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27 NOV 1967

MEMORANDUM FOR RECORD

SUBJECT: Minutes, November 17 MOL Program Review Committee Meeting

The November meeting was convened at the Pentagon. Principals in attendance were:

Dr. Flax	General Berg
General Ferguson	Mr. Kirk
General Stewart	Dr. Yarymovych
General Bleymaier	Dr. Leonard
General Martin	

INTRODUCTORY REMARKS (GENERAL BLEYMAIER)

General Bleymaier stated that the real purpose of this meeting, and the Systems Office efforts since the October 27 meeting, was to answer the question of how to get the MOL Program on a sound financial basis. A prerequisite requires FY 69 and FY 70 funds in firmly established amounts, and then a reshaping of the development efforts and schedules consistent with these amounts.

He observed that under the present arrangements:

- A group of independent efforts are somewhat loosely allied.
- The terms and conditions of our contracts have been continually violated.
- Effective program management control does not exist, and
- The program cannot be defined contractually.

As a result, adjusting the schedule and changing the program content, although very difficult and drastic, is probably the only way to get the program under control. It may also be, however, that the best overall alternative approach would be to continue with only the payload development.

The contractors are to propose feasible schedules consistent with their individual assigned FY funding constraints. They are also to develop a "strawman" program which reflects the effect on costs and schedules, of some 50 Systems Office identified possible changes to the present program. The "strawman" results are due to the Systems Office about November 22.

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As part of the Systems Office total reevaluation direction, each of the major associate contractors has been requested to tailor his efforts in accordance with dollar amounts assigned to him for each of FY 69 through FY 71. The total planning NOA for each of these years is $640 million, $590 million and $590 million respectively. The T-IIIM associate contractors have been directed to discontinue all effort not specifically identified in the directive to them. Furthermore, all contractor field activities at VAFB are to be cut to the absolute essential minimum; Phase IB effort for the support module is being deferred 6 months; and discussions are being held with the Gemini B contractor to reduce him to the T-IIIM equivalent level of effort.

The immediate effect of these actions will be that the FY 68 development program will stay within the total cumulative NOA of $722 million at end June 1968.

The total program cost change resulting from the 640/590/590 NOA projections, and proposed by the contractors is +$560 million, bringing the total cost up from $2.35 to $2.91 billion.

General Bleymaier then pointed out what became obvious as the meeting progressed. That is, that Eastman Kodak has admitted that it could never have met the compact 12 schedule. This inability is a result not of lack of funding support but the fact that EKC's technical and production competence, independent of funding, cannot support our present schedules. They are now offering a compact 12 + 12 i.e., a two year slip to the baseline program, as their capability, at an increase in cost to $491 million.

The presentations made by the individual contractors are discussed in the succeeding paragraphs.

Eastman Kodak Company (Mr. Sewell, Program Manager)

Mr. Sewell described the EKC program cost evolution from $294 million in December 1966 to $491 million in November 1967 with an attendant 24 month slip. The increase in costs of approximately $75 million is ascribed to increases due to directed program content changes such as the sliding mask, flip mirror, thermal slats, special studies, and changes to Special Industrial Requirements. To this there is also added an allowance of about $60 million for probable future changes, and a forecast camera overrun of $65 million over the life of the contract.

EKC is now at a level of activity consistent with the assigned FY 68 constraint of $99 million. The level of development activity over the ensuing 3 years will permit them to satisfy a December 71

first launch date. This schedule adjustment is accomplished by:

- Delaying the compact 12 Mission Module level of activity at EKC for 1 year.
- Delaying the qualification and flight model COA and LM activity at EKC for 1 year.
- Stretching COA and LM component development activity to a "2 years work in 3 years" schedule.

Mr. Sewell very pointedly stated that EKC could not have accomplished the compact 12 regardless of funding. Their earlier schedule was unrealistic, and they had experienced difficulty finding the necessary skilled labor.

Dr. Flax observed that it was not obvious to him why there should be cost increases attendant to the mere fact that the program changed. He also inquired whether the 24 month slip could be lived with by the EKC subcontractors. Mr. Sewell said he assumed that it could.

General Electric Company (Dr. Miller)

The General Electric Company FY 68 budget has been set at $73 million and GE is undertaking the actions necessary to stay within this ceiling. The major effect will be the laying off of some 600 employees over the next few months.

In describing the evolution of the GE cost increases to their current $469 million level, Dr. Miller pointed out that there had been some 100 items previously deferred or changed. The major cost items making up the $100 million increase are the field test support program, the Acquisition and Tracking Scope change from the "little eye" to the "big eye", the IVS responsibilities, the SAFSL 10010 materials exhibit, and field support hardware. These make up some $93 million of the $100 million increase.

Dr. Miller emphasized that the GE estimate included everything known or anticipated to do the program; that there were no known surprises or hidden costs, and that GE would continue to attempt to reduce program content and tailor the schedule to conform to prescribed FY fund ceilings.

Based on the FY 69-71 bogeys they are projecting a 12-14 month adjustment to the compact 12.

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At the conclusion of the GE presentation, General Martin commented that the program slippage appeared to him to be so great that it probably would be cheaper and quicker to go to an unmanned development program effort, and that [redacted] capability could probably be attained without man, using the program 612 vehicle.

Dr. Flax's reply was to the effect that if EKC is the pacing element, General Martin's suggestion might not be valid. If there were fund limitations but EKC was not pacing, then General Martin's suggestion might be right.

McDonnell Douglas Company (Mr. Pepping/St. Louis)

The Gemini B effort has been reduced from $90 to $79 million through June 1968, and the total GB cost estimate has increased from $274 to $298 million. The reduction to a FY 68 $47 million NOA, and the FY 69-71 fund levels would, in McDonnell's opinion require a leveling off of their manpower at its present number and add some 15 months to the presently scheduled April 70 GBQ launch.

In response to a question regarding time required to build a Gemini B, Mr. Pepping replied that given the necessary funding, the lead time was 28 months.

McDonnell Douglas Company (Mr. Johnson/Huntington Beach)

Mr. Johnson very concisely reviewed the program funding history and its effect on schedules and manpower, and identified program changes.

He estimated that with the funding levels proposed through FY 71, the schedule would slip seven months and cost would increase about $100 million to $1.01 billion.

Summary Discussion (Meeting Principals)

At the conclusion of the contractor presentations, the following dialogue took place.

Dr. Flax noted that EKC is the real key to our problem. The other contractors are sufficiently flexible and responsive, but the entire schedule and integration plan is paced by EKC. If, as they mentioned in their briefing, are unable to do the work at the Mission Module level, everything else must be adjusted.

He was also very concerned at the EKC position that even though they had not been fund limited, they could not have made the compact

12 schedule. Particularly when just 2 months ago they had assured Mr. McNamara that the funding program and schedules were adequate and realistic.

Dr. Flax suggested that Generals Stewart, Bleymaier and Martin visit EKC to determine the reason for the sudden shift in company position, and to determine if the situation can be substantially improved. He indicated that he might personally visit EKC in the near future.

General Stewart reminded the group that there was still the "strawman" exercise to be completed, and some useful alternatives might possibly result. (The "strawman" is the cost reduction program which recommends certain deletions to program content, and alteration to development test flow schedules). The contractors cost and schedule responses are due November 22. On November 28 the Systems and Program Offices Program Managers will meet to review the results, and determine the actions to be taken.

Dr. Flax then made some general observations

- Program costs have escalated three times in the past year.
- We appear to be faced with the necessity for 3 high cost years, or a very, very high cost peak year.
- We may be rapidly pricing the program out of business.
- Our problems with EKC may be due to their inability to get sufficiently trained, qualified help. We must look into ways of speeding up their effort, but we must be sure that in pulling in the schedule we don't reduce our confidence in success.
- EKC is the focus of our problem.

General Stewart will keep Dr. Flax advised of events.

A copy of the briefing charts used at this meeting is on file in the MOL Program Office, SAFSLP.

JAMES T. STEWART
Major General, USAF
Vice Director, MOL Program

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Handle via BYEMAN
Control System

[redacted]

TABLE OF CONTENTS

Handle via BYEMAN
Control System

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Bye-21341-67

PROGRAM REVIEW COUNCIL

BRIEFING

17 NOVEMBER 1967

IS WHAT WE ARE PROPOSING

A REAL SOLUTION TO

THE PROBLEM

THE ANSWER

IS

NO !

MOL

CAN THE PROGRAM

SURVIVE

IN THIS CLIMATE ?

PROBABLY CAN

BE MADE

TO SURVIVE

WE NOW HAVE A GROUP OF

INDEPENDENT EFFORTS SOMEWHAT

LOOSELY ALLIED

OVERALL CONTRACTUALLY THE TERMS & CONDITIONS HAVE BEEN VIOLATED REPEATEDLY -- REDUCING CONTRACT TO A LEGAL INSTRUMENT FOR APPLYING FUNDS -

EFFECTIVE MANAGEMENT CONTROL OF

PROGRAM DOES NOT EXIST - - -

UNDER PRESENT ENVIRONMENT IMPOSSIBLE

FURTHERMORE - PROGRAM CANNOT BE DEFINED

CONTRACTUALLY - - -

PROGRAM HAS BEEN FORCED TO REACT TO FUND AVAILABILITY-NOT FUNDS TO PROGRAM NEEDS

CONDITION WILL PROBABLY CONTINUE - NEGATES SCHEDULES, PLANS AND CONTRACTS

RECOGNIZING THESE AND OTHER CONDITIONS

WHAT TO DO?

ADJUSTING SCHEDULE ONLY IS

TANTAMOUNT TO DOING NOTHING

CHANGING PROGRAM CONTENT AND

ADJUSTING SCHEDULE SERIOUSLY

JEOPARDIZES PROGRAM -

PROBABLY ONLY ACCEPTABLE
EXPEDIENT - HOWEVER SEVERE

WILL CREATE MANY MANY PROBLEMS

CONTINUE WITH PAYLOAD

ONLY MEANS A NEW PROGRAM -

PERHAPS BEST OVERALL

APPROACH

SPECIFIC ACTIONS TAKEN

INTERIM

- DIRECTED CONTRACTORS TO LIMIT EFFORT TO DOLLAR AVAILABLE 68, 69, 70, 71

discussed with director

- DIRECTED MAC &T-111M TO LEVEL-OF-EFFORT CONTRACT, (1 JAN 68)

- DIRECTED CONTRACTORS WITHDRAW VAFB PERSONNEL - BARE MINIMUM ONLY

- DELAYED PHASE 1B FOR SUPPORT MODULE, (JAN TO 1 JUL 68)

RIGHT SCREEN 2

RIGHT SCREEN 3

RIGHT SCREEN 1

~~CONFIDENTIAL~~

TWX TO MAJOR CONTRACTORS, 7 NOV 67

SUBJECT: CONTRACT XXXX

1. REF LIMITATION OF GOVERNMENTS OBLIGATION CLAUSE IN SUBJECT CONTRACT.

2. YOU ARE HEREBY DIRECTED TO TAILOR YOUR EFFORT SO THAT THE FOLLOWING DOLLAR AMOUNTS ARE NOT EXCEEDED REGARDLESS OF IMPACT ON SCHEDULES AT THIS TIME. IN FY 68 THE GOVERNMENTS OBLIGATION FOR YOUR SEGMENT OF THE MOL PROGRAM WILL BE LIMITED TO $_____ MILLION. THIS EQUATES TO A CUMULATIVE SUM OF $_____ MILLION THRU FY 68. YOUR FY 69 AND FY 70 LIMITATION WILL BE $_____ AND $_____ MILLION RESPECTIVELY. YOU WILL NOT EXCEED THESE LIMITATIONS. FOR PLANNING PURPOSES FY 71 AVAILABILITY WILL NOT EXCEED FY 70.

3. PLEASE ADVISE OF IMPACT TO SUBJECT CONTRACT.

SIGNED (CONTRACTING OFFICER)

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

TWX - DIRECTION TO LEVEL OF EFFORT

TO: (ALL T-IIIM CONTRACTORS)

I. THIS WILL CONFIRM THE AGREEMENTS REACHED DURING THE MEETING ON 8 NOV WHEREBY A 12-MONTH SLIP FROM THE PRESENT SCHEDULE DATE IS CONTEMPLATED. SPECIFICALLY, YOU ARE DIRECTED TO DISCONTINUE ALL EFFORT EXCEPT AS DELINEATED BELOW:

II. (SPECIFIC ITEMS, BY CONTRACTOR)

III. GUIDELINES: THOSE ITEMS ALREADY ON ORDER BUT NOT FABRICATED OR IN THE PROCESS OF BEING FABRICATED SHOULD BE DEFERRED. ADVISE THIS OFFICE OF THOSE ITEMS IN WHICH THIS COURSE OF ACTION WOULD RESULT IN A PROHIBITIVE COST IMPACT.

IV. PROVIDE BY 22 NOV (DESIRED) BUT NLT 1 DEC, A REVISED SCHEDULE OF TASKS REFLECTING THE DIRECTION UNDER PARTS I AND II, AND A ROM COST ESTIMATE AND MANPOWER SUMMARY BY FISCAL YEARS, PLUS THE TOTAL PROJECTED PROGRAM COSTS.

