. Belew</u>	CONTRACTOR: NOT APPLICABLE			PROJECT: ENGINES SATURNS/CENTAUR SCH'D NO:	LAST SCHED. CHANGE <u>7/31/65</u> (Date) <u>ML</u> (Initials)
STATUS AS OF <u>9/30/65</u> (Date)				(No.)	(Initials)
<b>PROGRAM OR PROJECT ELEMENT</b>	<b>TOTAL OBLIGATIONS PRIOR FY</b>	<b>PLANNED OBLG TO DATE CURRENT FY</b>	<b>ACTUAL OBLG TO DATE CURRENT FY</b>	<b>PLANNED TOTAL OBLG CURRENT FY</b>	<b>PLANNED TOTAL OBLG AT COMPL</b>
LAUNCH VEHICLE ENGINES DEVELOPMENT	682.950	49.042	57.441	150.700*	1,159.550
H-1 ENGINE	36.385	2.400	2.400	6.450	55.785
RL10 ENGINE	76.485	1.900	600	1.900	78.385
F-1 ENGINE	290.537	12.400	29.000	44.463	442.500
J-2 ENGINE	179.446	16.500	16.500	45.304	309.100
C-1 ENGINE	0	3.175	0	9.605	30.845
PROGRAM SUPPORT	8.945	4.467	2.437	8.482	27.472
PROPELLANTS	91.152	8.200	6.504	33.837	171.945
APA	0	0	0	659	43.518
LAUNCH VEHICLE ENGINES PRODUCTION	365.953	60.380	59.700	175.524	864.702
SATURN I (ENGINE PROCUR)					
H-1 ENGINE	33.889	.000	.000	.000	33.889
RL10 ENGINE	32.400	.000	.000	.000	32.400
SATURN IB (ENGINE PROCUR)					
H-1 ENGINE	20.148	3.500	3.500	9.200	34.148
J-2 ENGINE	20.390	4.780	4.600	14.000	43.490
SATURN V (ENGINE PROCUR)					
F-1 ENGINE	127.101	25.300	25.300	70.400	359.626
J-2 ENGINE	103.265	26.700	26.300	78.675	315.140
CENTAUR (ENGINE PROCUR)					
RL10 ENGINE	28.760	100	0	3.249	46.009
LAUNCH VEHICLE ENGINES DEV & PROD	1,048.903	109.422	117.141	326.224	2,024.252

(OBLIGATIONS IN MILLIONS)

REMARKS:  
\* DOES NOT INCLUDE \$13.0M RL10 ENGINE DEVELOPMENT FUNDING PROVIDED BY OSSA.



SCHEDULE RESPONSIBILITY Leland F. Belew

STATUS RESPONSIBILITY T.P. Smith  
T.P. Smith

MANNED SPACE FLIGHT SCHEDULE

**H-1 ENGINE (200/205K)**

ENGINEERING CLASS I CHANGES

CONTRACTOR: RKDN

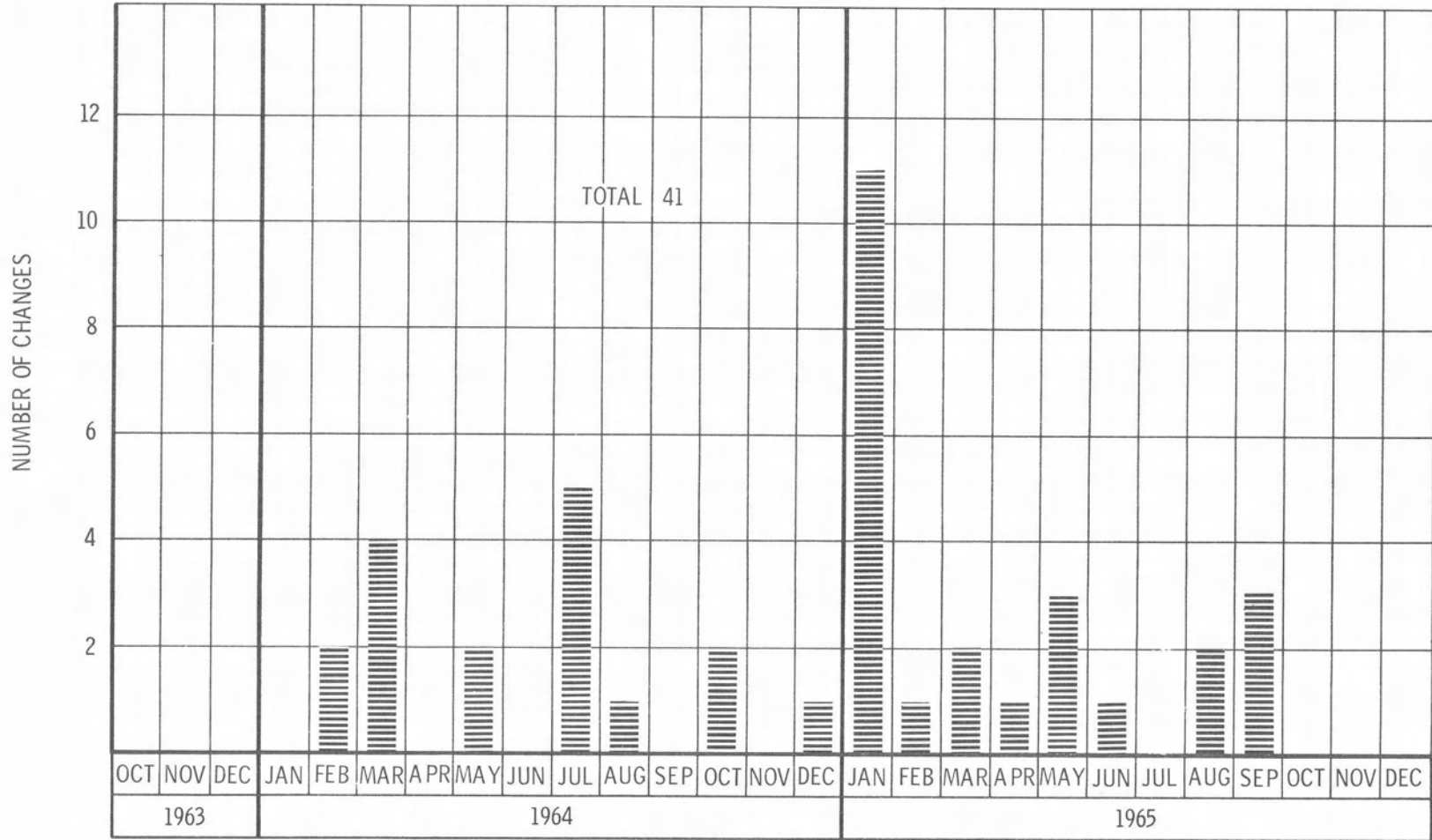
3  
LEVEL

ORIGINAL SCHED. APPROVAL 6/30/65  
(Date)

LAST SCHED. CHANGE \_\_\_\_\_  
(Date) (No.) (Initials)

STATUS AS OF 9/30/65 TRS  
(Date) (Initials)

PROJECT: H-1 ENGINE  
SCH'D NO:



TOTAL 41

BASIC ENGINEERING RELEASE

H-1 (200K) FINAL RELEASE - JANUARY 1964

SCHEDULE RESPONSIBILITY Leland F. Belew

STATUS RESPONSIBILITY T. P. Smith

MANNED SPACE FLIGHT SCHEDULE

**H-I ENGINE (200/205K)**

ENGINEERING CLASS II CHANGES

3  
LEVEL

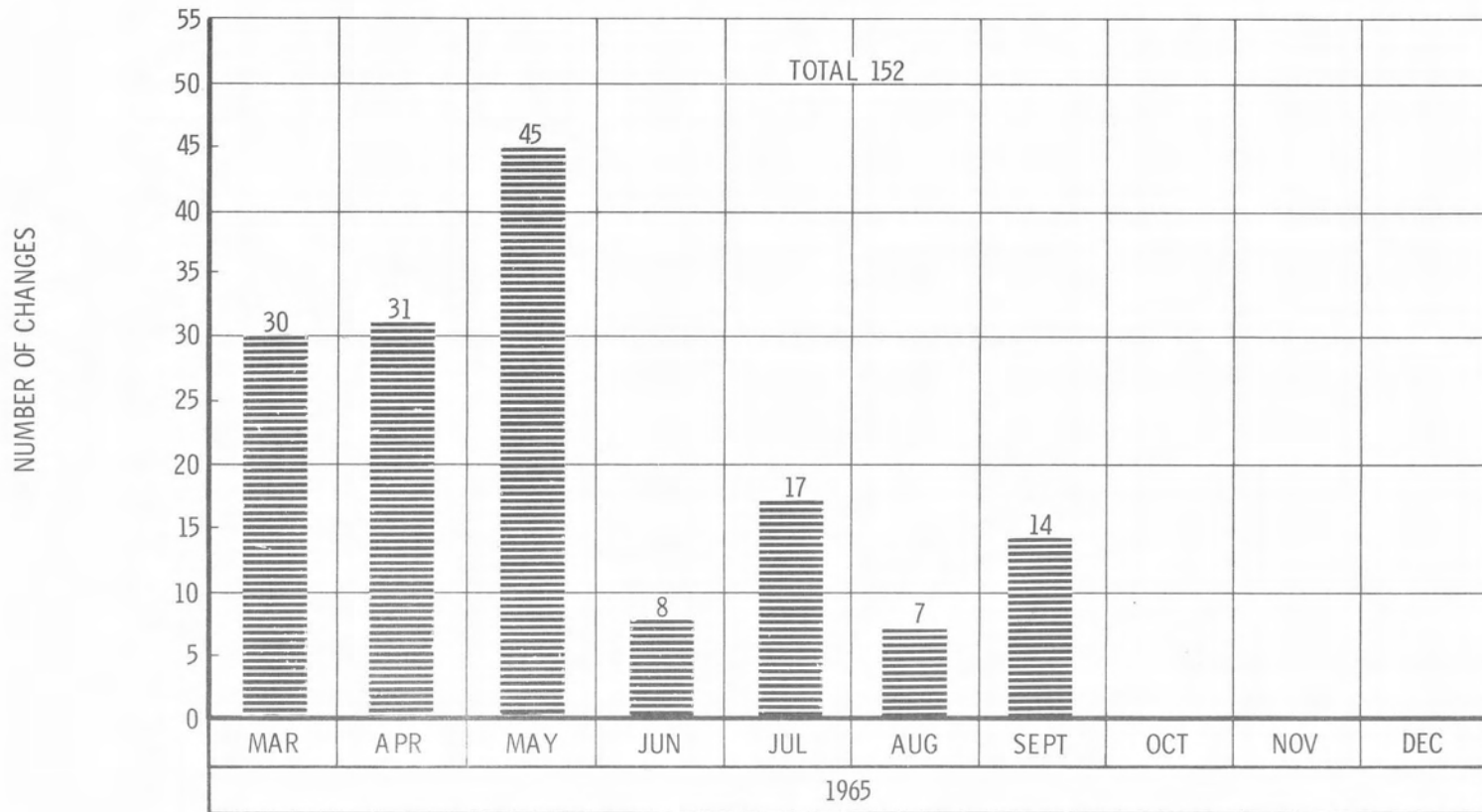
ORIGINAL SCHED. APPROVAL 6/30/65  
(Date)

LAST SCHED. CHANGE (Date) (No.) (Initials)

STATUS AS OF 9/30/65 ZAS  
(Date) (Initials)

