HUMAN SPACE FLIGHT

The funding level for the Human Space Flight appropriation of $5,539.9 million reflects an increase of $177.0 million. The distribution of this increase, and other proposed funding reallocations, are included below.

<table>
<thead>
<tr>
<th>FY 1997</th>
<th>BUDGET ESTIMATE</th>
<th>SPACE ACCESS &amp;TECHNOLOGY</th>
<th>APPROP TRANSFER</th>
<th>OTHER CHANGES</th>
<th>CURRENT ESTIMATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Space station</td>
<td>1,802.0</td>
<td>--</td>
<td>177.0</td>
<td>0.0</td>
<td>1979.0</td>
</tr>
<tr>
<td>Development</td>
<td>1,513.2</td>
<td>--</td>
<td>177.0</td>
<td>76.1</td>
<td>1766.3</td>
</tr>
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<td>Construction of</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>facilities</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Utilization</td>
<td>72.1</td>
<td>--</td>
<td>--</td>
<td>-37.0</td>
<td>35.1</td>
</tr>
<tr>
<td>support</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Operations</td>
<td>216.7</td>
<td>--</td>
<td>--</td>
<td>-39.1</td>
<td>177.6</td>
</tr>
</tbody>
</table>

CHANGE FROM FY 1997 BUDGET ESTIMATE

This total increase of $177.0 million reflects the management decision to increase the level of funding available for potential changes and contingencies to mitigate the risk of delay during this critical period of activity. The Space Station program remains on a challenging schedule for the First Element Launch (FEL) in late 1997 and the management team continues to closely monitor activities. The program continues to make excellent progress in meeting its milestones in support of FEL. NASA continues to be concerned that the level of program reserves be maintained at as high a level as possible to address technical issues that are expected to inevitably occur during this peak period of Space Station engineering and development.

The increase of $177.0 million reflected in the FY 1997 Current Estimate reflects the transfer
of funds from the Science, Aeronautics, and Technology account, as provided in P.L. 104-204. This additional funding is needed to maximize needed flexibility within the $2.149 billion appropriated for FY 1997 for Station Development. To accomplish this transfer, funding for Life and Microgravity Sciences support, including funds previously included in the Space Access and Technology Program for Space Station Utilization, is reduced $177.0 million, from $299.4 million to $122.4 million. These funds are available as a result of a major review of the Space Station Research Program. This review recommended that research facilities' development schedules be adjusted to be more closely aligned with the availability of research resources on the Space Station during the assembly phase. In addition, in 1996, key procurement activities were suspended during the conduct of a major Space Station facilities review. This procurement freeze resulted in the buildup of unobligated funds. Currently, NASA is reviewing every facility, payload, and user operation against the NASA research objectives for the Space Station to ensure that the maximum strategic and scientific return is achieved. We are replanning our Space Station science research facility activity to match the on-orbit resources available during the Space Station assembly period in a manner which will ensure that most of those facilities are available on-orbit by Station Assembly Complete in 2002. It is anticipated that this replanning effort will be complete in March 1997.

Funding for elements of the Space Station program are also reallocated to Station Development. Funding for Utilization Support is reduced $37.0 million and funding for Operations is reduced $39.1 million. These reductions are accommodated by deferring planned activities and reallocating reserves to Development. These reallocations reflect updated estimates to the funding distribution included in NASA's initial 1997 Operating Plan.

