

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION



CHRONOLOGICAL HISTORY
FISCAL YEAR 1971
BUDGET SUBMISSION

Prepared by:
Office of Administration
Budget Operations Division
Code BT-1 EXT. 24146

FINAL 6/11/71

KEY TO PAGE NUMBERS UNDER LEGISLATIVE REFERENCE

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LEGISLATIVE REFERENCE

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Basic Research Prog.....	7	16	31	45	47				
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Chemical Prop.....	8	--	32	--	47				
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(Note: Legislative documents reproduced herein are not complete in all cases. For complete text refer to the document itself.)

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Chronological History of the FY 1971 Budget Submission
(In thousands of dollars)

I T E M	A U T H O R I Z A T I O N							A P P R O P R I A T I O N				
	NASA Budget Submission	House Comm Approved HR 16516 Rep No 91-929 3/19/70	House Approved 4/23/70	Senate Comm Approved HR 16516 Rep No 91-833 5/1/70	Senate Approved 5/6/70	Conf Comm Appd 6/15/70 Rep 91-1189 P.L. 91-303 7/2/70	Diff From Budget Submission	House HR 19830 Rep 91-1616 11/19/70	Senate HR 19830 Rep 91-1388 12/2/70	P.L. 91-556 12/17/70	Difference from Budget Submission	Difference from Authoriza- tion
TOTAL APPROPRIATIONS:												
Research & Development..	2,606,100	2,903,200	2,873,200	2,606,100	2,606,100	2,693,100	+87,000	2,565,000	2,565,000	2,565,000	-41,100	-128,100
Construction of Facilities.....	34,600	33,975	33,975	32,550	32,550	34,478	-122	24,950	24,950	24,950	-9,650	-9,528
Research & Program Management (Basic.....	692,300	693,700	693,700	677,300	677,300	683,300	-9,000	678,725	678,725	678,725	-13,575	-4,575
Res. & Prog. Mgt.(Supp)2/	43,944	43,944	43,944	43,944	43,944	43,944	---	43,944	43,944	43,944	---	---
GRAND TOTAL.....	3,376,944	3,674,819	3,644,819	3,359,894	3,359,894	3,454,822	+77,878	3,312,619	3,312,619	3,312,619	-64,325	-142,203
R&D Appropriation:												
O NSF.....	1,474,200	1,772,700	1,742,700	1,474,200	1,474,200	1,561,200	+87,000					
O SSA.....	565,700	565,700	565,700	565,700	565,700	565,700	---					
O ART.....	264,200	266,500	266,500	264,200	264,200	266,500	+2,300					
O TDA.....	298,000	293,800	293,800	298,000	298,000	295,200	-2,800					
O TU.....	4,000	4,500	4,500	4,000	4,000	4,500	+500					
TOTAL R&D.....	2,606,100	2,903,200	2,873,200	2,606,100	2,606,100	2,693,100	+87,000	2,565,000	2,565,000	2,565,000	-41,100	-128,100
CoF Appropriation:												
O NSF.....	2,000	2,000	2,000	2,000	2,000	2,000	---	575	575	575	-1,425	-1,425
O SSA.....	6,050	6,050	6,050	4,000	4,000	5,928	-122	2,625	2,625	2,625	-3,425	-3,303
O ART.....	6,275	6,275	6,275	6,275	6,275	6,275	---	4,750	4,750	4,750	-1,525	-1,525
O TDA.....	1,275	1,275	1,275	1,275	1,275	1,275	---	---	---	---	-1,275	-1,275
O SM.....	14,000	13,375	13,375	14,000	14,000	14,000	---	15,000	15,000	15,000	+1,000	+1,000
Fac. Plan'g and Design..	5,000	5,000	5,000	5,000	5,000	5,000	---	2,000	2,000	2,000	-3,000	-3,000
TOTAL CoF.....	34,600	33,975	33,975	32,550	32,550	34,478	-122	24,950^{1/}	24,950^{1/}	24,950^{1/}	-9,650	-9,528
R&PM Appropriation:												
O NSF.....	330,583	330,583	330,583	*	*	*	*					
O SSA.....	97,461	97,461	97,461	*	*	*	*					
O ART.....	201,521	202,921	202,921	*	*	*	*					
Supporting Operations...	62,735	62,735	62,735	*	*	*	*					
TOTAL R&PM (Basic)....	692,300	693,700	693,700	677,300	677,300	683,300	-9,000	678,725	678,725	678,725	-13,575	-4,575
RPM (Supp).....	43,944	43,944	43,944	43,944	43,944	43,944	---	43,944	43,944	43,944	---	---
TOTAL NASA.....	3,376,944	3,674,819	3,644,819	3,359,894	3,359,894	3,454,822	+77,878	3,312,619	3,312,619	3,312,619	-64,325	-142,203
<p>NOTE - The President vetoed the original Appropriation Bill (HR 17548) on August 11, 1970, and the House sustained the veto on August 13, 1970 sending the Bill back to the appropriations committee. The new Bill (HR 19830) subsequently passed both the House and Senate and was signed into law. The amounts and provisions pertaining to NASA were not changed in the new Bill.</p>												

CPY 411-408

• Undistributed

1/ Amounts distributed in the Conference Report No. 91-1345.

2/ See footnotes on page 9.

Prepared by:
Office of Administration
Budget Operations Div.
Code BT-1 Ext. 24146

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Chronological History of the FY 1971 Budget Submission
(In thousands of dollars)

ITEM	AUTHORIZATION						APPROPRIATION					
							House HR 17548 Rep 91-1060 5/7/70 Appd 5/12/70	Senate HR 17548 Rep 91-949 6/24/70 Appd 7/7/70	Conf Comm Appd 7/28/70 Rep 91-1345	Difference from Budget Submission	Difference from Authoriza- tion	
							TOTAL APPROPRIATIONS:					
							Research & Development..	2,500,000	2,606,100	2,565,000	-41,100	-128,100
							Construction of Facilities.....	18,275	34,478	24,950	-9,650	-9,528
							Research & Program Management.....	678,725	678,725	678,725	-13,575	-4,575
							GRAND TOTAL.....	3,197,000	3,319,303	3,268,675	-64,325	-142,203
							R&D Appropriation:					
							OMSF.....		1,474,200			
							OSSA.....		565,700			
							OART.....		264,200			
							OTDA.....		298,000			
							OTU.....		4,000			
							TOTAL R&D.....	2,500,000	2,606,100^{2/}	2,565,000	-41,100	-128,100
							CoF Appropriation:					
							OMSF.....	575	2,000	575	-1,425	-1,425
							OSSA.....	700	5,928	2,625	-3,425	-3,303
							OART.....	---	6,275	4,750	-1,525	-1,525
							OTDA.....	---	1,275	---	-1,275	-1,275
							OGM.....	15,000	14,000	15,000	+1,000	+1,000
							Fac. Plan'g and Design..	2,000	5,000	2,000	-3,000	-3,000
							TOTAL CoF.....	18,275^{1/}	34,478^{1/}	24,950^{1/}	-9,650	-9,528
							R&PM Appropriation:					
							OMSF.....					
							OSSA.....					
							OART.....					
							Supporting Operations...					
							TOTAL R&PM.....	678,725	678,725	678,725	-13,575	-4,575
							TOTAL NASA.....	3,197,000	3,319,303	3,268,675	-64,325	-142,203

The data on this page reflects actions taken by Congress on the original appropriation bill (HR 17548) which was vetoed. The reports on the new bill (HR 19830) do not specifically mention NASA, and they refer to the reports on the original bill for specific sums and provisions. Therefore, these statistics and the appropriate reports have been included in this History.

GPC 511-408

1/ Amounts distributed in the reports but not in the Bill.

2/ Report left distribution to the agency. The amount is equal to the budget request and is so distributed.

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Office of Administration
Budget Operations Div.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Chronological History of the FY 1971 Budget Submission
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I T E M	A U T H O R I Z A T I O N							A P P R O P R I A T I O N				
	NASA Budget Submission	House Comm Approved HR 16516 Rep No 91-929 3/19/70	House Approved 4/23/70	Senate Comm Approved HR 16516 Rep No 91-833 5/1/70	Senate Approved 5/6/70	Conf Comm Appd 6/15/70 Rep 91-1189 P.L. 91-303 7/2/70	Diff From Budget Submission	House HR 19830 Rep 91-1616 11/19/70	Senate HR 19830 Rep 91-1388 12/2/70	P.L. 91-556 12/17/70	Difference from Budget Submission	Difference from Authoriza- tion
RESEARCH AND DEVELOPMENT	2,606,100	2,903,200	2,873,200	2,606,100	2,606,100	2,693,100	+87,000	2,565,000	2,565,000	2,565,000	-41,100	-128,100
Apollo.....	956,500	1,101,500	1,087,000	956,500	956,500	994,500	+38,000					
Space Flight Operations.	515,200	670,200	654,700	515,200	515,200	565,200	+50,000					
Advanced Missions.....	2,500	1,000	1,000	2,500	2,500	1,500	-1,000					
Physics & Astronomy.....	116,000	110,400	110,400	116,000	116,000	116,000	---					
Lunar & Planetary.....	144,900	144,900	144,900	144,900	144,900	144,900	---					
Bioscience.....	12,900	12,900	12,900	12,900	12,900	12,900	---					
Space Applications.....	167,000	172,600	172,600	167,000	167,000	167,000	---					
Launch Vehicle Proc.....	124,900	124,900	124,900	124,900	124,900	124,900	---					
Basic Research.....	17,600	18,000	18,000	17,600	17,600	18,000	+400					
Space Vehicle Systems...	30,000	30,000	30,000	30,000	30,000	30,000	---					
Electronics Systems.....	22,400	23,900	23,900	22,400	22,400	23,900	+1,500					
Human Factor Systems...	17,900	18,300	18,300	17,900	17,900	18,300	+400					
Space Power & Electric Propulsion Systems.....	30,900	30,900	30,900	30,900	30,900	30,900	---					
Nuclear Rockets.....	38,000	38,000	38,000	38,000	38,000	38,000	---					
Chemical Propulsion.....	20,300	20,300	20,300	20,300	20,300	20,300	---					
Aeronautical Vehicles...	87,100	87,100	87,100	87,100	87,100	87,100	---					
Tracking & Data Acq.....	298,000	293,800	293,800	298,000	298,000	295,200	-2,800					
Technology Utilization..	4,000	4,500	4,500	4,000	4,000	4,500	+500					
CONSTRUCTION OF FACILITIES	34,600	33,975	33,975	32,550	32,550	34,478	-122	24,950 ^{1/}	24,950 ^{1/}	24,950 ^{1/}	-9,650	-9,528
Ames Research Center.....	1,525	1,525	1,525	1,525	1,525	1,525	---	---	---	---	-1,525	-1,525
Coddard Space Flight Center	2,050	2,050	2,050	---	---	1,928	-122	1,925	1,925	1,925	-125	-3
Jet Propulsion Laboratory.	1,950	1,950	1,950	1,950	1,950	1,950	---	1,950	1,950	1,950	---	---
Kennedy Space Center.....	575	575	575	575	575	575	---	575	575	575	---	---
Manned Spacecraft Center..	900	900	900	900	900	900	---	---	---	---	-900	-900
Marshall Space Flight Ctr.	525	525	525	525	525	525	---	---	---	---	-525	-525
Nuclear Rocket Development Station.....	3,500	3,500	3,500	3,500	3,500	3,500	---	3,500	3,500	3,500	---	---
Various Locations.....	18,575	17,950	17,950	18,575	18,575	18,575	---	15,000	15,000	15,000	-3,575	-3,575
Facility Planning & Design	5,000	5,000	5,000	5,000	5,000	5,000	---	2,000	2,000	2,000	-3,000	-3,000
RES. & PROG. MGT. (BASIC)	692,300	693,700	693,700	677,300	677,300	683,300	-9,000	678,725	678,725	678,725	-10,575	-4,575
RES. & PROG. MGT. (SUPP.)	43,944	43,944	43,944	43,944	43,944	43,944	---	43,944	43,944	43,944	---	---
TOTAL, NASA.....	3,376,944	3,674,819	3,644,819	3,359,894	3,359,894	3,454,822	+77,878	3,312,619	3,312,619	3,312,619	-64,325	-142,203

SPC 911-408

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

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					RESEARCH AND DEVELOPMENT	2,500,000	2,606,100 ^{2/}	2,565,000	-41,100	-128,100
					Apollo.....		956,500			
					Space Flight Operations.		515,200			
					Advanced Missions.....		2,500			
					Physics & Astronomy.....		116,000			
					Lunar & Planetary.....		144,900			
					Bioscience.....		12,900			
					Space Applications.....		167,000			
					Launch Vehicle Proc.....		124,900			
					Basic Research.....		17,600			
					Space Vehicle Systems...		30,000			
					Electronics Systems.....		22,400			
					Human Factor Systems....		17,900			
					Space Power & Electric Propulsion Systems.....		30,900			
					Nuclear Rockets.....		38,000			
					Chemical Propulsion.....		20,300			
					Aeronautical Vehicles...		87,100			
					Tracking & Data Acq.....		298,000			
					Technology Utilization..		4,000			
					CONSTRUCTION OF FACILITIES	18,275 ^{1/}	34,478 ^{1/}	24,950 ^{1/}	-9,650	-9,528
					Ames Research Center.....	---	1,525	---	-1,525	-1,525
					Goddard Space Flight Center	---	1,928	1,925	-125	-3
					Jet Propulsion Laboratory.	700	1,950	1,950	---	---
					Kennedy Space Center.....	575	575	575	---	---
					Manned Spacecraft Center..	---	900	---	-900	-900
					Marshall Space Flight Ctr.	---	525	---	-525	-525
					Nuclear Rocket Development Station.....	---	3,500	3,500	---	---
					Various Locations.....	15,000	18,575	15,000	-3,575	-3,575
					Facility Planning & Design	2,000	5,000	2,000	-3,000	-3,000
					RESEARCH AND PROGRAM MGMT.	678,725	678,725	678,725	-13,575	-4,575
					TOTAL, NASA.....	3,197,000	3,319,303	3,268,675	-64,325	-142,203

The data on this page reflects actions taken by Congress on the original appropriation bill (HR 17548) which was vetoed. The reports on the new bill (HR 19830) do not specifically mention NASA, and they refer to the reports on the original bill for specific sums and provisions. Therefore, these statistics and the appropriate reports have been included in this History.

GPO 911-408

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RESEARCH & DEVELOPMENT APPROPRIATION:	2,606,100	2,903,200	2,873,200	2,606,100	2,606,100	2,693,100	+87,000	2,565,000	2,565,000	2,565,000	2,565,000	2,565,000
OFFICE OF MANNED SPACE FLIGHT.....	1,474,200	1,772,700	1,742,700	1,474,200	1,474,200	1,561,200	+87,000					
Apollo Program.....	(956,500)	(1,101,500)	(1,087,000)	(956,500)	(956,500)	(994,500)	(+38,000)					
Spacecraft.....	402,500	447,500	*	402,500	402,500	440,500	+38,000					
Saturn V.....	231,000	331,000	*	231,000	231,000	231,000	---					
Operations.....	323,000	323,000	*	323,000	323,000	323,000	---					
Space Flight Operations Program.....	(515,200)	(670,200)	(654,700)	(515,200)	(515,200)	(565,200)	(+50,000)					
Apollo applications.....	364,300	439,300	*	364,300	364,300	414,300	+50,000					
Operations.....	40,900	40,900	*	40,900	40,900	40,900	---					
Space shuttle and station.....	110,000	190,000	*	110,000	110,000	110,000	---					
Advanced Missions Program Adv. missions studies...	(2,500) 2,500	(1,000) 1,000	(1,000) 1,000	(2,500) 2,500	(2,500) 2,500	(1,500) 1,500	(-1,000) -1,000					
OFFICE OF SPACE SCIENCE AND APPLICATIONS.....	565,700	565,700	565,700	565,700	565,700	565,700	---					
Physics and Astronomy Program.....	(116,000)	(110,400)	(110,400)	(116,000)	(116,000)	(116,000)	(---)					
SR&T/Adv. studies.....	17,500	17,500	17,500	17,500	17,500	17,500	---					
Airborne research.....	3,000	3,000	3,000	3,000	3,000	3,000	---					
Data analysis.....	3,000	3,000	3,000	3,000	3,000	3,000	---					
Sounding rockets.....	18,500	18,500	18,500	18,500	18,500	18,500	---					
Solar observatories.....	16,100	16,100	16,100	16,100	16,100	16,100	---					
Astronomical observatories.....	27,100	27,100	27,100	27,100	27,100	27,100	---					
Geophysical observatories	5,200	5,200	5,200	5,200	5,200	5,200	---					
Explorers.....	25,600	20,000	20,000	25,600	25,600	25,600	---					
Lunar and Planetary Exploration Program.....	(144,900)	(144,900)	(144,900)	(144,900)	(144,900)	(144,900)	(---)					
SR&T/Adv. studies.....	17,400	17,400	17,400	17,400	17,400	17,400	---					
Planetary astronomy.....	4,800	4,800	4,800	4,800	4,800	4,800	---					
Data analysis.....	3,900	3,900	3,900	3,900	3,900	3,900	---					
Pioneer.....	32,900	32,900	32,900	32,900	32,900	32,900	---					
Mariner Mars 1969.....	200	200	200	200	200	200	---					
Mariner Mars 1971.....	29,600	29,600	29,600	29,600	29,600	29,600	---					
Mariner Mercury 1973.....	21,100	21,100	21,100	21,100	21,100	21,100	---					
Viking.....	35,000	35,000	35,000	35,000	35,000	35,000	---					

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Bioscience Program.....	(12,900)	(12,900)	(12,900)	(12,900)	(12,900)	(12,900)	(---					
SR&T/Adv. studies.....	9,400	9,400	9,400	9,400	9,400	9,400	---					
Planetary quarantine....	2,000	2,000	2,000	2,000	2,000	2,000	---					
Biosatellite.....	1,500	1,500	1,500	1,500	1,500	1,500	---					
Space Applications Program	(167,000)	(172,600)	(172,600)	(167,000)	(167,000)	(167,000)	(---					
SR&T/Adv. studies.....	25,900	25,900	25,900	25,900	25,900	25,900	---					
TIROS/TOS improvements..	3,200	3,200	3,200	3,200	3,200	3,200	---					
Nimbus.....	28,000	28,000	28,000	28,000	28,000	28,000	---					
Synchronous meteor- ological satellite....	15,600	15,600	15,600	15,600	15,600	15,600	---					
Meteorological soundings	3,100	3,100	3,100	3,100	3,100	3,100	---					
Cooperative applications satellites.....	100	100	100	100	100	100	---					
Global atmospheric research program (studies).....	1,000	1,000	1,000	1,000	1,000	1,000	---					
Applications technology satellites.....	31,100	36,700	36,700	31,100	31,100	31,100	---					
Geodetic satellites.....	3,500	3,500	3,500	3,500	3,500	3,500	---					
Navigation/traffic control satellites studies.....	3,000	3,000	3,000	3,000	3,000	3,000	---					
Earth resources survey..	(52,500)	(52,500)	(52,500)	(52,500)	(52,500)	(52,500)	(---					
Aircraft program.....	11,000	11,000	11,000	11,000	11,000	11,000	---					
Earth resources technology satellite	41,500	41,500	41,500	41,500	41,500	41,500	---					
Launch Vehicle Procurement Program.....	(124,900)	(124,900)	(124,900)	(124,900)	(124,900)	(124,900)	(---					
SR&T/Adv. studies.....	3,000	3,000	3,000	3,000	3,000	3,000	---					
Scout.....	15,100	15,100	15,100	15,100	15,100	15,100	---					
Delta.....	34,000	34,000	34,000	34,000	34,000	34,000	---					
Centaur.....	68,100	68,100	68,100	68,100	68,100	68,100	---					
Titan IIIC.....	4,700	4,700	4,700	4,700	4,700	4,700	---					

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Chronological History of the FY 1971 Budget Submission
(In thousands of dollars)

I T E M	A U T H O R I Z A T I O N							A P P R O P R I A T I O N				
	NASA Budget Submission	House Comm Approved HR 16516 Rep No 91-929 3/19/70	House Approved 4/23/70	Senate Comm Approved HR 16516 Rep No 91-833 5/1/70	Senate Approved 5/6/70	Conf Comm Appd 6/15/70 Rep 91-1189 P.L. 91-303 7/2/70	Diff From Budget Submission	House Comm Approved HR 19830 Rep 91-1616 11/19/70	House Approved 11/24/70	Senate Comm Approved HR 19830 Rep 91-1388 12/2/70	Senate Approved 12/7/70	P.L. 91-556 12/17/70
OFFICE OF ADVANCED RESEARCH AND TECHNOLOGY.....	264,200	266,500	266,500	264,200	264,200	266,500	+2,300					
Basic Research Program....	(17,600)	(18,000)	(18,000)	(17,600)	(17,600)	(18,000)	(+400)					
Aeronautics research and technology.....	6,600	7,000	7,000	6,600	6,600	7,000	+400					
Space research and technology.....	11,000	11,000	11,000	11,000	11,000	11,000	---					
Space Vehicle Systems Program.....	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(---)					
Research and Technology:												
Space vehicle aero- thermodynamics.....	7,300	7,300	7,300	7,300	7,300	7,300	---					
Space vehicle structures.....	12,050	12,050	12,050	12,050	12,050	12,050	---					
Space environmental protection & control	7,800	7,800	7,800	7,800	7,800	7,800	---					
Space vehicle design criteria.....	1,350	1,350	1,350	1,350	1,350	1,350	---					
Aerospace safety research.....	1,500	1,500	1,500	1,500	1,500	1,500	---					
Electronics Systems Program.....	(22,400)	(23,900)	(23,900)	(22,400)	(22,400)	(23,900)	(+1,500)					
Aeronautics research and technology.....	5,800	7,300	7,300	5,800	5,800	7,300	+1,500					
Space research and technology (SR&T)....	16,600	16,600	16,600	16,600	16,600	16,600	---					
Human Factor Systems Program.....	(17,900)	(18,300)	(18,300)	(17,900)	(17,900)	(18,300)	(+400)					
Aeronautics research and technology.....	2,100	2,500	2,500	2,100	2,100	2,500	+400					
Space research and technology:												
SR&T.....	14,200	14,200	14,200	14,200	14,200	14,200	---					
Biotechnology flight projects.....	1,600	1,600	1,600	1,600	1,600	1,600	---					

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Chronological History of the FY 1971 Budget Submission
(In thousands of dollars)

I T E M	A U T H O R I Z A T I O N							A P P R O P R I A T I O N				
	NASA Budget Submission	House Comm Approved HR 16516 Rep No 91-929 3/19/70	House Approved 4/23/70	Senate Comm Approved HR 16516 Rep No 91-833 5/1/70	Senate Approved 5/6/70	Conf Comm Appd 6/15/70 Rep 91-1189 P.L. 91-303 7/2/70	Diff From Budget Submission	House Comm Approved HR 19830 Rep 91-1616 11/19/70	House Approved 11/24/70	Senate Comm Approved HR 19830 Rep 91-1388 12/2/70	Senate Approved 12/7/70	P.L. 91-556 12/17/70
Space Power & Electric Propulsion Systems Program.....	(30,900)	(30,900)	(30,900)	(30,900)	(30,900)	(30,900)	(---					
Aeronautics research and technology:												
SR&T.....	400	400	400	400	400	400	---					
Space research and technology:												
SR&T.....	30,225	30,225	30,225	30,225	30,225	30,225	---					
SERT.....	275	275	275	275	275	275	---					
Nuclear Rockets Program...	(38,000)	(38,000)	(38,000)	(38,000)	(38,000)	(38,000)	(---					
SR&T.....	5,000	5,000	5,000	5,000	5,000	5,000	---					
NERVA.....	32,000	32,000	32,000	32,000	32,000	32,000	---					
NRDS operations.....	1,000	1,000	1,000	1,000	1,000	1,000	---					
Chemical Propulsion Program.....	(20,300)	(20,300)	(20,300)	(20,300)	(20,300)	(20,300)	(---					
SR&T.....	20,300	20,300	20,300	20,300	20,300	20,300	---					
Aeronautical Vehicles Program.....	(87,100)	(87,100)	(87,100)	(87,100)	(87,100)	(87,100)	(---					
Advanced research.....	31,565	31,565	31,565	31,565	31,565	31,565	---					
General aviation air- craft technology.....	925	925	925	925	925	925	---					
V/STOL aircraft tech- nology.....	15,030	15,030	15,030	15,030	15,030	15,030	---					
Subsonic aircraft tech- nology.....	11,900	11,900	11,900	11,900	11,900	11,900	---					
Supersonic aircraft technology.....	21,905	21,905	21,905	21,905	21,905	21,905	---					
Hypersonic aircraft technology.....	5,775	5,775	5,775	5,775	5,775	5,775	---					
OFFICE OF TRACKING AND DATA ACQUISITION.....	298,000	293,800	293,800	298,000	298,000	295,200	-2,800					
Tracking and Data Acquisi- tion Program.....	(298,000)	(293,800)	(293,800)	(298,000)	(298,000)	(295,200)	(-2,800)					
Operations.....	229,600	229,600	229,600	229,600	229,600	*	*					
Equipment.....	55,500	51,300	51,300	55,500	55,500	*	*					
SR&T.....	12,900	12,900	12,900	12,900	12,900	*	*					

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Chronological History of the FY 1971 Budget Submission
(In thousands of dollars)

I T E M	A U T H O R I Z A T I O N							A P P R O P R I A T I O N				
	NASA Budget Submission	House Comm Approved HR 16516 Rep No 91-929 3/19/70	House Approved 4/23/70	Senate Comm Approved HR 16516 Rep No 91-833 5/1/70	Senate Approved 5/6/70	Conf Comm Appd 6/15/70 Rep 91-1189 P.L. 91-303 7/2/70	Diff From Budget Submission	House Comm Approved HR 19830 Rep 91-1616 11/19/70	House Approved 11/24/70	Senate Comm Approved HR 19830 Rep 91-1388 12/2/70	Senate Approved 12/7/70	P.L. 91-556 12/17/70
OFFICE OF TECHNOLOGY												
UTILIZATION.....	4,000	4,500	4,500	4,000	4,000	4,500	+500					
Technology Utilization Program.....	(4,000)	(4,500)	(4,500)	(4,000)	(4,000)	(4,500)	(+500)					
New technology identifi- cation and evaluation.....	800	*	*	800	800	*	*					
Publication.....	900	*	*	900	900	*	*					
New technology dis- semination.....	1,900	*	*	1,900	1,900	*	*					
Program evaluation.....	400	*	*	400	400	*	*					
2/ R&PM (Supp.)	Initial Submission HR Doc. 92-73	HR 16844 Rep 91-992 4/9/70	4/10/70	Rep 91-763 4/7/70	4/8/70	P.L. 91-231 P.L. 90-207		HR 8190 Rep 92-187 5/6/71	5/12/71	HR 8190 Rep 92-107 5/13/71	5/19/71	Conf Comm Appd 5/20/71 Rep 92-221 P.L. 92-18 5/25/71
Federal Employees Salary Act of 1970.....	29,854	29,854	29,854	29,854	29,854	29,854	---	29,854	29,854	29,854	29,854	29,854
		Rep 91-480	10/14/70	Rep 91-582	12/12/70	Conf Rep 91-1685 P.L. 91-656 P.L. 90-207						
Federal Pay Comparability Act of 1970.....	14,090	14,090	14,090	14,090	14,090	14,090	---	14,090	14,090	14,090	14,090	14,090
TOTAL SUPP.....	43,944	43,944	43,944	43,944	43,944	43,944	---	43,944	43,944	43,944	43,944	43,944

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Chronological History of the FY 1971 Budget Submission
(In thousands of dollars)