CONTRACTOR: RKDN

PROJECT: H-I ENGINE  
SCH'D NO:





SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u>  STATUS RESPONSIBILITY <u>T. P. Smith</u> T. P. Smith	<b>MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER</b>  <b>H-I ENGINE DEVELOPMENT</b>  CONTRACTOR: RKDN (NAS7-190) 7-3, 7-4      PROJECT: H-I ENGINE SCH'D NO:	ORIGINAL SCHED. APPROVAL <u>7/31/65</u> (Date) LAST SCHED. CHANGE <u>7/31/65</u> (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> <u>ZRC</u> (Date) (Initials)
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**OBLIGATIONS & COSTS**  
(MILLIONS OF DOLLARS)

CURRENT FISCAL YEAR		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
NO. OF WORKING DAYS IN REPORTING PERIOD		19	20	24	20	18	22	20	20	25	20	20	24	
CUMULATIVE OBLIGATIONS	POP 65-2	2.5	2.5	2.5			5.0			6.0			6.5	
	POP 65-3	2.4	2.4	2.4	5.0	5.0	5.0			6.0			6.5	
	ACTUAL	2.4	2.4	2.4										
CUMULATIVE ACCRUED COSTS	POP 65-2	.6	1.2	1.9			3.7			5.5			7.5	
	POP 65-3	.6	1.2	1.9	2.6	3.2	3.8			5.7			7.7	
	ACTUAL	TOTAL	.8	1.5	2.2									
		IN-HOUSE	.7	1.3	2.0									
		SUB CONTRACT	.1	.2	.3									
COST RATE	POP 65-2	.6	.6	.7			.7			.7			.7	
	POP 65-3	.6	.6	.7	.7	.6	.6			.7			.7	
	ACTUAL	.8	.7	.7										

**MANPOWER**  
(IN EQUIVALENT MAN MONTHS)

TOTAL DIRECT MANPOWER	POP 65-2	225	225	225			225			225			225
	POP 65-3	230	230	230	230	230	230			230			230
	ACTUAL	296	293	230									
RATIO OF INDIRECT TO DIRECT													

NUMBER OF SHIFTS 1.1  
 PERCENT OF OVERTIME .9

REMARKS: INDICATED ACTUALS FOR LAST MONTH REPORTED ARE BEST ESTIMATES.



MILESTONES		CY 1964												CY 1965												CY 1966												CY 1967												CY 1968														
		J	F	M	A	M	J	J	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	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D			
1	L/V DELIVERED TO KSC																																																															
2	SPARES, STATIC TEST ETC			1					1	1					2	2					2	1					1	1		1	1	1	1																															
3	FLIGHT SA-201			3	2	0	3																																																									
4	SA-202					1	4	2	1																																																							
5	SA-203										8				7	1																																																
6	SA-204										8																																																					
7	SA-205																4	4																																														
8	SA-206																						5	3																																								
9	SA-207																						4	4																																								
10	SA-208																							4	4																																							
11	SA-209																							4	4																																							
12	SA-210																							4	4																																							
13	SA-211																							4	4																																							
14	SA-212																							4	4																																							
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17																																																																
18																																																																
19	TOTAL																																																															
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NOTES																																																																

SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u> STATUS RESPONSIBILITY <u>T.P. Smith</u> <small>T. P. Smith</small>		<b>MANNED SPACE FLIGHT SCHEDULE</b> <b>H-I ENGINE PROCUREMENT</b> <b>FOR VEHICLES SA-210-212</b>												ORIGINAL SCHED. APPROVAL <u>6/30/65</u> <small>(Date)</small> LAST SCHED. CHANGE _____ <small>(Date) (No.) (Initials)</small> STATUS AS OF <u>9/30/65</u> <u>ZPS</u> <small>(Date) (Initials)</small>											
<b>MILESTONES</b>		CONTRACTOR: RKDN      PROJECT: H-I ENGINE SCH'D NO: _____																							
		CY 1965      CY 1966																							
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
1	WORK STATEMENT COMPLETE →			▼																					
2	DOCUMENTED REQUIREMENT TO PROCUREMENT OFFICE			▼																					
3	CONTRACT AWARD										▽														
4	EARLIEST LONG LEAD TIME PROCUREMENT INITIATION (NOTE 1)										▽														
5																									
6																									
7																									
8																									
9																									
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<b>NOTES</b> 1. THRUST CHAMBER ASSEMBLY - CRES FORGING.																									

SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u> STATUS RESPONSIBILITY <u>T.P. Smith</u> T. P. Smith	<b>MANNED SPACE FLIGHT SCHEDULE          OBLIGATIONS, COSTS, AND MANPOWER          H-I ENGINE DELIVERY          SATURN I &amp; IB</b> 7-4 (NAS 7-3) PROJECT: SATURN I&IB CONTRACTOR: RKDN (NAS7-162) SCH'D NO:	ORIGINAL SCHED. APPROVAL <u>7/31/65</u> (Date) LAST SCHED. CHANGE <u>7/31/65</u> (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> <u>TPS</u> (Date) (Initials)						
<b>OBLIGATIONS &amp; COSTS          (MILLIONS OF DOLLARS)</b>								
	FY 1961 THRU FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	TOTAL
<b>UNCOSTED OBLIGATIONS</b>	XX	3.7	2.2	.7	0	0		XXX
<b>OBLIGATIONS TO CONTRACTOR</b>	40.8	11.3	8.6	3.7	.5	.3		65.2
<b>TOTAL AVAILABLE</b>	40.8	15.0	10.8	4.4	.5	.3		XXX
<b>ACCRUED COSTS DURING PERIOD</b>	37.1	12.8	10.1	4.4	.5	.3		65.2
<b>(533 ACCRUED COSTS)</b>	(37.1)	(12.8)	(7.8)	(.5)	0	0		58.2
<b>UNFILLED ORDERS</b>	1.1	1.1	.7	0	0	0		XXX
<b>ADVANCED FUNDING</b>	2.6	1.1	0	0	0	0		XXX
<b>MONTHLY COST-RATE (YEAR END)</b>	.8	.9	.6	.1	.05	0		XXX
<b>MANPOWER          (IN EQUIVALENT MAN YEARS)</b>								
<b>TOTAL DIRECT</b>	1,299	401	375	23	23	14		2,135
<b>RATIO OF INDIRECT TO DIRECT</b>								
<b>REMARKS:</b> OBLIGATIONS AND COST FOR FY 1964 AND PRIOR INCLUDE THAT FOR PREVIOUS PRODUCTION CONTRACTS 7-4 AND 7-3. OBLIGATIONS OF DOD FUNDING IN FY 1959 AND FY 1960 AND THE COST ACCRUAL TO THAT FUNDING IS NOT INCLUDED.								

SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u>  STATUS RESPONSIBILITY <u>T. P. Smith</u> <small>T. P. Smith</small>	<b>MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER H-I ENGINE DELIVERY SATURN I</b>  <small>7-4,7-162</small> PROJECT: SATURN I <small>CONTRACTOR:RKDN (NAS7-3)</small> SCH'D NO:	ORIGINAL SCHED. APPROVAL <u>7/31/65</u> <small>(Date)</small> LAST SCHED. CHANGE <u>7/31/65</u> <small>(Date) (No.) (Initials)</small> STATUS AS OF <u>9/30/65</u> <u>TR</u> <small>(Date) (Initials)</small>
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**OBLIGATIONS & COSTS  
(MILLIONS OF DOLLARS)**

	FY 1961 THRU FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	TOTAL
<b>UNCOSTED OBLIGATIONS</b>	XXX	.5	0					XXX
<b>OBLIGATIONS TO CONTRACTOR</b>	32.7	0	0					32.7
<b>TOTAL AVAILABLE</b>	32.7	.5	0					XXX
<b>ACCRUED COSTS DURING PERIOD</b>	32.2	.5	0					32.7
<b>(533 ACCRUED COSTS)</b>	(32.2)	(.5)						(32.7)
<b>UNFILLED ORDERS</b>	.1	0	0					XXX
<b>ADVANCED FUNDING</b>	.4	0	0					XXX
<b>MONTHLY COST-RATE (YEAR END)</b>	0	0	0					XXX

**MANPOWER  
(IN EQUIVALENT MAN YEARS)**

<b>TOTAL DIRECT</b>	1,149	31	0					1,180
<b>RATIO OF INDIRECT TO DIRECT</b>								

**REMARKS:** OBLIGATIONS AND COST FOR FY 1961 THRU FY 1964 INCLUDE THOSE FOR PREVIOUS PRODUCTION CONTRACTS 7-4 AND 7-3. OBLIGATIONS OF DOD FUNDING IN FY 1959 AND FY 1960 AND THE COST ACCRUAL TO THAT FUNDING IS NOT INCLUDED.

SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u> STATUS RESPONSIBILITY <u>T. P. Smith</u> <small>T. P. Smith</small>	<b>MANNED SPACE FLIGHT SCHEDULE          OBLIGATIONS, COSTS, AND MANPOWER          H-I ENGINE DELIVERY          SATURN IB</b> <small>7-3</small> PROJECT: SATURN IB CONTRACTOR: RKDN (NAS7-162) SCH'D NO:	ORIGINAL SCHED. APPROVAL <u>7/31/65</u> <small>(Date)</small> LAST SCHED. CHANGE <u>7/31/65</u> <small>(Date) (No.) (Initials)</small> STATUS AS OF <u>9/30/65</u> <small>(Date) (Initials)</small> <u>TR</u>						
<b>OBLIGATIONS &amp; COSTS          (MILLIONS OF DOLLARS)</b>								
	FY 1961 THRU FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	TOTAL
<b>UNCOSTED OBLIGATIONS</b>	XXX	3.2	2.2	.7	0	0		XXX
<b>OBLIGATIONS TO CONTRACTOR</b>	8.1	11.3	8.6	3.7	.5	.3		32.5
<b>TOTAL AVAILABLE</b>	8.1	14.5	10.8	4.4	.5	.3		XXX
<b>ACCRUED COSTS DURING PERIOD</b>	4.9	12.3	10.1	4.4	.5	.3		32.5
<b>(533 ACCRUED COSTS)</b>	(4.9)	(12.3)	(7.8)	(.5)	0	0		25.5
<b>UNFILLED ORDERS</b>	1.0	1.1	.7	0	0	0		XXX
<b>ADVANCED FUNDING</b>	2.2	1.1	0	0	0	0		XXX
<b>MONTHLY COST-RATE (YEAR END)</b>	.8	.9	.6	.1	.05	0		XXX
<b>MANPOWER          (IN EQUIVALENT MAN YEARS)</b>								
<b>TOTAL DIRECT</b>	150	370	375	145	23	14		1,077
<b>RATIO OF INDIRECT TO DIRECT</b>								
<b>REMARKS:</b>								

SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u>  STATUS RESPONSIBILITY <u>T. P. Smith</u> T. P. Smith	<b>MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER H-I ENGINE DELIVERY SATURN IB</b> 7-3 PROJECT: SATURN IB CONTRACTOR: RKDN (NAS7-162) SCH'D NO:	ORIGINAL SCHED. APPROVAL <u>7/31/65</u> (Date) LAST SCHED. CHANGE <u>7/31/65</u> (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> <u>T.P.S.</u> (Date) (Initials)
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**OBLIGATIONS & COSTS  
(MILLIONS OF DOLLARS)**

CURRENT FISCAL YEAR		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
NO. OF WORKING DAYS IN REPORTING PERIOD		19	20	24	20	18	22	20	20	25	20	20	24	
CUMULATIVE OBLIGATIONS	POP 65-2	3.2	3.2	3.2			6.8			8.2			9.1	
	POP 65-3	3.2	3.2	3.2	6.8	6.8	6.8			8.2			8.6	
	ACTUAL	3.2	3.2	3.2										
CUMULATIVE ACCRUED COSTS	POP 65-2	.9	1.8	2.7			5.2			7.6			10.0	
	POP 65-3	.9	1.8	2.8	3.7	4.5	5.4			7.9			10.1	
	ACTUAL	TOTAL	.7	1.4	2.4									
		IN-HOUSE	.5	1.0	1.7									
		SUB CONTRACT	.2	.4	.7									
COST RATE	POP 65-2	.9	.9	.9			.8			.9			.8	
	POP 65-3	.9	.9	1.0	.9	.8	.9			.9			.6	
	ACTUAL	.7	.7	1.0										

**MANPOWER  
(IN EQUIVALENT MAN MONTHS)**

TOTAL DIRECT MANPOWER	POP 65-2	400	400	390			390			390			390
	POP 65-3	400	400	400	400	400	400			390			370
	ACTUAL	224	218	400									
RATIO OF INDIRECT TO DIRECT													

NUMBER OF SHIFTS 1.1  
 PERCENT OF OVERTIME 1.7

REMARKS: INDICATED ACTUALS FOR LAST MONTH REPORTED ARE BEST ESTIMATE.







SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u>  STATUS RESPONSIBILITY <u>Rodney D. Stewart</u> Rodney D. Stewart	<b>MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER</b>  <b>RL10 ENGINE DEVELOPMENT</b>  P& WA, NAS8-2690      PROJECT: RL10 ENGINE CONTRACTOR: PART I, NAS8-5623      SCH'D NO:	ORIGINAL SCHED. APPROVAL <u>7/31/65</u> (Date) LAST SCHED. CHANGE <u>7/31/65</u> (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> (Date) (Initials)						
<b>OBLIGATIONS &amp; COSTS (MILLIONS OF DOLLARS)</b>								
	FY 1961 THRU FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	TOTAL
<b>UNCOSTED OBLIGATIONS</b>	XXX	1.5 (2.2)	.9 (1.4)	(.6)	(.2)	(.1)		XXX
<b>OBLIGATIONS TO CONTRACTOR</b>	62.0 (63.0)	14.5 (15.0)	1.9 (12.1)	(9.6)	(6.0)	(3.0)		78.4 (108.7)
<b>TOTAL AVAILABLE</b>	62.0 (63.0)	16.0 (17.2)	2.8 (13.5)	(10.2)	(6.2)	(3.1)		XXX
<b>ACCRUED COSTS DURING PERIOD</b>	60.5 (60.8)	15.1 (15.8)	2.8 (12.9)	(10.0)	(6.1)	(3.1)		78.4 (108.7)
<b>(533 ACCRUED COSTS)</b>	(60.5) (60.8)	(15.1) (15.8)	(1.5) (3.8)	( )	( )	( )	( )	(77.1) (80.4)
<b>UNFILLED ORDERS</b>	.6 (.6)	.3 (.3)	0 (.6)	(.2)	(.1)	(0)		XXX
<b>ADVANCED FUNDING</b>	.9 (1.6)	.6 (1.1)	0 (0)	(0)	(0)	(0)		XXX
<b>MONTHLY COST-RATE (YEAR END)</b>	.9 (1.2)	1.1 (1.1)	0 (1.0)	(.7)	(.5)	(.1)		XXX
<b>MANPOWER (IN EQUIVALENT MAN YEARS)</b>								
<b>TOTAL DIRECT</b>	2,228 (2,238)	575 (605)	112 (517)	(404)	(260)	(150)		2,915 (4,174)
<b>RATIO OF INDIRECT TO DIRECT</b>								
<b>REMARKS:</b> PARENTHETICAL DATA SHOWS TOTAL RL10 ENGINE DEVELOPMENT FUNDING, COST & MANPOWER (OMSF PLUS OSSA)								

SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u>		<b>MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER</b>											ORIGINAL SCHED. APPROVAL <u>7/31/65</u> (Date)	
STATUS RESPONSIBILITY <u>Rodney D. Stewart</u>		<b>RL10 ENGINE DEVELOPMENT</b>											LAST SCHED. CHANGE <u>7/31/65</u> (Date) (No.) (Initials)	
		P & W A CONTRACTOR: PART I, NAS8-2690/5623					PROJECT: RL10 ENGINE SCH'D NO:						STATUS AS OF <u>9/30/65</u> (Date) (Initials)	
<b>OBLIGATIONS &amp; COSTS (MILLIONS OF DOLLARS)</b>														
CURRENT FISCAL YEAR		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
NO. OF WORKING DAYS IN REPORTING PERIOD		21	22	21	21	20	21	21	20	23	20	21	22	
CUMULATIVE OBLIGATIONS	POP 65-2	1.9 (5.2)	1.9 (5.2)	1.9 (5.2)	XX	XX	1.9 (9.0)	XX	XX	1.9 (10.9)	XX	XX	1.9 (12.1)	
	POP 65-3	.6 (2.2)	.6 (2.2)	1.9 (4.9)	1.9 (4.9)	1.9 (9.0)	1.9 (9.0)	XX	XX	1.9 (10.9)	XX	XX	1.9 (12.1)	
	ACTUAL	.6 (2.2)	.6 (2.2)	.6 (2.2)										
CUMULATIVE ACCRUED COSTS	POP 65-2	.5 (1.1)	1.0 (2.3)	1.5 (3.4)	XX	XX	2.8 (6.7)	XX	XX	2.8 (9.6)	XX	XX	2.8 (12.4)	
	POP 65-3	.5 (1.3)	1.0 (2.6)	1.5 (3.9)	2.0 (5.0)	2.4 (6.2)	2.8 (7.2)	XX	XX	2.8 (10.1)	XX	XX	2.8 (12.9)	
	A C T U A L T O T A L	.5 (1.1)	1.0 (2.1)	1.5 (3.4)										
	IN-HOUSE	.4 (.9)	.8 (1.8)	1.3 (2.9)										
	SUB CONTRACT	.1 (.2)	.2 (.3)	.2 (.5)										
COST RATE	POP 65-2	.5 (1.1)	.5 (1.2)	.5 (1.1)	XX	XX	.4 (N/A)	XX	XX	0 (N/A)	XX	XX	0 (1.0)	
	POP 65-3	.5 (1.3)	.5 (1.3)	.5 (1.3)	.5 (1.1)	.4 (1.2)	.4 (1.0)	XX	XX	0 (1.0)	XX	XX	0 (1.0)	
	ACTUAL	.5 (1.1)	.5 (1.0)	.5 (1.3)										
<b>MANPOWER (IN EQUIVALENT MAN MONTHS)</b>														
TOTAL DIRECT MANPOWER	POP 65-2	240 (N/A)	240 (N/A)	240 (N/A)	XX	XX	200 (N/A)	XX	XX	0 (N/A)	XX	XX	0 (N/A)	
	POP 65-3	240 (645)	240 (616)	240 (645)	240 (546)	215 (625)	180 (496)	XX	XX	0 (453)	XX	XX	0 (473)	
	ACTUAL	240 (565)	240 (520)	240 (645)										
RATIO OF INDIRECT TO DIRECT														
NUMBER OF SHIFTS		<u>1.40</u>												
PERCENT OF OVERTIME		<u>1.93</u>												
REMARKS: INDICATED ACTUALS FOR LAST MONTH REPORTED ARE BEST ESTIMATES. PARENTHETICAL DATA SHOWS TOTAL RL10 R&D FUNDING, COTS & MANPOWER (OMSF PLUS OSSA)														



SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u>  STATUS RESPONSIBILITY <u>Rodney D. Stewart</u> Rodney D. Stewart	<b>MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER</b>  <b>RL10 ENGINE DELIVERY</b> NAS8-2690 (PART II) NAS8-5607 CONTRACTOR: P & WA  PROJECT: SATURN I SCH'D NO:	ORIGINAL SCHED. APPROVAL <u>7/31/65</u> (Date) LAST SCHED. CHANGE <u>7/31/65</u> (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> (Date) (Initials)						
<b>OBLIGATIONS &amp; COSTS (MILLIONS OF DOLLARS)</b>								
	FY 1961 THRU FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	TOTAL
<b>UNCOSTED OBLIGATIONS</b>	XXX	.9 (2.9)	0 (3.7)	0 (.5)	0 (.5)	0 (.5)		XXX
<b>OBLIGATIONS TO CONTRACTOR</b>	31.4 (53.0)	0 (4.4)	0 (2.8)	0 (5.4)	0 (4.8)	0 (2.4)		31.4 (72.8)
<b>TOTAL AVAILABLE</b>	31.4 (53.0)	.9 (7.3)	0 (6.5)	0 (5.9)	0 (5.3)	0 (2.9)		XXX
<b>ACCRUED COSTS DURING PERIOD</b>	30.5 (50.1)	.9 (3.6)	0 (6.0)	0 (5.4)	0 (4.8)	0 (2.9)		31.4 (72.8)
<b>(533 ACCRUED COSTS)</b>	(30.5) <u>(50.1)</u>	(.9) <u>(3.6)</u>	(0) <u>(3.4)</u>	(0) <u>(1.7)</u>				(31.4) <u>(58.8)</u>
<b>UNFILLED ORDERS</b>	0 (.4)	0 (.8)	0 (.5)	0 (.5)	0 (.5)	0 (0)		XXX
<b>ADVANCED FUNDING</b>	.9 (2.5)	0 (2.9)	0 (0)	0 (0)	0 (0)	0 (0)		XXX
<b>MONTHLY COST-RATE (YEAR END)</b>	.1 (.6)	.04 (.43)	0 (.5)	0 (.4)	0 (.3)	0 (0)		XXX
<b>MANPOWER (IN EQUIVALENT MAN YEARS)</b>								
<b>TOTAL DIRECT</b>	1,061 (1,734)	28 (93)	0 (185)	0 (165)	0 (150)	0 (90)		1,089 (2,417)
<b>RATIO OF INDIRECT TO DIRECT</b>								
<b>REMARKS:</b> PARENTHETICAL DATA SHOWS TOTAL RL10 ENGINE DEVELOPMENT FUNDING, COST & MANPOWER (OMSF PLUS OSSA)								

SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u>  STATUS RESPONSIBILITY <u>Rodney D. Stewart</u> <small>Rodney D. Stewart</small>	<b>MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER</b>  <b>RL10 ENGINE DELIVERY</b>  NAS8-5607      PROJECT: CENTAUR CONTRACTOR: P & WA      SCH'D NO:	ORIGINAL SCHED. APPROVAL <u>7/31/65</u> <small>(Date)</small> LAST SCHED. CHANGE <u>7/31/65</u> <small>(Date)</small> (No.)      (Initials) STATUS AS OF <u>9/30/65</u> <small>(Date)</small> (Initials)
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**OBLIGATIONS & COSTS**  
(MILLIONS OF DOLLARS)

CURRENT FISCAL YEAR	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE		
NO. OF WORKING DAYS IN REPORTING PERIOD	21	22	21	21	20	21	21	20	23	20	21	22		
CUMULATIVE OBLIGATIONS	POP 65-2	N/A	N/A	N/A	XX	XX	N/A	XX	XX	N/A	XX	XX	4.6	
	POP 65-3	0	0	0	0	0	1.4	XX	XX	2.8	XX	XX	2.8	
	ACTUAL	0	0	0										
CUMULATIVE ACCRUED COSTS	POP 65-2	N/A	N/A	N/A	XX	XX	N/A	XX	XX	N/A	XX	XX	6.2	
	POP 65-3	.4	.9	1.4	1.9	2.3	2.8	XX	XX	4.3	XX	XX	6.0	
	ACTUAL	TOTAL	.3	.8	1.3									
		IN-HOUSE	.2	.5	.8									
		SUB CONTRACT	.1	.3	.5									
COST RATE	POP 65-2	N/A	N/A	N/A	XX	XX	N/A	XX	XX	N/A	XX	XX	.7	
	POP 65-3	.4	.5	.5	.5	.4	.5	XX	XX	.6	XX	XX	.5	
	ACTUAL	.3	.5	.5										

**MANPOWER**  
(IN EQUIVALENT MAN MONTHS)

TOTAL DIRECT MANPOWER	POP 65-2	N/A	N/A	N/A	XX	XX	N/A	XX	XX	N/A	XX	XX	N/A
	POP 65-3	153	182	190	190	160	190	XX	XX	209	XX	XX	182
	ACTUAL	155	180	190									
RATIO OF INDIRECT TO DIRECT													

NUMBER OF SHIFTS 1.40  
 PERCENT OF OVERTIME 1.15

REMARKS: INDICATED ACTUALS FOR LAST MONTH REPORTED ARE BEST ESTIMATES.