V. YOU MAY ANTICIPATE A REQUEST FOR PROPOSAL, DURING JAN 1968, BASED UPON SAFSL ANALYSIS AND EVALUATION OF PART IV, ETC.

~~CONFIDENTIAL~~

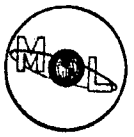
SPECIFIC ITEMS, BY CONTRACTOR

MARTIN

- CONTINUE 4TH LOADS CYCLE & PHASE I POGO STUDY
- DECREASE CREW SAFETY EFFORT
- IDENTIFY & CONTINUE DEVELOPMENT EFFORT, AVE & AGE, FOR OTHER PROGRAMS
- IDENTIFY TASKS & MINIMUM LOE, INCLUDING INTERFACE, WHICH MUST BE CONTINUED

ACED

- MAINTAIN EXISTING HARDWARE SCHEDULES FOR FY 68 & 69
- SUPPORT MMC DEFINED INTERFACE REQUIREMENTS
- CONTINUE T-IIIC GUIDANCE SYS DEVELOPMENT (FLT QUAL MOL HDW)
- IDENTIFY INSCOPE DEV EFFORT WHICH MUST BE CONTINUED
- RESUME DISCONTINUED EFFORT LATER IAW REVISED SCHEDULE



AEROJET

- MAINTAIN STAGE I DEVELOPMENT ON SCHEDULE - SPECS, SYS EFFECT, AGE PROCEDURES, POGO, PERT, SYS ENG, AND INTERFACE REQUIREMENTS
- DELAY STAGE II PRODUCTION - MEET NEW DEMO SERIES (OCT 69 - MAR 70 PERIOD)
- SUPPORT MMC 4TH LOAD CYCLE
- DEFER PROD TO MEET 1ST ENGINE SYS DELIVERY (JUL 1970)
- DEFER ALL FIELD ACTIVITIES
- MAINTAIN STAGE I ROTAR DEV EFFORT ON CURRENT SCHEDULE

UTC

- RESCHEDULE DEV PROGRAM - CULMINATE 5TH PFRT WITH DATE COMPATIBLE WITH ADDITIONAL 12-MOS SLIP
- CANCEL THRUST TERMINATION AT EDWARDS
- REDUCE UBS DEV PROGRAM TO MINIMUM TO SUPPORT C&D PROGRAMS
- SUPPORT 4TH LOAD CYCLE

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TWX - WITHDRAWAL VAFB PERSONNEL

ACTION FOR (PROGRAM MANAGER)

EFFECTIVE IMMEDIATELY, AND THROUGH CY 1968, MOL CONTRACTOR PERSONNEL PHYSICALLY LOCATED AT VAFB WILL BE REDUCED TO A MINIMUM. ONLY THOSE PEOPLE ESSENTIAL TO THE OPERATION AND/OR MAINTENANCE OF EQUIPMENTS/FACILITIES IN EXISTENCE THERE DURING THIS TIME PERIOD WILL BE PERMITTED. IN THIS REGARD, THE LEVEL OF EFFORT PERMITTED WILL BE AS NEGOTIATED WITH THE MOL SPO ON SITE FIELD REPRESENTATIVE, COLONEL HULL, CHIEF, MANNED PROGRAMS DIVISION, 6595TH AEROSPACE TEST WING.

~~CONFIDENTIAL~~

15

~~SECRET~~ SPECIAL HANDLING

STATUS REPORTS

SUMMARY

EK

GE

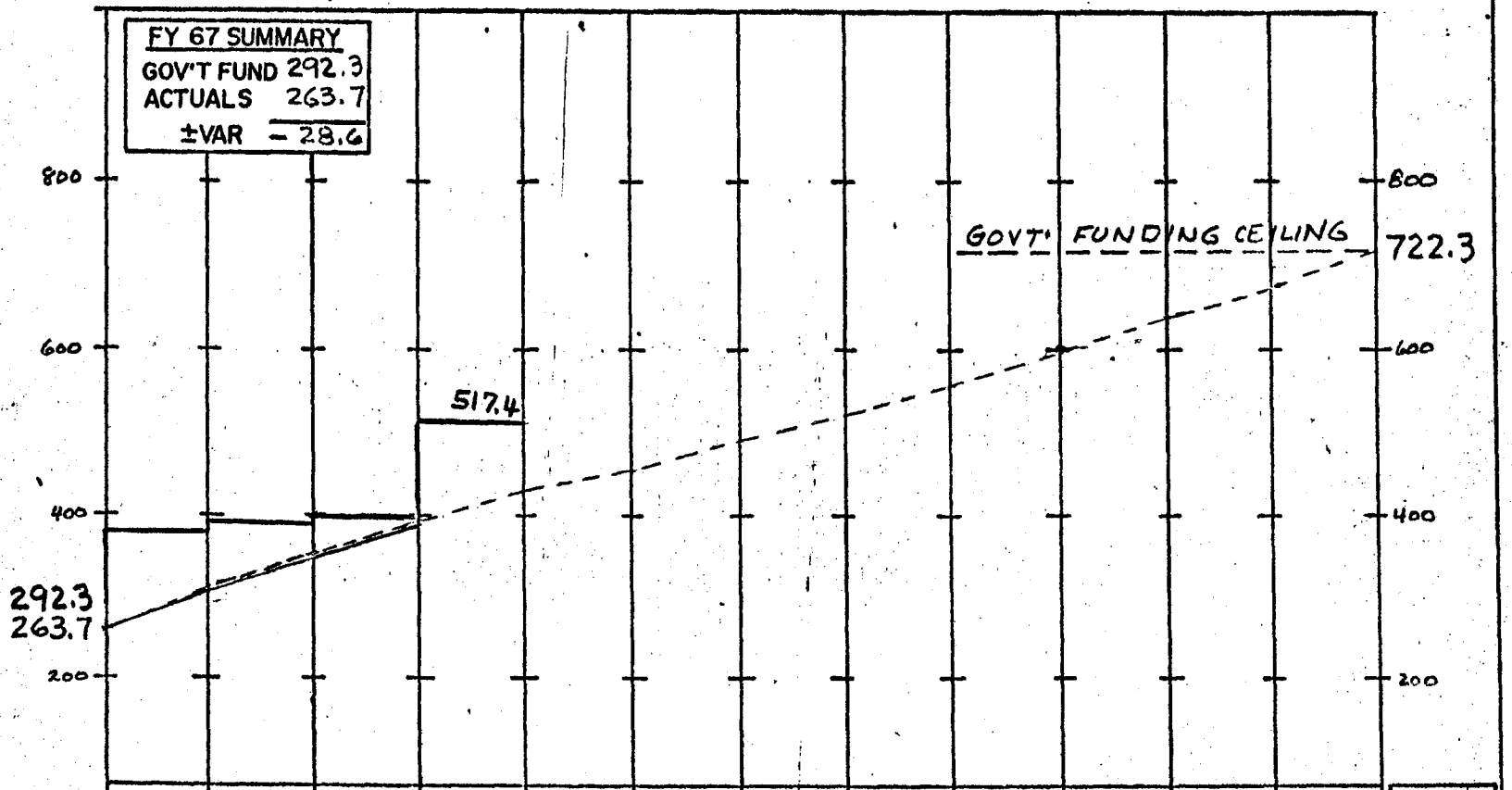
MCDONNELL

DOUGLAS

~~SECRET~~ SPECIAL HANDLING

FINANCIAL STATUS FY 1968

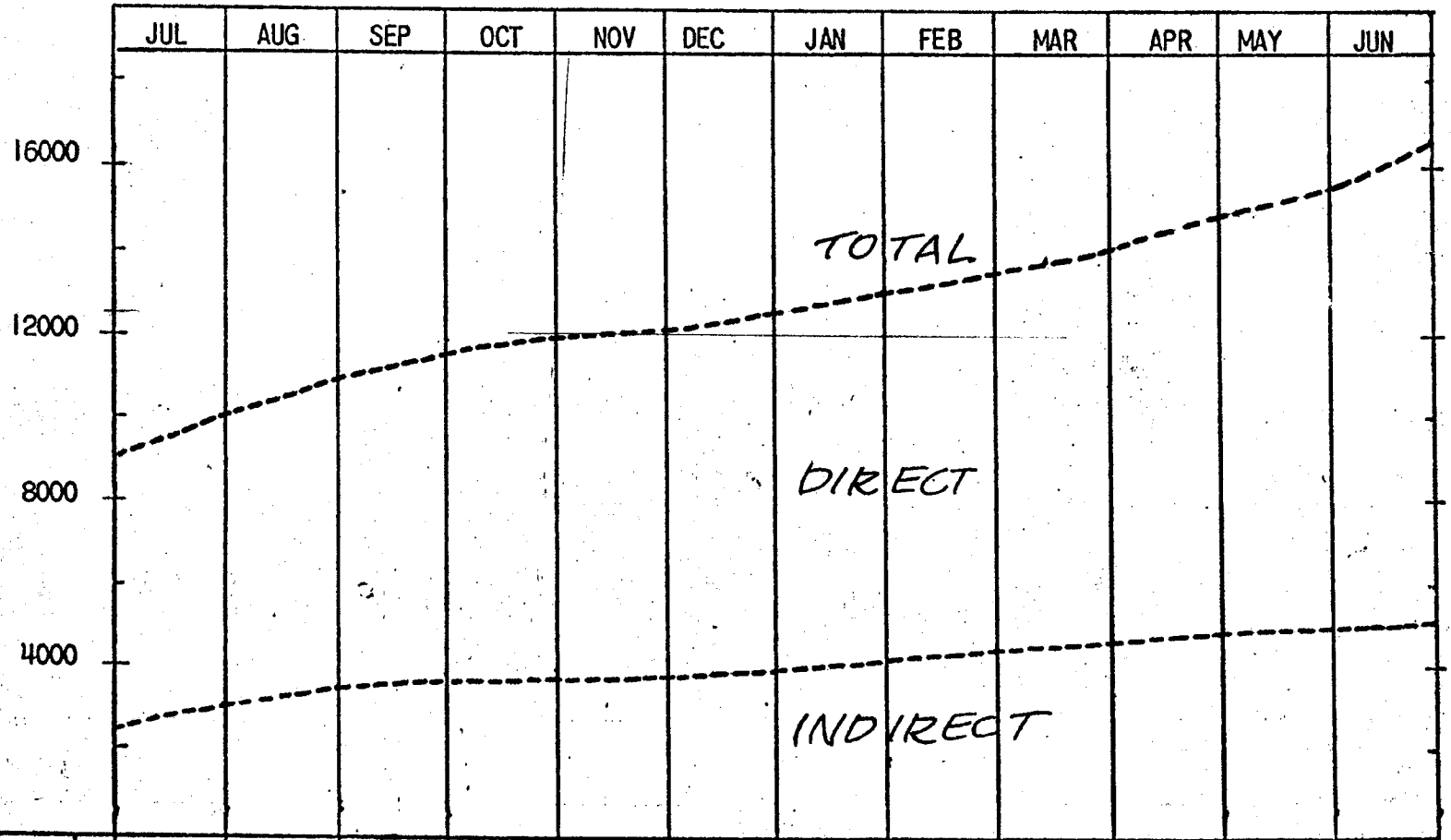
SYSTEM SEGMENT TOTAL MOL CONTRACTOR ALL DATE REPORT 14 NOV 67



	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
RATE	46.1	42.5	43.9	32.4	28.7	32.7	34.4	34.8	40.1	40.2	40.2	42.6	458.6
ACTUALS	41.9	38.1	41.4										
GOV'T FUNDING	90.6	7.1	9.9	117.5									

MANPOWER FY 1968

DIRECT & INDIRECT



		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
DIRECT	F	6724	7281	7967	8154	8360	8552	8986	9300	9758	10353	10834	11334
	A												
INDIRECT	F	3282	3531	3841	3878	3915	3957	4140	4322	4506	4732	4965	5197
	A												
TOTAL	F	10006	10812	11808	12032	12275	12509	13126	13622	14264	15085	15799	16531
	A												

~~SECRET~~ - SPECIAL HANDLING

MAXIMUM ~~TERMINATION~~ LIABILITY FOR MAJOR CONTRACTORS' TWX

	FY 68	CUM FY 68	FY 69	FY 70 /71
DOUGLAS	151.6	259.6	226.0	190.0
GE	75.4	106.2	106.0	90.0
EKC	93.4	151.4	100.0	100.0
McDONNELL	40.8	79.5	68.0	50.0

967

~~SECRET~~ - SPECIAL HANDLING

~~CONFIDENTIAL~~

5 STEP~~K~~ APPROACH.

1. CURRENT CONTRACT FINANCIAL REPORT VS PRESENT PROGRAM (12C)
   ~$380 M FY 68-69
2. PROPOSE~~D~~ SCHEDULE ~~S~~ TO DOLLARS AVAILABLE 68, 69, 70, 71
3. STRAWMAN PROGRAM (INCLUDING SCHEDULE)
4. ~~ESTIMATED~~ COST ~~OF~~ STRAWMAN PROGRAM
5. DETERMINE ~~ESTIMATED COST OF~~ ADDITIONAL SCHEDULE ADJUSTMENTS ~~TO FIT DOLLARS~~ IF COST OF (4) ~~OR~~ OVER ~~(3)~~ DOLLARS OF (2)

~~CONFIDENTIAL~~

CUMULATIVE FY 68 POSITION - COMPACT 12 PROGRAM

Contractor	Reqmt	Govt Funds	Contr Risk	Total	10% Reduction	Adj	New Logo	Deficit To Reqmt
DAC	312.9	282.0	30.9	312.9	264.6	- 5.0	259.6	53.3
GE	144.4	103.3	24.1	127.4	96.2	+10.0	106.2	38.2
EK	205.3	162.7	-	162.7	151.5		151.5	53.8
MAC	97.9	90.3	-	90.3	84.5	- 5.0	79.5	18.4
TIIIM	103.6	87.2	14.5	101.7	86.3		86.3	17.3
OTHER	39.2	46.8	-	46.8	39.2		39.2	-
TOTAL	903.3	772.3	69.5	841.8	722.3	-0-	722.3	181.0

FY 68 DEFICIT vs TOTAL PROGRAM COSTS

Contractor	FY 68 Deficit	Total Program Costs 12 C	$ Limited	
DAC	53.3	954	1010	56
GE	38.2	440	469	29
EK	53.8	491	507	16
MAC	18.4	298	325	27
TOTAL	163.7	2183	2311	128
TIIIM AND OTHER	17.3	565	599	34
	181.0	2748	2910	162

~~SECRET~~ - SPECIAL HANDLING

SUMMARY

CONTRACTORS PROPOSED SCHEDULE & COST

SCHEDULE ADJUSTMENT (1st MANNED FLT)