NASA also remains concerned regarding the lack of Russian government funding for its contributions to the ISS program and the potential for schedule impacts resulting from such a lack of funding. We are continuing to work closely with the Russian Space Agency to mitigate any potential delays. In order to reduce reliance on the delivery schedule of Russian flight elements and enhance early launch robustness of the ISS, NASA is actively considering ways to increase Station assembly sequence flexibility. Contingency efforts are continuing to provide early U.S. control and reboost capability to ensure early launch integrity. This capability is highly desirable, even if the Russian elements are delivered on schedule, since that capability provides redundancy for critical-path elements throughout Space Station assembly and operations. Preliminary estimates for providing possible added or modified hardware (e.g. interim control module and long-lead items for propulsion module) to protect the early Space Station assembly integrity indicate that implementing these contingencies will reduce significantly available program reserves. NASA will implement such contingencies for the ISS as required, although other offsetting actions could be required to ensure adhering to NASA’s commitment to the annual $2.1 billion funding limitation. These actions do not threaten the total $17.4 billion development estimate.
<table>
<thead>
<tr>
<th>FY 1997</th>
<th>BUDGET ESTIMATE</th>
<th>SPACE ACCESS &amp; TECHNOLOGY</th>
<th>APPROP TRANSFER</th>
<th>OTHER CHANGES</th>
<th>CURRENT ESTIMATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S/Russian cooperation</td>
<td>138.2</td>
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<td>138.2</td>
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</table>

There is no change to the budget request.

<table>
<thead>
<tr>
<th>FY 1997</th>
<th>BUDGET ESTIMATE</th>
<th>SPACE ACCESS &amp; TECHNOLOGY</th>
<th>APPROP TRANSFER</th>
<th>OTHER CHANGES</th>
<th>CURRENT ESTIMATE</th>
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<tr>
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<td>Shuttle Operations</td>
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<td>2514.9</td>
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<tr>
<td>Orbiter and integration</td>
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<td>--</td>
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<tr>
<td>Propulsion</td>
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<td>1098.7</td>
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<tr>
<td>Mission and Launch Operations</td>
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<td>899.6</td>
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<tr>
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<td>636.0</td>
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<tr>
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<tr>
<td>Propulsion Upgrades</td>
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<td>--</td>
<td>342.8</td>
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<tr>
<td>Flight operations and launch site equipement</td>
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<td>115.0</td>
</tr>
<tr>
<td>Construction of facilities</td>
<td>8.3</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>8.3</td>
</tr>
</tbody>
</table>

**CHANGE FROM FY 1997 BUDGET ESTIMATE**

There is no reduction from the requested level. NASA’s first priority for the Space Shuttle program remains unchanged -- safety of flight. Award of the Shuttle Operations Consolidated Contract to United Space Alliance was accomplished on October 1, 1996. Transition activities will continue over the next 2 years. NASA’s insistence on improving flight safety in the Space
Shuttle program has resulted in the identification of $70.0 million within the Safety and Performance Upgrades program to implement additional upgrades to the Space Shuttle. The objective is to increase reliability and maintainability; any benefits in the form of reduced program costs will be a fallout of our emphasis on reliability and maintainability. The upgrades will be selected on the basis of improving Space Shuttle safety and upgrading system performance and efficiency. The funds are available, due to the lower than planned obligation and cost rates experienced in the Shuttle program during FY 1996.

<table>
<thead>
<tr>
<th>FY 1997</th>
<th>BUDGET ESTIMATE</th>
<th>SPACE ACCESS &amp; TECHNOLOGY</th>
<th>APPROP TRANSFER</th>
<th>OTHER CHANGES</th>
<th>CURRENT ESTIMATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payload and utilization operations</td>
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<td>Payload Processing and Support</td>
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<td>41.7</td>
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<tr>
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<td>31.2</td>
</tr>
<tr>
<td>Engineering and technical base</td>
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<td>--</td>
<td>--</td>
<td>-2.9</td>
<td>148.6</td>
</tr>
</tbody>
</table>

