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SUBJECT:
Detailed cost breakdown fr Missions 7106
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INSTRUCTIONS Prepare 2 copies of this route sheet and forward ALL copies together with neces- sary correspondence and other documents.			s-	Director, NRL To: Director NRO Date of Material 6 March 1967 5600-RMG book ORIG. IDENT. SYMBOL (Mail Room Fill in)	DIVISIONS DO NOT FILL I
I. TEOR INFORMATION 2. FOR APPROVAL 33 PREPARE REPLY 4. FOR SUGNATURE 5. FOR NECESSARY ACTION 6. FOR MEMO. COMMEN	8. F0 9. DIS 10. RE	R GUIDANCE R COMPLIANCE STRIBUTE ENCL TAIN ENCLOSU	OSURE	Bye - 26906-67 SUBJECT Detailed cost breakdown for Missip HANDLE VIA BYEMAN CONTROL SYSTEM	FILE NO. Onish 7106 a.md. 7107 VISCO VIA SVIAN OFFICE System FR/S: NO. (Mail Rm. Fill 17)

5600-RM:bdk BYE-26906-67 6 March 1967

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'HANDLE VIA BYEMAN CONTROL SYSTEM

From: Director, Naval Research Laboratory, Washington, D. C. 20390

To: Director, NRO

Subj: Detailed cost breakdown for Missions 7106 and 7107

Ref: (a) NRL 1tr 5600: RDM: jch of 7 Feb 1967 BYE-26904-67

Encl: (1) Monthly expenditure-rate and Funding Summary Table

(2) Mission 7107 Cost Comparison - TABLE I

(3) Program/FY Costs - TABLES II & III

(4) Program Cost Details Based on 7107 (Accelerated Program)

(5) Program Cost Details Based on 7107 (Present Program)

- 1. The Naval Research Laboratory forwarded a proposal for Missions 7106 and 7107, reference (a), which recommended approval for the Mission 7107 concept so that certain economies could be effected by placing the Mission 7107 procurement orders in parallel with those now under way for Mission 7106. This would allow detailed planning and expediting of Mission 7107 to obtain the earliest possible launch-date in response to the urgent ABM/AES problem. By telephone request, Mr. William Boenning of the NRO staff requested a detailed cost breakdown to show the cost, by year and the economies anticipated for an accelerated program if the Mission 7107 concept is approved by 10 March 1967. In addition, it was requested that these cost be compared with those which would result for the present program where Mission 7107 approval would be delayed until just prior to the launch of Mission 7106, scheduled for 10-months after launch of Mission 7105.
- 2. Enclosure (1) shows a summary of funding for the POPPY Program and the monthly expenditure status reported by the Naval Research Laboratory for the first 7-months of FY-67 plus an estimate for February. Note that the summary Table I at the bottom of enclosure (1) gives the total funds obligated through 31 January 1967 and an estimate for both the accelerated and the present program and compares these costs with the funds received through FY-67. The deficit of \$640,000.00 shown is an estimate of the costs which would be necessary to fund on an accelerated program, the Mission 7107 procurements for the remaining 4-months of FY-67.
- 3. Enclosures (2) and (3) summarize and compare the accelerated and present programs, using the details presented in enclosure (4) (for the accelerated program) and enclosure (5) (present program). These details include the expenditure and obligations incurred during the first 7-months of FY-67 and

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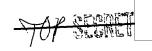
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estimated for the remainder of FY-67 as well as FY-68, FY-69 and FY-70. The savings of \$1,763,000.00 saved plus the 8-month earlier launch schedule for Mission 7107 are the most highly significant benefits of adopting the Accelerated Program. This Accelerated Program requires Mission 7107 concept approval by 10 March 1967 as well as \$640,000.00 to cover the early procurement costs of Mission 7107 long-lead-time components. These procurements during March and April 1967 can be easily expedited by adding them to the procurements already in progress for Mission 7106. This is particularily appropriate for the majority of the SIGINT subjectem components since the two missions are so very similar. Thus, significant cost savings can be effected by quantity purchase of components for both missions at one time. Of far greater importance than these savings in costs are the benefits inherent in the schedule acceleration which would result by the early procurement of the flight sub-system components, thus avoiding the usual vendor delivery delays in the NRL production and fabrication schedule. The "Present Program" would require Mission 7107 approval only by December 1967 (just prior to the launch of Mission 7106) and would result in a 7107 launch schedule following 7106 launch by about 18-months. This "Present Program" represents the stance normally taken in the POPPY Program where the future mission is not approved until just prior to the contemporary launch. It has the benefit of assuring the latest requirements are used in formulating the design goals for each mission but the flexibility and responsiveness of the POPPY design team has been demonstrated recently by the changes in Mission 7105 to accomodate the ABM/AES tasking.

