

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION



CHRONOLOGICAL HISTORY
FISCAL YEAR 1974
BUDGET SUBMISSION

Prepared by:
Office of the NASA Comptroller
Office of Budget Operations
CODE BTF EXT. 58401

6/26/74
FINAL

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Chronological History of the FY 1974 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 H.R. 7528 Rep. 93-171 5/9/73	House Approved 5/23/73	Senate Comm. Approved H.R. 7528 Rep. 93-179 5/30/73	Senate Approved 6/19/73	Conf. Comm. Amd 6/28/73 Rep. 93-353 P.L. 93-74 7/23/73	Difference From Budget Submission	House H.R. 8825 Rep. 93-296 5/19/73 Appd 6/22/73	Senate H.R. 8825 Rep. 93-272 6/28/73 Appd 6/30/73	Conf. Comm. Appd 7/27/73 Rep. 93-411 P.L. 93-13/ 10/26/73	Difference From Budget Submission	Difference From Authorization
TOTAL APPROPRIATIONS:												
Research & Development..	2,197,000 ^{1/}	2,254,500	2,254,500	2,231,000	2,231,000	2,245,500	+48,500	2,194,000	2,194,000	2,194,000	-3,000	-51,500
Construction of Facilities.....	112,000	112,000	112,000	110,000	110,000	112,000	---	87,800	101,100	101,100	-10,900	-10,900
Research and Program Management.....												
Basic Submission...	(707,000)	(707,000)	(707,000)	(705,000)	(705,000)	(707,000)	(---)	(707,000)	(707,000)	(707,000)	(---)	(---)
Supplemental (pay increase).....	(37,786)	(37,600)	(37,600)	(37,600)	(37,600)	(37,600)	(-186)	(37,600)	(37,600)	(37,600) ^{2/}	(-186)	(---)
TOTAL R&PM.....	744,786	744,600	744,600	742,600	742,600	744,600	-186	744,600	744,600	744,600	-186	---
GRAND TOTAL.....	3,053,786	3,111,100	3,111,100	3,083,600	3,083,600	3,102,100	+48,314	3,026,400	3,039,700	3,039,700	-14,086	-62,400
R&D Appropriation:												
OMSF.....	1,032,000	1,050,000	1,050,000	1,032,000	1,032,000	1,032,000	---	*	*	*	*	*
OSS.....	553,000	546,000	546,000	554,000	554,000	552,000	-1,000	*	*	*	*	*
OA.....	147,000	159,000	159,000	161,000	161,000	161,000	+14,000	*	*	*	*	*
OAST.....	211,000	255,000	255,000	232,000	232,000	252,000	+41,000	*	*	*	*	*
OTDA.....	250,000	240,000	240,000	248,000	248,000	244,000	-6,000	*	*	*	*	*
OTU.....	4,000	4,500	4,500	4,000	4,000	4,500	+500	*	*	*	*	*
TOTAL R&D.....	2,197,000^{1/}	2,254,500	2,254,500	2,231,000	2,231,000	2,245,500	+48,500	2,194,000	2,194,000	2,194,000	-3,000	-51,500
CoF Appropriation:												
OMSF.....	68,285	68,285	68,285	68,285	68,285	68,285	---	44,085	57,385	57,385	-10,900	-10,900
OSS.....	4,815	4,815	4,815	4,815	4,815	4,815	---	4,815	4,815	4,815	---	---
OAST.....	4,030	4,030	4,030	4,030	4,030	4,030	---	4,030	4,030	4,030	---	---
OTDA.....	1,885	1,885	1,885	1,885	1,885	1,885	---	1,885	1,885	1,885	---	---
Comptroller.....	32,985	32,985	32,985	30,985	30,985	32,985	---	32,985	32,985	32,985	---	---
TOTAL CoF.....	112,000	112,000	112,000	110,000	110,000	112,000	---	87,800	101,100	101,100	-10,900	-10,900
R&PM Appropriation:												
OMSF.....	332,468	332,468	332,468	*	*	332,468	---	332,468	332,468	332,468	---	---
OSS.....	104,594	104,594	104,594	*	*	104,594	---	104,594	104,594	104,594	---	---
OAST.....	209,651	209,651	209,651	*	*	209,651	---	209,651	209,651	209,651	---	---
Supporting Operations...	60,287	60,287	60,287	*	*	60,287	---	60,287	60,287	60,287	---	---
Subtotal R&PM (Basic)..	707,000	707,000	707,000	705,000	705,000	707,000	---	707,000	707,000	707,000	---	---
Supplemental (pay incr)	37,786	37,600	37,600	37,600	37,600	37,600	-186	37,600	37,600	37,600	-186	---
TOTAL R&PM.....	744,786	744,600	744,600	742,600	742,600	744,600	-186	744,600	744,600	744,600	-186	---
TOTAL NASA.....	3,053,786	3,111,100	3,111,100	3,083,600	3,083,600	3,102,100	+48,314	3,026,400	3,039,700	3,039,700	-14,086	-62,400

^{1/} Excludes \$91,000,000 of FY 1973 funds applied to FY 1974 program.

^{2/} Appropriated by Public Law 93-305 dated 6/8/74.

* Undistributed.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Chronological History of the FY 1974 Budget Submission
(In thousands of dollars)

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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 H.R. 7528 Rep. 93-171 5/9/73	House Approved 5/23/73	Senate Comm Approved H.R. 7528 Rep. 93-179 5/30/73	Senate Approved 6/19/73	Conf. Comm. Appd 6/28/73 Rep. 93-353 P.L. 93-74 7/23/73	Difference From Budget Submission	House H.R. 8825 Rep. 93-296 6/19/73 Appd 6/22/73	Senate H.R. 8825 Rep. 93-272 6/28/73 Appd 6/30/73	Conf. Comm. Appd.7/27/73 Rep. 93-411 P.L. 93-137 10/26/73	Difference From Budget Submission	Difference From Authorization
RESEARCH AND DEVELOPMENT	2,197,000	2,254,500	2,254,500	2,231,000	2,231,000	2,245,500	+48,500	2,194,000	2,194,000	2,194,000	-3,000	-51,500
Space Flight Operations.	555,500	548,500	548,500	555,500	555,500	555,500	---	*	*	*	*	*
Space Shuttle.....	475,000	500,000	500,000	475,000	475,000	475,000	---	*	*	*	*	*
Advanced Missions.....	1,500	1,500	1,500	1,500	1,500	1,500	---	*	*	*	*	*
Physics and Astronomy...	64,600	59,600	59,600	64,600	64,600	63,600	-1,000	*	*	*	*	*
Lunar and Planetary.....	312,000	309,000	309,000	312,000	312,000	311,000	-1,000	*	*	*	*	*
Launch Vehicle Proc.....	176,400	177,400	177,400	177,400	177,400	177,400	+1,000	*	*	*	*	*
Space Applications.....	147,000	159,000	159,000	161,000	161,000	161,000	+14,000	*	*	*	*	*
Aeronautical Research and Technology.....	146,000	180,000	180,000	160,000	160,000	180,000 ^{2/}	+34,000	*	*	*	*	*
Space Research and Technology.....	65,000	---	---	---	---	---	-65,000					
Space and Nuclear Re- search and Technology	---	75,000 ^{1/}	75,000	72,000	72,000	72,000	+7,000	*	*	*	*	*
Tracking and Data Acq...	250,000	240,000	240,000	248,000	248,000	244,000	-6,000	*	*	*	*	*
Technology Utilization..	4,000	4,500	4,500	4,000	4,000	4,500	+500	*	*	*	*	*
CONSTRUCTION OF FACILITIES	112,000	112,000	112,000	110,000	110,000	112,000	---	87,800	101,100	101,100	-10,900	-10,900
Goddard Space Flight Ctr..	1,370	1,370	1,370	1,370	1,370	1,370	---	1,370	1,370	1,370	---	---
Jet Propulsion Lab.....	1,320	1,320	1,320	1,320	1,320	1,320	---	1,320	1,320	1,320	---	---
Langley Research Center...	4,030	4,030	4,030	4,030	4,030	4,030	---	4,030	4,030	4,030	---	---
Wallops Station.....	1,145	1,145	1,145	1,145	1,145	1,145	---	1,145	1,145	1,145	---	---
Various Locations.....	3,950	3,950	3,950	3,950	3,950	3,950	---	3,950	3,950	3,950	---	---
Space Shuttle Facilities..	67,200	67,200	67,200	67,200	67,200	67,200	---	43,000	56,300	56,300	-10,900	-10,900
Rehabilitation and Mod....	14,785	14,785	14,785	14,785	14,785	14,785	---	14,785	14,785	14,785	---	---
Minor Construction.....	4,600	4,600	4,600	4,600	4,600	4,600	---	4,600	4,600	4,600	---	---
Facility Plan'g & Design..	13,600	13,600	13,600	11,600	11,600	13,600	---	13,600	13,600	13,600	---	---
RESEARCH AND PROGRAM MANAGEMENT	744,786	744,600	744,600	742,600	742,600	744,600	-186	744,600	744,600	744,600	-186	---
Basic Submission.....	707,000	707,000	707,000	705,000	705,000	707,000	---	707,000	707,000	707,000	---	---
Supplemental.....	37,786	37,600	37,600	37,600	37,600	37,600	-186	37,600	37,600	37,600	-186	---
TOTAL NASA	3,053,786	3,111,100	3,111,100	3,083,600	3,083,600	3,102,100	+48,314	3,026,400	3,039,700	3,039,700	-14,086	-62,400

SPC 911-408

- 1/ House Authorization Committee added \$10 million for advanced nuclear power and propulsion research and changed the program title to "Space and Nuclear Research and Technology."
 2/ \$14.0 million reserved for JT-3D Refan Retrofit Research Program
 * Undistributed. See House and Senate Committee comments attached (p. 42, 45 and 46) regarding specific recommendations.

Prepared by:
NASA Comptroller
Office of Budget Operations
Code BTf Ext. 58401

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Chronological History of the FY 1974 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 H.R. 7522 Rep. 93-171 5/9/73	House Approved 5/23/73	Senate Comm Approved H.R. 7528 Rep. 93-179 5/30/73	Senate Approved 6/19/73	Conf. Comm. Appd 5/28/73 Rep. 93-353 P.L. 93-74 7/23/73	Difference From Budget Submission	House Comm. Approved H.R. 8825 Rep. 93-296 6/19/73	House Approved 6/22/73	Senate Comm. Approved H.R. 8825 Rep. 93-272 6/28/73	Senate Approved 6/30/73	Conf. Comm. Appd 7/27/73 and 10/10/73 P.L. 93-137 10/20/73
RESEARCH AND DEVELOPMENT APPROPRIATION:	2,197,000	2,254,500	2,254,500	2,231,000	2,231,000	2,245,500	+48,500	2,194,000	2,194,000	2,194,000	2,194,000	2,194,000
OFFICE OF MANNED SPACE												
FLIGHT.....	1,032,000	1,050,000	1,050,000	1,032,000	1,032,000	1,032,000	---					
Space Flight Operations Program.....	(555,500)	(548,500)	(548,500)	(555,500)	(555,500)	(555,500)	(---)					
Skylab.....	233,800	223,800	223,800	233,800	233,800	233,800	---					
Apollo Soyuz Test Proj. Development, Test and Mission Operations....	90,000	90,000	90,000	90,000	90,000	90,000	---					
Space Life Sciences.....	220,200	220,200	220,200	220,200	220,200	220,200	---					
Mission Systems and Integration.....	21,000 ^{1/}	24,000 ^{1/}	24,000	21,000	21,000	21,000	---					
FY 1973 funds applied...	15,500	15,500	15,500	15,500	15,500	15,500	---					
	-25,000	-25,000	-25,000	-25,000	-25,000	-25,000	---					
Space Shuttle Program....	(475,000)	(500,000)	(500,000)	(475,000)	(475,000)	(475,000)	(---)					
Orbiter.....	377,100	402,100	402,100	377,100	377,100	377,100	---					
Main Engine.....	55,500	55,500	55,500	55,500	55,500	55,500	---					
Solid Rocket Boosters....	18,100	18,100	18,100	18,100	18,100	18,100	---					
External Tanks.....	24,300	24,300	24,300	24,300	24,300	24,300	---					
Advanced Missions Program. Advanced Mission Studies	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)	(---)					
	1,500	1,500	1,500	1,500	1,500	1,500	---					
OFFICE OF SPACE SCIENCE...	553,000	546,000	546,000	554,000	554,000	552,000	-1,000					
Physics and Astronomy Program.....	(64,600)	(59,600)	(59,600)	(64,600)	(64,600)	(63,600)	(-1,000)					
Large Observatories.....	18,100	18,100	18,100	18,100	18,100	18,100	*					
OSO.....	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	*					
OAO.....	(3,100)	(3,100)	(3,100)	(3,100)	(3,100)	(3,100)	*					
HEAO.....	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	*					
Orbiting Explorers.....	33,100	30,100	30,100	33,100	33,100	33,100	*					
Sub-orbital Programs....	25,000	25,000	25,000	25,000	25,000	25,000	*					
Supporting Activities...	18,800	16,800	16,800	18,800	18,800	18,800	*					
FY 1973 funds applied...	-30,400	-30,400	-30,400	-30,400	-30,400	-30,400	*					

SPC 511-408

^{1/} Includes \$2 million of the FY 1973 funds applied to the FY 1974 program.

* Undistributed

Prepared by:
NASA Comptroller
Office of Budget Operations
Code BTf Ext. 58401

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Chronological History of the FY 1974 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 H.R. 7528 Rep. 93-171 5/9/73	House Approved 5/23/73	Senate Comm Approved H.R. 7528 Rep. 93-179 5/30/73	Senate Approved 6/19/73	Conf. Comm. Appd 6/28/73 Rep. 93-353 P.L. 93-74 7/23/73	Difference From Budget Submission	House Comm. Approved H.R. 8825 Rep. 93-296 6/19/73	House Approved 6/22/73	Senate Comm Approved H.R. 8825 Rep. 93-272 6/28/73	Senate Approved 6/30/73	Conf. Comm. Appd. 7/27/73 and 10/10/73 P.L. 93-137 10/26/73
Lunar and Planetary												
Exploration Program.....	(312,000)	(309,000)	(309,000)	(312,000)	(312,000)	(311,000)	(-1,000)					
Mariner.....	8,900	8,900	8,900	8,900	8,900	*	*					
Viking.....	201,200	201,200	201,200	201,200	201,200	*	*					
Outer Planets Missions..	32,200	32,200	32,200	32,200	32,200	*	*					
Pioneer/Helios.....	7,700	7,700	7,700	7,700	7,700	*	*					
Supporting Research and Technology/Advanced Studies.....	16,500	13,500	13,500	16,500	16,500	*	*					
Planetary Astronomy.....	3,700	3,700	3,700	3,700	3,700	*	*					
Data Analysis.....	9,700	9,700	9,700	9,700	9,700	*	*					
Planetary Quarantine....	1,500	1,500	1,500	1,500	1,500	*	*					
Planetary Flight Support	22,000	22,000	22,000	22,000	22,000	*	*					
Lunar Sample Analysis...	4,600	4,600	4,600	4,600	4,600	*	*					
Lunar Science Operations.....	4,000	4,000	4,000	4,000	4,000	*	*					
Launch Vehicle Procure- ment Program.....	(176,400)	(177,400)	(177,400)	(177,400)	(177,400)	(177,400)	(+1,000)					
Scout.....	12,000	12,000	12,000	12,000	12,000	12,000	---					
Centaur.....	115,000	115,000	115,000	115,000	115,000	115,000	---					
Delta.....	46,000	47,000	47,000	47,000	47,000	47,000	+1,000					
Supporting Research and Technology/Advanced Studies.....	4,000	4,000	4,000	4,000	4,000	4,000	---					
FY 1973 funds applied...	-600	-600	-600	-600	-600	-600	---					
OFFICE OF APPLICATIONS....	147,000	159,000	159,000	161,000	161,000	161,000	+14,000					
Space Applications Program.....	(147,000)	(159,000)	(159,000)	(161,000)	(161,000)	(161,000)	(+14,000)					
Weather & Climate.....	51,100	51,100	51,100	51,100	51,100	51,100	---					
Pollution Monitoring....	13,900	13,900	13,900	13,900	13,900	13,900	---					
Earth Resources Survey..	42,600	49,600	49,600	49,600	49,600	49,600	+7,000					
Earth & Ocean Physics...	10,700	10,700	10,700	10,700	10,700	10,700	---					
Space Processing.....	3,100	3,100	3,100	3,100	3,100	3,100	---					
Communications.....	22,100	22,100	22,100	22,100	22,100	22,100	---					
Earth Observatory Satellite Studies....	3,000	3,000	3,000	3,000	3,000	3,000	---					
Shuttle Experiment Definition.....	4,500	4,500	4,500	4,500	4,500	4,500	---					
Application Studies....	2,000	2,000	2,000	4,000	4,000	4,000	+2,000					
(Replace destroyed Convair 990 at ARC)...	---	5,000	5,000	5,000	5,000	5,000	+5,000					
FY 1973 funds applied...	-6,000	-6,000	-6,000	-6,000	-6,000	-6,000	---					

SPC 911-428

* Undistributed

** Appropriation Committees (Report Nos. House 93-296 and Senate 93-272) recommended funding level not to exceed \$2,500,000.

Prepared by:
NASA Comptroller
Office of Budget Operations
Code BTF Ext. 58401

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Chronological History of the FY 1974 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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OFFICE OF AERONAUTICS AND SPACE TECHNOLOGY.....	211,000	253,000	253,000	232,000	232,000	252,000	141,000				
Aeronautical Research and Technology Program.....	(146,000)	(180,000)	(180,000)	(160,000)	(160,000)	(180,000)	(134,000)				
Research and Technology Base.....	79,001	79,001	79,001	79,001	79,001	79,001	-				
Systems and Design Studies.....	5,473	5,473	5,473	5,473	5,473	5,473	-				
Systems and Experimental Programs**.....	86,526	120,526	120,526	100,526	100,526	100,526	134,000				
FY 1973 funds applied...	-25,000	-25,000	-25,000	-25,000	-25,000	-25,000	-				
Space Research and Technology Program.....	(65,000)	(---) ^{1/}	(---) ^{1/}	(---) ^{1/}	(---) ^{1/}	(---) ^{1/}	(-65,000)				
Research and Technology Base.....	54,675	---	---	---	---	---	-54,675				
Systems and Design Studies.....	1,300	---	---	---	---	---	-1,300				
Systems and Experimental Programs.....	9,025	---	---	---	---	---	-9,025				
Space and Nuclear Research and Technology.....	(---)	(75,000) ^{1/}	(75,000) ^{1/}	(72,000)	(72,000)	(72,000)	(472,000)				
Research and Technology Base.....	---	64,675 ^{1/}	64,675 ^{1/}	61,675	61,675	61,675	461,675				
Systems and Design Studies.....	---	1,300	1,300	1,300	1,300	1,300	+1,300				
Systems and Experimental Programs.....	---	9,025	9,025	9,025	9,025	9,025	+9,025				
Nuclear Power and Propulsion Program.....	(---)	(---)	(---)	(---)	(---)	(---)	(---)				
Nuclear Power.....	1,000	1,000	1,000	1,000	1,000	1,000	---				
Electrophysics.....	3,000	3,000	3,000	3,000	3,000	3,000	---				
FY 1973 funds applied...	-4,000	-4,000	-4,000	-4,000	-4,000	-4,000	---				
OFFICE OF TRACKING AND DATA ACQUISITION.....	250,000	240,000	240,000	248,000	248,000	244,000	-6,000				
Tracking and Data Acquisition Program.....	(250,000)	(240,000)	(240,000)	(248,000)	(248,000)	(244,000)	(-6,000)				
Operations.....	198,200	*	*	*	*	*	*				
Equipment.....	42,700	*	*	*	*	*	*				
Supporting Research and Technology.....	9,100	*	*	*	*	*	*				

gpo 117-168

^{1/} House Authorization Committee changed the program title to "Space and Nuclear Research and Technology" and added \$10 million to research and technology base for nuclear power and propulsion.

* Undistributed.

** Appropriation Committees (Report Nos. House 93-296 and Senate 93-272) recommended a level not to exceed \$11,700,000 to continue development of advanced supersonic technology.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Chronological History of the FY 1974 Budget Submission
(In thousands of dollars)

ITEM	AUTHORIZATION							APPROPRIATION				
	NASA Budget Submission	House Comm Approved H.R. 7528 Rep. 93-171 5/9/73	House Approved 5/23/73	Senate Comm Approved H.R. 7528 Rep. 93-179 5/30/73	Senate Approved 6/19/73	Conf. Comm. Appd 6/28/73 Rep. 93-353 P.L. 93-74 7/23/73	Difference From Budget Submission	House Comm. Approved H.R. 8825 Rep. 93-296 6/19/73	House Approved 6/22/73	Senate Comm. Approved H.R. 8825 Rep. 93-272 6/28/73	Senate Approved 6/30/73	Conf. Comm. Appd 7/27/73 and 10/10/73 P.L. 93-137 10/26/73
OFFICE OF INDUSTRY AFFAIRS AND 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, Evaluation and Publication.....	720	720	720	720	720	720	---					
New Technology Dis- semination.....	1,125	1,350	1,350	1,125	1,125	1,350	+225					
Technology Applications. Program Evaluation and Benefits.....	1,755	2,000	2,000	1,755	1,755	2,000	+245					
	400	430	430	400	400	430	+30					

SPC 911-408

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

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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 H.R. 7528 Rep. 93-171 5/9/73	House Approved 5/23/73	Senate Comm Approved H.R. 7528 Rep. 93-179 5/30/73	Senate Approved 6/19/73	Conf. Comm. Appd 6/28/73 Rep. 93-323 P.L. 93-74 7/22/73	Difference From Budget Submission	House Comm. Approved H.R. 8825 Rep. 93-296 6/19/73	House Approved 6/22/73	Senate Comm Approved H.R. 8825 Rep. 93-272 6/28/73	Senate Approved 6/30/73	Conf. Comm. Appd 7/27/73 and 10/10/73 P.L. 93-137 10/26/73
CONSTRUCTION OF FACILITIES APPROPRIATION:	112,000	112,000	112,000	110,000	110,000	112,000	---	87,800	87,800	101,100	101,100	101,100
<u>GODDARD SPACE FLIGHT</u>												
CENTER.....	(1,370)	(1,370)	(1,370)	(1,370)	(1,370)	(1,370)	(---)	(1,370)	(1,370)	(1,370)	(1,370)	(1,370)
S-Replacement of trans- portation facility....	660	660	660	660	660	660	---	660	660	660	660	660
S-Rehab. of vibration lab.....	710	710	710	710	710	710	---	710	710	710	710	710
<u>JET PROPULSION LABORATORY.</u>	(1,320)	(1,320)	(1,320)	(1,320)	(1,320)	(1,320)	(---)	(1,320)	(1,320)	(1,320)	(1,320)	(1,320)
S-Mods. of and add. to 25-foot space simu- lator bldg.....	740	740	740	740	740	740	---	740	740	740	740	740
S-Mod. of planetary mission support facs..	580	580	580	580	580	580	---	580	580	580	580	580
<u>LANGLEY RESEARCH CENTER...</u>	(4,030)	(4,030)	(4,030)	(4,030)	(4,030)	(4,030)	(---)	(4,030)	(4,030)	(4,030)	(4,030)	(4,030)
R-Rehab. and mod. of 600 psi air supply sys	2,410	2,410	2,410	2,410	2,410	2,410	---	2,410	2,410	2,410	2,410	2,410
R-Const. of systems engineering bldg.....	1,620	1,620	1,620	1,620	1,620	1,620	---	1,620	1,620	1,620	1,620	1,620
<u>MALLOPS STATION.....</u>	(1,145)	(1,145)	(1,145)	(1,145)	(1,145)	(1,145)	(---)	(1,145)	(1,145)	(1,145)	(1,145)	(1,145)
S-Rehab. of airfield pavement.....	570	570	570	570	570	570	---	570	570	570	570	570
S-Rehab. of comm. sys...	575	575	575	575	575	575	---	575	575	575	575	575
<u>VARIOUS LOCATIONS.....</u>	(3,950)	(3,950)	(3,950)	(3,950)	(3,950)	(3,950)	(---)	(3,950)	(3,950)	(3,950)	(3,950)	(3,950)
M-Mod. of power system..	1,085	1,085	1,085	1,085	1,085	1,085	---	1,085	1,085	1,085	1,085	1,085
S-Mod. of space launch complex 2 west (SLC-2W).....	980	980	980	980	980	980	---	980	980	980	980	980
T-Mod. for fire pro- tection improvements..	1,885	1,885	1,885	1,885	1,885	1,885	---	1,885	1,885	1,885	1,885	1,885
<u>SPACE SHUTTLE FACILITIES..</u>	(67,200)	(67,200)	(67,200)	(67,200)	(67,200)	(67,200)	(---)	(43,000)	(43,000)	(56,300)	(56,300)	(56,300)
M-Research and Develop- ment facilities Mods. for Aux. Prop. & Power Sys. Test Facs., White Sands Test Fac., New Mexico	1,290	1,290	1,290	1,290	1,290	1,290	---	1,290	1,290	1,290	1,290	1,290