**CHANGE FROM FY 1997 BUDGET ESTIMATE**

Total funding for Payload and Utilization Operations is unchanged. However, funding is reallocated within Payload and Utilization Operations to support the continued development and flight testing of critical technologies for the X-38 experimental vehicle project. $16 million is reallocated to the X-38 effort, bringing the FY 1997 total to $21 million. The funds are available to reallocate for this purpose, due to better-than-anticipated cost performance in FY 1996 in the Payload and Utilization Operations program. These funds will be used to continue advanced technology development tasks focused on the reduction of development and operating costs for future human space vehicles, including the Crew Return Vehicle. This funding will enable space qualification of advanced technologies such as electromechanical actuators, laser-initiated pyrotechnics, damage-resistant thermal protection systems, low-cost rapid production composite skin panels, avionics hardware, and rule-based expert system software. NASA's objective is to integrate these technologies into an initial atmospheric drop demonstration vehicle to be flight tested within the next year.
The funding level in FY 1997 for the Science, Aeronautics and Technology appropriation of $5,590.1 million reflects a general reduction of $95.0 million as directed in House Report 104-812, and the transfer of $177.0 million to the Human Space Flight account as provided for in P.L. 104-204. The distribution of the general reduction is Space Science (-$20.0 million) and Mission to Planet Earth (-$75.0 million). The distribution of funding for activities previously included in the Space Access and Technology Program is also included below. In July 1996, each of the Enterprise Associate Administrators was given responsibility for fully integrating the science goals and technology requirements of their programs. Technology development activities previously conducted under the management of the Associate Administrator for Space Access and Technology have been reassigned to the direct management of the relevant Enterprise Associate Administrators, and implementation plans are in development. The realignment of funding to match the movement of program management responsibility, the impact of the general reduction, and other proposed funding reallocations, are included below.
<table>
<thead>
<tr>
<th>FY 1997</th>
<th>BUDGET ESTIMATE</th>
<th>SPACE ACCESS &amp; TECHNOLOGY</th>
<th>APPROP TRANSFER</th>
<th>OTHER CHANGES</th>
<th>CURRENT ESTIMATE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Space science</strong></td>
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<td>133.6</td>
<td>--</td>
<td>-20.0</td>
<td>1970.9</td>
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<tr>
<td>Advanced x-ray astrophysics facility</td>
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<td>--</td>
<td>--</td>
<td>--</td>
<td>178.6</td>
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<tr>
<td>Relativity mission development</td>
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<td>--</td>
<td>--</td>
<td>--</td>
<td>59.6</td>
</tr>
<tr>
<td>Cassini</td>
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<td>--</td>
<td>--</td>
<td>-17.1</td>
<td>89.6</td>
</tr>
<tr>
<td>TIMED</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>18.2</td>
</tr>
<tr>
<td>Payload and instrument development</td>
<td>16.9</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>16.9</td>
</tr>
<tr>
<td>Explorers</td>
<td>135.0</td>
<td>--</td>
<td>--</td>
<td>-10.0</td>
<td>125.0</td>
</tr>
<tr>
<td>Discovery</td>
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<td>--</td>
<td>--</td>
<td>2.0</td>
<td>76.8</td>
</tr>
<tr>
<td>Mars Surveyor</td>
<td>90.0</td>
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<td>--</td>
<td>--</td>
<td>90.0</td>
</tr>
<tr>
<td>New Millennium</td>
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<td>--</td>
<td>27.1</td>
<td>48.6</td>
</tr>
<tr>
<td>Spacecraft and Remote Sensing</td>
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<td>--</td>
<td>133.6</td>
</tr>
<tr>
<td>Mission operations and data analysis</td>
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<td>--</td>
<td>-9.1</td>
<td>583.3</td>
</tr>
<tr>
<td>Supporting Research and technology</td>
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<td>--</td>
<td>-13.2</td>
<td>246.0</td>
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<tr>
<td>Suborbital program</td>
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<td>--</td>
<td>--</td>
<td>-5.0</td>
<td>64.1</td>
</tr>
<tr>
<td>Launch services</td>
<td>253.5</td>
<td>--</td>
<td>--</td>
<td>-12.9</td>
<td>240.6</td>
</tr>
</tbody>
</table>
million as part of the $95 million general appropriations reduction directed by Congress. Along with the allocation of $20 million of the general reduction, this plan for Space Science includes an increase of $10 million for the development of the Thermosphere, Ionosphere, Mesosphere, Energetics and Dynamics (TIMED) mission, as directed in House Report 104-812. Both the general reduction for Space Science and increase in funding for TIMED are accommodated by taking advantage of uncosted balances in excess of program requirements in Launch Services, Explorers, NEAR Operations, and Stratospheric Observatory for Infrared Astronomy. The total available for obligation for TIMED in FY 1997 is $20 million; of this amount, $1.8 million is for Phase B activities, and $18.2 million is for development. Development activities on this mission are scheduled to begin in spring 1997, assuming that NASA’s Program Management Council determines that the definition is sufficiently mature and that development estimates are sustainable. A decision to proceed with development of TIMED in spring 1997 would support a launch date of January 2000.