DAC - 7 MONTHS
GE - 14
EKC - 12
MAC - 16

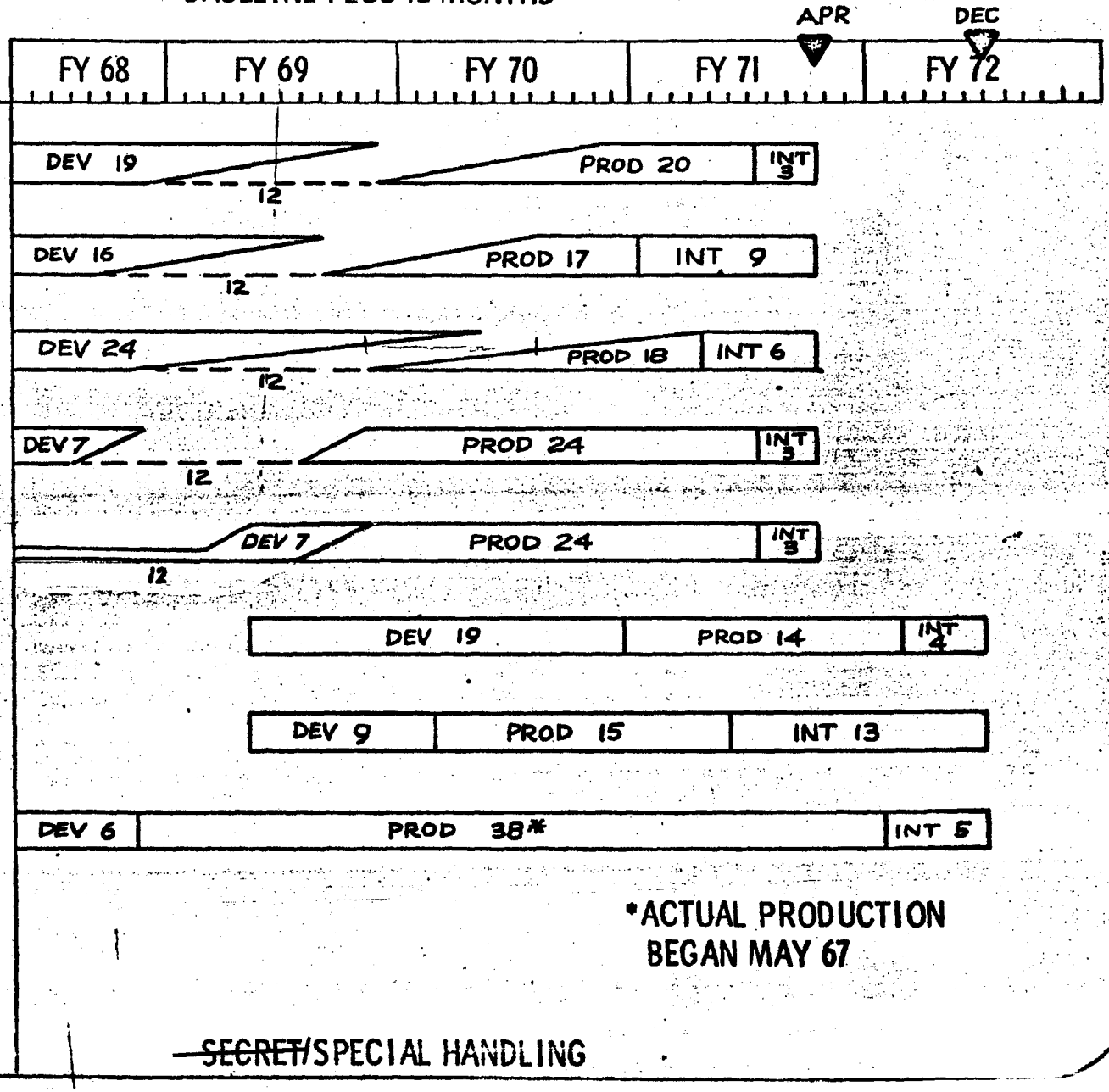
FUNDING

	67	68	69	70	71	72	73/74	TOTAL
DAC -	95.1	164.5	226.0	190.0	163.0	120.0	51.4	1010.0
GE -	32.4	73.8	106.0	90.0	86.0	59.0	27.8	469.0
EKC -	52.5	99.0	100.0	100.0	71.0	39.0	22.9	484.4
MAC -	32.2	47.3	68.0	50.0	50.0	50.0	27.4	324.9
TOTAL	292.3	430.0	640.0	590.0	590.0	---	---	2910.0

295
560

~~SECRET~~/SPECIAL HANDLING

BASELINE PLUS 12 MONTHS



*ACTUAL PRODUCTION
BEGAN MAY 67

~~SECRET~~/SPECIAL HANDLING

~~SECRET~~ SPECIAL HANDLING

TAKE STEPS TO CREATE AN INTEGRATING CONTRACTOR

TERMINATE McDONNELL EFFORT AT ST LOUIS

START UP TO BE AT HUNTINGTON BEACH

ONE CONTRACTOR

MAKE GE SUB TO EK OR VICE VERSA OR CLEAN UP THEIR ROLES & RESPONSIBILITIES

DAC ASSIGNED OVERALL INTEGRATION ROLE

Special Handling
~~Secret~~

[redacted]

PROGRAM REVIEW COUNCIL REPORT

- FINANCIAL STATUS FY1968
- MANPOWER
- FUNDING FORECAST HISTORY AND JUSTIFICATION
- [redacted]
- PROGRAM CONTENT
- [redacted]
- PROGRAM CONCEPT

EASTMAN KODAK CO.
17 NOVEMBER 1967

Special Handling
~~Secret~~

Bye 21341-67

[redacted]

Special Handling
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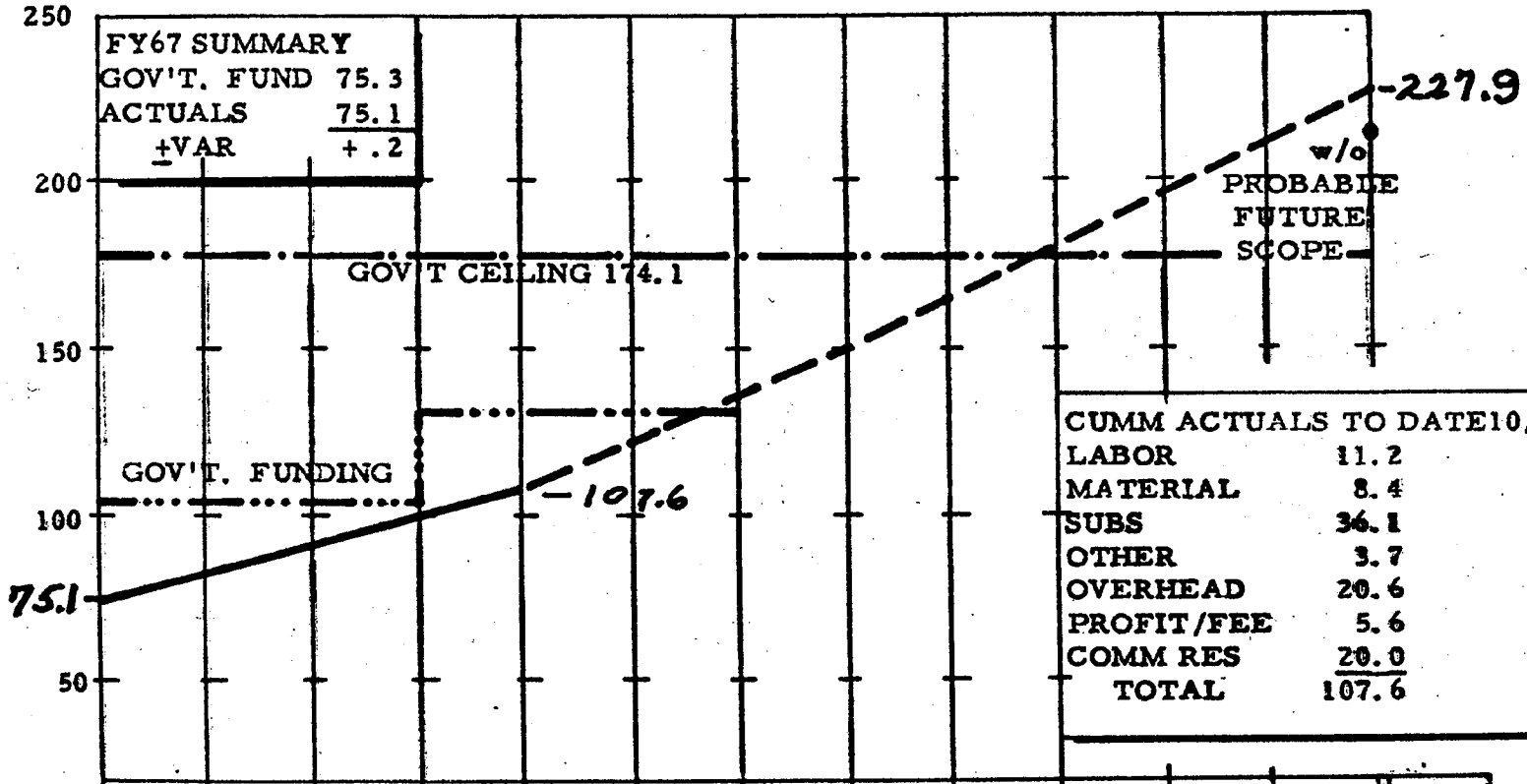
FINANCIAL STATUS FY1968

[redacted]

SYSTEM SEGMENT: PHOTOGRAPHIC P/L CONTRACTOR: EASTMAN KODAK DATE RPT. 29 OCT. 67



CUMM ACTUALS TO DATE 10/29	
LABOR	11.2
MATERIAL	8.4
SUBS	36.1
OTHER	3.7
OVERHEAD	20.6
PROFIT/FEE	5.6
COMM RES	20.0
TOTAL	107.6

	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUN.	Total
CONTR. FCST.	6.4	8.7	9.8	8.1	13.1	14.2	15.1	14.9	15.2	15.7	15.7	16.0	152.8
ACTUALS	6.4	8.7	9.8	7.6									
GOV'T FUNDING	25.4	--	--	29.8									

PROGRAM CONTENT: TOTAL KNOWN AS OF 17 NOV. 67
PROGRAM SCHEDULE: COMPACT 12

[redacted]

3

SEGMENT: PHOTOGRAPHIC PAYLOAD

FINANCIAL STATUS FY1968
BY COST ELEMENT
(IN MILLIONS OF DOLLARS)

ACTUALS AS OF: 29 OCT. 67
FORECASTS AS OF: 1 JULY
REVISED TO NEW PROGRAM CONTENT*

CONTRACTOR: EASTMAN KODAK CO.

		FY67 TOTAL	JUL.	AUG. 1233/18.7	SEP.	OCT.	NOV. 1379/24.0	DEC.	JAN.	FEB. 2090/21.0	MAR.	APR. 2145/21.2	MAY	JUN.	FY68 Total
LABOR	F	8.0	.7	.8	.8	.9	1.1	1.3	1.5	1.4	1.5	1.5	1.5	1.6	14.6
	A	8.0	.7	.8	.8	.9									
MATERIAL	F	6.1	.5	.4	.7	1.0	1.0	1.1	1.2	1.2	1.3	1.5	1.5	1.5	12.9
	A	6.1	.5	.4	.7	.7									
S&S	F	26.0	4.1	2.2	2.3	3.8	7.8	7.8	7.8	7.8	7.8	8.0	8.0	8.1	75.5
	A	26.0	4.1	2.2	2.3	3.5									
OTHER	F	2.5	.3	.2	.3	.4	.5	.6	.7	.7	.7	.7	.7	.7	6.5
	A	2.5	.3	.2	.3	.4									
OVERHEAD &G&A	F	14.7	1.4	1.5	1.5	1.4	1.9	2.5	2.9	2.8	2.9	2.9	2.9	2.9	27.5
	A	14.7	1.4	1.5	1.5	1.5									
TOT CONTR EXPEND	F	57.3	7.0	5.1	5.6	7.5	12.3	13.3	14.1	13.9	14.2	14.6	14.6	14.8	137.0
	A	57.3	7.0	5.1	5.6	7.0									
PROFIT/FEE	F	3.8	.4	.4	.4	.6	.8	.9	.10	.9	1.0	1.1	1.1	1.2	9.8
	A	3.8	.4	.4	.4	.6									
CANC COMMIT	F	14.0	-1.0	+3.2	+3.8										+6.0
	A	14.0	-1.0	+3.2	+3.8										
TOTAL	F	75.1	6.4	8.7	9.8	8.1	13.1	14.2	15.1	14.8	15.2	15.7	15.7	16.0	152.8
	A	75.1	6.4	8.7	9.8	7.6									
FY68 TOTAL			6.4	15.1	24.9	33.0	46.1	60.3	75.4	90.2	105.4	121.1	136.8	152.8	

* PROGRAM CONTENT: TOTAL KNOWN AS OF 17 NOV 67
PROGRAM SCHEDULE: COMPACT 12

CHANGES IN FY 68 PROGRAM PLAN

EASTMAN KODAK

DATE	SCHEDULE	FY 68 FUNDING REQ'T (MILLIONS OF DOLLARS)	PROGRAM CONTENT (MILLIONS OF DOLLARS)
Dec 66	BASELINE (A0)	106.4	293.9
JUN 67	DELTA 15	112.6	398.5
SEP 67	DELTA 12C + 3	123.5	431.8

WE ARE NOW FOLLOWING A PLAN CONSISTENT WITH:

17 NOV 67	DELTA 12C + 12	99.0	491.3

[redacted]

MANPOWER

ALL FISCAL YEARS/DIRECT & INDIRECT

ACTUALS AS OF: 29 OCT 67
FORECASTS AS OF: 17 NOV 67

SYSTEM SEGMENT: PHOTOGRAPHIC PAYLOAD CONTRACTOR: EASTMAN KODAK CO.

		FY 68				FY 69	FY 70	FY 71	FY 72
		1	2	3	4	4	4	4	4
ENGINEERING SUPPORT	F		250	365	380	540	300	300	140
	A	215	(242)						
SCIENTIFIC & ENGINEERING	F		555	690	695	935	525	400	175
	A	414	(466)						
MGMT. & ADMINISTRATION	F		50	55	55	70	45	40	25
	A	43	(46)						
SHOPS & PRODUCTION	F		260	380	400	530	270	240	100
	A	197	(212)						
OTHER	F		130	150	155	175	120	100	60
	A	101	(119)						
	F								
	A								
TOTAL DIRECT	F		1245	1640	1685	2250	1260	1080	500
	A	970	(1085)						
TOTAL. INDIRECT	F		340	450	460	625	335	260	130
	A	263	(294)						
TOTAL	F		1585	2090	2145	2875	1595	1340	630
	A	1233	(1379)						

EKC DIRECT LABOR AND R&D INDIRECT LABOR AS OF END OF QUARTER
( ) AS OF 29 OCT. 67 PROGRAM CONTENT: TOTAL KNOWN AS OF 17 NOV. 1967
PROGRAM SCHEDULE: COMPACT 12
BASED ON 45 SCHEDULED HOURS PER WEEK

HISTORY OF FUNDING FORECASTS
(IN MILLIONS)

AS OF: 29 OCT. 1967

SYSTEM SEGMENT: PHOTOGRAPHIC PAYLOAD

CONTRACTOR: EASTMAN KODAK CO.