SPC 211-418
M - Manned Space Flight facilities.
S - Space Science facilities.
T - Aeronautics and Space Technology facilities.
T - Tracking and Data facilities
a - Office of NASA Comptroller

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

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Mods. for Shuttle Avionics Integ. Lab., JSC, Texas.....	1,240	1,240	1,240	1,240	1,240	1,240	---	1,240	1,240	1,240	1,240	1,240
Mods. for Radiant Heating Verification Fac., JSC, Texas....	1,260	1,260	1,260	1,260	1,260	1,260	---	1,260	1,260	1,260	1,260	1,260
Mods. for the Orbiter Prop. Sys. Test Facs. MTF, Miss.....	11,300	11,300	11,300	11,300	11,300	11,300	---	11,300	11,300	11,300	11,300	11,300
Mods. for External Tank Structural Test Facs., MSFC, Ala.....	4,400	4,400	4,400	4,400	4,400	4,400	---	4,400	4,400	4,400	4,400	4,400
<u>M-Manufacturing and Final Assembly Facilities</u>												
Mod. of Manufacturing and Subassembly Facs. for the Orbiter, NASA Industrial Plant, Downey, Calif.....	2,650	2,650	2,650	2,650	2,650	2,650	---	2,650	2,650	2,650	2,650	2,650
Mod. of and Add. to Final Assembly and Checkout Facs. for the Orbiter, Air Force Plant #42, Palmdale, Calif.....	7,350	7,350	7,350	7,350	7,350	7,350	---	7,350	7,350	7,350	7,350	7,350
Mod. of Manufacturing and Final Assembly Facs. for External Tanks, MAF, La.....	9,510	9,510	9,510	9,510	9,510	9,510	---	6,210	6,210	9,510	9,510	9,510
<u>M-Launch and Landing Facilities</u>												
Const. of Orbiter Landing Facs., KSC, Fla.....	28,200	28,200	28,200	28,200	28,200	28,200	---	7,300	7,300	17,300	17,300	17,300
<u>REHABILITATION AND MODIFICATION (B).....</u>	(14,785)	(14,785)	(14,785)	(14,785)	(14,785)	(14,785)	(---)	(14,785)	(14,785)	(14,785)	(14,785)	(14,785)
<u>MINOR CONSTRUCTION (B)....</u>	(4,600)	(4,600)	(4,600)	(4,600)	(4,600)	(4,600)	(---)	(4,600)	(4,600)	(4,600)	(4,600)	(4,600)
<u>FACILITY PLANNING AND AND DESIGN (B).....</u>	(13,600)	(13,600)	(13,600)	(11,600)	(11,600)	(13,600)	(---)	(13,600)	(13,600)	(13,600)	(13,600)	(13,600)

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

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RESEARCH AND PROGRAM MANAGEMENT APPROPRIATION												
BY OBJECT CLASSIFICATION:	(707,000)	(707,000)	(707,000)	(705,000)	(705,000)	(707,000)	(---	(707,000)	(707,000)	(707,000)	(707,000)	(707,000)
Personnel compensation..	495,552	495,552	495,552	495,552	495,552	495,552	---	495,552	495,552	495,552	495,552	495,552
Personnel benefits.....	43,450	43,450	43,450	43,450	43,450	43,450	---	43,450	43,450	43,450	43,450	43,450
Benefits for former personnel.....	6,689	6,689	6,689	6,689	6,689	6,689	---	6,689	6,689	6,689	6,689	6,689
Travel & transportation of persons.....	17,454	17,454	17,454	* 1/	* 1/	17,454	---	17,454	17,454	17,454	17,454	17,454
Transportation of things	3,428	3,428	3,428	* 1/	* 1/	3,428	---	3,428	3,428	3,428	3,428	3,428
Rent, communications, and utilities.....	38,836	38,836	38,836	*	*	38,836	---	38,836	38,836	38,836	38,836	38,836
Printing and repro- duction.....	5,044	5,044	5,044	*	*	5,044	---	5,044	5,044	5,044	5,044	5,044
Other services.....	81,439	81,439	81,439	* 1/	* 1/	81,439	---	81,439	81,439	81,439	81,439	81,439
Supplies and materials..	12,242	12,242	12,242	*	*	12,242	---	12,242	12,242	12,242	12,242	12,242
Equipment.....	2,602	2,602	2,602	*	*	2,602	---	2,602	2,602	2,602	2,602	2,602
Lands and structures....	177	177	177	*	*	177	---	177	177	177	177	177
Grants, subsidies and contributions.....	50	50	50	*	*	50	---	50	50	50	50	50
Insurance claims and indemnities.....	37	37	37	*	*	37	---	37	37	37	37	37
BY INSTALLATION:												
Kennedy Space Center....	90,361	90,361	90,361	*	*	90,361	---	90,361	90,361	90,361	90,361	90,361
Manned Spacecraft Ctr...	109,250	109,250	109,250	*	*	109,250	---	109,250	109,250	109,250	109,250	109,250
Marshall Sp. Flt. Center..	132,857	132,857	132,857	*	*	132,857	---	132,857	132,857	132,857	132,857	132,857
Goddard Sp. Flt. Center..	93,657	93,657	93,657	*	*	93,657	---	93,657	93,657	93,657	93,657	93,657
Wallops Station.....	10,937	10,937	10,937	*	*	10,937	---	10,937	10,937	10,937	10,937	10,937
Ames Research Center....	42,819	42,819	42,819	*	*	42,819	---	42,819	42,819	42,819	42,819	42,819
Flight Research Center..	11,124	11,124	11,124	*	*	11,124	---	11,124	11,124	11,124	11,124	11,124
Langley Research Center..	79,251	79,251	79,251	*	*	79,251	---	79,251	79,251	79,251	79,251	79,251
Lewis Research Center....	76,457	76,457	76,457	*	*	76,457	---	76,457	76,457	76,457	76,457	76,457
NASA Headquarters.....	60,287	60,287	60,287	*	*	60,287	---	60,287	60,287	60,287	60,287	60,287
BY FUNCTION:												
Personnel.....	549,020	549,020	549,020	549,020	549,020	549,020	---	549,020	549,020	549,020	549,020	549,020
Travel.....	15,603	15,603	15,603	*	*	15,603	---	15,603	15,603	15,603	15,603	15,603
Facilities services.....	66,763	66,763	66,763	*	*	66,763	---	66,763	66,763	66,763	66,763	66,763
Technical services.....	32,974	32,974	32,974	*	*	32,974	---	32,974	32,974	32,974	32,974	32,974
Administrative support..	42,640	42,640	42,640	*	*	42,640	---	42,640	42,640	42,640	42,640	42,640
SUPPLEMENTAL (Pay incr)...	(37,786)	(37,600)	(37,600)	(37,600)	(37,600)	(37,600)	(-186)	(37,600)	(37,600)	(37,600)	(37,600)	(37,600)
TOTAL R&PM.....	744,386	744,600	744,600	742,600	742,600	744,600	186	744,600	744,600	744,600	744,600	744,600

501-111-418

R&PM budget submission excludes provision for increased cost of revised salary rates effective January 7, 1973, implemented by Executive Orders 11691 and 11692. These funds were later provided in the supplemental appropriation as shown above (P.L. 93-325).

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1/ The amounts in the following object classifications are also included in the "Personnel" function amount of \$549,020,000 inserted by the Senate Committee as a specific limitation in Section 1(c) of the authorization bill.

- 157 Travel and transportation of persons
- 372 Transportation of things
- 2,800 Other services

AUTHORIZING APPROPRIATIONS TO THE NATIONAL
AERONAUTICS AND SPACE ADMINISTRATION

MAY 9, 1973.—Committed to the Committee of the Whole House on the
State of the Union and ordered to be printed

Mr. TEAGUE of Texas, from the Committee on Science and
Astronautics, submitted the following

REPORT

[To accompany H.R. 7528]

The Committee on Science and Astronautics, to whom was referred
the bill (H.R. 7528) 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 1974, as follows:

Programs	Authorization
Research and development.....	\$2, 254, 500, 000
Construction of facilities.....	112, 000, 000
Research and program management ..	707, 000, 000
Total.....	3, 073, 500, 000

EXPLANATION OF THE BILL

RESEARCH AND DEVELOPMENT

SUMMARY

Programs	Authorization
1. Space flight operations.....	\$548, 500, 000
2. Space shuttle.....	500, 000, 000
3. Advanced missions.....	1, 500, 000
4. Physics and astronomy.....	59, 600, 000
5. Lunar and planetary exploration..	309, 000, 000
6. Launch vehicle procurement.....	177, 400, 000
7. Space applications.....	159, 000, 000
8. Aeronautical research and tech- nology.....	180, 000, 000
9. Space and nuclear research and technology.....	75, 000, 000
10. Tracking and data acquisition....	240, 000, 000
11. Technology utilization.....	4, 500, 000
Total.....	2, 254, 500, 000

COMMITTEE ACTIONS

RESEARCH AND DEVELOPMENT

SPACE FLIGHT OPERATIONS

NASA requested \$555,500,000 for Space Flight Operations in Fiscal Year 1974. Within this line item, your Committee made two changes which result in a total recommended authorization of \$648,500,000 for Space Flight Operations for Fiscal Year 1974. The changes are as follows:

Skylab

On May 14, 1973 Skylab is scheduled for launch with three visits planned during the balance of the year. The success of NASA Skylab management has given confidence to their projections of costs. Based on this confidence it appears that a reduction of \$10,000,000 in the Skylab program will not adversely affect total program costs, performance or schedule. The Committee notes that this reduction reflects a "success-postured" program, without major problems, but believes that past NASA performance in the Skylab justifies this confidence. Therefore, the Committee recommends a total of \$223,900,000 for Skylab for Fiscal Year 1974, a reduction of \$10,000,000 from the NASA request.

Space Life Sciences

NASA requested \$19,000,000 for Space Life Sciences for Fiscal Year 1974. In reviewing this item it was found that the industrial team which provides space suits will shortly be dispersed. There continues a need to assure that spacesuit requirements for the shuttle are met. Both continuity of know-how and ultimate total costs were considered by your Committee. The need for both inter-vehicle and extra-vehicle suits which minimize custom sizing for each individual are called for. Improvement in hand mobility and glove "feel" will be required in suits used in shuttle operations. The Committee recommends the addition of \$3,000,000 to Space Life Sciences for continued space suit development in Fiscal Year 1974 bringing the total to \$22,000,000. By this action the continuity of skills in this highly specialized area can be maintained while needed improvements in space suits are continued.

SPACE SHUTTLE

NASA requested \$475,000,000 for the Space Shuttle in Fiscal Year 1974. As has been brought out in testimony before your Committee, the Space Shuttle Program buildup has been constrained by tight cost ceilings in Fiscal Year 1973. This has resulted in a slower manpower buildup in the orbiter contractor's work force and has delayed the buildup of subcontractor manpower. An increase of \$25,000,000 for the Space Shuttle Program in Fiscal Year 1974 will provide a more

effective program implementation and increased confidence in attaining the key program milestones of First Horizontal Flight in 1976 and the First Manned Orbital Flight in 1978. This additional funding would be utilized to increase the program effort in critical avionics activities in support of the First Horizontal Flight, and increase manpower on design and development tasks for four major subcontracts that have just been awarded. These subcontracts were for the Orbiter Wing, tail, mid-fuselage and the Orbital Maneuvering System pods. The manpower levels for thermal protection system subcontracts to be awarded this quarter would also be increased to insure that the total program effort can build up effectively and help attain the schedule NASA has already had to slip nine months because of severe funding restrictions in Fiscal Year 1973 and 1974.

In summary, the net effect of this addition of \$25,000,000 to the Shuttle Program should add confidence to meeting schedules and to holding total program costs at or below the current projection. Therefore, your Committee recommends \$500,000,000 for the Shuttle Program for Fiscal Year 1974.

PHYSICS AND ASTRONOMY

NASA requested \$33,100,000 for orbiting explorers. The Committee reduced this amount by \$3 million in order to make available additional funds for the Earth Resources Technology Satellite project. This \$3 million transfer will provide a portion of the amount (\$7 million) needed to permit NASA to reinstate work on the ERTS-B satellite immediately. The Committee appreciates the importance of the Explorer Program, and recognizes that this small reduction will require the delay of one or more Explorer missions. The Committee, however, places the highest priority on the ERTS project. A four-to-six-month slip in the launch schedule of the Atmosphere Explorer project, for example, is considered much preferable to the two-and-one-half-year delay in the launch of ERTS-B which NASA has proposed. The Committee does not specifically recommend a delay in the Atmosphere Explorer project. This is simply one of several alternatives that exist, according to NASA, for the accommodation of a \$3 million reduction in the Explorer Program, and the Committee defers to NASA in selecting from among them. The fact that such alternatives exist confirms the Committee's assumption that there is substantial flexibility in this part of the Physics and Astronomy Program.

The Committee also reduced by \$2 million NASA's request of \$13,300,000 for Supporting Research and Technology in the Physics and Astronomy Program. The amount of this reduction is also to be applied to the ERTS project, as a further expression of the Committee's determination that the launch of ERTS-B should be rescheduled to the earliest practicable date. The Committee accepts the fact that important SR&T work will have to be delayed because of this reduction.

LUNAR AND PLANETARY EXPLORATION

The Committee reduced by \$3 million NASA's request for Supporting Research and Technology in the Lunar and Planetary Exploration Program. The Committee directs that \$2 million be transferred to the ERTS project, explained above, and \$1 million to the Launch Vehicle Procurement Program for Delta launch services to support the ERTS-B launch next year.

SPACE APPLICATIONS

NASA requested authorization for \$147 million to support the Space Applications Program during fiscal year 1974. The Committee has increased NASA's request by \$12 million, \$7 million of which is required to reinstate the second Earth Resources Technology Satellite (ERTS-B) on an orderly developing schedule, and the remainder (\$5 million) is earmarked for replacement of the recently destroyed Convair 990 research aircraft, a flying laboratory engaged in studies of meteorology, oceanography and other basic sciences.

ERTS-B was originally scheduled for launch in November 1973. Therefore, construction of the hardware is almost completed. Nevertheless, due to budget constraints and the fact that ERTS-1 was performing well in orbit at the time the fiscal year 1974 NASA budget was being prepared, a decision was made to delay the launch of the second spacecraft (ERTS-B) until early 1976. During that proposed delay, the four-channel multispectral scanner, one of two major instruments in the spacecraft, was to have been returned to the contractor for modification to incorporate an additional channel. This fifth channel was to be designed to make measurements in the infrared portion of the electromagnetic spectrum.

Recently, however, the second of two tape recorders in ERTS-1 failed (the first failed shortly after launch). The return beam vidicon, the other major experiment aboard the spacecraft has been switched off due to anomaly in the power supply. Thus, ERTS-1 has lost much of its effectiveness already and there is little reason for believing that the spacecraft will continue to operate in this crippled mode very much longer. Accordingly, in order to avoid a long hiatus in the acquisition of ERTS data, the Committee believes that ERTS-B should be prepared for launch as soon as practicable. The Committee recognizes that the original launch scheduled for November 1973 cannot be met: testimony indicates that the launch of ERTS-B could be made within about one year. The five-channel multispectral scanner should be incorporated in a subsequent spacecraft.

AERONAUTICAL RESEARCH AND TECHNOLOGY

NASA's budget request for Aeronautical Research and Technology was \$146,000,000.

To the amount requested, the Committee recommends an increase of \$34,000,000 for a total authorization of \$180,000,000.

In both Subcommittee and full Committee hearings, members registered strong dissatisfaction with the continuing relatively low level of funding for aeronautics. Strong objections were expressed about the termination of programs considered vital to solving the severe problems of aircraft noise, safety and congestion. The following actions of the Committee are based on the conviction that problems in aviation can and must be attacked more vigorously than is proposed in the NASA Budget.

Aircraft Noise Abatement

An increase of \$14,000,000 from \$18,000,000 to \$32,000,000 is recommended to investigate and demonstrate noise reduction modifications to current narrow-body jet aircraft.

In NASA's fiscal 1973 program the Congress voted to expedite the modification of the narrow-body jet aircraft fleet to achieve substan-

tial noise reductions as soon as possible. In January of this year the program for the JT-3D engine (DC-8 and 707 aircraft) was terminated as part of an overall NASA budget cutback. The Office of Management and Budget set a ceiling of \$40 million for the refan retrofit. This forced NASA to choose between the JT-3D and JT-8D engine (the latter engine is used for the 727, DC-9 and 737 aircraft).

Based on testimony taken during the hearings and extensive discussion, the Committee determined that the JT-3D modification is technically feasible and a substantial number of 4-engine jet aircraft would be flying well into the 1980's. Therefore, it was concluded that to achieve substantial aircraft noise reductions, reinstatement of the JT-3D part of the program was warranted both from technological and fleet-life points of view.

In the initial submission of the FY 1974 Budget Request, the JT-8D program allowed only for ground testing of the 3 aircraft involved. Questioning of a DOT witness led the Committee to the conclusion that the FAA would not undertake a rule making process unless flight testing was conducted. NASA has also recognized this major defect in their program and began working with Boeing and Douglas in an effort to devise a program which incorporates flight testing but stays within the \$40 million program ceiling. The Committee urges the adoption of a program which would acquire the data necessary for the FAA to take rule making action. Such a program necessarily involves flight testing at the earliest possible date and prompt action thereafter by the FAA.

The Committee voted to reserve the \$14,000,000 increase for the JT-3D Engine Refan Program; additionally, the Committee voted to reserve \$18,000,000 currently in the NASA Budget Request for the JT-8D Engine Refan Program for use only on that program.

Quiet Experimental STOL Aircraft (QUESTOL)

An increase of \$20,000,000 from zero to \$20,000,000 is recommended.

The QUESTOL program was approved by the Congress in the FY 1972 Budget. It was initiated to develop two experimental flight vehicles to be used to produce flight validated quiet-propulsive-lift technology. (Subsequently it was cut to one vehicle to lower program costs.) The data resulting from the program was to be used as a foundation for design and certification criteria, noise regulation, lift-concept selection, and terminal area operation.

The FY 1973 program amount approved by the Congress was \$27,500,000; however, except for \$500,000, the funds were impounded by the OMB. In November 1973, NASA was permitted to select a contractor, Lockheed-Georgia. Preliminary design work was accomplished with the \$500,000. In January 1973, the program was terminated and NASA was given instructions to work out a cooperative arrangement with the Air Force on the Advanced Medium STOL Transport (AMST). The essential difference between the two programs is that QUESTOL was specifically planned with a great deal of inherent research flexibility directed toward the commercial market, whereas the AMST prototypes to be produced by Boeing and Douglas are specific point designs providing for a relatively narrow range of research and development directly related to a military requirement.

The important role that QUESTOL was to play in laying the groundwork for a quiet short haul air transportation system is the

basic reason for the Committee's decision to reinstate the program. It was concluded that relying on the military prototypes would substantially limit the usefulness of research data and drastically delay availability of information necessary to permit the U.S. to achieve a competitive position in the quiet short haul field of aviation.

Aside from the foreign competitive aspects of this field which are severe, there are urgent domestic reasons to proceed with this technology. Reducing aircraft noise and congestion are important objectives in aviation. Closely related to the problem of congestion around air terminals is the subject of safety and mid-air collisions; a transportation system based on QUESTOL and other related work should reduce congestion and provide for safer operations.

SPACE AND NUCLEAR RESEARCH AND TECHNOLOGY

An increase of \$10,000,000 from \$1,000,000 to \$11,000,000 is recommended for advanced nuclear power and propulsion research.

The FY 1974 NASA Budget marked the end of one phase of the nuclear era. NASA and the AEC are in the process of abandoning the entire field of nuclear propulsion in space. Nuclear power hangs on as a minor residual of \$1 million. The implication is that space missions in the distant future—1980's and 1990's—which would depend on nuclear power and propulsion will be delayed while the nation rebuilds an entire area of research and technology. The increase voted by the Committee is designed to permit the retention of a relatively small nucleus of work with emphasis on various areas of advanced technology. Another objective inherent in the Committee's action would be to emphasize the transfer of appropriate results acquired from the nearly \$1,500,000,000 spent on nuclear power and propulsion during the past decade or so.

What is the main purpose of the \$10 million increase?

The \$10 million increase is designed essentially to maintain a viable long-range capability in advanced nuclear power and propulsion research.

Are there any additional benefits?

There are important benefits of broad concern to the nation. Work has been accomplished in the past which potentially can be related to solutions for our serious energy problems. Among potential applications are these:

- (1) Central power station topping cycle power units.
- (2) Oceanographic nuclear power supplies.
- (3) Compact mobile power generators for electric trains, buses, trucks, autos.
- (4) Utility peak load power generators (stand-by power systems).
- (5) Apartment building total energy power plants.

Would the work be useful for space applications later on?

In later years the work would definitely be applied to uses in space and would greatly reduce the prospect of "lost R&D" which will result from the currently planned termination.

How would the increase be used?

The \$10 million would be generally allocated to four research areas in the following priority:

- (1) Thermionics: numerous terrestrial payoffs, space power, and electric propulsion.
- (2) Gas core reactors: new sources of extremely high energy for the future.
- (3) High temperature gas cooled reactors: evaluate for process heat (coal gasification, hydrogen generation, iron ore reduction, etc.).
- (4) Medium power nuclear electric: maintain technology base for potential applications: NASA, commercial, DOD (electric power sources in the 2-20 kilowatt range).

Summary

There is no other place in the federal government or industry where much of this research is being done. Complete abandonment of the work, which is a relatively small increase, is very difficult to understand—even in the present budget climate. For example, it is nearly certain that any sensible energy research program undertaken by this nation would involve a significant part of this continued program.

TRACKING AND DATA ACQUISITION

A decrease of \$10,000,000 from \$250,000,000 to \$240,000,000 is recommended.

The reduction in Tracking and Data Acquisition is primarily a reaction by the Committee to offset partially, some of the high priority increases discussed above. The decrease is not related to any specific component of the Tracking and Data Acquisition program; however, a preliminary review suggests that decreasing utilization of the manned Space Flight vehicles coming years calls for very close scrutiny of the expenditure in this area. Of particular concern is the level of contractor staffing and number of stations.

Because of the drastically changed nature of the workload planned for the Tracking and Data Acquisition networks during the next 5 or 6 years, a thorough and detailed review of the Tracking and Data Acquisition program is necessary beyond that which has been carried during the Authorization hearings this year.