Funding for the Discovery program is increased $2.0 million, to $76.8 million, to support Phase A study efforts for the next Discovery mission. Selection of missions for Phase A is scheduled for Spring 1997. Funding for the Mars Surveyor program is unchanged; however, funding for the Mars Surveyor '98 Orbiter/Lander is increased $9.4 million. Fabrication of the Orbiter/Lander spacecraft is underway, and the increase to program reserves will reduce the development schedule risk with no increase in total project cost. Funding originally budgeted for the Mars Global Surveyor in FY 1997 can be made available for this purpose, due to excellent cost performance in FY 1996 by the Jet Propulsion Laboratory.

Funding for the New Millennium program is increased $27.1 million. The better-than-anticipated cost performance in FY 1996 for science programs and a close scrutiny of FY 1997 funding requirements for launch vehicles enable this reallocation. The Deep Space-1 spacecraft funding is increased $6.9 million, reflecting a rebalancing of funding between the spacecraft and launch vehicle budgets, with no increase in total project cost. Funding for Technology Development is increased $17.2 million to support additional technology efforts, including integrated technology development teams; some of the reallocated funds will enable the project to initiate funding for a Delta launch vehicle. Using a Delta instead of a Taurus launch vehicle will enable a more ambitious demonstration mission. The final increment of this increase, $3.0 million, will support a new technology thrust in outer planets technology, focusing on power systems technology. The better than anticipated cost performance occurred in the Cassini program, allowing a reallocation of $17.1 million of available reserves, and in Mission Operations and Data Analysis/NEAR Operations, allowing a reallocation of $3.1 million. The remainder of $6.9 million results from replanning of the Launch Services budget.
<table>
<thead>
<tr>
<th>FY 1997</th>
<th>BUDGET ESTIMATE</th>
<th>SPACE ACCESS &amp; TECHNOLOGY</th>
<th>APPROP TRANSFER</th>
<th>OTHER CHANGES</th>
<th>CURRENT ESTIMATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life and microgravity sciences and applications</td>
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</tr>
<tr>
<td>Life Sciences</td>
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<td>-12.1</td>
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<td>109.7</td>
</tr>
<tr>
<td>Research and analysis</td>
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<td>--</td>
<td>8.2</td>
<td>58.0</td>
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<tr>
<td>Flight program</td>
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<td>Microgravity research</td>
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<td>130.9</td>
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<tr>
<td>Research and analysis</td>
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<td>--</td>
<td>--</td>
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<td>31.9</td>
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<tr>
<td>Flight program</td>
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<td>-13.4</td>
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<td>99.0</td>
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<td>Aerospace medicine</td>
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<td>--</td>
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<td>Space station payload facilities</td>
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<td>66.4</td>
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<td>44.6</td>
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<td>--</td>
<td>18.0</td>
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</tbody>
</table>

