

GAO

Report to the Chairman, Subcommittee
on Space and Aeronautics, Committee
on Science, House of Representatives

July 1996

NASA BUDGET

Carryover Balances for Selected Programs



G A O
75 years
1921 - 1996



United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

B-272539

July 16, 1996

The Honorable F. James Sensenbrenner, Jr.
Chairman, Subcommittee on Space and Aeronautics
Committee on Science
House of Representatives

Dear Mr. Chairman:

In March 1996, you raised concerns in an oversight hearing and a letter to us about the extent of carryover balances for the Mission to Planet Earth (MTPE) and other National Aeronautics and Space Administration (NASA) programs. This report discusses MTPE's carryover, as well as that of other NASA programs, and describes NASA's plans to reduce those balances. We plan to continue reviewing NASA's carryover, as part of our basic legislative responsibilities, to fully understand the nature of these balances and how they should be considered in the budget process.

Background

Carryover balances consist of unobligated funds and uncosted obligations. Each fiscal year, NASA requests obligational authority from the Congress to meet the costs of running its programs. Once NASA receives this authority, it can obligate funds by placing orders or awarding contracts for goods and services that will require payment during the same fiscal year or in the future. Unobligated balances represent the portion of its authority that NASA has not obligated. Uncosted obligations represent the portion of its authority that NASA has obligated for goods and services but for which it has not yet incurred costs.

Through the annual authorization and appropriations process, the Congress determines the purposes for which public funds may be used and sets the amounts and time period for which funds will be available. Funding provided for NASA's Human Space Flight and Science, Aeronautics, and Technology programs is available for obligation over a 2-year period. Authority to obligate any remaining unobligated balances expires at the end of the 2-year period. Five years later, outstanding obligations are canceled and the expired account is closed.

Some level of carryover balance is appropriate for government programs. In particular, NASA's Human Space Flight and Science, Aeronautics, and Technology appropriations are available for obligation over a 2-year period. In such circumstances, some funds are expected to be obligated

during the second year of availability. Funds must travel through a series of approvals at headquarters and the field centers before the money is actually put on contracts so that work can be performed. According to NASA officials, it can be difficult to obligate funds that are released late in the year. In addition, the award of contracts and grants may sometimes be delayed. Once contracts and grants are awarded, costs may not be incurred or reported for some time thereafter. Expenditures, especially final payments on contract or grant closeouts, will lag still further behind. Finally, costs and expenditures for a multiyear contract or grant will be paced throughout the life of the contract. For these reasons, all NASA programs have carryover balances. The unobligated balances expire at the end of their period of availability, and according to NASA officials, uncosted obligations carried over will eventually be expended to cover contract costs.

Results in Brief

Carryover balances in NASA's Human Space Flight and Science, Aeronautics, and Technology programs totaled \$3.6 billion by the end of fiscal year 1995. NASA also refers to carryover balances in terms of the equivalent months of funding for a fiscal year. In other words, almost 4 months or one-third of the budget authority provided to these programs in fiscal year 1995 would be used to cover costs that will accrue in fiscal year 1996 or later. Individual programs carried over varying amounts, ranging from the equivalent of 1 month to 16 months of fiscal year 1995 new budget authority. MTPE carried \$695 million, or more than 6 months, of budget authority into fiscal year 1996. Under NASA's current budget and cost plans, these balances will be reduced in fiscal years 1996 and 1997, but the actual reductions depend on (1) the extent NASA's projected costs match the actual costs incurred and (2) the amount of new budget authority received for fiscal year 1997.

NASA officials are concerned that the current amounts are too high and are taking actions to reduce these balances. Although there are valid reasons to have carryover, the issue is how much. A recent NASA study of carryover balances determined that the equivalent of 3 months of budget authority should be carried into the next fiscal year and recommended actions to bring NASA programs within that threshold. The study noted that the threshold needs to be studied over time to determine if it is appropriate. Applying the initial 3-month threshold to estimated carryover balances at the end of fiscal year 1996 shows that 7 of the 11 Human Space Flight and Science, Aeronautics, and Technology programs have total carryover of \$1.1 billion beyond the threshold. Most of the carryover beyond the

threshold was in three programs: Space Science with \$379 million, MTPE with \$341 million, and Life and Microgravity Sciences and Applications with \$228 million.