TECHNOLOGY UTILIZATION

An increase of \$500,000 from \$4,000,000 to \$4,500,000 is recommended.

For many years the Committee has strongly supported this program. This position has been taken because of a firm belief in the basic principle behind the Technology Utilization program: scientific, technological and management knowledge acquired with public funds should be made available to the public sector for its benefit as quickly and efficiently as possible.

The \$500,000 increase would be used for the following purposes:

- \$225,000 for new technology dissemination to industry and state and local governments through Regional Dissemination Centers.
- \$275,000 for technology applications in supporting public sector requirements in health care, environmental control, transportation and public safety.

\$30,000 for space benefit documentation—particularly in public sector areas.

AMENDMENTS TO THE NATIONAL AERONAUTICS AND SPACE ACT OF 1958

VISITORS INFORMATION CENTERS

The Committee has been concerned for some time about the inadequacy of visitors' information facilities at the various NASA field installations to accommodate the growing numbers of people visiting space centers. The volume of visitors at all NASA installations has increased from 1.8 million in calendar year 1968 to over 2.8 million in 1972. Existing facilities at some of the field centers are already overtaxed by the increased visitor load and projections indicate that the volume will continue to increase.

As an example, the existing Visitors Information Center at the John F. Kennedy Space Center can reasonably accommodate 3000-4000 visitors per day. The average daily visitor load now exceeds 6000 and on peak days ranges as high as 14,000 to 17,000 people.

Recognizing the growing need for increased visitor capacity at the Kennedy facility, the Committee, in early 1971, added \$2,330,000 to the FY 1972 NASA authorization bill then under consideration for a major expansion to the Information Center. The authorized amount eventually enacted into law (PL 92-68) was \$2.1 million. Unfortunately, due to expenditure limitations, NASA has elected not to fund the existing authorization from appropriated funds. In the meantime the urgent need for expanded facilities at this particular center continues to exist. The same conditions either prevail, or will become more acute at other field centers in the near future.

For many years the Committee has urged NASA to place more emphasis on its public affairs activities to assure that the general public is fully informed of the nation's space endeavors and the benefits accruing therefrom. This is in keeping with that provision of the National Aeronautics and Space Act of 1958 which requires NASA to "provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof." One means of accomplishing this objective is to provide adequate information centers to accommodate the visiting public at the NASA field installations.

Current budgetary limitations apparently will not permit such accommodations to be financed from appropriated funds. The Committee has reviewed this matter in detail with NASA officials to explore ways in which present visitor information centers can be expanded or improved without the expenditure of appropriated funds. Revenues generated by sales of service and goods at the information centers appear to be an excellent source of funds to defray the costs of improving and maintaining existing facilities.

Accordingly, the Committee has amended the FY 1974 NASA Authorization Bill by adding a new Section 7 which would further amend the National Aeronautics and Space Act of 1958 to permit the Administrator to use revenues generated by sales of services and goods to visitors for the improvement of existing visitor information activities. This legislation follows similar statutory authority granted to the U.S. National Park Service, and thus the approach is not unique.

The Committee desires to be kept informed as to the extent to which this authority is exercised. The Committee also considers that effective management and audit procedures should be established at an early date and requests that the Administrator inform the Committee as to his plans for implementation.

DISPOSAL OF EXCESS LAND

Last year the Subcommittee on NASA Oversight conducted a hearing concerning the policies and procedures in effect governing the disposal of real property under the control of the Administrator, National Aeronautics and Space Administration.

These hearings were scheduled because in the course of routine surveillance over NASA's field installations, it came to the attention of the Committee that certain lands at Wallops Station and the Langley and Lewis Research Centers were in the process of being declared excess to the needs of NASA. The Congress had not previously been apprised of these pending actions.

Further inquiry revealed that these proposed real estate disposal actions came about as a result of continuing surveys conducted by the General Services Administration of real property held by the Federal government to insure that excess properties are promptly released. The General Services Administration is charged with this responsibility under the provisions of an Executive Order issue by the President in February, 1970.

As a result of these hearings, a bill was introduced (HR 16412) which would require reporting of such excess real estate determinations thirty days prior disposal action. Unfortunately, due to the press of other legislative business, the measure was not taken up during the 92d Congress. An identical measure (HR 4119) was introduced early in the 93d Congress and referred to the Committee.

There is presently no statutory provision which requires such disposal actions involving NASA lands to be reported to the Congress as is the case for departments and agencies falling under the jurisdiction of other legislative committees of the House.

Due to the sensitive nature of actions involving the disposal of Federal lands, it appears that the Congress, and more particularly this Committee, should be kept fully and currently informed on matters involving the disposal of lands under the control of NASA. The basic consideration involved here is that since the Congress must authorize the acquisition of lands, then certainly the Congress should at least be notified of the disposal of lands.

Accordingly the Committee has amended the FY 1974 NASA Authorization Bill by adding a new Section 8, which would further amend the National Aeronautics and Space Act of 1958 to require the Administrator, National Aeronautics and Space Administration to report to the Speaker and the Committee on Science and Astronautics of the House of Representatives and the President and the Committee on Aeronautical and Space Sciences of the Senate all proposed real estate disposal actions involving land whose value exceeds \$50,000, thirty days prior to initiating actual disposal procedures. Notifications submitted pursuant to this provision would be accompanied by a full and complete statement of the action proposed to be taken and the facts and circumstances relied upon in support of such action.

COMMITTEE VIEWS

ORBITING SOLAR OBSERVATORY PROJECT

Two of three authorized Orbiting Solar Observatories (OSO) have been suspended indefinitely. The first of this series, OSO-I, will be launched in 1974. OSOs J&K were designed to monitor the Sun's activity during the approach to solar maximum of the eleven-year solar cycle, a period beginning about the mid-70s through the early 1980s. With the suspension of OSOs J&K, this important part of the solar cycle will be missed.

Solar research is of great significance to mankind for several reasons: among other things, because of the direct impact which the Sun has upon the Earth's meteorology. Solar energy impinging upon the Earth's atmosphere and surface causes the wind pressure circulation patterns which move weather systems around the globe. Therefore, a greater knowledge of the Sun's activity should lead to a better understanding of the dynamics of the Earth's weather and climate.

Even more important for the future, since the Sun is the ultimate source of all energy on Earth, knowledge gained from studying the Sun should help our scientists in their search for an unlimited and pollution-free power source on Earth. The Sun is a controlled nuclear fusion energy generator, and it is believed that understanding how the Sun works may help scientists to produce and control nuclear fusion here on Earth, and this will hopefully lead to a virtually pollution-free energy source for mankind.

Understanding the dynamics of the Sun's activity may also help in the development of an effective process for harnessing solar energy and converting it to electrical energy, as an alternative to conventional power plants which use fossil fuels and nuclear reactors. For all these reasons, the Committee expresses the hope that NASA will reestablish a vigorous Solar Physics Program at the earliest practicable opportunity.

EARTH RESOURCES SURVEY PROGRAM

The Committee notes the fact that the Office of Management and Budget disapproved a proposal by the Department of the Interior to include funds in the fiscal year 1974 budget for development of the third Earth Resources Technology Satellite (ERTS-C). The Committee believes that an operational Earth Resources Survey system will make great contributions to the work of the Interior Department in fields such as geology, land use, and cartography. Accordingly, the Committee strongly urges that funds for development of ERTS-C be included in the fiscal year 1975 Interior budget.

SPACE APPLICATIONS PROGRAM

The Committee desires again to go on record in support of a more vigorous Space Applications Program.

Last year, the Administrator of NASA announced the establishment of a separate Office of Applications, and explained that the Space

Applications Program would be given greater emphasis in the future. The Space Applications budget, however, has been reduced for the forthcoming fiscal year by approximately twenty percent, the largest single reduction in any program within the Agency.

It is the belief of the Committee that the Space Applications Program has enormous potential economic impact, as well as the most widespread public understanding and support. Those satellite systems which provide practical benefits to mankind such as communications services, meteorological observations and remote sensing of Earth resources are considered to be an excellent investment of public resources.

Accordingly, the Committee takes this opportunity to urge NASA in the strongest possible terms to change direction and increase funding of Space Applications in the future.

SPACE COMMUNICATIONS

NASA has announced its virtual withdrawal from further research and development in support of space communications. According to NASA, this decision was made in the belief that private enterprise can and will undertake the necessary research and development to advance this vital and growing industry. Certainly, private enterprise should be encouraged to do as much research as possible. Nevertheless, the Committee is convinced that the role of the government should not be ended.

The United States leads the world in this new technology by virtue of a vigorous and successful research and development program in space communications during the past decade. The Committee believes it is vital that the United States remain in the forefront.

The Committee has received information that casts grave doubt on the NASA premise that the private sector will take up the slack. While the private sector can be expected to continue its research and development activities at a certain level, it is understood that this work will be directed primarily toward refinement and upgrading of existing technology. There will remain plenty of important research which looks farther into the future and which, in the judgment of the Committee, will require government support if it is to be accomplished. Accordingly, the Committee strongly recommends that NASA reconsider its decision to withdraw from communications research and development.

NAVIGATION SATELLITES

The Committee takes note of NASA's plans, announced last year, to recondition an existing ATS prototype spacecraft, to incorporate an L-band transponder, and to launch the first experimental commercial navigation and ship traffic control satellite. This proposed experiment received the enthusiastic support of the Maritime Administration. For a modest sum of less than \$10 million, the so-called ATS-C-2 project could have provided the Maritime Administration and the U.S. maritime industry with an initial experiment, a first step toward an operational satellite system which reportedly will ultimately save the U.S. maritime industry hundreds of millions of dollars per year.

The Committee wishes to express its regret that sufficient funds could not be found in the NASA budget to support this minimum-cost project. The Committee believes that the Applications Program should include a commercial navigation satellite experiment in the near future.

TWO-SEGMENT APPROACH

During the past several years, NASA has accelerated a research program called the two-segment approach for aircraft. The purpose of this program is to show that it is technically possible and operationally safe for commercial aircraft to approach an airport at an angle of 6 degrees instead of the current 3 degrees. The reason is to keep the airplane higher, longer and thereby reduce the noise levels at the ground. NASA's research program is well advanced and route testing in actual service by United Airlines should be completed within the next 15 months. The Department of Transportation and NASA should be urged to keep the Congress advised on progress in devising plans to use the results of the two-segment approach research program at the earliest possible time.

AVIATION SAFETY

While safety considerations are related to the QUESTOL program, the Committee believes that aviation safety must be singled out for continuing attention by the Congress and all parties concerned—public and private. While noting that the major part of the Federal Government's responsibilities in aviation safety rest with the FAA, the Subcommittee urges NASA to seek out every possible way to insure its capabilities are used in solving aviation safety problems. In dealing with collision avoidance, wake turbulence, clear air turbulence and crash survival, NASA should aggressively seek opportunities and not wait passively to be asked for assistance.

RECRUITMENT AND RETENTION OF YOUNG ENGINEERS AND SCIENTISTS

During the Committee hearings a young representative of each of the Office of Aeronautics and Space Technology's Centers appeared to report on his individual research. Their appearance and presentations reemphasized a longstanding concern of the Committee; decreasing NASA personnel ceilings in conjunction with Civil Service rules have led to a virtual halt of new hires and a mere trickle of new, younger engineers and scientists into NASA. The average age of the professional work force continues to increase at the rate of .8 of a year per year and is now in the mid '40's. The Committee is persuaded that the continuation of this trend will be detrimental in the long run.

In the past the Committee has added funds to encourage the flow of younger people to NASA via summer work for students and faculty, fellowships, school-work plans, and undergraduate scholarships to enhance the vitality and excellence of NASA programs. However, these steps are not sufficient to solve the problem. Attempts to earmark funds for these purposes did not survive conference with the Senate—although NASA has carried on a limited number of these activities within available funds.

For example, at the current time NASA has several existing programs which encourage recruitment of young men and women at the college level. The summer employment program will allow about 723 college students and faculty members to work within NASA during the summer months. A College Cooperative Training Program will provide for approximately 476 trainees alternating work and study periods during Fiscal Year 1974. For students who have completed their college program, NASA also conducts a college recruiting effort which, under present circumstances has only yielded about 100 graduates per year.

NASA should give top management attention to this problem and report to the Congress at an early date all steps being taken to alleviate this problem. Additionally, NASA should be encouraged to explore legislative changes which could, in limited ways, modify Civil Service regulations to permit orderly renewal by organizations facing situations similar to that of NASA. The possibility of new legislation permitting the establishment of a two-year Professional Engineer Program wherein the trainees would be guaranteed employment for that period and protected from reductions in force should be considered. It is the view of the Committee that such an interim program status for young engineer graduates would allow NASA to maintain a more consistent and effective professional recruitment and retention program for its personnel.

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 \$3,072,500,000, as follows: (a) for "Research and development," a total of 11 program line items aggregating the sum of \$2,254,500,000; (b) for "Construction of facilities," a total of fifteen line items aggregating the sum of \$112,000,000, and, (c) for "Research and program management," \$701,000,000. Subsection (c) would also authorize to be appropriated such additional or supplemental amounts as may be necessary for increases in salary, pay, retirement, or other employee benefits authorized by law.

Subsection 1(d) would authorize the use of appropriations for "Research and development" without regard to the provisions of subsection 1(g) for: (1) items of a capital nature (other than the acquisition of land) required at locations other than NASA installations 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 or organization. Moreover, each such grant shall be made under such conditions as the Administrator shall find necessary to insure that the United States will receive benefit therefrom adequate to justify the making of that grant.

In either case no funds may be used for the construction of a facility in accordance with the subsection 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 \$25,000 of the "Research and program management" appropriation 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 of the funds appropriated for "Research and development" and "Research and program management," not in excess of \$10,000 per project (including collateral equipment) may be used for construction of new, or additions to existing, facilities, and not in excess of \$25,000 per project (including collateral equipment) may be used for rehabilitation or modification of existing facilities; however, of the funds appropriated for "Research and development," not in excess of \$250,000 per project (including collateral equipment) may be used for construction of new facilities or additions to, or rehabilitation or modification of, existing facilities required for unforeseen programmatic needs.

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 (14).

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 of such institution after the date of enactment of the Act, and 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 revenues generated from the sales of goods and services to visitors at NASA Visitors Information Centers at field installations may be used for the expansion and improvements to existing facilities to better serve the general public. The provision requires that the Congress be kept fully and currently informed as to the extent to which this authority is exercised.

Section 8

Section 8 would provide that the Administrator, National Aeronautics and Space Administration notify the House of Representatives and the Senate of the planned disposal of any real estate, the value of which exceeds \$50,000, thirty days prior to the initiation of disposal action.

Section 9

Section 9 would provide that the Act may be cited as the "National Aeronautics and Space Administration Authorization Act, 1974."

COST AND BUDGET DATA

The bill will authorize appropriations for Fiscal Year 1974 in the amount of \$3,073,500,000.

In accordance with the requirements of Section 252(b) of the Legis-

lative Reorganization Act of 1970, the Committee's estimate for the next five years of the NASA budget request is as follows:

Fiscal year:	In billions
1974 -----	\$3,074
1975 -----	3,167
1976 -----	3,139
1977 -----	3,072
1978 -----	2,852

These estimates do not include provisions for any new program or program augmentations that may be recommended, nor do they include any provisions for administrative adjustments that may be required.

COMMITTEE RECOMMENDATIONS

A quorum being present, the committee unanimously approved the bill by a record vote of 24 members voting "Aye" and none voting "No."

NASA RECOMMENDATIONS

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

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION,
Washington, D.C. 20546.

Hon. CARL ALBERT,
Speaker of the House of Representatives,
Washington, D.C.

DEAR MR. SPEAKER: Submitted herewith 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 the 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, 1974. The bill would authorize appropriations totaling \$3,016,000,000 to be made to the National Aeronautics and Space Administration as follows:

- (1) for "Research and development" amounts totaling \$2,197,000,000;
- (2) for "Construction of facilities" amounts totaling \$112,000,000, and
- (3) for "Research and program management," \$707,000,000.

In addition to the funds that would be authorized under the draft bill, the President recommends that \$91,000,000, which has been made available from the fiscal year 1973 appropriation, be applied to the fiscal year 1974 budget. Thus, the President recommends for NASA a total program amount of \$3,107,000,000 for the fiscal year 1974.

The \$91,000,000 has been applied to the following program line items: (1) Space flight operations, \$25,000,000; (4) Physics and astronomy, \$30,400,000; (6) Launch vehicle procurement, \$600,000; (7) Space applications, \$6,000,000; (8) Aeronautical research and tech-

nology, \$25,000,000; and \$4,000,000 for the Nuclear power and propulsion program, for which no new authorization is required in 1974.

The enclosed draft bill is substantially the same as the National Aeronautics and Space Administration Authorization Act, 1973 (Public Law 92-304), except for the necessary changes in the dollar amounts involved, and other editorial changes hereinafter discussed.

The following changes have been made to the "Research and development" program line items: the "Apollo" and "Nuclear power and propulsion" items have been deleted since no funds are being requested for these programs; the "Space Shuttle," formerly included within "Space flight operations" has been added as a separate line item.

The locational line items under "Construction of facilities" have been revised to the extent necessary to reflect the projects for which authorization to appropriate is requested.

The language of section 1(c) of the current authorization act, which limits the amount available for personnel and related costs, and section 4(b) of that same act, which sets forth related similar language, have been omitted from the draft bill. Such limitation is deemed unnecessary for the fiscal year beginning July 1, 1973. However, added to section 1(c) of the draft bill is language which would authorize to be appropriated such additional or supplemental amounts as may be necessary for increases in salary, pay, retirement, or other employee benefits authorized by law.

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, 1974," rather than "1973."

Where required by section 102(2)(C) of the National Environmental Policy Act of 1969 (42 U.S.C. 4332(2)(C)), environmental impact statements covering NASA installations and the programs to be funded in fiscal year 1974 have been furnished to the Committee on Science and Astronautics.

The National Aeronautics and Space Administration recommends that the enclosed draft bill be enacted. The Office of Management and Budget has advised that such enactment would be in accord with the program of the President.

Sincerely,

JAMES C. FLETCHER,
Administrator.

NASA AUTHORIZATION FOR
FISCAL YEAR 1974

REPORT
OF THE
COMMITTEE ON
AERONAUTICAL AND SPACE SCIENCES
UNITED STATES SENATE

ON

H.R. 7528

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 30, 1973.—Ordered to be printed

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON : 1973

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(ii)

Calendar No. 169

93D CONGRESS }
1st Session }

SENATE

REPORT
No. 93-179

AUTHORIZING APPROPRIATIONS TO THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MAY 30, 1973.—Ordered to be printed

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

REPORT

[To accompany H.R. 7528]

The Committee on Aeronautical and Space Sciences, to which was referred the bill (H.R. 7528) 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.

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CONGRESSIONAL ADJUSTMENTS TO NASA FISCAL YEAR 1974 REQUEST—Summary

	Budget request	House action	Senate committee action
Research and development:			
Space flight operations.....	\$555,500,000	\$548,500,000	\$555,500,000
Space shuttle.....	475,000,000	500,000,000	475,000,000
Advanced missions.....	1,500,000	1,500,000	1,500,000
Physics and astronomy.....	64,600,000	59,600,000	64,600,000
Lunar and planetary exploration.....	312,000,000	309,000,000	312,000,000
Launch vehicle procurement.....	176,400,000	177,400,000	177,400,000
Space applications.....	147,000,000	159,000,000	161,000,000
Aeronautical research and technology.....	146,000,000	180,000,000	160,000,000
Space and nuclear research and technology.....	65,000,000	75,000,000	72,000,000
Tracking and data acquisition.....	250,000,000	240,000,000	248,000,000
Technology utilization.....	4,000,000	4,500,000	4,000,000
Total.....	2,197,000,000	2,254,500,000	2,231,000,000
Construction of facilities.....	112,000,000	112,000,000	110,000,000
Research and program management.....	707,000,000	707,000,000	705,000,000
Grand total.....	3,016,000,000	3,073,500,000	3,046,000,000

PURPOSE OF THE BILL

The purpose of this bill is to authorize appropriations totaling \$3,046,000,000 to the National Aeronautics and Space Administration for fiscal year 1974, as follows:

	Budget request	House action	Senate committee action
Research and development.....	\$2,197,000,000	\$2,254,500,000	\$2,231,000,000
Construction of facilities.....	112,000,000	112,000,000	110,000,000
Research and program management.....	707,000,000	707,000,000	705,000,000

LEGISLATIVE HISTORY

The fiscal year 1974 budget request for the National Aeronautics and Space Administration was introduced in the House under H.R. 4567, and in the Senate as S. 880. After holding hearings, the House Committee on Science and Astronautics reported out a clean bill, H.R. 7528, which was passed by the House without amendment and subsequently referred to this Committee.

Your Committee held hearings on S. 880 during February, March and April, 1973. During its consideration of the bill the Committee determined amendments were required.

The Committee has reported out H.R. 7528 with an amendment striking out all after the enacting clause and inserting the Committee amendment.

SUMMARY

This section of the report summarizes your Committee's actions with respect to the request for authorization for fiscal year 1974 NASA appropriations, and the basic considerations underlying those actions. Having reviewed the NASA budget plans for fiscal years 1973 and 1974 through 12 days of hearings and on the basis of extensive written justifications, your Committee recommends the House-passed bill, H.R. 7528, with a comprehensive amendment, be passed.

The fiscal year 1974 appropriations which H.R. 7528 as amended would authorize total \$3.046 billion, the lowest annual appropriation for NASA since fiscal year 1962, a dozen years ago, and the lowest percentage of the federal budget—less than 1.2%—in as many years. Yet support of the bill is justified not only by its severely austere nature, but also, and more importantly, by the necessity to national and worldwide well being of the programs it supports, and by the importance of continuing a viable national aeronautics and space sciences effort.

Last year the Administration proposed, and Congress fully endorsed, a balanced program which could be supported by an essentially level NASA budget over the next few years. This program included continuation of active, though restricted, work in both space sciences and the direct application of space science and technology to solution of present-day problems here on earth. At the same time, it included development and putting in place by the end of this decade of the basic elements of a new space transportation system including the space shuttle. Consciously deferred were bolder options such as the larger, expensive, automated interplanetary expeditions, and manned earth orbital space stations.

After acceptance, and fiscal year 1973 funding by Congress of the first increment of this new, more stable program, the Administration chose to draw back. As part of reductions in numerous federal programs, the aeronautics and space budget plan for fiscal year 1973 was cut sharply, and a 1974 budget far short of the "constant level" just approved was put forward.

Thus your Committee considered the fiscal year 1974 authorization request for NASA in light of the following key considerations:

1. Numerous programs, ranging from the shuttle through major science and applications projects to relatively minor technology efforts, have been deferred, reduced or cancelled;
2. Although the overall fiscal situation does not permit restoration of all the worthwhile programs, the most shortsighted Administration decisions could be remedied by *additions of less than one percent* to the total funding request;
3. Unanticipated pressures have been placed on the budget plan since its formulation, including the degradation of the first Earth Resources Technology Satellite (ERTS), the tragic loss of the unique research aircraft "Gallileo", and the current serious problems with the Skylab workshop;

4. Continuation of a balanced national program of research and development in aeronautics and space will require larger budgets in the years ahead.