DATE	SCHEDULE	PRINCIPAL CONTENT	FY67	FY68	FY69	FY70	FY71	FY72	FY73	TOTAL
DEC. 66	CONTRACT SCHEDULE	NOTE A [1]	100.4	106.4	43.3	31.6	11.4	.8		293.9
MAR. 67	DELTA 15	NOTE B [1]	75.3	112.4	101.8	63.6	30.2	13.7	1.3	398.3
JUN. 67	DELTA 15	NOTE B [1]	75.8	112.6	101.3	61.5	32.3	13.7	1.3	398.5
SEP. 67	DELTA12C+3	NOTE C [2]	75.8	123,5	135.3	78.4	13.0	5.8		431.8
OCT. 67	DELTA 12C	NOTE C [3]	75.8	143.3	118.6	←		92.8	→	430.5
NOV. 67	DELTA 12C	NOTE D [3]	75.1	152.8	146.2	61.0	38.0	18.2		491.3

NOTE A - COA LEVEL: SYSTEM & DESIGN ENGINEERING, MANUFACTURE & TEST OF DEVELOPMENT MODELS AND FV3-7.
MPS LEVEL: TEST DEFINITION STUDY: WAG FOR MPS DEVELOPMENT MODELS AND FV3-7 ASSY. AND TEST

NOTE B - SAME AS A WITH UPDATED MPS WAG PLUS CCN'S AND DIRECTED ITEMS.

NOTE C - SAME AS A WITH UPDATED MPS ROM (DEV. MODELS AND FV1-5) PLUS FURTHER CCN'S AND DIRECTED ITEMS (LAB ATMOSPHERE) AND BLDG. 103.

NOTE D - SAME AS C PLUS MPS WAG FV6&7, SAFSL 10010, SPARES, ULE, AND UTB.

1 - DD 1097
2 - UH 118
3 - SPECIAL

Special Handling
~~Secret~~

JUSTIFICATION OF FORECASTS
COMPARISON ANALYSIS
(MILLIONS OF DOLLARS)

[redacted]

AS OF: 29 OCT. 67

SYSTEM SEGMENT: PHOTOGRAPHIC PAYLOAD CONTRACTOR: EASTMAN KODAK CO.

DEC 66 TO MARCH 67 FORECAST INCREMENT

FY 67	- 25.1	RESULTS FROM MPS STUDY LATE AUTHORIZATION FOR BUILDING FEB 67 SCHEDULE SLOWDOWN
FY 68	+ 6.0	MPS TESTING RE-FORECAST
FY 69	+ 58.5	ADDED SIR: CHAMBER CONCEPT MODS & ACOUSTIC FACILITY
FY 70-73	+ 65.0	FORECAST CAMERA OVERRUN
FY 67-73 TOTAL	+ 104.4	BLDG. 101 & 102 MODS: CHAMBER "A" SUPPORT & ACOUSTIC FACILITY CCN'S: ACOUSTIC STUDY, POWER SWITCHING, ETC. DIRECTED ITEMS: THERMAL SLATS, CER-VIT, DRC'S, MODAL SURVEY, ETC.

MARCH 67 TO SEPT 67 FORECAST INCREMENT

FY 67	+ .5	CCN'S: FLIP MIRROR, SLIDING MASK, SM STUDY, ETC.
FY 68	+ 11.1	DIRECTED ITEMS: DELETE DRV & ADD VIEWER, COMMAND MATRIX SWITCHING, UPDATE SDM -1&2 FOR FV-1&2, DELETION OF FORECAST CAMERA OVERRUN, ETC.
FY 69	+ 33.5	
FY 70-73	- 11.6	
FY 67-73 TOTAL	+ 33.5	MPS TESTING RE-FORECAST BLDG. 103

SEPT 67 TO NOV 67 FORECAST INCREMENT

FY 67	- .7	PROBABLE FUTURE SCOPE: ULE, UTB, SAFSL 10010, SPARES, MPS TESTING FV-6 & 7, FIELD EFFORT BEYOND CY 68
FY 68	+ 29.3	
FY 69	+ 10.9	
FY 70-73	+ 20.0	
FY 67-73 TOTAL	+ 59.2	

Special Handling
~~Secret~~

[redacted] 10

PROGRAM CONTENT

AS OF: AUGUST 1966

SYSTEM SEGMENT: PHOTOGRAPHIC PAYLOAD CONTRACTOR: EASTMAN KODAK CO.

BASIC CONTRACT

ITEM #1	SIR	- TEST CHAMBERS & FACILITY ITEMS		13,979,164
ITEM #2	R & D	- PSS - ANALYSIS, INTERFACES & DOCUMENTATION		235,311,773
		- SPECIAL STUDIES		
		COA, LMC, SMC - DESIGN, FABRICATION, ASSEMBLY, TEST, RELIABILITY, AND RELATED ASE FOR DEVELOPMENT & FLIGHT MODELS		
		MPS - TEST DEFINITION STUDY		
		- LAUNCH & OPERATIONS PLANNING		
ITEM #3	SPS	- BUILDING 101		9,180,000
				258,470,937

DEFERRED ITEMS

ITEM #2	R & D	- MMA - ASSEMBLY, TEST, AND RELIABILITY FOR 5 FLIGHT MODELS	
		- DESIGN AND FABRICATION OF 65 PIECES OF ASE & EXCHANGE HARDWARE	
		MPS - FLIGHT PERFORMANCE PREDICTION AND POST FLIGHT EVALUATION AND ANALYSIS	
		- FIELD ENGINEERING SUPPORT FOR 5 FLIGHT MODELS	30,000,000
			288,470,937

SIR = SPECIAL INDUSTRIAL REQUIREMENTS
R&D = RESEARCH & DEVELOPMENT
PSS = PHOTOGRAPHIC SUBSYSTEM
COA = CAMERA OPTICAL ASSEMBLY
LMC = LAB MODULE COMPONENTS
SMC = SUPPORT MODULE COMPONENTS
MPS = MISSION PAYLOAD SYSTEM
SPS = SPECIAL PURPOSE STRUCTURE
MMA = MISSION MODULE ASSEMBLY

[redacted]

[redacted]

PROGRAM CONTENT

AS OF; 29 OCT. 67

SYSTEM SEGMENT: PHOTOGRAPHIC PAYLOAD CONTRACTOR: EASTMAN KODAK CO.

BASIC CONTRACT				258,470,937
DEFERRED ITEMS				
ITEM #1	SIR	-	REVISED REQUIREMENTS	14,192,565
ITEM #2	R & D	-	LMSS, SMSS, MMA - ANALYSIS, DESIGN, ASSEMBLY, INTERFACES, CREW UTILIZATION, RELIABILITY, AND REDEFINED TESTING FOR 5 FLIGHT MODELS - DESIGN & FABRICATION OF 287 PIECES OF ASE & EXCHANGE HARDWARE MPS - FLIGHT PERFORMANCE PREDICTION AND POST FLIGHT EVALUATION AND ANALYSIS - FIELD ENGINEERING SUPPORT FOR 5 FLIGHT MODELS - AFE, ASE SUPPORT STUDY LMQTV - DESIGN, FABRICATE & TEST COMPONENTS	130,370,000
ITEM #3	SPS	-	BUILDINGS 102 MOD, BUILDING 103	3,983,000
CCN'S - NEGOTIATED				
ITEM #1	SIR	-	CCN'S 23 & 16	284,491
ITEM #2	R & D	-	ACOUSTIC STUDY, SM STUDY, DRC'S, MDS, INCREASED FILM SUPPLY, TM SLATS, CER-VIT, REDUNDANT FLIP MIRROR, V.O. DISPLAY, CONFORMAL COATING	3,418,500
ITEM #3	SPS	-	ADDITION & OVERRUN BLDG. 101	2,227,827

[redacted]

PROGRAM CONTENT* (CONTINUED)

AS OF: 29 OCT. 67

SYSTEM SEGMENT: PHOTOGRAPHIC PAYLOAD CONTRACTOR: EASTMAN KODAK CO.

CCN'S - NOT NEGOTIATED

ITEM #2	R & D	- POWER SWITCHING, SLIDING MASK, SDM #2, MODAL SURVEY COA, TM CLEARANCE, UPDATE MDS, SM STUDY	11,217,000

DIRECTED ITEMS - NOT NEGOTIATED

ITEM #1	SIR	- LM ATMOSPHERE	732,000
ITEM #2	R & D	- VIEWER, COMMAND MATRIX, UPDATE FV-1 & FV-2, △12 SCHEDULE	32,261,000

PROBABLE FUTURE SCOPE

ITEM #2	R & D	- UTB, 10010, SPARES, CER-VIT & ULE	34,115,000

491,272,320

* THIS PROGRAM CONTENT DOES NOT INCLUDE SM INTEGRATION

[redacted]

Special Handling
~~Secret~~

PROGRAM CONCEPT [redacted]

AS OF 17 NOV. '67

SYSTEM SEGMENT: PHOTOGRAPHIC PAYLOAD CONTRACTOR: EASTMAN KODAK CO.

ESTIMATE OF REQUIRED FUNDING (MILLIONS OF DOLLARS)	67	68	69	70	71	72	73	TOTAL
COMPACT 12 SCHEDULE*	75.1	152.8	146.2	61.0	38.1	18.2	0	491.3
COMPACT 12+12 SCHEDULE**	75.1	99.0	100.0	100.0	71.0	39.0	22.9	507.0

EKC BELIEVES THE PROGRAM CONTENT CONTAINED IN CHARTS 11 & 12 OF THIS SERIES REQUIRES THE FUNDING SHOWN ABOVE TO SUPPORT THE ASSOCIATED SCHEDULES, SUBJECT TO THE FOLLOWING:

1) THE SCHEDULE ADJUSTMENT IS ACCOMPLISHED BY (A) DELAYING COMPACT 12 MM LEVEL ACTIVITY AT EKC ONE CALENDAR YEAR, AND (B) DELAYING QM AND FM COA LEVEL AND LM ACTIVITY AT EKC ONE CALENDAR YEAR, (C) COA AND LM COMPONENT DEVELOPMENT ACTIVITY IS STRETCHED TO A "2 YEARS WORK IN 3 YEARS" SCHEDULE.

2) OUR SUBCONTRACTORS ARE ABLE TO MEET BOTH OUR FUNDING BOGIES FOR THEM AND ALSO A COMPACT 12+12 SCHEDULE.

3) INTERFACE NEGOTIATION IS COMPATABLE WITH OUR TECHNICAL AND SCHEDULE REQUIREMENTS.

4) THERE ARE NO COST DEVIATIONS OR ADDITIONAL WORK IMPOSED.

*WE ARE NOT IN A POSITION TO ACCEPT A COMMITTMENT TO THIS WORK CONTENT AND SCHEDULE.
**WE ARE IN A POSITION TO ACCEPT A COMMITTMENT TO THIS WORK CONTENT AND SCHEDULE.

~~SECRET~~ SPECIAL HANDLING

PROGRAM REVIEW COUNCIL MEETING

17 NOVEMBER 1967

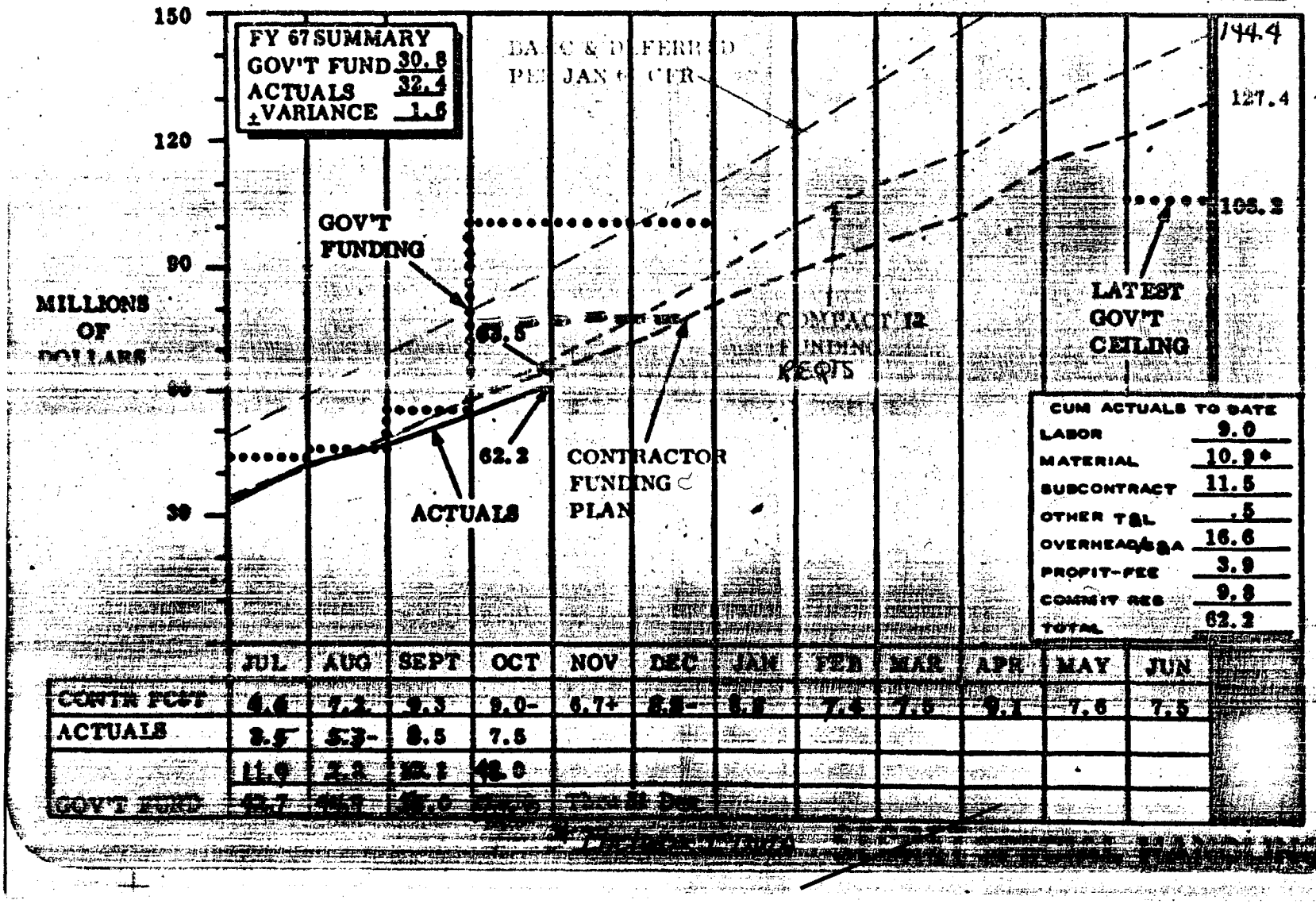
Byeman 21341-67

~~SECRET~~ SPECIAL HANDLING

~~SECRET~~ SPECIAL HANDLING

FINANCIAL STATUS FY 1968

SYSTEM SEGMENT: MPSS CONTRACTOR: GENERAL ELECTRIC AS OF: 1 Nov 1967



	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
CONTR PLAN	4.6	7.2	9.3	9.0-	6.7+	8.8-	8.8	7.5	7.5	9.1	7.6	7.5
ACTUALS	3.5	5.7-	8.5	7.5								
	11.9	7.2	16.1	48.0								
GOV'T FUND	43.7	48.1	56.0	65.5	Thru 31 Dec							

CHANGES IN FISCAL PROGRAMS

GE FOLLOWED:

$144.4M PLAN UNTIL 1 JULY 67

THEN

$127.4M PLAN UNTIL 11 SEPT

THEN

ON 11 SEPT BEGAN MAJOR EFFORTS TO GET

BELOW THE $127.4M PLAN

NOW ALLOCATED $106.2M

5.