NASA's Comptroller also intends to carefully scrutinize carryover amounts as part of the fiscal year 1998 budget development process. The Comptroller formally requested program managers to justify carryover balances that exceed amounts necessary to fund program costs for 8 weeks of the next fiscal year. The 8 weeks was not a threshold for the appropriate level of carryover, but rather a criteria for identifying balances for review. At the end of fiscal year 1996, nine programs would need to justify \$1.5 billion beyond the Comptroller's 8-week criteria. The three programs with the largest estimated balances requiring justification are Space Science with \$558 million, MTPE with \$435 million, and Life and Microgravity Sciences and Applications with \$257 million.

Program Carryover Balances Vary Significantly

Carryover balances at the end of fiscal year 1995 for Human Space Flight and Science, Aeronautics, and Technology programs totaled \$3.6 billion. Of this amount, \$2.7 billion was obligated but not costed and \$0.9 billion was unobligated. Table 1 shows the carryover balances by program. The balance carried over from fiscal year 1995 plus the new budget authority in fiscal year 1996 provides a program's total budget authority. The total budget authority less the planned costs results in the estimated balance at the end of fiscal year 1996. Table 2 starts with the carryover from fiscal year 1996 and ends with the balance that NASA estimates will carry over from fiscal year 1997 into 1998. The cost plans shown in the tables reflect the amount of costs estimated to be accrued during the fiscal year. The carryover balances will change if actual cost and budget amounts differ from projections. NASA program officials are in the process of updating their 1996 cost plan estimates. Officials in some programs now expect the actual costs to be less than planned, resulting in higher carryover balances at the end of 1996 than those shown in the tables.

Table 1: Estimated Carryover Balances in Human Space Flight and Science, Aeronautics, and Technology Programs at the End of Fiscal Years 1995 and 1996

Dollars in millions

	Actual carryover balance (9/30/95)	Fiscal year 1996 new budget authority	Estimated total budget authority	Fiscal year 1996 cost plan	Estimated carryover balance (9/30/96)
Human Space Flight					
Space Station	\$368.4	\$1,863.6	\$2,232.0	\$2,162.4	\$69.6
U.S.-Russian Cooperative Program	133.0	129.2	262.2	218.1	44.1
Space Shuttle	332.9	3,148.8	3,481.7	3,329.8	151.9
Payload Utilization and Operations	114.5	315.0	429.5	339.8	89.7
Total	\$948.8	\$5,456.6	\$6,405.4	\$6,050.1	\$355.3
Science, Aeronautics, and Technology					
Space Science	\$769.2	\$2,007.6	\$2,776.8	\$1,895.9	\$880.9
Life and Microgravity Sciences and Applications	323.3	488.5	811.8	461.6	350.2
MTPE	694.9	1,250.1	1,945.0	1,291.2	653.8
Aeronautical Research and Technology	212.4	877.3	1,089.7	871.8	217.9
Space Access and Technology	254.1	678.9	933.0	762.0	171.0
Academic Programs	138.1	102.2	240.3	135.0	105.3
Mission Communication Services	128.2	441.3	569.5	490.6	78.9
Total	\$2,676.4^a	\$5,845.9	\$8,522.3^a	\$6,064.3^a	\$2,458.0
Total	\$3,625.2	\$11,302.5	\$14,927.7	\$12,114.4	\$2,813.3

^aIncludes \$156.2 million for launch services in fiscal year 1995. After fiscal year 1995, NASA's budget does not include a separate line for launch services.

Table 2: Estimated Carryover Balances in Human Space Flight and Science, Aeronautics, and Technology Programs at the End of Fiscal Years 1996 and 1997