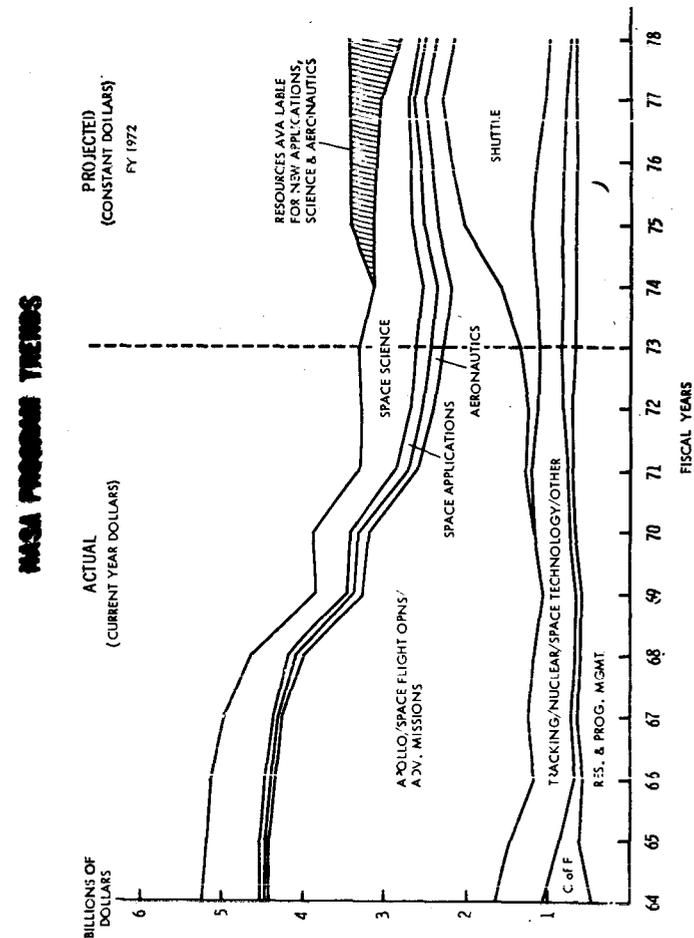


FIGURE 1

Figure 1 graphically depicts the NASA budget trend over the past 10 years and through fiscal year 1978. Runout projections are below the shaded area. Funds available for new science and applications starts

to support a balanced program at the \$3.4 billion level proposed and approved last year are in the shaded area.

The budget request for NASA for fiscal year 1974 contains funds for 11 program items under Research and Development with a cumulative total of \$2,197,000,000; funds for Construction of Facilities with a cumulative total of \$112,000,000; and funds for the Research and Program Management program which total \$707,000,000. The total request, therefore, is \$3,016,000,000; NASA's budget plan for fiscal year 1974 totals \$3,107,000,000, the additional \$91,000,000 being funded with fiscal year 1973 carry over funds. The latter amount is allocated to several research and development programs as indicated in this report.

On January 5, 1973, NASA announced that as a part of the program to reduce fiscal year 1973 federal expenditures, the President ordered NASA expenditures cut by \$179 million. This required an adjustment in the fiscal year 1973 operating budget of \$105.4 million; \$91 million in the Research and Development appropriations category and \$14.4 million in the Research and Program Management appropriations category. This reduction along with the continued effort to reduce federal spending has resulted in a NASA budget for fiscal year 1974 that is down sharply from previous years, necessitating program cancellation and/or curtailments, large personnel reductions and the closing of facilities.

As a result of action by the House, the authorization for Research and Development items was increased by \$57,500,000. The House approved the amounts requested for the Construction of Facilities and for the Research and Program Management programs without change. The total authorization in the bill passed by the House is \$3,073,500,000.

Your Committee after consideration of the bill recommends an authorization of appropriations totaling \$3,046,000,000, an amount \$30,000,000 above the NASA request. This recommendation is \$27,500,000 below the amount authorized by the House bill. The authorization recommended by your Committee would provide \$2,231,000,000 for Research and Development; \$110,000,000 for Construction of Facilities; and \$705,000,000 for Research and Program Management. The Research and Program Management authorization limits the amount that can be used for personnel to the amount of the Administration's request for such expenses. With respect to personnel and related costs, NASA will require an estimated additional \$26.3 million during fiscal year 1974 to provide for the pay raise effective January 1, 1973. The bill, while not authorizing a specific additional amount, authorizes appropriations to meet such salary increases.

Your Committee also adopted two amendments to the National Aeronautics and Space Act of 1958 as amended, adopted an amendment to Section 5316, Title 5 of the United States Code, deleted Section 6 of the NASA-recommended bill, and adopted a provision relating to impoundment of funds.

The reasoning accompanying the actions of your Committee is contained in the report under the various sections therein.

Your Committee held hearings in connection with the NASA fiscal year 1974 authorization bill February 28, March 6, 7, 9, 12, 14, 15, 21, 22, April 3, 4, and 10. The Committee heard both government witnesses and witnesses from outside the government.

On May 17, 1973, the Committee met in executive session to mark up the bill and prepare its recommendations to the Senate. The bill was unanimously ordered to be reported.

The total of \$3,046,000,000 which your Committee is recommending is \$398,150,000 below the total authorized for fiscal year 1973, and substantially below the estimate of \$3.4 billion for fiscal year 1974 which your Committee made in its report last year (S. Rpt. 92-779, page 90). The runout of the programs recommended in this bill will require, during the next few years, budgets slightly above the amounts recommended for authorization this year.

RESEARCH AND DEVELOPMENT

Summary

	Budget request	House action	Senate committee action
Research and development:			
Space flight operations:			
Space shuttle	\$555,500,000	\$548,500,000	\$555,500,000
Advanced missions	475,000,000	500,000,000	475,000,000
Physics and astronomy	1,500,000	1,500,000	1,500,000
Lunar and planetary exploration	64,600,000	59,600,000	64,600,000
Launch vehicle procurement	312,000,000	309,000,000	312,000,000
Space applications	176,400,000	177,400,000	177,400,000
Aeronautical research and technology	147,000,000	159,000,000	161,000,000
Space and nuclear research and technology	146,000,000	180,000,000	160,000,000
Tracking and data acquisition	65,000,000	75,000,000	72,000,000
Technology utilization	250,000,000	240,000,000	248,000,000
	4,000,000	4,500,000	4,000,000
Total	2,197,000,000	2,254,500,000	2,231,000,000

SPACE FLIGHT OPERATIONS PROGRAM, \$555,500,000

COMMITTEE COMMENT

Skylab

The Skylab flights were scheduled to be completed by the end of January 1974. The \$233 million request was, of course, predicated on a successful program (with, however, some funding for contingencies).

On this basis, the House reduced the request for Skylab by \$10 million, assuming that all of the contingency funds would not be needed. The current problems with the Skylab workshop, however, have made uncertain the successful completion of the program within the budgeted amounts. NASA is studying this matter intensively and will report to the Committee when the budgetary impact of the workshop problem is known. An initial oversight hearing was held on May 23, and the Committee will review the Skylab 1 mishap in detail when more is known.

The possibilities range from a sharply curtailed Skylab program, which might result in lower budget requirements, to flying the backup workshop which would require a large addition in budget authority, as well as many conceivable options in between. Since there are so many uncertainties regarding the Skylab project, it would not be appropriate to adjust the budget request at this time.

Accordingly, your Committee recommends no change in the amount of money requested for Skylab. Request for additional funds, if needed, could come as a supplemental request later in fiscal year 1974 or as a regular order request in the presentation of the fiscal year 1975 budget.

Space Life Sciences

The House also added \$3 million under the category of Space Life Sciences in order to encourage continued space suit development. The Committee believes that any necessary continued space suit development can be accomplished within the total amount recommended for the Space Flight Operations program, and therefore did not concur with this House action.

SPACE SHUTTLE PROGRAM, \$475,000,000

COMMITTEE COMMENT

Last year, the Congress overwhelmingly approved initiation of a program to develop the Space Shuttle. Since that time, budget decisions by the Administration have delayed the Shuttle program by about nine months. However, design refinements have reduced cost estimates by an amount commensurate with the costs of delay, so that the cost estimates up to initial operational capability are unchanged. These same design improvements increase confidence in the estimates of operating costs.

Mission models developed by NASA through consultation with potential users of this transportation system have also undergone continuing refinement. The most recent projections point to the likelihood of greater savings over the use of existing or improved expendable launch vehicles than forecast last year.

The case for the Space Shuttle does not rest solely on the ability to postulate operational cost benefits in the period of 1980 to 1990. It rests as well on other advantages including the introduction of a totally new and vastly improved way of using space, and the importance to the nation of high technology work.

Contention over the Shuttle has focused on the economic questions, and a forthcoming report of the General Accounting Office will again review the economic projections necessary to this or any similar long-range economic forecast. The Space Science Board of the National Academy of Sciences is undertaking a study of the scientific payloads for the Shuttle. Your Committee will review these and other studies as they are completed in the months ahead.

Testimony received by the Committee strongly supports development of the Space Shuttle as an integral part of the space transportation system required to provide economical, easy and flexible access to space in order to exploit and develop this new frontier for the benefit of all mankind. It becomes increasingly clear that both our manned and unmanned space activities are making large contributions to sci-

entific knowledge and to technology advancement. The interpretation and application of that knowledge and technology are providing a better understanding of the space environment and its impact upon the earth and of the environment and resources of earth itself. It is apparent, however, that the exploitation of our new knowledge and new capabilities has barely begun, and that realization of the full potential of space, whether for scientific understanding or for applications purposes, is dependent upon the relatively routine access offered by the space shuttle.

The Committee did not concur with addition by the House of \$25 million to the Space Shuttle program "in order to support an earlier buildup of personnel." The Committee noted testimony by NASA witnesses that the stretchout would not add to the total cost of the program and therefore does not believe there is any advantage to adding funds at this time.

Your Committee continues its strong endorsement of the Space Shuttle.

PHYSICS AND ASTRONOMY PROGRAM, \$64,600,000

COMMITTEE COMMENT

The House reduced the Physics and Astronomy Program by \$5 million, cutting \$3 million from the Orbiting Explorer projects and \$2 million from Supporting Research and Technology activities. Your Committee disagrees with this reduction.

The Orbiting Explorers are relatively small spacecraft each dedicated to a specific scientific objective; they have produced some of the most important results in space science and they are relatively cheap. Moreover, with the exception of OSC-I and the joint U.S.-Germany Helios project, the large scientific observatory-type projects are near completion or have been completed, suspended or indefinitely deferred and there are no new major projects in the space science budget. Therefore, during the coming years, almost all scientific space observations in Physics and Astronomy are planned to be conducted with small Explorer-type spacecraft. The House reduction in the Orbiting Explorer projects would require the termination of an Explorer project with a resulting unrecoverable loss of a \$5-\$13 million prior investment or a slip of a launch date resulting in an increase in cost of over \$4 million. Further, if one of the international cooperative Explorer projects were affected, this could undermine the confidence of our European partners in our cooperative space undertakings.

Supporting Research and Technology (SR&T) funds play a crucial role in defining low cost Physics and Astronomy space science projects and much of this work is conducted by our universities. NASA estimates that a \$2 million cut in Physics and Astronomy SR&T would result in a less efficient return from the Physics and Astronomy space flight missions in the sense that, in the long run, a greater expenditure would be required to obtain the same information.

Your Committee, therefore, recommends that funding for the Physics and Astronomy program be authorized at a level of \$64,600,000.

LUNAR AND PLANETARY EXPLORATION PROGRAM, \$312,000,000

COMMITTEE COMMENT

The House reduced the Lunar and Planetary Exploration program by \$3 million, directing that the cut be made in Supporting Research and Technology. Your Committee does not agree with this cut.

The Supporting Research and Technology request for this program is \$2.4 million below the budget plan for fiscal year 1973. Your Committee believes that a further sharp reduction at this time would create a program imbalance by precluding the conduct of studies and research necessary to support the reduced space science program.

It is the view of your Committee that the Lunar and Planetary Program should be funded at the level of the request. Your Committee, therefore, recommends that this program be authorized \$312 million.

LAUNCH VEHICLE PROCUREMENT PROGRAM, \$177,400,000

COMMITTEE COMMENT

The House added \$1 million to the Launch Vehicle Procurement Program for launch services required to launch the ERTS B spacecraft using a Delta launch vehicle (which has been procured). Your Committee concurs with this addition and recommends that \$177,400,000 be authorized to be appropriated for the Launch Vehicle Procurement Program.

SPACE APPLICATIONS PROGRAM, \$161,000,000

COMMITTEE COMMENT

ERTS

In its action on the fiscal year 1970 NASA authorization request the Congress recognized the need for aggressive action to ascertain the contribution that space operations could make to the broad area now defined as earth resources survey. Accordingly, a two-spacecraft program, ERTS A and B was authorized by the Congress and initiated by NASA with flights scheduled for 1972 and 1973. ERTS B was to serve as a backup spacecraft to ERTS A and as an advanced version, was thereby capable of incorporating improvements which would extend the sensitivity of instruments into the thermal infrared region. After a slight delay to resolve instrument development difficulties, ERTS A was launched in July 1972. The data returned and its appli-

cation and utilization, according to testimony before the Committee, has exceeded greatly the expectations of the many experimenters. In fact, although ERTS A and B were to be experimental satellites certain data users have essentially classed ERTS A as an operational satellite because repetitive and continuous coverage forms a vital part of the data analysis and its subsequent utilization.

Against this background NASA, in January 1973, decided to defer the launch of ERTS B from 1973 until 1976 due in part to fiscal year 1973 and fiscal year 1974 fiscal restraints and in part to permit the development and installation of a fifth channel on the multispectral scanner, thereby providing a desirable thermal measurement capability for the instrument.

During its initial operation the tape recorder supporting the ERTS A return beam vidicon (RBV) system failed, after which NASA turned off the RBV as a precautionary measure. As noted, the multispectral scanner, the other major viewing system, has performed in an outstanding manner, satisfying experimental data requirements. Recently, however, the tape recorder supporting the scanner also failed, thereby limiting data return to direct readout. In the absence of strategically located ground stations this failure effectively limits coverage to the North American continent, depriving foreign experimenters of data previously received.

In view of the failure of the tape recorders, the long delay before ERTS B would now be launched, the possibility of other major system failures on ERTS A in that period, and the undisputed value of the ERTS A data, the Committee concurs with the House in adding \$7 million to the Space Applications Program to proceed immediately to bring ERTS B into a ready status for launch in its present configuration in the event ERTS A encounters major system failure. The Committee also recommends adding \$1 million to the Launch Vehicle Procurement Program to support launch of the ERTS B. The Committee would expect the five-channel scanner to be flown on a later spacecraft.

Testimony before the Committee highlighted the continuing need for the Executive Branch to move aggressively in establishing the institutional roles and program plans for applying earth resources technology. The Committee first addressed this concern in its report on the fiscal year 1971 NASA authorization.

The Committee believes that NASA should be the lead agency in establishing the operational remote sensing capability to support earth resources programs in the various departments and agencies. The Committee requests that the Administrator of NASA provide the Committee not later than January 1, 1974, with a report on the most appropriate ways and means, including institutional arrangements, to maximize the beneficial use of earth resources aircraft and satellite data and capabilities.

Convair 990 replacement

The Convair 990 jet aircraft, based at the Ames Research Center, utilized to support aeronautical, astronomical and earth resources research activities, was destroyed in a landing accident while returning from a scientific instrument checkout flight on April 12, 1973. It was planned that this aircraft would be used extensively for earth resources surveys during fiscal year 1974 with funding to be provided

by the Office of Space Applications. This aircraft had been continually producing beneficial results and had become an integral part of NASA's research activities. Therefore, the Committee has added \$5 million to the Space Applications program to provide for the acquisition of a suitable replacement aircraft and scientific equipment. This action agrees with that taken by the House on this matter. The Committee expects that NASA will make every effort to obtain an existing government-owned aircraft or used aircraft to minimize the cost of this replacement action.

Energy

As the Committee stated in its report on the fiscal year 1973 NASA authorization bill, it is convinced that all potential sources of energy should be fully and expeditiously explored and that NASA has broad capabilities that can and should be studied fully for their potential application to solving the energy shortage facing the Nation. It is a question of utilizing fully all our resources in the face of crisis. NASA has developed a great deal of advanced technology and systems management techniques that should be able to contribute significantly to solving the overall problem.

Therefore, in order to exploit the capabilities developed in NASA and apply them to an urgent national need, the Committee has added \$2 million to the Space Applications program for NASA to formulate a long-term energy program that would create, explore and demonstrate options for energy generation and management from all the many technologies that NASA has developed. While not specifying exactly what projects NASA should undertake in formulating a long-term program, the Committee would expect that studies would be made to identify the research and hardware demonstrations required to determine the economic and technical feasibility of options for solar heating and cooling, renewable clean fuels and electric power generation. With respect to the latter, NASA should specifically investigate the collection and conversion of solar energy in synchronous orbit and the microwave transmission of such energy to earth.

The Committee would expect NASA to continue to cooperate closely with the National Science Foundation on its energy programs.

As a result of its actions on the Space Applications program, the Committee is recommending funding of \$161 million for fiscal year 1974, an increase of \$14 million above the request.

AERONAUTICAL RESEARCH AND TECHNOLOGY PROGRAM, \$160,000,000

COMMITTEE COMMENT

JT3D and JT8D Engine Refan Programs

Due to limitations imposed on fiscal year 1973 expenditures by the OMB earlier in the year, NASA was forced to concentrate its funds for engine refan work on the JT8D engine and terminate its efforts to reduce the noise levels of the JT3D. Both of these programs were fully supported for immediate implementation by the Congress last year. Although the Committee appreciates the severe budget limitations, aircraft noise reduction ranks as one of the highest priority

areas in terms of public concern. Although aircraft powered by the JT8D engines will continue to represent a larger portion of the airline fleet, JT3D aircraft (DC-8 and 707 versions) will persist in large numbers well in the 1980's.

The Committee, therefore, added \$14.0 million, in concurrence with the House action, to restore the JT3D refan program, and, in addition, has specifically reserved this amount for this activity in the bill. The Committee did not believe it was necessary to so reserve funding already in the NASA program plan for the JT8D.

QUESTOL

The Committee noted that the House in its action on this bill added \$20 million to reinstate the quiet short haul experimental aircraft (QUESTOL) program terminated by NASA due to fiscal constraints imposed in January 1973. This Committee has been a leading advocate of added NASA activity in aeronautical research. However, based on the testimony of NASA witnesses, the existence of the NASA/Air Force STOL working agreement and the general budget situation, the Committee did not feel that it should concur with the House action on this item.

SPACE AND NUCLEAR RESEARCH AND TECHNOLOGY PROGRAM, \$72,000,000

COMMITTEE COMMENT

In formulating its fiscal year 1972 budget request NASA reduced the nuclear rocket engine development program (NERVA), initiated in fiscal year 1970, to a technology holding action. In conjunction with the fiscal year 1973 budget presentation, NASA announced the termination of this program to develop an advanced space propulsion capability in the 75,000 pound thrust class and proposed in lieu thereof a study to define a small nuclear rocket system in the 15-20,000-pound thrust range as part of a broader program to define and make trade-off studies of alternative types of advanced space propulsion systems. However, in January 1973, NASA stated it was cancelling all activity in the nuclear propulsion field. Accordingly, of the \$4 million in fiscal year 1973 carryover funding for the Nuclear Power and Propulsion Program, \$1 million is to be used for space power conversion system development and \$3 million for electrophysics research and technology. No effort is planned on space nuclear propulsion systems.

Therefore, the net result of many man-years of effort and a large dollar investment in a highly successful technology program to provide an advanced space propulsion capability for the Nation is a complete abandonment of the program without a reasonable attempt to protect the options for the future by maintaining even a technology program. The Committee has received consistent testimony over the years from the most knowledgeable experts in the space propulsion field that nuclear propulsion offers a unique capability for space propulsion far beyond that offered by chemical systems. Further, the testimony has indicated that this is the only system within reasonable technological attainment which can offer an advanced space propulsion capability in the immediate future. Accordingly, your Committee does not believe that this technology should be neglected and, therefore, it concurs with the House in adding \$10 million for continued work in the Nuclear Power and Propulsion Program area. This funding

TRACKING AND DATA ACQUISITION PROGRAM, \$248,000,000

COMMITTEE COMMENT

The Committee disagrees with the action of the House in reducing the Tracking and Data Acquisition program to \$240,000,000, a reduction of \$10,000,000 below NASA's budget estimate of the funding required for this program for fiscal year 1974.

NASA has notified the Committee that since the budget request was presented to the Congress, several unanticipated and uncontrollable events (U.S. dollar devaluation, new union agreements at several stations, currency re-evaluation in Australia and a national wage increase in Chile) have increased anticipated fiscal year 1974 costs for the Tracking and Data Acquisition program by about \$8,000,000. That coupled with the \$10,000,000 reduction by the House, in effect, would cut the fiscal year 1974 budget for this program \$18,000,000. This would severely limit the support needed for existing and planned flight projects. Taxpayers have invested millions of dollars in each of these projects and it seems only prudent to your Committee to provide adequate tracking and data acquisition support which is essential to obtain the benefits from the flights.

Your Committee therefore recommends that \$3,000,000 of the House cut be restored and that \$248,000,000 be authorized to be appropriated for the Tracking and Data Acquisition program. At this level, along with the unanticipated cost increases, the Agency will have to strive for maximum efficiency in the program; limitations will have to be imposed but the support that tracking and data acquisition will be able to provide should be adequate to meet the objectives of the flight projects.

TECHNOLOGY UTILIZATION PROGRAM, \$4,000,000

COMMITTEE COMMENT

The Technology Utilization program, combined with more direct applications activities carried out at NASA centers, has been a most worthwhile effort, as evidenced by the increasing number of aeronautics and space technology transfer events resulting in applications to and utilization in the public sector of the economy. The Committee particularly notes the increased direct participation of NASA technical personnel at the various centers in problem-solving activity for the non-aerospace sector, and believes this approach is a most effective way of transferring knowledge. Accordingly, the Committee believes the NASA request of \$4,000,000 is adequate for on-going identification and dissemination and related activities carried out in this program and, therefore, the Committee does not concur with the House addition of \$500,000 to this program.

The Committee, however, urges that NASA, as a part of its program evaluation activity, study ways to improve the processes for advising the public of the many benefits to everyday life that are increasingly emanating from the NASA aeronautical research and development activities.

would support new and/or continue research and technology efforts on advanced nuclear propulsion and space power systems. Specifically, this would include investigations of the technology for advanced nuclear propulsion systems such as the gas core reactor in addition to continued work on solid core rockets. In the nuclear power field the increased funding would reinstate work in the thermionic reactor research program, terminated by NASA, in order to provide a base for the eventual development of nuclear-electric space propulsion systems.

Inasmuch as this funding would support advanced work similar to those research tasks in the space research and technology program area, the Committee also concurs with the House action redesignating that program line item in the bill as Space and Nuclear Research and Technology.

In its review of the other space research and technology activities, the Committee noted that as the space shuttle has moved into full development, the amount of direct shuttle support required from this program has decreased markedly. Therefore, in reordering its work in this area the Committee believed that economies should be pursued and accordingly assessed a \$3 million cut in this program to be distributed by NASA. The reduction is not to be applied against the nuclear technology activity discussed herein.

The Committee therefore is recommending a total of \$72 million for the Space and Nuclear Research and Technology Program.

NUCLEAR POWER AND PROPULSION PROGRAM, -0-

COMMITTEE COMMENT

As a result of its review of the nuclear power and propulsion activities presented in the NASA fiscal year 1974 authorization request, the Committee added \$10 million for the continuation of nuclear research and technology activities. However, in so doing, the Committee recognizes that there are no hardware demonstration projects included in the nuclear power and propulsion area as in the past years and, therefore, the nature of the work necessary to carry the nuclear technology activities forward will be essentially the same as the many other research and technology tasks which will be conducted under the Space Research and Technology program. Accordingly, the Committee has redesignated the Space Research and Technology line item as Space and Nuclear Research and Technology and included therein its addition of \$10 million for nuclear technology as set forth in its comment on that line item in the bill. In view of the foregoing, the Committee therefore recommends that all residual activities for the Nuclear Power and Propulsion program described in the budget documents (for which \$4 million is allocated to be financed with fiscal year 1973 carryover funding) be integrated with the other activities which will now be conducted in the Space and Nuclear Research and Technology program. The Nuclear Power and Propulsion program would be discontinued as a line item program in future budget submissions.

