

**Statement
of
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before the

**Committee on Science & Technology
U.S. House of Representatives**

FY 2009 Budget Hearing

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Chairman Gordon, Ranking Member Hall, and members of the committee, thank you for inviting me here today to discuss NASA's FY 2009 budget request of \$17.6 billion. I will highlight briefly the key aspects of this request, as well as areas where we will need this Committee's help, and then answer your questions.

Last week, Space Shuttle *Atlantis* delivered the European *Columbus* laboratory to the International Space Station. Next up is *Endeavour*, with the Japanese *Kibo* logistics module and the Canadian *Dextre* manipulator arm. After that, *Discovery* will deliver the *Kibo* pressurized module. With these flights, we are honoring our nation's commitments to our international partners on the Space Station, and meeting the most prominent milestones of the program. Throughout four presidential administrations and over twenty Congressional votes authorizing tens of billions of dollars for its development, the Space Station remains an

established feature of U.S. space policy. Its development is the largest task ever performed by the civilian agencies of the United States or our international partners. Such international partnerships will be an integral part of our next steps out beyond low Earth orbit, toward what President John Kennedy called “this new ocean”.

NASA is also taking the necessary steps to ensure that space exploration is not simply “all government all the time”. That’s not the way the American west was developed, it’s not how the greatest aviation system in the world was developed, and it ought not to be the way we develop the space frontier. Now is the time, and we are the people, to make provisions for the contributions of the commercial space sector to our nation’s overall space enterprise. I believe that we can open the International Space Station to purchases, by NASA, of cargo and crew services developed and provided by commercial entrepreneurs, in companies both large and small. To this purpose, NASA’s budget for FY09 provides \$173 million to leverage private investments in developing and demonstrating commercial transportation capability. More than \$2.6 billion is budgeted during the next five years to purchase cargo and crew services to support ISS operations. I would prefer to use as much of it as possible to purchase transportation services from American commercial companies, rather than foreign entities.

However, while I believe that we will have U.S. commercial *cargo* transport services in the next few years, along with European and Japanese capabilities, it is

my carefully considered assessment that U.S. commercial *crew* transport vehicles will not likely be available by 2012. The prospective purveyors of such services will of course claim otherwise, and indeed I wish them all possible success. No one hopes more than I that they are right and I am wrong.

But our ability to sustain the Station cannot be held hostage to hope. Thus, given existing legislative restrictions, we will require explicit authorization by the Congress to make further extraordinary payments to Russia in order to provide crew transport on *Soyuz* to the Station after 2011 for our astronauts, as well as those of our international partners to whom we have such obligations.

Chairman Gordon and members of this Committee, we will need your help with this. NASA needs this legislative authorization in 2008, because the Russians require 36 months lead-time to fabricate and build new *Soyuz* vehicles, and thus we will need to finalize contractual agreements late this year. For reference, NASA's current contract with Russia is worth almost \$780 million through 2011.

I yield to no one in my firm belief that we need to minimize our dependence on the Russian *Soyuz* and protect against proliferation of weapons technology to our adversaries. It is dangerous for the United States to find itself dependent upon any external entity for a strategic capability, and space transportation is just that. I have been outspoken to the point of bluntness on this matter since being confirmed

as Administrator in April 2005. I deplore the posture in which we find ourselves. It is unseemly in the extreme.

But there is no other viable option. We are, today, reliant upon the Russian *Soyuz* for the sustenance of the International Space Station. Because this is a fact, and because I am guided by facts, I am glad there are Russian services to buy, and that Russia is a member of the Space Station partnership. Their participation in the International Space Station gives the United States time to develop U.S. cargo and crew transport systems, while preserving the tens of billions of dollars we have invested in the ISS. But we will need your help, not only in supporting our budget request, but also with legislation authorizing NASA to purchase Russian crew transport for the ISS after 2011.

Some have suggested that this dilemma can be avoided by continuing to fly the Space Shuttle past its currently planned retirement in 2010. I must be clear. We will remain dependent upon the Russian *Soyuz* system until a new commercial crew vehicle is qualified for orbital flights of six months duration, or the *Orion* and *Ares* systems are deployed, because the *Soyuz* provides emergency crew return for all astronauts and cosmonauts onboard ISS. Delaying the retirement of the Space Shuttle does not solve this problem. In fact, it exacerbates the situation. Money spent flying the Shuttle after 2010 is not available for *Ares* and *Orion*, which

causes the gap between Shuttle retirement and deployment of new systems to grow, and with it the duration of dependence on Russian systems.