I T E M	A U T H O R I Z A T I O N							A P P R O P R I A T I O N				
	NASA Budget Submission	House Comm Approved HR 16516 Rep No 91-929 3/19/70	House Approved 4/23/70	Senate Comm Approved HR 16516 Rep No 91-833 5/1/70	Senate Approved 5/6/70	Conf Comm Appd 6/15/70 Rep 91-1189 P.L. 91-303 7/2/70	Diff From Budget Submission	House Comm Approved HR 19830 Rep 91-1616 11/19/70	House Approved 11/24/70	Senate Comm Approved HR 19830 Rep 91-1388 12/2/70	Senate Approved 12/7/70	P.L. 91-556 12/17/70
CONSTRUCTION OF FACILITIES APPROPRIATION:	34,600	33,975	33,975	32,550	32,550	34,478	-122	24,950	24,950	24,950	24,950	24,950
AMES RESEARCH CENTER	(1,525)	(1,525)	(1,525)	(1,525)	(1,525)	(1,525)	(---)	(---)	(---)	(---)	(---)	(---)
R-Polymer research laboratory.....	1,525	1,525	1,525	1,525	1,525	1,525	---	---	---	---	---	---
GODDARD SPACE FLIGHT CENTER.....	(2,050)	(2,050)	(2,050)	(---)	(---)	(1,928)	(-122)	(1,925)	(1,925)	(1,925)	(1,925)	(1,925)
S-Earth resources tech- nology laboratory.....	2,050	2,050	2,050	(---)	(---)	1,928	-122	1,925	1,925	1,925	1,925	1,925
JET PROPULSION LABORATORY	(1,950)	(1,950)	(1,950)	(1,950)	(1,950)	(1,950)	(---)	(1,950)	(1,950)	(1,950)	(1,950)	(1,950)
S-Solar simulator modifications.....	700	700	700	700	700	700	---	700	700	700	700	700
R-Isotope thermoelectric systems application laboratory.....	1,250	1,250	1,250	1,250	1,250	1,250	---	1,250	1,250	1,250	1,250	1,250
KENNEDY SPACE CENTER.....	(575)	(575)	(575)	(575)	(575)	(575)	(---)	(575)	(575)	(575)	(575)	(575)
M-Launch support facilities.....	575	575	575	575	575	575	---	575	575	575	575	575
MANNED SPACECRAFT CENTER..	(900)	(900)	(900)	(900)	(900)	(900)	(---)	(---)	(---)	(---)	(---)	(---)
M-Calibration laboratory	900	900	900	900	900	900	---	---	---	---	---	---
MARSHALL SPACE FLIGHT CENTER.....	(525)	(525)	(525)	(525)	(525)	(525)	(---)	(---)	(---)	(---)	(---)	(---)
M-Multi-spectral photo- graphic laboratory....	525	525	525	525	525	525	---	---	---	---	---	---
NUCLEAR ROCKET DEVELOPMENT STATION.....	(3,500)	(3,500)	(3,500)	(3,500)	(3,500)	(3,500)	(---)	(3,500)	(3,500)	(3,500)	(3,500)	(3,500)
R-Engine/stage test stand No. 2.....	3,500	3,500	3,500	3,500	3,500	3,500	---	3,500	3,500	3,500	3,500	3,500
VARIOUS LOCATIONS.....	(18,575)	(17,950)	(17,950)	(18,575)	(18,575)	(18,575)	(---)	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)
O-Rehabilitation and modification of facilities.....	14,000	13,375	13,375	14,000	14,000	14,000	---	15,000	15,000	15,000	15,000	15,000
S-Alterations to launch complex 2.....	3,300	3,300	3,300	3,300	3,300	3,300	---	---	---	---	---	---
T-Power plant addition 210' antenna facility.	750	750	750	750	750	750	---	---	---	---	---	---
T-Relocation of a trans- portable facility....	525	525	525	525	525	525	---	---	---	---	---	---
FACILITY PLANNING AND DESIGN	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(---)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)

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- M - Manned Space Flight facilities.
- S - Space Science and Applications facilities.
- R - Advanced Research and Technology Facilities.
- T - Tracking and Data Acquisition facilities.
- O - Office of Organization and Management project.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Chronological History of the FY 1971 Budget Submission
(In thousands of dollars)

I T E M	A U T H O R I Z A T I O N					A P P R O P R I A T I O N				
						House Comm Approved HR 17548 Rep 91-1060 5/7/70	House Approved 5/12/70	Senate Comm Approved HR 17548 Rep 91-949 6/24/70	Senate Approved 7/7/70	Conf Comm Appd 7/28/70 Rep 91-1345
					CONSTRUCTION OF FACILITIES APPROPRIATION:	18,275	18,275	34,478	34,478	24,950
					AMES RESEARCH CENTER	(---)	(---)	(1,525)	(1,525)	(---)
					R-Polymer research laboratory.....	---	---	1,525	1,525	---
					GODDARD SPACE FLIGHT CENTER.....	(---)	(---)	(1,928)	(1,928)	(1,925)
					S-Earth resources tech- nology laboratory.....	---	---	1,928	1,928	1,925
					JET PROPULSION LABORATORY	(700)	(700)	(1,950)	(1,950)	(1,950)
					S-Solar simulator modifications.....	700	700	700	700	700
					R-Isotope thermoelectric systems application laboratory.....	---	---	1,250	1,250	1,250
					KENNEDY SPACE CENTER.....	(575)	(575)	(575)	(575)	(575)
					M-Launch support facilities.....	575	575	575	575	575
					MANNED SPACECRAFT CENTER..	(---)	(---)	(900)	(900)	(---)
					M-Calibration laboratory	---	---	900	900	---
					MARSHALL SPACE FLIGHT CENTER.....	(---)	(---)	(525)	(525)	(---)
					M-Multi-spectral photo- graphic laboratory....	---	---	525	525	---
					NUCLEAR ROCKET DEVELOPMENT STATION.....	(---)	(---)	(3,500)	(3,500)	(3,500)
					R-Engine/stage test stand No. 2.....	---	---	3,500	3,500	3,500
					VARIOUS LOCATIONS.....	(15,000)	(15,000)	(18,575)	(18,575)	(15,000)
					O-Rehabilitation and modification of facilities.....	15,000	15,000	14,000	14,000	15,000
					S-Alterations to launch complex 2.....	---	---	3,300	3,300	---
					T-Power plant addition 210' antenna facility.	---	---	750	750	---
					T-Relocation of a trans- portable facility.....	---	---	525	525	---
					FACILITY PLANNING AND DESIGN	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)

The data on this page reflects actions taken by Congress on the original appropriation bill (HR 17548) which was vetoed. The reports on the new bill (HR 19830) do not specifically mention NASA, and they refer to the reports on the original bill for specific sums and provisions. Therefore, these statistics and the appropriate reports have been included in this History.

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- M - Manned Space Flight facilities.
- S - Space Science and Applications facilities.
- R - Advanced Research and Technology Facilities.
- T - Tracking and Data Acquisition facilities.
- O - Office of Organization and Management project.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Chronological History of the FY 1971 Budget Submission
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I T E M	A U T H O R I Z A T I O N							A P P R O P R I A T I O N				
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RESEARCH AND PROGRAM MANAGEMENT APPROPRIATION:	692,300	693,700	693,700	677,300	677,300	683,300	-9,000	678,725	678,725	678,725	678,725	678,725
BY OBJECT CLASSIFICATION:	(692,300)	(693,700)	(693,700)	(677,300)	(677,300)	(683,300)	(-9,000)	(678,725)	(678,725)	(678,725)	(678,725)	(678,725)
Personnel compensation...	471,276											
Personnel benefits.....	39,311											
Benefits for former personnel.....	1,460											
Travel & transportation of persons.....	19,874											
Transportation of things...	3,668											
Rent, Comm. & utilities..	44,308											
Printing and reprod.....	5,939											
Other services.....	89,568	693,700	693,700	677,300	677,300	683,300	-9,000	678,725	678,725	678,725	678,725	678,725
Supplies and materials...	13,223											
Equipment.....	2,239											
Leads and structures.....	1,350											
Grants, subsidies and contributions.....	54											
Insurance claims and indemnities.....	30											
BY INSTALLATION:												
Kennedy Space Center....	98,150	98,150	98,150									
Manned Spacecraft Center..	107,758	107,758	107,758									
Marshall Sp. Flt. Center..	124,675	124,675	124,675									
Goddard Sp. Flt. Center..	87,670	87,670	87,670									
Wallops Station.....	9,791	9,791	9,791									
Ames Research Center.....	38,248											
Electronics Res. Center..	4,470											
Flight Research Center...	10,549	202,921	202,921	677,300	677,300	683,300	-9,000	678,725	678,725	678,725	678,725	678,725
Langley Research Center...	70,734											
Lewis Research Center....	75,218											
Space Nuc. Prop. Office...	2,302											
NASA Headquarters.....	62,735	62,735	62,735									
BY FUNCTION:												
Personnel.....	515,108			500,108	500,108	506,108	-9,000					
Travel.....	18,200			18,200	18,200	18,200	---					
Automatic data processing.....	22,710	693,700	693,700	22,710	22,710	22,710	---	678,725	678,725	678,725	678,725	678,725
Facilities services.....	84,083			84,083	84,083	84,083	---					
Technical services.....	14,327			14,327	14,327	14,327	---					
Administrative support...	37,872			37,872	37,872	37,872	---					

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AUTHORIZING APPROPRIATIONS TO THE NATIONAL
 AERONAUTICS AND SPACE ADMINISTRATION

MARCH 19, 1970.—Committed to the Committee of the Whole House on the
 State of the Union and ordered to be printed

Mr. MILLER of California, from the Committee on Science and
 Astronautics, submitted the following

REPORT

together with

ADDITIONAL VIEWS

[To accompany H.R. 16516]

The Committee on Science and Astronautics, to whom was referred
 the bill (H.R. 16516) to authorize appropriations to the National
 Aeronautics and Space Administration for research and development,
 construction of facilities, and research and program management, and
 for other purposes, having considered the same, report favorably
 thereon without amendment and recommend that the bill do pass.

PURPOSE OF THE BILL

The purpose of the bill is to authorize appropriations to the National
 Aeronautics and Space Administration for fiscal year 1971, as follows:

Programs	Authorization	Page No.
Research and development.....	\$2, 903, 200, 000	3
Construction of facilities.....	33, 975, 000	127
Research and program management...	693, 700, 000	141
Total.....	3, 630, 875, 000	

EXPLANATION OF THE BILL

RESEARCH AND DEVELOPMENT

SUMMARY

Programs	Authorization	Page No.
1. Apollo.....	\$1, 101, 500, 000	5
2. Space flight operations.....	670, 200, 000	13
3. Advanced missions.....	1, 000, 000	27
4. Physics and astronomy.....	110, 400, 000	28
5. Lunar and planetary exploration..	144, 900, 000	37
6. Bioscience.....	12, 900, 000	44
7. Space applications.....	172, 600, 000	52
8. Launch vehicle procurement.....	124, 900, 000	64
9. Space vehicle systems.....	30, 000, 000	69
10. Electronics systems.....	23, 900, 000	72
11. Human factor systems.....	18, 300, 000	79
12. Basic research.....	18, 000, 000	83
13. Space power and electric propul- sion systems.....	30, 900, 000	88
14. Nuclear rockets.....	38, 000, 000	96
15. Chemical propulsion.....	20, 300, 000	100
16. Aeronautical vehicles.....	87, 100, 000	104
17. Tracking and data acquisition....	293, 800, 000	115
18. Technology utilization.....	4, 500, 000	126
Total.....	2, 903, 200, 000	

COMMITTEE RECOMMENDATION

A quorum being present, the bill was favorably reported.

NASA RECOMMENDATIONS

This is a National Aeronautics and Space Administration legislative item approved with exceptions noted in this report, by the Bureau of the Budget, as indicated by the following letter:

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION,
Washington, D.C., February 2, 1970.

HON. JOHN McCORMACK,
*Speaker of the House of Representatives,
Washington, D.C.*

DEAR MR. SPEAKER: Herewith submitted is a draft of a bill, "To authorize appropriations to the National Aeronautics and Space Administration for research and development, construction of facilities, and research and program management, and for other purposes," together with the sectional analysis thereof. It is submitted to the Speaker of the House of Representatives pursuant to Rule XL of that House.

Section 4 of the Act of June 15, 1959, 73 Stat. 73, 75, (42 U.S.C. 2460), provides that no appropriation may be made to the National Aeronautics and Space Administration unless previously authorized by legislation. It is the purpose of the enclosed bill to provide such requisite authorization in the amounts and for the purposes recommended by the President in the Budget of the United States Government for the fiscal year ending June 30, 1971. The bill would authorize appropriations to be made to the National Aeronautics and Space Administration in the sum of \$3,333,000,000, as follows:

(1) for "Research and development," \$2,606,100,000; (2) for "Construction of facilities," \$34,600,000; and (3) for "Research and program management," \$692,300,000.

With respect to the draft bill herewith submitted, that bill is substantially the same as the National Aeronautics and Space Administration Authorization Act, 1970 (Pub. L. 91-119, 83 Stat. 196), except for the necessary changes in the dollar amounts involved, and the substantive and editorial changes hereinafter discussed.

Only one change has been made to the "Research and development" program line items; the "Sustaining university program" line item has been deleted, since no funds are requested for this program for fiscal year 1971.

The "Construction of facilities" locational line items in section 1(b) differ from those enacted as part of the fiscal year 1970 Authoriza-

tion Act only in that the locational line items for Electronics Research Center, Langley Research Center and Wallops Station have been omitted, and line items for Ames Research Center, Jet Propulsion Laboratory, Marshall Space Flight Center and Nuclear Rocket Development Station have been added, since no funds are being requested for the locations omitted and funds are being requested for those locations added. Because of these changes the line items under this appropriation have been increased from eight to nine.

Subsection 1(i) of the NASA Authorization Act, 1970 (cancelling NASA authorizations for fiscal years 1967, 1968 and 1969 for which appropriations have not been made) has been omitted from the draft bill since the cancellation is effective and its purpose executed.

The numbers of the paragraphs of subsection 1(b) to which reference is made in sections 2 and 3 have been changed due to the change in the number of locational line items included in subsection 1(b). No substantive changes are intended.

Two provisions of the NASA Authorization Act, 1970 are permanent law and need not be re-enacted in order to continue to be effective, therefore, they have been omitted from the draft bill. These provisions are section 6 (requiring reports to NASA from certain former employees of NASA who are employed by certain aerospace contractors, and from employees in the converse situation) and section 8 (prohibiting the implantation or placement on the surface of the moon or any planet of a flag other than the United States flag when the funds for the space mission are provided entirely by the United States).

Finally, the last section of the draft bill, section 7, has been changed to provide that the bill, upon enactment, may be cited as the "National Aeronautics and Space Administration Authorization Act, 1971", rather than "1970".

The National Aeronautics and Space Administration recommends that the enclosed draft bill be enacted. The Bureau of the Budget has advised that there is no objection to the presentation of the draft bill to the Congress and that its enactment would be in accordance with the program of the President.

Sincerely yours,

T. O. PAINE, *Administrator.*

COMMITTEE ACTIONS

RESEARCH AND DEVELOPMENT

The NASA Fiscal Year 1971 request for Research and Development totaled \$2,606,100,000. The Committee's review of the authorization request resulted in the addition of \$297,100,000. This action results in a recommended authorization of \$2,903,200,000 for Research and Development. Specific adjustments to major program areas were effected as follows:—

APOLLO

NASA requested \$956,500,000 for continuation of the Apollo lunar exploration program in Fiscal Year 1971. The committee recommends an increase of \$145,000,000 for the Apollo program for a total authorization of \$1,101,500,000 for Fiscal Year 1971.

The committee recommended increases are as follows:

Apollo Lunar Payloads

The committee recommends the addition of \$45,000,000 for long-lead production of payloads for lunar exploration flights after 1973 (Apollo 18 and 19). These flights would use the basic Apollo systems with the increased lunar stay time and augmented scientific payload components which are currently being developed. System improvements to permit greater scientific return plus the development of data for possible future lunar and planetary exploration would be incorporated when considered desirable as a result of flight experience. Production of the spacecraft and science payloads for Apollo 20 would also be started.

Saturn V

The committee recommends the addition of \$100,000,000 for long-lead time hardware and to start fabrication of improved Saturn V systems. This includes start-up cost of vendors and subcontractors that have been phased out of the Saturn V program. Among Saturn V systems, engine funding would have the highest priority due to the long-lead time associated with their production.

SPACE FLIGHT OPERATIONS

NASA requested \$515,200,000 for Space Flight Operations in Fiscal Year 1971. The committee recommends an increase of \$155,000,000 for a total authorization of \$670,200,000 for Fiscal Year 1971 for Space Flight Operations.

The committee recommended increases are as follows:

Apollo Applications

The committee recommends the addition of \$75,000,000 for augmenting the development and qualification effort on spacecraft and workshop subsystems for the long duration missions to provide increased assurance of mission success, and for initiating development of experiments which have been excluded from the program due to funding limitations. Experiment emphasis would be in the earth resources and medical areas. Preliminary design for a second mission will be initiated with special consideration given to incorporation of an artificial gravity capability.

Space Shuttle/Station

The committee recommends the addition of \$80,000,000 for more extensive and inclusive trade-off analyses and additional engineering studies, long-lead time Space Station payload definition efforts, and advanced prototype effort for testing and verification of preliminary designs of selected high technology areas and support of technology development in those areas critical to the design and performance of both systems.

ADVANCED MISSIONS

For Fiscal Year 1971 NASA requested \$2,500,000 for advanced mission studies. The committee recommends a decrease of \$1,500,000 for Advanced Missions for a total authorization of \$1,000,000 for Fiscal Year 1971.

Based on the expected rate of obligation of Fiscal Year 1970 Advanced Mission studies funds the committee recommends \$1,000,000 as adequately supporting study requirements for Fiscal Year 1971.

PHYSICS AND ASTRONOMY

The NASA request for \$25,600,000 for Explorer satellites was reduced by \$5,600,000 to the approximate funding level of the operating plan for the current fiscal year, and the Applications Technology Satellite Project was increased by the same amount.

The Committee believes that some of the planned Explorer missions can be deferred without harm to the Physics and Astronomy Program. It is the purpose of the Committee that the additional \$5,600,000 should be applied to the Applications Technology Satellite Project so as to permit the launch of ATS-F and G on the original launch schedule of 1972-74, rather than 6-to-12 months later, as currently planned.

SPACE APPLICATIONS

The Committee increased the authorization for the Applications Technology Satellite Project by \$5,600,000 to \$36,700,000 so as to permit the launch of ATS-F and G on the original launch schedule of 1972-74, rather than 6-to-12 months later, as currently planned. The Committee believes the ATS project represents one of the most significant research and development efforts undertaken by NASA. The great economic potential of ATS-F and G makes this project an excellent investment for public resources.

The Committee also takes cognizance of the existence of the Memorandum of Understanding between the United States and the Government of India whereby the ATS-F spacecraft will be utilized to bring instructional television programs to over 5,000 Indian villages to assist that nation in solving some of its most pressing problems, including family planning. In view of that agreement, the delay in the ATS-F and G project seems especially inappropriate.

ADVANCED RESEARCH AND TECHNOLOGY

In addition to its regular authorization reviews, the Committee has held extensive hearings on aeronautical R&D both in 1968 and 1969. The evidence acquired in all of these hearings reinforces a long held conclusion of the Committee: increased support for aeronautics-related work by NASA is absolutely necessary. As the Committee has repeatedly pointed out, the aeronautics part of NASA's budget continues to be relatively small. For FY 1971 the total amount for aeronautics is only 5.6 percent of the total NASA budget. Therefore, the Committee recommends several relatively small increases in aeronautics work which are designed to correct specific deficiencies in NASA's budget request. These actions are reflected in increased authorizations in the Electronics Systems, Human Factor Systems, Basic Research and Research and Program Management Programs. One other small increase for Technology Utilization is recommended for disseminating the results of the space program to the taxpayer. The increases total \$4.2 million. However, this amount was offset by a decrease of \$4.2 million in Tracking and Data Acquisition.

ELECTRONICS SYSTEMS

NASA's budget request for Electronics Systems was \$22,400,000.

To the amount requested, the Committee recommends a modest increase of \$1,500,000 for a total authorization of \$23,900,000. Specifically, the recommended increase would be used for projects dealing largely with increased flight safety:

- \$800,000—Wake turbulence detection at airports;
- \$300,000—Clear air turbulence detection;
- \$400,000—Pilot warning indicator development.

The budget, as submitted by NASA, showed a one-third reduction in Electronics Systems from the 1970 level; the decrease was \$11,100,000—from \$33,500,000 to \$22,400,000. Within the total \$11,100,000 reduction, aeronautics-related work was cut from \$10,495,000 to \$5,800,000 for a 45 percent reduction. In considering that avionics are of critical importance in helping to solve urgent problems in aviation, the Committee strongly recommends that this small increase be made. In summary, the total amount recommended for authorization is \$23,900,000.

HUMAN FACTOR SYSTEMS

NASA's budget request for Human Factor Systems was \$17,900,000.

To the amount requested, the Committee recommends a modest increase of \$400,000 for a total authorization of \$18,300,000.

With an ever more complex operating environment, aircrew workload and stress problems have increased substantially over the years.

The recommended increase would allow modest additions for flight simulation work at Ames and advanced bio-instrumentation work at the Edwards Research Center.

The budget as submitted by NASA showed an 18 percent reduction in Human Factor Systems from the 1970 level; the aeronautics-related work was cut by \$1,495,000—from \$3,595,000 to \$2,100,000—for a 42 percent reduction. In considering that aircrew performance is a vital factor in flight safety, the Committee strongly recommends that this small increase be made. In summary, the total amount recommended for authorization is \$18,300,000.

BASIC RESEARCH

NASA's budget request for Basic Research was \$17,600,000.

Evidence presented during recent authorization hearings and during special aeronautics R&D hearings held both in 1968 and 1969 clearly shows a diminishing reservoir of science for aeronautics purposes. In keeping with a long-standing concern of the Committee about this problem, a modest increase of \$400,000 is recommended in Basic Research. The increased effect would be in three primary areas: (1) high-temperature composite materials for jet engine components, (2) better understanding of basic noise-generating mechanisms and ways to reduce noise, and (3) ways of reducing pollution from aircraft engines.

In helping to replenish our science reservoir, the Committee strongly recommends that this small increase be made. In summary, the total amount recommended for authorization is \$18,000,000.

TRACKING AND DATA ACQUISITION

For Tracking and Data Acquisition NASA requested \$298,000,000.

While a review of the T&DA program shows that the fiscal year 1971 budget is soundly based, a judgment was made that a small 1.4 percent reduction could be made to offset the \$4,200,000 increase for aeronautics research and technology utilization. The principal impact will be to defer certain equipments which must be acquired eventually to modernize the worldwide networks. However, it was concluded that the problems in aeronautics were more pressing at this time.

In summary, the total amount recommended for authorization is \$293,800,000.

TECHNOLOGY UTILIZATION

NASA's budget request for Technology Utilization was \$4,000,000.

In an area which the Committee has always considered to be highly important, it was noted that the budget request of \$4,000,000—was 20 percent lower than for FY 1970. To carry on the modest, but important work in disseminating the results of the space program to the taxpayer, a small increase of \$500,000 is recommended. Specifically, it would be used for:

An additional Applications Technology Team to work specifically on the problems of transferring NASA technology for the solution of urban development and environmental quality problems.

Additional effort in disseminating the results of space-related research to the general public and through trade associations. In summary, the total amount recommended for authorization is \$4,500,000.

CONSTRUCTION OF FACILITIES

The NASA Fiscal Year 1971 request for Construction of Facilities totaled \$34,600,000. The Committee reduced the request by \$625,000, recommending that a total of \$33,975,000 be authorized. Specific reductions were effected as follows:

VARIOUS LOCATIONS

Rehabilitation and Modification of Facilities:

The Committee continues to endorse the concept envisioned by this type of project and encourages NASA to proceed with the rehabilitation and modification of aging facilities at the NASA field centers.

In reviewing the various projects included in the \$14.0 million request, the Committee is satisfied that the majority of the projects proposed are soundly based and should proceed. However, two candidate projects were included which, in the opinion of the Committee, should be deferred at this time. These are:

Rehabilitation Utilities Systems, Michoud Assembly Facility—\$250,000.

Rehabilitate High Pressure Gas Facility, Mississippi Test Facility—\$375,000.

While it is recognized that maintenance type work must proceed at these installations, the Committee questions the need for extensive work at this time in view of the planned future phase down of these field activities. The Mississippi Test Facility will revert to a "mothball" status shortly after December 1970 and the Michoud Assembly Facility will revert to a storage mode early in calendar year 1971.

It is the opinion of the Committee that minimum standby maintenance of facilities should be performed for the present pending determination as to the future use of these field installations.

Accordingly, the NASA request for \$14.0 million has been reduced by \$625,000 and authorization in the amount of \$13,375,000 is recommended for this project.

RESEARCH AND PROGRAM MANAGEMENT

The NASA Fiscal Year request for Research and Program Management totaled \$692,300,000. The Committee added \$1,400,000 to the request, recommending that \$693,700,000 be authorized. Specific adjustments to the program were as follows:

ADVANCED RESEARCH AND TECHNOLOGY

The NASA budget request for Research and Program Management was \$692,300,000, of which \$201,521,000 was requested for the centers under the jurisdiction of the Office of Advanced Research and Technology.

One of the more serious problems facing NASA in aeronautics is the growing and serious lack of new, young scientific and engineering personnel. One result has been that the average age of the professional employees at NASA, OART Centers has been rising about .8 year per year. A long term result could be the deterioration of our world leadership in aviation.

As one step in solving the shortage problem, the Committee recommends that an increase of \$1,400,000 be made for the following uses:

50 research fellowships with NASA;

100 additional summer jobs at NASA Centers;

100 graduate and undergraduate scholarships.

In summary, the total amount recommended for authorization is \$693,700,000, of which \$202,921,000 is for OART Centers.

COMMITTEE VIEWS

SHUTTLE FACILITIES

The Committee is concerned that a sizable requirement for facilities to support the upcoming space shuttle program could occur.

Hearings in the field by the Subcommittee on Manned Space Flight have revealed that preliminary studies indicate new requirements for manufacturing and test facilities, prelaunch assembly and checkout facilities, a launch capability, a recovery airfield and refurbishment facilities. There is also some indication that the nature of the shuttle is such that it need not necessarily be launched and recovered at present operating installations.

The capitalized value of NASA's present plant is about \$4.5 billion. Launch, assembly, checkout and operational facilities at the Kennedy Space Center alone initially cost almost a billion dollars. Manufacturing and test facilities at Marshall, the Mississippi Test Facility and at the Michoud Assembly Facility aggregate another three quarters of a billion dollars in initial capital plant investment. Recent budgetary curtailments will force lower utilization of existing facilities in the future unless additional missions are assigned.

While specific facilities requirements for the shuttle program cannot be accurately identified at this time, needs will gradually evolve as the Phase B Shuttle Design studies proceed.

It is the unanimous opinion of the Committee that maximum use should be made of existing facilities (modified if necessary) to support the space shuttle program. No new installations or facilities should be considered until exhaustive studies and economic analyses have been made to determine the capability of existing facilities to meet the requirements. The extensive launch and checkout capabilities at the Kennedy Space Center, and the large manufacturing, assembly and test capabilities at the Marshall, Mississippi Test and Michoud Centers should receive early and most careful consideration.

The Committee intends to continue to closely monitor the development of facilities requirements in support of the space shuttle as Phase B studies proceed. NASA is requested to carefully measure shuttle facilities requirements against existing plant capabilities as they become defined, and to keep the Committee fully and currently informed in this regard.

INTERNATIONAL COOPERATION IN SPACE

The Committee believes that the United States should assume a positive role of leadership to a greater degree than it has in seeking to bring about a well-organized, broadly based operational program of international cooperation in the exploration of space. To this end, the Committee recommends, as an initial step, that the President of the United States issue a call for an international conference at an early date to which he invite all nations interested in space exploration, including those that have not as yet mounted a space program of their own.

It is believed that such a meeting can result eventually in the creation of a joint, multinational consortium by which the tremendous resources of this nation in space sciences and applied technology can be put to the most economic and far ranging use. Although the United States has kept its initial promise to share the knowledge and data it gathered in space with the rest of the world, it is realized that there, is much more to be learned by such exploration through the application of the outstanding scientific and technical capabilities that reside elsewhere abroad. Direct participation by scientists from other nations in space exploration will make material contributions to enhancing and enlarging the intellectual scope of scientific communities of every country participating.

Since the United States has declared that space shall be explored for the benefit of all mankind, it logically follows that nations with small or no programs of their own would benefit more directly by having a voice in establishing specific objectives in space exploration which will be more precisely aligned to their scientific needs.

SECTIONAL ANALYSIS

Section 1

Subsections (a), (b), and (c) would authorize to be appropriated to the National Aeronautics and Space Administration funds, in the total amount of \$3,630,875,000, as follows: (a) for "Research and development," a total of 18 program line items aggregating the sum of \$2,903,200,000; (b) for "Construction of facilities," a total of 7 locational line items, together with one for various locations and one for facility planning and design, aggregating the sum of \$33,975,000; and, (c) for "Research and program management," \$693,700,000.