CONSTRUCTION OF FACILITIES

The Construction of Facilities authorization recommendation is for \$110,000,000, consisting of fifteen line items, the largest item being for nine sub-projects for the space shuttle program estimated to cost \$67,200,000. Except for orbiter landing facilities at the Kennedy Space Center, these shuttle projects represent modifications to existing facilities.

Ten of the remaining fourteen line items are for the modification or rehabilitation of existing facilities at NASA installations, one line item is a replacement project, one item is for a new systems engineering building at the Langley Research Center, one is for small miscellaneous new construction projects and the final line item is for facility planning and design activities forecasted at \$11,600,000.

In summary, the authorization for construction and construction-related work, as in fiscal year 1973, is characterized by the amount, approximately 70 percent, which is recommended for the rehabilitation and modification of existing facilities to assure their continued availability to support the NASA research programs and projects thereby maximizing the investment in those facilities already provided to the agency. The remaining 30 percent of construction funding is for the new systems engineering building at the Langley Research Center, the replacement motor pool building at the Goddard Space Flight Center, and the Shuttle orbiter landing facilities at the Kennedy Space Center which are sited to take advantage of the existing launch facilities at the Center.

The table below identifies each facility item recommended, together with the estimated cost thereof, which is followed by a brief description of each project and the justification therefor.

Item	Summary	Amount
1.	Replacement of transportation facility, Goddard Space Flight Center	\$660,000
2.	Rehabilitation of vibration laboratory, Goddard Space Flight Center	710,000
3.	Modifications of and addition to 25-foot space simulator building, Jet Propulsion Laboratory	740,000
4.	Modification of planetary mission support facilities, Jet Propulsion Laboratory	580,000
5.	Rehabilitation and modification of 600 pounds per square inch air supply system, Langley Research Center	2,410,000
6.	Construction of systems engineering building, Langley Research Center	1,620,000
7.	Rehabilitation of airfield pavement, Wallops Station	570,000
8.	Rehabilitation of communication system, Wallops Station	575,000
9.	Modification for fire protection improvements at various tracking and data stations	1,885,000
10.	Modification of space launch complex 2 West, Vandenberg Air Force Base	980,000
11.	Modification of power system, Slidell Computer Complex	1,085,000
12.	Space Shuttle facilities, as follows:	
	(a) Modification for auxiliary propulsion and power systems test facilities, White Sands Test Facility	1,290,000
	(b) Modifications for shuttle avionics integration laboratory, Lyndon B. Johnson Space Center	1,240,000
	(c) Modifications for radiant heating verification facility, Lyndon B. Johnson Space Center	1,260,000
	(d) Modifications for the Orbiter propulsion system test facilities, Mississippi Test Facility	11,300,000
	(e) Modifications for external tank structural test facilities, Marshall Space Flight Center	4,400,000
	(f) Modification of manufacturing and subassembly facilities for the Orbiter, NASA Industrial Plant, Downey, Calif.	2,650,000
	(g) Modification of and addition to final assembly and checkout facilities for the Orbiter, Air Force Plant No. 42, Palmdale, Calif.	7,350,000
	(h) Modification of manufacturing and final assembly facilities for external tanks, Michoud Assembly Facility	9,510,000
	(i) Construction of Orbiter landing facilities, John F. Kennedy Space Center	23,200,000
13.	Rehabilitation and modification of facilities at various locations, not in excess of \$500,000 per project	14,785,000
14.	Minor construction of new facilities and additions to existing facilities at various locations, not in excess of \$250,000 per project	4,600,000
15.	Facility planning and design not otherwise provided for	11,600,000
	Total	110,000,000

COMMITTEE COMMENT

The Committee is recommending authorization of 22 line items for facility construction, rehabilitation, modification and related work (including 9 projects in support of the Space Shuttle program). From its review, the Committee determined that each of the individual projects requested by NASA is well justified and essential to the conduct of NASA's research and development mission. One project is a new facility, two projects are replacements for inadequate existing facilities, and the remaining projects represent rehabilitation and/or modification of existing facilities to provide new or modified capabilities to support research and development activities.

Consistent with its position on facility projects for the preceding two years, the Committee has amended the request for Space Shuttle facilities, C of F item 12, to specify the estimated cost for each subproject, C of F items 12 (A) through (I), rather than to authorize the total Shuttle facilities funding as a lump sum amount.

The Committee noted an increase of \$5.6 million in the request for Facility Planning and Design funds above that authorized for fiscal year 1973, essentially all of which is attributable to planning and design services to support Shuttle facilities. While the Committee fully appreciates the importance of and the need for these funds to carry out a well managed facility program, it is believed that the agency should be expected to make priority trade-offs, to defer selected items of work or to take other actions which will reduce this line item until the peak Shuttle facility requirements are satisfied. Accordingly, the Committee is recommending a reduction of \$2 million in the Facility Planning and Design request, thereby reducing C of F item 15 from \$13.6 million to \$11.6 million.

The total Construction of Facilities budget is, therefore, reduced from \$112,000,000 to \$110,000,000.

RESEARCH AND PROGRAM MANAGEMENT

Summary

	Budget request	House action	Senate committee action
Personnel compensation.....	\$495,552,000		
Personnel benefits.....	43,450,000		
Benefits for former personnel.....	6,689,000		
Travel and transportation of persons.....	17,454,000		
Transportation of things.....	3,428,000		
Rent, communications, and utilities.....	38,836,000		
Printing and reproduction.....	5,044,000		
Other services.....	81,439,000		
Supplies and materials.....	12,242,000		
Equipment.....	2,602,000		
Lands and structures.....	177,000		
Grants, subsidies, and contributions.....	50,000		
Insurance claims and indemnities.....	37,000		
Total.....	707,000,000	707,000,000	705,000,000

The Research and Program Management appropriation includes funding for research in Government laboratories, management of programs, and other activities of the National Aeronautics and Space Administration. Principally, it is intended to (1) provide the civil service staff to conduct in-house research, and to plan, manage, and support the Research and Development programs, and (2) provide other elements of operational capability to the laboratories and facilities such as logistics support, (travel and transportation, maintenance, and operation of facilities), and technical and administrative support.

Installations are under the management direction of the Associate Administrator having primary responsibility for the research and development programs conducted at the installation. The Associate Administrator for Manned Space Flight is responsible for the Kennedy Space Center, Lyndon B. Johnson Space Center, and Marshall Space Flight Center; the Associate Administrator for Space Science is responsible for the Goddard Space Flight Center and Wallops Station; and the Associate Administrator for Aeronautics and Space Technology is responsible for the Ames Research Center, Flight Research Center, Langley Research Center, and the Lewis Research Center. The Associate Administrator for Organization and Management acts as the institutional director for NASA Headquarters.

COMMITTEE COMMENT

NASA employment has been declining from a peak permanent personnel complement of over 34,000. A reduction of 1,880 is to be effected as a part of the fiscal year 1974 budget plan, resulting in a new total of 24,970 as of June 30, 1974. The reduction from the Apollo peak has presented NASA with some difficult and complex decisions with respect to its future and there has been some reluctance to attack the problem of adjusting its work force to the program levels apparent for the immediate future. Accordingly, in the fiscal year 1971 authorization bill, this committee initiated, and the Congress adopted, a ceiling on personnel expenditures in order to expedite the decision process

within NASA with respect to the foregoing. The Committee notes that NASA has approached the problem more aggressively in the last year or so as is evidenced by the closing of facilities which are not required for approved ongoing programs. Nevertheless, the Committee believes it is necessary to assure that NASA continues to make a critical review of its installations, operations, and manpower utilization, particularly at a time when an examination of the overall NASA budget reveals that this appropriations category continues to require an increasing percentage of the total NASA budget. Accordingly, the Committee has adopted a ceiling of \$549,020,000 on personnel and related costs by inserting appropriate provisions in Sections 1(c) and 4(b) of the bill. In establishing this limitation, however, the Committee has not made any reduction in the NASA request for funds to cover its projection of personnel and related costs for fiscal year 1974.

The Committee notes that the NASA estimates for costs other than those related to personnel within the R&PM appropriations category (totaling \$157,980,000) project a slight increase over fiscal year 1973. It is believed that these costs should reflect reductions in various programmatic and supporting activities of NASA. Accordingly, your Committee has recommended a cut of \$2 million in the R&PM request for those expenses other than those related to personnel. This cut is to be allocated by NASA among the several categories of expenses involved.

COST AND BUDGET DATA

NASA's budget plan for fiscal year 1974 is \$3,107,000,000. This is made up of a budget request for \$3,016,000,000 and a carryover of budget authority from fiscal year 1973 of \$91 million.

This bill, H.R. 7528, as recommended and reported by your Committee would authorize appropriations for the National Aeronautics and Space Administration (NASA) for fiscal year 1974 in the amount of \$3,046,000,000. This is \$30 million more than the Administration's budget request of \$3,016,000,000. The differences are explained in this report.

In accordance with the requirements of Section 252(a) of the Legislative Reorganization Act of 1970, the estimates for the next 5 years of the NASA budget (obligational authority) are as follows:

(In billions of dollars)

Fiscal year:	NASA estimate	Committee estimate
1974.....	3.107	3.163
1975.....	3.167	3.230
1976.....	3.139	3.179
1977.....	3.072	3.098
1978.....	2.852	2.878

The above estimates are future year funding requirements for the continuation or completion of the NASA programs (including the development of the Space Shuttle) provided for in the bill. These estimates do not provide for the initiation of any new program or project during these future years nor do they include any provision for administrative adjustments that may be required.

The Committee used the NASA estimate as a starting point for its estimate. The Committee estimate for fiscal year 1974 exceeds the NASA estimate by \$56 million; \$30 million of this is the net sum of the Committee recommended additions and reductions as explained throughout this report; and, \$26 million is an increase in the R&PM funds because of the pay raise which became effective January 1, 1973, funds for which are not included in the NASA budget request.

The Committee future year estimates are higher than NASA estimates for two reasons: (1) the Committee recommendations relative to ERTS-B and the refanning of the JT3D aircraft engine require additional funds in fiscal year 1975 and fiscal year 1976; (2) the January 1, 1973, pay raise is carried through fiscal year 1978.

Reinstatement of the ERTS-B on the earlier launch schedule will cause NASA to request to proceed with the ERTS-C spacecraft so as to have a spacecraft to test and experiment with the 5-channel multispectral scanner. This will require \$19 million in fiscal year 1975 and \$8 million in fiscal year 1976. The Committee reinstatement of the JT3D engine refanning project assumes both development and flight testing; this will require \$15 million in fiscal year 1975 and \$4 million in fiscal year 1976.

The estimates given in this report differ in some instances from those given in the Committee's report on the NASA authorization bill last year because a number of NASA projects has been cancelled, suspended and restructured or reduced. Examples are: the High Energy Astronomical Observatory project was suspended and is being restructured so that its cost during the years covered by the above table will be about 1/2 that estimated last year; the Quiet Short Take-off and Landing experimental research aircraft project has been terminated; the Nuclear Propulsion Program has been terminated and reinstated by the Committee at a reduced level; and, NASA civil service personnel will be further reduced by 1,880.

The above estimates are not an estimate of what the NASA budget will be in these future years. As existing programs and projects are phased out, new programs and projects may be requested; the Congress will have an opportunity to exercise its judgment on such programs and projects when authority and funds are requested to proceed with them.

As shown in the above table, and as NASA officials testified, to carry out the Agency's existing programs and to have a well-balanced overall program in aeronautics and space, the future NASA budgets must be higher than the level of the fiscal year 1974 request.

At the time of the submission of the fiscal year 1973 budget NASA projected a level budget of \$3.4 billion to carry out a balanced program for the next several years. For such a level budget NASA has provided the following distribution of program funding in millions of 1972 dollars:

	Fiscal year—				
	1974	1975	1976	1977	1978
Shuttle development.....	\$475	\$850	\$1,100	\$1,190	\$1,090
Manned flight operations.....	482	290	177	169	169
Construction, tracking, and program management.....	1,069	1,111	1,061	1,041	1,024
Aeronautics, science, applications, and technology.....	1,081	1,149	1,062	1,000	1,117
Total.....	3,107	3,400	3,400	3,400	3,400

LEGISLATIVE CHANGES

The Committee has considered and adopted 8 legislative amendments to the NASA fiscal year 1974 authorization bill.

The first amendment modifies Section 1(b) "Construction of facilities", item (12) Space Shuttle facilities at various locations, \$67,200,000, to specify the estimated cost for the individual facilities recommended for authorization in subline items (12) (A) through (I) in lieu of a total amount for all facilities authorized under item (12).

The second amendment modifies Section 1(c) to establish a ceiling on the amount available for personnel and related costs.

A third amendment is complementary to the second amendment and modifies Section 4 by establishing the existing provisions as subsection (a) and then adding subsection (b) specifying that nothing in the section shall be construed to authorize the expenditure of amounts for personnel and related costs in excess of the ceiling placed on such costs.

The fourth amendment modifies Section 4(a) of the bill to preclude any inconsistency between the provisions of this Section and any other legislation which might be enacted with respect to the impoundment or selective withholding of appropriated funds.

The fifth amendment deletes Section 6 of the bill, a provision which the Committee considered to be no longer necessary in the annual NASA authorization bill. This provision, incorporated in the last four annual authorization acts, denied payment by an institution of higher education of any funds provided under a NASA program to any student convicted by any court of record for involvement in disruption or other specified activities at any institution of higher education which prevented officials or students from engaging in their duties or pursuing their studies.

The sixth amendment adds a new Section 6 to the bill and amends Sec. 203(b) of the National Aeronautics and Space Act of 1958 by adding a new paragraph (11) which would authorize NASA to enter into agreements, upon terms approved by the Administrator, with concessioners to construct and operate facilities and services at its several installations to provide visitor services. This authority was requested by NASA in a message to the Senate dated March 30, 1973, and the NASA draft legislation was introduced (by request) as S. 1511 which was referred to this Committee. The substance of S. 1511, as modified by the Committee, is contained in the amendment set forth in this report in the section entitled, "Changes in Existing Law." The language of the amendment parallels closely that applicable to the National Park Service and it is intended that this authority will be administered in a manner not inconsistent with National Park Service operations. The House adopted an identical provision.

The seventh amendment adds a new Section 7 to the bill modifying the National Aeronautics and Space Act of 1958 by adding a new Section 207 to Title II of that Act to require NASA to provide the Congress 30 days advance notice of any action to declare any government-owned land, valued in excess of \$50,000, excess to NASA needs. The language for this amendment is also set forth in the section of this report entitled, "Changes in Existing Law." The House, which initiated this notification requirement, adopted an identical provision.

The eighth amendment adds a Section 8 to the bill and amends Sec. 5316, Title 5, U.S.C., by deleting the three NASA positions in the Federal Executive Salary Schedule, Level V, of Associate Administrators for Advanced Research and Technology, for Space Science and Applications and for Manned Space Flight, and inserting in lieu thereof, "Associate Administrators, NASA (6)." This amendment updates Sec. 5316 to recognize the additional levels of responsibility which have been established within NASA since the original three positions were established in Level V in 1966, and would simplify any subsequent reorganizations within the agency by deleting the functional designation following the title of Associate Administrator. No change in individual salaries is effected by this amendment at this time. This amendment was proposed as draft legislation by NASA and introduced (by request) in the Senate as S. 913. The Committee on Post Office and Civil Service, to which S. 913 was referred, waived jurisdiction in favor of this Committee. The language for this amendment is set forth in this report in the section entitled, "Changes in Existing Law."

CHANGES IN EXISTING LAW

In compliance with subsection 4 of rule XXIX of the Standing Rules of the Senate changes in existing law made by the bill are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

NATIONAL AERONAUTICS AND SPACE ACT OF 1958

Public Law 85-568 (72 Stat. 426)

* * * * *

TITLE II—COORDINATION OF AERONAUTICAL AND SPACE ACTIVITIES

* * * * *

FUNCTIONS OF THE ADMINISTRATION

SEC. 203. (a) ***

(b) In the performance of its functions, the Administration is authorized—

* * * * *

(11) to provide by concession, without regard to section 321 of the Act of June 30, 1932 (47 Stat. 412; 40 U.S.C. 303b), on such terms as the Administrator may deem to be appropriate and to be necessary to protect the concessioner against loss of his investment in property (but not anticipated profits) resulting from the Ad-

administration's discretionary acts and decisions, for the construction, maintenance, and operation of all manner of facilities and equipment for visitors to the several installations of the Administration and, in connection therewith, to provide services incident to the dissemination of information concerning its activities to such visitors, without charge or with a reasonable charge therefor (with this authority being in addition to any other authority which the Administration may have to provide facilities, equipment, and services for visitors to its installations). A concession agreement under this paragraph may be negotiated with any qualified proposer following due consideration of all proposals received after reasonable public notice of the intention to contract. The concessioner shall be afforded a reasonable opportunity to make a profit commensurate with the capital invested and the obligations assumed, and the consideration paid by him for the concession shall be based on the probable value of such opportunity and not on maximizing revenue to the United States. Each concession agreement shall specify the manner in which the concessioner's records are to be maintained, and shall provide for access to any such records by the Administration and the Comptroller General of the United States for a period of five years after the close of the business year to which such records relate. A concessioner may be accorded a possessory interest, consisting of all incidents of ownership except legal title (which shall vest in the United States), in any structure, fixture, or improvement he constructs or locates upon land owned by the United States; and, with the approval of the Administration, such possessory interest may be assigned, transferred, encumbered, or relinquished by him, and, unless otherwise provided by contract, shall not be extinguished by the expiration or other termination of the concession and may not be taken for public use without just compensation;

DISPOSAL OF EXCESS LAND

SEC. 207. Notwithstanding the provisions of this or any other law, the Administration may not report to a disposal agency in excess to the needs of the Administration any land having an estimated value in excess of \$50,000 which is owned by the United States and under the jurisdiction and control of the Administration, unless (A) a period of thirty days has passed after the receipt by the Speaker and the Committee on Science and Astronautics of the House of Representatives and the President and the Committee on Aeronautical and Space Sciences of the Senate of a report 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 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.

The second roll call vote, to report the authorization bill as amended on motion by Senator Goldwater, seconded by Senator Abourezk, was tabulated as follows:

YEAS—13

Mr. Magnuson
Mr. Symington
Mr. Stennis
Mr. Cannon
Mr. Abourezk
Mr. Haskell

Mr. Goldwater
Mr. Curtis
Mr. Weicker
Mr. Bartlett
Mr. Helms
Mr. Domenici

Mr. Moss, *Chairman*

SPACE BUDGETS OF OTHER AGENCIES

(The following table, the source for which is the Office of Management and Budget, shows new obligational authority of all Government agencies:)

SPACE ACTIVITIES OF THE U.S. GOVERNMENT—HISTORICAL SUMMARY AND 1974 BUDGET RECOMMENDATIONS, JANUARY 1973¹

[in millions of dollars]

	NASA		Department of Defense	AEC	Commerce	Interior	Agriculture	NSF	Total space
	Total	Space ²							
1959	56.9	56.9	3.0						59.9
1960	72.7	72.7	30.3	7.0				7.3	117.3
1961	78.2	78.2	71.0	21.3				8.4	178.5
1962	117.3	117.3	205.6	21.3				3.3	347.9
1963	305.4	235.4	489.5	34.3					759.2
1964	523.6	461.5	560.9	43.3				.1	1,065.8
1965	964.0	926.0	813.9	67.7				.6	1,808.2
1966	1,824.9	1,796.8	1,298.2	147.8	50.7			1.3	3,294.8
1967	3,673.0	3,628.0	1,549.9	213.9	43.2			1.5	5,434.5
1968	5,089.7	5,046.3	1,599.3	210.0	2.8			3.0	6,861.4
1969	5,249.7	5,167.6	1,573.9	228.6	12.2			3.2	6,985.5
1970	5,174.9	5,094.5	1,688.8	186.8	26.5			3.2	6,999.8
1971	4,967.6	4,862.2	1,663.6	183.6	29.3			2.8	6,741.5
1972	4,588.8	4,452.5	1,571.8	145.1	28.1	0.2	0.5	3.2	6,551.4
1973	3,990.9	3,822.0	2,013.0	118.0	20.0		.7	1.9	5,975.8
1974	3,745.8	3,547.0	1,678.4	102.8	8.0	1.1	.8	2.4	5,340.5
1975	3,311.2	3,101.3	1,512.3	94.8	27.4	1.9	.8	2.4	4,740.9
1976	3,306.6	3,071.0	1,407.0	55.2	31.3	5.8	1.6	2.8	4,574.7
Budget:									
1973	3,406.5	3,092.6	1,623.0	58.9	39.7	10.0	2.3	2.8	4,829.3
1974	3,015.0	2,734.2	1,827.0	41.3	54.4	6.4	3.0	2.5	4,676.3

¹ Historical amounts are estimates based on best data available.² Excludes amounts for aircraft technology in 1959 and succeeding years. Amounts for NASA-NACA aircraft and space activities not separately identifiable prior to 1959.

Note: May not add due to rounding.

SECTION-BY-SECTION ANALYSIS

SECTION 1. Subsections (a), (b), and (c) authorize to be appropriated to the National Aeronautics and Space Administration funds, in the total amount of \$3,046,000,000, as follows: (a) for "Research and development," a total of 11 program line items aggregating the sum of \$2,231,900,000; (b) for "Construction of facilities," a total of fifteen line items aggregating the sum of \$110,000,000; and, (c) for "Research and program management," \$705,000,000 of which not more than \$549,020,000 plus amounts appropriated to meet Federal pay raise costs is to be used for personnel and related costs. Subsection (c) would also authorize to be appropriated such additional or supplemental amounts as may be necessary for increases in salary, pay, retirement, or other employee benefits authorized by law.

Subsection 1(d) authorizes the use of appropriations for "Research and development" without regard to the provisions of subsection 1(g) for: (1) items of a capital nature (other than the acquisition of land) required at locations other than NASA installations 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 should 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. Moreover, each such grant shall be made under such conditions as the Administrator shall find necessary to insure that the United States will receive benefit therefrom adequate to justify the making of that grant.

In either case no funds may be used for the construction of a facility in accordance with the subsection 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) provides 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) authorizes use of not to exceed \$35,000 of the "Research and program management" appropriation 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) provides that of the funds appropriated for "Research and development" and "Research and program management," not in excess of \$10,000 per project (including collateral equipment) may be used for construction of new, or additions to existing, facilities, and not in excess of \$25,000 per project (including collateral equipment) may be used for rehabilitation or modification of existing facilities; however, of the funds appropriated for "Research and de-

velopment," not in excess of \$250,000 per project (including collateral equipment) may be used for construction of new facilities or additions to, or rehabilitation or modifications of, existing facilities required for unforeseen programmatic needs.

Subsection 1(h) provides 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 authorizes 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 (14).

SECTION 3. Section 3 provides 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) the 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. Subsection 4(a) provides 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. A proviso at the conclusion of this subsection provides that nothing in this act shall be deemed to be inconsistent with any provisions of law now or hereinafter enacted relating to impoundment or selective withholding of appropriated funds.