~~SECRET~~ SPECIAL HANDLING

FINANCIAL STATUS FY 1968
BY COST ELEMENT C12 PLAN (FOLLOWED SINCE 1 JULY 67)

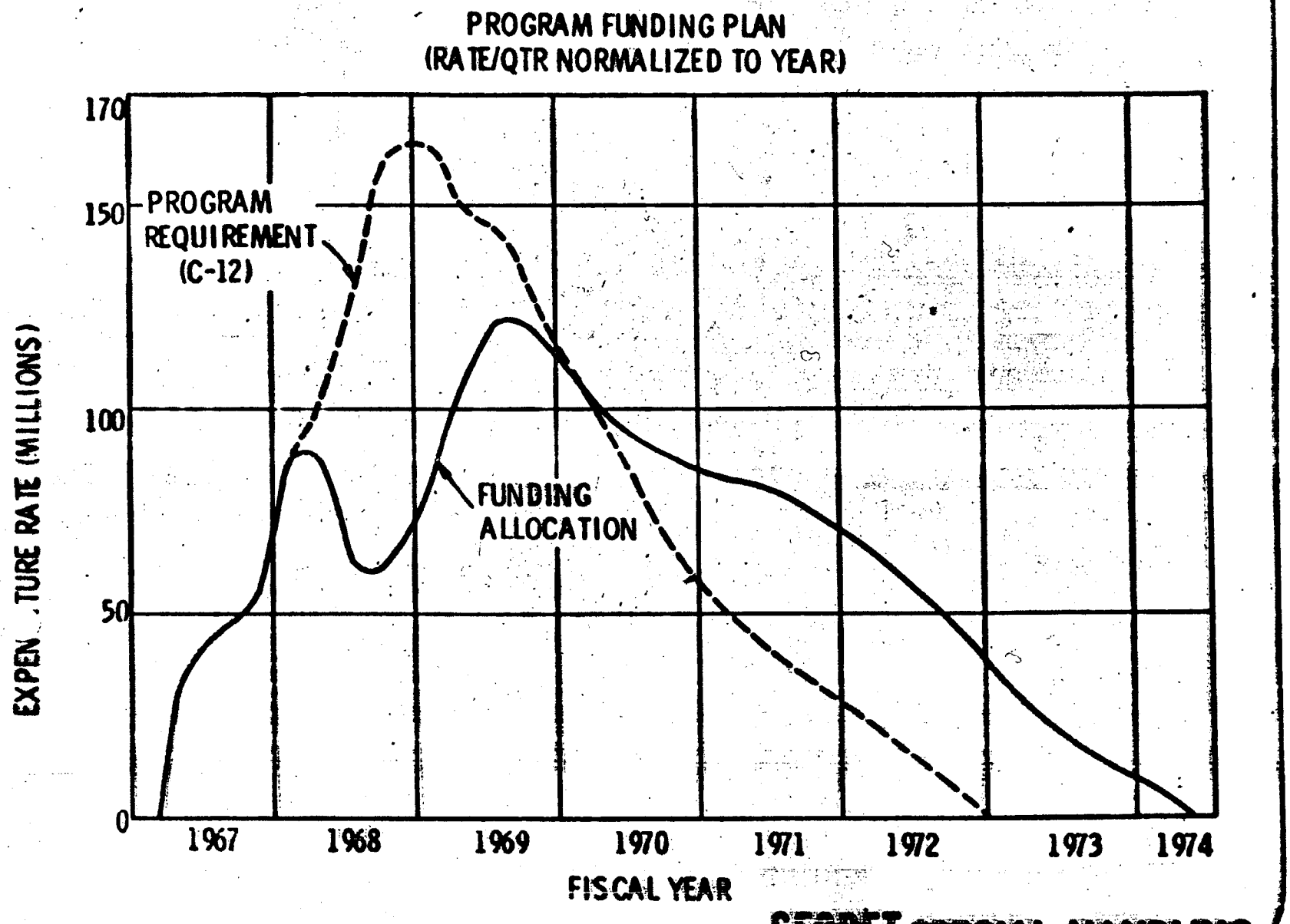
(MILLIONS OF DOLLARS)

CONTRACTOR FUNDING PLAN		FY67 TOTAL	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	FY68 TOTAL
LABOR	F		1.0	1.1	1.1	1.3	1.0	1.0	1.2	1.0	1.0	1.2	1.0	0.9	12.8
	A	5.5	0.8	0.7	0.8	1.1									
MATERIAL (INC. IDWA)	F		0.8	1.7	1.2	1.9	0.8	0.8	1.2	1.0	1.0	1.2	1.0	1.0	13.6
	A	5.4	1.0	1.2	1.5	1.8									
SURS	F		1.4	1.4	2.0	1.5	1.5	1.7	2.7	2.3	2.3	3.1	2.4	2.5	24.8
	A	4.9	2.2	1.5	1.1	1.7									
OTHER (T&L)	F		0.1	-	0.1	0.1	-	0.1	0.1	-	0.1	-	0.1	-	0.7
	A	0.3	0.1	0.1	0.1	-									
OVERHEAD, & G&A CIRP	F		1.7	1.9	2.0	2.4	1.8	1.9	2.5	2.0	2.0	2.5	2.0	2.0	24.7
	A	10.1	1.6	1.3	1.5	2.2									
TOT CONTR EXPEND	F		5.0	6.1	6.4	7.2	5.1	5.5	7.7	6.3	6.4	8.0	6.5	6.4	76.7
	A	26.2	5.7	4.8	5.0	6.8									
PROFIT/FEE	F		0.4	0.5	0.5	0.6	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	5.8
	A	2.1	0.5	0.4	0.4	0.6									
UNOBLIG INC COMMIT	F		1.2	0.6	2.4	1.2	1.2	2.4	0.6	0.6	0.6	0.6	0.6	0.6	12.6
	A	4.1	2.3	0.1	3.1	0.1									
TOTAL	F		6.6	7.2	9.3	9.0	6.7	8.3	8.8	7.4	7.5	9.1	7.6	7.5	95.0
	A	32.4	8.5	5.3	8.5	7.5									
HISTORY OF TOT FY 68 FCST ROMTS			102.3	124.9	128.1	112.0	[redacted]								

~~SECRET~~ SPECIAL HANDLING

4A

~~SECRET~~ SPECIAL HANDLING



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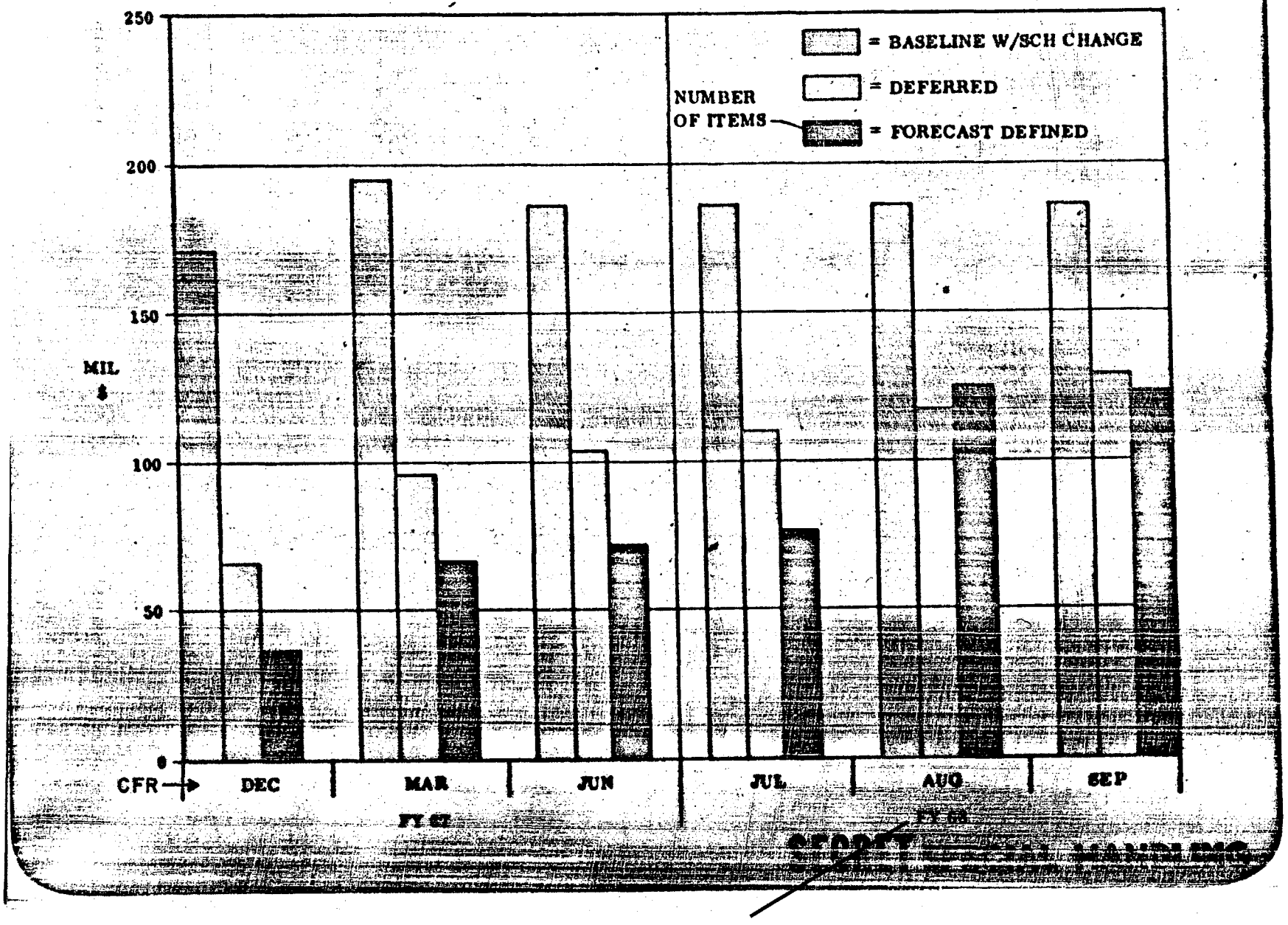
HISTORY OF FUNDING FORECASTS
(MILLION OF DOLLARS)

	FISCAL YEARS							
	67	68	69	70	71	72	73	TOTAL
DEC 66 BASELINE								
DEC 66	47.1	122.7	62.3	30.1	11.0			273.2
MAR 67	33.7	77.3	99.7	88.0	40.8	13.9	.6	354.0
JUN 67	33.0	100.2	111.1	68.9	36.9	13.1		363.2
COMPACT 12 BASELINE								
JUL 67	32.4	102.3	113.8	71.2	39.8	13.5		373.0
AUG 67	32.4	124.9	135.0	81.3	45.4	13.6		432.6
SEP 67	32.4	128.1	139.1	84.3	41.9	14.4		440.2
OCT 67	32.4	112.0	152.1	86.3	41.9	14.4		439.1

~~SECRET~~ SPECIAL HANDLING

~~SECRET~~ SPECIAL HANDLING

BASELINE/DEFERRED/FORECAST DEFINED CFR PROJECTIONS



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6A

~~SECRET~~ SPECIAL HANDLING

PROGRAM CONTENT

	DOLLARS (MILLIONS)
BASIC - DESIGN DEVELOP AND TEST: (COMPACT 12 SCHEDULE)	189
• 5 PRIME VEHICLES (3 MANNED, 2 AUTOMATIC) FOR DELIVERY FROM GE PHILADELPHIA	
• AUTOMATIC CHECKOUT EQUIPMENT (3 SETS) & MAGE	
• SIMULATOR & TRAINER FOR VANDENBURG	
DEFERRED	129
• SYSTEMS DEVELOPMENT, QUALIFICATION AND FIELD SUPPORT	
• LOGISTICS & SPARES PROGRAM	
• ACQUISITION SUBSYSTEM	
• GROUND ALIGNMENT EQUIPMENT	
IDENTIFIED AND INCLUDED - 77 ITEMS (25 AUTHORIZED & 52 DEFINED) INCLUDING	122
• IMAGE VELOCITY SENSOR AND TESTER	
• SAFSL 10010	
• ADDITIONAL MISSION MODULE TEST SETS (2)	
• FLIGHT 1 & 2	
• AUTOMATIC MODE EQUIPMENT	

170.5

162

~~SECRET~~ SPECIAL HANDLING

14

~~SECRET~~ SPECIAL HANDLING

JUSTIFICATION OF FORECASTS

CFR FOR	FY 68	FY 69	TOTAL
DEC 66	• REVISED FUNDING FORECAST PROFILE TO CONFORM TO PROGRAM PLAN AND FUND LIMIT		• DIRECTED DOOR CHANGE • SCHEDULE EXTENSION • INCREASED FIELD SUPPORT REQUIREMENT • ADDITIONAL ACQUISITION S/S TECH REQUIREMENTS
MAR 67	• ANGULAR ACCELEROMETER • IVS TESTER • 2D MOL CITE FOR HB • POWER INTERRUPT • EXTENDED BEARING TESTS	• TRANSFER SIMULATOR COMPUTER DACO TO GE • 2D MOL CITE FOR HB • ANGULAR ACCELEROMETER • POWER INTERRUPT	• COMPACT 12 DELTA
JUN 67	• INCREASED IVS COSTS	• ADDITIONAL COMPUTER PROGRAMMING REQUIREMENTS	• KAPTON WIRE
JUL 67	• THREE SOURCE DEVELOPMENTS FOR IVS HARDWARE	• LOGISTICS SPARE REQUIREMENTS	• SAFSL EXH 10010 IMPLEMENTATION
AUG 67	• ADDITIONAL ACQUISITION S/S TECH REQUIREMENTS	• SUNNYVALE GROUND STATION EFFORT	• DEVIATIONS IN SAFSL EXH 10010 REQUIREMENTS
SEP 67			

~~SECRET~~ SPECIAL HANDLING

~~SECRET~~ SPECIAL HANDLING

TODAY'S UNDERSTANDING VS DEC 66

ROLES AND RESPONSIBILITIES BETTER DEFINED.