Subsection 1(d) would authorize the use of appropriations for "Research and development" for: (1) items of a capital nature (other than the acquisition of land) required for the performance of research and development contracts; and, (2) grants to nonprofit institutions of higher education, or to nonprofit organizations whose primary purpose is the conduct of scientific research, for purchase or construction of additional research facilities. Title to such facilities shall be vested in the United States unless the Administrator determines that the national program of aeronautical and space activities will best be served by vesting title in any such grantee institution. Moreover, each such grant shall be made under such conditions as the Administrator shall find necessary to insure that the United States will receive therefrom benefit adequate to justify the making of that grant.

In either case no funds may be used for the construction of a facility the estimated cost of which, including collateral equipment, exceeds \$250,000 unless the Administrator notifies the Speaker of the House, the President of the Senate and the specified committees of the Congress of the nature, location, and estimated cost of such facility.

Subsection 1(e) would provide that, when so specified in an appropriation Act, (1) any amount appropriated for "Research and development" or for "Construction of facilities" may remain available without fiscal year limitation, and (2) contracts for maintenance and operation of facilities and support services may be entered into under the "Research and program management" appropriation for periods not in excess of twelve months beginning at any time during the fiscal year.

Subsection 1(f) would authorize the use of not to exceed \$35,000 of "Research and program management" appropriation funds for scientific consultations or extraordinary expenses, including representation and official entertainment expenses, upon the authority of the Administrator, whose determination shall be final and conclusive.

Subsection 1(g) would provide that no funds appropriated pursuant to subsection 1(c) for maintenance, repair, alteration and minor construction may be used to construct any new facility the estimated cost of which, including collateral equipment, exceeds \$100,000.

Subsection 1(h) would provide that no part of the funds appropriated for "Research and development" may be used for grants to any nonprofit institution of higher learning unless the Administrator determines that recruiting personnel of any of the Armed Forces are not being barred from the premises or property of such institution. Subsection 1(h) would not apply if the Administrator determines that the grant is a continuation or renewal of a previous grant to such institution which is likely to make a significant contribution to the aeronautical and space activities of the United States. The Secretary of Defense would be required to furnish to the Administrator on the dates prescribed the names of any nonprofit institutions of higher learning which the Secretary of Defense determines are barring such recruiting personnel from premises or property of any such institution.

Section 2

Section 2 would authorize the 5 per centum upward variation of any of the sums authorized for the "Construction of facilities" line items (other than facility planning and design) when, in the discretion of the Administrator, this is needed to meet unusual cost variations. However, the total cost of all work authorized under these line items may not exceed the total sum authorized for "Construction of facilities" under subsection 1(b), paragraphs (1) through (8).

Section 3

Section 3 would provide that not more than one-half of 1 per centum of the funds appropriated for "Research and development" may be transferred to the "Construction of facilities" appropriation and, when so transferred, together with \$10,000,000 of the funds appropriated for "Construction of facilities," shall be available for the construction of facilities and land acquisition at any location if (1) the Administrator determines that such action is necessary because of changes in the space program or new scientific or engineering developments, and (2) that deferral of such action until the next authorization Act is enacted would be inconsistent with the interest of the Nation in aeronautical and space activities. However, no such funds may be obligated until 30 days have passed after the Administrator or his designee has transmitted to the Speaker of the House, the President of the Senate and the specified committees of Congress a written report containing a description of the project, its cost, and the reason why such project is necessary in the national interest, or each such committee before the expiration of such 30-day period has notified the Administrator that no objection to the proposed action will be made.

Section 4

Section 4 would provide that, notwithstanding any other provision of this Act—

(1) no amount appropriated pursuant to this Act may be used for any program deleted by the Congress from requests as originally made to either the House Committee on Science and Astronautics or the Senate Committee on Aeronautical and Space Sciences;

(2) no amount appropriated pursuant to this Act may be used for any program in excess of the amount actually authorized for that particular program by subsections 1(a) and 1(c); and,

(3) no amount appropriated pursuant to this Act may be used for any program which has not been presented to or requested of either such committee, unless (A) a period of 30 days has passed after the receipt by the Speaker of the House, the President of the Senate and each such committee of notice given by the Administrator or his designee containing a full and complete statement of the action proposed to be taken and the facts and circumstances relied upon in support of such proposed action, or (B) each such committee before the expiration of such period has transmitted to the Administrator written notice to the effect that such committee has no objection to the proposed action.

Section 5

Section 5 would express the sense of the Congress that it is in the national interest that consideration be given to geographical distribution of Federal research funds whenever feasible and that the National Aeronautics and Space Administration should explore ways and means of distributing its research and development funds whenever feasible.

Section 6.

Subsection 6(a) would provide that if an institution of higher education determines, after affording notice and opportunity for hearing to an individual attending, or employed by, such institution, that such individual has been convicted by any court of record of any crime which was committed after the date of enactment of the Act and which involved the use of (or assistance to others in the use of) force, disruption, or the seizure of property under control of any institution of higher education to prevent officials or students from engaging in their duties or pursuing their studies, and that such crime was of a serious nature and contributed to a substantial disruption of the administration of the institution, then the institution would be required to deny for a period of two years any further payment to, or for the direct benefit of, such individual under any of the programs authorized by the National Aeronautics and Space Act of 1958, the funds for which are authorized pursuant to the Act. If an institution denies an individual assistance under the authority of the first sentence of subsection 6(a), then any institution which such individual subsequently attends would be similarly required to deny for the remainder of the two-year period any further payment to, or for the direct benefit of, such individual.

Subsection 6(b) would provide that if an institution of higher education determines, after affording notice and opportunity for hearing to an individual attending, or employed by, such institution, that such individual has willfully refused to obey a lawful regulation or order of such institution after the date of enactment of the Act, and that such refusal was of a serious nature and contributed to a substantial disruption of the administration of such institution, then such institution would be required to deny, for a period of two years, any further payment to, or for the direct benefit of, such individual under any of the programs authorized by the National Aeronautics and Space Act of 1958, the funds for which are authorized pursuant to the Act.

Subsection 6(c)(1) would provide that nothing in the Act shall be construed to prohibit any institution of higher education from refusing to award, continue, or extend any financial assistance under any

such Act to any individual because of any misconduct which in its judgment bears adversely on his fitness for such assistance.

Subsection 6(c)(2) would provide that nothing in section 6 shall be construed as limiting or prejudicing the rights and prerogatives of any institution of higher education to institute and carry out an independent, disciplinary proceeding pursuant to existing authority, practice, and law.

Subsection 6(c)(3) would provide that nothing in section 6 shall be construed to limit the freedom of any student to verbal expression of individual views or opinions.

Section 7

Section 7 would provide that the Act may be cited as the "National Aeronautics and Space Administration Authorization Act, 1971".

COST AND BUDGET DATA

The bill will authorize appropriations for Fiscal Year 1971 in the amount of \$3,630,875,000.

ADDITIONAL VIEWS OF HON. JOSEPH E. KARTH

The Administration requested authorization for \$110,000,000 for design and definition of the Space Shuttle/Station. The Science and Astronautics Committee increased this amount by \$80,000,000, for a total of \$190,000,000 for fiscal year 1971.

These funds represent the first large increment for the Space Shuttle/Station, a development program which ultimately will cost the Nation many billions of dollars. In order to make resources available for this new project during fiscal year 1971, several noteworthy policy decisions were made by NASA. Among the most significant were the following:

The launch schedule for the Viking Project was delayed two years, from 1973 to 1975.

The Applications Technology Satellite F and G Project was delayed for 6-to-12 months.

The production of Saturn V launch vehicles will be discontinued after vehicle No. 515.

In my judgment, these decisions were unwise, the three affected programs are justified on their individual merits, and work on them should not be delayed or discontinued in order to accommodate a major new start in the Manned Space Flight Program, or for that matter, any other.

The Viking Project will significantly advance our knowledge of the planet Mars, with particular emphasis being placed on obtaining biological, chemical and environmental data relative to the possible existence of extraterrestrial life. The objectives of Viking have been given the highest priority by the scientific community. It is especially regrettable that the launch of the Viking spacecraft will be delayed until the 1975 opportunity, since the relative positions of Earth and Mars during the 1973 opportunity would make for a much less demanding mission in terms of complexity of both equipment and operations. Moreover, the two-year delay will increase total project costs by some \$150 million.

The Applications Technology Satellite F and G Project will test advanced communications concepts, including a 30-foot diameter erectable antenna and superior pointing controls. These spacecraft will be precursors to direct broadcast satellites of the future. The capability for direct broadcast from orbit could revolutionize world communications, and the potential benefits to mankind going out of research and development projects such as Applications Technology Satellites are immeasurable.

Finally, the United States has an enormous investment in Saturn V/Apollo hardware. For the purpose of continuity and for reasons of economy, the Nation should make the most effective possible use of this

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proven hardware now. These existing systems can be utilized for a variety of meaningful manned missions in the 1970's, in addition to those proposed by NASA.

More to the point, the huge costs involved in suspension and subsequent restart of production of Saturn V launch vehicles, estimated by Dr. Werner von Braun to be hundreds of millions of dollars, can be avoided if additional resources are applied to Saturn V during fiscal year 1971, and production is continued. In this connection, testimony was received to the effect that NASA intends to resume Saturn V production in 1976 or 1977 in order to support future manned missions, and for the testing of the NERVA nuclear stage. That being the case, it seems both inefficient and unwise to discontinue production of Saturn V launch vehicles with vehicle No. 515.

NASA should defer large-scale expenditures on the Space Shuttle/Station until after necessary basic research can be accomplished on the many technical problems that must be resolved before hardware development can be undertaken effectively. In addition, it would seem advisable that cost effectiveness studies be conducted comparing operation of the space shuttle with the continued use of existing expendable launch vehicles before sizable amounts of money are applied to the shuttle development project.

It is important to note that testimony was received to the effect that the Office of Advanced Research and Technology will spend between \$30 and \$40 million on basic research in support of the Space Shuttle/Station during fiscal year 1971. I fully support the research to be done by OART in this regard; but I oppose rushing into development of expensive Space Shuttle/Station hardware during these years of declining space budgets. I consider it extremely unwise to commit the nation to development of costly hardware before the necessary fundamental research has been completed. I consider it extremely unwise also, to cancel or stretch out on-going projects at enormous additional cost so as to accommodate, prematurely, a new project start.

JOSEPH E. KARTH.
KEN HECHLER.
THOMAS N. DOWNING.
MARIO BIAGGI.
THOMAS M. PELLY.
GUY VANDER JAGT.
JERRY L. PETTIS.

The Administration has requested authorization for more than \$3.3 billion for the space program in fiscal year 1971. A majority of the Science and Astronautics Committee have increased this amount by almost \$300 million, with the entire increase designated for the Manned Space Flight Program.

Expenditures for space must be considered in the context of the total needs of the nation. This raises a question of national priorities, and it seems absurd that the space program should rate so high when measured against other programs of American society which are in desperate need of attention.

So many of society's most pressing needs are not being adequately funded that the list seems endless. Both the Administration and the Congress have failed to fund sufficiently the urgently needed programs in education, housing, mass transit, pollution abatement, and crime control, to name only a few. Nor do prospects for meeting the cities' urgent needs seem very bright. Yet, to continue to ignore these problems is surely a perilous course, particularly while the government proposes to spend more billions on space ventures.

There are some who defend these expenditures by saying there is no assurance that if these vast resources were not spent on space, they would be applied to the accumulated needs of our cities and our fellow citizens. I believe this is too pessimistic an attitude, and I think that we can work together in the Congress and redirect these funds to meeting our needs here on Earth.

Rather than increase the NASA budget, I would recommend that it be reduced. While much of the space program is worthy of support, there are several projects in the NASA program which seem particularly unjustified.

The most obvious among these appears to be the Space Shuttle/Station. This is the first year substantial amounts have been requested to start the development of this ambitious new vehicle. The amount earmarked in this bill for the Space Shuttle/Station is \$190 million. If Congress approves these new manned space flight projects, the United States will be embarking upon developments that will cost many billions of dollars during the decade of the 70's—approximately \$14 billion according to NASA's own estimates—and many knowledgeable persons believe NASA's estimates are unrealistically low.

I would urge that, during the next decade, NASA emphasize the use of automated spacecraft, rather than manned programs. At a fraction of the cost, automated spacecraft have proven to be much more effective in the acquisition of scientific knowledge as well as having practical applications, such as communications, air traffic control, weather prediction, and earth resources survey.

A second project, ill justified in my judgment, is the Viking program. Two Viking spacecraft are scheduled to be launched to Mars in 1975 with the primary objective of acquiring information relative to the possible existence of extraterrestrial life on the planet Mars. Viking is not expected to provide

a final definitive answer to the question, but should reveal more detailed information about the environment at the Martian surface so that scientists can speculate as to whether that environment could support life.

We already know enough about Mars to know that if life exists there at all, it must be in the simplest form. I cannot justify approving monies to find out whether or not there is some microbe on Mars, when in fact I know there are rats in Harlem apartments. The cities in this country are on fire; and the people living in the slums are furious at how little is being done to meet their needs while so much is being spent on space explorations.

While the objective of Viking may be very exciting to members of the scientific community, it is not a matter of great urgency to most Americans who are preoccupied and concerned with domestic problems.

NASA currently estimates the total cost for Viking will be almost \$900 million. That cost estimate has more than doubled during the past year. If history is any guide, expenditures for Viking surely will ultimately exceed one billion dollars.

Finally, there is the NERVA project. To date the United States has spent well over one billion dollars on development of the NERVA engine. More than one billion additional dollars will be needed during the next few years to complete work on the NERVA engine and the stage with which it is to be integrated.

Since the decision has been made to discontinue production of Saturn V launch vehicles after vehicle #515, and since the nuclear stage is designed as an upper stage for Saturn V, if and when such nuclear stages comes into existence toward the end of this decade, there will be no way to flight test it. Once discontinued, there is no assurance that Saturn V production will be resumed and the NERVA engine will be grounded.

Even more to the point, the nuclear rocket has never had a mission assigned to it. It does not have a mission today. And there are no approved missions for the future which will require the nuclear rocket. It has been argued that much larger heavier payloads can be launched using the nuclear rocket but no mission has been defined involving such large and heavy payloads. In short, the need for NERVA has not been demonstrated.

Again, unless the NERVA project is cancelled, the United States will end up with an extremely expensive, unlaunchable and useless piece of equipment.

EDWARD I. KOCH.

RECOMMENDATIONS OF HON. JAMES G. FULTON OF
PENNSYLVANIA

APOLLO PROGRAM

Apollo lunar exploration flights should be scheduled by NASA at the rate of three flights per year. In my previous views, added to prior reports on the NASA authorization bills, I have pointed out that two lunar flights or less per year would save expenditures for the short term. In the long run this rate of launch is more expensive and increases risks to the astronauts as well as adding to the probability of failure and loss of all equipment. This is true even if emergency measures for rescue of our astronauts proved successful.

Based on my extensive study and calculations, from NASA figures, I believe that I have been able to prove that three launches per year for lunar exploration flights is an optimum, most efficient and least expensive rate of operation.

Under the present stringent federal budgetary restrictions and the rising demand for domestic programs, I would recommend that NASA increase the rate of scheduled Apollo lunar exploration flights to the equivalent of 2½ flights per year. The launch rate recommended is approximately five-month intervals. This requires slightly more expenditure in the current fiscal year than has been provided in the Administration proposals for NASA. However, over the long range it will save an estimated \$250-\$300 million. More adequate use of engineering and scientific talent, space centers and their personnel, as well as contractor and subcontractor operations will be obtained. Idle space equipment is an open invitation for obsolescence and deterioration. One factor that should be considered is that our astronauts, our finest young men, are held without space flight experience for a period of time by a launch rate of two Apollo lunar exploration flights per year. This is not only unnecessary but more expensive and a more dangerous procedure.

Now is the time to begin planning and studying a new generation of boosters for the shuttle, which will augment and follow the Saturn V. These advances, as I have insisted for the past years, will permit the Saturn vehicle to take advantage of the latest technology and prevent its obsolescence. These same funds will also provide for development in critical high technology areas to maintain modern, reliable launch vehicles.

NERVA

I am not completely satisfied with the present funding level for the support of the NERVA program. In my judgment, a relatively small increase this year through reprogramming could have resulted in accelerated technology development and testing. A modest increase

this year could achieve the same result. However, NASA, the AEC, and the contractors working on NERVA have adjusted their activities to the \$36.5 million allocated for fiscal year 1970 and are making important progress. It is evident that this year's request of \$38.0 million, an increase of \$2.5 million over FY 1970, shows an awareness in NASA that the program needs more support.

It is my firm conviction that the key to success in the exploration of space and space defense is propulsion and space power tailored to future needs. It is as simple as that. The United States is at the point in planning for future missions where the present outstanding chemical propulsion systems cannot produce all the required performance the nation needs to meet its future objectives in space. The United States will need big booster power and big rocket capability for space.

The nuclear rocket is a major new advance in propulsion capability. It is an important step in insuring that this country continue to exercise leadership in space in the years to come. The NERVA nuclear rocket engine is a versatile system which provides significant payload and operational benefits in a wide variety of large payload and high energy missions.

NERVA can double the payload and mission capabilities of the Saturn V launch vehicle for maneuvering heavy payloads in earth orbit, for landing heavy payloads at any point on the moon's surface, and for sending unmanned probes into deep space. For such missions it is clear that the payload capability of the Saturn V will increase by as much as 100 percent. In addition, NERVA can be the power system for a moon-earth shuttle in continuous vectored flight, or earth or moon parking orbit, available at all times for payload and for earth orbit or moon orbit rendezvous. This is a terrific advance, in efficiency of operation, and cost reduction.

The NERVA system is the only rocket under development that can supply the needed thrust to perform rendezvous and inspection in orbit of a foreign payload and permit neutralization or deflection in orbit. These performance gains for U.S. missions, lunar and planetary, manned and unmanned, also simplify operations and are translatable into cost benefits which can pay off the development cost in a relatively few missions.

During the past several years the nuclear rocket program has been establishing the base of technology required for this development. The progress has been good, demonstrating the high performance which the nuclear rocket has promised.

I do not at this time urge an increase of funding authorization by the Committee for NERVA. I will, however, closely monitor the progress being made to make sure there will not be a drastic increase of funding needed later in the program to make up for the research that has been deferred.

260-INCH SOLID FUEL BOOSTER

With regard to the large 260-inch solid fuel rocket program, it is clear that as unfortunately the research teams and the program organization have been in effect dispersed, an increase in Chemical Propulsion line items would not cause reinstatement of the program. I am not satisfied with the present level of technology at which the solid

ADDITIONAL VIEWS OF HON. CHARLES A. MOSHER

fuel booster program has been shelved. I believe that NASA should at least have attempted a full length firing and finished its development of the necessary vector control techniques through development of systems and components. The 260-inch solid fuel rocket represents an excellent example of an operational option that should be kept open by NASA for use as a booster for NERVA, for instance, or for low cost logistic support for earth orbital, long-stay missions. Solid fuel first stage boosters can be the ever-ready truck horse boosters for large payloads, much more easily maintained on the pad than liquid fuel boosters with all their necessary pumps, valves, fittings, and injection and pressure controls.

We were told by NASA that the 260-inch solid fuel booster technology would be put on the shelf in condition for NASA to put into development at a later date. I want to be sure that capability for such action be maintained with the hardware, and that the technology and the research team be reactivated if and when needed. I strongly urge research and development of the solid fuel 260-inch booster as soon as NASA budget funds are available. The United States space program must have various booster and space fuels, liquid fuels, higher energy fuels, solid fuels, and nuclear energy type engines to carry out the future programs adequately.

JAMES G. FULTON.

The NASA Authorization bill for fiscal year 1971 which has been reported by the Committee on Science and Astronautics represents an increase of about \$300 million above the amount requested by the Administration. This increased funding is designated entirely for the Manned Space Flight Program.

I oppose this enormous increase in funding on two grounds.

First, the Nation is faced with the overriding problem of inflation and there is an urgent need to curtail government spending in spite of unprecedented demands for resources to meet pressing National problems. For this reason, I voted to sustain the President's veto of the HEW-Labor Appropriations bill for fiscal year 1970, even though there is a demonstrated need for additional funds, particularly for education. Many other worthy programs have been curtailed by the Administration and by the Congress for the same reason. Accordingly, I cannot, in good conscience, support large-scale increases for the space program.

Second the achievement of a better balance in the National space effort seems to me essential. Many important Space Science and Applications projects have been neglected in recent years because of NASA's preoccupation with the Apollo Program. While I always have supported the Apollo Program, and I do not oppose future manned missions, it is noteworthy that an overwhelming portion of the scientific knowledge resulting from the NASA program thus far has been based upon data produced by unmanned, automated spacecraft. Similarly, virtually all practical applications of space technology, such as communications, meteorology and earth resources survey, have been and will continue to be achieved by using unmanned satellites. In my judgment, it is the unmanned space effort which should be emphasized during the decade of the 1970's. Yet, the Committee has not seen fit to increase authorizations for that effort. Why then for manned flight?

I repeat, in the interest of fiscal responsibility and of wisely balanced programming, I consider it unjustifiable to increase NASA's budget for the forthcoming fiscal year, especially for the Manned Space Flight Program, the most expensive and the least productive aspect of our National Space effort.

Finally, I wish to associate myself, in part, with the additional views of my colleague, Joseph E. Karth. I share his misgivings regarding the Space Shuttle/Station development project, as well as his support for the Viking and Applications Technology Satellite Projects.

CHARLES A. MOSHER.

ADDITIONAL VIEWS OF HON. JOHN W. WYDLER

NEED FOR JOINT NASA-DOD MANNED SPACE PROGRAMS

Each year as we embark on Congressional action to authorize funds for the NASA space program, I have entered into the report my views on the necessity for a balanced national effort in space. I have always emphasized the need for this effort to satisfy our national security as well as our civilian space program. President Nixon's prudent action in cancelling the Air Force Manned Orbiting Laboratory (MOL) was a step in the right direction by reducing an obviously duplicatory project which could and would have caused unneeded expenditures of billions of dollars for many facilities and experiments that would have provided primarily redundant data. However, I have always believed that on important projects such as the MOL and the Apollo Applications Program the project needs should be tailored to give the greatest return to the taxpayer for his dollar spent. I am told now by NASA that they have no monies in their Apollo Applications Program to insure that the MOL experiments or missions not duplicated by NASA can be carried out. The transfer of a few equipment items to NASA is the only evidence that NASA has to a cancelled \$2 billion military manned space program. What then will be done to perform the military requirement?

In the Fiscal Year 1968 Report on the NASA Authorization I said:

"The essential fact, however, is that the Apollo Applications and MOL Programs are to create essentially the same space platform on which men can survive for long periods of time. No rational explanation is offered on why the men on these platforms cannot perform both military and civilian functions. The expenditure of billions of dollars to maintain the stance that we have a separate civilian space program can serve to fool the American public but does not change the crucial fact that the world recognizes the control of space as a national security matter. In this regard, the Soviet Union makes no pretense . . ."

In the fiscal year 1970 report I said, "A combination of these programs at this time can lead to a strengthened national space program, with proper emphasis on the military role in space."

I am still firmly convinced that if there were valid reasons for an Air Force MOL program, and I believe there were, then NASA should conduct these necessary experiments and should so tell the Congress the cost of the work and the extent of the effort. In my letter to the President a year ago this March I pointed up the duplication in these programs, but recommended that the Air Force be allowed to continue a joint program satisfying both program needs. Also I said, "A good mix of these two programs could give us the best of both at a greatly reduced cost to the nation." Unless we now have the foresight to combine these requirements as I have suggested we will later perform them on a crash basis with our national security

at stake, costing the taxpayer additional billions of dollars. Therefore, I strongly urge that the Administration take appropriate steps to insure that the NASA program contains sufficient instrumentation to meet the total needs of the nation and that we do not jeopardize our security by adhering to set policies that in the long run work against our best interest.

JET PROPULSION LABORATORY OPERATION AS A NASA CENTER

For some time I have questioned the operation of the Jet Propulsion Laboratory as a NASA Center under contract to the California Institute of Technology. This is the only research center operated under contract by NASA. Although I have no objection per se to NASA operating its Centers under contract, I believe that where this is done the Congress and the people should know why and what advantages are offered under this system. The funds programmed for JPL in the Fiscal Year 1971 Budget is \$158.8 million and there are 4100 personnel authorized under the contract. This Laboratory is then one of NASA's larger research centers. Testimony supplied for the record by NASA indicates that the average personnel costs for professional and scientific personnel are greater at JPL than at Goddard Space Flight Center where similar work is performed. When I asked Dr. Low, Deputy Administrator of NASA, in hearings this year if JPL was more efficient or was a more effective Center operation than other NASA Centers, he responded, "I d'dn't say, Mr. Wydler, that it is more effective or more efficient, because I frankly don't know. I just said it is an operation that has yielded good results, but so have the other NASA Centers."

The purpose of my inquiry was to insure that NASA did reconsider its decisions of the past and make changes where appropriate to improve today's operations. I am well aware of the historical justification for the transfer of the Jet Propulsion Laboratory into NASA. My question now is—should we continue to operate this Center in the same manner, particularly since the urgency once attributed to the space program no longer exists.

It is entirely possible that public funds could be more beneficially expended by contracting the operation of all Government-managed laboratories. Here we have the opportunity to study both contractor-operated laboratories and Government-managed facilities and to accept the method that offers the most advantages to the Government and the taxpayer.

I considered offering an amendment to the NASA Authorization Bill to require a study to be made to analyze this operation, comparing its costs, management methods and benefits with direct Government managed centers. In discussing this subject in the Committee, I was assured that the Committee would undertake such an investigation and have the facts presented to all Members. Nevertheless, I trust that the Administrator of NASA will take cognizance of my concern for increased economy in the operation of all NASA Centers and will increase his efforts to insure that overhead and research costs are a minimum consistent with the missions of the Centers.

JOHN W. WYDLER.

ADDITIONAL VIEWS OF HON. LOUIS FREY, JR.

PRACTICAL BENEFITS OF THE SPACE PROGRAM

The practical benefits to mankind derived from our Nation's space effort continue to be rather nebulous as far as the general public is concerned. Man today lives in a highly advanced technological environment, and although aware that his life has been made easier through technological innovation, he does not associate any of the benefits that he now enjoys with the Space Program. Space spinoff has materially affected his life, but he does not fully appreciate the extent to which this has been made possible by our great technological achievements in space.

Surely no one will deny that the United States has achieved pre-eminence in space. Our national prestige, at a low ebb in 1958 after Sputnik, is now at an all-time high. Our extraordinary accomplishments were made even greater by the fact that we conducted the entire Apollo program in the open for all to see. Parenthetically, the people of this country were truly united for the first time in years as they shared the Apollo 11 and 12 moon landings with the rest of the world. Our increased knowledge of the universe and the scientific and technological achievements as a nation cannot be denied.

However, the individual, the taxpayer, is not convinced that the expenditure of national resources to land men on the moon and safely return them to earth with a supply of lunar rocks was worth the investment, particularly in view of other pressing social problems facing him here on earth. Yet today, our space budget of approximately \$3.3 billion, representing 1.6% of our total national budget is at a point where major economic, scientific, social and technological returns and benefits are being realized. This can be said of few other programs of the Federal Government.

We have not done a particularly good job in relaying to the American public information on the benefits derived from achievements in our space program.

For example, few people realize that over 2,500 technological products have come directly from our space program, and that there are thousands more which have been inspired by it. An abundance of new products, new industries, and new jobs are just over the horizon.

The wide variety of benefits, of course, precludes a complete listing in this paper, but a very few examples will convey some idea as to the wide variety of space technology uses. Miniaturization advanced for the space program has given us tiny appliances, improved color television, miniscule medical and surgical instruments. In major hospitals throughout the Nation tiny television transmitters which can be swallowed in a capsule are being used for visual examination of the inner workings of the stomach. Refrigerators which move at a touch aid the housewife. Exotic lubricants developed to withstand extreme temperatures on the Moon (minus 250° F. to 250° F. plus) are being used in industry and in transportation. Sportsmen have been provided with a "space blanket" which fits in a shirt pocket to provide him with warmth and comfort.

Space research has discovered a way to use energy generated within the body to provide power for hearing aids and for the direction and control of artificial limbs.

The most impressive rewards of all will be produced by exploitation of the Nation's capabilities in space for useful applications. Satellites are already in commercial use for rapid and efficient communications, and direct broadcast satellites for the future promise to have enormous impact on business, industry, and education.