Dollars in millions

	Estimated carryover balance (9/30/96)	Fiscal year 1997 budget request	Estimated total budget authority	Fiscal year 1997 cost plan	Estimated carryover balance (9/30/97)
Human Space Flight					
Space Station	\$69.6	\$1,802.0	\$1,871.6	\$1,803.0	\$68.6
U.S./Russian Cooperative Program	44.1	138.2	182.3	164.0	18.3
Space Shuttle	151.9	3,150.9	3,302.8	3,164.0	138.8
Payload Utilization and Operations	89.7	271.8	361.5	292.0	69.5
Total	\$355.3	\$5,362.9	\$5,718.2	\$5,423.0	\$295.2
Science, Aeronautics, and Technology					
Space Science	\$880.9	\$1,857.3	\$2,738.2	\$2,099.0	\$639.2
Life and Microgravity Sciences and Applications	350.2	498.5	848.7	609.0	239.7
MTPE	653.8	1,402.1	2,055.9	1,425.0	630.9
Aeronautical Research and Technology	217.9	857.8	1,075.7	947.0	128.7
Space Access and Technology	171.0	725.0	896.0	741.0	155.0
Academic Programs	105.3	100.8	206.1	106.0	100.1
Mission Communication Services	78.9	420.6	499.5	440.0	59.5
Total	\$2,458.0	\$5,862.1	\$8,320.1	\$6,367.0	\$1,953.1
Total	\$2,813.3	\$11,225.0	\$14,038.3	\$11,790.0	\$2,248.3

NASA often discusses and analyzes carryover balances in terms of equivalent months of a fiscal year's budget authority that will be carried into the next fiscal year. For example, the Aeronautical Research and Technology carryover balance of \$217.9 million at the end of fiscal year 1996 is equivalent to 3 months of the \$877.3 million new budget authority, based on an average monthly rate of \$73.1 million. Table 3 shows each program's carryover in equivalent months of budget authority.

Table 3: Months of Carryover at the End of Fiscal Years 1995, 1996, and 1997

	Total months of carryover		
	Fiscal year 1995 actual	Fiscal year 1996 estimated	Fiscal year 1997 estimated
Human Space Flight			
Space Station	2.3	0.4	0.5
U.S.-Russian Cooperative Program	10.6	4.1	1.6
Space Shuttle	1.3	0.6	0.5
Payload Utilization and Operations	4.3	3.4	3.1
Science, Aeronautics, and Technology			
Space Science	5.2	5.3	4.1
Life and Microgravity Sciences and Applications	8.3	8.6	5.8
MTPE	6.6	6.3	5.4
Aeronautical Research and Technology	2.9	3.0	1.8
Space Access and Technology	5.0	3.0	2.6
Academic Programs	16.2	12.4	11.9
Mission Communications Services	3.2	2.1	1.7

The carryover balances at the end of fiscal year 1995 ranged from the equivalent of 1 month for the Space Shuttle to 16 months for Academic Programs. NASA officials gave several overall reasons for the large relative differences in carryover amounts. One major reason was that programs such as the Space Station and the Space Shuttle, which have fewer months of carryover, prepare budgets based on the amount of work estimated to be costed in a fiscal year. Other programs, such as MTPE and Space Science, have based their budgets on the phasing of obligations over a number of fiscal years. Another major reason given was that some programs fund a substantial number of grants, which are typically funded for a 12-month period regardless of what point in the fiscal year they are awarded. This practice, coupled with slow reporting and processing of grant costs, contributes to higher carryover balances. Science programs such as MTPE, Space Science, and Life and Microgravity Sciences and Applications, fund grants to a much greater extent than the Space Station and the Space Shuttle. NASA officials also said the size of contractors affects carryover balances, with larger contractors requiring less funding into next year than smaller contractors.

MTPE's Large Carryover Caused by Program Redirection and Grants

NASA officials gave two major reasons for MTPE's carryover balance at the end of fiscal year 1995. First, the MTPE program has undergone several major restructurings since its inception in 1991. During the periods when the content of the program was being changed, selected program activities were restrained until the new baseline program was established. Since several contract start dates were delayed, the carryover balance grew. MTPE officials emphasized that all work for which funding was provided would be performed in accordance with the approved baseline and that, in most cases, the new baseline included the same end dates for major missions and ground systems. Officials expect the balances to decrease as delayed work is accomplished. The second reason given for the large carryover balance at the end of fiscal year 1995 is the large number of grants funded in the MTPE program. As discussed earlier, the process for awarding grants and delays in reporting costs on grants contributes to carryover balances.