INTERFACES WELL ESTABLISHED BUT NOT YET COMPLETE.

FUNDING PROJECTION NOW REFLECTS ALL IDENTIFIED REQUIREMENTS (I.E., SAFSL 10010, IVS, ETC)

TEST PROGRAM STILL UNDECIDED

HOWEVER:

PROGRAM IS FY FUND LIMITED

THEREFORE:

MUST CONTINUE TO REDUCE PROGRAM CONTENT BY:

- WORKING STRAWMAN - LIKE PROGRAMS/SCHEDULES.
- IDENTIFYING ADDITIONAL COST REDUCTION ITEMS.
- TAILOR SCHEDULE TO AVAIL FY FUNDS.

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HERE IS MY UNDERSTANDING OF THE PROGRAM NOW

FY FUNDING	67	68	69	70	71	72	73	74	TOTAL
(MILLIONS OF $)	32	73	106	90	86	59	20	3	469

WITH THE PROGRAM CONTENT WE HAVE NOW, AS I CAN FORESEE IT, THIS FUNDING WILL SUPPORT A SCHEDULE ADJUSTMENT OF:

- APPROXIMATELY 14 MONTHS ADDITIONAL TO THE COMPACT 12

- TO GET BACK FROM C 12 + 14 MOS TO C 12 + 12 MOS

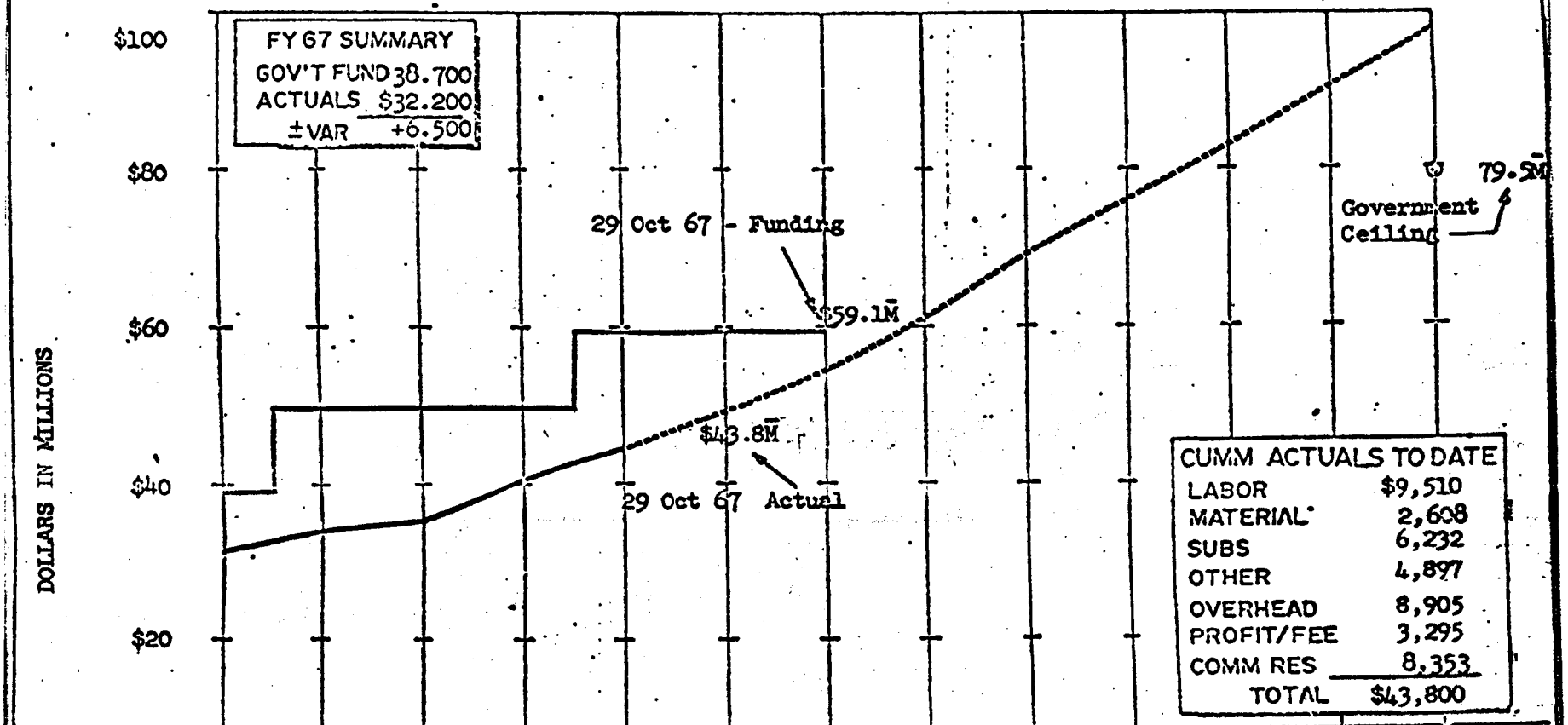
FUNDING REQM'TS WOULD BE:

FY FUNDING	67	68	69	70	71	72	73	7	TOTAL
(MILLIONS OF $)	32	79	106	90	83	56	18		464

~~SECRET~~ SPECIAL HANDLING

FINANCIAL STATUS FY 1968

SYSTEM SEGMENT GEMINI B CONTRACTOR MCDONNELL ASTRONAUTICS DATE REPORT 14 NOV. 1967



	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
CONTR FCST	-	-	-	-	5,401	6,440	6,079	6,367	7,215	7,319	7,456	8,011	97,910
ACTUALS	2,502	2,566	3,082	3,450									
GOV'T FUNDING	10,400	-	-	10,100									

CHANGES IN FY 68 PROGRAM PLAN

MC DONNELL

UNTIL JULY WE WERE FOLLOWING:
A 68 PLAN OF $108.6 CUMULATIVE

FROM JULY TO SEPTEMBER WE WERE
FOLLOWING A 68 PLAN OF $104.8

SINCE OCTOBER WE WERE FOLLOWING
A 68 PLAN OF $97.9

UNTIL TWX REDUCTION TO $79.5
OF 8 NOVEMBER

* 5 Week Accounting Month

FINANCIAL STATUS FY 1968
BY COST ELEMENT
(IN THOUSANDS)

14 November 1967

		FY67 TOTAL	JUL	AUG	* SEP	OCT	NOV	* DEC	JAN	FEB	* MAR	APR	MAY	* JUN	FY68 TOTAL
LABOR	F						818	1235	1078	1124	1401	1078	1116	1307	11904
	A	6763	598	610	812	727									
MATERIAL	F						1161	1290	1021	1122	1226	1204	1204	1204	10563
	A	1457	333	299	90	429									
SUBS	F						683	683	1083	1083	1083	1657	1657	1657	11595
	A	4215	410	495	472	640									
OTHER	F						703	842	920	949	1039	1081	1087	1118	9391
	A	3272	304	410	447	464									
OVRHEAD & G&A	F						870	1321	1166	1213	1510	1165	1205	1408	12247
	A	6516	579	437	690	683									
TOT CONTR EXPEND	F						4235	5371	5268	5491	6259	6185	6269	6694	55700
	A	22223	2224	2251	2511	2943									
PROFIT/FEE	F						434	551	540	563	642	634	641	686	5710
	A	2277	228	231	257	302									
UNCANC CO IT	F						354	378	403	423	442	549	549	549	4300
	A	7700	50	84	314	205									
TOTAL	F						5023	6300	6211	6477	7343	7368	7459	7929	65710
	A	32200	2502	2566	3082	3450									
HISTORY OF TOT FY68 FCST			76238	72579	72579	65710	-	-	-	-	-	-	-	-	-

MANPOWER

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ALL FISCAL YEARS/DIRECT & INDIRECT

SYSTEM SEGMENT: GEMINI B CONTRACTOR: MCDONNELL ASTRONAUTICS AS OF: 14 Novembe

FUNCTION		FY 68 1	FY 68 2	FY 68 3	FY 68 4	FY 69 4	FY 70 4	FY 71 4	FY 72 2
	F								
	A								
NEERING	F		698	772	777	791	721	307	50
	A	592							
FACTURING	F		412	598	603	669	250	50	8
	A	253							
ITY ASSURANCE	F		60	94	109	136	90	39	2
	A	36							
ECT CONTROL	F		14	14	14	14	14	4	-0-
	A	12							
TE OPERATIONS	F		40	67	73	171	375	393	187
	A	35							
AL DIRECT	F		1224	1545	1576	1781	1450	793	247
	A	928							
TOTAL INDIRECT	F		857	1082	1103	1247	1015	555	173
	A	650							
TOTAL	F		2081	2627	2679	3028	2465	1348	420
	A	1578							

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MANPOWER

CURRENT FY 68 DIRECT & INDIRECT

SYSTEM SEGMENT: GEMINI B CONTRACTOR: MCDONNELL ASTRONAUTICS AS OF: 14 Nov. 196

BY FUNCTION		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
ENGINEERING	F					700	760	772	772	772	777	777	777
	A	613	563	599	633								
MANUFACTURING	F					416	516	598	598	598	603	603	603
	A	217	252	289	304								
QUALITY ASSURANCE	F					61	76	94	94	94	109	109	109
	A	34	36	39	42								
PROJECT CONTROL	F					14	14	14	14	14	14	14	14
	A	12	12	11	11								
REMOTE OPERATIONS	F					40	40	40	40	40	40	40	40
	A	35	35	36	35								
	F												
	A												
TOT DIRECT	F					1231	1406	1518	1518	1518	1543	1543	1543
	A	911	898	974	1025								
TOT INDIRECT	F					862	984	1063	1063	1063	1080	1080	1080
	A	638	629	682	718								
TOTAL	F					2093	2390	2581	2581	2581	2623	2623	2623
	A	1549	1527	1656	1743								

14 November 1967

HISTORY OF FUNDING FORECASTS

(IN THOUSANDS)

	FISCAL YEARS						
	67	68	69	70	71	72	TOTAL
DEC 66 BASELINE							
DEC 66 *	59,283	86,257	39,244	15,986	1,358	-	202,127
MAR 67	37,135	68,347	78,537	56,640	34,658	3,917	279,234
JUN 67	32,467	76,169	79,455	48,665	33,611	3,694	274,061
12 COMPACT BASELINE							
JUL 67	32,296	76,238	86,536	55,712	33,158	4,154	288,094
AUG 67	32,200	72,579	87,771	61,669	32,848	4,162	291,228
SEP 67	32,200	72,579	87,771	61,669	32,848	4,162	291,228
OCT 67	32,200	65,710	93,351	66,453	34,811	5,995	298,520

* EXCLUSIVE OF ANY CHANGES AND REMOTE SITE, SPARES, PACS, MISSION PLANNING, RECOVERY AGE WHICH WERE DEFERRED.

PROGRAM CONTENT

(IN MILLIONS)

BASIC -	$ 204.718
DEFERRED -	51.445
IDENTIFIED & INCLUDED -	26.415
FORECAST - NOT DEFINED (STATISTICAL)	15.942
TOTAL	$ 298.520

Those items not included in Contractor's Forecasts, (specific items and dollars associated). -

MASTER EQUIPMENT SCHEDULE (MES)	.300
COST PLANNING AND CONTROL SYSTEM (CPCS)	4.827
DELIVERABLE EQUIPMENT ALLOCATION LIST (DEAL)	NOT AVAILABLE
RADIATION SEPCIFICATION	NOT AVAILABLE
ALTERNATE CONFIGURATION MANAGEMENT PLAN GBPS	.295
SED GBQ	.775