Operational meteorological satellites now assist in the analysis and forecast of the dynamics of the world's weather; forecasting weather up to two weeks in advance is considered a realistic goal using advanced meteorological sensors already under development. The values of such forecasts to farmers, air carriers, the marine industry, among others, will someday be measured in billions of dollars annually.

Surveys of the surface of the Earth from orbiting spacecraft will soon lead to more effective exploitation, management, and conservation of our natural resources. The great potential of an Earth Resources Satellite system to assist in mineral and petroleum prospecting, control of plant diseases on farms and forests, managing fresh water supplies, and for many other purposes, may be sufficient in the longer run, to pay for the entire space program.

These are just a few of the direct and indirect benefits which have evolved from our space research effort.

NASA's Technology Utilization Program has proved to be a step in the right direction toward transforming space technology into daily living benefits. Through this program, basic and applied research results are available to industry, through the publication of technical briefs available at basic minimum printing costs. Principal emphasis has been placed on the technological transfer of knowledge to small business.

However, NASA's Technology Utilization Program was never intended to be an educational device for the American public, but rather an instrument to transfer space and aeronautical technology to American industry. The basic premise behind the program is that technology transfer through this medium will result ultimately in benefits to the overall economy.

I believe that there has been insufficient effort put forth to measure the actual benefits accruing to the man on the street as a result of space technology. Much more public affairs emphasis should be placed on this aspect of space research by NASA, with a view toward keeping the American public fully and currently informed as to the specific practical applications of space technology to the benefit of mankind.

LOUIS FREY, JR.
 JOSEPH E. KARTH
 KEN HECHLER
 DON FUQUA
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 BARRY M. GOLDWATER, JR.

91ST CONGRESS }
2d Session }

SENATE

{ REPORT
No. 91-833 }

NASA AUTHORIZATION FOR
FISCAL YEAR 1971

REPORT

OF THE

COMMITTEE ON
AERONAUTICAL AND SPACE SCIENCES
UNITED STATES SENATE

ON

H.R. 16516

AN ACT TO AUTHORIZE APPROPRIATIONS TO THE
NATIONAL AERONAUTICS AND SPACE ADMINISTRA-
TION FOR RESEARCH AND DEVELOPMENT, CON-
STRUCTION OF FACILITIES, AND RESEARCH AND
PROGRAM MANAGEMENT, AND FOR OTHER PURPOSES



MAY 1, 1970.—Ordered to be printed

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(II)

Calendar No. 839

91st Congress }
2d Session }

SENATE }

REPORT
No. 91-833

AUTHORIZING APPROPRIATIONS TO THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

May 1, 1970.—Ordered to be printed

Mr. ANDERSON, from the Committee on Aeronautical and Space Sciences, submitted the following

REPORT

[To accompany H.R. 16516]

The Committee on Aeronautical and Space Sciences, to which was referred the bill (H.R. 16516) to authorize appropriations to the National Aeronautics and Space Administration for research and development, construction of facilities, and research and program management, and for other purposes, having considered the same, reports favorably thereon, with an amendment striking out all after the enacting clause and inserting the committee amendment, and recommends that the bill be passed.

CONGRESSIONAL ADJUSTMENTS TO NASA FISCAL YEAR 1971 REQUEST

Summary

	Budget request	House Action	Senate Committee action
Research and development:			
Apollo.....	\$956,500,000	\$1,087,000,000	\$956,500,000
Space flight operations.....	515,200,000	654,700,000	515,200,000
Advanced missions.....	2,500,000	1,000,000	2,500,000
Physics and astronomy.....	116,000,000	110,400,000	116,000,000
Lunar and planetary exploration.....	144,900,000	144,900,000	144,900,000
Bioscience.....	12,900,000	12,900,000	12,900,000
Space applications.....	167,000,000	172,600,000	167,000,000
Launch vehicle procurement.....	124,900,000	124,900,000	124,900,000
Space vehicle systems.....	30,000,000	30,000,000	30,000,000
Electronics systems.....	22,400,000	23,900,000	22,400,000
Human factor systems.....	17,900,000	18,300,000	17,900,000
Basic research.....	17,600,000	18,000,000	17,600,000
Space power and electric propulsion systems.....	30,900,000	30,900,000	30,900,000
Nuclear rockets.....	38,000,000	38,000,000	38,000,000
Chemical propulsion.....	20,300,000	20,300,000	20,300,000
Aeronautical vehicles.....	87,100,000	87,100,000	87,100,000
Tracking and data acquisition.....	298,000,000	293,800,000	298,000,000
Technology utilization.....	4,000,000	4,500,000	4,000,000
Total.....	2,606,100,000	2,873,200,000	2,606,100,000
Construction of facilities:			
Ames Research Center.....	1,525,000	1,525,000	1,525,000
Goddard Space Flight Center.....	2,050,000	2,050,000	0
Jet Propulsion Laboratory.....	1,950,000	1,950,000	1,950,000
John F. Kennedy Space Center.....	575,000	575,000	575,000
Manned Spacecraft Center.....	900,000	900,000	900,000
Marshall Space Flight Center.....	525,000	525,000	525,000
Nuclear Rocket Development Station.....	3,500,000	3,500,000	3,500,000
Various locations.....	18,575,000	17,950,000	18,575,000
Facility planning and design.....	5,000,000	5,000,000	5,000,000
Total.....	34,600,000	33,975,000	32,550,000
Research and program management.....	692,300,000	693,700,000	677,300,000
Grand total.....	3,333,000,000	3,600,875,000	3,315,950,000

PURPOSE OF THE BILL

The purpose of this bill is to authorize appropriations totaling \$3,315,950,000 to the National Aeronautics and Space Administration for fiscal year 1971, as follows:

	Budget request	House action	Senate committee action
Research and development.....	\$2,606,100,000	2,873,200,000	2,606,100,000
Construction of facilities.....	34,600,000	33,975,000	32,550,000
Research and program management.....	692,300,000	693,700,000	677,300,000

LEGISLATIVE HISTORY

The fiscal year 1971 budget request for the National Aeronautics and Space Administration was introduced in the House under H.R. 15695 and in the Senate as S. 3374. After holding hearings, the House Committee on Science and Astronautics reported out a clean bill, H.R. 16516, which was subsequently passed by the House after agreement on an amendment reducing the committee recommendation by \$30 million.

Your committee held hearings on S. 3374 and it was determined that amendments were required. Your committee, therefore, has reported out H.R. 16516 with an amendment striking out all after the enacting clause and inserting the committee amendment.

SUMMARY

The NASA budget request for fiscal year 1971 contains funds for 18 program items under research and development with an accumulative total of \$2,606,100,000, funds for construction of facilities with an accumulative total of \$34,600,000, and a research and program management budget totaling \$692,300,000. As a result of action by the House, research and development items were increased by \$267,100,000, construction of facilities items were cut by \$625,000 and research and program management was increased by \$1,400,000. The total funds authorized for NASA by the House for fiscal year 1971 are \$3,600,875,000.

Your committee, after consideration of the bill, recommends an authorization totaling \$3,315,950,000, a reduction of \$284,925,000 from the amount authorized by the House. The authorization recommended by your committee is \$17,050,000 less than the total amount requested in the President's budget. The recommended authorization would provide \$2,606,100,000 for research and development, \$32,550,000 for construction of facilities, and \$677,300,000 for research and program management. The reasoning accompanying the action of your committee is contained in the report under the various programs or items therein.

Your committee held hearings in connection with the NASA authorization request on February 20 and 27, March 4, 5, 6, 11 and 18, 1970. On April 22, 1970, the committee met in executive session to prepare its recommendations to the Senate and mark up the bill.

The total of \$3,315,950,000 which your committee is recommending represents the lowest total recommended by your committee since 1961, and one which is \$399,577,000 less than the total amount recommended by your committee in the last fiscal year.

It is your committee's considered judgment that while the authorization recommends a rather austere national space program for fiscal year 1971, nevertheless funds have been provided for manned lunar landings for scientific investigations to follow up our splendid national achievement in 1969 of landing on the moon and for programs which will increase the scientific, technical, and economic return on the Nation's investment in space. Your committee took note of the fact that in agreeing to the administration request for research and development funds, no funds will be authorized to continue production

of the Saturn V launch vehicle. The effect of the termination of the Saturn V program will be that upon the completion of the Apollo 19 mission in 1974 our Nation will have no launch vehicle available to carry out further manned or unmanned missions in the heavier payload ranges. The Space Task Group, in its recommendations to the President, and the President in his budget and again in his message on Space of March 7, 1970, gave unqualified approval for proceeding toward the development of a fully recoverable and reusable space shuttle system, the use of which would result in a much more economical method for conducting future missions. While there is no commitment contained in this bill to proceed with such development, funds are provided to conduct further design studies looking to the future development of such a system which might be available in 1977 or 1978.

RESEARCH AND DEVELOPMENT

Summary

	Budget request	House action	Senate committee action
Apollo	\$956,500,000	\$1,087,000,000	\$956,500,000
Space flight operations	515,200,000	654,700,000	515,200,000
Advanced missions	2,500,000	1,000,000	2,500,000
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Nuclear rockets	38,000,000	38,000,000	38,000,000
Chemical propulsion	20,300,000	20,300,000	20,300,000
Aeronautical vehicles	87,100,000	87,100,000	87,100,000
Tracking and data acquisition	298,000,000	298,800,000	298,000,000
Technology utilization	4,000,000	4,500,000	4,000,000
Total	2,606,100,000	\$2,873,200,000	\$2,606,100,000

APOLLO PROGRAM, \$956,500,000

Your committee believes after reviewing the administration request for Apollo for fiscal year 1971, that the request for \$956,500,000 is basically sound considering the administration's plans for the overall manned space flight program for the immediate future. This request is \$734,600,000 less than the administration request for fiscal year 1970.

The House approved a total of \$1,087 million, an increase of \$130,500,000 over the administration request. These additional funds would increase future Apollo lunar payloads and provide for long-leadtime hardware to start fabrication of improved Saturn V systems. Your committee feels that these additional funds are not needed to maintain NASA's present schedule for manned space flight and, therefore, does not agree with the action of the House.

SPACE FLIGHT OPERATIONS PROGRAM, \$515,200,000

Your committee recommends that the Administration request of \$515,200,000 for the Space Flight Operations Program be approved. The House approved a total of \$654,700,000, which is \$139,500,000 more than the budget request. Some of these additional funds would be applied to the Apollo Applications project to augment the development and qualification effort on spacecraft, to provide increased assurance of mission success, to initiate experiments that were excluded due to previous funding limitations, and to initiate the design for a second mission. Your committee believes that the budget request for this project is adequate and that additional funding is not necessary at this time.

Additional funds provided by the House would also be applied to the space shuttle and space station project to provide for more extensive and inclusive analysis and to support the technological development of this project. Neither the space shuttle nor the space station are approved for development, and your committee believes the budget request contains sufficient funds for NASA to carry out phase B studies which will provide the technical information needed to determine whether or not to proceed. Therefore, the committee does not agree with the additional funds provided for this project by the House.

ADVANCED MISSIONS PROGRAM, \$2,500,000

Your committee recommends that the Administration request of \$2,500,000 for advanced missions be approved. The House decreased this request by \$1,500,000 believing that \$1 million would adequately support study requirements for fiscal year 1971. Your committee, in supporting the Administration request, believes that \$2,500,000 for planning is not unreasonable considering that the total funding for the manned space flight program is approximately \$1.4 billion. It therefore disagrees with the action taken by the House.

PHYSICS AND ASTRONOMY PROGRAM, \$116,000,000

It is your committee's view that the ongoing Explorer satellite project is a major element in NASA's overall physics and astronomy program. Moreover, your committee notes that these relatively inexpensive satellites continue to be strongly supported by the scientific community. The results from Explorer satellites have proven important, not only in relation to other space science and applications projects, but may also provide certain necessary scientific information to help attack some of earth's environmental problems. Accordingly, your committee does not agree with the House-approved reduction of \$5.6 million for Explorer satellites. Rather, your committee recommends the full authorization request of \$116 million for the physics and astronomy program.

LUNAR AND PLANETARY EXPLORATION PROGRAM, \$144,900,000

BIOSCIENCE PROGRAM, \$12,900,000

SPACE APPLICATIONS, \$167,000,000

The committee does not concur with the action of the House in adding \$5,600,000 to the applications technology satellite project. The testimony of NASA witnesses does not indicate that such an amount is adequate to proceed with spacecraft development and also procure the necessary launch vehicle to meet an earlier launch schedule. In addition, it has come to the attention of the committee that a dispute exists with respect to contract award which would appear to make recovery of the earlier proposed launch schedule even more difficult to achieve. Nevertheless, should circumstances at a later date indicate that this amount of additional funding would restore the original launch schedule, the committee would interpose no objection to providing such funding from other projects within the Space Applications Program.

The committee is convinced that potentially large benefits may accrue from the earth resources technology satellite program. In fact, the committee conducted a special review of environmental and earth resources activities last year receiving testimony from the several

agencies interested in and working in this area of space technology. Therefore, the committee strongly endorses this program. Nevertheless, the committee is becoming increasingly concerned, a concern supported by recent events, that the most desirable degree of coordination among interested agencies does not exist, and that there has been insufficient planning and decisionmaking with respect to the developmental and the operational earth resources satellite program. In particular, the committee notes the absence of a formal interagency agreement defining participating agency responsibilities to focus efforts, eliminate duplication and otherwise streamline and expedite the development of this satellite system. Further, it is becoming increasingly clear that little or no agreement exists on the management arrangements for an operational system—a condition which makes it unnecessarily difficult to proceed efficiently and as economically as possible with the development of the experimental system with the objective of establishing an on-going operational system. Therefore, the committee strongly urges the Executive Branch to undertake promptly a study of the interests of the various agencies in such a system thereafter developing a formal interagency agreement defining responsibilities for both the presently proposed experimental and the operational systems. Participation in the experimental system should be formalized as soon as possible with NASA assuming prime responsibility for accomplishing this initial agreement followed by continued study to obtain early agreement on management and other aspects of the operational system. The committee believes that such a study and resulting agreements should recognize: (1) the technical capabilities for satellite system development within NASA, (2) the requirements and any unique problems of the user agencies (who, in the final analysis, will produce the benefits from this development), and, (3) that long range planning should be emphasized to assure the most economical overall system development and operation.

LAUNCH VEHICLE PROCUREMENT PROGRAM, \$124,900,000

SPACE VEHICLE SYSTEMS PROGRAM, \$30,000,000

ELECTRONICS SYSTEMS PROGRAM, \$22,400,000

As in the case of several other advanced research and technology programs, the committee believes that a reasonable balance has been established in the budget request between available resources and needs. While the record is clear that the committee has vigorously supported aeronautics research in NASA over the years, the committee does not find a persuasive case for concurring with the House that an addition of \$1,500,000 should be made for selected aeronautics efforts in this program, particularly when the addition would be made by reducing another vital NASA program.

HUMAN FACTOR SYSTEMS PROGRAM, \$17,900,000

As in the case of several other advanced research and technology programs, the committee believes that a reasonable balance has been established in the budget request between available resources and needs. While the record is clear that the committee has vigorously supported aeronautics research in NASA over the years, the committee does not find a persuasive case for concurring with the House that a relatively small addition of \$400,000 should be made for selected aeronautics efforts in this program, particularly when the addition would be made by reducing another vital NASA program.

BASIC RESEARCH PROGRAM, \$17,600,000

As in the case of several other advanced research and technology programs, the committee believes that a reasonable balance has been established in the budget request between available resources and needs. While the record is clear that the committee has vigorously supported aeronautics research in NASA over the years, the committee does not find a persuasive case for concurring with the House that a relatively small addition of \$400,000 should be made for selected aeronautics efforts in this program, particularly when the addition would be made by reducing another vital NASA program.

SPACE POWER AND ELECTRIC PROPULSION SYSTEMS PROGRAM,
\$30,900,000

The committee has taken particular note of technology programs currently being supported to investigate power conversion systems designed to adapt nuclear power sources to the higher power requirements of advanced space missions. NASA has active programs on two systems involving rotating machinery, the AEC is supporting a thermoelectric direct conversion system, and both agencies are supporting work on the theoretically advantageous, but more technically advanced and difficult thermionic approach. The committee is becoming increasingly concerned with the total investment in these technology efforts and the seeming tendency to continue to support all programs without selectivity between those which are most attractive for projected space needs and therefore ought to be given more support and those which should no longer be supported. The committee recognizes the difficulty in making such choices, however, as the requirements for future space power requirements become clearer and as work in the current technology programs progresses, the committee believes that NASA and the AEC should review jointly, during this fiscal year, the power conversion systems now underway with the objective of concentrating future resources on a fewer number of systems offering the most potential for space power needs.

Further, the committee believes that the AEC, which has the basic responsibility, and NASA should devote careful attention, and the necessary resources, to the SNAP-8 reactor to assure that the current

problems are expeditiously solved inasmuch as this nuclear power source is the acknowledged key to supplying space electric power in the 20-50 kw. range in the next decade.

NUCLEAR ROCKETS PROGRAM, \$38,000,000

The committee recommends that the management of the NERVA program and the space shuttle program integrate their design activities to the extent necessary to assure that NERVA design is compatible with the space shuttle capability to launch and support the nuclear rocket engine system in earth orbit.

CHEMICAL PROPULSION PROGRAM, \$20,300,000

AERONAUTICAL VEHICLES PROGRAM, \$87,100,000

On January 31, 1968, the committee filed a report with the Senate entitled "Aeronautical Research and Development Policy" (S. Rept. No. 957, 90th Cong., 2d sess). One of the recommendations made in that report was that the National Aeronautics and Space Administration and the Department of Transportation should jointly undertake an in-depth study in order to try to determine the level of effort of aeronautical R. & D. that should be maintained. Testimony was taken from both agencies regarding the status of this study.

Despite some delays due to the change of administrations and problems of obtaining adequate staff, the indications are that the study is now well under way; and the committee is hopeful that some preliminary results may be available to have an impact on the development of the upcoming fiscal year 1972 budget. A good working relationship has evolved between the two agencies, and a small but competent staff has been assembled which is dedicated to solving the mutual problems which exist at the interface between the two agencies. Since it appears that the problems under consideration are likely to be of a continuing nature, the committee suggests that NASA and DOT review the operations and functions of the joint study office with the thought that it might form the basis for a more permanent arrangement.

TRACKING AND DATA ACQUISITION PROGRAM, \$298,000,000

Your committee recommends the full amount of the request for the tracking and data acquisition program. This program has undergone reviews by NASA, and adjustments have been made to reflect the reduced support requirements resulting from successful operating experience, particularly in manned space flight, and from reduced flight schedules per se. For example, four of the five NASA instrumentation ships and four of the eight NASA instrumentation aircraft

have been released and ground stations continue to be deactivated as requirements change. Adequate and reliable tracking and data acquisition support, as demonstrated during the Apollo 11 and 12 lunar landing missions and again during the difficulties of the Apollo 13 mission, continues to be absolutely vital to the success of national space endeavors. Without it, the investment in launch vehicles, spacecraft, and experiments cannot be capitalized upon. Accordingly, your committee has carefully noted the funding requests and financial and operating experience for this activity over the years, and the Committee believes that the request is warranted to modernize and maintain the networks in a sound operating condition, particularly since some equipment replacements were deferred from the preceding year. Your committee, therefore, does not concur with the House committee reduction of \$4.2 million in this program.

TECHNOLOGY UTILIZATION PROGRAM, \$4,000,000

The committee recommends funding this program at \$4 million, the amount requested by NASA. The committee appreciates the concepts suggested by the House in adding \$500,000 to the program; however, it is the committee's judgment that provision already has been included in the request for supporting new endeavors.

CONSTRUCTION OF FACILITIES

Summary

	Budget request	House action	Senate committee action
Construction of facilities:			
A. Ames Research Center.....	\$1,525,000	\$1,525,000	\$1,525,000
B. Goddard Space Flight Center.....	2,050,000	2,050,000	0
C. Jet Propulsion Laboratory.....	1,950,000	1,950,000	1,950,000
D. John F. Kennedy Space Center.....	575,000	575,000	575,000
E. Manned Spacecraft Center.....	900,000	900,000	900,000
F. Marshall Space Flight Center.....	525,000	525,000	525,000
G. Nuclear Rocket Development Station.....	3,500,000	3,500,000	3,500,000
H. Various locations.....	18,575,000	17,950,000	18,575,000
I. Facility planning and design.....	5,000,000	5,000,000	5,000,000
Total.....	34,600,000	33,975,000	32,550,000

COMMITTEE COMMENT

The committee, in its report on the fiscal year 1970 authorization bill, noted that a Construction of Facilities project did not always include all the funding for equipment to provide an operable facility as defined in NASA directives. Since such amounts have been identified in most instances, but not formally included, in the fiscal year 1971 projects requested, the committee is not convinced that this matter is being administered in the most meaningful and efficient manner. Further, the committee is aware of the varying interpretations, with little consistency throughout the agency, that have been made in utilizing equipment and minor construction funds to acquire new facilities and/or new capabilities. Not only is the committee somewhat dismayed by the rationale expressed in certain cases, but, and of more significance, the committee believes that the several existing

funding categories for facilities and equipment—to a large extent interchangeable in themselves—may well promote, or at least contribute to, confusion, unnecessary accounting, and the general administrative inefficiency that appears to exist. Therefore, the committee requests that NASA undertake a study of the present funding categories for facilities and equipment with the objective of simplification and introduction of more meaning into the process of requesting, justifying, acquiring, and accounting for facilities and equipment. The results of this study, together with recommendations for improvement, should be submitted to the committee by November 1, 1970.

In addition to its review of individual work projects, the committee examined the request for \$14 million for Rehabilitation and Modification of Facilities in the Various Locations line item with the view of understanding fully the criteria utilized in classifying an item of work for accomplishment under this category. In this examination the committee gave particular attention to the experience accumulated in the administration, by NASA, of the initial authorization for such facilities category in fiscal year 1970. While the committee believes a limited pool of funds administered by NASA headquarters on a priority-of-need basis is necessary and desirable to maintain the NASA physical plant in an economic and reliable status, and while the committee is convinced that most of the projects examined meet this test, the inclusion in this category of items such as the addition to the central refrigeration system at the Goddard Space Flight Center has engendered concern as to the purposes for which this pool of funds might be used. The committee recommends that NASA examine its criteria for inclusion of projects in this category—including both substance and dollar limitations—to assure projects meet the test of maintaining existing plant in an economically useful status and exclude those projects designed to provide major additions or support new functions or provide new capabilities.

GODDARD SPACE FLIGHT CENTER

As it has indicated else where in this report, (page 44) the committee strongly supports the earth resources technology satellite program. It firmly believes, however, that the maximum efficiencies and economies should be sought throughout the program both with respect to facilities for the proposed experimental and operational programs and to the utilization of existing facilities whenever such would be most effective. During its review of this proposed construction project, the committee was not persuaded that adequate assessment had been made on either of the foregoing factors. Consequently, the committee recommends disapproval of this project at this time, and also recommends further study, on a priority basis, of locations for the earth resources satellite ground facility with the objective of supporting the overall earth resources program as efficiently and economically as possible.

JOHN F. KENNEDY SPACE CENTER, \$575,000

During the hearings on NASA's fiscal year 1971 authorization the junior Senator from Florida, Mr. Gurney, appeared before the committee and testified with respect to the Visitor Information Center at the Kennedy Space Center. He discussed the strain on the facility during the major tourist seasons, and urged, because of the anticipated future increase in tourism at Cape Kennedy, that serious attention be given to providing for an enlarged and more sophisticated visitor education and informational center.

Taking due note of Senator Gurney's request the committee has asked NASA to undertake a study of the Visitors Information Center with a view toward determining its needs for the future and to provide the committee with the results of this study at an early date.

VARIOUS LOCATIONS, \$18,575,000

The committee gave particular consideration to work proposed at the Michoud Assembly Facility and the Mississippi Test Facility, both of which are scheduled for deactivation during fiscal year 1971 in conjunction with termination of Saturn V launch vehicle production. The question therefore arises as to expenditures on facilities that seemingly are no longer required.

With respect to the Michoud facility, it will serve as a storage facility for both Saturn IB and Saturn V stages that will be flown in ensuing years and as a base for technical support for these stages. The facility is also under study for its utility in the proposed space shuttle development and production program. A decision on this role should be forthcoming in about a year. Further, and possibly more significant, the Michoud facility represents a very large, modernized general purpose asset of the Government which has been continuously restored and upgraded since the NASA occupancy several years ago. It therefore has the capability to serve a variety of national needs and should be maintained reasonably well for that purpose. For these reasons, the committee believes that the proposed rehabilitation work should be accomplished.

The Mississippi Test Facility represents a more specialized asset; however, it is not yet clear to the committee that its unique capability to test large thrust liquid hydrogen/liquid oxygen fueled engines and stages may not be required. For example, the committee understands that NASA currently has underway a study to determine the adequacy of this installation to support the development of the space shuttle main propulsion system. Testimony before the committee revealed that the proposed rehabilitation of the high pressure gas system is essential to preclude a very expensive, complete replacement of the system should the system be required in subsequent years. Accordingly, the committee concurs with this authorization request provided however that NASA cancel its plans to accomplish this work if subsequent information makes it clear that this gas system will not be required to support future programs.

RESEARCH AND PROGRAM MANAGEMENT

Summary

	Budget request	House action	Senate committee action
Personnel compensation.....	\$471,276,000		
Personnel benefits.....	40,771,000		
Travel and transportation of persons.....	19,874,000		
Transportation of things.....	3,668,000		
Rents, communications, and utilities.....	44,308,000		
Printing and reproduction.....	5,939,000		
Other services.....	89,568,000		
Supplies and materials.....	13,223,000		
Equipment.....	2,239,000		
Lands and structures.....	1,350,000		
Grants, subsidies and contributions.....	54,000		
Insurance claims and indemnities.....	30,000		
Total.....	692,300,000	693,700,000	677,300,000

In its authorization report for fiscal year 1970 your committee expressed its concern that NASA had not taken the opportunities for personnel economies during the period when its program activities were being reduced. Your committee finds increasing evidence that personnel costs are not commensurate with the downward trend in program activity as projected for fiscal year 1971.

In the manned space flight area NASA proposes only token cuts in its permanent civil service staffing although the manned space flight research and development funding request is reduced approximately 25 percent from the previous fiscal year. At four of the facilities that NASA proposes to close or put in standby condition by the end of fiscal year 1971 because of the completion of production and testing of the Saturn launch vehicle, the agency advised the committee that it plans to retain a substantial number of the supervisory civil service employees who were located at these facilities when they were fully operational. With the exception of the Electronics Research Center (ERC), which is to be transferred to the Department of Transportation (DOT), NASA proposes an agencywide civil service complement of 30,550, or a reduction of less than seven-tenths of 1 percent.

With regard to the ERC, your committee did not obtain a satisfactory explanation of the need for the \$4,470,000 in R. & P.M. funds requested for this center in view of the later decision to transfer the facility to the DOT, effective July 1, 1970, and information from the DOT that it will employ the Director and most of the on-board staff when it takes over the center. Therefore, your committee believes that the need for at least a substantial amount of this request is questionable.

The NASA budget shows that one-half of its headquarters personnel are at grade GS-14 or above. Further inquiry revealed that this grading structure is higher than the headquarters personnel of any other agency engaged in similar complex technical activities.

It is your committee's view that the permissive transfer authority contained in section 4 of each annual authorization bill may, to a large extent, have inhibited the agency's incentive to reduce personnel salary costs. By use of this authority NASA has in two succeeding fiscal years increased its operating budget for "Research and program management," thereby substituting its judgment for that contained in its authorizing legislation. In fiscal year 1970 NASA increased R. & P.M. by \$9.7 million and in fiscal year 1969 by \$20.1 million more than authorized by the Congress.

After carefully considering these matters, your committee recommends that the language in the authorization bill be amended to assure that the total amount authorized by the Congress in the R. & P.M. budget for personnel and related costs is not exceeded. Personnel and related costs, as defined in the NASA budget documentation, includes regular pay, overtime, other differential pay of NASA personnel in permanent, temporary, part time, and intermediate positions as well as the cost of other personnel detailed to NASA. It also includes all fringe benefits related to salaries such as the Government's share of civil service retirement, social security, life insurance, health benefits, incentive awards and severance pay.