**CHANGE FROM FY 1997 BUDGET ESTIMATE**

Funding for Life and Microgravity Sciences is $366.1 million, a net reduction of $132.4 million from the request. This net reduction reflects the redistribution of $44.6 million from Space Access and Technology for Space Product Development and the Space Station Utilization program and the transfer of $177 million to the Human Space Flight appropriation. The total includes $4.0 million for cardiac imagery activities at the Cleveland Clinic and $4.0 million for space radiation health activities, as directed in House Report 104-812. A NASA site visit to the Cleveland Clinic occurred in late November 1996, and further definition of
engaged in the development and exploration of space from radiation hazards. In addition, funding for Life Sciences is increased $15.6 million to support additional principal investigator activities in the areas of Advanced Life Support, Countermeasures, and Gravitational Biology, and for Advanced Human Support technology activities to enhance human performance in space. Funding increases are included for additional science and engineering, support for the Neurolab Spacelab mission, scheduled for FY 1998, and to cover flight program infrastructure requirements, such as data archiving, animal care, and program support costs, which are now included in Flight Programs as a result of the Space Station Research program restructuring activity. These increases are partially offset by savings achieved in the Space Transportation System/Spacelab Mission Management and Integration program based on the Zero-Base review, the Spacelab Reengineering process, and reduced estimates of Spacelab termination costs.

<table>
<thead>
<tr>
<th>FY 1997</th>
<th>BUDGET ESTIMATE</th>
<th>SPACE ACCESS &amp;TECHNOLOGY</th>
<th>APPROP TRANSFER</th>
<th>OTHER CHANGES</th>
<th>CURRENT ESTIMATE</th>
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<tr>
<td>Mission to planet Earth</td>
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<td>Earth observing system data information system..</td>
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<td>--</td>
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<td>Earth probes</td>
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<td>5.1</td>
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<tr>
<td>Applied research and data analysis</td>
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<td>Launch services</td>
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</tr>
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<td>GLOBE</td>
<td>5.0</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>5.0</td>
</tr>
</tbody>
</table>

**CHANGE FROM FY 1997 BUDGET ESTIMATE**

Funding for Mission to Planet Earth (MTPE) totals $1,370.6 million, a net reduction of $31.5 million from the request, which is made up of a reduction of $75 million as part of the $95 million general appropriations reduction directed by Congress and reallocation of $8 million to Academic Programs, offset by a reallocation of $51.5 million from the Space Access and Technology program. The reductions have been achieved by applying funds available from a close review of uncosted carryovers and new obligational authority against projected cost
requirements in FY 1997.

The MTPE plan includes $50 million, as requested, for a commercial Data Purchase to support critical MTPE science requirements. A formal solicitation for this initiative will be released early next year with the Commercial Remote Sensing program at the Stennis Space Center (SSC) playing a major role in its implementation. The commercial data purchase highlights NASA's plan to develop SSC's role and capabilities as NASA's Lead Center and focal point for commercial remote sensing. Also included in the total for MTPE is an increase of $12 million for the "lightSAR" program, consistent with direction included in House Report 104-812. House Report 104-812 stipulates that NASA's FY 1998 budget request should include additional funding to accomplish this program. The "LightSAR" program is currently one of the missions competing for possible funding under NASA's Earth Systems Science Pathfinder (ESSP) program and may also compete in the upcoming MTPE Data Purchase solicitation. Proposals for Windsat-type missions are also currently competing for funding within the ESSP solicitation. To address direction in House Report 104-812, the MTPE program includes a specific allocation of $5 million for a possible Windsat mission, pending the ESSP selection process. Also reflected in this Operating Plan is the reallocation of $8 million from MTPE to Academic Programs to support development of a national center for science literacy, education, and technology at the American Museum of Natural History, as directed in House Report 104-812.