Subsection 4(b) provides 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 expresses 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. Section 6 amends section 203 of the National Aeronautics and Space Act of 1958, as amended (42 U.S.C. 2473), by inserting a new section 203(b) (11), and thereby provide that, in the performance of its functions, NASA would be authorized to provide by concession for the construction, maintenance, and operation of facilities (e.g., buildings or structures) and equipment (e.g., of a capital or non-capital nature, such as, for example, buses, exhibits, and food service or sales equipment) for visitors to the various NASA installations; and in connection therewith, to provide all manner of services (e.g., conducted tours, films, lectures, exhibits, and food and souvenir sales, etc.), without charge or with a reasonable charge to the visitors therefor. Such activity could be conducted without regard to 40 U.S.C. 303b, prohibiting outleasing for other than a monetary consideration, on such terms as the Administrator may deem appropriate and as necessary to protect the concessioner's investment in property (but not anticipated profits) from loss due to the Administration's discretionary acts or decisions. Such authority would be in addition to, and not in substitution of, presently available authority to provide such facilities, equipment, and services with appropriated funds. Concession agreements may be negotiated with any qualified proposer, including a present concessioner, after NASA has given reasonable public notice of its intention to enter into a concession, and has duly considered all proposals received as a result of such notice.

The concessioner shall be afforded a reasonable opportunity to make (but not be guaranteed) a profit, which shall be commensurate with the capital invested and the obligations assumed. The consideration to the Government for the concession, whether money or any other thing of value, shall be based upon the value of the opportunity to make a profit and not on obtaining the maximum revenue for the United States. The concession agreement shall provide that the concessioner's business records be maintained in a specified manner and remain open to NASA and the Comptroller General for a period of five years, following the close of each business year. The concessioner may be accorded a possessory interest (but not legal title, which vests in the United States) in any construction or improvement he causes to be affixed to land owned by the United States. With the approval of NASA such possessory interest may be held, mortgaged, or disposed of by the concessioner and may not be taken for public use unless just compensation is paid therefor.

The concessioner would be permitted to use the revenues generated by sales of goods or services to visitors and received by him to defray his expenses, to provide him with a profit, and for the purpose of amortizing any investment made by him.

The authority to be conferred is similar to that available to the U.S. National Park Service pursuant to 16 U.S.C. 20 *et seq.* It is intended that it be administered and used in a manner which is not inconsistent with the authority available to the National Park Service.

SECTION 7. Section 7 modifies the National Aeronautics and Space Act of 1958 by adding a new section 207 to Title II of that Act which would prohibit the National Aeronautics and Space Administration from reporting to a disposal agency as excess to the needs of the Administration land having an estimated value in excess of \$50,000 which is owned by the United States and under jurisdiction and control of the Administration unless (A) a period of 30 days has passed after receipt by the Speaker of the House, the President of the Senate and the specified committees of the Congress of a report 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 action or (B) each such Committee before the expiration of such period has notified the Administrator that no objection to the proposed action will be made.

SECTION 8. Section 8 amends Section 5316, Title 5, U.S.C., by deleting the NASA positions of Associate Administrator for Advanced Research and Technology, Associate Administrator for Space Science and Applications, and Associate Administrator for Manned Space Flight now appearing in Level V of the Federal Executive Salary Schedule and inserting in lieu thereof, Associate Administrator, NASA (6). This amendment authorizes the National Aeronautics and Space Administration to establish 6 Associate Administrator positions in Level V, an increase of three above that now provided by Section 5316 of Title 5, U.S.C.

SECTION 9. Section 9 provides that the Act may be cited as the "National Aeronautics and Space Administration Authorization Act, 1974".

NASA AUTHORIZATION OF APPROPRIATIONS FOR
FISCAL YEAR 1974

JUNE 28, 1973.—Ordered to be printed

Mr. TRAGUE of Texas, from the committee of conference, submitted
the following

CONFERENCE REPORT

[To accompany H.R. 7528]

The committee of conference on the disagreeing votes of the two Houses on the amendments of the Senate to the bill (H.R. 7528) 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) Space flight operations, \$555,500,000;
- (2) Space Shuttle, \$475,000,000;
- (3) Advanced missions, \$1,500,000;
- (4) Physics and astronomy, \$63,600,000;
- (5) Lunar and planetary exploration, \$311,000,000;
- (6) Launch vehicle procurement, \$177,400,000;
- (7) Space applications, \$161,000,000;
- (8) Aeronautical research and technology, \$180,000,000; of this amount \$14,000,000 is reserved for the JT-3D Refan Retrofit Research Program;
- (9) Space and nuclear research and technology, \$72,000,000;
- (10) Tracking and data acquisition, \$244,000,000;
- (11) Technology utilization, \$4,500,000.

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

- (1) Replacement of transportation facility, Goddard Space Flight Center, \$660,000;
- (2) Rehabilitation of vibration laboratory, Goddard Space Flight Center, \$710,000;
- (3) Modifications of and addition to 25-foot space simulator building, Jet Propulsion Laboratory, \$740,000;
- (4) Modification of planetary mission support facilities, Jet Propulsion Laboratory, \$530,000;
- (5) Rehabilitation and modification of 600 pounds per square inch air supply system, Langley Research Center, \$2,410,000;
- (6) Construction of systems engineering building, Langley Research Center, \$1,620,000;
- (7) Rehabilitation of airfield pavement, Wallops Station, \$570,000;
- (8) Rehabilitation of communication system, Wallops Station, \$575,000;
- (9) Modification for fire protection improvements at various tracking and data stations, \$1,885,000;
- (10) Modification of space launch complex 2 West, Vandenberg Air Force Base, \$980,000;
- (11) Modification of power system, Stidell Computer Complex, \$1,085,000;
- (12) Space Shuttle facilities at various locations, as follows:
 - (A) Modifications for auxiliary propulsion and power systems test facilities, White Sands Test Facility, \$1,290,000;
 - (B) Modifications for shuttle avionics integration laboratory, Lyndon B. Johnson Space Center, \$1,240,000;
 - (C) Modifications for radiant heating verification facility, Lyndon B. Johnson Space Center, \$1,260,000;
 - (D) Modifications for the Orbiter propulsion system test facilities, Mississippi Test Facility, \$11,300,000;
 - (E) Modifications for external tank structural test facilities, Marshall Space Flight Center, \$4,400,000;
 - (F) Modification of manufacturing and subassembly facilities for the Orbiter, NASA Industrial Plant, Downey, California, \$2,650,000;
 - (G) Modification of and addition to final assembly and checkout facilities for the Orbiter, Air Force Plant Number 42, Palmdale, California, \$7,350,000;
 - (H) Modification of manufacturing and final assembly facilities for external tanks, Michoud Assembly Facility, \$9,510,000;
 - (I) Construction of Orbiter landing facilities, John F. Kennedy Space Center, \$28,200,000;
- (13) Rehabilitation and modification of facilities at various locations, not in excess of \$500,000 per project, \$14,785,000;
- (14) Minor construction of new facilities and additions to existing facilities at various locations, not in excess of \$250,000 per project, \$4,600,000;

(15) Facility planning and design not otherwise provided for, \$13,600,000.

(c) For "Research and program management," \$707,000,000, and such additional or supplemental amounts as may be necessary for increases in salary, pay, retirement, or other employee benefits authorized by law of which not more than \$549,020,000 and such additional or supplemental amounts as may be necessary for increases in salary, pay, retirement, or other employee benefits authorized by law, shall be available for personnel and related costs.

(d) Notwithstanding the provisions of subsection 1(g), appropriations for "Research and development" may be used (1) for any items of a capital nature (other than acquisition of land) which may be acquired at locations other than installations of the Administration 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 in accordance with this subsection for the 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) Of the funds appropriated pursuant to subsections 1(a) and 1(c), not in excess of \$10,000 for each project, including collateral equipment, may be used for construction of new facilities and additions to existing facilities, and not in excess of \$25,000 for each proj-

ect, including collateral equipment, may be used for rehabilitation or modification of facilities: Provided, That of the funds appropriated pursuant to subsection 1(a), not in excess of \$250,000 for each project, including collateral equipment, may be used for any of the foregoing for unforeseen programmatic needs.

(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.

Sec. 2. Authorization is hereby granted whereby any of the amounts prescribed in paragraphs (1) through (14), inclusive, 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 (15) 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 developments, 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 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.

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 wherever 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. Section 203(b) of the National Aeronautics and Space Act of 1958, as amended (42 U.S.C. 2473(b)), is amended by inserting immediately after paragraph (10) the following new paragraph:

"(11) to provide by concession, without regard to section 321 of the Act of June 30, 1932 (47 Stat. 412; 40 U.S.C. 303b), on such terms as the Administrator may deem to be appropriate and to be necessary to protect the concessioner against loss of his investment in property (but not anticipated profits) resulting from the Administration's discretionary acts and decisions, for the construction, maintenance, and operation of all manner of facilities and equipment for visitors to the several installations of the Administration and, in connection therewith, to provide services

incident to the dissemination of information concerning its activities to such visitors, without charge or with a reasonable charge therefor (with this authority being in addition to any other authority which the Administration may have to provide facilities, equipment, and services for visitors to its installations). A concession agreement under this paragraph may be negotiated with any qualified proposer following due consideration of all proposals received after reasonable public notice of the intention to contract. The concessioner shall be afforded a reasonable opportunity to make a profit commensurate with the capital invested and the obligations assumed, and the consideration paid by him for the concession shall be based on the probable value of such opportunity and not on maximizing revenue to the United States. Each concession agreement shall specify the manner in which the concessioner's records are to be maintained, and shall provide for access to any such records by the Administration and the Comptroller General of the United States for a period of five years after the close of the business year to which such records relate. A concessioner may be accorded a possessory interest, consisting of all incidents of ownership except legal title (which shall vest in the United States), in any structure, fixture, or improvement he constructs or locates upon land owned by the United States; and, with the approval of the Administration, such possessory interest may be assigned, transferred, encumbered, or relinquished by him, and, unless otherwise provided by contract, shall not be extinguished by the expiration or other termination of the concession and may not be taken for public use without just compensation;"

Sec. 7. Title II of the National Aeronautics and Space Act of 1958, as amended (42 U.S.C. 2471 et seq.), is amended by adding at the end thereof the following new section:

"DISPOSAL OF EXCESS LAND

"**Sec. 207.** Notwithstanding the provisions of this or any other law, the Administration may not report to a disposal agency as excess to the needs of the Administration any land having an estimated value in excess of \$50,000 which is owned by the United States and under the jurisdiction and control of the Administration, unless (A) a period of thirty days has passed after the receipt by the Speaker and the Committee on Science and Astronautics of the House of Representatives and the President and the Committee on Aeronautical and Space Sciences of the Senate of a report 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 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."

Sec. 8. Section 5316, title 5, United States Code, is amended by deleting paragraphs (15), (16), and (17) and by substituting therefor a new paragraph (16) to read as follows:

"(16) Associate Administrators, National Aeronautics and Space Administration (6)."

Sec. 9. This Act may be cited as the "National Aeronautics and Space Administration Authorization Act, 1974".
And the Senate agree to the same.

OLIN E. TEAGUE,
KEN HECHLER,
DON FUQUA,
JAMES W. SYMINGTON,
CHARLES A. MOSHER,
ALPHONZO BELL,
JOHN W. WYDLER,
Managers on the Part of the House.

FRANK E. MOSS,
STUART SYMINGTON,
HOWARD W. CANNON,
BARRY GOLDWATER,
CARL T. CURTIS,
Managers on the Part of the Senate.

JOINT EXPLANATORY STATEMENT OF THE
COMMITTEE OF CONFERENCE

The managers on the part of the Senate and the House at the conference on the disagreeing votes of the two Houses on the amendment of the Senate to the bill (H.R. 7528) to authorize appropriations to the National Aeronautics and Space Administration for research and development, construction of facilities, and research and program management submit the following joint statement to the Senate and House in the explanation of the effect of the action agreed upon by the managers and recommended in the accompanying conference report:

The NASA request for Fiscal Year 1974 totaled \$3,016,000,000. The House authorized \$3,073,500,000, and the Senate amendment authorized \$3,046,000,000. The committee of conference agrees to a total authorization of \$3,064,500,000, as follows:

CONGRESSIONAL ADJUSTMENTS TO NASA FISCAL YEAR 1974 BUDGET REQUEST

	Budget request	House	Senate	Committee of conference
Research and development:				
Space flight operations.....	\$555,500,000	\$548,500,000	\$555,500,000	\$555,500,000
Space shuttle.....	475,000,000	500,000,000	475,000,000	475,000,000
Advanced missions.....	1,500,000	1,500,000	1,500,000	1,500,000
Physics and astronomy.....	64,600,000	59,600,000	64,600,000	63,600,000
Lunar and planetary exploration.....	312,000,000	309,000,000	312,000,000	311,000,000
Launch vehicle procurement.....	178,400,000	177,400,000	177,400,000	177,400,000
Space applications.....	147,000,000	159,000,000	161,000,000	161,000,000
Aeronautical research and technology.....	146,000,000	180,000,000	160,000,000	180,000,000
Space and nuclear research and technology.....	85,000,000	75,000,000	72,000,000	72,000,000
Tracking and data acquisition.....	250,000,000	240,000,000	248,000,000	244,000,000
Technical utilization.....	4,000,000	4,500,000	4,000,000	4,500,000
Total.....	2,197,000,000	2,254,500,000	2,231,000,000	2,245,500,000
Construction of facilities.....	112,000,000	112,000,000	116,000,000	112,000,000
Research and program management.....	707,000,000	707,000,000	705,000,000	707,000,000
Grand total.....	3,016,000,000	3,073,500,000	3,046,000,000	3,064,500,000

The points in disagreement and the conference resolution of them are as follows:

1. The House authorized \$548,500,000 for the Space Flight Operations program which is \$7 million less than the NASA request of \$555,500,000. This action would have reduced the amount for the Skylab project by \$10 million and added \$3,000,000 to the Space Life Sciences project for continued spacesuit development during Fiscal Year 1974.

Acting subsequent to the initial Skylab launch the Senate amendment authorized \$555,500,000, the exact amount of the NASA request, on the basis that the difficulties experienced during the Skylab launch did not permit a judgment that a reduction could be made in the Skylab project and that there was

adequate funding in the program to support continued space suit development.

The conference substitute adopts the Senate position and authorizes \$555,500,000 for the Space Flight Operations program.

2. The House authorized \$500,000,000 for the Space Shuttle program, which is \$25 million more than the NASA request of \$475,000,000. The House increased the amount to provide for more effective program implementation and increase the confidence in attaining the key program milestones of first horizontal flight in 1976 and the first manned orbital flight in 1978.

The Senate amendment authorized \$475,000,000, which is the exact amount of the NASA request.

The conference substitute adopts the Senate position and authorizes \$475,000,000 for the Space Shuttle program.

3. NASA requested \$64,600,000 for the Physics and Astronomy program. The House authorized \$59,600,000, \$5,000,000 less than the request. The House reduced the amount requested for orbital Explorer projects by \$3,000,000 and the amount requested for Supporting Research and Technology projects by \$2,000,000, these amounts to be applied to immediately reinstate work on the ERTS-B satellite under the Space Applications program.

The Senate authorized the full amount of the NASA request, \$64,600,000 but concurred in the immediate reinstatement of the ERTS-B.

The conference substitute authorizes \$63,600,000 for the Physics and Astronomy program, a reduction of \$1,000,000 below the NASA request, but the reduction is not directed at any specific project within the program.

4. NASA requested \$312,000,000 for the Lunar and Planetary Exploration program. The House authorized \$309,000,000, a reduction of \$3,000,000. The reduction was made in Supporting Research and Technology of the Lunar and Planetary Exploration program on the basis that these funds be applied to the Space Applications program for the ERTS project and to the Launch Vehicle Procurement program to support the ERTS-B launch next year.

The Senate approved the full amount of the NASA request.

The conference substitute authorizes \$311,000,000 for the Lunar and Planetary Exploration program, \$1,000,000 less than the NASA request, but the reduction is not directed at any specific project within the program.

5. The House authorized \$159,000,000 for the Space Applications program.

The Senate authorized \$161,000,000 for the Space Applications program in order for NASA to exploit capabilities developed in NASA and apply them to the urgent national energy need. Specifically, the Senate directed NASA to formulate a long-term energy program that would create, explore and demonstrate options for energy generation and management from all the many technologies that NASA has developed.

The conference substitute adopts the Senate provision and authorizes \$161,000,000 for the Space Applications program.

The conference considers that NASA should specifically investigate the collection and conversion of solar energy in synchronous orbit and the microwave transmission of such energy to earth. The conference also expects NASA to continue to cooperate closely with the National Science Foundation on its energy programs.

6. The House authorized \$180,000,000 for the Aeronautical Research and Technology program, specifically providing \$20 million to reinstate the quiet take-off and landing research aircraft project (QUESTOL) which was terminated in January 1973.

The Senate provided \$160,000,000 for the Aeronautical Research and Technology program.

The conference substitute adopts the House provision restoring QUESTOL and authorizes \$180,000,000 for the Aeronautical Research and Technology program.

The House added \$14,000,000 to the Aeronautical Research and Technology program to reinstate the JT-3D aircraft engine Refan Retrofit Research program to achieve substantial noise reduction in that engine as soon as possible. The House bill included language reserving \$14,000,000 for the JT-3D Refan Retrofit Research program and \$18,000,000 for the JT-8D Refan Retrofit Research program which was part of the NASA request.

The Senate concurred with the House in adding \$14,000,000 for the JT-3D aircraft engine Refan Retrofit Research program and, in addition, agreed to the language in the bill reserving this \$14,000,000 for the JT-3D Refan Retrofit Research program. The Senate amendment did not include language reserving funds for the JT-8D program because funding for this program was part of the NASA fiscal year 1974 budget plan presented to the Congress.

The conference substitute adopts the Senate language on the Aeronautical Research and Technology program with respect to the JT-3D Refan Retrofit Research program. Although the adopted language does not specifically reserve funding for the JT-8D program, the conference supports the NASA program plan for the JT-8D Refan Retrofit Research program and expects NASA to proceed with this program as outlined to the Congress in its budget submission.

7. The House authorized \$75,000,000 for the Space and Nuclear Research and Technology program.

The Senate authorized \$72,000,000 for the Space and Nuclear Research and Technology program, making a \$3,000,000 reduction in the amount requested for Space Research and Technology on the basis that since the Space Shuttle has moved into full development, the amount of direct shuttle support required from this program has decreased markedly and therefore the Senate believes that economies can be pursued in this program. The Senate specifically directed that the \$3,000,000 cut is not to be applied against the Nuclear Research and Technology part of this program.

The conference substitute adopts the Senate provision and authorizes \$72,000,000 for this program.

8. The House authorizes \$240,000,000 for the Tracking and Data Acquisition program, \$10,000,000 below the NASA request.

The Senate authorized \$248,000,000 for the Tracking and Data Acquisition program, \$2 million below the NASA request.

The conference substitute authorizes \$244,000,000 for the Tracking and Data Acquisition program.

9. The House authorized \$4,500,000 for the Technology Utilization program, \$500,000 more than the NASA request, to provide that the scientific, technical and management knowledge acquired with public funds spent by NASA be made available to the public sector as quickly and efficiently as possible.

The Senate authorized \$4,000,000 for the Technology Utilization program.

The conference substitute authorizes \$4,500,000 for the Technology Utilization program.

10. Both the House and the Senate authorized \$67,200,000 for Space Shuttle facilities, itemizing the individual construction projects. The House bill specifies the total amount authorized for Space Shuttle facilities without identifying the amounts authorized for the 9 individual construction projects, whereas the Senate amendment authorizes the same facilities and specifies the dollar amount authorized for each individual construction project.

The conference substitute adopts the Senate language specifying the dollar amount authorized for each individual Space Shuttle construction project.

11. The House authorized \$13,600,000 for Facility Planning and Design, the amount of the NASA request.

The Senate authorized \$11,600,000, \$2,000,000 less than the NASA request.

The conference substitute authorizes \$13,600,000 for Facility Planning and Design.

12. The House authorized \$707,000,000 for the Research and Program Management program, the amount of the NASA request.

The Senate authorized \$705,000,000 for this program, \$2,000,000 less than the NASA request. Additionally, the Senate included language in its amendment stipulating that not more than \$549,020,000 be used for personnel and related costs.

The conference substitute approves a total amount of \$707,000,000 for Research and Program Management and includes language stipulating that not more than \$549,020,000 can be utilized for personnel and related costs.

13. The Senate amendment modified Section 4 of the bill with the addition of subsection 4(b) which restricts the amount authorized by the bill for personnel and related costs.

The House had no similar provision in their bill.

The conference substitute adopts the Senate provision.

14. The Senate amendment modified Section 4(a) of the bill adding a provision to preclude any inconsistencies between the provisions of this Act and any other legislation which might be enacted with respect to the impoundment or selected withholding of appropriated funds.

The House bill had no comparable provision.

The conference substitute adopts the House position and deletes the language from the bill. However, the committee of conference notes that in Fiscal Year 1973 there were considerable adjustments by the executive branch to the amounts authorized

and appropriated by NASA by the Congress. The conference strongly urges that the funds provided by the Congress for NASA for Fiscal Year 1974 be used to fully fund the programs to the levels approved by Congress.

15. In previous years the NASA authorization bill has contained a provision which denied payment by an institution of higher education of any funds provided under a NASA program to any student convicted by any court of record for involvement in disruption or other specified activities at any institution of higher education which prevented officials or students from engaging in their duties or pursuing their studies.

The recommended bill sent to the Congress by the Administration included this provision and it was adopted by the House.

The Senate deleted this provision on the basis that it was no longer considered necessary in the annual authorization bill for the National Aeronautics and Space Administration.

The conference substitute agreed to the deletion of this provision.

16. The Senate amendment added a new section to the bill amending Section 5316, Title 5, U.S.C., which deletes, in the Executive Salary Schedule, Level V, the three NASA positions of Associate Administrators for Advanced Research and Technology, for Space Science and Applications, and Manned Space Flight, and inserting in lieu thereof, "Associate Administrators, National Aeronautics and Space Administration (6)." This provision updates Section 5316 to recognize the additional levels of responsibility which have been established within NASA and simplifies any subsequent reorganization within the agency by deleting the functional designation following the title of Associate Administrator. No change in individual salaries is effected by this amendment at the present time.

The House had no comparable provision in their bill.

The conference substitute adopts the Senate provision. This action was taken with the concurrence of both the House and Senate Standing Committees on Post Office and Civil Service.

OLIN E. TEAGUE,
KEN HECHLER,
DON FUQUA,
JAMES W. SYMINGTON,
CHARLES A. MOSHER,
ALPHONZO BELL,
JOHN W. WYDLER,

Managers on the Part of the House.

FRANK E. MOSS,
STUART SYMINGTON,
HOWARD W. CANNON,
BARRY GOLDWATER,
CARL T. CURTIS,

Managers on the Part of the Senate.



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) Space flight operations, \$555,500,000;
 - (2) Space Shuttle, \$475,000,000;
 - (3) Advanced missions, \$1,500,000;
 - (4) Physics and astronomy, \$63,600,000;
 - (5) Lunar and planetary exploration, \$311,000,000;
 - (6) Launch vehicle procurement, \$177,400,000;
 - (7) Space applications, \$161,000,000;
 - (8) Aeronautical research and technology, \$180,000,000; of this amount \$14,000,000 is reserved for the JT-3D Refan Retrofit Research Program;
 - (9) Space and nuclear research and technology, \$72,000,000;
 - (10) Tracking and data acquisition, \$244,000,000;
 - (11) Technology utilization, \$4,500,000.
- (b) For "Construction of facilities," including land acquisition, as follows:
- (1) Replacement of transportation facility, Goddard Space Flight Center, \$660,000;
 - (2) Rehabilitation of vibration laboratory, Goddard Space Flight Center, \$710,000;
 - (3) Modifications of and addition to 25-foot space simulator building, Jet Propulsion Laboratory, \$740,000;
 - (4) Modification of planetary mission support facilities, Jet Propulsion Laboratory, \$580,000;
 - (5) Rehabilitation and modification of 600 pounds per square inch air supply system, Langley Research Center, \$2,410,000;
 - (6) Construction of systems engineering building, Langley Research Center, \$1,620,000;
 - (7) Rehabilitation of airfield pavement, Wallops Station, \$570,000;
 - (8) Rehabilitation of communication system, Wallops Station, \$575,000;
 - (9) Modification for fire protection improvements at various tracking and data stations, \$1,885,000;
 - (10) Modification of space launch complex 2 West, Vandenberg Air Force Base, \$980,000;
 - (11) Modification of power system, Slidell Computer Complex, \$1,085,000;
 - (12) Space Shuttle facilities at various locations, as follows:
 - (A) Modifications for auxiliary propulsion and power systems test facilities, White Sands Test Facility, \$1,290,000;
 - (B) Modifications for shuttle avionics integration laboratory, Lyndon B. Johnson Space Center, \$1,240,000;
 - (C) Modifications for radiant heating verification facility, Lyndon B. Johnson Space Center, \$1,260,000;
 - (D) Modifications for the Orbiter propulsion system test facilities, Mississippi Test Facility, \$11,300,000;

National Aeronautics and Space Administration Act, 1974.
Research and development.