Your committee also recommends that the authorization request for personnel and related costs within the "research and program management" category be reduced by \$15 million, making the total authorized amount for R & PM \$677.3 million, of which \$500,108,000 would be available for personnel and related costs. The committee believes that the funding reduction and restriction herein recommended is required to effect needed economies in personnel utilization. This action is not in agreement with the recommendation of the House that \$1.4 million be added to Research and Program Management to provide for additional research fellowships, summer jobs at NASA and for graduate and undergraduate scholarships, particularly in the area of aeronautics. While your committee agrees that aeronautics should be given more emphasis it also believes that if research and program management funds are more prudently managed such emphasis can be obtained within the amounts recommended by your committee.

LEGISLATIVE CHANGES

Your committee has recommended four legislative amendments to the NASA fiscal 1971 request. One amendment would place a ceiling of \$500,108,000 which would be available for personnel and related costs (see above comment). As a result of this ceiling, your committee has added a subsection to section 4 which would specify that nothing in this section shall be construed to authorize the expenditure of amounts for personnel and related costs in excess of the ceiling placed on such costs.

Your committee has further amended the bill by adding a subsection (i) to section 1. Inquiry has shown that NASA policy on the hiring of experts and consultants has in the past been loose and lax and the

record does not indicate a proper return for the money spent for these services. For this reason the committee has placed a ceiling of \$500,000 on funds appropriated pursuant to section 1 which may be used for the payment of services, per diem, travel and other expenses of experts and consultants. Your committee also specifically requests that NASA establish and implement a meaningful procedure to check all proposed consultants for potential conflict of interest prior to employment by NASA.

Your committee's final legislative amendment would add a new section 7 which would amend section 6 of the NASA Authorization Act, 1970. Section 6 of the 1970 act was adopted on the floor of the Senate and is similar in nature to section 410 of the DOD Authorization Act, 1970. These two sections of the two authorization acts require certain former employees of NASA and the DOD, employed by aerospace contractors, and certain NASA and DOD employees formerly employed by such contractors to submit specified data annually to the Administrator of NASA or the Secretary of Defense as the case may be.

As a preliminary step in the drafting of regulations to implement the two sections, NASA and the DOD agreed on the desirability of having their regulations conform as closely as possible with each other because the same elements of industry would be affected by both regulations. In attempting to carry out this conformity it was found there were certain minor and generally non-substantive differences. For example:

(1) Section 6 of the NASA Act applies on a calendar year basis; section 410 of the DOD Act applies on a fiscal year basis;

(2) The reporting date under section 6 is March 15 annually; the date under section 410 is November 15;

(3) Section 410 specifically applies to consultants and part-time employees; it is unclear whether section 6 applies to such employees, although it was apparently intended to;

(4) Under section 410 present and former DOD employees who have worked or are working for a defense contractor who has less than \$10 million in contracts with DOD are exempted from filing a report; the comparable exemption under section 6 applies to present and former NASA employees who have worked or are working for an aerospace contractor doing less than \$10 million in business with the United States (i.e., not with NASA alone).

Your committee, therefore, has amended section 6 of the NASA Authorization Act, 1970 so that similar implementing regulations can be drafted for NASA and DOD.

CHANGES IN EXISTING LAW

□ indicate language repeated, *italics* indicates new language, roman indicates no change in existing law.

"Sec. 6. Section 6 of the NASA Authorization Act, 1970 (83 Stat. 196), is amended to read as follows;

Sec. 7. (a) As used in this section—

(1) *The term "former employee" means any former officer or employee of the National Aeronautics and Space Administration, including con-*

sultants or part-time employees, whose salary rate at any time during the three-year period immediately preceding the termination of his last employment with the National Aeronautics and Space Administration was equal to or greater than the minimum salary rate at such time for positions in grade GS-13.

[(1)] (2) The term "aerospace contractor" means any individual, firm, corporation, partnership, association, or other legal entity, which provides services and materials to or for the National Aeronautics and Space Administration in connection with any aerospace system under a contract directly with the National Aeronautics and Space Administration.

[(2)] (3) The term "services and materials" means either services or materials or services and materials which are provided as a part of or in connection with any aerospace system.

[(3)] (4) The term "aerospace system" includes, but is not limited to, any rocket, launch vehicle, rocket engine, propellant, spacecraft, command module, service module, landing module, tracking device, communications device, or any part or component thereof, which is used in either manned or unmanned spaceflight operations.

(5) *The term "contracts awarded" means contracts awarded by negotiation and includes the net amount of modifications to, and the exercise of options under, such contracts. It excludes all transactions amounting to less than \$10,000 each.*

(6) *The term "fiscal year" means a year beginning on 1 July and ending on 30 June of the next succeeding year.*

(b) [Any former employee of the National Aeronautics and Space Administration who at any time during the five-year period immediately preceding his termination of employment with the National Aeronautics and Space Administration was directly engaged in the procurement of any aerospace system or directly engaged in the negotiation, renegotiation, approval, or disapproval of any contract for the procurement of services or materials for or in connection with any aerospace system; or who served during the five-year period immediately preceding his termination of employment with the National Aeronautics and Space Administration at the factory or plant of an aerospace contractor in connection with work performed by such contractor or any aerospace system; or who was employed by the National Aeronautics and Space Administration during the five-year period preceding the termination of his employment at an annual salary rate of GS-15 or higher, and who] *Under regulations to be prescribed by the Administrator: (1) Any former employee who during any fiscal year,*

[(1)] (A) was employed [for any period of time during any calendar year by an aerospace contractor] *by or served as a consultant or otherwise to an aerospace contractor for any period of time,*

[(2)] (B) represented any aerospace contractor [during any calendar year] *at any hearing, trial, appeal, or other action in which the United States was a party and which involved services and materials provided or to be provided to the [United States] National Aeronautics and Space Administration by such contractor, or*

[(3)] (C) represented any such contractor in any transaction with the National Aeronautics and Space Administration involving services

or materials provided or to be provided by such contractor to the National Aeronautics and Space Administration, shall file with the Administrator, in such form and manner as the Administrator may prescribe, not later than [March 1] November 15 of the next succeeding [calendar] fiscal year, a report containing the following information:

(1) His name and address.
 (2) The name and address of the aerospace contractor by whom he was employed or whom he [represented] served as a consultant or otherwise.
 (3) The title of the position held by him with the aerospace contractor.

(4) A brief description of his duties [with] and the work performed by him for the aerospace contractor.

(5) His gross salary rate while employed by the National Aeronautics and Space Administration.

[(5)](6) A brief description of his duties and the work performed by him while employed by the National Aeronautics and Space Administration during the three-year period immediately preceding his termination of employment.

[(6)] A description of any work performed by him in connection with any aerospace system while employed by the National Aeronautics and Space Administration, if the aerospace contractor by whom he is employed is providing substantial services or materials for such aerospace system, or is negotiating or bidding to provide substantial services or materials for such aerospace system.]

(7) The date of the termination of his employment with the National Aeronautics and Space Administration, and the date on which his employment, as an employee, consultant or otherwise, with the aerospace contractor began and, if no longer employed by such aerospace contractor, the date on which his employment with such aerospace contractor terminated.

(8) Such other pertinent information as the Administrator may require.

[(c)] (2) Any employee of the National Aeronautics and Space Administration, including consultants or part time employees, who was previously employed by or served as a consultant or otherwise to an aerospace contractor in any [calendar] fiscal year, and whose salary rate in the National Aeronautics and Space Administration is equal to or greater than the minimum salary rate for positions in grade GS-13

[(1) who is directly engaged in the procurement of any aerospace system or is directly engaged in the negotiation, renegotiation, approval, or disapproval of any contract for the procurement of services or materials for or in connection with any aerospace system, or

[(2) who is serving or has served as a representative of the National Aeronautics and Space Administration at the factory or plant of an aerospace contractor in connection with work being performed by such contractor on any aerospace system.]

shall file with the Administrator, in such form and manner and at such times as the Administrator may prescribe, [not later than March 1 of

the next succeeding calendar year,] a report containing the following information:

(A) His name and address.
 (B) The title of his position with the National Aeronautics and Space Administration.

(C) A brief description of his duties with the National Aeronautics and Space Administration.

(D) The name and address of the aerospace contractor by whom he was employed or whom he served as a consultant or otherwise.

(E) The title of his position with such aerospace contractor.

(F) A brief description of his duties [at the time he was employed by such] and the work performed by him for the aerospace contractor.

[(7) A description of any work performed by him in connection with any aerospace system while he was employed by the aerospace contractor or while performing any legal services for such contractor, if such contractor is providing substantial services or materials for such aerospace system or is negotiating or bidding to provide substantial services or materials for such aerospace system.]

[(8)](G) The date on which his employment as a consultant or otherwise with such contractor terminated and the date on which his employment as a consultant or otherwise with the National Aeronautics and Space Administration began thereafter.

[(9)](H) Such other pertinent information as the Administrator may require.

[(d)] (e) (1) No former employee of the National Aeronautics and Space Administration shall be required to file a report under this section for any fiscal year in which he was employed by or served as a consultant or otherwise to an aerospace contractor if the total [cost to the United States of services and materials provided the United States by] amount of contracts awarded by the National Aeronautics and Space Administration to such contractor during such year was less than \$10,000,000; and no employee of the National Aeronautics and Space Administration shall be required to file a report under this section for any fiscal year in which he was employed by or served as a consultant or otherwise to an aerospace contractor if the total [cost to the United States of services and materials provided the United States by the aerospace contractor by whom such employee was employed] amount of contracts awarded to such contractor by the National Aeronautics and Space Administration during such year was less than \$10,000,000 [in each of the applicable calendar years that he was employed by such contractor].

(2) No former National Aeronautics and Space Administration employee shall be required to file a report under this section for any [calendar] fiscal year on account of employment with the National Aeronautics and Space Administration if such [active duty or] employment was terminated three years or more prior to the beginning of such [calendar] fiscal year; and no employee of the National Aeronautics and Space Administration shall be required to file a report under this section for any [calendar] fiscal year on account of employment with or services performed for an aerospace contractor if such employment was terminated or such services were performed three years or more prior to the beginning of such [calendar] fiscal year.

(3) No former employee shall be required to file a report under this section for any fiscal year during which he was employed by or served as a consultant or otherwise to an aerospace contractor at a salary rate of less than \$15,000 per year; and no employee of the National Aeronautics and Space Administration, including consultants or part-time employees, shall be required to file a report under this section for any fiscal year during which he was employed by or served as a consultant or otherwise to an aerospace contractor at a salary rate of less than \$15,000 per year.

[(e)](d) The Administrator shall, not later than [May 1] December 31 of each year, file with the President of the Senate and the Speaker of the House of Representatives a report containing a list of the names of persons who have filed reports with him for the preceding [calendar] fiscal year pursuant to subsection (b)(1) and [(c)](b)(2) of this section. The Administrator shall include after each name so much information as he deems appropriate, and shall list the names of such persons under the aerospace contractor for whom they worked or for whom they performed services.

[(f)](e) Any former employee of the National Aeronautics and Space Administration whose employment with or services for an aerospace contractor terminated during any [calendar] fiscal year shall be required to file a report pursuant to subsection (b)(1) of this section for such year if he would otherwise be required to file under such subsection; and any person whose employment with or services for the National Aeronautics and Space Administration terminated during any [calendar] fiscal year shall be required to file a report pursuant to subsection [(c)](b)(2) of this section for such year if he would otherwise be required to file under such subsection.

[(g)](f) The Administrator shall maintain a file containing the information filed with him pursuant to subsections (b)(1) and [(c)](b)(2) of this section and such file shall be open for public inspection at all times during the regular workday.

[(h)](g) Any person who fails to comply with the filing requirements of this section shall be guilty of a misdemeanor and shall, upon conviction thereof, be punished by not more than six months in prison or a fine of not more than \$1,000, or both.

[(i)](h) No person shall be required to file a report pursuant to this section for any year prior to the [calendar year 1970] fiscal year 1971.

ADDITIONAL COMMITTEE COMMENT

International Space Cooperation

During its hearings on the NASA fiscal year 1971 authorization bill, the committee reviewed in considerable detail the nation's international space activities and the efforts of the administration to get greater international participation in the benefits and in the exploration of space. The hearing record shows that the United States has developed a substantial program of international space cooperation and that the administration has extended invitations to other nations that would provide opportunities for their greater participation in both the exploration and benefits of space.

The committee recognizes that cooperation is a two-way street and

that in some instances, political problems, and in other instances, the low level of space funding by nations, pose difficulties to greater cooperation. Notwithstanding these problems, the committee urges the Administration to continue to seek and to increase its effort to bring about a well organized, broadly based program of greater international space cooperation.

Space Program Benefits

The committee believes it is important that the practical benefits of the program be relayed to the public in language which laymen can understand; and again urges the National Aeronautics and Space Administration to give more attention to getting the accomplishments and benefits of the program out to the public.

So that the committee would have an assessment of space program benefits, the committee held a hearing on that subject on April 6, 1970. Copies of that hearing will be available from the committee on request at an early date.

SECTIONAL ANALYSIS OF COMMITTEE AMENDMENT TO
A BILL "TO AUTHORIZE APPROPRIATIONS TO THE
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
FOR RESEARCH AND DEVELOPMENT, CONSTRUCTION
OF FACILITIES, AND RESEARCH AND PROGRAM
MANAGEMENT, AND FOR OTHER PURPOSES"

Section 1. Subsections (a), (b), and (c) would authorize to be appropriated to the National Aeronautics and Space Administration funds, in the total amount of \$3,315,950,000, as follows: (a) for "Research and development," a total of 18 program line items aggregating the sum of \$2,606,100,000; (b) for "Construction of facilities," a total of 6 locational line items, together with one for various locations and one for facility planning and design, aggregating the sum of \$32,550,000; and, (c) for "Research and program management," \$677,300,000, of which not to exceed \$500,108,000 shall be available for personnel and related costs.

Subsection 1(d) would authorize the use of appropriations for "Research and development" for: (1) items of a capital nature (other than the acquisition of land) required for the performance of research and development contracts; and, (2) grants to nonprofit institutions of higher education, or to nonprofit organizations whose primary purpose is the conduct of scientific research, for purchase or construction of additional research facilities. Title to such facilities shall be vested in the United States unless the Administrator determines that the national program of aeronautical and space activities will best be served by vesting title in any such grantee institution. Moreover, each such grant shall be made under such conditions as the Administrator shall find necessary to insure that the United States will receive therefrom benefit adequate to justify the making of that grant.

In either case no funds may be used for the construction of a facility the estimated cost of which, including collateral equipment, exceeds \$250,000 unless the Administrator notifies the Speaker of the House, the President of the Senate and the specified committees of the Congress of the nature, location, and estimated cost of such facility.

Subsection 1(e) would provide that, when so specified in an appropriation Act, (1) any amount appropriated for "Research and development" or for "Construction of facilities" may remain available without fiscal year limitation, and (2) contracts for maintenance and operation of facilities and support services may be entered into under the "Research and program management" appropriation for periods not in excess of twelve months beginning at any time during the fiscal year.

Subsection 1(f) would authorize the use of not to exceed \$35,000 of "Research and program management" appropriation funds for scientific consultations or extraordinary expenses, including representation and official entertainment expenses, upon the authority of the Administrator, whose determination shall be final and conclusive.

Subsection 1(g) would provide that no funds appropriated pursuant to subsection 1(c) for maintenance, repair, alteration and minor construction may be used to construct any new facility the estimated cost of which, including collateral equipment, exceeds \$100,000.

Subsection 1(h) would provide that no part of the funds appropriated for "Research and development" may be used for grants to any nonprofit institution of higher learning unless the Administrator determines that recruiting personnel of any of the Armed Forces are not being barred from the premises or property of such institution. Subsection 1(h) would not apply if the Administrator determines that the grant is a continuation or renewal of a previous grant to such institution which is likely to make a significant contribution to the aeronautical and space activities of the United States. The Secretary of Defense would be required to furnish to the Administrator on the dates prescribed the names of any nonprofit institutions of higher learning which the Secretary of Defense determines are barring such recruiting personnel from premises or property of any such institution.

Subsection 1(i) would provide that no funds appropriated pursuant to Section 1 in excess of \$500,000 shall be used for the payment of services, per diem, travel and other expenses of experts and consultants.

Section 2

Section 2 would authorize the 5 per centum upward variation of any of the sums authorized for the "Construction of facilities" line items (other than facility planning and design) when, in the discretion of the Administrator, this is needed to meet unusual cost variations. However, the total cost of all work authorized under these line items may not exceed the total sum authorized for "Construction of facilities" under subsection 1(b), paragraphs (1) through (7).

Section 3

Section 3 would provide that not more than one-half of 1 per centum of the funds appropriated for "Research and development" may be transferred to the "Construction of facilities" appropriation and, when so transferred, together with \$10,000,000 of the funds appropriated for "Construction of facilities," shall be available for the construction of facilities and land acquisition at any location if (1) the Administrator determines that such action is necessary because of changes in the space program or new scientific or engineering developments, and (2) that deferral of such action until the next authorization Act is enacted would be inconsistent with the interest of the Nation in aeronautical and space activities. However, no such funds may be obligated until 30 days have passed after the Administrator or his designee has transmitted to the Speaker of the House, the President of the Senate and the specified committees of Congress a written report containing a description of the project, its cost, and the reason why such project is necessary in the national interest, or each such committee before the expiration of such 30-day period has notified the Administrator that no objection to the proposed action will be made.

Section 4

Section 4(a) would provide that, notwithstanding any other provision of this Act—

- (1) No amount appropriated pursuant to this Act may be used for any program deleted by the Congress from requests as originally made to either the House Committee on Science

and Astronautics or the Senate Committee on Aeronautical and Space Sciences;

(2) No amount appropriated pursuant to this Act may be used for any program in excess of the amount actually authorized for that particular program by subsections 1(a) and 1(c); and.

(3) No amount appropriated pursuant to this Act may be used for any program which has not been presented to or requested of either such committee,

unless (A) a period of 30 days has passed after the receipt by the Speaker of the House, the President of the Senate and each such committee of notice given by the Administrator or his designee containing a full and complete statement of the action proposed to be taken and the facts and circumstances relied upon in support of such proposed action, or (B) each such committee before the expiration of such period has transmitted to the Administrator written notice to the effect that such committee has no objection to the proposed action.

Section 4(b) would provide that nothing in this section shall be construed to authorize the expenditure of amounts for personnel and related costs pursuant to section 1(c) to exceed amounts authorized for such costs.

Section 5

Section 5 would express the sense of the Congress that it is in the national interest that consideration be given to geographical distribution of Federal research funds whenever feasible and that the National Aeronautics and Space Administration should explore ways and means of distributing its research and development funds whenever feasible.

Section 6

Subsection 6(a) would provide that if an institution of higher education determines, after affording notice and opportunity for hearing to an individual attending, or employed by, such institution, that such individual has been convicted by any court of record of any crime which was committed after the date of enactment of the Act and which involved the use of (or assistance to others in the use of) force, disruption, or the seizure of property under control of any institution of higher education to prevent officials or students from engaging in their duties or pursuing their studies, and that such crime was of a serious nature and contributed to a substantial disruption of the administration of the institution, then the institution would be required to deny for a period of two years any further payment to, or for the direct benefit of, such individual under any of the programs authorized by the National Aeronautics and Space Act of 1958, the funds for which are authorized pursuant to the Act. If an institution denies an individual assistance under the authority of the first sentence of subsection 6(a), then any institution which such individual subsequently attends would be similarly required to deny for the remainder of the two-year period any further payment to, or for the direct benefit of, such individual.

Subsection 6(b) would provide that if an institution of higher education determines, after affording notice and opportunity for hearing

to an individual attending, or employed by, such institution, that such individual has willfully refused to obey a lawful regulation or order of such institution after the date of enactment of the Act, and that such refusal was of a serious nature and contributed to a substantial disruption of the administration of such institution, then such institution would be required to deny, for a period of two years, any further payment to, or for the direct benefit of, such individual under any of the programs authorized by the National Aeronautics and Space Act of 1958, the funds for which are authorized pursuant to the Act.

Subsection 6(c)(1) would provide that nothing in the Act shall be construed to prohibit any institution of higher education from refusing to award, continue, or extend any financial assistance under any such Act to any individual because of any misconduct which in its judgment bears adversely on his fitness for such assistance.

Subsection 6(c)(2) would provide that nothing in section 6 shall be construed as limiting or prejudicing the rights and prerogatives of any institution of higher education to institute and carry out an independent, disciplinary proceeding pursuant to existing authority, practice, and law.

Subsection 6(c)(3) would provide that nothing in section 6 shall be construed to limit the freedom of any student to verbal expression of individual views or opinions.

Section 7 would amend section 6 of the NASA Authorization Act, 1970 (83 Stat. 196) so that reporting requirements for certain NASA employees and certain former NASA employees pursuant to such section would be similar to the reporting requirements of certain DOD employees and certain former DOD employees pursuant to section 410, Department of Defense Authorization Act, 1970 (Public Law 91-119).

Section 8

Section 8 would provide that the Act may be cited as the "National Aeronautics and Space Administration Authorization Act, 1971".

NASA AUTHORIZATION FOR FISCAL YEAR 1971

JUNE 15, 1970.—Ordered to be printed

Mr. MILLER of California, from the committee of conference,
 submitted the following

CONFERENCE REPORT

[To accompany H.R. 16516]

The committee of conference on the disagreeing votes of the two Houses on the amendment of the Senate to the bill (H.R. 16516) to authorize appropriations to the National Aeronautics and Space Administration for research and development, construction of facilities, and research and program management, and for other purposes, having met, after full and free conference, have agreed to recommend and do recommend to their respective Houses as follows:

That the House recede from its disagreement to the amendment of the Senate and agree to the same with an amendment as follows:

In lieu of the matter proposed to be inserted by the Senate amendment insert the following: *That there is hereby authorized to be appropriated to the National Aeronautics and Space Administration:*

(a) For "Research and development," for the following programs:

- (1) Apollo, \$994,500,000;
- (2) Space flight operations, \$565,200,000;
- (3) Advanced missions, \$1,500,000;
- (4) Physics and astronomy, \$116,000,000;
- (5) Lunar and planetary exploration, \$144,900,000;
- (6) Bioscience, \$12,900,000;
- (7) Space applications, \$167,000,000;
- (8) Launch vehicle procurement, \$124,900,000;
- (9) Space vehicle systems, \$30,000,000;
- (10) Electronics systems, \$23,900,000;
- (11) Human factor systems, \$18,300,000;
- (12) Basic research, \$18,000,000;
- (13) Space power and electric propulsion systems, \$30,900,000;
- (14) Nuclear rockets, \$38,000,000;

- (15) Chemical propulsion, \$20,300,000;
- (16) Aeronautical vehicles, \$87,100,000;
- (17) Tracking and data acquisition, \$295,200,000;
- (18) Technology utilization, \$4,500,000;

(b) For "Construction of facilities," including land acquisitions, as follows:

- (1) Ames Research Center, Moffett Field, California, \$1,525,000;
- (2) Goddard Space Flight Center, Greenbelt, Maryland, \$1,923,000;
- (3) Jet Propulsion Laboratory, Pasadena, California, \$1,950,000;
- (4) John F. Kennedy Space Center, NASA, Kennedy Space Center, Florida, \$575,000;
- (5) Manned Spacecraft Center, Houston, Texas, \$900,000;
- (6) Marshall Space Flight Center, Huntsville, Alabama, \$525,000;
- (7) Nuclear Rocket Development Station, Nevada, \$3,500,000;
- (8) Various locations, \$18,575,000;
- (9) Facility planning and design not otherwise provided for, \$5,000,000.

(c) For "Research and program management," \$683,300,000, of which not to exceed \$506,108,000 shall be available for personnel and related costs.

(d) Appropriations for "Research and development" may be used (1) for any items of a capital nature (other than acquisition of land) which may be required for the performance of research and development contracts, and (2) for grants to nonprofit institutions of higher education, or to nonprofit organizations whose primary purpose is the conduct of scientific research, for purchase or construction of additional research facilities; and title to such facilities shall be vested in the United States unless the Administrator determines that the national program of aeronautical and space activities will best be served by vesting title in any such grantee institution or organization. Each such grant shall be made under such conditions as the Administrator shall determine to be required to insure that the United States will receive therefrom benefit adequate to justify the making of that grant. None of the funds appropriated for "Research and development" pursuant to this Act may be used for construction of any major facility, the estimated cost of which, including collateral equipment, exceeds \$250,000, unless the Administrator or his designee has notified the Speaker of the House of Representatives and the President of the Senate and the Committee on Science and Astronautics of the House of Representatives and the Committee on Aeronautical and Space Sciences of the Senate of the nature, location, and estimated cost of such facility.

(e) When so specified in an appropriation Act, (1) any amount appropriated for "Research and development" or for "Construction of facilities" may remain available without fiscal year limitation, and (2) maintenance and operation of facilities, and support services contracts may be entered into under the "Research and program management" appropriation for periods not in excess of twelve months beginning at any time during the fiscal year.

(f) Appropriations made pursuant to subsection 1(c) may be used, but not to exceed \$35,000, for scientific consultations or extraordinary expenses upon the approval or authority of the Administrator and his

determination shall be final and conclusive upon the accounting officers of the Government.

(g) No part of the funds appropriated pursuant to subsection 1(a) for maintenance, repairs, alterations, and minor construction shall be used for the construction of any new facility the estimated cost of which, including collateral equipment, exceeds \$100,000.

(h) No part of the funds appropriated pursuant to subsection (a) of this section may be used for grants to any nonprofit institution of higher learning unless the Administrator or his designee determines at the time of the grant that recruiting personnel of any of the Armed Forces of the United States are not being barred from the premises or property of such institution except that this subsection shall not apply if the Administrator or his designee determines that the grant is a continuation or renewal of a previous grant to such institution which is likely to make a significant contribution to the aeronautical and space activities of the United States. The Secretary of Defense shall furnish to the Administrator or his designee within sixty days after the date of enactment of this Act and each January 30 and June 30 thereafter the names of any nonprofit institutions of higher learning which the Secretary of Defense determines on the date of each such report are barring such recruiting personnel from premises or property of any such institution.

(i) No funds appropriated pursuant to this section in excess of \$500,000 shall be used for the payment of services, per diem, travel, and other expenses of experts and consultants.

SEC. 2. Authorization is hereby granted whereby any of the amounts prescribed in paragraphs (1), (2), (3), (4), (5), (6), (7) and (8) of subsection 1(b) may, in the discretion of the Administrator of the National Aeronautics and Space Administration, be varied upward 5 per centum to meet unusual cost variations, but the total cost of all work authorized under such paragraphs shall not exceed the total of the amounts specified in such paragraphs.

SEC. 3. Not to exceed one-half of 1 per centum of the funds appropriated pursuant to subsection 1(a) hereof may be transferred to the "Construction of facilities" appropriation, and, when so transferred, together with \$10,000,000 of the funds appropriated pursuant to subsection 1(b) hereof (other than funds appropriated pursuant to paragraph (2) of such subsection) shall be available for expenditure to construct, expand, or modify laboratories and other installations at any location (including locations specified in subsection 1(b)), if (1) the Administrator determines such action to be necessary because of changes in the national program of aeronautical and space activities or new scientific or engineering development, and (2) he determines that deferral of such action until the enactment of the next authorization Act would be inconsistent with the interest of the Nation in aeronautical and space activities. The funds so made available may be expended to acquire, construct, convert, rehabilitate, or install permanent or temporary public works, including land acquisition, site preparation, appurtenances, utilities, and equipment. No portion of such sums may be obligated for expenditure or expended to construct, expand, or modify laboratories and other installations unless (A) a period of thirty days has passed after the Administrator or his designee has transmitted to the Speaker of the House of Representatives and to the President of the Senate and to the Committee on Science and Astronautics of the House of Representatives and to the Committee on Aeronautical

and Space Sciences of the Senate a written report containing a full and complete statement concerning (1) the nature of such construction, expansion, or modification, (2) the cost thereof, including the cost of any real estate action pertaining thereto, and (3) the reason why such construction, expansion, or modification is necessary in the national interest, or (B) each such committee before the expiration of such period has transmitted to the Administrator written notice to the effect that such committee has no objection to the proposed action.

SEC. 4. (a) Notwithstanding any other provision of this Act—

(1) no amount appropriated pursuant to this Act may be used for any program deleted by the Congress from requests as originally made to either the House Committee on Science and Astronautics or the Senate Committee on Aeronautical and Space Sciences,

(2) no amount appropriated pursuant to this Act may be used for any program in excess of the amount actually authorized for that particular program by sections 1(a) and 1(c), and

(3) no amount appropriated pursuant to this Act may be used for any program which has not been presented to or requested of either such committee,

unless (A) a period of thirty days has passed after the receipt by the Speaker of the House of Representatives and the President of the Senate and each such committee of notice given by the Administrator or his designee containing a full and complete statement of the action proposed to be taken and the facts and circumstances relied upon in support of such proposed action, or (B) each such committee before the expiration of such period has transmitted to the Administrator written notice to the effect that such committee has no objection to the proposed action.