FY 1997 funding included within the Earth Observing System for Landsat-7 has been increased by a net of $2.3 million. NASA continues to monitor spacecraft assembly activities closely. This increase and the application of available reserves have enabled several specific program changes. First, funding for Landsat Development is augmented $5.6 million to accelerate completion of spacecraft assembly activities. The Lockheed Martin assembly plant in Valley Forge, Pennsylvania may close in late 1997, following shipment of the Landsat-7 spacecraft to the west coast launch site. This funding will be used to support additional workforce requirements to accomplish the remaining spacecraft activities on an accelerated schedule and to address any technical problems which might arise due to contractor workforce shortages resulting from plant closure activities. Also included in this Operating Plan is $4.2 million to continue operations preparation and start up activities for Landsat-7. The funding included in this plan will support operations preparation activities through January 1997. The National Oceanic and Atmospheric Administration (NOAA) will provide FY 1998 (and subsequent years) funding for operations, totaling $10.9 million in FY 1998.

Additional funding reallocations are reflected within the MTPE plan. Funding for the Earth Observing System has been increased by a net of $10 million, including the impacts of Congressional appropriations action, reallocation of funds from the Space Access and Technology Program, and actions to address contract funding issues. The AM series of spacecraft has been reduced by a net of $1.9 million. This reflects a series of changes and application of available funding. The MTPE plan includes reallocation of $6.0 million to
support inclusion of X-band capability on the AM-1 spacecraft. Also, $10.8 million has been reallocated to AM-1 to support additional spacecraft, instrument, transponder and integration requirements. These increases are offset by the application of available uncosted carryover and consolidation of program support. Funding for Special Spacecraft is increased $25.4 million, reflecting consolidation of common EOS program support activities in this budget line, a rephaising of budget authority to ensure adequate carryover, and $2.8 million to support initiation of the Active Cavity Irradiance Monitor instrument in FY 1997. These increases are offset by reductions to the EOS-PM series as a result of the decision to delete the TDRS link in favor of direct X-band downlink (-$11.6 million), a slower start for the AM-2 spacecraft activities (-$12.1 million), which will not perturb the planned launch date, and application of available uncosted carryover funding across the EOS program. Funding for the Chemistry mission is reduced by a net of $14.1 million. Studies are underway to evaluate alternative ways to conduct this important mission, including flying the instruments separately on different spacecraft; however, no impact on the Chemsitry mission objectives is anticipated. Also included in $7 million to continue further development of high-payoff technologies, which will enable rapid deployment of new, less costly, and less resource-intensive scientific instruments.

The development of the EOS Data Information System (EOSDIS) ground system to support the Tropical Rainfall Measuring Mission (TRMM) and AM-1 mission is behind schedule; however, the capability of EOSDIS to control spacecraft operations and capture the data is not in jeopardy. At this time, NASA is not proposing a reallocation of funds to address this issue, although it appears some reallocation within MTPE may be necessary during the fiscal year to ensure the timely capability to process the data. This Operating Plan reflects a reduction of $6.5 million for the EOSDIS, but this reduction derives simply from reallocation of funding for program support within the EOS program.

Within funding for Applied Research and Data, $1 million is included to begin concept definition studies for the Geostationary Advanced Technology Environmental Satellite and $2 million to begin instrument studies for an Uncrewed Aerial Vehicle science program. These increases are offset by reductions in available uncosted funding.
<table>
<thead>
<tr>
<th>FY 1997</th>
<th>BUDGET ESTIMATE</th>
<th>SPACE ACCESS &amp; TECHNOLOGY</th>
<th>APPROP TRANSFER</th>
<th>OTHER CHANGES</th>
<th>CURRENT ESTIMATE</th>
</tr>
</thead>
<tbody>
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<td>0.0</td>
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<tr>
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<tr>
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<tr>
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<tr>
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</table>

