

National Aeronautics and Space Administration

Office of the Administrator
Washington, DC 20546-0001



April 7, 2010

The Honorable Frank Wolf
U.S. House of Representatives
Washington, DC 20515

Dear Congressman Wolf:

Thank you for your letter of March 11, 2010, signed jointly with other Members of Congress, requesting that NASA use a team of experts from three key NASA human spaceflight Centers to review how exploration spacecraft and launch vehicle development and testing is maintained under the President's FY 2011 budget proposal. Your letter also expressed interest in ensuring uninterrupted, independent U.S. human spaceflight access to the International Space Station (ISS) and beyond.

I strongly concur with your assertion that the United States should remain the world's leading space-faring nation, and I am confident that our FY 2011 budget will strengthen that leadership position. I am especially pleased that the President has asked Congress to maintain U.S. leadership and continuous U.S. presence in space by extending the life of the ISS, likely beyond 2020. That extension, dramatic improvements in space exploration technology, and the enhanced use of robotics to expand the reach of our exploration program, will all serve to inspire new generations of young people to look up to the United States as the world's leading space-faring nation. Those same young men and women will be inspired to study science, technology, engineering, and mathematics – and to become our future astronauts, scientists, and engineers.

Our FY 2011 request would allow NASA to build a technological foundation for sustainable, beyond-low-Earth orbit (LEO) human exploration of our Moon, near-Earth asteroids, Lagrange points, and, ultimately, Mars. The journeys to these destinations, which we are likely to reach faster and more affordably under our new vision, will also play a huge role in inspiring youth. I also want to note that the FY 2011 request includes funding to encourage participatory exploration and to enhance our educational programs, along with other investments to support NASA's longstanding educational goals.

The President's plan also provides resources for the Shuttle program to fly out the remainder of the manifest by the end of FY 2010, as planned, and then retire. The FY 2011 budget request also includes funds for the Shuttle to complete the manifest by the end of December 2010, in the event that the final flights cannot be completed by the end of FY 2010. Extending the Shuttle beyond the current manifest would result in a "gap" of 2-3 years between the last manifested flight and any new additional Shuttle flights due to the time it would take to complete production of additional external tanks. In addition, this

would divert resources from investments in future heavy lift and propulsion Research and Development (R&D), and space technology needed for more flexible and cost-effective U.S. human exploration beyond LEO in the future.

While I understand the dedication to the Constellation effort, the Augustine Committee found that “the current U.S. human spaceflight program appears to be on an unsustainable trajectory.” The Committee also found that, constrained to the FY 2010 budget, “the heavy-lift Ares V is not available until the late 2020s, allowing only orbital flights to the Moon. In addition, there are insufficient funds to develop the lunar lander and lunar surface systems until well into the 2030s, if ever.” Continuing Constellation in the expected budget environment would have forced a choice between ISS extension or substantially delaying development of a heavy-lift launch vehicle, and also would have precluded significant R&D investments in breakthrough technologies that can increase the opportunities for (and reduce the cost of) future human missions beyond LEO. The President’s new plan will stimulate a U.S. commercial enterprise to ferry crew from the Earth to LEO to support the ISS to eliminate reliance on foreign transport, provide the flexibility to begin work earlier on the heavy-lift launch vehicle that will be needed to get humans out of LEO, and invest in transformative technologies that will enable long-duration missions beyond LEO and ultimately to Mars and other destinations.

Consistent with your suggestion, I am pleased to report that key personnel from the Johnson, Kennedy, and Marshall Space Centers are already actively engaged in continuing to fill in the details of the President’s new course for NASA. At my direction, NASA has formed six senior study teams of experts from the Centers and Headquarters to map out the details of the specific proposed human spaceflight investments in the President’s FY 2011 request and plan for how the Constellation Program could be closed out in an orderly manner. The six teams are focused on: Constellation Transition; Heavy-Lift and Propulsion Technology; Commercial Crew; Exploration Robotic Precursors; Flagship Technology Demonstrations; and Enabling Technology Development and Demonstration. The teams will assess how to best capture the data, results, and lessons-learned from the Constellation program to help inform the new program and will assess workforce, procurement, and other issues to ensure that people and facilities are best utilized to meet the needs of NASA’s new missions. NASA has learned a lot from its work on Constellation, and I want to ensure that we maximize use of that knowledge.

The work of the six teams will form the basis of the detailed plans that we will share with you and other Members about our three new robust exploration programs:

1. Technology Demonstration Program -- \$652 million proposed for FY 2011 and \$7.8 billion proposed over the next five years;
2. Heavy-Lift and Propulsion Research and Development -- \$559 million proposed for FY 2011 and \$3.1 billion proposed over the next five years; and,
3. Robotic Precursor Missions -- \$125 proposed for FY 2011 and \$3 billion proposed over the next five years.

While these teams have been given latitude to determine the details of this bold new budget, I do want you to understand that they will not develop alternatives to the President’s

vision – or any type of “Plan B.” While I hope that much of their work will be complete in the next 30 days, I expect that NASA will continue to refine our plans throughout the coming months. We remain excited about the proposal as presented and look forward to working with Congress to clear up misunderstandings about the FY 2011 request to enable us to find a path forward on areas where disagreements remain.

Your interest and support will be critical as we find a solution to the budget questions that have been raised. I ask you to carefully review our request and to join me in pushing for enactment of this \$19 billion investment—the largest NASA budget ever proposed—into the future of the American space program. Thank you for your interest in NASA.

Sincerely,

A handwritten signature in black ink, appearing to read "C. Bolden Jr.", with a large, sweeping flourish extending to the right.

Charles F. Bolden Jr.
Administrator