MC DONNELL

TO REDUCE SCHEDULE TO
COMPACT 12 + 12

	FY 69	70	71	72	73	TOTAL
$ CHANGES FROM FUNDING LIMITATION	-4.5	+10.0	+6.0	-6.0	-10.0	-4.5

HERE IS MY UNDERSTANDING OF THE PROGRAM NOW

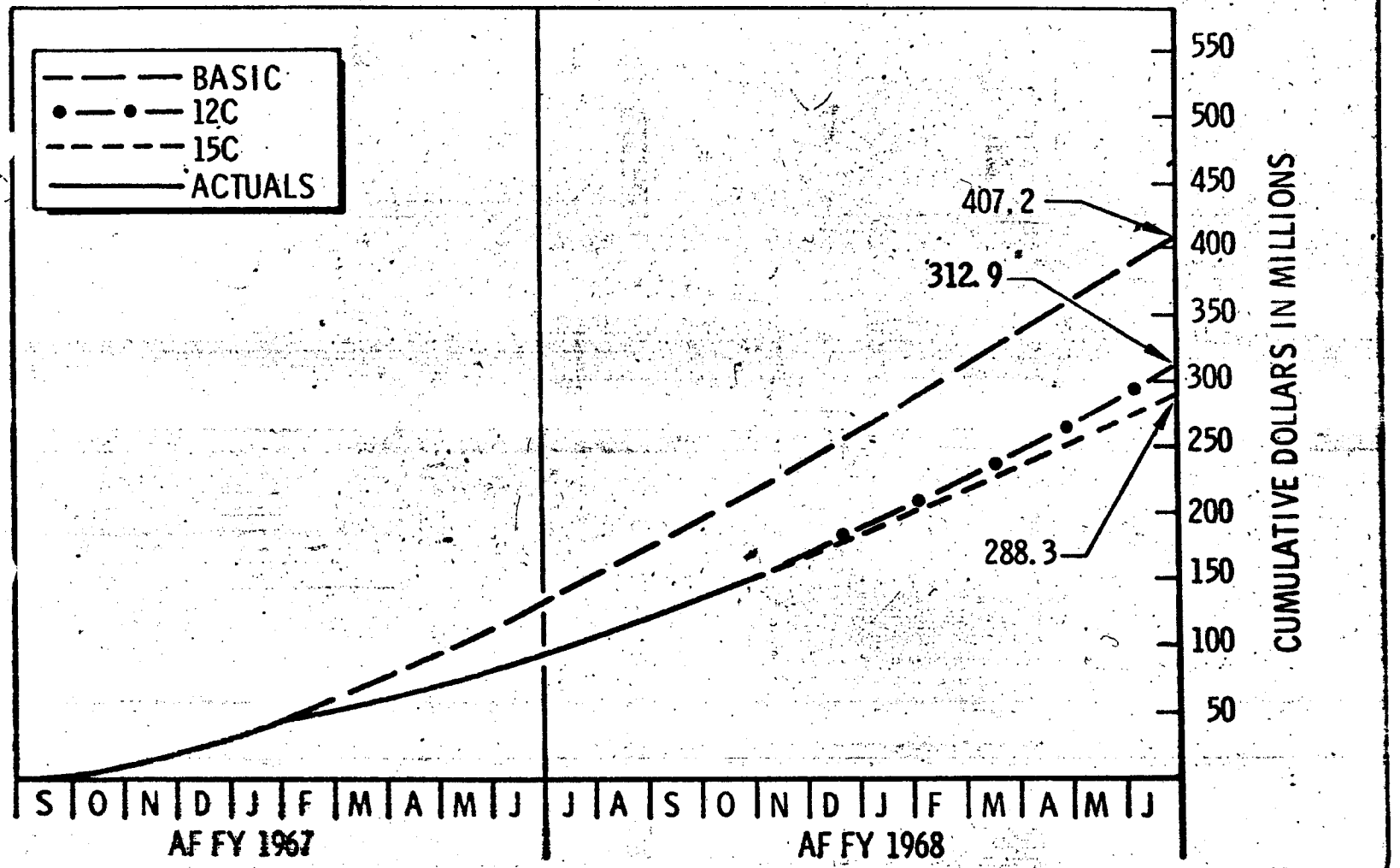
FUNDING	67	68	69	70	71	→ ASSUMED FUNDING 72	73	TOTAL
	32.2	47.3	68.0	50.0	50.0	50.0	27.4	324.9
CUM	32.2	79.500	147.500	197.500	247.5	297.5	324.9	

With the program content we have now, as I can foresee it, this funding will support a schedule adjustment of: AN ADDITIONAL 15 MONTHS TO THE PRESENT 12C SCHEDULE FOR THE DELIVERY OF THE FIRST GEMINI B FLIGHT ARTICLE (GBQ).

AN ADDITIONAL 16 MONTHS TO THE PRESENT 12C SCHEDULE FOR THE DELIVERY OF THE FIRST GEMINI B MANNED FLIGHT ARTICLE (AVE 2).

TOTAL FUNDING REQUIREMENTS
(EXPENDITURE + PROFIT + COMMITMENTS)

V1707-8



FUNDING HISTORY JUSTIFICATION OF FORECASTS

V1710-4A

(DOLLARS IN MILLIONS)

DEC 66 TO MAR 67	INCREASED VISIBILITY	
JUN 67 TO JUL 67	1. SCHEDULE CHANGE TO 12C	76.5
	2. INCREASE SCOPE	
	ESE NO. 1	8.9
	TEST AND OPERATIONS	86.0
	ADD AGE FOR PSIA	12.4
	ACOUSTIC QUAL	14.2
	FAIRING AND TASKS	23.5
	ADDITIONAL TESTING	2.7
	MISCELLANEOUS CHANGES	8.4
	TOTAL	232.6
JUL 67 TO AUG 67	SCOPE CHANGES	
	ESE NO. 2	1.1
	MISSION MODULE STIFFNESS REQUIREMENTS	1.3
	FAIRING ACCOMMODATIONS	8.5
	GE FACIL REQUIREMENTS	1.1
	DELETION OF DRV	⟨.7⟩
	MISCELLANEOUS CHANGES	.3
	TOTAL	11.6

FUNDING HISTORY JUSTIFICATION OF FORECASTS

V1710-5A

(DOLLARS IN MILLIONS)

AUG 67 TO SEP 67	SCOPE CHANGES	
	LM DEVELOPMENT FLIGHTS	1.9
	HEART RATE RECORDER	1.7
	REVISED MOL C/SPCS	3.1
	SAFETY SPECIFICATIONS	23.0
	NEW FLIGHT VEHICLE NO. 7	7.0
	ADD DATA REDUCT	3.0
	UNDERWATER TESTING	1.0
	NO. 2 MISSION SIMULATOR	32.0
	DELETE FAIRING ϕ II	⟨14.5⟩
	MISCELLANEOUS CHANGES	4.3
	TOTAL	62.5
SEP 67 TO OCT 67	SCOPE CHANGES	
	12C PROPOSAL ADJUST	⟨ 3.0⟩
	DELETE REV MOL C/SPCS	⟨ 3.1⟩
	DELETE ACOUSTIC QUAL	⟨14.2⟩
	DELETE NEW FLIGHT VEHICLE NO. 7	⟨ 7.0⟩
	DELETE NO. 2 MISSION SIMULATOR	⟨32.0⟩
	HARDWARE INTEGRATION	10.0
	FAIRING ϕ II	14.5
	MISCELLANEOUS CHANGES	⟨ 5.2⟩
	TOTAL	⟨40.0⟩

HISTORY OF FUNDING FORECASTS
(DOLLARS IN MILLIONS)

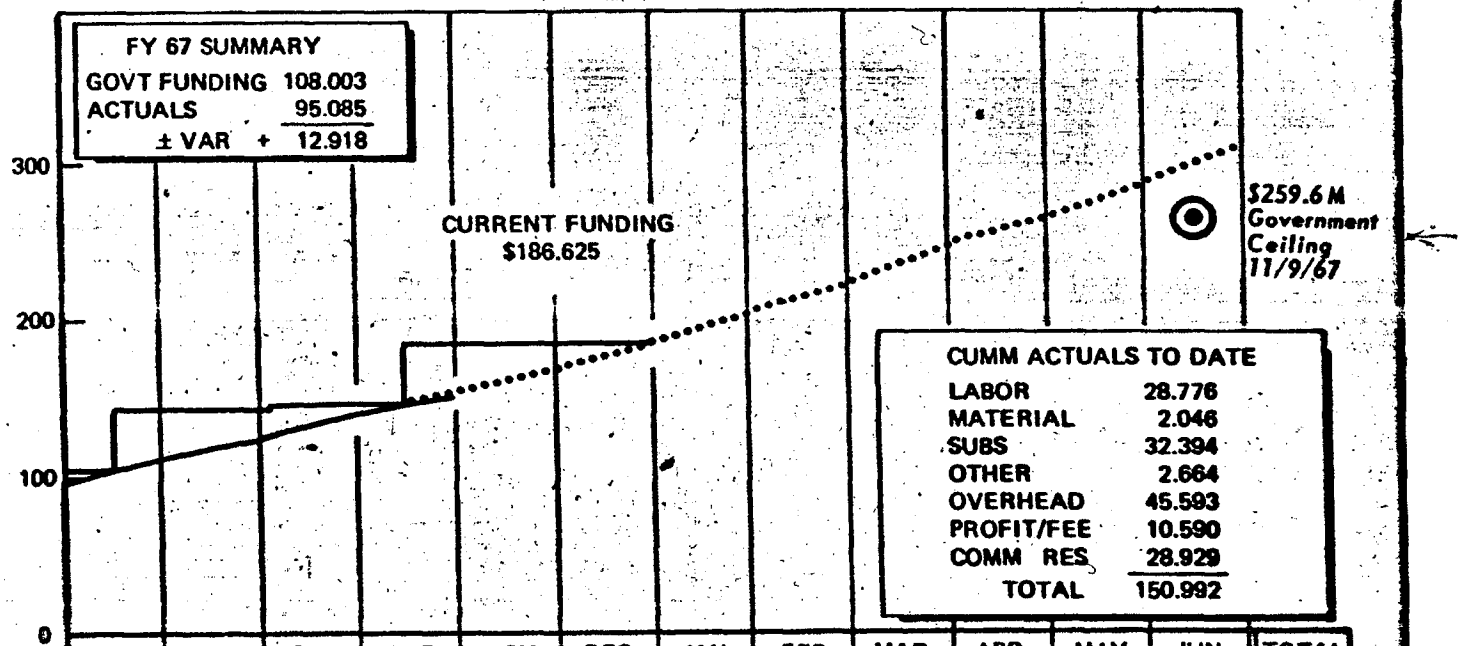
V1709-8

	FISCAL YEARS						
	67	68	69	70	71	72	TOTAL
● DEC 66 BASELINE							
● DEC 66	131.9	287.1	200.6	51.2	17.0	0	687.7
● MAR 67	127.3	281.7	187.1	73.5	18.1	0	687.7
● JUN 67	127.3	281.7	187.1	73.5	18.1	0	687.7
● 12 COMPACT BASELINE							
● JUL 67	95.1	211.9	251.4	191.6	112.0	58.3	920.3
● AUG 67	95.1	213.7	256.7	191.6	116.0	53.9	931.9
● SEP 67	95.1	217.8	272.2	198.0	126.0	86.4	994.4
● OCT 67 (12C)	95.1	217.8	272.1	182.0	111.0	76.4	954.4

FINANCIAL STATUS FY 1968
12 COMPACT BASELINE

V1707-9B

SYSTEM SEGMENT LABORATORY VEHICLE CONTRACTOR DOUGLAS AIRCRAFT CO. DATE REPORT WEEK ENDING 29 OCT 67



	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
CONTR FCST	13.451	13.129	14.499	21.560	15.691	16.713	17.673	19.840	24.201	19.058	19.483	22.481	217.779
ACTUALS	13.994	13.554	13.580	14.779									
GOVT FUNDING	33.700	0	4.000	40.922									

12C PROGRAM CONTENT AS OF 29 OCT 1967

V1709-9A

(DOLLARS IN MILLIONS)

BASIC -	687.7
DEFERRED -	
TEST AND OPERATIONS	86.0
ESE NO. 1	8.9
ESE NO. 2	1.2
FAIRING AND ACCOMMODATIONS	31.4
IDENTIFIED AND INCLUDED -	
12 C SCHEDULE ADJUSTMENT	70.5
MISSION MODULE STIFFNESS REQUIREMENTS	1.5
ADD CATL BURNER	1.4
HEART RATE RECORD REQUIREMENTS	1.8
ADD AGE FOR PSIA	12.4
SAFETY SPEC (ATTACH B)	23.0
ADDITIONAL TESTING	2.7
ADD DATA REDUCTION	3.0
HARDWARE INTEGRATION	10.0
GE FACILITY REQUIREMENTS AT HUNTINGTON BEACH	1.0
MISCELLANEOUS CHANGES AUTHORIZED PLUS DEFINED NOT AUTHORIZED	11.9
TOTAL	954.4

FINANCIAL STATUS FY 1968
BY COST ELEMENT
12 COMPACT BASELINE

V1706-9A

		FY 67 TOTAL	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	FY 68 TOTAL
LABOR	F	18.647	2.161	1.818	3.236	4.294	2.148	2.849	3.260	3.248	5.230	3.725	3.964	5.072	41.005
	A	18.647	2.302	2.251	2.272	3.304									
MATERIAL	F	1.224	.160	.200	.290	.293	.483	.800	.870	1.100	1.080	1.280	1.440	1.567	9.563
	A	1.224	.211	.166	.154	.291									
SUBS	F	14.298	4.706	4.527	1.751	15.711	8.067	6.441	6.712	7.871	5.688	4.570	4.334	3.531	73.909
	A	14.298	4.148	3.018	6.441	4.489									
OTHER	F	1.804	.225	.145	.220	.370	.157	.223	.221	.207	.347	.232	.231	.275	2.853
	A	1.804	.240	.180	.155	.285									
OVERHEAD AND G & A	F	29.618	3.464	2.754	5.160	6.813	3.418	4.527	5.204	5.182	8.341	5.938	6.317	8.067	65.185
	A	29.618	3.690	3.412	3.630	5.243									
TOT CONTR EXPEND	F	65.591	10.716	9.444	10.657	27.481	14.273	14.840	16.267	17.608	20.686	15.745	16.286	18.512	192.517
	A	65.591	10.591	9.027	12.652	13.612									
PROFIT/FEE	F	6.231	1.019	.897	1.012	2.611	1.357	1.410	1.545	1.673	1.965	1.496	1.547	1.759	18.289
	A	6.231	1.006	.858	1.202	1.293									
UNCANC COMMIT	F	23.263	1.716	2.788	2.830	(8.532)	.061	.463	(.139)	.559	1.550	1.187	1.650	2.210	6.973
	A	23.263	2.397	3.689	(.274)	(.126)									
TOTAL	F	95.085	13.451	13.129	14.449	21.560	15.691	16.713	17.673	19.840	24.201	19.058	19.483	22.481	217.779
	A	95.085	13.994	13.554	13.580	14.779									
HISTORY OF TOT FY68 FCST			211.900	213.700	217.779	217.779									

CHANGES IN FY 68 PROGRAM PLAN -- DOUGLAS

UNTIL FEBRUARY WE WERE FOLLOWING A 68 PLAN

OF $407.2 MILLION CUMULATIVE.

FROM FEBRUARY UNTIL OCTOBER WE WERE FOLLOWING

A 68 PLAN OF $312.9 MILLION CUMULATIVE.

FROM OCTOBER UNTIL NOVEMBER WE WERE FOLLOWING

A 68 PLAN OF $288.3 MILLION CUMULATIVE.

WE ARE NOW FOLLOWING A 68 PLAN OF $259.6 MILLION CUMULATIVE.