**CHANGE FROM FY 1997 BUDGET ESTIMATE**

Funding for activities previously budgeted in the Space Access and Technology program have been redistributed into the Space Science, Mission to Planet Earth, Aeronautics, and Life and Microgravity Sciences programs. This reallocation reflects the distribution of technology into
<table>
<thead>
<tr>
<th>Aeronautics and Space Transportation Technology</th>
<th>857.8</th>
<th>487.3</th>
<th>--</th>
<th>-1.6</th>
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<tbody>
<tr>
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<td>--</td>
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<tr>
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<tr>
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<td>Advanced Space Transportation Technology</td>
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<td>12.0</td>
<td>336.7</td>
</tr>
<tr>
<td>(Construction of Facilities)</td>
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<td>(2.3 )</td>
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<td>--</td>
<td>(2.3)</td>
</tr>
<tr>
<td>Commercial Technology</td>
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<td>158.6</td>
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<tr>
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CHANGE FROM FY 1997 BUDGET ESTIMATE
as the result of the reallocation of $487.3 million from the Space Access and Technology program, offset by a reduction in the Advanced Subsonic Technology program and other adjustments. The previously designated Aeronautics Enterprise has been expanded to encompass the Commercial Development of Space and Advanced Space Transportation Technology activities formerly managed and funded by the Space Access and Technology Enterprise. There is obvious synergy between these programs, in their common focus on developing technologies that enable breakthroughs to enhance the global position of the United States industry, whether it be in aeronautics or space launch. The Aeronautics and Space Transportation Enterprise has been expanded to incorporate the Advanced Space Transportation Technology program into its strategic planning by establishing advances in access to space as one of the three "pillars" supporting its strategic vision.

Within funding included for the Advanced Space Transportation Technology program, $12.0 million is identified to augment funding for the Low Cost Booster Technology program, as directed in House Report 104-812. This additional funding will be used for additional technology development solicited through a NASA research announcement. $2.3 million is included in Construction of Facilities for refurbishment of the B-2 test stand at the Stennis Space Center to enable testing of the X-33 and flight engine development.

Within funding included for Aeronautics, $2.0 million has been realigned within the High Speed Research program, as directed in House Report 104-812. The increase of $49.8 million in the Research and Technology (R&T) Base reflects the reallocation of funding for the Environmental Research Aircraft and Sensor Technology (ERAST) project from High Speed Research to the R&T Base's Flight Research element, and the reallocation of funding for the Numerical Aerodynamic Simulator (NAS) to the R&T Base's Information Technology element. Funding for the Advanced Subsonic Technology program is reduced $13.6 million, reflecting termination of the fly-by-light/power-by-wire element of the program.

<table>
<thead>
<tr>
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<th>CURRENT ESTIMATE</th>
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<td>Mission Communication Services</td>
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<tr>
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<tr>
<td>Mission Control and Data Systems</td>
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<td>147.1</td>
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<tr>
<td>Space Network Customer Services</td>
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<td>--</td>
<td>-3.3</td>
<td>25.9</td>
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CHANGE FROM FY 1997 BUDGET ESTIMATE
Funding for Mission Communications totals $418.6 million, a net reduction of $2 million from the request, which is made up of a reduction of $10 million within the Ground Network program, offset by a reallocation of $8 million to the Mission Control and Data Systems Program from the Space Access and Technology Program. Funding for Deep Space Network (DSN) Systems within the Ground Network budget element is reduced $10 million, which can be achieved by implementing engineering efficiencies and economies, an action which will have minimal impact to DSN services or overall mission support. In addition, $3.3 million is reallocated from Space Network Customer Services to Mission Control and Data Systems based on reassessment of programmatic requirements. The reallocation of funds from the Space Access and Technology Program will support research and technology development activities in space communications.