Construction of facilities.

87 STAT. 171
87 STAT. 172

Scientific consultations.

Research and program management.

Construction at other research facilities.

Limitation; notice to congressional committees.

87 STAT. 172
87 STAT. 173

- (E) Modifications for external tank structural test facilities, Marshall Space Flight Center, \$4,400,000;
- (F) Modification of manufacturing and subassembly facilities for the Orbiter, NASA Industrial Plant, Downey, California, \$2,650,000;
- (G) Modification of and addition to final assembly and checkout facilities for the Orbiter, Air Force Plant Number 42, Palmdale, California, \$7,350,000;
- (H) Modification of manufacturing and final assembly facilities for external tanks, Michoud Assembly Facility, \$9,510,000;
- (I) Construction of Orbiter landing facilities, John F. Kennedy Space Center, \$28,200,000;
- (13) Rehabilitation and modification of facilities at various locations, not in excess of \$500,000 per project, \$14,785,000;
- (14) Minor construction of new facilities and additions to existing facilities at various locations, not in excess of \$250,000 per project, \$4,800,000;
- (15) Facility planning and design not otherwise provided for, \$13,600,000.
- (c) For "Research and program management," \$707,000,000, and such additional or supplemental amounts as may be necessary for increases in salary, pay, retirement, or other employee benefits authorized by law of which not more than \$549,020,000 and such additional or supplemental amounts as may be necessary for increases in salary, pay, retirement, or other employee benefits authorized by law, shall be available for personnel and related costs.
- (d) Notwithstanding the provisions of subsection 1(g), appropriations for "Research and development" may be used (1) for any items of a capital nature (other than acquisition of land) which may be acquired at locations other than installations of the Administration 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 in accordance with this subsection for the 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) Of the funds appropriated pursuant to subsections 1(a) and 1(c), not in excess of \$10,000 for each project, including collateral equipment, may be used for construction of new facilities and additions to existing facilities, and not in excess of \$25,000 for each project including collateral equipment, may be used for rehabilitation or modification of facilities: *Provided*, That of the funds appropriated pursuant to subsection 1(a), not in excess of \$250,000 for each project, including collateral equipment, may be used for any of the foregoing for unforeseen programmatic needs.

(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.

Sec. 2. Authorization is hereby granted whereby any of the amounts prescribed in paragraphs (1) through (11), inclusive, 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 (15) 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 developments, 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 the Committee on Aeronautical and Space Sciences of the Senate a written report containing a full and complete statement concerning (1) the nature of

Limitations.

Campuses bearing military recruiters, grants prohibition.

Report from Secretary of Defense to Administrator.

Cost variations, authority of Administrator.

Unforeseen program changes, transfer of research funds to construction.

87 STAT. 173
87 STAT. 174

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

Prohibitions.

Geographical distribution of research funds.

72 Stat. 419;
72 Stat. 404.

NASA installations, visitor facilities, concessions.

87 STAT. 174
87 STAT. 175

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.

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. Section 208(b) of the National Aeronautics and Space Act of 1958, as amended (42 U.S.C. 2473(b)), is amended by inserting immediately after paragraph (10) the following new paragraph:

"(11) to provide by concession, without regard to section 321 of the Act of June 30, 1932 (47 Stat. 412; 40 U.S.C. 303b), on such terms as the Administrator may deem to be appropriate and to be necessary to protect the concessioner against loss of his investment in property (but not anticipated profits) resulting from the Administration's discretionary acts and decisions, for the construction, maintenance, and operation of all manner of facilities and equipment for visitors to the several installations of the Administration and, in connection therewith, to provide services incident to the dissemination of information concerning its activities to such visitors, without charge or with a reasonable charge therefor (with this authority being in addition to any other authority which the Administration may have to provide facilities, equipment, and services for visitors to its installations). A concession agreement under this paragraph may be negotiated with any qualified proposer following due consideration of all proposals received after reasonable public notice of the intention to contract. The concessioner shall be afforded a reasonable opportunity to make a profit commensurate with the capital invested and the obligations assumed, and the consideration paid by him for the concession shall be based on the probable value of such opportunity

July 23, 1973

- 5 -

Pub. Law 93-74

87 STAT. 175

and not on maximizing revenue to the United States. Each concession agreement shall specify the manner in which the concessioner's records are to be maintained, and shall provide for access to any such records by the Administration and the Comptroller General of the United States for a period of five years after the close of the business year to which such records relate. A concessioner may be accorded a possessory interest, consisting of all incidents of ownership except legal title (which shall vest in the United States), in any structure, fixture, or improvement he constructs or locates upon land owned by the United States; and, with the approval of the Administration, such possessory interest may be assigned, transferred, encumbered, or relinquished by him, and, unless otherwise provided by contract, shall not be extinguished by the expiration or other termination of the concession and may not be taken for public use without just compensation;".

Concessioner's records, accessibility; possessory interest.

Sec. 7. Title II of the National Aeronautics and Space Act of 1958, as amended (42 U.S.C. 2471 et seq.), is amended by adding at the end thereof the following new section:

72 Stat. 427;
85 Stat. 177.

"DISPOSAL OF EXCESS LAND

"Sec. 207. Notwithstanding the provisions of this or any other law, the Administration may not report to a disposal agency as excess to the needs of the Administration any land having an estimated value in excess of \$50,000 which is owned by the United States and under the jurisdiction and control of the Administration, unless (A) a period of thirty days has passed after the receipt by the Speaker and the Committee on Science and Astronautics of the House of Representatives and the President and the Committee on Aeronautical and Space Sciences of the Senate of a report 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 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."

Approval by congressional committees.

Sec. 8. Section 5316, title 5, United States Code, is amended by deleting paragraphs (15), (16), and (17) and by substituting therefor a new paragraph (15) to read as follows:

Associate Administrators, NASA.
80 Stat. 463.

"(15) Associate Administrators, National Aeronautics and Space Administration (8)."

Sec. 9. This Act may be cited as the "National Aeronautics and Space Administration Authorization Act, 1974".

Short title.

Approved July 23, 1973.

LEGISLATIVE HISTORY:

HOUSE REPORTS: No. 93-171 (Comm. on Science and Astronautics) and No. 93-353 (Comm. of Conference).
SENATE REPORT No. 93-179 (Comm. on Aeronautical and Space Sciences).
CONGRESSIONAL RECORD, Vol. 119 (1973):
May 23, considered and passed House.
June 19, considered and passed Senate, amended.
June 28, Senate agreed to conference report.
July 11, House agreed to conference report.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT; SPACE, SCIENCE, VETERANS, AND CERTAIN OTHER INDEPENDENT AGENCIES APPROPRIATION BILL, 1974

January 10, 1973.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

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

REPORT
together with
SUPPLEMENTAL VIEWS

(To accompany H.R. 8625)

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

RESEARCH AND DEVELOPMENT	
1974 appropriation	\$2,800,000,000
1973 appropriation	2,197,000,000
Amount requested in bill	2,154,000,000
Amount below estimate	-2,000,000

During the past eighteen months, the National Aeronautics and Space Administration has enjoyed a number of significant accomplishments. During calendar 1972 all of NASA's launches and missions were successfully flown. Apollo 17, the last of the six lunar landings, will be remembered as the most rewarding to the scientist. Mariner 9 brought back data which radically changed the thinking about Mars. The first Earth Resources Satellite is providing data on the world's environment and natural resources, and the United States and the Soviet Union agreed to carry out the first joint space flight.

The 1974 budget request proposes continuation of the Space Shuttle system and the American-Russian Apollo-Soyuz project. Funds are also requested for the second and third crew visits to Skylab; the Viking program which is scheduled to make a soft-landing on Mars in July of 1976; a Mariner Venus-Mercury mission to be launched in October of this year; and a number of other weather and scientific satellites.

In the area of aeronautics research, the budget proposes further development of jet engine noise abatement technology, continued research in advanced supersonic technology, and pursuit of basic research in materials, structures, propulsion, and other efforts to expand the research and technology base for future use.

The Committee recommends an appropriation of \$2,194,000,000 in support of research and development activities, which is a reduction of \$60,000,000 below the budget estimate. The amount recommended is \$60,500,000 below the authorization recently adopted by the House. There is an additional \$91,000,000 in carryover funds available for use in 1974, which had been impounded in 1973.

Within the total recommended, the Committee suggests a number of changes from the amounts provided in the current budget plan.

1. The budget estimate for 1974 contains a request for \$28,000,000 to undertake research in technological areas critical to supersonic flight. Part of NASA's basic responsibility is to undertake fundamental research and technology development in aeronautics well in advance of when it may be used. Such technology may be applied to either military or civilian aircraft development.

The Committee recommends \$11,700,000 to continue development of the technological base for supersonic flight at the more reasonable 1973 level of effort. No funds are requested to initiate the development of an SST, or in any way aid the United States to such a development.

2. The budget requests an additional funds for work in the fields of nuclear power or propulsion during the hearings on the bill the Committee heard testimony indicating that it would be more economical to continue a low level nuclear program, rather than suspending this activity now and subsequently having to gear up for a crash program. In view of the enormous investment that has been made in this field, the Committee strongly urges that NASA not abandon this capability but continue activities in the technology development within the total funds provided in this appropriation.

3. The Budget proposes delaying the second Earth Resources Technology Satellite from 1973 and 1976 to April, 1978. This developed a partial malfunction in flight, its capability and usefulness outside of the Western Hemisphere of this multifunction seriously degrades the important goals of ERSS. The Committee urges NASA to reprogram the non-spare funds to begin ERSS-B as early as possible.

4. Under aeronautics research, the budget proposes discontinuing all work on the Quiet Experimental Short Take-Off and Landing aircraft project. The unfavorable U.S. balance of payments, coupled with intensified foreign programs to develop new short haul aircraft, as well as increasing problems of noise, pollution, and congestion resulting from use of existing aircraft all point to the critical need for NASA to expedite and take advantage of recent developments in QUESTOL technology. To insure American competitiveness in this largely underdeveloped area of commercial aviation, the Committee urges that development of the QUESTOL be continued.

The Committee recommends not to exceed \$2,500,000 for replacement of a highly sophisticated Convair 990 flying laboratory which recently crashed in a mid-air collision with a Navy patrol airplane. This aircraft had a unique capability to conduct a wide variety of airborne research at a moderate cost. The Committee feels this capability should be continued through the use of an alternative aircraft within the amount provided.

CONSTRUCTION OF FACILITIES

1973 appropriation.....	\$77,300,000
Estimate, 1974.....	112,000,000
Recommended in bill.....	87,800,000
Reduction below estimate.....	-24,200,000

The Committee recommends \$87,800,000 for the construction of new facilities requested in the budget estimate. The funds recommended are the same as requested, except in two instances. The estimate of \$9,510,000 for modification of manufacturing and final assembly facilities for the space shuttle's external tanks has been reduced to \$6,210,000, and the estimate of \$28,200,000 for construction of space shuttle landing facilities has been reduced to \$7,300,000.

Data supplied in support of the request indicates that \$24,200,000 would cover only partial funding of requirements for certain space shuttle facilities, and it is doubtful that such funds will be required for obligation this fiscal year. The Committee believes funds should not be provided earlier than needed for these projects, or before a clear estimate of total requirements for individual projects is determined. The Committee accordingly recommends that such funding be deferred at this time.

If it is discovered as the year progresses that these funds are needed in advance of the fiscal year 1975 appropriation in order to maintain construction schedules, the Committee recommends that the necessary funds be made available through temporary adjustments within the amount appropriated and available unobligated balances.

As in past years, the Committee continues to feel that the Congress should specifically approve and fund major NASA construction projects. The bill delineates the major projects and purposes for which these funds can be obligated and three-year availability is provided.

A new provision is also recommended to permit funds for an initiated project to remain available until expended permitting the orderly closeout of the project in the event of unusual circumstances.

RESEARCH AND PROGRAM MANAGEMENT

1973 appropriation.....	\$729,450,000
Estimate, 1974.....	707,000,000
Recommended in bill.....	707,000,000

The Committee recommends the budget estimate of \$707,000,000 for research and program management. This is \$22,450,000 less than the 1973 appropriation, and reflects the continued contraction of administrative support associated with the completion of Projects Apollo and Skylab in 1973 and 1974. The level recommended will bring NASA civil service employment down to less than 25,000 by the end of 1974, a reduction of more than 9,000 from the peak employment in July of 1967.

GENERAL PROVISIONS

On pages 10 and 11, in connection with Construction of Facilities, National Aeronautics and Space Administration:

: Provided, That, notwithstanding the limitations on the availability of funds appropriated under this head by this or the corresponding appropriation acts for the fiscal years 1973 (86 Stat. 544-545) and 1972 (85 Stat. 277), and except with respect to items (13) through (15) above, items (22) through (24) of the cited fiscal year 1973 act, and the items for "rehabilitation and modification of facilities" and "facility planning and design" of the cited fiscal year 1972 act, when any activity, for which appropriations under this head made by this or the cited acts are available, has been initiated by the incurrence of obligations therefor, the amount available for such activity shall remain available until expended.

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, 1973 (2)	Budget estimates of new budget (obligational) authority, 1974 (3)	Increase (+) or decrease (-) (4)
National Aeronautics and Space Administration: Miscellaneous trust funds.....	\$9,900,000	\$500,000	- \$9,400,000

COMPARATIVE STATEMENT OF THE NEW BUDGET (OBLIGATIONAL) AUTHORITY FOR FISCAL YEAR 1973 AND THE BUDGET ESTIMATES FOR FISCAL YEAR 1974

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

Agency and item (1)	New budget (obligational) authority, fiscal year 1973 (2)	Budget estimates of new budget (obliga- tional) authority, fiscal year 1974 (3)	New budget (obligational) authority recom- mended in bill (4)	Bill compared with	
				New budget (obligational) authority, fiscal year 1973 (5)	Budget estimates of new budget (obliga- tional) authority, fiscal year 1974 (6)
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION					
Research and development.....	2,600,000,000	2,197,000,000	2,194,000,000	-406,000,000	-3,000,000
Construction of facilities.....	77,300,000	112,000,000	87,800,000	+10,500,000	-24,200,000
Research and program management.....	729,450,000	707,000,000	707,000,000	-22,450,000	-----
Total, National Aeronautics and Space Administration.....	3,407,650,000	3,016,000,000	3,088,800,000	-318,850,000	-27,200,000

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT; SPACE,
SCIENCE, VETERANS, AND CERTAIN OTHER INDEPENDENT AGEN-
CIES APPROPRIATIONS BILL, 1974

JUNE 28 (legislative day, June 25), 1973.—Ordered to be printed

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

REPORT

[To accompany H.R. 8825]

ANTI-IMPOUNDMENT LANGUAGE

The Committee has added language to the bill to insure that all funds appropriated herein shall be obligated except as specifically provided by law. It is the intent of the Committee that all funds be available for obligation except those for which a specific reservation has been provided in this bill or those which may legally be withheld under the Anti-Deficiency Act or other specific statutory authority.

PROHIBITION ON USE OF VEHICLES

The Committee has added a new Section 405 to the bill to prohibit the use of limousines and heavy, medium, and light sedans by federal officials. It has exempted from this provision officials of Cabinet rank, and thus, in the new Section has included language to provide that the Secretary of the Department of Housing and Urban Development is therefore exempted from the provisions of this bill.

However, the Committee hastens to point out that under existing law (38 USC Supp. II 638a) vehicles furnished to government officials of Cabinet rank are to be used exclusively for official purposes and shall not include transportation between the official's domicile and his place of employment. The Committee regrets that it has been necessary to take this action and insert this new provision, but it has been alarmed and disturbed by the proliferation of the use of limousines and sedans by an inordinate number of government officials far below Cabinet rank.

The committee was told that the major elements of NASA's Research and Development program are:

Manned Space Flight—a program utilizing the capabilities developed in the Apollo program to conduct manned missions involving the first long-duration earth orbital laboratory and a cooperative test project with the USSR, and to develop a new transportation system which will provide significantly greater capabilities and reduced costs for future missions. The FY 1974 plan, according to the Agency, provides for completion of the Skylab missions, preparations for the Apollo/Soyuz Test Project, the first cooperative manned flight effort between the United States and the USSR, and increased activity in the design and development of the Space Shuttle.

Space Science—an unmanned space flight program directed toward scientific investigations of the earth, the atmosphere, the moon, the sun, the planets, the stars, and interplanetary space. The FY 1974 budget request provides for continued investigation of phenomena of the universe using automated spacecraft, sounding rockets, balloons and aircraft, and ground-based research, the Committee was told.

Space Applications—research and development to demonstrate the application of space techniques in the areas of weather and climate, pollution monitoring, earth resources survey, earth and ocean physics, communications, and space processing, and toward this goal a strong ground-based research and technology effort and a carefully-planned flight program will be conducted in FY 1974, Agency sources indicate.

Aeronautics and Space Technology—a sustained effort to acquire fundamental knowledge and to expand the technological base needed to continue United States leadership in aeronautics and space programs, in the Agency's view.

Tracking and Data Acquisition—a program which furnishes support to NASA space flight activities through the management of the worldwide NASA communication system, the tracking of manned and unmanned spacecraft, and the acquisition of data from these spacecraft.

Technology Utilization—a program with the objective of providing wide and rapid dissemination to the public of scientific and technical information resulting from NASA efforts. Emphasis in FY 1974 will be toward applying these research and technology developments to major public problems in the areas of pollution, medicine, transportation, and law enforcement through special government-university-industry teams, NASA officials informed the Committee.

RESEARCH AND DEVELOPMENT

1973 appropriation	\$2,600,900,000
Estimate, 1974	2,197,000,000
House allowance	2,194,000,000
Committee recommendation	2,194,000,000

Within the total appropriation of \$2,194,000,000 recommended by the Committee for Research and Development, the Committee expects NASA to carry out, to the extent possible, the suggestions contained in the House Report concerning allocation of funds to various programs. In particular, the Committee recommends that NASA provide the funds to launch the second Earth Resources Technology Satellite (ERTS-B) as early as possible if ERTS-1 encounters a major system failure, and replace the capability of the flying laboratory "Galileo," the Convair 990 which was destroyed in an accident in April 12, 1973. The Committee also recommends that NASA provide the funds, within the total appropriation:

- (1) to carry out a program to explore and ~~develop~~ **investigate options for energy generation and management using NASA-developed technologies;**
- (2) to expand its jet engine noise reduction program to include **refan work** on the JT3D jet engines used on 707 and DC-8 aircraft;
- (3) to continue development of the QUESTOL research aircraft;
- (4) to increase efforts in the Technology Utilization program and continue research in nuclear power and propulsion;
- (5) to continue the advanced supersonic technology program at a level not to exceed \$11,700,000, specifically including continued research in propulsion technology, encompassing noise reduction, pollution reduction, reduced fuel consumption, and stratospheric emission experiments, and in aerodynamics technology, encompassing aerodynamic efficiency and sonic boom studies.

CONSTRUCTION OF FACILITIES

1973 appropriation	\$77,300,000
Estimate, 1974	112,000,000
House allowance	87,800,000
Committee recommendation	101,100,000

The Committee recommends a total of \$101.1 million for Construction of Facilities, which includes \$56.3 million for Space Shuttle Facilities. This is a reduction of \$10.9 million from the budget request and is \$13.3 million above the sum recommended by the House. The House reduced the funds for "construction of Orbiter landing facilities, John F. Kennedy Space Center" by \$20.9 million to \$7.3 million. The Committee recommends \$17.3 million for this project to permit NASA to proceed in an orderly way with the first increment of the required work. For the same reason, the full amount of \$9.51 million is included in the bill for NASA to proceed with the "modification of manufacturing and final assembly facilities for external tanks, Michoud Assembly Facility". This is \$3.3 million above the amount recommended by the House for this item. If it is discovered as the year progresses that additional funds are needed for the Orbiter landing facilities, the Committee recommends ~~that such funds be made available through temporary adjustments within the amount appropriated and available unobligated balances.~~

The Committee notes with approval that the Administrator stated in writing for the record that procurement of the space shuttle solid rocket motor would be accomplished in the manner considered most cost effective and that to assure the most cost effective proposals prospective contractors may propose use of government facilities, contractor facilities, or a combination of both.

The Committee assumes this cost saving philosophy will be applied from the inception of the program equally to development and production and that use of government facilities will not only be allowed but encouraged when to do so would result in total program cost savings to the government.

The Construction of Facilities appropriation provides for contractual services for the design, major rehabilitation, and modification of facilities; the construction of new facilities; minor construction; the purchase of related equipment and advanced design related to facilities planned for future authorization. The principal projects in the FY 1974 program, as described to the Committee, are:

Manned Space Flight, which includes funds for space shuttle facilities.

Scientific Investigations in Space, which provides funds for the rehabilitation of a vibration laboratory at the Goddard Space Flight Center, modifications of and addition to the space simulator building and modifications of the planetary mission support facilities at the Jet Propulsion Laboratory;

Space Applications, an activity which includes funds for the modification of a space launch complex at the Western Test Range;

Aeronautical Research and Technology, which covers funding for the rehabilitation and modification of the air supply system at the Langley Research Center; and

Supporting Activities, the funds for which provide for replacement of the transportation facility at the Goddard Space Flight Center, construction of a systems engineering building at the Langley Research Center, rehabilitation of airfield pavement and a communication system at the Wallops Station, modification for fire protection improvements at various tracking and data network stations, modification of the power system at the computer complex in Slidell, Louisiana, rehabilitation and modification of facilities not in excess of \$500,000 per project and minor construction of new facilities and additions to existing facilities not in excess of \$250,000 per project at various NASA installations and at Government-owned plants, operated by contractors, and facility planning and design.

RESEARCH AND PROGRAM MANAGEMENT

1973 appropriation	\$729,450,000
Estimate, 1974	707,000,000
House allowance	707,000,000
Committee recommendation	707,000,000

The Committee recommends an appropriation of \$707 million for Research and Program Management, which is the same as the budget estimate and the House allowance.

According to information provided the Committee, the Research and Program Management appropriation includes funding for research in Government laboratories, management of programs, and other NASA activities and is mainly intended to provide the civil service staff necessary for in-house research, and to plan, manage, and support the Research and Development programs and also to provide other elements of operational capability to the laboratories and facilities such as logistics support (travel and transportation, maintenance, and operation of facilities), and technical and administrative support.

GENERAL PROVISIONS

LIMITATIONS AND LEGISLATIVE PROVISIONS

On pages 10 and 11, in connection with Construction of Facilities, National Aeronautics and Space Administration:

Provided, That, notwithstanding the limitations on the availability of funds appropriated under this head by this or the corresponding appropriation acts for the fiscal years 1973 (86 Stat. 554, 545) and 1972 (85 Stat. 277), and except with respect to items (13) through (15) above, items (22) through (24) of the cited fiscal year 1973 act, and the items for "rehabilitation and modification of facilities" and "facility planning and design" of the cited fiscal year 1972 act, when any activity, for which appropriations under this head made by this or the cited acts are available, has been initiated by the incurrence of obligations therefor, the amount available for such activity shall remain available until expended.