Aeronautical Research and Technology Program Closely Manages Carryover Balance

Officials from the Aeronautical Research and Technology program attributed their relatively low level of carryover to aggressively managing carryover balances. Officials have studied their carryover balances in detail and have greatly reduced their levels. In 1989, the program had a carryover balance of 43 percent, equivalent to 5 months of funding. Program financial managers analyzed their carryover and determined that it could be reduced substantially. By 1992, the carryover balance was about 25 percent, or 3 months, of new budget authority, and it is estimated to remain at that level through fiscal year 1996. In fiscal year 1997, program managers hope to achieve a 15-percent, or 2-month, carryover level. Officials attributed their improved performance to thoroughly understanding their carryover balances, emphasizing work to be accomplished and costed in preparing budgets, and carefully tracking projects' performance. They believe that some of their methods and systems for managing carryover balances could be applied to other NASA programs.

NASA Is Taking Actions to Analyze and Reduce Carryover Balances

Although carryover naturally occurs in the federal budget process, NASA officials became concerned that the balances were too high. NASA is taking actions to analyze and reduce these balances. NASA's Chief Financial Officer directed a study that recommended changes to reduce carryover balances. NASA's Comptroller will review justifications for carryover balances as part of the fiscal year 1998 budget development process.

NASA Recently Studied Carryover Balances

A NASA steering group was tasked by NASA's Chief Financial Officer to review carryover balances as part of a study¹ to address NASA's increasing level of unliquidated budget authority.² The study identified a number of reasons for the current balances, including NASA's current method of obligations-based budgeting, reserves held for major programs, delays in awarding contractual instruments, late receipt of funding issued to the centers, and grant reporting delays. The study recommended a number of actions to reduce carryover balances through improved budgeting, procurement, and financial management practices, including implementing cost-based budgeting throughout the agency and establishing thresholds for carryover balances.

According to the study, cost-based budgeting takes into account the estimated level of cost to be incurred in a given fiscal year as well as unused obligation authority from prior years when developing a budget. The organization then goes forward with its budget based on new obligation authority and a level of proposed funding that is integrally tied to the amount of work that can be done realistically over the course of the fiscal year. However, the study cautioned that a cost-based budgeting strategy should recognize that cost plans are rarely implemented without changes. Therefore, program managers should have the ability to deal with contingencies by having some financial reserves.

The study recommended that NASA implement thresholds for the amount of funds to be carried over from one fiscal year to the next. NASA had about 4 months of carryover at the end of fiscal year 1995, according to the study. It recommended that NASA implement a threshold of 3 months for total carryover: 2 months of uncosted obligations for forward funding on contracts and 1 month of unobligated balance for reserves. The study noted that carryover balances should be reviewed over the next several years to determine if this threshold is realistic. NASA's Chief Financial Officer said the next logical step is to analyze balances in individual programs in more depth. We agree that the appropriateness of the threshold should be examined over time and that further study is needed to more fully understand carryover balances in individual programs.

¹The Management and Liquidation of Budget Authority: Issues and Recommendations Associated With Recent Growth in Unliquidated Budget Authority, National Aeronautics and Space Administration (June 5, 1996).

²In addition to unobligated funds and uncosted obligations, total unliquidated budget authority includes accounts payable where work has been performed and costed, but not yet paid for.

We also believe that individual programs must be measured against an appropriate standard. One problem with looking at carryover balances in the aggregate is that programs substantially under the threshold in effect mask large carryover balances in other programs. For example, at the end of fiscal year 1996, the total amount of carryover in excess of 3 months for seven programs is estimated to be \$1.05 billion. However, the carryover balance for the Space Shuttle and the Space Station programs in the same year is estimated to be \$1.03 billion under the threshold, which almost completely offsets the excess amount. We compared the balances of individual Human Space Flight and Science, Aeronautics, and Technology programs to this 3-month threshold and found that at the end of fiscal year 1995, nine programs exceeded the threshold by a total of \$1.3 billion. By the end of fiscal year 1997, only four programs are expected to significantly exceed the threshold by a total of \$0.6 billion. Table 4 compares individual program carryover amounts with the 3-month threshold at the end of fiscal years 1995, 1996, and 1997. As mentioned earlier, the estimates are based on projected costs for fiscal year 1996 and projected budgets and costs for fiscal year 1997. If actual costs and budgets are different, the amount of carryover exceeding the threshold will change.