SCHEDULE RESPONSIBILITY Leland F. Belew

STATUS RESPONSIBILITY Saverio F. Morea

MANNED SPACE FLIGHT SCHEDULE

**F-1 ENGINE QUAL II  
COMPONENT QUALIFICATION STATUS**

**3**  
LEVEL

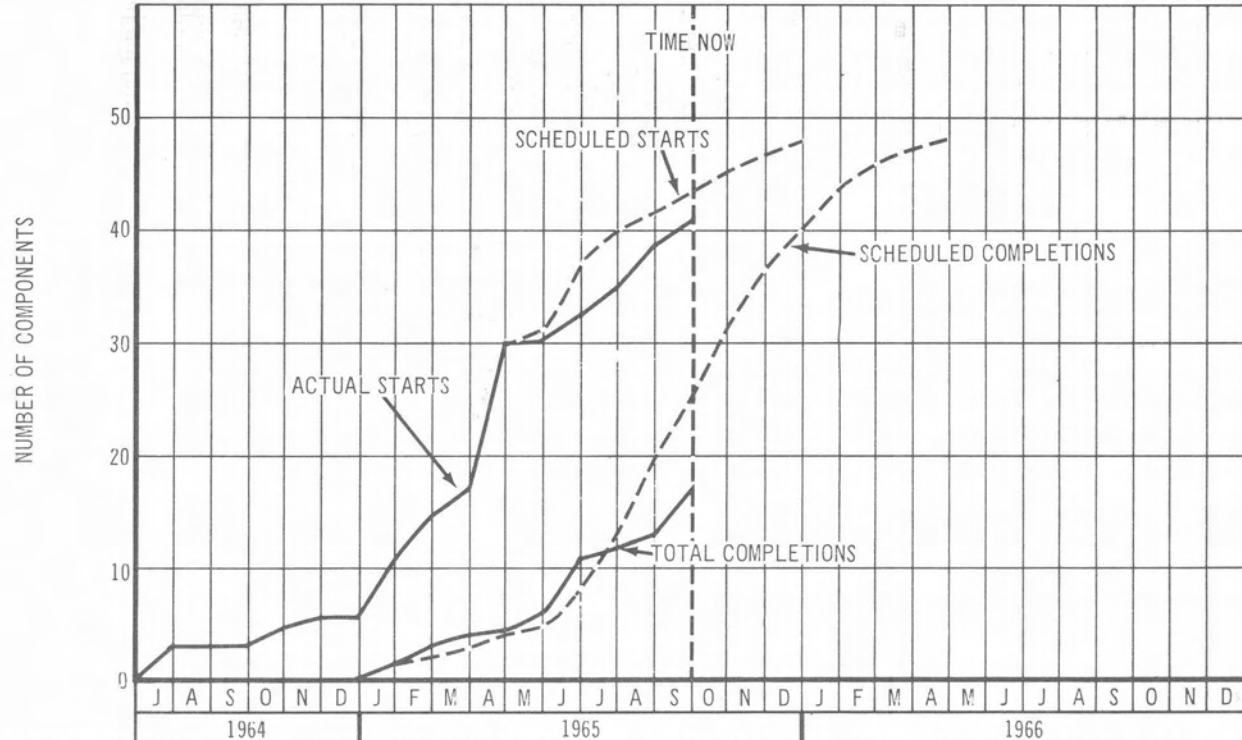
ORIGINAL SCHED. APPROVAL 6/30/65  
(Date)

LAST SCHED. CHANGE (Date) (No.) (Initials)

STATUS AS OF 9/30/65  
(Date) (Initials)

CONTRACTOR: RKDN

PROJECT: F-1 ENGINE  
SCH'D NO:



	J	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
	1964						1965										1966													
CUMULATIVE SCHEDULE COMPLETIONS							1	2	3	5	5	8	13	20	25	32	37	40	44	46	47	48								
CUM. COMP. OF SCHED. COMPONENTS *							1	2	3	4	5	7	11	13	17															
CUMULATIVE SCHEDULE STARTS	3	3	3	5	6	6	11	15	17	30	31	37	40	42	44	46	47	48												
CUMULATIVE ACTUAL STARTS	3	3	3	5	6	6	11	15	17	30	30	33	35	39	41															
TESTS BEHIND SCHEDULE							0	0	0	1	0	1	2	7	8															
TESTS COMPL AHEAD OF SCHED							0	1	1	0	1	4	1	0	0															

\* INCLUDES ONLY THOSE COMPLETIONS WHICH WERE SCHEDULED TO BE COMPLETED.  
\* QUAL I COMPONENT QUALIFICATION COMPLETED.



SCHEDULE RESPONSIBILITY Leland F. Belew

STATUS RESPONSIBILITY Saverio F. Morea

MANNED SPACE FLIGHT SCHEDULE

**F-1 ENGINE**

ENGINEERING CLASS I CHANGES

PROJECT: F-1 ENGINE  
SCH'D NO:

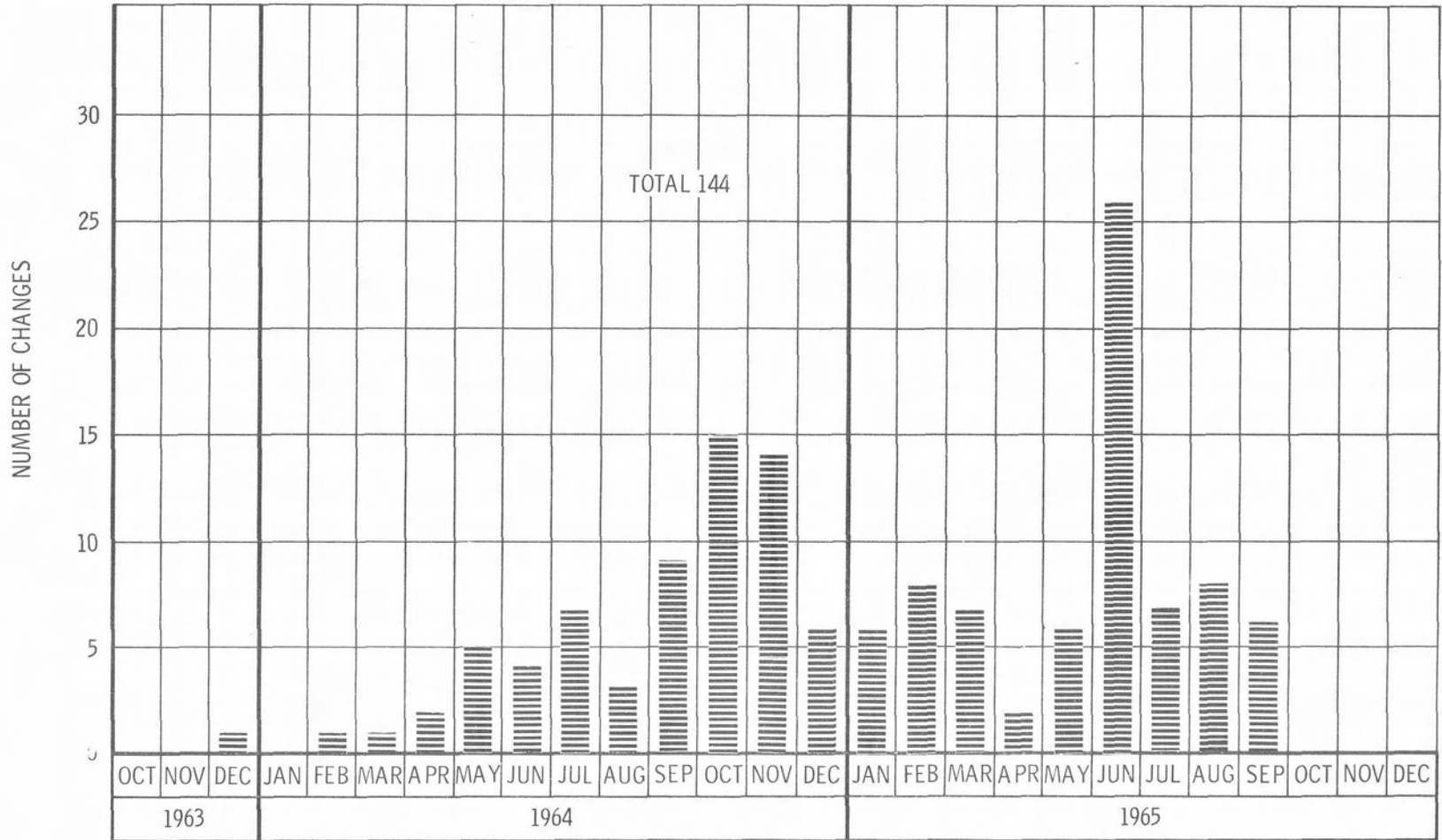
3  
LEVEL

ORIGINAL SCHED. APPROVAL 6/30/65  
(Date)

LAST SCHED. CHANGE \_\_\_\_\_  
(Date) (No.) (Initials)

STATUS AS OF 9/30/65  
(Date) (Initials)