On Page 23 the Committee has added a new Section 405 as follows:

Sec. 405. (a) None of the funds made available under this Act may be used for the purchase, hire, or operation and maintenance of passenger motor vehicles (other than passenger motor vehicles of the types generally available in motor pools of Government agencies on the date of enactment of this Act and other than for the purchase, hire, or operation of one such vehicle for official use by the Secretary of Housing and Urban Development).

(b) None of the funds provided in this Act may be used for the purchase, hire, or operation and maintenance of any passenger motor vehicle for the transportation of any Government employee between his dwelling and his place of employment, except in cases of medical officers on outpatient medical service and except in cases of officers and employees engaged in field work in remote areas, the character of whose duties make such transportation necessary, and only when such exceptions are approved by the head of the department concerned.

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, 1973 (2)	Budget estimates of new budget (obligational) authority, 1974 (3)	Increase (+) or decrease (-) (4)
National Aeronautics and Space Administration: Miscellaneous trust funds.....	\$9,900,000	\$500,000	-\$9,400,000

**COMPARATIVE STATEMENT OF NEW BUDGET (OBLIGATIONAL) AUTHORITY FOR 1973 AND BUDGET ESTIMATES
AND AMOUNTS RECOMMENDED IN THE BILL FOR 1974**

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

Agency and item (1)	New budget (obligational) authority, fiscal year 1973 (*) (2)	Budget esti- mates of new budget (obligational) authority, fiscal year 1974 (3)	New budget (obligational) authority recommended in House bill (4)	Committee recommen- dations (5)	Committee recommendations compared with (+) increase (-) decrease		
					Appropriations 1973 (6)	Estimates 1974 (7)	House bill (8)
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION							
Research and development.....	2,600,900,000	2,197,000,000	2,194,000,000	2,194,000,000	-406,900,000	-3,000,000	
Construction of facilities.....	77,300,000	112,000,000	87,800,000	101,100,000	+23,800,000	-10,900,000	+\$13,300,000
Research and program management.....	729,450,000	707,000,000	707,000,000	707,000,000	-22,450,000		
Total, National Aeronautics and Space Administration.....	3,407,650,000	3,016,000,000	2,988,800,000	3,002,100,000	-405,550,000	-13,900,000	+13,300,000

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT; SPACE, SCIENCE, VETERANS APPROPRIATIONS—1974

JULY 27, 1973.—Ordered to be printed

Mr. BOLAND, from the committee of conference,
submitted the following

CONFERENCE REPORT

[To accompany H.R. 8825]

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Amendment No. 19: Appropriates \$101,100,000 for construction of facilities as proposed by the Senate, instead of \$87,800,000 as proposed by the House.

Amendment No. 20: Earmarks \$56,300,000 for space shuttle facilities as proposed by the Senate, instead of \$43,000,000 as proposed by the House.

TITLE IV—GENERAL PROVISIONS

Amendments Nos. 44 and 45: Reported in disagreement. The managers on the part of the House will offer a motion to insist on its disagreement to the amendment of the Senate that would impose further restrictions on the purchase, hire, operation and maintenance of passenger motor vehicles by the department and agencies included in this act.

MAKING APPROPRIATIONS FOR THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

OCTOBER 10, 1973.—Ordered to be printed

Mr. BOLAND, from the committee of conference
submitted the following

CONFERENCE REPORT

[To accompany H.R. 8825]

The committee of conference on the disagreeing votes of the two Houses on the amendments of the Senate to the bill (H.R. 8825) "making appropriations for the Department of Housing and Urban Development; for space, science, veterans, and certain other independent executive agencies, boards, commissions, and corporations for the fiscal year ending June 30, 1974, and for other purposes," having met, after further, full and free conference, have agreed to recommend and do recommend to their respective Houses as follows:
That the Senate recede from its amendment numbered 44.

TITLE IV—GENERAL PROVISIONS

Amendment No. 44: Deletes language proposed by the Senate to further restrict the purchase, hire, operation and maintenance of passenger motor vehicles for the department and agencies contained in this Act.



Public Law 93-137
93rd Congress, H. R. 8825
October 26, 1973

An Act

Making appropriations for the Department of Housing and Urban Development; for space, science, veterans, and certain other independent executive agencies, boards, commissions, and corporations for the fiscal year ending June 30, 1974, and for other purposes.

87 STAT. 491

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 the Department of Housing and Urban Development; for space, science, veterans, and certain other independent executive agencies, boards, commissions, and corporations for the fiscal year ending June 30, 1974, and for other purposes, namely:

Department of Housing and Urban Development; Space, Science, Veterans, and Certain Other Independent Agencies Appropriation Act, 1974.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

RESEARCH AND DEVELOPMENT

For necessary expenses, not otherwise provided for, including research, development, operations, services, minor construction, maintenance, repair, rehabilitation and modification 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, \$2,194,000,000, to remain available until expended.

CONSTRUCTION OF FACILITIES

For advance planning, design, rehabilitation, modification and construction of facilities for the National Aeronautics and Space Administration, and for the acquisition or condemnation of real property, as authorized by law, \$101,100,000, including (1) \$660,000 for replacement of transportation facility, Goddard Space Flight Center; (2) \$710,000 for rehabilitation of vibration laboratory, Goddard Space Flight Center; (3) \$740,000 for modifications of and addition to 25-foot space simulator building, H. Allen Smith Jet Propulsion Laboratory; (4) \$580,000 for modification of planetary mission support facilities, H. Allen Smith Jet Propulsion Laboratory; (5) \$2,410,000 for rehabilitation and modification of 600 p.s.i. air supply system, Langley Research Center; (6) \$1,620,000 for construction of systems engineering building, Langley Research Center; (7) \$570,000

October 26, 1973

Pub. Law 93-137

Page 53

87 STAT. 495

for rehabilitation of airfield pavement, Wallops Station; (8) \$575,000 for rehabilitation of communication system, Wallops Station; (9) \$1,885,000 for modification for fire protection improvements at various tracking and data stations; (10) \$980,000 for modification of space launch complex 2 West, Vandenberg Air Force Base; (11) \$1,085,000 for modification of power system, Slidell Computer Complex; (12) \$56,300,000 for Space Shuttle facilities at various locations, as follows: (A) modifications for auxiliary propulsion and power systems test facilities, White Sands Test Facility, (B) modifications for Shuttle avionics integration laboratory, Lyndon B. Johnson Space Center, (C) modifications for radiant heating verification facility, Lyndon B. Johnson Space Center, (D) modifications for the Orbiter propulsion system test facilities, Mississippi Test Facility, (E) modifications for external tank structural test facilities, Marshall Space Flight Center, (F) modification of manufacturing and subassembly facilities for the Orbiter, NASA Industrial Plant, Downey, Calif., (G) modification of and addition to final assembly and checkout facilities for the Orbiter, Air Force Plant No. 42, Palmdale, Calif., (H) modification of manufacturing and final assembly facilities for external tanks, Michoud Assembly Facility, (I) construction of Orbiter landing facilities, John F. Kennedy Space Center; (13) \$14,785,000 for minor rehabilitation and modification of facilities at various locations; (14) \$4,600,000 for minor construction of new facilities and additions to existing facilities at various locations; (15) \$13,600,000 for facility planning and design not otherwise provided for; to remain available for obligation until June 30, 1976: *Provided*, That, notwithstanding the limitations on the availability of funds appropriated under this head by this or the corresponding appropriation acts for the fiscal years 1973 (86 Stat. 544-545) and 1972 (85 Stat. 277), and except with respect to items (13) through (15) above, items (22) through (24) of the cited fiscal year 1973 act, and the items for "rehabilitation and modification of facilities" and "facility planning and design" of the cited fiscal year 1972 act, when any activity, for which appropriations under this head made by this or the cited acts are available, has been initiated by the incurrence of obligations therefor, the amount available for such activity shall 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); awards; hire, maintenance and operation of administrative aircraft; purchase (not to exceed twenty-six for replacement only) and hire of passenger motor vehicles; and maintenance and repair of real and personal property, and not in excess of \$10,000 per project for construction of new facilities and additions to existing facilities, and not in excess of \$25,000 per project for rehabilitation and modification of facilities; \$101,000,000: *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: *Provided further*, That not to exceed \$35,000 of the foregoing amount shall be available for scientific consultations or extraordinary expense, to be expended upon the approval or authority of the Administrator and his determination shall be final and conclusive.

80 Stat. 508;
81 Stat. 206.

TITLE IV
GENERAL PROVISIONS

Sec. 401. Where appropriations in titles I and II 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 inter-agency motor pools where separately set forth in the budget schedules.

Uniforms, etc. Sec. 402. Appropriations and funds available for the administrative expenses of the Department of Housing and Urban Development and the Selective Service System shall be available in the current fiscal year for purchase of uniforms, or allowances thereof, 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.

80 Stat. 508;
81 Stat. 206.
80 Stat. 416.
"Legal and banking services." Sec. 403. Funds made available for the Department of Housing and Urban Development under title III 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).

64 Stat. 813;
84 Stat. 1114.
Research projects. Sec. 404. 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.

Fiscal year limitation. Sec. 405. Notwithstanding any other provision of this Act, not to exceed \$425,000 of the amount herein made available for the Federal Communications Commission may be used for land and structures.

Short title. Sec. 406. No part of any appropriations contained in this Act shall remain available for obligation beyond the current fiscal year unless expressly so provided herein.

This Act may be cited as the "Department of Housing and Urban Development; Space, Science, Veterans, and Certain Other Independent Agencies Appropriation Act, 1974".

Approved October 26, 1973.

LEGISLATIVE HISTORY:

HOUSE REPORTS: No. 93-296 (Comm. on Appropriations) and Nos. 93-411 and 93-569 (Comm. of Conference).
SENATE REPORT No. 93-272 (Comm. on Appropriations).
CONGRESSIONAL RECORD, Vol. 119 (1973):
June 22, Aug. 1, Oct. 11, considered and passed House.
June 30, Sept. 7, Oct. 13, considered and passed Senate.

CHRONOLOGY OF EVENTSOMB Submission

9/30/72 Vol. I Summary and Research and Development
 9/30/72 Vol. II Construction of Facilities and Research and Program Management

Congressional Submission

2/9/73 Vol. I Agency Summary and Research and Development
 2/7/73 Vol. II Construction of Facilities
 2/26/73 Vol. III Research and Program Management and Special Analyses

AUTHORIZATION BILLHOUSE (H.R. 4567) (Superceded by H.R. 7528)

2/27/73 Mr. Myers, Mr. Gorman, Mr. Schneider
 2/28/73 Mr. Gorman, Mr. Schneider
 3/1/73 Mr. Myers, Mr. Lord, Mr. Mathews, Mr. Jaffe,
 Mr. Sedlazek
 3/6/73 Mr. Myers, Gen. Curtin, Mr. Culbertson,
 Mr. Jackson, Mr. Cherry, Dr. Himmel,
 Mr. Mathews
 3/7/73 Mr. Jackson, Mr. Cherry, Dr. Himmel,
 Mr. Mathews, Dr. Nordberg, Mr. Bergen,
 Mr. Lee
 3/8/73 Dr. Levy, Mr. Able, Mr. Hutton, Mr. Butler,
 Mr. Disher, Mr. Cherry, Dr. Himmel,
 Mr. Bailey, Mr. Gilbert, Mr. Shannon,
 Mr. Krier

SENATE (S. 880) (Superceded by H.R. 7528)

2/28/73 Dr. Fletcher, Dr. Low, Mr. Shapley,
 Mr. Lilly, Gen. Stafford, Capt. Conrad,
 Mr. McCurdy, Mr. Jackson, Mr. Mathews,
 Mr. Myers, Dr. Naugle, Mr. Truszynski,
 Mr. Grubb
 3/6/73 Dr. Fletcher, Dr. Low, Mr. Shapley, Mr. Lilly
 3/7/73 Mr. Myers, Dr. Fletcher, Mr. Koenig
 3/9/73 Dr. Levy, Gen. Curtin
 3/12/73 Dr. Naugle, Dr. Low, Mr. Johnson, Mr. Daniels,
 Mr. Mathews, Jr. Jaffe
 3/14/73 Dr. Low, Mr. Mathews, Mr. Jaffe, Mr. Farley,
 Mr. O'Hagan, Mr. Simpson, Mr. Hamilton,
 Mr. Zimmerman

AUTHORIZATION BILL (CONT'D)HOUSE (H.R. 4567) (Superceded by H.R. 7528)SENATE (S. 880) (Superceded by H.R. 7528)

3/13/73 Mr. Jackson, Dr. Himmel, Mr. Cherry,
Mr. Mathews, Mr. Jaffe, Mr. Sedlazeck,
Col. Stelling, Mr. Harford, Dr. Grey,
Mr. Layton

3/14/73 Mr. Kilgore, Dr. Dugan, Dr. Schmitt,
Dr. Petrone, Mr. Culbertson, Dr. Berry,
Dr. Parker, Dr. Hofstadter

3/15/73 Mr. Truszynski, Mr. Farley, Dr. Donahue,
Dr. Phinney, Dr. Goody, Dr. McElroy,
Mr. Fradin, Mr. Brownell, Dr. Heppen-
heimer, Mr. Howell, Mr. O'Neill,
Mr. Luciano

3/20/73 Dr. Fletcher, Mr. Lilly, Mr. Malaga,
Dr. Low, Gen. Curtin

3/22/73 Dr. Fletcher, Mr. Lilly, Mr. Myers,
Mr. Mathews, Mr. Jackson, Mr. Farley

3/28/73 Dr. Naugle, Mr. Johnson, Dr. Smith,
Mr. Daniels

3/29/73 Dr. Naugle

4/3/73 Mr. Johnson, Mr. Daniels, Mr. O'Bryant

4/4/73 Mr. Johnson, Mr. Daniels

5/23/73 House Floor Action

3/15/73 Mr. Elliott, Mr. Schaefer, Mr. Ruble,
Mr. Kibler, Mr. Bockes, Mr. Gockowski,
Mr. Miller, Mr. Von Steen, Dr. DeNoyer,
Dr. Bisplinghoff, Dr. Townsend,
Mr. Johnson, Dr. Greenfield, Mr. Foester,
Mr. Koutsandreas

3/21/73 Mr. Jackson, Dr. Low, Mr. Cherry, Dr. Himmel,
Mr. Kilgore, Dr. Cannon

3/22/73 Mr. Truszynski, Dr. Low, Mr. Pozinsky,
Mr. Lucas, Mr. Malaga, Gen. Curtin,
Mr. Frutkin

4/3/73 Dr. Foster

4/4/73 Senator Tunney, Mr. Woodcock, Mr. Beidler,
Mr. Harr, Mr. Thayer, Mr. Pownall,
Mr. Harford, Mr. Layton, Dr. Grey,
Dr. Von Kann, Mr. Poritzky

4/10/73 Dr. Townes, Dr. Heiss, Dr. Donovan,
Dr. Schmitt, Dr. Gold, Dr. Rathjens,
Dr. Van Allen

6/19/73 Senate Floor Action

CONFERENCE COMMITTEE ACTION

6/28/73 Conference Committee approved (Report 93-353)

6/28/73 Senate approved

7/11/73 House approved

7/23/73 President approved P.L. 93-74

APPROPRIATION BILLHOUSE (H.R. 8825)

4/2/73 Dr. Fletcher, Dr. Low, Mr. Shapley, Mr. Lilly,
Mr. Jackson, Mr. Mathews, Mr. Myers,
Dr. Naugle, Mr. Truszynski, Gen. Curtin,
Mr. Farley, Mr. Malaga, Mr. Moritz

6/9/73 Appropriation Committee Report No. 93-296

6/22/73 House Floor Action

SENATE (H.R. 8825)

3/26/73 Dr. Fletcher, Dr. Low, Mr. Shapley, Mr. Lilly,
Mr. Jackson, Mr. Mathews, Mr. Myers,
Dr. Naugle, Mr. Truszynski, Gen. Curtin,
Mr. Grubb, Mr. Hosenball, Mr. Malaga,
Mr. Moritz

3/27/73 Dr. Fletcher, Dr. Low, Mr. Shapley, Mr. Lilly,
Mr. Jackson, Mr. Mathews, Mr. Myers,
Dr. Naugle, Mr. Truszynski, Gen. Curtin,
Mr. Farley, Mr. Grubb, Mr. Hosenball,
Mr. Malaga, Mr. Moritz

4/9/73 Senator Mondale, Dr. Van Allen, Dr. Rathjens,
Dr. O'Leary

4/11/73 Senator Cranston, Dr. Morgenstern, Dr. Perkins,
Mr. Harford, Dr. Flax, Mr. Alderson,
Gen. Von Kann, Mr. Howell, Dr. Heiss,
Dr. Grey, Mr. Layton, Mr. O'Neill,
Mr. Luciano

6/28/73 Appropriation Committee Report No. 93-272

6/30/73 Senate Floor Action

CONFERENCE COMMITTEE ACTION

7/27/73 Conference Committee Report No. 93-411

10/10/73 Conference Committee Report No. 93-569

10/11/73 House adopted Conference Reports

10/13/73 Senate adopted Conference Reports

10/26/73 President approved P.L. 93-137



Public Law 93-305
93rd Congress, H. R. 14013
June 8, 1974

An Act

88 STAT. 195

Making supplemental appropriations for the fiscal year ending June 30, 1974, 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 Second Supplemental Appropriations Act, 1974, be approved, 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, 1974") for the fiscal year ending June 30, 1974, and for other purposes, namely:

84 Stat. 1946.
5 USC 5301
note.

TITLE II

INCREASED PAY COSTS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

"Research and program management", \$37,600,000;

TITLE III

FISCAL YEAR 1973 RETROACTIVE PAY COSTS

SEC. 301. For costs arising from the fiscal year 1973 pay increases granted by or pursuant to the Federal Pay Comparability Act of 1970 and the Act of December 16, 1967 (81 Stat. 649), for any branch of the Federal Government or the municipal government of the District of Columbia, to be available immediately, such amounts as may be necessary, to be determined as hereinafter provided in this title, but no appropriation, fund, limitation, or authorization may be increased pursuant to the provisions of this title in an amount in excess of the cost to such appropriation, fund, limitation, or authorization related to increased compensation pursuant to such statutes.

SEC. 302. Whenever any officer referred to in section 303 of this title shall determine that he has exhausted the possibilities of meeting the cost of pay increases, first, through the use of the unobligated balances of the fiscal year 1973 appropriations, funds, limitations, or authorizations properly chargeable with the costs in fiscal year 1973, which are hereby restored and made available for this purpose, and, secondly, through the use of the corresponding appropriations, funds, limitations, or authorizations for the fiscal year 1974, he shall certify the additional amount required to meet such costs for each appropriation, fund, limitation, or authorization under his administrative control, and with respect to retired pay he shall certify the additional amount required for the fiscal year 1974 costs resulting from such pay increases in fiscal year 1973, and the amounts so certified shall be added to the pertinent appropriation, fund, limitation, or authorization for the fiscal year 1974: *Provided*, That any certification made under the authority of this section by an officer in or under the executive branch of the Federal Government shall be valid only when approved by the Director of the Office of Management and Budget.

SEC. 303. For the purposes of the certifications authorized by section 302 of this title, the following officers shall be deemed to have administrative control of appropriations, funds, limitations, or authorizations available within their respective organization units—

- (a) The legislative branch:
 - The Clerk of the House;
 - The Secretary of the Senate;

June 8, 1974

Pub. Law 93-305 88 STAT. 231

The Librarian of Congress;
 The Architect of the Capitol;
 The Public Printer;
 The Comptroller General of the United States;
 The Chief Judge of the United States Tax Court;
 The chairman of any commission in or under the legislative branch.

- (b) For the Judiciary:
 The Administrative Officer of the United States Courts;
 The Marshal of the Supreme Court.
- (c) For the executive branch:
 The head of each department, agency, or corporation in or under the executive branch.
- (d) For the municipal government of the District of Columbia:
 The Commissioner of the District of Columbia.

Sec. 304. Obligations or expenditures incurred for pay increases and related costs pursuant to this title, shall not be regarded or reported as violations of section 3679 of the Revised Statutes, as amended (31 U.S.C. 665).

Sec. 305. (a) Amounts made available by this title shall be derived from the same source as the appropriation, fund, limitation, or authorization to which such amounts are added.

(b) Appropriations made pursuant to this title shall be recorded on the books of the Government as of June 30, 1974: *Provided*, That no appropriation made by this title shall be warranted after August 15, 1974.

(c) A complete report of the appropriations made by or pursuant to this title shall be made not later than September 15, 1974, by the officers described in section 303 to the Director of the Office of Management and Budget, who shall compile and transmit to the Congress a consolidated report not later than October 15, 1974.

Sec. 306. With respect to the application of Executive Order Numbered 11691 of December 15, 1972, as amended by Executive Order Numbered 11777 of April 12, 1974, relating to the change from January 1, 1973, to October 1, 1972, as the effective date for certain adjustments of rates of pay of certain statutory pay systems, the Clerk of the House of Representatives, in the administration of and in accordance with section 5 of the Federal Pay Comparability Act of 1970 (84 Stat. 1952-53; Public Law 91-656); with respect to each employee or former employee who was on the employment rolls of the House for any period occurring on or after October 1, 1972, and ending at the close of December 31, 1972, whose pay was disbursed in such period by the Clerk of the House, may make adjustments in the rate of pay of such employee or former employee for such period who was then on the employment rolls of the House, if, in the determination of the Clerk, the pay fixing authority governing the adjustment of pay under such Executive Order Numbered 11691, as in effect on January 1, 1973, has changed.

Report to
 Congress.

5 USC 5332
 note.

86 Stat. 146.
 2 USC 60a note.

Pub. Law 93-305

June 8, 1974

TITLE IV

GENERAL PROVISIONS

Fiscal year
 limitation.

Sec. 401. No part of any appropriation contained in this Act shall remain available for obligation beyond the current fiscal year unless expressly so provided herein.

88 STAT. 231
 88 STAT. 232

Sec. 402. 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 1974, 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.

Retrospective
 pay increases.

Sec. 403. Applicable appropriations or funds available for the fiscal year 1974 shall also be available for payment of prior fiscal year obligations for retroactive pay increases granted pursuant to 5 U.S.C. 5341.

86 Stat. 564.
 North Vietnam
 reconstruction
 funds,
 prohibition
 U.S. combat
 activities in
 Southeast Asia,
 funds, prohibi-
 tion.

Sec. 404. No funds appropriated in this Act shall be expended to aid or assist in the reconstruction of the Democratic Republic of Vietnam (North Vietnam).

Sec. 405. None of the funds herein appropriated may be obligated or expended to finance directly or indirectly combat activities by United States military forces in or over or from off the shores of North Vietnam, South Vietnam, Laos, or Cambodia.

Sec. 406. Appropriations and authority provided in this Act shall be available from June 1, 1974, and all obligations incurred in anticipation of the appropriations and authority provided in this Act are hereby ratified and confirmed if otherwise in accordance with the provisions of this Act.

Approved June 8, 1974.

HOUSE REPORTS: No. 93-977 (Comm. on Appropriations) and
 No. 93-1070 (Comm. of Conference).
 SENATE REPORT No. 93-814 (Comm. on Appropriations).

CONGRESSIONAL RECORD, Vol. 120 (1974):
 Apr. 10, considered and passed House.
 May 6, 7, considered and passed Senate, amended.
 June 4, House agreed to conference report;
 resolved amendments in disagreement.
 June 5, Senate agreed to conference report;
 resolved amendments in disagreement.

WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol. 10, No. 24:
 June 11, Presidential statement.