

Johnson Space Center (JSC)

Highlights*:

- **Flagship Technology Demonstrations:** New Program Office to manage \$424 million in FY 2011 and \$6 billion over five years, with the Deputy Program Office at Kennedy Space Center (KSC), to demonstrate transformational technologies for next-generation space flight capabilities.
- **Commercial Crew Development:** New Deputy Program Manager to manage, with KSC's Program Office, \$500 million in FY 2011 and \$5.8 billion over five years to foster private-sector transportation services to Earth orbit.
- **Commercial Cargo:** The FY 2011 Budget provides a one-time increase of \$312 million to add new capabilities and demonstrations to this program, and to ensure commercial cargo servicing of the ISS through 2020.
- **Human Research Program:** Augmentation of this JSC program of \$63 million in FY 2011 (42% increase) for a total of \$317 million over five years to further research on human habitation in space.
- **International Space Station:** An addition of over \$3 billion over five years to augment ISS functionalities, enable maximum utilization of the ISS, and extend ISS, likely to 2020 or beyond.
- **Constellation Transition:** Funding of \$1.9 billion in FY 2011, and \$600 million in FY 2012, is provided to transition and closeout the Constellation Program.

* Proposals regarding Program Office assignments will be implemented following Congressional approval of the FY 2011 budget; and funding amounts include the cost of civil service labor.

Center Assets: Located in Houston, TX, JSC employs approximately 3,300 civil servants, consisting mainly of professional engineers and scientists. Center capabilities that will be tapped in the President's new program include program and project management, expertise in systems engineering of human spaceflight including design, development, and testing of spacecraft and components, along with all aspects of operations and training, technology development and demonstration, human health, environmental monitoring, astromaterials analysis and curation, and domestic and international partnership development. Specific new activities include the following.

Flagship Technology Demonstration Program (FTDP) Program Office: This new program will demonstrate critical space exploration technologies primarily through flight tests in space. At least three demonstrations will be initiated in FY 2011 in areas such as in-orbit propellant transfer and storage, lightweight/inflatable modules, and automated/ autonomous rendezvous and docking. As the Program Office, JSC will coordinate programmatic activities with the Exploration Systems Mission Directorate and provide management oversight and integration across the technology demonstration flight missions. These flight projects will involve collaborations between Centers, with industry, our International Partners, and/or with academia. JSC's management and operation

of the ISS Program will enable the FTDP office to foster close cooperation in the use of ISS as a technology testbed and leverage science, international and robotic partnerships across the agency.

Commercial Crew Development Program (CCDP) Deputy Program Manager, and Commercial Cargo Augmentation: CCDP will facilitate U.S. private industry development of commercial crew transportation services to-and-from low Earth orbit, for use by the U.S. Government and other customers. The Program Office, located at KSC, will work closely with the Deputy Program Manager at JSC. JSC will leverage its existing expertise in its Commercial Crew/Cargo Program Office (C3PO), which manages, and will continue to manage, the commercial development of cargo services for the ISS and the Commercial Crew Development (CCDev) Space Act Agreements, to enable this new program. C3PO will manage the FY 2011 one-time increase in funding to the Commercial Cargo Program of \$312 million, for incentivizing NASA's current program to improve the chance of mission success by adding or accelerating the achievement of already-planned milestones, and adding additional capabilities or tests that may ultimately expedite the pace of development of cargo flights to the ISS. Close coordination with the ISS Program has been required for the development of cargo services and co-location at JSC with the ISS program has proven to be extremely valuable. ISS will continue to be responsible for managing the operational cargo resupply contracts. With ISS serving as the primary government customer in the near future for commercial transportation services, JSC can provide program coordination during the development of crewed vehicles.

Human Research Program: This existing research program, managed at JSC, receives a 42 percent increase in the President's FY 2011 Budget to continue to address human health and performance risks, as endorsed by the National Research Council and Institute of Medicine, for space exploration missions. Augmented by \$317 million over five years (FY 2011-2015), the program will be able to address critical areas of human health risks with a focus on biomedical technology, space radiation, and behavioral health, as well as other areas. Of this increase, 85 percent will be used to competitively solicit new research content through broad agency research announcements.

International Space Station: The FY 2011 President's Budget extends the lifetime of the ISS, which is managed at JSC, to 2020 and perhaps beyond. The Budget promotes the use of ISS as a national laboratory by a variety of government and non-government organizations for the conduct of research across an array of science and engineering disciplines, some of which are anticipated to have terrestrial applications. The Budget also augments key elements necessary to enable the extension and maximum utilization of the ISS including increases to its functionality through new technologies and capabilities upgrades.

Constellation Transition: A funding allocation of \$1.9 billion in FY 2011, and \$600 million in FY 2012 provides for the transition and closeout activities on the Constellation Program. The Program closeout will involve a comprehensive planning effort for the termination and resolution of existing contracts; safing, disposition and reallocation of facilities; workforce assessment and skills cross-mapping; assessing and extending systems development work from CxP towards the new direction for Exploration.