CONTRACTOR: RKDN



TOTAL 144

BASIC ENGINEERING RELEASE

F-1 FINAL RELEASE - AUGUST 1962

SCHEDULE RESPONSIBILITY Leland F. Belew

STATUS RESPONSIBILITY Saverio F. Morea  
Saverio F. Morea

MANNED SPACE FLIGHT SCHEDULE

**F-1 ENGINE**

ENGINEERING CLASS II CHANGES

3  
LEVEL

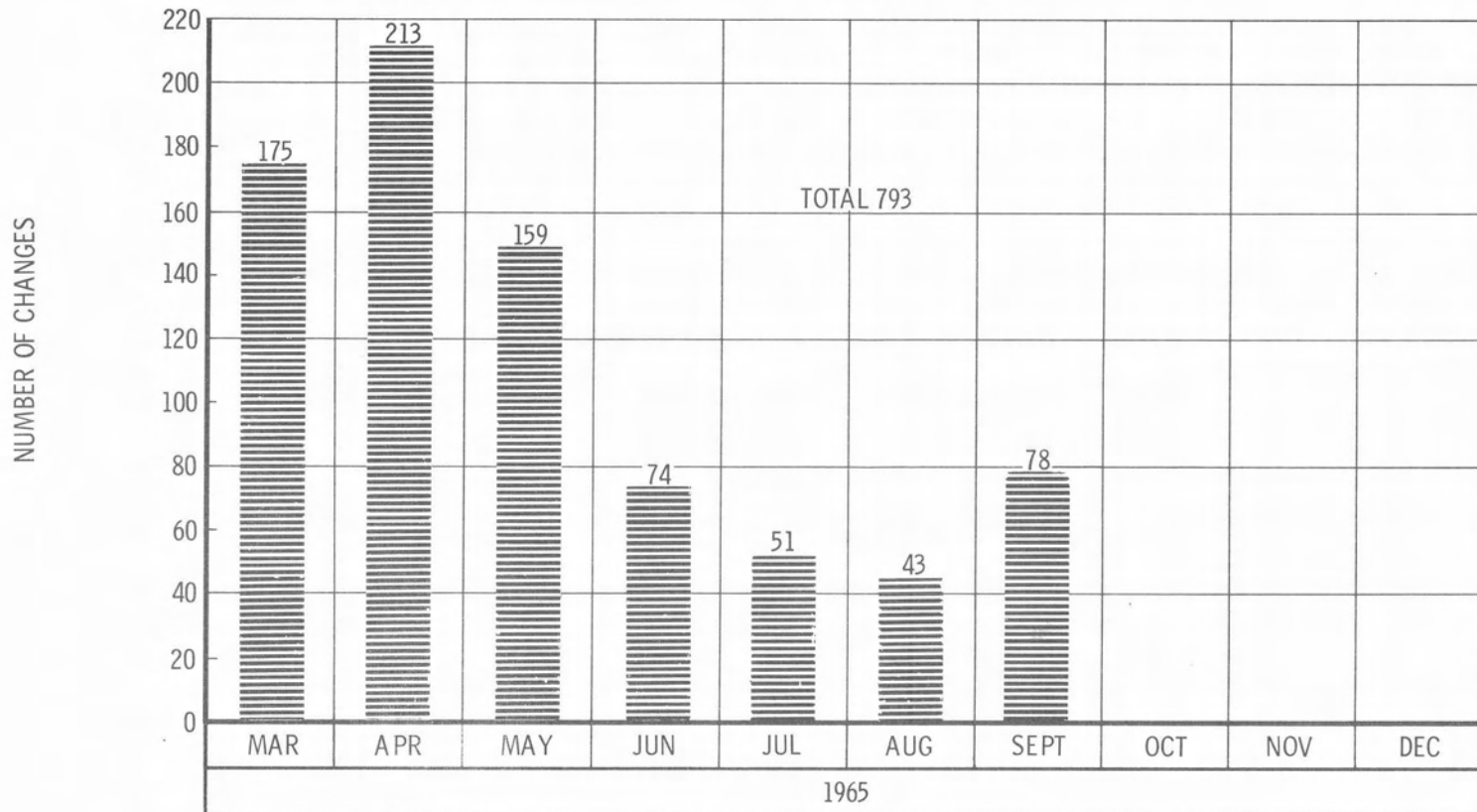
ORIGINAL SCHED. APPROVAL 6/30/65  
(Date)

LAST SCHED. CHANGE \_\_\_\_\_  
(Date) (No.) (Initials)

STATUS AS OF 9/30/65  
(Date) (Initials)

CONTRACTOR: RKDN

PROJECT: F-1 ENGINE  
SCH'D NO:





SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u> STATUS RESPONSIBILITY <u>Saverio F. Morea</u> Saverio F. Morea	<b>MANNED SPACE FLIGHT SCHEDULE          OBLIGATIONS, COSTS, AND MANPOWER          F-1 ENGINE DEVELOPMENT</b>	ORIGINAL SCHED. APPROVAL <u>7/31/65</u> (Date) LAST SCHED. CHANGE <u>7/31/65</u> (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> (Date) (Initials)											
CONTRACTOR: RKDN (NASw-16)      PROJECT: F-1 ENGINE SCH'D NO:													
<b>OBLIGATIONS &amp; COSTS</b> (MILLIONS OF DOLLARS)													
<b>CURRENT FISCAL YEAR</b>	<b>JULY</b>	<b>AUG</b>	<b>SEPT</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUNE</b>	
<b>NO. OF WORKING DAYS IN REPORTING PERIOD</b>	19	20	24	20	18	22	20	20	25	20	20	24	
<b>CUMULATIVE OBLIGATIONS</b>	<b>POP 65-2</b>	12.4	12.4	12.4			34.0			42.1		47.5	
	<b>POP 65-3</b>	12.4	12.4	12.4	29.0	29.0	29.0			42.1		44.5	
	<b>ACTUAL</b>	12.4	12.4	29.0									
<b>CUMULATIVE ACCRUED COSTS</b>	<b>POP 65-2</b>	4.1	8.4	13.6			27.2			40.7		54.0	
	<b>POP 65-3</b>	4.5	9.2	14.9	19.4	23.5	28.5			41.7		54.8	
	<b>A C T U A L</b>	<b>TOTAL</b>	3.2	6.6	12.3								
		<b>IN-HOUSE</b>	2.4	5.0	9.3								
		<b>SUB CONTRACT</b>	.8	1.6	3.0								
<b>COST RATE</b>	<b>POP 65-2</b>	4.1	4.3	5.2			4.8			5.3		5.0	
	<b>POP 65-3</b>	4.5	4.7	5.7	4.5	4.1	5.0			5.1		4.9	
	<b>ACTUAL</b>	3.2	3.4	5.7									
<b>MANPOWER</b> (IN EQUIVALENT MAN MONTHS)													
<b>TOTAL DIRECT MANPOWER</b>	<b>POP 65-2</b>	1,675	1,675	1,675			1,675			1,675		1,657	
	<b>POP 65-3</b>	1,700	1,700	1,700	1,700	1,700	1,700			1,700		1,700	
	<b>ACTUAL</b>	1,408	1,388	1,700									
<b>RATIO OF INDIRECT TO DIRECT</b>													
<b>NUMBER OF SHIFTS</b>		<u>1.5</u>											
<b>PERCENT OF OVERTIME</b>		<u>2.5</u>											
<b>REMARKS:</b> INDICATED ACTUALS FOR LAST MONTH REPORTED ARE BEST ESTIMATES.													





SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u> STATUS RESPONSIBILITY <u>Saverio F. Morea</u>	<b>MANNED SPACE FLIGHT SCHEDULE          OBLIGATIONS, COSTS, AND MANPOWER          F-1 ENGINE DELIVERY          SATURN V</b>	ORIGINAL SCHED. APPROVAL <u>7/31/65</u> <small>(Date)</small> LAST SCHED. CHANGE <u>7/31/65</u> <small>(Date) (No.) (Initials)</small> STATUS AS OF <u>9/30/65</u> <small>(Date) (Initials)</small>
CONTRACTOR: RKDN (NAS8-5604)		PROJECT: SATURN V SCH'D NO:

**OBLIGATIONS & COSTS  
(MILLIONS OF DOLLARS)**

	FY 1961 THRU FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	TOTAL
<b>UNCOSTED OBLIGATIONS</b>	XXX	15.0	16.3	8.0	7.8	3.1	.1	XXX
<b>OBLIGATIONS TO CONTRACTOR</b>	57.4	65.5	67.3	84.1	66.2	1.7	1.1	343.3
<b>TOTAL AVAILABLE</b>	57.4	80.5	83.6	92.1	74.0	4.8	1.2	XXX
<b>ACCRUED COSTS DURING PERIOD</b>	42.4	64.2	75.6	84.3	70.9	4.7	1.2	343.3
<b>(533 ACCRUED COSTS)</b>	(42.4)	(64.2)	(75.6)	(84.3)	(70.9)	(4.7)	(1.2)	(343.3)
<b>UNFILLED ORDERS</b>	14.2	13.0	8.0	7.8	3.1	0.1	0	XXX
<b>ADVANCED FUNDING</b>	.8	3.3	0	0	0	0	0	XXX
<b>MONTHLY COST-RATE (YEAR END)</b>	3.5	7.5	7.3	7.2	6.0	.3	0	XXX

**MANPOWER  
(IN EQUIVALENT MAN YEARS)**

<b>TOTAL DIRECT</b>	1,353	1,830	2,100	2,360	1,960	110	30	9,743
<b>RATIO OF INDIRECT TO DIRECT</b>								

REMARKS:

SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u> STATUS RESPONSIBILITY <u>Saverio F. Morea</u>	<b>MANNED SPACE FLIGHT SCHEDULE          OBLIGATIONS, COSTS, AND MANPOWER          F-1 ENGINE DELIVERY          SATURN V</b>	ORIGINAL SCHED. APPROVAL <u>7/31/65</u> (Date) LAST SCHED. CHANGE <u>7/31/65</u> (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> (Date) (Initials)
CONTRACTOR: RKDN (NAS8-5604)		PROJECT: SATURN V SCH'D NO:

**OBLIGATIONS & COSTS  
(MILLIONS OF DOLLARS)**

CURRENT FISCAL YEAR		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
NO. OF WORKING DAYS IN REPORTING PERIOD		19	20	24	20	18	22	20	20	25	20	20	24	
CUMULATIVE OBLIGATIONS	POP 65-2	24.0	24.0	24.0			51.0			61.0			67.3	
	POP 65-3	24.0	24.0	24.0	51.0	51.0	51.0			61.0			67.3	
	ACTUAL	24.0	24.0	24.0										
CUMULATIVE ACCRUED COSTS	POP 65-2	5.7	11.7	18.9			36.8			56.2			75.3	
	POP 65-3	5.7	11.7	18.9	24.9	30.3	36.9			56.4			75.6	
	ACTUAL	TOTAL	4.7	11.4	18.6									
		IN-HOUSE	3.1	8.6	13.9									
		SUB CONTRACT	1.6	2.8	4.7									
COST RATE	POP 65-2	5.7	6.0	7.2			6.6			7.5			7.2	
	POP 65-3	5.7	6.0	7.2	6.0	5.4	6.6			7.5			7.3	
	ACTUAL	4.7	6.7	7.2										

**MANPOWER  
(IN EQUIVALENT MAN MONTHS)**

TOTAL DIRECT MANPOWER	POP 65-2	2,190	2,117	2,068			2,256			2,131			2,159
	POP 65-3	2,190	2,190	2,190	2,190	2,190	2,190			2,190			2,190
	ACTUAL	2,151	1,912	2,190									
RATIO OF INDIRECT TO DIRECT													

NUMBER OF SHIFTS 1.6  
 PERCENT OF OVERTIME 4.9

REMARKS: INDICATED ACTUALS FOR LAST MONTH REPORTED ARE BEST ESTIMATES.