<table>
<thead>
<tr>
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<th>OTHER CHANGES</th>
<th>CURRENT ESTIMATE</th>
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<tr>
<td>Academic programs</td>
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<td>19.6</td>
<td>120.4</td>
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</table>

CHANGE FROM FY 1997 BUDGET ESTIMATE

Funding for Academic Programs is increased $19.6 million, to accommodate direction in House Report 104-812. This increase is made up of the $8 million reallocated from the MTPE program, as noted above, for NASA participation in the development of a national center for science literacy, education and technology. Also included is $2.0 million, as directed in the Conference Report to support initial development of a national prototype space education curriculum and for replication and distribution of that curriculum. Finally, as directed in the Conference Report, $10.0 million is allocated to the Minority University Research Program to achieve a balance between funding levels for the ongoing Education Programs and Minority University Research programs. Of this amount, $8.9 million is allocated to the Minority University Research Program as directed; as further directed, the remainder has been applied to the Mobile Aeronautics Education Laboratory, a feasibility study for a national residential high school, replication of the Science, Engineering, Mathematics and Aeronautics Academy program and evaluation of the Classroom of the Future's Astronomy Village Program. This $10 million increase is partially offset by a decrease of $0.4 million which can be accommodated by applying available unobligated and uncosted funding.

MISSION SUPPORT

The funding level for the Mission Support appropriation of $2,562.2 is unchanged from the
budget request.

<table>
<thead>
<tr>
<th>FY 1997</th>
<th>BUDGET ESTIMATE</th>
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<th>OTHER CHANGES</th>
<th>CURRENT ESTIMATE</th>
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<tr>
<td>Safety, Reliability &amp; Quality Assurance</td>
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<td>--</td>
<td>36.7</td>
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</tbody>
</table>

**CHANGE FROM FY 1997 BUDGET ESTIMATE**

There is no change in total funding for activities managed by the Office of Safety, Reliability, Maintainability and Quality Assurance (SRM&QA) and the Office of the Chief Engineer.

<table>
<thead>
<tr>
<th>FY 1997</th>
<th>BUDGET ESTIMATE</th>
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<th>APPROP TRANSFER</th>
<th>OTHER CHANGES</th>
<th>CURRENT ESTIMATE</th>
</tr>
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<tbody>
<tr>
<td>Space Communication Services</td>
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<td>--</td>
<td>185.1</td>
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<tr>
<td>Telecommunications</td>
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<td>--</td>
<td>106.3</td>
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</table>

**CHANGE FROM FY 1997 BUDGET ESTIMATE**

There is no change in the budget authority planned total funding for Space Communications Services activities. The reimbursable budget authority which complements the NASA direct funding is $48.3 million.

<table>
<thead>
<tr>
<th>FY 1997</th>
<th>BUDGET ESTIMATE</th>
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<th>APPROP TRANSFER</th>
<th>OTHER CHANGES</th>
<th>CURRENT ESTIMATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction of facilities</td>
<td>155.3</td>
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<td>--</td>
<td>--</td>
<td>155.3</td>
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</tbody>
</table>

**CHANGE FROM FY 1997 BUDGET ESTIMATE**

There is no change in total funding for Construction of Facilities activities.
### FY 1997 Budget Estimate

<table>
<thead>
<tr>
<th>FY 1997</th>
<th>BUDGET ESTIMATE</th>
<th>SPACE ACCESS &amp; TECHNOLOGY</th>
<th>APPROP TRANSFER</th>
<th>OTHER CHANGES</th>
<th>CURRENT ESTIMATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research and program management</td>
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<tr>
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<tr>
<td>Travel</td>
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<tr>
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</table>

**CHANGE FROM FY 1997 BUDGET ESTIMATE**

There is no change in funding for Research and Program Management activities.

<table>
<thead>
<tr>
<th>FY 1997</th>
<th>BUDGET ESTIMATE</th>
<th>SPACE ACCESS &amp; TECHNOLOGY</th>
<th>APPROP TRANSFER</th>
<th>OTHER CHANGES</th>
<th>CURRENT ESTIMATE</th>
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<tr>
<td>INSPECTOR GENERAL</td>
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</table>

**CHANGE FROM FY 1997 BUDGET ESTIMATE**

There is no change in funding for Inspector General activities.