Table 4: Carryover in Excess of 3 Months at the End of Fiscal Years 1995, 1996 and 1997

Dollars in millions			
	Carryover in excess of 3 months		
	Fiscal year 1995 actual	Fiscal year 1996 estimated	Fiscal year 1997 estimated
Human Space Flight			
Space Station	a	a	a
U.S.-Russian Cooperative Program	\$95.5	\$11.8	a
Space Shuttle	a	a	a
Payload Utilization and Operations	34.5	11.0	\$1.6
Total	\$130.0	\$22.8	\$1.6
Science, Aeronautics, and Technology			
Space Science	\$325.0	\$379.0	\$174.9
Life and Microgravity Sciences and Applications	206.5	228.1	115.1
MTPE	379.6	341.3	280.4
Aeronautical Research and Technology	a	a	a
Space Access and Technology	102.8	1.3	a
Academic Programs	112.6	79.8	74.9
Mission Communications Services	7.9	a	a
Total	\$1,206.9^b	\$1,029.4	\$645.2
Total	\$1,336.8	\$1,052.1	\$646.8

^aIndicates that a program's carryover balance was less than the 3-month threshold.

^bIncludes \$72.7 million for launch services in fiscal year 1995. After fiscal year 1995, NASA's budget does not include a separate line for launch services.

NASA's Comptroller Will Review Justifications for Carryover Balances

The NASA Comptroller is planning to review carryover balances in each program. According to the Comptroller and program financial managers, carryover balances have always been considered a part of the budget formulation process, but factoring them into the process is difficult since budget submissions must be prepared well before the actual carryover balances are known. For example, NASA's fiscal year 1997 budget request was prepared in the summer of 1995 and submitted to the Office of Management and Budget in the fall. At that point, NASA's appropriations for fiscal year 1996 were not final and costs for 1996 could only be estimated.

Until now, appropriate levels of carryover and justifications for carryover have not been reviewed in depth. The NASA Comptroller included the

following guidance on carryover balances in his April 1996 letter to program associate administrators on preparation of the fiscal year 1998 budget:

Estimates of budget authority, obligations, and accrued costs of program activities will be specifically scrutinized to ensure that the timing of the budget authority to accrued costs is consistent with minimal, carefully justified balances of uncosted budget authorities at fiscal year end. Carryover of uncosted balances in excess of eight weeks of cost into the next fiscal year will have to be specifically justified.

The carryover referred to by the Comptroller is the equivalent of 8 weeks, or 15 percent, of the next fiscal year's cost. For example, the fiscal year 1996 budget, factoring in carryover from the prior years, should include enough budget authority to cover all costs in 1996 plus 8 weeks of costs in fiscal year 1997. The Comptroller stressed that he was not attempting to set a threshold for the appropriate level of carryover, but instead was setting a criteria beyond which there should be a strong justification for carryover. The Comptroller also told us that although the guidance specifically addressed preparation of the fiscal year 1998 budget, he has asked programs to justify carryover balances in excess of 8 weeks starting with the end of fiscal year 1996.

Table 5 compares program carryover balances at the end of fiscal years 1995, 1996, and 1997 to the 8-week criteria. NASA was not able to provide cost plan data for fiscal year 1998. To approximate the 1997 carryover balances in excess of 8 weeks, we used the fiscal year 1997 cost plan. If a program cost plan for 1998 is higher than 1997, the 8-week criteria would also be higher and the carryover in excess of 8 weeks would be lower. On the other hand, a lower cost plan in 1998 would result in a higher balance in excess of 8 weeks. As shown in table 5, significant amounts of carryover funding would have to be justified. In fiscal year 1995, \$1.9 billion would have had to be justified. In fiscal years 1996 and 1997, the amounts requiring justification are estimated at \$1.5 billion and \$1 billion, respectively.