(b) Nothing in this section shall be construed to authorize the expenditure of amounts for personnel and related costs pursuant to section 1(c) to exceed amounts authorized for such costs, except that a transfer in the manner prescribed by this section of funds not to exceed 1 per centum of such amounts authorized may be made whenever the Administrator determines that such transfer is necessary for the safety of any mission.

SEC. 5. It is the sense of the Congress that it is in the national interest that consideration be given to geographical distribution of Federal research funds whenever feasible, and that the National Aeronautics and Space Administration should explore ways and means of distributing its research and development funds whenever feasible.

SEC. 6. (a) If an institution of higher education determines, after affording notice and opportunity for hearing to an individual attending, or employed by, such institution, that such individual has been convicted by any court of record of any crime which was committed after the date of enactment of this Act and which involved the use of (or assistance to others in the use of) force, disruption, or the seizure of property under control of any institution of higher education to prevent officials or students in such institution from engaging in their duties or pursuing their studies, and that such crime was of a serious nature and contributed to a substantial disruption of the administration of the institution with respect to which such crime was committed, then the institution which such individual attends, or is employed by, shall deny for a period of two years any further payment to, or for the direct benefit of, such individual under any of the programs authorized by the National Aeronautics and Space Act of 1958, the funds for which are authorized pursuant to this Act. If an institution

denies an individual assistance under the authority of the preceding sentence of this subsection, then any institution which such individual subsequently attends shall deny for the remainder of the two-year period any further payment to, or for the direct benefit of, such individual under any of the programs authorized by the National Aeronautics and Space Act of 1958, the funds for which are authorized pursuant to this Act.

(b) If an institution of higher education determines, after affording notice and opportunity for hearing to an individual attending, or employed by, such institution, that such individual has willfully refused to obey a lawful regulation or order of such institution after the date of enactment of this Act, and that such refusal was of a serious nature and contributed to a substantial disruption of the administration of such institution, then such institution shall deny, for a period of two years, any further payment to, or for the direct benefit of, such individual under any of the programs authorized by the National Aeronautics and Space Act of 1958, the funds for which are authorized pursuant to this Act.

(c)(1) Nothing in this Act shall be construed to prohibit any institution of higher education from refusing to award, continue, or extend any financial assistance under any such Act to any individual because of any misconduct which in its judgment bears adversely on his fitness for such assistance.

(2) Nothing in this section shall be construed as limiting or prejudicing the rights and prerogatives of any institution of higher education to institute and carry out an independent disciplinary proceeding pursuant to existing authority, practice, and law.

(3) Nothing in this section shall be construed to limit the freedom of any student to verbal expression of individual views or opinions.

SEC. 7. Section 6 of the NASA Authorization Act, 1970 (83 Stat. 196), is amended to read as follows:

"SEC. 6. (a) As used in this section—

"(1) The term 'former employee' means any former officer or employee of the National Aeronautics and Space Administration, including consultants or part-time employees, whose salary rate at any time during the three-year period immediately preceding the termination of his last employment with the National Aeronautics and Space Administration was equal to or greater than the minimum salary rate at such time for positions in grade GS-13.

"(2) The term 'aerospace contractor' means any individual, firm, corporation, partnership, association, or other legal entity, which provides services and materials to or for the National Aeronautics and Space Administration in connection with any aerospace system under a contract directly with the National Aeronautics and Space Administration.

"(3) The term 'services and materials' means either services or materials or services and materials which are provided as a part of or in connection with any aerospace system.

"(4) The term 'aerospace system' includes, but is not limited to, any rocket, launch vehicle, rocket engine, propellant, spacecraft, command module, service module, landing module, tracking device, communications device, or any part or component thereof, which is used in either manned or unmanned spaceflight operations.

"(5) The term 'contracts awarded' means contracts awarded by negotiation and includes the net amount of modifications to, and the exercise of options under, such contracts. It excludes all transactions amounting to less than \$10,000 each.

"(6) The term 'fiscal year' means a year beginning on 1 July and ending on 30 June of the next succeeding year.

"(b) Under regulations to be prescribed by the Administrator:

"(1) Any former employee who during any fiscal year,

"(A) was employed by or served as a consultant or otherwise to an aerospace contractor for any period of time,

"(B) represented any aerospace contractor at any hearing, trial, appeal, or other action in which the United States was a party and which involved services and materials provided or to be provided to the National Aeronautics and Space Administration by such contractor, or

"(C) represented any such contractor in any transaction with the National Aeronautics and Space Administration involving services or materials provided or to be provided by such contractor to the National Aeronautics and Space Administration, shall file with the Administrator, in such form and manner as the Administrator may prescribe, not later than November 15 of the next succeeding fiscal year, a report containing the following information:

"(1) His name and address.

"(2) The name and address of the aerospace contractor by whom he was employed or whom he served as a consultant or otherwise.

"(3) The title of the position held by him with the aerospace contractor.

"(4) A brief description of his duties and the work performed by him for the aerospace contractor.

"(5) His gross salary rate while employed by the National Aeronautics and Space Administration.

"(6) A brief description of his duties and the work performed by him while employed by the National Aeronautics and Space Administration during the three-year period immediately preceding his termination of employment.

"(7) The date of the termination of his employment with the National Aeronautics and Space Administration, and the date on which his employment, as an employee, consultant or otherwise, with the aerospace contractor began, and if no longer employed by such aerospace contractor, the date on which his employment with such aerospace contractor terminated.

"(8) Such other pertinent information as the Administrator may require.

"(2) Any employee of the National Aeronautics and Space Administration, including consultants or part-time employees, who was previously employed by or served as a consultant or otherwise to an aerospace contractor in any fiscal year, and whose salary rate in the National Aeronautics and Space Administration is equal to or greater than the minimum salary rate for positions in grade GS-13 shall file with the Administrator, in such form and manner and at such times as the Administrator may prescribe, a report containing the following information:

"(A) His name and address.

"(B) The title of his position with the National Aeronautics and Space Administration.

"(C) A brief description of his duties with the National Aeronautics and Space Administration.

"(D) The name and address of the aerospace contractor by whom he was employed or whom he served as a consultant or otherwise.

"(E) The title of his position with such aerospace contractor.

"(F) A brief description of his duties and the work performed by him for the aerospace contractor.

"(G) The date on which his employment as a consultant or otherwise with such contractor terminated and the date on which his employment as a consultant or otherwise with the National Aeronautics and Space Administration began thereafter.

"(H) Such other pertinent information as the Administrator may require.

"(c)(1) No former employee of the National Aeronautics and Space Administration shall be required to file a report under this section for any fiscal year in which he was employed by or served as a consultant or otherwise to an aerospace contractor if the total amount of contracts awarded by the National Aeronautics and Space Administration to such contractor during such year was less than \$10,000,000; and no employee of the National Aeronautics and Space Administration shall be required to file a report under this section for any fiscal year in which he was employed by or served as a consultant or otherwise to an aerospace contractor if the total amount of contracts awarded to such contractor by the National Aeronautics and Space Administration during such year was less than \$10,000,000.

"(2) No former National Aeronautics and Space Administration employee shall be required to file a report under this section for any fiscal year on account of employment with the National Aeronautics and Space Administration if such employment was terminated three years or more prior to the beginning of such fiscal year; and no employee of the National Aeronautics and Space Administration shall be required to file a report under this section for any fiscal year on account of employment with or services performed for an aerospace contractor if such employment was terminated or such services were performed three years or more prior to the beginning of such fiscal year.

"(3) No former employee shall be required to file a report under this section for any fiscal year during which he was employed by or served as a consultant or otherwise to an aerospace contractor at a salary rate of less than \$15,000 per year; and no employee of the National Aeronautics and Space Administration, including consultants or part-time employees, shall be required to file a report under this section for any fiscal year during which he was employed by or served as a consultant or otherwise to an aerospace contractor at a salary rate of less than \$15,000 per year.

"(d) The Administrator shall, not later than December 31 of each year, file with the President of the Senate and the Speaker of the House of Representatives a report containing a list of the names of persons who have filed reports with him for the preceding fiscal year pursuant to subsections (b)(1) and (b)(2) of this section. The Administrator shall include after each name so much information as he deems appropriate, and shall list the names of such persons under the aerospace contractor for whom they worked or for whom they performed services.

"(e) Any former employee of the National Aeronautics and Space Administration whose employment with or services for an aerospace contractor terminated during any fiscal year shall be required to file a report pursuant to subsection (b)(1) of this section for such year if he would otherwise be required to file under such subsection; and any person whose

employment with or services for the National Aeronautics and Space Administration terminated during any fiscal year shall be required to file a report pursuant to subsection (b)(2) of this section for such year if he would otherwise be required to file under such subsection.

"(f) The Administrator shall maintain a file containing the information filed with him pursuant to subsections (b)(1) and (b)(2) of this section and such file shall be open for public inspection at all times during the regular workday.

"(g) Any person who fails to comply with the filing requirements of this section shall be guilty of a misdemeanor and shall, upon conviction thereof, be punished by not more than six months in prison or a fine of not more than \$1,000, or both.

"(h) No person shall be required to file a report pursuant to this section for any year prior to the fiscal year 1971.

"Sec. 8. This Act may be cited as the "National Aeronautics and Space Administration Authorization Act, 1971".

And the Senate agree to the same.

GEORGE P. MILLER,
OLIN E. TEAGUE,
JOSEPH E. KARTH,
KEN HECHLER,
JAMES G. FULTON,
CHARLES A. MOSHER,
ALPHONZO BELL,

Managers on the Part of the House.

CLINTON P. ANDERSON,
JOHN C. STENNIS,
HOWARD W. CANNON,
MARGARET CHASE SMITH,
CARL T. CURTIS,

Managers on the Part of the Senate.

H. Rept. 91-1189

STATEMENT OF THE MANAGERS ON THE PART OF THE
HOUSE

The Managers on the part of the House at the conference on the disagreeing votes of the two Houses on the amendment of the Senate to the bill (H.R. 16516) to authorize appropriations for fiscal year 1971 to the National Aeronautics and Space Administration for research and development, construction of facilities, and research and program management, and for other purposes, submit the following statement in explanation of the effect of the action agreed upon by the conferees and recommended in the accompanying conference report:

The amendment of the Senate struck all after the enacting clause in the House bill and substituted new language. The Committee of Conference agreed to accept the Senate amendment with certain amendments and stipulations proposed by the Managers on the part of the House.

For fiscal year 1971 the National Aeronautics and Space Administration requested authorization in the amount of \$3,333,000,000. The House approved authorization in the amount of \$3,600,875,000. The Senate approved \$3,315,950,000.

As a result of the conference, the total amount to be authorized was adjusted to \$3,410,878,000. To this sum the Managers on the part of the House agreed. The amount agreed to by the Committee of Conference is \$189,997,000 less than passed by the House for authorization, and \$94,928,000 more than passed by the Senate.

Prior to the conference, the House had passed the Independent Offices and Department of Housing and Urban Development Appropriations Act which would provide \$3,197,000,000 in appropriations for the National Aeronautics and Space Administration in fiscal year 1971. The amount passed by the House for appropriations, still subject to Senate action, is \$213,878,000 less than agreed to by the Committee of Conference for authorization.

The disagreeing votes of the two Houses on H.R. 16516 were resolved in conference as follows:

(1) For *Research and Development*, the National Aeronautics and Space Administration requested \$2,606,100,000. The House passed version of H.R. 16516 included research and development programs totalling \$2,873,200,000. The Senate approved \$2,606,100,000, the amount of the Administration's request. The conferees agreed to research and development programs totalling \$2,693,100,000 to be authorized. Adjustments to the Senate amendment were made in conference as follows:

(a) NASA requested a total of \$956,500,000 for the Apollo Program. The House increased this by \$130,500,000 noting the need to provide funds for augmented scientific payloads for lunar exploration missions and improvements for the Saturn V vehicle and maintenance of Saturn V vendor capability.

The Senate approved the amount requested by NASA, \$956,500,000. The Senate receded and agreed to an addition of \$38 million for the Apollo Program bringing the authorized total to \$994,500,000. The increase of \$38 million will provide for additional scientific payloads for lunar exploration flights.

(b) NASA requested a total of \$515,200,000 for the Space Flight Operations Program. The House increased this amount by \$139,500,000 noting the need for increasing the scientific return from the long duration Skylab flights in 1972-1973 and the need to assess and more intensively examine the technology associated with the space shuttle/station program. The Senate approved the amount requested by NASA, \$515,200,000. The Senate receded and agreed to an increase of \$50,000,000 in Space Flight Operations bringing the authorization total to \$565,200,000. These funds will provide for additional emphasis on the development of scientific payloads for the Skylab Program scheduled to fly in 1972-1973.

(c) NASA requested a total of \$2,500,000 for the Advanced Missions Program. The House decreased this amount by \$1,500,000 noting the fact that NASA has sufficient unobligated FY 1970 funds to support advanced mission planning for a portion of FY 1971. The Senate approved the amount requested by NASA, \$2,500,000. The Senate receded and agreed to a reduction of \$1,000,000 in the Advanced Missions Program bringing the authorized total to \$1,500,000. Based on the latest information furnished by NASA as to obligation of their advanced mission funds, an authorization of \$1,500,000 will provide sufficient funding to support advanced missions analyses in FY 1971.

(d) NASA requested \$116,000,000 for the Physics and Astronomy Program. The House reduced that amount by \$5,600,000, the reduction to be applied to Explorer satellites. This action was designed to make available an additional \$5,600,000 for the ATS-F and G project without increasing the total budget for the Office of Space Science and Applications. This necessitated deferral of certain Explorer satellites. The Senate approved the amount requested by NASA for Physics and Astronomy, \$116,000,000. The House receded and accepted the Senate amendment.

(e) NASA requested \$167,000,000 for Space Applications, of which \$31,100,000 was designated for the ATS-F and G project. The House increased this amount by \$5,600,000, in order to re-establish the original launch schedule of this important project, which had been delayed by six-to-twelve months during consideration of the FY 1971 NASA budget within the Administration. The Senate approved the amount requested by NASA, \$167,000,000. The House receded and accepted the Senate amendment in view of the fact that the passage of time precluded the possibility of reestablishing the original launch schedule of ATS-F and G.

(f) The House added \$1,500,000 to the NASA request of \$22,400,000 for Electronics Systems to perform needed research on safety of flight items. The Senate approved the Administration request. Of the amount added by the House \$800,000 was for Wake Turbulence detection at airports, \$300,000 for Clear Air Turbulence detection and \$400,000 for Pilot Warning Indicator development. The Senate receded and accepted this House increase resulting in a total authorization of \$23,900,000 for Electronics Systems.

(g) The House added \$400,000 to the NASA request of \$17,900,000 for Human Factor Systems. The Senate approved the Administration request. The Senate receded and accepted the House increase. The amount added by the House is to be used for the study of aircrew workload and stress problems. A better understanding of the factors involved in these problems will result in increased flight safety. The authorization for Human Factor Systems is therefore \$18,300,000.

(h) The House added \$400,000 to the budget request of \$17,600,000 for Basic Research. The Senate approved the Administration request. The Senate receded and accepted the House increase. This additional amount is to be used for materials research to alleviate noise and pollution from combustion products. The authorization for Basic Research is therefore \$18,000,000.

(i) The House reduced the Tracking and Data Acquisition request of \$298,000,000 by \$4,200,000. The Senate approved the Administration's request. The compromise agreed to by the Committee of Conference resulted in a net reduction of \$2,800,000, resulting in a total authorization of \$295,200,000 for this item.

(j) The House added \$500,000 to the Technology Utilization request of \$4,000,000. The Senate approved the requested amount. The Senate receded and agreed to the House figure. This additional amount is to be used to expedite the flow of NASA technology to aid in the solution of urban and environmental problems. The total authorization, therefore, for Technology Utilization is \$4,500,000.

(2) For *Construction of Facilities* the National Aeronautics and Space Administration requested \$34,600,000. The House passed authorization totaled \$33,975,000 and the Senate passed bill included \$32,550,000 for Construction of Facilities. Projects in disagreement were resolved as follows:

(a) A line item of \$2,050,000 was included in the Administration budget for the construction of an experimental Earth Resources Technology Laboratory at Goddard. The House approved it; the Senate rejected it. Meantime, NASA's plan for the facility was changed, to provide for modification of the 3d floor of the existing Data Interpretation Laboratory at Goddard (Building 23) and the addition of a 4th floor, at an estimated cost of \$1,928,000. Accordingly, the conferees agreed to authorize the revised plan at the reduced cost estimate for the experimental research laboratory, with an understanding that early attention will be given by NASA and other executive agencies to future operational facilities that will be required for beneficial utilization of earth resources satellites.

It is clear that several federal agencies will have a need for the kind of information that will be provided by earth resources satellites. In fact, NASA is designing the data collection and return systems of the Earth Resource Technology Satellites (ERTS) so as to maximize their usefulness for the prospective user agencies. It is equally clear, however, that insufficient attention has been given to the organizational aspects of an operational system which are compounded by the very nature of the multiple interests that would be served. In addition, there are international ramifications to an operating ERTS system that have not been adequately considered.

The conferees agreed, therefore, that the Executive Branch and particularly NASA and the Office of Management and Budget should give prompt and careful study to the problem of how an operational

earth resources survey satellite system would be structured both in terms of the many federal agency interests that will be involved and in terms of its international aspects. However, in view of the current developmental status of the NASA experimental project, operational facilities for an earth resources survey system should not be built until such time that the benefits of continuing satellite surveys can be assessed and a determination made that an operational earth resources satellite system should be built.

(b) For "Various Locations" the National Aeronautics and Space Administration requested \$18,575,000. Included in this request was a program involving 38 major modification and rehabilitation projects at NASA field installations amounting to \$14.0 million.

The House reduced this request by \$625,000, denying authorizations for two projects: Rehabilitate Utility Systems, Michoud Assembly Facility, \$250,000; Rehabilitate High Pressure Gas Facility, Mississippi Test Facility, \$375,000. The House action was based on the fact that the two installations will revert to standby status in mid FY 1971 and, accordingly, extensive rehabilitation should not be performed until a firm long-term need for these stations is identified.

The Senate approved the request for the two projects in question with the proviso that the work at the Mississippi Test Facility be cancelled if subsequent information makes it clear that the project will not be required to support future programs.

The Managers on the part of the House receded to the Senate position on the amount to be authorized, recognizing that the annual request for NASA-wide facilities modification and rehabilitation work is composed of candidate projects selected from a large backlog of deferred maintenance work. Further, if a long term need for the work at the installations concerned does not materialize, the Administrator of NASA has the option under established procedures to substitute more urgently required projects. Annual reporting by NASA on the use of funds authorized for these purposes is required by the House.

(c) Consequently, the amount to be authorized for Construction of Facilities is \$34,478,000.

(3) For *Research and Program Management* the National Aeronautics and Space Administration requested \$692,300,000. The House increased this amount by \$1.4 million recommending authorization in the amount of \$693,700,000 and in the accompanying legislative report stipulated that the increase was intended specifically for research fellowships, additional summer jobs and graduate and undergraduate scholarships in the field of aeronautics.

The Senate amendment contained no provision for additional authorization for aeronautical trainees. However, the conferees agreed that there is an urgent need for encouraging younger personnel, trained in the Aeronautical Sciences, to accept research positions in NASA. Thereby, the quality of personnel and the national reservoir of basic scientific data needed to keep the country and the industry foremost in this field will be enhanced. Testimony taken by the Committee on Science and Astronautics has revealed the declining numbers of engineering graduates in Aeronautics and the increasing average age of personnel in NASA performing needed aeronautical research. To correct this trend, the conferees were in agreement that NASA should initiate such a program and that this action should be taken within the total authorized amount.

The Senate reduced the authorization request for Research and Program Management by \$15,000,000, recommending that \$677,300,000 be authorized for these purposes. The reduction by the Senate was made specifically in the area of personnel and related costs. The Senate amendment added new language to Section 1(c) prescribing a ceiling of \$500,108,000 for personnel and related costs.

In conference, a compromise was reached and a total authorization of \$683,300,000 for Research and Program Management was agreed to. The House conferees receded to the Senate insistence that restrictive language be included in Section 1(c) concerning personnel and related costs. However, the Senate receded on the ceiling to be prescribed and the conferees agreed to a limit of \$506,108,000.

Thus, the amount to be authorized for Research and Program Management is \$683,300,000 which is \$10,400,000 less than approved by the House and \$6,000,000 more than approved by the Senate.

(4) *Legislative Amendments:* In addition to specific programs and projects in conference, three general legislative amendments were in disagreement. Differences between the House and Senate versions were resolved as follows:

(a) The Senate amendment to H.R. 16516 contained a new provision [subsection 1(i)] which places a ceiling of \$500,000 on funds appropriated pursuant to Section 1 which may be used for the payment of services, per diem, travel and other expenses of experts and consultants. The House bill contained no such provision.

Information available to the Managers on the part of the House indicates that funds used for consultant salaries, travel and other expenses by NASA for the first ten months of fiscal year 1970 are estimated at \$753,000. The cost accounting system at the NASA headquarters was not sufficiently responsive to determine the exact cost experience in this area. The House conferees agreed that some legislative controls are necessary for this type of expense and accepted the Senate provision subject to further evaluation for fiscal year 1972.

(b) The Senate amendment included additional language in the fund transfer authority contained in Section 4 of the House bill. The Senate provision [subsection 4(b)], was in the nature of conforming language, which would prohibit the transfer of funds appropriated pursuant to this Act to the Research and Program Management appropriation for the purpose of exceeding the authorized ceiling placed on personnel and related costs imposed by Section 1(c). The House bill contained no such provision.

The Managers on the part of the House disagreed with the Senate conferees on the basis that the proposed language was entirely too restrictive, removed all flexibility, and failed to take into account the impact of reduction-in-force procedure on test and evaluation activities, mission operations and particularly mission safety.

Therefore, substitute language was agreed to by the conferees which will permit the transfer of up to one per centum of the amounts authorized to the personnel account whenever the Administrator determines that such a transfer is necessary for the safety of any mission. Due notification and the normal 30 day waiting period as prescribed in the annual Act would prevail.

(c) The Senate amendment included a new provision, Section 7, substantively the same as Section 6 of the National Aeronautics and Space Administration Authorization Act, 1970 (83 Stat. 196). This latter section was amended to perfect the wording which provides for the disclosure of the names, titles, and work descriptions of personnel who are former employees of the National Aeronautics and Space Administration involved in procurement or other contractual effort and who now work for companies under contract with the agency with more than \$10 million in annual business. The same provision also applies to present employees of the agency who have worked for aerospace contractors. The House bill contained no such provision.

The Managers on the part of the House, recognizing that the language is identical, except for minor perfecting modifications to Section 6 of the National Aeronautics and Space Administration Authorization Act, 1970, agreed to the Senate provision.

GEORGE P. MILLER,
OLIN E. TEAGUE,
JOSEPH KARTH,
KEN HECHLER,
JAMES G. FULTON,
CHARLES A. MOSHER,
ALPHONZO BELL,

Managers on the Part of the House.



An Act

To authorize appropriations to the National Aeronautics and Space Administration for research and development, construction of facilities, and research and program management, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there is hereby authorized to be appropriated to the National Aeronautics and Space Administration:

(a) For "Research and development," for the following programs:

- (1) Apollo, \$994,500,000;
- (2) Space flight operations, \$565,200,000;
- (3) Advanced missions, \$1,500,000;
- (4) Physics and astronomy, \$116,000,000;
- (5) Lunar and planetary exploration, \$144,900,000;
- (6) Bioscience, \$12,900,000;
- (7) Space applications, \$167,000,000;
- (8) Launch vehicle procurement, \$124,900,000;
- (9) Space vehicle systems, \$30,000,000;
- (10) Electronics systems, \$23,900,000;
- (11) Human factor systems, \$13,300,000;
- (12) Basic research, \$18,000,000;
- (13) Space power and electric propulsion systems, \$30,900,000;
- (14) Nuclear rockets, \$38,000,000;
- (15) Chemical propulsion, \$20,300,000;
- (16) Aeronautical vehicles, \$17,100,000;
- (17) Tracking and data acquisition, \$295,200,000;
- (18) Technology utilization, \$4,500,000;

(b) For "Construction of facilities," including land acquisitions, as follows:

- (1) Ames Research Center, Moffett Field, California, \$1,525,000;
- (2) Goddard Space Flight Center, Greenbelt, Maryland, \$1,928,000;
- (3) Jet Propulsion Laboratory, Pasadena, California, \$1,950,000;
- (4) John F. Kennedy Space Center, NASA, Kennedy Space Center, Florida, \$575,000;
- (5) Manned Spacecraft Center, Houston, Texas, \$900,000;
- (6) Marshall Space Flight Center, Huntsville, Alabama, \$525,000;
- (7) Nuclear Rocket Development Station, Nevada, \$3,500,000;
- (8) Various locations, \$18,575,000;
- (9) Facility planning and design not otherwise provided for, \$5,000,000.

(c) For "Research and program management," \$683,300,000, of which not to exceed \$506,108,000 shall be available for personnel and related costs.

(d) Appropriations for "Research and development" may be used (1) for any items of a capital nature (other than acquisition of land) which may be required for the performance of research and development contracts, and (2) for grants to nonprofit institutions of higher education, or to nonprofit organizations whose primary purpose is the conduct of scientific research, for purchase or construction of additional research facilities; and title to such facilities shall be vested in the United States unless the Administrator determines that the national program of aeronautical and space activities will best be served by vesting title in any such grantee institution or organization.

National Aeronautics and Space Administration Authorization Act, 1971.
Research and development.

84 STAT. 369
84 STAT. 369

Construction of facilities.

Research and program management.

Program specifications.

Notice to Speaker of the House, President of the Senate, and congressional committees.

84 STAT. 369
84 STAT. 370

Scientific consultations.

Funds, limitation and restriction.

Report to Administrator.

Transfer of funds.

Each such grant shall be made under such conditions as the Administrator shall determine to be required to insure that the United States will receive therefrom benefit adequate to justify the making of that grant. None of the funds appropriated for "Research and development" pursuant to this Act may be used for construction of any major facility, the estimated cost of which, including collateral equipment, exceeds \$250,000, unless the Administrator or his designee has notified the Speaker of the House of Representatives and the President of the Senate and the Committee on Science and Astronautics of the House of Representatives and the Committee on Aeronautical and Space Sciences of the Senate of the nature, location, and estimated cost of such facility.

(e) When so specified in an appropriation Act, (1) any amount appropriated for "Research and development" or for "Construction of facilities" may remain available without fiscal year limitation, and (2) maintenance and operation of facilities, and support services contracts may be entered into under the "Research and program management" appropriation for periods not in excess of twelve months beginning at any time during the fiscal year.

(f) Appropriations made pursuant to subsection 1(c) may be used, but not to exceed \$35,000, for scientific consultations or extraordinary expenses upon the approval or authority of the Administrator and his determination shall be final and conclusive upon the accounting officers of the Government.

(g) No part of the funds appropriated pursuant to subsection 1(c) for maintenance, repairs, alterations, and minor construction shall be used for the construction of any new facility the estimated cost of which, including collateral equipment, exceeds \$100,000.

(h) Any part of the funds appropriated pursuant to subsection (a) of this section may be used for grants to any nonprofit institution of higher learning unless the Administrator or his designee determines at the time of the grant that recruiting personnel of any of the Armed Forces of the United States are not being barred from the premises or property of such institution except that this subsection shall not apply if the Administrator or his designee determines that the grant is a continuation or renewal of a previous grant to such institution which is likely to make a significant contribution to the aeronautical and space activities of the United States. The Secretary of Defense shall furnish to the Administrator or his designee within sixty days after the date of enactment of this Act and each January 30 and June 30 thereafter the names of any nonprofit institutions of higher learning which the Secretary of Defense determines on the date of each such report are barring such recruiting personnel from premises or property of any such institution.

(i) No funds appropriated pursuant to this section in excess of \$500,000 shall be used for the payment of services, per diem, travel, and other expenses of experts and consultants.