SCHEDULE RESPONSIBILITY Leland F. Belew

STATUS RESPONSIBILITY Floyd M. Drummond

MANNED SPACE FLIGHT SCHEDULE

**J-2 ENGINE QUAL II  
COMPONENT QUALIFICATION STATUS**

**3**  
LEVEL

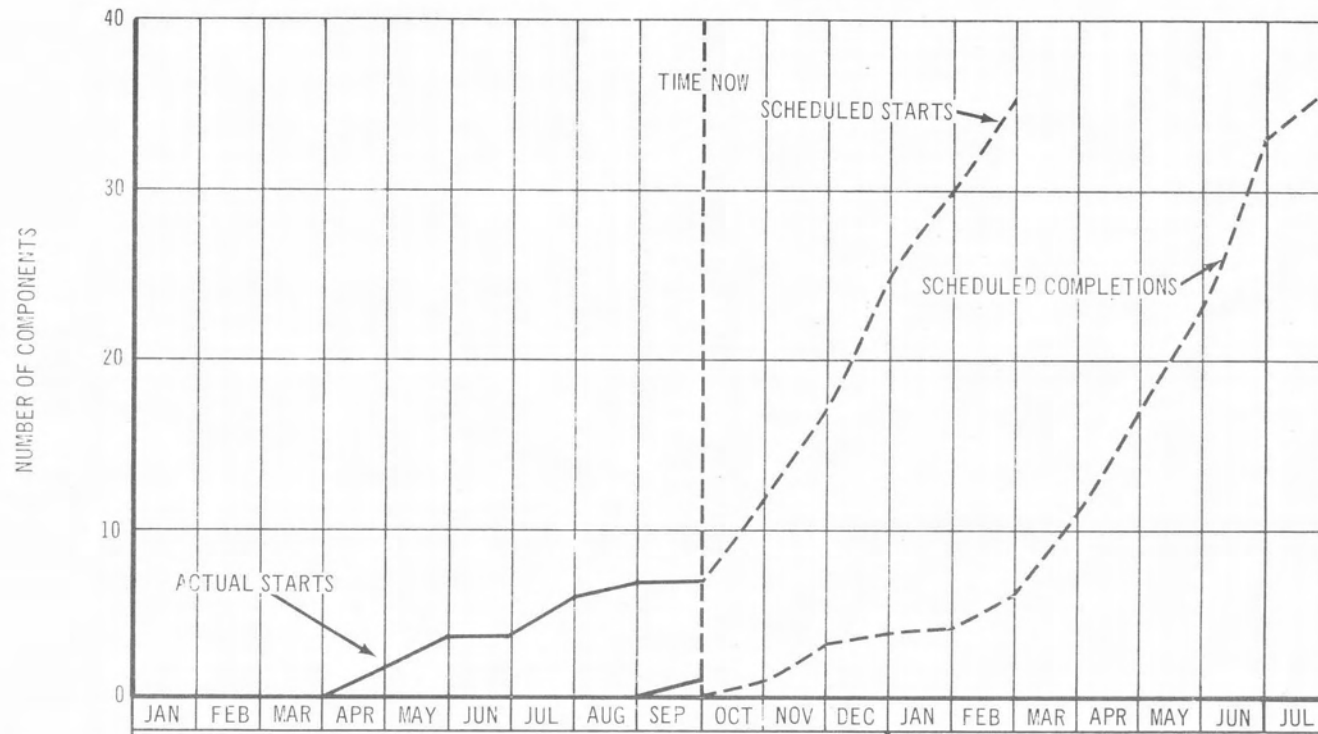
CONTRACTOR: RKDN

PROJECT: J-2 ENGINE  
SCH'D NO:

ORIGINAL SCHED. APPROVAL 6/30/65  
(Date)

LAST SCHED. CHANGE (Date) (No.) (Initials)

STATUS AS OF 9/30/65 FMD  
(Date) (Initials)



	1965									1966									
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
CUMULATIVE SCHEDULE STARTS	0	0	0	2	4	4	6	7	7	12	17	25	30	36					
CUMULATIVE ACTUAL STARTS	0	0	0	2	4	4	6	7	7										
CUMULATIVE SCHEDULE COMPLETIONS	0	0	0	0	0	0	0	0	0	1	3	4	4	6	11	17	23	33	36
CUM. COMP. OF SCHED. COMPONENTS*	0	0	0	0	0	0	0	0	0										
TESTS COMPL BEHIND SCHED	0	0	0	0	0	0	0	0	0										
TESTS COMPL AHEAD OF SCHED	0	0	0	0	0	0	0	0	1										

\* INCLUDES ONLY THOSE COMPLETIONS WHICH WERE SCHEDULED TO BE COMPLETED.

NOTE 1. ORIGINAL SCHEDULE WAS BASED ON INTERNAL MSFC PLANNING. REVISED SCHEDULE INDICATES PLAN NEGOTIATED WITH CONTRACTOR.

SCHEDULE RESPONSIBILITY Leland F. Belew

STATUS RESPONSIBILITY Floyd M. Drummond  
Floyd M. Drummond

MANNED SPACE FLIGHT SCHEDULE

**J-2 ENGINE**

ENGINEERING CLASS I CHANGES

3  
LEVEL

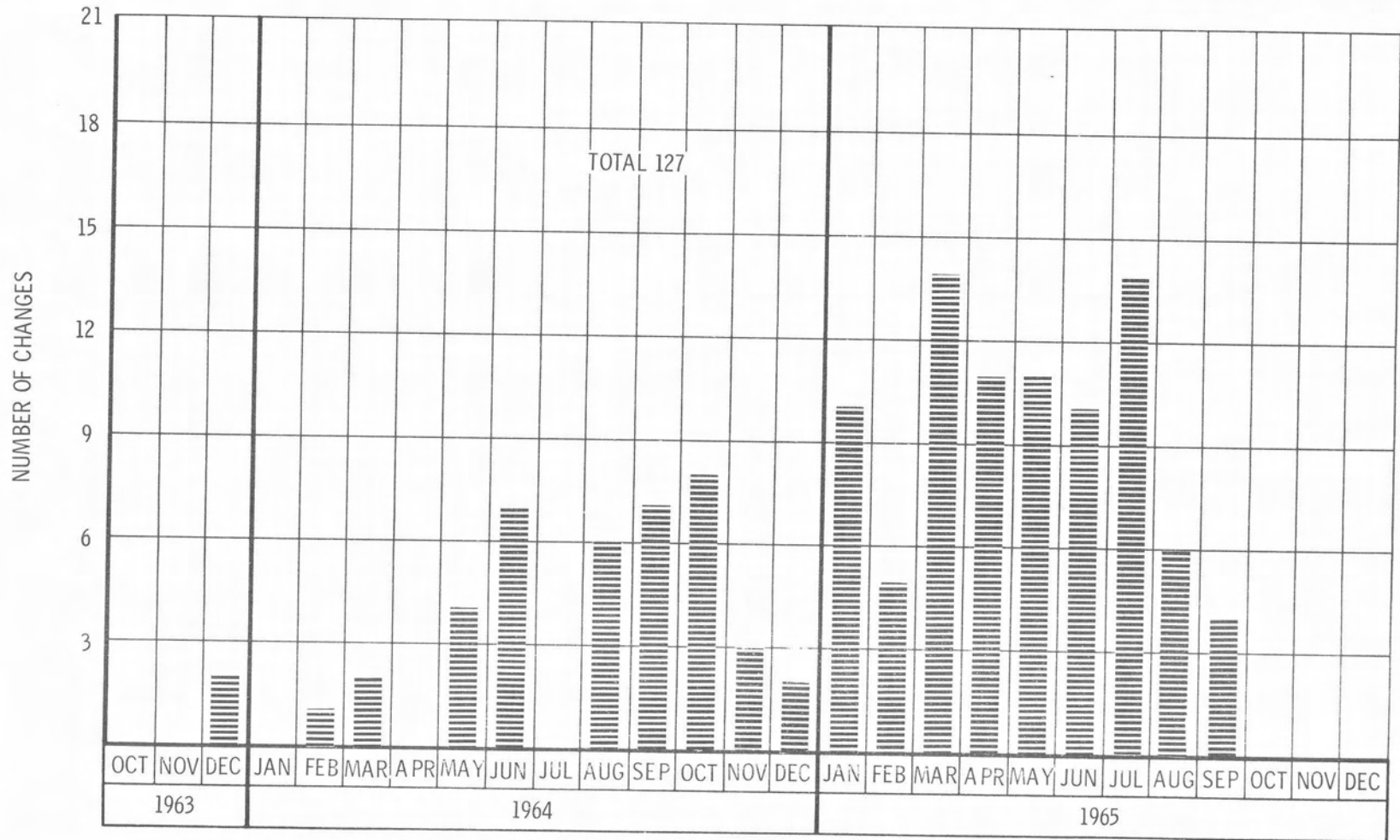
ORIGINAL SCHED. APPROVAL 6/30/65  
(Date)

LAST SCHED. CHANGE (Date) (No.) (Initials)

STATUS AS OF 9/30/65 (Date) FMD (Initials)

CONTRACTOR: RKDN

PROJECT: J-2 ENGINE  
SCH'D NO:



BASIC ENGINEERING RELEASE

J-2 (200K) FINAL RELEASE - SEPTEMBER 1962

SCHEDULE RESPONSIBILITY Leland F. Belew

STATUS RESPONSIBILITY Floyd M. Drummond  
Floyd M. Drummond

MANNED SPACE FLIGHT SCHEDULE

**J-2 ENGINE**

ENGINEERING CLASS II CHANGES

**3**  
LEVEL

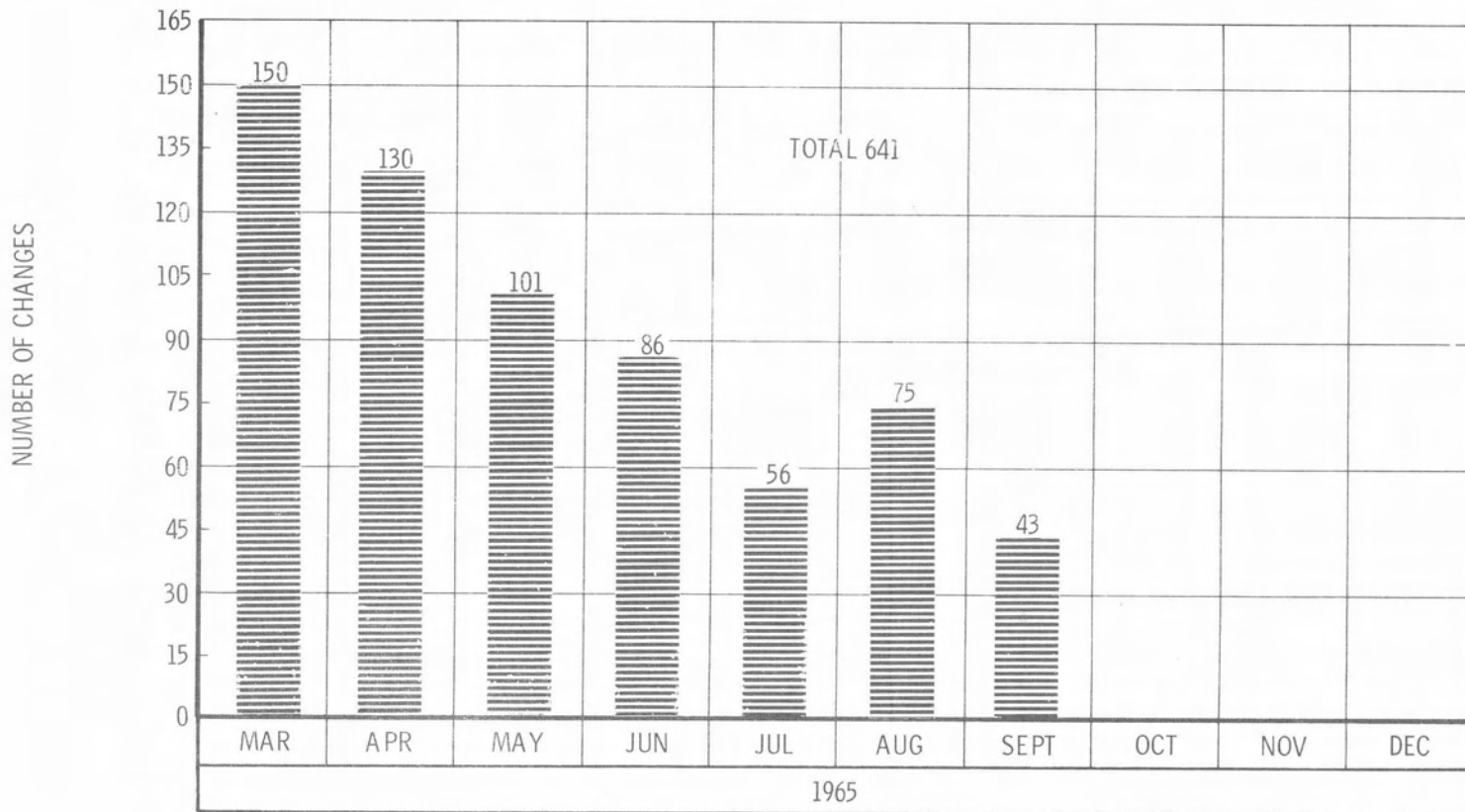
ORIGINAL SCHED. APPROVAL 6/30/65  
(Date)