- 4. Enclosure (4) presents for the "Accelerated Program" the detailed costing which would result in a Mission 7107 launch 10-months following the launch of Mission 7105 and 7106 would follow the launch of Mission 7105 by about 10-months, as given in reference (a). FY-64, FY-65 and FY-66 costs have not been included because they have been supplied in the past. Notice that the FY-67 costs to Mission 7107 would be almost entirely in the Payload Development costs for electronic equipment. These costs are further summarized in enclosures (2) and (3) TABLE II.
- 5. Enclosure (5) provides the "Detailed Costing" for the POPFY Program under the "Present Program" including the FY-67 costs through 31 January and estimates for those of the remainder of FY-67, FY+68, FY+69 and FY-70. These costs are further summarized in enclosures (2) and (3) TABLE III.

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- 6. NRL is sincere in desiring to be responsive to the urgent requirement of the President's Scientific Advisory Committee and, therefore, requests early concurrence of the "Accelerated Program". Delays of even a matter of a week will require modification in contracts which have time-limited options which must be exercised at the earliest possible time to avoid expiration.
- 7. Your early response is urgently requested.

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STERET HANDLE VIA BYEMAN CONTROL SYSTEM Encl (1) to NRL ltr 5600-RM:bdk, BYE-26906-67

MONTHLY EXPENDITURE RATE (7-Months FY-67)

FY-ST		Monthly Total (In thousands)	Cumulative (In thousands)
FY-67	July	\$240.6 K	\$240.6 K
•	August	335.8	576.4
	September	265.0	841.4
•	October	708.2	1,549.7
	November	252.8	1,802.5
•	December	204.4	2,006.9
	January	823.5	2,830.4

FY-67 Average (7-month) expenditure - \$404.3 K

February (estimate) Monthly Total Cumulative \$1,200.0 K \$4,030.4 K

Average monthly expenditure (8-months) estimated - \$503.8 K

FUNDING SUMMARY TABLE

FY	Present Program Total Obligations and Estimated Costs	Accelerated Program Total Obligations and Estimated Costs	Program Funds Received
164	\$4,365.0 к	\$4,365.0 K	\$6,000.0 K
65	5,934.0	5,934.0	6,000.0
166	6,645.0	6,645.0	6,000.0
167	7.004.0 56.55	7,644.0	5,849.0
	\$23,849.0 K	\$24,489.0 K (*\$640.0 K Deficit)	\$23,849.0 к

^{*} Note the Accelerated Program will require immediate approval of Mission 7107 design concept and the provision of \$640.0 K of FY-67 funds.

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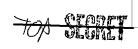
TABLE I MISSION 7107 COST COMPARISON

Cos	ting Element	Accelerated Program (Immediate Approval 10 March 1967)	Present Program (Approval Prior to 7106 Launch by Dec '67)
I.	Payload (Developmental) Recurring	\$4,736.5 K	\$5,999.1 K
II.	Ground Station (Investment)	2,048.9	2,226.9
III.	Facilities (Investment)	547.5	580.5
IV.	Services (Operational)	700.0	990.0
		\$8,032.9 K	\$9,796.5 к
	7107 LAUNCH DATE RELATIVE TO 7106 -	L-pris + 10-months	+ 18-months

Accelerated Program for Mission 7107 saves \$1,763.6 K

Accelerated Program for Mission 7107 saves approximately 8-MONTHS in Launch Schedule.

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TABLE II PROGRAM/FY COSTS - ACCELERATED PROGRAM

(Assuming 7107 Approval by 10 March 1967)

		Missi		
FY 66	6111.7	<u>7106</u> 533.3	7107	by FY
167	77	\$2,855.7 K	\$ \$640.0 к	\$7,654.7 K
168		6,000.0 K	2,147.9	8,147.9
169	Çarîne. →	.essi-	5,245.0	5,245.0
'70	# 10.7/10 V		***	· ••••
	Totals by Events	\$8,855.7 K 9389,0	\$8,032.9 К	

TABLE III PROGRAM/FY COSTS - PRESENT PROGRAM

(Assuming 7107 Approval by December 1967)

	in the second	Mission Cost Estimates						
FY		7106	7107	Total by FY	ž. • Nime			
167	4149.1	\$2,855.7 K	\$. <u>-</u>	\$2,855.7 K	7004.8K			
1 68		6,000.0	2,296.5 K	8,771.5				
169	• ₃	*	6,000.0	6,000.0				
70	•		1,500.00	1,500.0				
	Totals by Events	\$8,855.7 K	\$9,796.5 к	©r i Etat indendi, vocanita de r i i i i i i i i i i i i i i i i i i	-			

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3.