SEC. 2. Authorization is hereby granted whereby any of the amounts prescribed in paragraphs (1), (2), (3), (4), (5), (6), (7) and (8) of subsection 1(b) may, in the discretion of the Administrator of the National Aeronautics and Space Administration, be varied upward 5 per centum to meet unusual cost variations, but the total cost of all work authorized under such paragraphs shall not exceed the total of the amounts specified in such paragraphs.

SEC. 3. Not to exceed one-half of 1 per centum of the funds appropriated pursuant to subsection 1(a) hereof may be transferred to the "Construction of facilities" appropriation, and, when so transferred, together with \$10,000,000 of the funds appropriated pursuant to subsection 1(b) hereof (other than funds appropriated pursuant to para-

graph (5) of such subsection) shall be available for expenditure to construct, expand, or modify laboratories and other installations at any location (including locations specified in subsection 1(b)), if (1) the Administrator determines such action to be necessary because of changes in the national program of aeronautical and space activities or new scientific or engineering development, and (2) he determines that deferral of such action until the enactment of the next authorization Act would be inconsistent with the interest of the Nation in aeronautical and space activities. The funds so made available may be expended to acquire, construct, convert, rehabilitate, or install permanent or temporary public works, including land acquisition, site preparation, appurtenances, utilities, and equipment. No portion of such sums may be obligated for expenditure or expended to construct, expand, or modify laboratories and other installations unless (A) a period of thirty days has passed after the Administrator or his designee has transmitted to the Speaker of the House of Representatives and to the President of the Senate and to the Committee on Science and Astronautics of the House of Representatives and to the Committee on Aeronautical and Space Sciences of the Senate a written report containing a full and complete statement concerning (1) the nature of such construction, expansion, or modification, (2) the cost thereof, including the cost of any real estate action pertaining thereto, and (3) the reason why such construction, expansion, or modification is necessary in the national interest, or (B) each such committee before the expiration of such period has transmitted to the Administrator written notice to the effect that such committee has no objection to the proposed action.

Sec. 4. (a) Notwithstanding any other provision of this Act—

(1) no amount appropriated pursuant to this Act may be used for any program deleted by the Congress from requests as originally made to either the House Committee on Science and Astronautics or the Senate Committee on Aeronautical and Space Sciences,

(2) no amount appropriated pursuant to this Act may be used for any program in excess of the amount actually authorized for that particular program by sections 1(a) and 1(c), and

(3) no amount appropriated pursuant to this Act may be used for any program which has not been presented to or requested of either such committee,

unless (A) a period of thirty days has passed after the receipt by the Speaker of the House of Representatives and the President of the Senate and each such committee of notice given by the Administrator or his designee containing a full and complete statement of the action proposed to be taken and the facts and circumstances relied upon in support of such proposed action, or (B) each such committee before the expiration of such period has transmitted to the Administrator written notice to the effect that such committee has no objection to the proposed action.

(b) Nothing in this section shall be construed to authorize the expenditure of amounts for personnel and related costs pursuant to section 1(c) to exceed amounts authorized for such costs, except that a transfer in the manner prescribed by this section of funds not to exceed 1 per centum of such amounts authorized may be made whenever the Administrator determines that such transfer is necessary for the safety of any mission.

Sec. 5. It is the sense of the Congress that it is in the national interest that consideration be given to geographical distribution of Federal research funds whenever feasible, and that the National Aeronautics and Space Administration should explore ways and means of distributing its research and development funds whenever feasible.

Report to Speaker of the House, President of the Senate, and congressional committees.

Funds, restrictions.

Notice to Speaker of the House, President of the Senate, and congressional committees.

Excess cost restriction, exception.

Research funds, geographical distribution.

Campus disruptors, denial of payment.

72 Stat. 426. 42 USC 2451 note.

Freedom of speech. Definitions. 42 USC 2462.

Sec. 6. (a) If an institution of higher education determines, after affording notice and opportunity for hearing to an individual attending, or employed by, such institution, that such individual has been convicted by any court of record of any crime which was committed after the date of enactment of this Act and which involved the use of (or assistance to others in the use of) force, disruption, or the seizure of property under control of any institution of higher education to prevent officials or students in such institution from engaging in their duties or pursuing their studies, and that such crime was of a serious nature and contributed to a substantial disruption of the administration of the institution with respect to which such crime was committed, then the institution which such individual attends, or is employed by, shall deny for a period of two years any further payment to, or for the direct benefit of, such individual under any of the programs authorized by the National Aeronautics and Space Act of 1958, the funds for which are authorized pursuant to this Act. If an institution denies an individual assistance under the authority of the preceding sentence of this subsection, then any institution which such individual subsequently attends shall deny for the remainder of the two-year period any further payment to, or for the direct benefit of, such individual under any of the programs authorized by the National Aeronautics and Space Act of 1958, the funds for which are authorized pursuant to this Act.

(b) If an institution of higher education determines, after affording notice and opportunity for hearing to an individual attending, or employed by, such institution, that such individual has willfully refused to obey a lawful regulation or order of such institution after the date of enactment of this Act, and that such refusal was of a serious nature and contributed to a substantial disruption of the administration of such institution, then such institution shall deny, for a period of two years, any further payment to, or for the direct benefit of, such individual under any of the programs authorized by the National Aeronautics and Space Act of 1958, the funds for which are authorized pursuant to this Act.

(c) (1) Nothing in this Act shall be construed to prohibit any institution of higher education from refusing to award, continue, or extend any financial assistance under any such Act to any individual because of any misconduct which in its judgment bears adversely on his fitness for such assistance.

(2) Nothing in this section shall be construed as limiting or prejudicing the rights and prerogatives of any institution of higher education to institute and carry out an independent disciplinary proceeding pursuant to existing authority, practice, and law.

(3) Nothing in this section shall be construed to limit the freedom of any student to verbal expression of individual views or opinions.

Sec. 7. Section 6 of the NASA Authorization Act, 1970 (83 Stat. 196), is amended to read as follows:

“Sec. 6. (a) As used in this section—

“(1) The term ‘former employee’ means any former officer or employee of the National Aeronautics and Space Administration, including consultants or part-time employees, whose salary rate at any time during the three-year period immediately preceding the termination of his last employment with the National Aeronautics and Space Administration was equal to or greater than the minimum salary rate at such time for positions in grade GS-13.

“(2) The term ‘aerospace contractor’ means any individual, firm, corporation, partnership, association, or other legal entity, which provides services and materials to or for the National Aeronautics and Space Administration in connection with any aerospace system under

a contract directly with the National Aeronautics and Space Administration.

"(3) The term 'services and materials' means either services or materials or services and materials which are provided as a part of or in connection with any aerospace system.

"(4) The term 'aerospace system' includes, but is not limited to, any rocket, launch vehicle, rocket engine, propellant, spacecraft, command module, service module, landing module, tracking device, communications device, or any part or component thereof, which is used in either manned or unmanned spaceflight operations.

"(5) The term 'contracts awarded' means contracts awarded by negotiation and includes the net amount of modifications to, and the exercise of options under, such contracts. It excludes all transactions amounting to less than \$10,000 each.

"(6) The term 'fiscal year' means a year beginning on 1 July and ending on 30 June of the next succeeding year.

"(b) Under regulations to be prescribed by the Administrator:

"(1) Any former employee who during any fiscal year,

"(A) was employed by or served as a consultant or otherwise to an aerospace contractor for any period of time,

"(B) represented any aerospace contractor at any hearing, trial, appeal, or other action in which the United States was a party and which involved services and materials provided or to be provided to the National Aeronautics and Space Administration by such contractor, or

"(C) represented any such contractor in any transaction with the National Aeronautics and Space Administration involving services or materials provided or to be provided by such contractor to the National Aeronautics and Space Administration, shall file with the Administrator, in such form and manner as the Administrator may prescribe, not later than November 15 of the next succeeding fiscal year, a report containing the following information:

"(1) His name and address.

"(2) The name and address of the aerospace contractor by whom he was employed or whom he served as a consultant or otherwise.

"(3) The title of the position held by him with the aerospace contractor.

"(4) A brief description of his duties and the work performed by him for the aerospace contractor.

"(5) His gross salary rate while employed by the National Aeronautics and Space Administration.

"(6) A brief description of his duties and the work performed by him while employed by the National Aeronautics and Space Administration during the three-year period immediately preceding his termination of employment.

"(7) The date of the termination of his employment with the National Aeronautics and Space Administration, and the date on which his employment, as an employee, consultant or otherwise, with the aerospace contractor began, and if no longer employed by such aerospace contractor, the date on which his employment with such aerospace contractor terminated.

"(8) Such other pertinent information as the Administrator may require.

"(2) Any employee of the National Aeronautics and Space Administration, including consultants or part-time employees, who was previously employed by or served as a consultant or otherwise to an aerospace contractor in any fiscal year, and whose salary rate in the National Aeronautics and Space Administration is equal to or greater than the minimum salary rate for positions in grade GS-13 shall file

Former NASA employees, report requirements.

Report requirements, exceptions.

Report to President of the Senate and Speaker of the House.

Former consultants to aerospace contractors, report requirements.

with the Administrator, in such form and manner and at such times as the Administrator may prescribe, a report containing the following information:

"(A) His name and address.

"(B) The title of his position with the National Aeronautics and Space Administration.

"(C) A brief description of his duties with the National Aeronautics and Space Administration.

"(D) The name and address of the aerospace contractor by whom he was employed or whom he served as a consultant or otherwise.

"(E) The title of his position with such aerospace contractor.

"(F) A brief description of his duties and the work performed by him for the aerospace contractor.

"(G) The date on which his employment as a consultant or otherwise with such contractor terminated and the date on which his employment as a consultant or otherwise with the National Aeronautics and Space Administration began thereafter.

"(H) Such other pertinent information as the Administrator may require.

"(c) (1) No former employee of the National Aeronautics and Space Administration shall be required to file a report under this section for any fiscal year in which he was employed by or served as a consultant or otherwise to an aerospace contractor if the total amount of contracts awarded by the National Aeronautics and Space Administration to such contractor during such year was less than \$10,000,000; and no employee of the National Aeronautics and Space Administration shall be required to file a report under this section for any fiscal year in which he was employed by or served as a consultant or otherwise to an aerospace contractor if the total amount of contracts awarded to such contractor by the National Aeronautics and Space Administration during such year was less than \$10,000,000.

"(2) No former National Aeronautics and Space Administration employee shall be required to file a report under this section for any fiscal year on account of employment with the National Aeronautics and Space Administration if such employment was terminated three years or more prior to the beginning of such fiscal year; and no employee of the National Aeronautics and Space Administration shall be required to file a report under this section for any fiscal year on account of employment with or services performed for an aerospace contractor if such employment was terminated or such services were performed three years or more prior to the beginning of such fiscal year.

"(3) No former employee shall be required to file a report under this section for any fiscal year during which he was employed by or served as a consultant or otherwise to an aerospace contractor at a salary rate of less than \$15,000 per year; and no employee of the National Aeronautics and Space Administration, including consultants or part-time employees, shall be required to file a report under this section for any fiscal year during which he was employed by or served as a consultant or otherwise to an aerospace contractor at a salary rate of less than \$15,000 per year.

"(d) The Administrator shall, not later than December 31 of each year, file with the President of the Senate and the Speaker of the House of Representatives a report containing a list of the names of persons who have filed reports with him for the preceding fiscal year pursuant to subsections (b) (1) and (b) (2) of this section. The Administrator shall include after each name so much information as he deems appropriate, and shall list the names of such persons under the aerospace contractor for whom they worked or for whom they performed services.

"(e) Any former employee of the National Aeronautics and Space Administration whose employment with or services for an aerospace contractor terminated during any fiscal year shall be required to file a report pursuant to subsection (b) (1) of this section for such year if he would otherwise be required to file under such subsection; and any person whose employment with or services for the National Aeronautics and Space Administration terminated during any fiscal year shall be required to file a report pursuant to subsection (b) (2) of this section for such year if he would otherwise be required to file under such subsection.

"(f) The Administrator shall maintain a file containing the information filed with him pursuant to subsections (b) (1) and (b) (2) of this section and such file shall be open for public inspection at all times during the regular workday.

Recordkeeping.
Availability of
information.

"(g) Any person who fails to comply with the filing requirements of this section shall be guilty of a misdemeanor and shall, upon conviction thereof, be punished by not more than six months in prison or a fine of not more than \$1,000, or both.

Penalty.

"(h) No person shall be required to file a report pursuant to this section for any year prior to the fiscal year 1971.

Filing date,
restriction.

"Sec. 8. This Act may be cited as the "National Aeronautics and Space Administration Authorization Act, 1971".

Short title.

Approved July 2, 1970.

LEGISLATIVE HISTORY:

HOUSE REPORTS: No. 91-929 (Comm. on Science and Astronautics) and No. 91-1189 (Comm. of Conference).

SENATE REPORT No. 91-833 (Comm. on Aeronautical and Space Sciences).
CONGRESSIONAL RECORD, Vol. 116 (1970):

Apr. 23, considered and passed House.

May 6, considered and passed Senate, amended.

June 22, House and Senate agreed to conference report.

INDEPENDENT OFFICES AND DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT APPROPRIATION BILL, 1971

NOVEMBER 19, 1970.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. EVINS of Tennessee, from the Committee on Appropriations, submitted the following

REPORT

[To accompany H.R. 19830]

The Committee on Appropriations submits the following report in explanation of the accompanying bill making appropriations for sundry independent executive bureaus, boards, commissions, corporations, agencies, offices, and the Department of Housing and Urban Development, for the fiscal year ending June 30, 1971.

PURPOSE OF THE BILL

The President on August 11, 1970, vetoed H.R. 17548, the first Independent Offices and Department of Housing and Urban Development appropriation bill for 1971. The Congress proposed to change some priorities to more adequately recognize urgent domestic needs. The President considered the total amount of the bill excessive and vetoed the measure. The veto message is contained in House Document No. 91-377.

The House of Representatives on August 13, 1970, voted 205 to 193 to override the veto, but this fell short of the necessary two-thirds required by the Constitution to override a Presidential veto. The message and the bill were accordingly referred to the Committee on Appropriations.

The Committee has redrafted and submits a new bill to replace the vetoed measure. The bill contains the identical sums and provisions for the various items of the several agencies, with two exceptions, which after extensive hearings and deliberations were previously adopted by the Congress in H.R. 17548.

The budget estimates submitted to the Congress for the Department of Housing and Urban Development, Veterans Administration, and of the 20 other agencies of Government totaled \$17,468,223,500. The vetoed bill as passed by the Congress provided \$18,009,525,300—a net increase of \$541,301,800 over the budget.

Recognizing that an acceptable resolution of differences must be found if funds for the several agencies of the Government covered by the bill are to be made available soon, the Committee recommends modification of the funding of new grants for urban renewal and water and sewer projects by the Department of Housing and Urban Development.

SUMMARY OF THE BILL

The Committee is recommending a reduction of \$150,000,000 from the amount originally passed by Congress for urban renewal, and a reduction of \$150,000,000 from the amount originally approved by the Congress for water and sewer facilities grants. This makes a total reduction below the vetoed bill of \$300,000,000.

The amount of the vetoed bill over the budget was \$541,301,800. With the cut of \$300,000,000 below this amount, the Committee brings back a bill just \$241,301,800 over the budget for funding 22 agencies and departments of the Government. This represents basically a split and reasonable compromise.

Except for the modifications mentioned above for the water and sewer and urban renewal programs, the effect of the statements of congressional action contained in House Report No. 91-1060, Senate Report No. 91-949, House Conference Report No. 91-1345, and other legislative history of H.R. 17548 is equally applicable to the items and provisions contained in this bill.

PERMANENT NEW BUDGET (OBLIGATIONAL) AUTHORITY—TRUST FUNDS

[Becomes available automatically under earlier, or "permanent" law without further, or annual, action by the Congress. Thus, these amounts are *not* included in the accompanying bill]

Agency and item (1)	New budget (obligational) authority, 1970 (2)	Budget estimate of new budget (obligational) authority, 1971 (3)	Increase (+) or decrease (-) (4)
National Aeronautics and Space Administration: Miscellaneous trust funds (indefinite)-----	3,000,000	11,600,000	+8,600,000

COMPARATIVE STATEMENT OF THE NEW BUDGET (OBLIGATIONAL) AUTHORITY FOR FISCAL YEAR 1970 AND THE BUDGET ESTIMATES FOR FISCAL YEAR 1971

[Note—all amounts are in the form of "appropriations" unless otherwise indicated]

Agency and item (1)	New budget (obligational) authority, fiscal year 1970 ¹ (2)	Budget estimates (obligational) authority, fiscal year 1971 (3)	New budget (obligational) authority recommended in vetoed bill (H.R. 17548) (4)	New budget (obligational) authority recommended in the accompanying bill (5)	Bill compared with—		
					Appropriations, 1970 (6)	Budget estimates, 1971 (7)	H. R. 17548 (8)
TITLE I							
INDEPENDENT OFFICES							
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION							
Research and development.....	\$3,006,000,000	\$2,606,100,000	\$2,565,000,000	\$2,565,000,000	-\$441,000,000	-\$41,100,000	-----
Construction of facilities.....	53,233,000	34,600,000	24,950,000	24,950,000	-28,283,000	-9,650,000	-----
Research and program management.....	689,983,000	692,300,000	678,725,000	678,725,000	-11,258,000	-13,575,000	-----
Total, National Aeronautics and Space Administration.....	3,749,216,000	3,333,000,000	3,268,675,000	3,268,675,000	-480,541,000	-64,325,000	-----

INDEPENDENT OFFICES AND DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT APPROPRIATION BILL, 1971

MAY 7, 1970.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. EVINS of Tennessee, from the Committee on Appropriations, submitted the following

REPORT

[To accompany H.R. 17548]

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

The budget estimate for the activities of the National Aeronautics and Space Administration is \$3,333,000,000. The Committee recommends \$3,197,000,000, which is a reduction of \$136,000,000 below the budget estimate. The amount recommended is \$223,875,000 below the total appropriation recently adopted by the House, and \$103,950,000 less than the total reported in the authorization bill in the Senate.

The Apollo 11 flight successfully achieved our Nation's initial goal of landing men on the moon and returning them safely to earth. The flight of Apollo 12 confirmed our competence, leadership, and maneuverability in space with a second safe lunar landing and successful return.

The recent flight of Apollo 13, while not completing the intended mission, was successful in returning the astronauts safely to earth in the crippled spacecraft with a precision landing—a marvelous technological achievement which has again demonstrated great scientific and technological ability. This was a tremendous test of the planning and skills, both of ground control and the astronauts themselves under the most trying circumstances.

The NASA manned space flight program, however, is in a period of reappraisal and transition. A special review board has been named to study the problems encountered during the flight of Apollo 13. In view of the investigation and study of the Apollo 13 flight and the time required for the evaluation of the problems and recommendations, the Committee recommends that the Apollo 14 flight, tentatively scheduled for October, 1970, be deferred until after the

first of the calendar year 1971. This is not meant to limit the number of lunar landings presently recommended by NASA, but to give ample time for the study, report, and correction of the Apollo 13 problems.

Research and development.—An appropriation of \$2,500,000,000 is recommended for research and development. This is a reduction of \$106,100,000 from the budget estimate of \$2,606,100,000. The funds recommended will provide for one Apollo flight instead of two flights in fiscal year 1971.

The Committee heard extensive testimony in support of the space programs for the next decade. Considerable attention was given to two reports. (1) The Post-Apollo Space Program: Directions for the Future. This is the Space Task Group's report to the President; and (2) The Next Decade in Space, a report prepared by the Office of Science and Technology.

The President has recommended initial funding in the 1971 budget for research and program definition for the space shuttle and space station. The program is proposed by the authorizing Committees of Congress. The Committee on Appropriations will give further consideration to the schedule and level of funding in fiscal year 1972 following the initial effort in research and program definition. The Committee supports the space shuttle and space station as the Nation's next steps in space, but urges that it be pursued carefully on a deliberate schedule for safety and precision.

Construction of facilities.—Funds included in the bill for construction total \$18,275,000. This is a reduction of \$16,325,000 from the \$34,600,000 proposed in the budget. The amount recommended will provide for construction of a building to house the electrical utilities personnel at Cape Kennedy at a total cost of \$575,000; finishing the solar simulator modifications at the Jet Propulsion Laboratory, \$700,000; \$15,000,000 for the rehabilitation and modification of existing facilities in the NASA system; and \$2,000,000 for planning and design. The Committee has denied the funds requested for other construction projects at this time.

Research and program management.—The Committee recommends \$678,725,000 for research and program management. This is a reduction of \$13,575,000 from the \$692,300,000 requested. The Committee suggests that the funding level for NASA personnel and laboratory operations that are financed by this appropriation be held at no more than the appropriation level of the current year.

PERMANENT NEW BUDGET (OBLIGATIONAL) AUTHORITY—TRUST FUNDS

[Becomes available automatically under earlier, or "permanent" law without further, or annual, action by the Congress. Thus, these amounts are not included in the accompanying bill]

Agency and item (1)	New budget (obligational) authority, 1970 (2)	Budget estimate of new (obligational) authority, 1971 (3)	Increase (+) or decrease (-) (4)
National Aeronautics and Space Administration: Miscellaneous trust funds (indefinite)-----	3,000,000	11,600,000	+8,600,000

COMPARATIVE STATEMENT OF THE NEW BUDGET (OBLIGATIONAL) AUTHORITY FOR FISCAL YEAR 1970 AND THE BUDGET ESTIMATES FOR FISCAL YEAR 1971

[Note—all amounts are in the form of "appropriations" unless otherwise indicated]

Agency and item (1)	New budget (obligational) authority, fiscal year 1970 (2)	Budget estimates of new budget (obligational) authority, fiscal year 1971 (3)	New budget (obligational) authority, recommended in bill (4)	Bill compared with—	
				New budget (obligational) authority, fiscal year 1970 (5)	Budget estimates of new budget (obligational) authority, fiscal year 1971 (6)
TITLE I					
INDEPENDENT OFFICES					
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION					
Research and development-----	\$3,006,000,000	\$2,606,100,000	\$2,500,000,000	-\$506,000,000	-\$106,100,000
Construction of facilities-----	53,233,000	34,600,000	18,275,000	-34,958,000	-16,325,000
Research and program management-----	637,400,000	692,300,000	678,725,000	+41,325,000	-13,575,000
Total, National Aeronautics and Space Administration-----	3,696,633,000	3,333,000,000	3,197,000,000	-499,633,000	-136,000,000

NASA-HQ

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REPORT
No. 91-1388

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INDEPENDENT OFFICES AND DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT APPROPRIATION BILL, 1971

DECEMBER 2, 1970.—Ordered to be printed

Mr. PASTORE, from the Committee on Appropriations,
submitted the following

REPORT

[To accompany H.R. 19830]

GENERAL STATEMENT

This bill replaces H.R. 17548, the first Independent Offices and Department of Housing and Urban Development appropriation bill for 1971, which was vetoed by the President on August 11, 1970. In his veto message, contained in House Document 91-377, the President indicated he was opposed to H.R. 17548 because the total amount was excessive. On August 13, 1970, the House of Representatives attempted to override the veto but failed because the necessary two-thirds vote required by the Constitution was not obtained. The House vote to override was 205 to 193.

This bill contains the identical sums and provisions that were included in the vetoed measure, H.R. 17458, except for two items contained in title III of the bill for the Department of Housing and Urban Development; namely, urban renewal and grants for basic water and sewer facilities. Each of these items has been reduced by \$150 million below the amounts carried in the vetoed bill. Thus, this bill reflects a reduction of \$300 million under the original bill, H.R. 17548.

The complete legislative history developed during the consideration of H.R. 17548 is hereby included herein and made a part of this report by reference.

PERMANENT NEW BUDGET (OBLIGATIONAL) AUTHORITY—TRUST FUNDS

[Becomes available automatically under earlier, or "permanent" law without further, or annual, action by the Congress. Thus, these amounts are *not* included in the accompanying bill]

Agency and item (1)	New budget (obligational) authority, 1970 (2)	Budget estimate of new (obligational) authority, 1971 (3)	Increase (+) or decrease (-) (4)
National Aeronautics and Space Administration: Miscellaneous trust funds (indefinite).....	3,000,000	11,600,000	+8,600,000

**COMPARATIVE STATEMENT OF THE NEW BUDGET (OBLIGATIONAL) AUTHORITY FOR FISCAL YEAR 1970 AND
THE BUDGET ESTIMATES FOR FISCAL YEAR 1971**

[NOTE.—All amounts are in the form of "appropriations" unless otherwise indicated]

Agency and Item (1)	New budget (obligational) authority, 1970 (2)	Budget esti- mates of new (obligational) authority, 1971 (3)	Recommended in the House bill for 1971 (4)	Recommended by Senate committee (5)	Increase (+) or decrease (-), Senate bill compared with—		
					New budget (obligational) authority, 1970 (6)	Budget esti- mates of new (obligational) authority, 1971 (7)	House bill (8)
TITLE I							
INDEPENDENT OFFICES							
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION							
Research and development	3,000,000,000	2,606,100,000	2,565,000,000	2,565,000,000	-441,000,000	-41,100,000
Construction of facilities.....	53,233,000	34,600,000	24,950,000	24,950,000	-28,283,000	-9,650,000
Research and program management.....	689,583,000	692,300,000	678,725,000	678,725,000	-11,258,000	-13,575,000
<i>Total</i> , National Aeronautics and Space Administration.....	3,749,216,000	3,333,000,000	3,268,675,000	3,268,675,000	-480,541,000	-64,325,000

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SENATE

{ REPORT
No. 91-949

INDEPENDENT OFFICES AND DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT APPROPRIATION BILL, 1971

JUNE 24, 1970.—Ordered to be printed

Mr. PASTORE, from the Committee on Appropriations, submitted the following

REPORT

[To accompany H.R. 17548]

The Committee on Appropriations, to which was referred the bill (H.R. 17548) making appropriations for sundry independent executive bureaus, boards, commissions, corporations, agencies, offices, and the Department of Housing and Urban Development for the fiscal year ending June 30, 1971, and for other purposes, reports the same to the Senate with various amendments and presents herewith information relative to the changes made.

AMOUNTS IN NEW BUDGET (OBLIGATIONAL) AUTHORITY

Amount of bill as passed House.....	\$17, 390, 212, 300
Amount of increase by Senate.....	529, 391, 200
Amount of bill as reported to Senate.....	17, 919, 603, 500
Amount of appropriations, 1970.....	16, 895, 587, 800
Amount of budget estimates, 1971 (as amended) ..	17, 468, 223, 500
Over the estimates for 1971 (as amended).....	451, 380, 000
Over the appropriations for 1970.....	1, 024, 015, 700

GENERAL STATEMENT

The bill provides a total amount of \$17,919,603,500, which is \$1,024,015,700 over the appropriations for 1970, \$451,380,000 over the amended estimates for 1971, and an increase of \$519,391,200 over the House bill.

The committee recommendations are based upon the estimates considered by the House, in House Document No. 91-241, and amendments contained in House Documents Nos. 91-273, 91-294, 91-305, and 91-312 and in Senate Documents Nos. 91-85, 91-87, and 91-88.

The following budget amendments were submitted to the Senate and not considered by the House:

Federal Home Loan Bank Board—Senate Document 81-85 adds \$250 million for Interest Adjustment Payments.

Council on Environmental Quality and Office of Environmental Quality—Senate Document 91-87 adds \$800,000.

Office of Emergency Preparedness—Senate Document 91-88 adds \$600,000 for policy direction of oil import program.

The three items total \$251,400,000 in budget amendments that were not considered by the House.

AUTHORIZATIONS

Since the House passed the bill, authorizations have progressed as follows:

For the National Aeronautics and Space Administration, the conference report was adopted June 22.

For the National Science Foundation, the House authorized \$527,600,000 in H.R. 16595 which passed on May 11, 1970, and is still pending in the Senate.

Authorization for the Sea Grants program has passed the House, and is also pending in the Senate.

At the time of filing this report none of these authorizations has become law.

SUMMARY OF ESTIMATES

The following table summarizes the agency, commission, and department budget estimates and the amount recommended. The tabulation by items of appropriations is included at the end of the report.