LAST SCHED. CHANGE (Date) (No.) (Initials)

STATUS AS OF 9/30/65 FMB  
(Date) (Initials)

CONTRACTOR: RKDN

PROJECT: J-2 ENGINE  
SCH'D NO:





SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u> STATUS RESPONSIBILITY <u>Floyd M. Drummond</u> Floyd M. Drummond		<b>MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER</b> <b>J-2 ENGINE DEVELOPMENT</b> CONTRACTOR: RKDN (NAS8-19)						ORIGINAL SCHED. APPROVAL <u>7/31/65</u> (Date) LAST SCHED. CHANGE <u>7/31/65</u> (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> (Date) (Initials)					
<b>OBLIGATIONS &amp; COSTS (MILLIONS OF DOLLARS)</b>													
<b>CURRENT FISCAL YEAR</b>		<b>JULY</b>	<b>AUG</b>	<b>SEPT</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUNE</b>
NO. OF WORKING DAYS IN REPORTING PERIOD		19	20	24	20	18	22	20	20	25	20	20	24
<b>CUMULATIVE OBLIGATIONS</b>	<b>POP 65-2</b>	16.5	16.5	16.5	XXX	XXX	35.5	XXX	XXX	42.6	XXX	XXX	47.4
	<b>POP 65-3</b>	16.5	16.5	16.5	16.5	35.5	35.5	XXX	XXX	42.6	XXX	XXX	45.3
	<b>ACTUAL</b>	16.5	16.5	16.5									
<b>CUMULATIVE ACCRUED COSTS</b>	<b>POP 65-2</b>	4.0	8.3	13.6	XXX	XXX	26.9	XXX	XXX	40.8	XXX	XXX	53.7
	<b>POP 65-3</b>	3.5	7.5	12.7	17.1	21.0	25.8	XXX	XXX	40.0	XXX	XXX	54.0
	<b>ACTUAL</b>	2.7	5.8	11.0									
	<b>IN-HOUSE</b>	2.3	4.9	9.3									
	<b>SUB CONTRACT</b>	.4	.9	1.7									
<b>COST RATE</b>	<b>POP 65-2</b>	4.0	4.3	5.3	XXX	XXX	4.7	XXX	XXX	5.3	XXX	XXX	5.1
	<b>POP 65-3</b>	3.5	4.0	5.2	4.4	3.9	4.8	XXX	XXX	5.4	XXX	XXX	5.2
	<b>ACTUAL</b>	2.7	3.1	5.2									
<b>MANPOWER (IN EQUIVALENT MAN MONTHS)</b>													
<b>TOTAL DIRECT MANPOWER</b>	<b>POP 65-2</b>	1575	1600	1650	XXX	XXX	1700	XXX	XXX	1700	XXX	XXX	1700
	<b>POP 65-3</b>	1500	1550	1600	1650	1700	1700	XXX	XXX	1700	XXX	XXX	1700
	<b>ACTUAL</b>	1349	1450	1600									
RATIO OF INDIRECT TO DIRECT													
NUMBER OF SHIFTS		<u>1.5</u>											
PERCENT OF OVERTIME		<u>6.0</u>											
REMARKS: INDICATED ACTUALS FOR LAST MONTH REPORTED ARE BEST ESTIMATES.													

MILESTONES		CY 1964												CY 1965												CY 1966												CY 1967												CY 1968																		
		J	F	M	A	M	J	J	A	I	S	O	N	D	J	F	M	A	M	J	J	A	I	S	O	N	D	J	F	M	A	M	J	J	A	I	S	O	N	D	J	F	M	A	M	J	J	A	I	S	O	N	D	J	F	M	A	M	J	J	A	I	S	O	N	D		
1	DELIVERY TO CAPE →																																																																			
2																																																																				
3	SAT IB SIVB DELIVERIES																																																																			
4	PLANNED MONTHLY																																																																			
5	ACTUAL MONTHLY																																																																			
6																																																																				
7	SAT V SIVB DELIVERIES																																																																			
8	PLANNED MONTHLY (NOTE 1)																																																																			
9	ACTUAL MONTHLY (NOTE 1)																																																																			
10																																																																				
11	SAT V SH DELIVERIES																																																																			
12	PLANNED MONTHLY																																																																			
13	ACTUAL MONTHLY																																																																			
14																																																																				
15	TOTAL DELIVERIES																																																																			
16	PLANNED (NOTE 1)																																																																			
17	ACTUAL																																																																			
18																																																																				
19																																																																				
20																																																																				

NOTES  
 1. SAT V SIVB BATTLESHIP COLD FLOW ENGINE DELIVERED IN NOVEMBER 1965.  
 2. 55 ENGINES PRESENTLY UNDER CONTRACT.











SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u> STATUS RESPONSIBILITY <u>Floyd M. Drummond</u> Floyd M. Drummond		<b>MANNED SPACE FLIGHT SCHEDULE</b> <b>J-2 ENGINE</b> <b>FOLLOW ON ENGINE PROCUREMENT</b> <b>FROM 104 TO 157 ENGINES</b>												(3) LEVEL		ORIGINAL SCHED. APPROVAL <u>6/30/65</u> (Date)						LAST SCHED. CHANGE _____ (Date) (No.) (Initials)					
		CONTRACTOR: RKDN						PROJECT: J-2 SCH'D NO:						STATUS AS OF <u>9/30/65</u> (Date) (Initials)													
MILESTONES		CY 1965												CY 1966													
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D		
1	WORK STATEMENT COMPLETE →						▼																				
2	DOCUMENTED REQUIREMENT TO PROCUREMENT OFFICE						▼																				
3	CONTRACT AWARD															▼											
4	EARLIEST LONG LEAD TIME PROCUREMENT INITIATION (NOTE 1)															▼											
5																											
6																											
7																											
8																											
9																											
10																											
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17																											
18																											
19																											
20																											
NOTES		1. FUEL TURBO PUMP & MAIN INJECTOR.																									

SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u> STATUS RESPONSIBILITY <u>Floyd M. Drummond</u> Floyd M. Drummond	<b>MANNED SPACE FLIGHT SCHEDULE          OBLIGATIONS, COSTS, AND MANPOWER</b> <b>J-2 ENGINE TOTAL DELIVERY</b> CONTRACTOR: RKDN (NAS8-5603)      PROJECT: SATURN IB&V SCH'D NO:	ORIGINAL SCHED. APPROVAL <u>7/31/65</u> (Date) LAST SCHED. CHANGE <u>7/31/65</u> (Date)      (No.)      (Initials) STATUS AS OF <u>9/30/65</u> (Date)      (Initials)						
<b>OBLIGATIONS &amp; COSTS          (MILLIONS OF DOLLARS)</b>								
	FY 1961 THRU FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	TOTAL
<b>UNCOSTED OBLIGATIONS</b>	XXX	8.7	9.6	7.0	5.0	3.0	.3	XXX
<b>OBLIGATIONS TO CONTRACTOR</b>	52.4	65.0	86.2	76.3	42.7	8.1	2.0	332.7
<b>TOTAL AVAILABLE</b>	52.4	73.7	95.8	83.3	47.7	11.1	2.3	XXX
<b>ACCRUED COSTS DURING PERIOD</b>	43.7	64.1	88.8	78.3	44.7	10.8	2.3	332.7
<b>(533 ACCRUED COSTS)</b>	(43.7)	(64.1)	(84.8)	(25.8)				(218.4)
<b>UNFILLED ORDERS</b>	8.1	9.3	7.0	5.0	3.0	.3	0	XXX
<b>ADVANCED FUNDING</b>	.6	.3	0	0	0	0	0	XXX
<b>MONTHLY COST-RATE (YEAR END)</b>	6.3	7.2	8.8	4.7	1.0	.2	0	XXX
<b>MANPOWER          (IN EQUIVALENT MAN YEARS)</b>								
<b>TOTAL DIRECT</b>	1503	2144	3000	2500	1500	400	80	11,127
<b>RATIO OF INDIRECT TO DIRECT</b>								
<b>REMARKS:</b>								

SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u>  STATUS RESPONSIBILITY <u>Floyd M. Drummond</u> Floyd M. Drummond	<b>MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER</b>  <b>J-2 ENGINE TOTAL DELIVERY</b>  PROJECT: SATURN IB & V SCH'D NO:	ORIGINAL SCHED. APPROVAL <u>7/31/65</u> (Date)  LAST SCHED. CHANGE <u>7/31/65</u> (Date) (No.) (Initials)  STATUS AS OF <u>9/30/65</u> (Date) (Initials) <u>FMD</u>
CONTRACTOR: RKDN (NAS8-5603)		

**OBLIGATIONS & COSTS  
(MILLIONS OF DOLLARS)**

CURRENT FISCAL YEAR		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
NO. OF WORKING DAYS IN REPORTING PERIOD		19	20	24	20	18	22	20	20	25	20	20	24	
CUMULATIVE OBLIGATIONS	POP 65-2	30.1	30.1	30.1	XXX	XXX	64.7	XXX	XXX	77.6	XXX	XXX	86.2	
	POP 65-?	11.5	30.1	30.1	64.7	64.7	64.7	XXX	XXX	77.6	XXX	XXX	86.2	
	ACTUAL	11.5	30.1	30.1										
CUMULATIVE ACCRUED COSTS	POP 65-2	5.5	11.7	19.4	XXX	XXX	41.1	XXX	XXX	66.4	XXX	XXX	90.7	
	POP 65-3	5.7	12.0	20.0	27.0	33.3	41.4	XXX	XXX	65.4	XXX	XXX	88.8	
	ACTUAL	TOTAL	5.6	11.3	19.3									
		IN-HOUSE	4.2	8.4	14.3									
		SUB CONTRACT	1.4	2.9	5.0									
COST RATE	POP 65-2	5.5	6.2	7.7	XXX	XXX	8.3	XXX	XXX	9.5	XXX	XXX	8.4	
	POP 65-3	5.7	6.3	8.0	7.0	6.3	8.1	XXX	XXX	9.2	XXX	XXX	8.8	
	ACTUAL	5.6	5.7	8.0										

**MANPOWER  
(IN EQUIVALENT MAN MONTHS)**

TOTAL DIRECT MANPOWER	POP 65-2	2500	2600	2700	XXX	XXX	3000	XXX	XXX	3000	XXX	XXX	3000
	POP-65-3	2725	2725	2800	2900	2950	3000	XXX	XXX	3000	XXX	XXX	3000
	ACTUAL	2724	2481	2800									
RATIO OF INDIRECT TO DIRECT													

NUMBER OF SHIFTS 1.5  
 PERCENT OF OVERTIME 6.5

REMARKS: INDICATED ACTUALS FOR LAST MONTH REPORTED ARE BEST ESTIMATES.

SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u>  STATUS RESPONSIBILITY <u>Floyd M. Drummond</u> Floyd M. Drummond	<b>MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER</b>  <b>J-2 ENGINE DELIVERY</b>  CONTRACTOR: RKDN (NAS8-5603)      PROJECT: SATURN IB SCH'D NO:	ORIGINAL SCHED. APPROVAL <u>7/31/65</u> (Date) LAST SCHED. CHANGE <u>7/31/65</u> (Date)      (No.)      (Initials) STATUS AS OF <u>9/30/65</u> (Date) <u>FMD</u> (Initials)						
<b>OBLIGATIONS &amp; COSTS (MILLIONS OF DOLLARS)</b>								
	FY 1961 THRU FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	TOTAL
<b>UNCOSTED OBLIGATIONS</b>	XXX	1.3	1.6	1.0	.4	0		XXX
<b>OBLIGATIONS TO CONTRACTOR</b>	8.1	10.9	13.2	6.7	.9	.5		40.3
<b>TOTAL AVAILABLE</b>	8.1	12.2	14.8	7.7	1.3	.5		XXX
<b>ACCRUED COSTS DURING PERIOD</b>	6.8	10.6	13.8	7.3	1.3	.5		40.3
<b>(533 ACCRUED COSTS)</b>	(6.8)	(10.6)	(13.1)	(2.4)				(32.9)
<b>UNFILLED ORDERS</b>	1.2	1.5	1.0	.4	0	0		XXX
<b>ADVANCED FUNDING</b>	.1	.1	0	0	0	0		XXX
<b>MONTHLY COST-RATE (YEAR END)</b>	1.0	1.2	1.4	.2	.1	0		XXX
<b>MANPOWER (IN EQUIVALENT MAN YEARS)</b>								
<b>TOTAL DIRECT</b>	233	355	500	200	40	20		1,348
<b>RATIO OF INDIRECT TO DIRECT</b>								
<b>REMARKS:</b> THE ABOVE DATA IS A PROJECT MANAGEMENT ESTIMATE. CONTRACT NAS8-5603 PROVIDES ENGINES FOR BOTH SATURN IB AND V AND THE FINANCIAL REPORT DOES NOT GIVE A PROGRAMMATIC SPLIT.								



SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u>  STATUS RESPONSIBILITY <u>Floyd M. Drummond</u> Floyd M. Drummond	<b>MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER</b>  <b>J-2 ENGINE DELIVERY</b>  CONTRACTOR: RKDN (NAS8-5603)      PROJECT: SATURN IB SCH'D NO:	ORIGINAL SCHED. APPROVAL <u>7/31/65</u> (Date) LAST SCHED. CHANGE <u>7/31/65</u> (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> (Date) <u>FMD</u> (Initials)											
<b>OBLIGATIONS &amp; COSTS (MILLIONS OF DOLLARS)</b>													
<b>CURRENT FISCAL YEAR</b>	<b>JULY</b>	<b>AUG</b>	<b>SEPT</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUNE</b>	
NO. OF WORKING DAYS IN REPORTING PERIOD	19	20	24	20	18	22	20	20	25	20	20	24	
<b>CUMULATIVE OBLIGATIONS</b>	<b>POP 65-2</b>	4.6	4.6	4.6	XXX	XXX	9.9	XXX	XXX	11.9	XXX	XXX	13.2
	<b>POP 65-3</b>	1.8	4.6	4.6	9.9	9.9	9.9	XXX	XXX	11.9	XXX	XXX	13.2
	<b>ACTUAL</b>	1.8	4.6	4.6									
<b>CUMULATIVE ACCRUED COSTS</b>	<b>POP 65-2</b>	.9	1.9	3.1	XXX	XXX	6.6	XXX	XXX	10.5	XXX	XXX	14.3
	<b>POP 65-3</b>	.9	1.9	3.1	4.2	5.2	6.5	XXX	XXX	10.2	XXX	XXX	13.8
	<b>TOTAL</b>	.9	1.8	3.0									
	<b>IN-HOUSE</b>	.7	1.3	2.2									
	<b>SUB CONTRACT</b>	.2	.5	.8									
<b>COST RATE</b>	<b>POP 65-2</b>	.9	1.0	1.2	XXX	XXX	1.3	XXX	XXX	1.5	XXX	XXX	1.4
	<b>POP 65-3</b>	.9	1.0	1.2	1.1	1.0	1.3	XXX	XXX	1.4	XXX	XXX	1.4
	<b>ACTUAL</b>	.9	.9	1.2									
<b>MANPOWER (IN EQUIVALENT MAN MONTHS)</b>													
<b>TOTAL DIRECT MANPOWER</b>	<b>POP 65-2</b>	400	400	400	XXX	XXX	500	XXX	XXX	500	XXX	XXX	450
	<b>POP 65-3</b>	450	450	475	500	500	500	XXX	XXX	500	XXX	XXX	450
	<b>ACTUAL</b>	422	385	475									
RATIO OF INDIRECT TO DIRECT													
NUMBER OF SHIFTS		<u>1.5</u>											
PERCENT OF OVERTIME		<u>6.5</u>											
<b>REMARKS:</b> INDICATED ACTUALS FOR LAST MONTH REPORTED ARE BEST ESTIMATES.													

SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u>  STATUS RESPONSIBILITY <u>Floyd M. Drummond</u> Floyd M. Drummond	<b>MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER</b>  <b>J-2 ENGINE DELIVERY</b>  CONTRACTOR: RKDN (NAS8-5603)      PROJECT: SATURN V SCH'D NO:	ORIGINAL SCHED. APPROVAL <u>7/31/65</u> (Date) LAST SCHED. CHANGE <u>7/31/65</u> (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> (Date) (Initials)						
<b>OBLIGATIONS &amp; COSTS (MILLIONS OF DOLLARS)</b>								
	FY 1961 THRU FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	TOTAL
<b>UNCOSTED OBLIGATIONS</b>	XXX	7.4	8.0	6.0	4.6	3.0	.3	XXX
<b>OBLIGATIONS TO CONTRACTOR</b>	44.3	54.1	73.0	69.6	41.8	7.6	2.0	292.4
<b>TOTAL AVAILABLE</b>	44.3	61.5	81.0	75.6	46.4	10.6	2.3	XXX
<b>ACCRUED COSTS DURING PERIOD</b>	36.9	53.5	75.0	71.0	43.4	10.3	2.3	292.4
<b>(533 ACCRUED COSTS)</b>	(36.9)	(53.5)	(71.7)	(23.4)				(185.5)
<b>UNFILLED ORDERS</b>	6.9	7.8	6.0	4.6	3.0	.3	0	XXX
<b>ADVANCED FUNDING</b>	.5	.2	0	0	0	0	0	XXX
<b>MONTHLY COST-RATE (YEAR END)</b>	5.3	6.0	7.4	4.5	.9	.2	0	XXX
<b>MANPOWER (IN EQUIVALENT MAN YEARS)</b>								
<b>TOTAL DIRECT</b>	1,270	1,789	2,500	2,300	1,460	380	80	9,779
<b>RATIO OF INDIRECT TO DIRECT</b>								
<b>REMARKS:</b> THE ABOVE DATA IS A PROJECT MANAGEMENT ESTIMATE. CONTRACT NAS8-5603 PROVIDES ENGINES FOR BOTH SATURN IB AND V AND THE FINANCIAL REPORT DOES NOT GIVE A PROGRAMMATIC SPLIT.								

SCHEDULE RESPONSIBILITY <u>Leland F. Belew</u> STATUS RESPONSIBILITY <u>Floyd M. Drummond</u> Floyd M. Drummond		<b>MANNED SPACE FLIGHT SCHEDULE          OBLIGATIONS, COSTS, AND MANPOWER</b> <b>J-2 ENGINE DELIVERY</b>						ORIGINAL SCHED. APPROVAL <u>7/31/65</u> (Date) LAST SCHED. CHANGE <u>7/31/65</u> (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> (Date) (Initials) <u>Zm</u>					
		CONTRACTOR: RKDN (NAS8-5603)						PROJECT: SATURN V SCH'D NO:					
<b>OBLIGATIONS &amp; COSTS          (MILLIONS OF DOLLARS)</b>													
<b>CURRENT FISCAL YEAR</b>		<b>JULY</b>	<b>AUG</b>	<b>SEPT</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUNE</b>
NO. OF WORKING DAYS IN REPORTING PERIOD		19	20	24	20	18	22	20	20	25	20	20	24
<b>CUMULATIVE OBLIGATIONS</b>	<b>POP 65-2</b>	25.5	25.5	25.5	XXX	XXX	54.8	XXX	XXX	65.7	XXX	XXX	73.0
	<b>POP 65-3</b>	9.7	25.5	25.5	54.8	54.8	54.8	XXX	XXX	65.7	XXX	XXX	73.0
	<b>ACTUAL</b>	9.7	25.5	25.5									
<b>CUMULATIVE ACCRUED COSTS</b>	<b>POP 65-2</b>	4.6	9.8	16.3	XXX	XXX	34.5	XXX	XXX	55.9	XXX	XXX	76.4
	<b>POP 65-3</b>	4.8	10.1	16.9	22.8	28.1	34.9	XXX	XXX	55.2	XXX	XXX	75.0
	<b>ACTUAL</b>	<b>TOTAL</b>	4.7	9.5	16.3								
	<b>ACTUAL</b>	<b>IN-HOUSE</b>	3.5	7.1	12.1								
<b>ACTUAL</b>	<b>SUB CONTRACT</b>	1.2	2.4	4.2									
<b>COST RATE</b>	<b>POP 65-2</b>	4.6	5.2	6.5	XXX	XXX	7.0	XXX	XXX	8.0	XXX	XXX	7.0
	<b>POP 65-3</b>	4.8	5.3	6.8	5.9	5.3	6.8	XXX	XXX	7.8	XXX	XXX	7.4
	<b>ACTUAL</b>	4.7	4.8	6.8									
<b>MANPOWER          (IN EQUIVALENT MAN MONTHS)</b>													
<b>TOTAL DIRECT MANPOWER</b>	<b>POP 65-2</b>	2100	2200	2300	XXX	XXX	2500	XXX	XXX	2500	XXX	XXX	2550
	<b>POP 65-3</b>	2275	2275	2325	2400	2450	2500	XXX	XXX	2500	XXX	XXX	2550
	<b>ACTUAL</b>	2302	2096	2325									
RATIO OF INDIRECT TO DIRECT													
NUMBER OF SHIFTS		<u>1.5</u>											
PERCENT OF OVERTIME		<u>6.5</u>											
REMARKS:		INDICATED ACTUALS FOR LAST MONTH REPORTED ARE BEST ESTIMATES.											