Table 5: Carryover in Excess of 8 Weeks at the End of Fiscal Years 1995, 1996, and 1997

	Carryover in excess of 8 weeks		
	Fiscal year 1995 actual	Fiscal year 1996 estimated	Fiscal year 1997 estimated
	Dollars in millions		
Human Space Flight			
Space Station	\$35.7	a	a
U.S.-Russian Cooperative Program	99.4	\$18.9	a
Space Shuttle	a	a	a
Payload Utilization and Operations	62.2	44.8	\$24.6
Total	\$197.4	\$63.6	\$24.6
Science, Aeronautics, and Technology			
Space Science	\$477.5	\$558.0	\$316.3
Life and Microgravity Sciences and Applications	252.3	256.5	146.0
MTPE	496.3	434.6	411.7
Aeronautical Research and Technology	78.3	72.2	a
Space Access and Technology	136.9	57.0	41.0
Academic Programs	117.3	89.0	83.8
Mission Communications Services	52.7	11.2	a
Total	\$1,743.4^b	\$1,478.5	\$998.7
Total	\$1,940.8	\$1,542.1	\$1,023.3

^aIndicates that a program's carryover balance was less than the 8-week criteria.

^bIncludes \$132.2 million for launch services in fiscal year 1995. After fiscal year 1995, NASA's budget does not include a separate line for launch services.

Agency Comments

We discussed a draft of this report with NASA officials and have incorporated their comments where appropriate.

Scope and Methodology

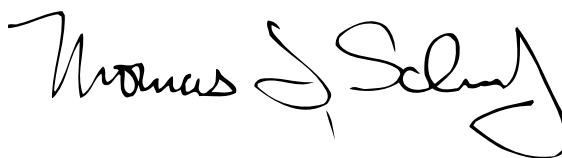
We reviewed carryover balances for programs in the Human Space Flight and Science, Aeronautics, and Technology appropriations as of September 30, 1995, and estimated balances as of September 30, 1996, and 1997. We relied on data from NASA's financial management systems for our analyses and calculations and did not independently verify the accuracy of NASA's data. We reviewed budget and cost plans and discussed carryover balances with NASA's Chief Financial Officer; NASA's Comptroller and his staff; and with financial management staff for the MTPE, Space Science,

Space Station, Space Shuttle, and Aeronautics programs. We also reviewed NASA's internal study of carryover balances and discussed the study with the NASA staff responsible for preparing it. We performed our work at NASA headquarters, the Goddard Space Flight Center, the Jet Propulsion Laboratory, the Johnson Space Center, and the Marshall Space Flight Center. We conducted our work between April 1996 and July 1996 in accordance with generally accepted government auditing standards.

As arranged with your office, unless you publicly announce this report's contents earlier, we plan no further distribution of the report until 10 days after its issue date. We will then send copies to the Administrator of NASA; the Director, Office of Management and Budget; and other congressional committees responsible for NASA authorizations, appropriations, and general oversight. We will also provide copies to others on request.

Please contact me at (202) 512-4841 if you or your staff have any questions concerning this report. Major contributors to this report are listed in appendix I.

Sincerely yours,

A handwritten signature in black ink that reads "Thomas J. Schulz". The signature is written in a cursive style with a large, stylized initial "T".

Thomas J. Schulz
Associate Director
Defense Acquisitions Issues

Major Contributors to This Report

**National Security and
International Affairs
Division, Washington,
D.C.**

Frank Degnan
Vijay Barnabas
James Beard
Richard Eiserman
Monica Kelly
Thomas Mills

Ordering Information

The first copy of each GAO report and testimony is free. Additional copies are \$2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. VISA and MasterCard credit cards are accepted, also. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

Orders by mail:

U.S. General Accounting Office
P.O. Box 6015
Gaithersburg, MD 20884-6015

or visit:

Room 1100
700 4th St. NW (corner of 4th and G Sts. NW)
U.S. General Accounting Office
Washington, DC

Orders may also be placed by calling (202) 512-6000
or by using fax number (301) 258-4066, or TDD (301) 413-0006.

Each day, GAO issues a list of newly available reports and testimony. To receive facsimile copies of the daily list or any list from the past 30 days, please call (202) 512-6000 using a touchtone phone. A recorded menu will provide information on how to obtain these lists.

For information on how to access GAO reports on the INTERNET, send an e-mail message with "info" in the body to:

info@www.gao.gov

or visit GAO's World Wide Web Home Page at:

<http://www.gao.gov>

**United States
General Accounting Office
Washington, D.C. 20548-0001**

**Bulk Rate
Postage & Fees Paid
GAO
Permit No. G100**

**Official Business
Penalty for Private Use \$300**

Address Correction Requested