Summary of estimates and new budget (obligational) authority

Agency or item	Budget estimates	Recommended in House bill	Senate recommendation
Appalachian Regional Commission.....	\$958,000	\$958,000	\$958,000
Civil Service Commission.....	97,222,000	94,203,000	96,203,000
Commission on Government Procurement.....	1,800,000	1,500,000	1,500,000
Federal Communications Commission.....	24,900,000	24,725,000	24,900,000
Federal Home Loan Bank.....	250,000,000	(¹)	250,000,000
Federal Power Commission.....	18,450,000	18,210,000	18,350,000
Federal Trade Commission.....	21,375,000	20,500,000	20,500,000
General Services Administration.....	696,593,500	724,916,300	712,229,500
National Aeronautics and Space Administration.....	3,333,000,000	3,197,000,000	3,319,303,000
National Commission on Consumer Finance.....	500,000	500,000	500,000
National Science Foundation.....	513,000,000	497,000,000	513,000,000
Renegotiation Board.....	4,235,000	4,110,000	4,235,000
Securities and Exchange Commission.....	21,916,000	21,716,000	21,716,000
Selective Service System.....	76,000,000	75,000,000	75,000,000
Veterans Administration.....	8,960,528,000	8,985,528,000	9,085,528,000
Council on Environmental Quality, Office of Environmental Quality.....	² 1,500,000	650,000	1,500,000
National Aeronautics and Space Council.....	560,000	400,000	560,000
Office of Emergency Preparedness.....	³ 12,435,000	10,215,000	12,320,000
Office of Science and Technology.....	2,175,000	2,000,000	2,175,000
Appalachian Regional Development Programs.....	295,500,000	291,500,000	295,500,000
Disaster Relief.....	65,000,000	65,000,000	65,000,000
Civil Defense (DOD).....	73,800,000	72,000,000	73,000,000
Emergency Health (HEW).....	3,755,000	3,500,000	3,755,000
Department of Housing and Urban Development.....	2,993,021,000	3,279,081,000	3,321,871,000
Total.....	17,468,223,500	17,390,212,300	17,919,603,500

¹ Estimated in S. Doc. 91-85.² Additional estimate of \$800,000 contained in S. Doc. 91-87.³ Additional estimate of \$600,000 contained in S. Doc. 91-88.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

The committee recommends total appropriations of \$3,319,303,000 for the programs of the National Aeronautics and Space Administration, which is \$13,697,000 under the estimate, \$91,575,000 under the authorization, and \$122,303,000 over the House allowance. The amount recommended is \$415,330,000 under the 1970 appropriation.

The committee agrees that an adequately funded space program is essential to the progress of the Nation. After giving consideration to the crisis we face in the cities, the crucial housing shortage, and other domestic and international problems, and assessing priorities, the committee believes the funding recommended should be adequate to carry out the objectives of the space program under prudent management.

The items of appropriation break down as follows:

RESEARCH AND DEVELOPMENT	
1970 appropriation.....	\$3,007,000,000
Authorization.....	2,693,100,000
Estimate, 1971.....	2,606,100,000
House allowance.....	2,500,000,000
Committee recommendation.....	2,606,100,000

Restoration of \$106,100,000 is recommended by the committee, to provide the full amount of the budget estimate of \$2,606,100,000, which is \$87,000,000 under the authorization, and \$400,900,000 under the 1970 appropriation.

The committee leaves to the judgment of the Administration the allocation of funds to the various programs and projects.

CONSTRUCTION OF FACILITIES	
1970 appropriation.....	\$53,233,000
Authorization.....	34,478,000
Estimate, 1971.....	34,600,000
House allowance.....	18,275,000
Committee recommendation.....	34,478,000

Restoration of \$16,203,000 is recommended by the committee, to provide a total amount for construction of facilities of \$34,478,000, which is the amount of the authorization. The amount recommended is \$18,755,000 below the 1970 appropriation.

RESEARCH AND PROGRAM MANAGEMENT	
1970 appropriation.....	\$675,400,000
Authorization.....	683,300,000
Estimate, 1971.....	629,300,000
House allowance.....	678,725,000
Committee recommendation.....	678,725,000

The committee concurs with the House allowance of \$678,725,000 for research and program management, which is \$13,575,000 below the budget estimate, \$4,575,000 below the authorization, and \$3,325,000 over the 1970 appropriation.

The committee recommends inserting in the bill the following: of which \$10,000,000 shall be available only for use at the Mississippi Test Facility/Slidell Computer Complex and at other NASA facilities which can accommodate earth environmental studies to furnish, on a non-reimbursable basis, basic institutional and technical services to Federal

agencies, resident at the complexes, in pursuit of space and environmental missions.

A nonreimbursable basis is recommended for the first year of operation to expedite, in an efficient and economical manner, the movement of appropriate activities to the MTF/Slidell complex. After this initial activation period, the level of current and projected support required by each resident agency will be more readily apparent and a reimbursable basis could then be more efficiently instituted if it were found to be in the best interests of all parties to do so. It is further intended that nothing in this language will in any way detract from NASA's existing authorities to provide services to Federal, State, and local governmental agencies and to nonprofit research and educational institutions.

GENERAL PROVISIONS

SECTION 508

Much Government support of research stems from proposals by organizations to perform projects not specifically solicited by the Government. The results of research projects arising from such unsolicited proposals often are of value to the performing organization, as well as to the supporting Government agency, and therefore it is appropriate to require cost sharing.

However, in implementing the requirements of section 508, it should be recognized that some organizations propose to perform research for the Government in areas that are singularly important to the accomplishment of an agency program, but which will be of little or no value to the organizations in their other activities. For example, some research organizations performing research for the Government have no commercial, production, educational, or service activities on which to use the results of such research and have no means of recovering any cost sharing on research projects. Many of the original research ideas proposed by such organizations are of great interest and value to the Government, even though the research results may not be of value to the performing organization. In these situations where there is no measurable gain to the performing organization there is, therefore, no mutuality of interest, and it would not be equitable for the Government to require cost sharing.

SECTION 512

Section 512 has been added to the bill to bring the procurement procedures of the General Services Administration, Federal Supply Service into line with procurement procedures of the Department of Defense promulgated under the Buy America Act, thus effecting one set of rules for all Government procurement of hand and measuring tools. Such tools are those listed in groups 51 and 52 as contained in Cataloging Handbook H2-1, Federal Supply Classification, Part I, Groups and Classes, as published by the Defense Supply Agency. The pertinent part of section 6-104.4(b) of Armed Services Procurement Regulation reads as follows:

"Bids and proposals shall be evaluated so as to give preference to domestic bids. Each foreign bid shall be adjusted for purposes of evaluation either by excluding any duty from the foreign bid and adding 50 percent of the bid (exclusive of duty) to the remainder, or by adding to the foreign bid (inclusive of duty) a factor of 6 percent of that bid, whichever results in the greater evaluated price, except that a 12-percent factor shall be used instead of the 6-percent factor if (i) the firm submitting the low acceptable domestic bid is a small business concern, or a labor surplus area concern, or both, (ii) small purchase procedures are not used, and (iii) any contract award to a domestic concern which would result from applying the 12-percent factor, but which would not result from applying the 6-percent or 50-percent factor, would not exceed \$100,000. (If an award for more than \$100,000 would be made to a domestic concern if the 12-percent factor is applied, but would not be made if the 6-percent or 50-percent factor is applied, the matter shall be submitted to the Commissioner, Federal Supply Service of the General Services Administration for a decision as to whether the award to the small business or labor surplus area concern would involve unreasonable cost or inconsistency with the public interest.) If the foregoing procedure results in a tie between a foreign bid as evaluated and a domestic bid, award shall be made on the latter. When more than one line item is offered in response to an invitation for bids or requests for proposals, the appropriate factor shall be applied on an item-by-item basis, except that the factor may be applied to any group of items as to which the invitation for bids or request for proposals specifically provides that award may be made on a particular group of items."

**COMPARATIVE STATEMENT OF THE NEW BUDGET (OBLIGATIONAL) AUTHORITY FOR FISCAL YEAR 1970 AND
THE BUDGET ESTIMATES FOR FISCAL YEAR 1971**

PERMANENT NEW BUDGET (OBLIGATIONAL) AUTHORITY—TRUST FUNDS

[Becomes available automatically under earlier, or "permanent" law without further, or annual, action by the Congress. Thus, these amounts are not included in the accompanying bill]

Agency and item (1)	New budget (obligational) authority, 1970 (2)	Budget estimate of new (obligational) authority, 1971 (3)	Increase (+) or decrease (-) (4)
National Aeronautics and Space Administration: Miscellaneous trust funds (indefinite).....	3,000,000	11,600,000	+8,600,000

**COMPARATIVE STATEMENT OF THE NEW BUDGET (OBLIGATIONAL) AUTHORITY FOR FISCAL YEAR 1970 AND
THE BUDGET ESTIMATES FOR FISCAL YEAR 1971**

[Note—all amounts are in the form of "appropriations" unless otherwise indicated]

Agency and Item (1)	New budget (obligational) authority, 1970 (2)	Budget esti- mates of new (obligational) authority, 1971 (3)	Recommended in the House bill for 1971 (4)	Recommended by Senate committee (5)	Increase (+) or decrease (-), Senate bill compared with—		
					New budget (obligational) authority, 1970 (6)	Budget esti- mates of new (obligational) authority, 1971 (7)	House bill (8)
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION							
Research and development.....	3,006,000,000	2,606,100,000	2,600,000,000	2,606,100,000	-399,900,000		+106,100,000
Construction of facilities.....	53,233,000	34,600,000	18,275,000	34,478,000	-18,755,000	-122,000	+16,203,000
Research and program management.....	675,400,000	692,300,000	678,725,000	678,725,000	+3,325,000	-13,575,000	
Total, National Aeronautics and Space Administration.	3,734,633,000	3,333,000,000	3,197,000,000	3,319,303,000	-415,330,000	+13,697,000	+122,303,000

INDEPENDENT OFFICES AND THE DEPARTMENT OF
HOUSING AND URBAN DEVELOPMENT APPROPRIATIONS, 1971

JULY 28, 1970.—Ordered to be printed

Mr. EVINS of Tennessee, from the committee of conference
submitted the following

CONFERENCE REPORT

(To accompany H.R. 17548)

JOE L. EVINS,
EDWARD P. BOLAND,
GEORGE E. SHIPLEY,
ROBERT N. GIAIMO,
JOHN O. MARSH, Jr.,
DAVID PRYOR,
GEORGE MAHON,
CHARLES R. JONAS (except
amendments Nos. 17 and
38),
JOSEPH M. McDADE,
Managers on the Part of the House.
JOHN O. PASTORE,
WARREN G. MAGNUSON,
ALLEN J. ELLENDER,
SPESSARD L. HOLLAND,
CLINTON P. ANDERSON,
GORDON ALLOTT
(Res. #44),
MARGARET CHASE SMITH
(Res. #44),
ROMAN HRUSKA
(Res. #44),
MILTON R. YOUNG
(Res. #44),
Managers on the Part of the Senate.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Amendment No. 17: Appropriates \$2,565,000,000 for research and development instead of \$2,500,000,000 as proposed by the House and \$2,606,100,000 as proposed by the Senate. The Administrator has flexibility to use funds as desired, including the Apollo and Skylab programs.

Amendment No. 18: Appropriates \$24,950,000 for construction of facilities instead of \$18,275,000 as proposed by the House and \$34,478,000 as proposed by the Senate. The committee of conference has added to the proposed House amount \$1,250,000 for the isotope thermoelectric systems application laboratory at the Jet Propulsion Laboratory; \$1,925,000 for the earth resources technology laboratory at Goddard; and \$3,500,000 for the nuclear engine test stand No. 2 in Nevada.

Amendment No. 19: Reported in technical disagreement. The managers on the part of the House will offer a motion to recede and concur in the amendment of the Senate making \$10,000,000 available for use at certain NASA facilities to accommodate earth environmental studies for Federal agencies on a nonreimbursable basis.

The committee of conference is agreed that not less than \$1,000,000 of the funds provided for NASA shall be utilized for research, development, and testing at the Arnold Engineering Development Center in fiscal year 1971.

TITLE V—GENERAL PROVISIONS

Amendment No. 55: Reported in technical disagreement. The managers on the part of the House will offer a motion to recede and concur in the Senate amendment relating to procurement of hand or measuring tools not produced in the United States or its possessions, with an amendment making it applicable only to solicitations for bids opened after its enactment. This brings Government procurement policy of GSA in line with procedures prescribed for defense procurement of such articles.



Public Law 91-556
91st Congress, II. R. 19830
December 17, 1970

An Act

Making appropriations for sundry independent executive bureaus, boards, commissions, corporations, agencies, offices, and the Department of Housing and Urban Development for the fiscal year ending June 30, 1971, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums are appropriated, out of any money in the Treasury not otherwise appropriated, for sundry independent executive bureaus, boards, commissions, corporations, agencies, offices, and the Department of Housing and Urban Development for the fiscal year ending June 30, 1971, and for other purposes, namely:

NATIONAL AERONAUTICS AND SPACE

ADMINISTRATION

RESEARCH AND DEVELOPMENT

For necessary expenses, not otherwise provided for, including research, development, operations, services, minor construction, maintenance, repair, and alteration of real and personal property; and purchase, hire, maintenance, and operation of other than administrative aircraft necessary for the conduct and support of aeronautical and space research and development activities of the National Aeronautics and Space Administration, \$2,565,000,000, to remain available until expended.

CONSTRUCTION OF FACILITIES

For advance planning, design, and construction of facilities for the National Aeronautics and Space Administration, and for the acquisition or condemnation of real property, as authorized by law, \$24,950,000, to remain available until expended.

RESEARCH AND PROGRAM MANAGEMENT

For necessary expenses of research in Government laboratories, management of programs and other activities of the National Aeronautics and Space Administration, not otherwise provided for, including uniforms or allowances therefor, as authorized by law (5 U.S.C. 5901-5902); minor construction; awards; purchase of not to exceed one and hire, maintenance and operation of administrative aircraft; purchase (not to exceed thirty-nine for replacement only) and hire of passenger motor vehicles; and maintenance, repair, and alteration of real and personal property; \$678,725,000, of which \$10,000,000 shall be available only for use at the Mississippi Test Facility (Slidell Computer Complex and at other NASA facilities which can accommodate earth environmental studies to furnish, on a nonreimbursable basis, basic institutional and technical services to Federal agencies, resident at the complexes, in pursuit of space and environmental missions: *Provided*, That contracts may be entered into under this appropriation for maintenance and operation of facilities, and for other services, to be provided during the next fiscal year.

84 STAT. 1442

Independent
Offices and
Department
of Housing
and Urban
Development.
Appropriation
Act, 1971.

80 Stat. 508;
81 Stat. 206.

December 17, 1970

Pub. Law 91-556

84 STAT. 1450

GENERAL PROVISIONS

Not to exceed 5 per centum of any appropriation made available to the National Aeronautics and Space Administration by this Act may be transferred to any other such appropriation. Transfer of funds.

Not to exceed \$35,000 of the appropriation "Research and Program Management" in this Act for the National Aeronautics and Space Administration shall be available for scientific consultations or extraordinary expenses, to be expended upon the approval or authority of the Administrator and his determination shall be final and conclusive.

TITLE V—GENERAL PROVISIONS

SEC. 501. Where appropriations in titles I, II and III of this Act are expendable for travel expenses of employees and no specific limitation has been placed thereon, the expenditures for such travel expenses may not exceed the amounts set forth therefor in the budget estimates submitted for the appropriations: *Provided*, That this section shall not apply to travel performed by uncompensated officials of local boards and appeal boards of the Selective Service System; to travel performed directly in connection with care and treatment of medical beneficiaries of the Veterans' Administration; or to payments to interagency motor pools where separately set forth in the budget schedules.

SEC. 502. No part of any appropriation contained in titles I, II, and III of this Act shall be available to pay the salary of any person filling a position, other than a temporary position, formerly held by an employee who has left to enter the Armed Forces of the United States and has satisfactorily completed his period of active military or naval service and has within ninety days after his release from such service or from hospitalization continuing after discharge for a period of not more than one year made application for restoration to his former position and has been certified by the Civil Service Commission as still qualified to perform the duties of his former position and has not been restored thereto.

Position resto-
ration after
military leave.

SEC. 503. No part of any appropriation made available by the provision of titles I, II, and III of this Act shall be used for the purchase or sale of real estate or for the purpose of establishing new offices outside the District of Columbia: *Provided*, That this limitation shall not apply to programs which have been approved by the Congress and appropriations made therefor.

Real estate,
D. C.

SEC. 504. No part of any appropriation contained in this Act, or the funds available for expenditure by any corporation or agency included in this Act, shall be used for publicity or propaganda purposes designed to support or defeat legislation pending before the Congress.

Publicity or
propaganda.

SEC. 505. No part of any appropriation contained in this Act, or of the funds available for expenditure by any corporation or agency included in this Act, shall be used to pay the compensation of any employee engaged in personnel work in excess of the number that would be provided by a ratio of one such employee to one hundred and thirty-five, or a part thereof, full-time, part-time, and intermittent

Personnel
work, limi-
tation.

employees of the corporation or agency concerned: *Provided*, That for purposes of this section employees shall be considered as engaged in personnel work if they spend half-time or more in personnel administration consisting of direction and administration of the personnel program; employment, placement, and separation; job evaluation and classification; employee relations and services; wage administration; and processing, recording, and reporting.

Sec. 506. Appropriations and funds available for the administrative expenses of the Department of Housing and Urban Development shall be available in the current fiscal year for purchase of uniforms, or allowances therefor, as authorized by law (5 U.S.C. 5901-5902); hire of passenger motor vehicles; and services as authorized by 5 U.S.C. 3109.

Sec. 507. Funds made available for the Department of Housing and Urban Development under title IV of this Act shall be available, without regard to the limitations on administrative expenses, for legal services on a contract or fee basis, and for utilizing and making payment for services and facilities of Federal National Mortgage Association or Government National Mortgage Association, Federal Reserve banks or any member thereof, Federal home loan banks, and any insured bank within the meaning of the Federal Deposit Insurance Corporation Act, as amended (12 U.S.C. 1811-1831).

Sec. 508. None of the funds provided in this Act may be used for payment, through grants or contracts, to recipients that do not share in the cost of conducting research resulting from proposals for projects not specifically solicited by the Government: *Provided*, That the extent of cost sharing by the recipient shall reflect the mutuality of interest of the grantee or contractor and the Government in the research.

Sec. 509. No part of any appropriation contained in this Act shall remain available for obligation beyond the current fiscal year unless expressly so provided herein.

Sec. 510. None of the funds in this Act shall be available to finance interdepartmental boards, commissions, councils, committees, or similar groups under section 214 of the Independent Offices Appropriation Act, 1946 (31 U.S.C. 691), which do not have prior and specific Congressional approval of such method of financial support.

Sec. 511. No part of the funds appropriated by this Act shall be used to pay the salary of any Federal employee who is convicted in any Federal, State, or local court of competent jurisdiction, of inciting, promoting, or carrying on a riot, or any group activity resulting in material damage to property or injury to persons, found to be in violation of Federal, State, or local laws designed to protect persons or property in the community concerned.

Sec. 512. No part of any appropriations contained in this Act shall be available for the procurement of or for the payment of the salary of any person engaged in the procurement of any hand or measuring tool(s) not produced in the United States or its possessions except to the extent that the Administrator of General Services or his designee shall determine that a satisfactory quality and sufficient quantity of hand or measuring tools produced in the United States or its possessions cannot be procured as and when needed from sources

Uniforms, etc.

80 Stat. 508;
81 Stat. 206.
80 Stat. 416.

Legal and banking services.

64 Stat. 873.
Research projects.

Interdepartmental groups, expenses.

59 Stat. 134.

Payment to convicted rioters, prohibition.

Hand and measuring tools, procurement outside U.S., limitation.

in the United States and its possessions or except in accordance with procedures prescribed by section 6-104.4(b) of Armed Services Procurement Regulation dated January 1, 1969, as such regulation existed on June 15, 1970. This section shall be applicable to all solicitations for bids opened after its enactment.

Short title.

This Act may be cited as the "Independent Offices and Department of Housing and Urban Development Appropriation Act, 1971".

Approved December 17, 1970.

LEGISLATIVE HISTORY:

HOUSE REPORT No. 91-1616 (Comm. on Appropriations).
SENATE REPORT No. 91-1388 (Comm. on Appropriations).
CONGRESSIONAL RECORD, Vol. 116 (1970):
Nov. 24: Considered and passed House.
Dec. 7: Considered and passed Senate.



Public Law 92-18
92nd Congress, H. R. 8190
May 25, 1971

An Act

Making supplemental appropriations for the fiscal year ending June 30, 1971, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums are appropriated, out of any money in the Treasury not otherwise appropriated, to supply supplemental appropriations (this Act may be cited as the "Second Supplemental Appropriations Act, 1971") for the fiscal year ending June 30, 1971, and for other purposes, namely:

Second Supplemental Appropriations Act, 1971.

85 STAT. 40
85 STAT. 41

TITLE I

CHAPTER V

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

RESEARCH AND PROGRAM MANAGEMENT

84 Stat. 1449. The \$10,000,000 provided under this head in the Independent Offices and Housing and Urban Development Appropriation Act, 1971, for basic institutional and technical services for Federal agencies resident at the Mississippi Test Facility/Slidell Computer Complex and other NASA facilities in pursuit of space and environmental missions shall be available for equipment and alteration and modification of existing buildings, to whatever extent may be required to furnish such services, and for the construction of a flow basin and flood plain simulation facility; and shall remain available until September 30, 1971.

TITLE II

INCREASED PAY COSTS

For additional amounts for appropriations for the fiscal year 1971, for increased pay costs authorized by or pursuant to law, as follows:

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

"Research and program management", \$43,944,000;

Personal service expenditures, increase.

80 Stat. 471;
82 Stat. 997.

84 Stat. 195.
5 USC 5332 note.
84 Stat. 719.
39 USC preo.
101 note.

TITLE III

GENERAL PROVISIONS

Sec. 301. No part of any appropriation contained in this Act shall remain available for obligation beyond the current fiscal year unless expressly so provided therein.

Sec. 302. Except where specifically increased or decreased elsewhere in this Act, the restrictions contained within appropriations, or provisions affecting appropriations or other funds, available during the fiscal year 1971, limiting the amounts which may be expended for personal services, or for purposes involving personal services, or amounts which may be transferred between appropriations or authorizations available for or involving such services, are hereby increased to the extent necessary to meet increased pay costs authorized by or pursuant to law.

Sec. 303. Applicable appropriations or funds available for the fiscal year 1971 shall also be available for payment of fiscal year 1969 and fiscal year 1970 obligations for retroactive pay increases granted pursuant to 5 U.S.C. 5341.

Sec. 304. Unobligated balances of appropriations available to the Department of Defense for operation and maintenance during the fiscal year 1969 and the fiscal year 1970, including amounts of such appropriations withdrawn to the Treasury, may be transferred between such appropriations in such amounts as may be necessary for payment of fiscal year 1969 and fiscal year 1970 obligations for retroactive pay increases granted pursuant to 5 U.S.C. 5341.

Sec. 305. For the Post Office Department, any officer having administrative control of an appropriation, fund, limitation, or authorization properly chargeable with the costs in fiscal year 1971 of pay increases granted by or pursuant to the Federal Employees Salary Act of 1970 and the Postal Reorganization Act, is authorized to transfer thereto, from the unobligated balance of any other appropriation, fund, or authorization under his administrative control and expiring for obligation on June 30, 1971, such amounts as may be necessary for meeting such costs.

Approved May 25, 1971.

LEGISLATIVE HISTORY:

HOUSE REPORTS: No. 92-187 (Comm. on Appropriations) and No. 92-221 (Comm. of Conference).
SENATE REPORT No. 92-107 (Comm. on Appropriations).
CONGRESSIONAL RECORD, Vol. 117 (1971):

May 11, 12, considered and passed House.
May 17, 19, considered and passed Senate, amended.
May 20, House agreed to conference report; concurred with amendments to certain Senate amendments.

May 21, 24, Senate agreed to conference report; concurred in House amendments.

WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol. 7, No. 22:
May 26, Presidential statement.

CHRONOLOGY OF EVENTS

66

OMB Submission

10/8/69 Vol. I Summary and Research and Development
10/8/69 Vol. II Construction of Facilities and Research and Program Management

Congressional Submission

2/6/70 Vol. I Agency Summary
2/13/70 Vol. II Research and Development
2/6/70 Vol. III Construction of Facilities
2/13/70 Vol. IV Research and Program Management

AUTHORIZATION BILL

HOUSE (H.R. 15695)(Superseded by H.R. 16516)

SENATE (S. 3374)

2/17/70	Dr. Paine, Dr. von Braun	2/20/70	Dr. Paine, Dr. Newell, Mr. Shapley, Mr. Lilly, Dr. Naugle
2/19/70	Mr. Myers, Dr. Naugle	2/27/70	Mr. Myers, Dr. Low, Mr. Shapley, Mr. Mathews, Gen. Humphreys
2/20/70	Dr. Low, Dr. Petrone, Mr. Schneider, Mr. Gorman, Capt. Scherer, Mr. Mathews	3/4/70	Mr. Beggs (DOT), Mr. Greene (Joint DOT/NASA Policy Study), Mr. Nicks, Dr. Low, Mr. Harper, Mr. Truszynski, Mr. Pozinsky, Mr. Taylor, Mr. Lucas
2/24/70	Dr. Naugle, Dr. Smith, Mr. Vincent Johnson, Mr. Jaffe	3/5/70	Mr. Ramey (AEC), Dr. Low, Mr. Nicks, Mr. Klein
2/25/70	Mr. Nicks, Dr. Low, Mr. Harper, Dr. Kunzweg, Mr. Ames, Mr. Sullivan, Dr. Jones, Mr. Klein, Mr. Tischler, Mr. Evans, Mr. Woodward	3/6/70	Dr. Naugle, Dr. Low, Mr. Jaffe, Mr. Vincent Johnson, Gen. Curtin
2/26/70	Dr. Low, Mr. Beresford, Mr. Lilly, Gen. Curtin, Mr. Truszynski, Mr. Lucas, Mr. Pozinsky, Mr. Day, Mr. Phillips	3/18/70	Mr. Foster (DOD), Mr. Muse (OSD), Mr. Palley (OSD), Capt. Green (Navy), Dr. Yarymovych (AF)
3/19/70	Authorization Committee Report No. 91-929	5/1/70	Senate Authorization Committee Report No. 91-833
4/23/70	House floor action	5/6/70	Senate floor action

CONFERENCE COMMITTEE ACTION

6/15/70 Conference Committee Report No. 91-1189
 6/22/70 House and Senate adopted Conference Report
 7/2/70 President approved P.L. 91-303

APPROPRIATION BILLHOUSE (H.R. 17548)

3/24/70 Dr. Paine, Dr. Low, Mr. Shapley,
 Dr. von Braun, Mr. Myers, Dr. Naugle,
 Mr. Nicks, Mr. Truszynski, Dr. Gilruth,
 Mr. Allnut, Mr. Lilly, Mr. Malaga

4/22/70 (Apollo 13 Accident) Dr. Paine, Dr. Low,
 Mr. Shapley, Dr. von Braun, Mr. Lilly,
 Mr. Mossinghoff, Mr. Malaga

5/7/70 Appropriation Committee Report No. 91-1060

5/12/70 House floor action

SENATE (H.R. 17548)

4/19/70 Dr. Paine, Dr. Low, Dr. Newell,
 Mr. Shapley, Mr. Grubb, Mr. Lilly,
 Mr. Myers, Dr. Naugle, Mr. Nicks,
 Mr. Truszynski

4/27/70 Senator Proxmire

6/24/70 Senate Appropriation Committee
 Report No. 91-949

7/7/70 Senate floor action

CONFERENCE COMMITTEE ACTION

7/28/70 Conference Committee Report No. 91-1345
 7/28/70 House and Senate adopted Conference Report
 8/11/70 President vetoed the Bill (H.R. 17548)
 8/13/70 House of Representatives sustained the President's veto and introduced new bill (H.R. 19330)
 11/19/70 House Appropriation Committee Report No. 91-1616
 11/24/70 House floor action
 12/2/70 Senate Appropriation Committee Report No. 91-1388
 12/7/70 Senate floor action
 12/17/70 President approved P.L. 91-556

SUPPLEMENTAL APPROPRIATION BILL

3/23/71 President transmitted supplemental appropriations for FY 1971 (House Document No. 92-73)
 5/6/71 House Appropriations Committee Report No. 92-187 (H.R. 8190)
 5/12/71 House floor action
 5/13/71 Senate Appropriation Committee Report No. 92-107 (H.R. 8190)
 5/19/71 Senate floor action
 5/20/71 Conference Committee Report No. 92-221 (H.R. 8190)
 5/20/71 House adopted Conference Report
 5/21/71 Senate adopted Conference Report
 5/25/71 President approved P.L. 92-18