Encl (4) to NRL itr 5600-RM:bdk, BYE-26906-67

ACCELERATED PROGRAM COST DETAILS (In thousands)

		FY-6	57	FY-67	7				(
		O bligations		Estimates			FY-	FY- 69	
		(7-mos	a)	(5-mo	.)		Estin	ates	Estimates
I: PAY	LOAD (development-recurring)	7105	7106	7105	7106	7107	7106	7107	7107 -
Α.	Electronic Equipment (Data & TM)	231.0	419.7	72.0	590.5	585.0	490.0	472.0	450.0
≉ B.	Stabilization Systems	154.8	-		242.0	. +	160.0	193.5	150.0
C.	Power Systems	63.8	. .	-	250.0	**	180.0	200.0	140.0
D.	Control Systems	54.6	, 	-	100.0	 .	150.0	80.0	100.0
E.	Compatibility & Environmental Tests	9.1	- ;	2.2	15.0	_	50.0	12.0	50.0
· F.	Mechanical Structures & Fabrication	47.6		÷	125.0	÷	25.0	100.0	30.
G.	NRL Salaries and Overhead	714.7	20.0	155.3	378.0	5.0	1235.0	315.0	863.
н.	Misc. Materials, Travel & Shipping	280.2	30.0	69.8	220.0	15.0	805.0	176.0	800.0 ₹ (2583.0) ₹
	1700 B	(1555.8)	11:60.71		(1920:5)	(605.0)	(3095.0)	(1548.5)	(2583 0) 0
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II. GRO	UND STATION (investment)								d. - 1
A.	Electronics (Recv., Record & Timing(~ 210.8	55.0	234.8	55.Ò	•	1130.0	44.0	870.0 g
В.	Antenna Systems	19.5	<i></i>	67.5	37.5	• • •	160.0	29.9	360.0 Releas
ç, c	NRI Salaries & Overhead	42.0	8.0	60.0	10.0		260.0	8.0	192.0 8
, D	Misc. Materials, Travel & Shipping	65.4	15.0	106.0	25.0	:	475.0	20.0	525.0 8
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7		(337.7)	(78.0)	(468.3)	(127.5)	•	(2025.0)	(101.9)	(1947.0) ²
		•			•	k			· 70
FAC	ILITIES (investment)				-4				9
A •	Test equipment & facilities	213.2	म्म.0	<u>317.4</u>	216.0	<u>35.0</u>	<u>350.0</u>	172.5	340.c =
		(213.2)	(44.0)	(317.4)	(216.0)	(35.0)	(350.0)	(172.5)	(3,40,0)
			,	(3-1/-/)	(,	327	(3)	(>)	02
IV. SER	VICES (operational)							<i>3*</i>	·
A .	Operational Field Assistance	104.4		718.0			375.0	325.0	250.0 8
В.	Computer Services	<u>37-3</u>	37.7	97.7			155.0	<u></u>	125.0
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***		(141.7)		(815.7)			(530.0)	(325.0)	(375.0)
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	TOTALS	<u> </u>	1.474. **	· <u></u>		المستخدمين		<u> </u>	1
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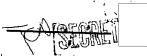


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	PRESEN	T PROGRA		DETAILS		}.	₹ .		\ -	5555
I. PAYLOAD (development-recurring) A. Electronic Equipment (Data & TM) B. Stabilization Systems C. Power Systems D. Control Systems E. Compatibility & Environmental Tests F. Mechanical Structures & Fabrication G. NRL Salaries & Overhead H. Misc. Materials, Travel & Shipping	47.6 714.7 280.2	7106 419.7 - 20.0 30.0	7105 72.0 - - -2.2 - 155.3 69.8	FY-67 timates 5-mo.) 7106 590.5 242.0 250.0 100.0 15.0 125.0 378.0 220.0	7107	7106 490.0 160.0 180.0 150.0 50.0 25.0 1235.0 805.0	7107 775.0 193.5 200.0 80.0 12.0 100.0 277.0 193.6	FY-69 Estimates 7107 740.0 160.0 180.0 150.0 50.0 25.0 1235.0 805.0	FY-70 Estimate (3-mo.) 7107 88.0 10 25, 500.0 200.0	9 Appro
 II. GROUND STATION (investment) A. Electronics (Recv., Record & Timing) B. Antenna 'Systems 'C. NRL Salaries & Overhead D. Misc. Materials, Travel & Shipping 	210.8 19.5 42.0 65.4 (337.7)	55.0 - 8.0 15.0	234.8 67.5 60.0 106.0 (468.3)	55.0 37.5 10.0 25.0 (127.5)		(3095.0) 1130.0 160.0 260.0 475.0 (2025.0)	(1831.1) 44.0 29.0 8.0 20.0 (101.9)	880.0 160.0 260.0 475.0 (1775.0)	(823.0)	ved for Release: 20
III. FACILITIES (investment) A. Test equipment & facilities	<u>213.2</u> (213.2)	<u>44.0</u> (44.0)	317.4 (317.4)	<u>216.0</u> (216.0)	.	350.0 (350.0)	113.5 (113.5)	350.0 (350.0)	117.0	6/11
IV. SERVICES (operational) A. Operational Field Assistance B. Computer Services	$\frac{104.4}{37.3}$ (141.7)	ent	718.0 <u>97.7</u> (815.7)		. •	375.0 155.0 (530.0)	250.0 	375.0 155.0 (530.0)	150.0. 60.0 (210.0)	9
TOTALS	2248.4	<u>591.7</u>	1900.7	2264.0	0.0	6000.0	2296.5	6000.0	1500.0	

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