MANPOWER
CURRENT FY 68 DIRECT AND INDIRECT
12 COMPACT BASELINE

V1707-1

SYSTEM SEGMENT: LABORATORY VEHICLE

CONTRACTOR: DOUGLAS AIRCRAFT CO

AS OF: W/E 29 OCT 67

BY FUNCTION		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
SYSTEM DEVELOPMENT	F	405	364	383	393	387	375	359	348	327	326	316	310
	A	321	334	367	383								
DEVELOPMENT ENGINEERING	F	1386	1406	1505	1533	1796	1796	1798	1808	1869	1938	1992	2054
	A	1268	1346	1410	1582								
CONFIGURATION MANAGEMENT	F	14	14	14	15	15	15	16	16	16	17	17	17
	A	10	10	10	12								
PROGRAM INTEGRATION	F	87	84	109	108	116	117	117	117	115	115	111	117
	A	63	62	64	86								
TESTING	F	110	125	220	204	240	275	329	362	383	409	402	400
	A	87	99	100	107								
LOGISTICS SUPPORT	F	60	60	67	68	68	71	75	77	79	82	86	88
	A	54	49	51	58								

MANPOWER
CURRENT FY 68 DIRECT AND INDIRECT
12 COMPACT BASELINE

V1707-2A

SYSTEM SEGMENT: LABORATORY VEHICLE

CONTRACTOR: DOUGLAS AIRCRAFT CO

AS OF: W/E 29 OCT 67

BY FUNCTION		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
MANUFACTURING	F	50	71	87	105	174	250	324	401	477	553	630	710
	A	41	45	70	92								
PLANNING AND PROCUREMENT	F	69	83	97	102	164	177	185	195	202	209	215	246
	A	70	85	99	131								
TOOLING	F	115	175	213	233	368	442	472	500	529	546	552	553
	A	128	178	262	320								
RELIABILITY	F	37	44	55	67	86	98	123	141	166	194	199	206
	A	31	35	45	47								
ENGINEERING DEVELOPMENT OPERATIONS	F	90	115	124	133	142	152	175	184	189	213	222	234
	A	76	58	82	96								
TOTAL DIRECT	F	2423	2541	2874	2961	3556	3768	3973	4149	4352	4602	4742	4935
	A	2149	2301	2560	2914								
TOTAL INDIRECT	F	1575	1652	1868	1925	2311	2449	2582	2697	2828	2991	3082	3208
	A	1397	1496	1664	1894								
TOTAL	F	3998	4193	4742	4886	5867	6217	6555	6846	7180	7593	7824	8143
	A	3546	3797	4224	4808								

HERE IS MY UNDERSTANDING OF THE PROGRAM NOW

V1710-3

(DOLLARS IN MILLIONS)

FUNDING	67	68	69	70	71	72	73	TOTAL
	95.1	164.5	226.0	190.0	163.0	120.0	51.4	1010.0

WITH THE PROGRAM CONTENT WE HAVE NOW, AS I CAN FORSEE IT, THIS FUNDING WILL SUPPORT A SCHEDULE ADJUSTMENT OF: SEVEN (7) MONTHS SLIP IN FLIGHT VEHICLE NO. 3

D ~~SECRET~~ SPECIAL HANDLING

WHS-538
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Pages: 8
16 November 1967

PROGRAM COST REDUCTION CONSIDERATIONS

D ~~SECRET~~ SPECIAL HANDLING

By 2134-67

2

CONCEPTS

- SCHEDULE SLIDE ALONE WILL NOT SOLVE FISCAL CRISIS
- DELETIONS IN THE PROGRAM REQUIRED - PARTICULAR EMPHASIS NEEDED ON DELETIONS AFFECTING MANNING REQUIREMENTS FOR FY 68; DELETIONS OF TESTS NEEDED FOR FY 69
- GROUND RULES FOR CANDIDATES
  - WILL NOT UNDERMINE ULTIMATE OBJECTIVE OF OBTAINING UNMANNED SYSTEM
  - WILL NOT UNDERMINE DEMONSTRATION OF MANNED CAPABILITY OR RATIONALE FOR MANNED APPROACH

STRAW MAN SYSTEM COST REDUCTION PROGRAM

ITEM	PROGRAM GAIN/IMPACT	RISK ASSESSMENT
o ELIMINATE FLIGHT 2	o DELETION OF HARDWARE	o INCREASED, BUT STATISTICAL
	o LATER SCHEDULING OF FLIGHT 1 HARDWARE AND SUPPORT REQUIREMENTS	
o ASSEMBLE ON PAD	o REDUCED TOTAL TIME OF LV CHECKOUT	o PRIMARILY SCHEDULE
	o REDUCTION OF HUNTINGTON BEACH SUPPORT REQUIREMENTS	o DELETION OF LOW LEVEL SHAKE
o ELIMINATION OF SECOND CHECKOUT CAPABILITY	o ELIMINATION OF 1 SET OF AGE AT GE AND DAC	o PRIMARILY SCHEDULE
	o REDUCTION IN SUPPORT, ASSEMBLY & CHECKOUT FUNCTIONS	o REQUIRES ELIMINATION OF LMQTV ACOUSTIC QUALIFICATION
	o OPENING OF LAUNCH CENTERS	
o REDUCE GE AVE TESTING AT ROCHESTER	o SIMPLIFICATION OF MISSION MODULE TEST SET	o REDUCTION IN CONFIDENCE
	o REDUCTION OF PROFILE TESTING	
	o ELIMINATION OF SIMULATED DYNAMICS TESTS	
	o REDUCTION OF GE TEST SUPPORT	

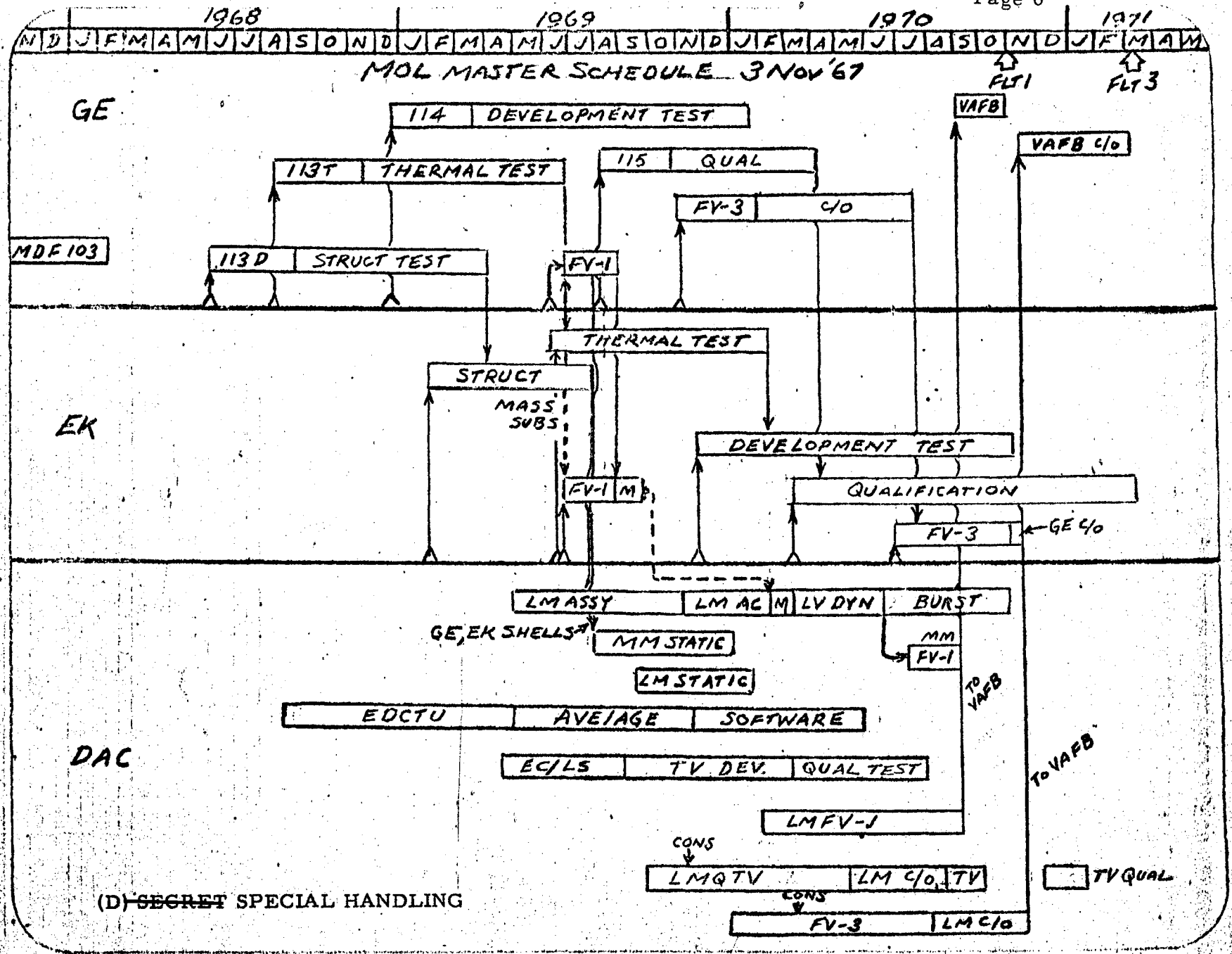
D ~~SECRET~~ SPECIAL HANDLING

STRAW MAN SYSTEM COST REDUCTION PROGRAM (CONT'D)

- SIMPLIFICATION OF HARDWARE TEST FLOW
- USING SAME MISSION MODULE SUBSTITUTE AT HUNTINGTON BEACH THROUGHOUT TEST PROGRAM
- REDUCTION IN SYSTEM QUALIFICATION DURATIONS AND BACKUP MODE TESTING
- PRIMARY MODE CONFIDENCE RETAINED
- 30-DAY DURATION DEMONSTRATED ON ORBIT

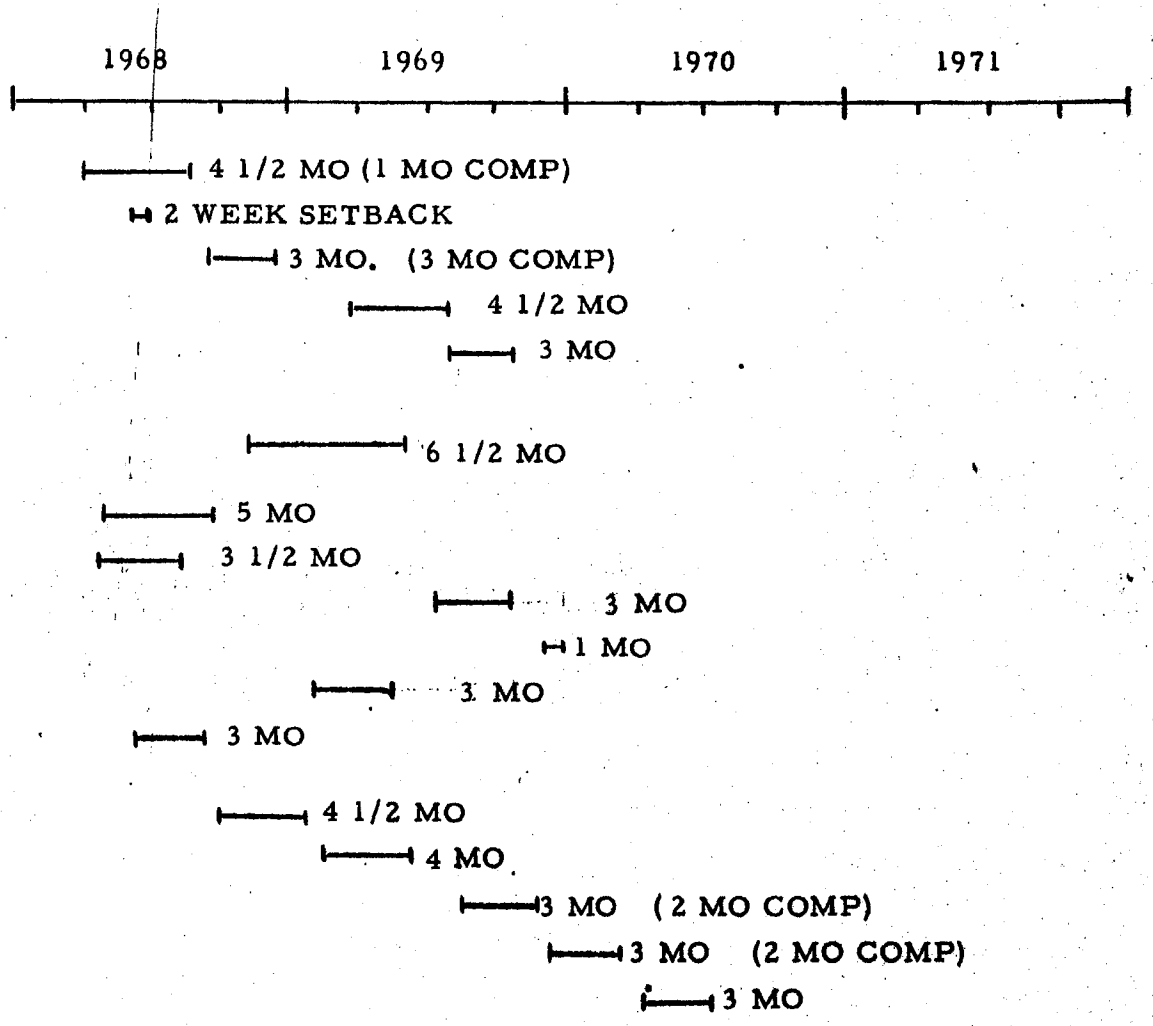
TYPICAL ADDITIONAL ITEMS UNDER CONSIDERATION

- COMMITMENT TO GO TO LOW COEFFICIENT MATERIAL
  - ELIMINATION OF LOUVERS
  - 2-POSITION SLIDING MASK
- ELIMINATION OF SECONDARY PLATEN
  - ELIMINATION OF PROCESSOR
  - ELIMINATION OF UNFUNDED VIEWER
- SIMPLIFICATION OF VISUAL OPTICS
  - SINGLE POWER ON HIGH POWER SYSTEM
  - ELIMINATION OF ALPHA NUMERICS, DEROTATION, AND LOW POWER RANGE ON ATS



TEST FLOW - SCHEDULE ADJUSTMENTS

20 OCTOBER 1967 BASELINE TO 3 NOVEMBER 1967 PROPOSED BASELINE



SUMMARY OF STRAW MAN PROGRAM

- REPROGRAMMING AND DELETION CAN EFFECT SIGNIFICANT REDUCTION IN FY 68 ACTIVITIES
- SOME ALLEVIATION OF FY 69 ACTIVITIES CAN BE ACHIEVED
- FY 70 BEARS THE BRUNT OF THE TEST PROGRAM
- STRAW MAN REPROGRAMMING INCREASES SCHEDULE RISK SUBSTANTIALLY
- TECHNICAL RISK IS ALSO INCREASED