Further, I share the view that the *Columbia* Accident Investigation Board referred to as an “inescapable conclusion”, “Because of the risk inherent in the original design of the Space Shuttle, because that design was based in many aspects on now-obsolete technologies, and because the Shuttle is now an aging system but still developmental in character, it is in the nation’s interest to replace the Shuttle as soon as possible as the primary means for transporting humans to and from Earth orbit.” For this very reason, the Board expressed dismay at how “previous attempts to develop a replacement vehicle for the aging Shuttle represent a failure of national leadership”, and called for a rigorous vehicle safety recertification if the Shuttle were to be operated past 2010.

That brings us to today. With the budgetary resources currently projected for the critical development years of 2009 and 2010, we can realistically forecast the *Orion* and *Ares* systems becoming available by early 2015. That being said, the engineering and design teams for the *Orion* and *Ares* in Houston, Huntsville, Cape Canaveral, Cleveland, Denver, Norfolk, California, and many, many other parts of the country, are trying to beat this prediction, so again I hope that they prove me wrong. Leaving budgetary issues aside, especially those in the critical

years of FY09 and FY10, the earliest possible date we could credibly bring *Orion/Ares* online would be the fall of 2013.

The past several appropriations cycles have resulted in funding reductions for Exploration in favor of other priorities. This has delayed our ability to bring these new systems online. Because of the strategic importance of these first elements of the *Constellation* system, because of the unseemly posture of U.S. reliance on Russia for a strategic capability, because American taxpayers are today paying Russian aerospace engineers to do work that should be done by Americans, because we will face growing competition from the advancing Chinese space program, and because we are in the middle of a difficult, once-in-a-generation transition from the Space Shuttle to a new human spaceflight system, I ask that the Congress fully fund NASA's Exploration efforts. It is critical to our nation's leadership in space.

Despite the demands of this once-in-a-generation transition, with this budget request we provide an appropriate balance between human spaceflight, Earth and space science, and aeronautics research. NASA is operating fifty-five science missions today, peering into the farthest reaches of our universe, digging among the rocks of Mars, monitoring our sun's behavior, and conducting research on the causes and effects of global warming on our planet.

NASA's FY09 budget provides \$910 million over the next five years to develop high-priority Earth Science missions as defined by the National Academy of Sciences last year. Our nation's investment in NASA's Earth Science program is paying dividends, and we are shifting funds from other Science disciplines because of the recognition on the part of the public and policy-makers to the value of the global warming research coming from NASA's Earth scientists. NASA satellites supply more global climate change data than those of any other organization in the world, and we are the largest contributor to the interagency Climate Change Science Program (CCSP).

We plan to launch fourteen new science missions in the next two years, and in late August or early September, we plan to launch the much anticipated final Space Shuttle servicing mission to the Hubble Space Telescope. As these missions are completed, funds become available for the planned new science missions. That said, I must report to you, per the NASA Authorization Act of 2005 major program reporting requirements that originated from this Committee, that NASA's current development cost estimate of about \$325 million for the *Glory* Earth Science mission has exceeded the 30% threshold in cost growth. Thus, it requires explicit Congressional authorization in the next eighteen months to continue. *Glory* is a high priority for the Earth Science community, and I hope that you will allow it to continue.

In Aeronautics Research, we are aligning our research efforts with the many other agencies in the Federal government also conducting such research. In partnership with the member agencies of the Joint Planning and Development Office, we are conducting fundamental research on the environmental, safety, and capacity challenges facing our nation's air transportation system, both on the ground and in the air. We are developing world-class aeronautics expertise and capabilities, and we are closely coordinating the use of NASA's aeronautics research and test facilities with other Federal agencies. We are also pursuing innovative partnerships with commercial companies that will better leverage private investment toward our national goals in aeronautics and other areas.

In conclusion, Chairman Gordon, I want to thank this Committee for its time and attention. We have many challenges before us at NASA, but I believe the greatest challenge we face is to maintain a unified sense of purpose throughout the difficult transition from Shuttle to Constellation systems. Space exploration is not for the faint of heart, nor for those who are easily distracted.

I recently spoke at Calvin College in Grand Rapids, Michigan, where Congressman Vern Ehlers taught physics for seventeen years. In that speech, I explained how the leaders of the House Science & Technology Committee, whose pictures adorn these walls, spoke passionately of the need for a unifying space policy in the wake of the Space Shuttle *Columbia* tragedy. The President heeded

that advice in issuing the Vision for Space Exploration, which, after almost two years of informed debate, culminated in the NASA Authorization Act of 2005.

That legislation, enacted with a strong bipartisan majority, codified into law the unifying vision called for by the *Columbia* Accident Investigation Board. I personally believe that it is the best civil space policy this nation has had since the time of *Apollo*. It provides a unified direction as to where we're headed, a sense of purpose, and a lasting legacy both for the crew of the *Columbia* and those among our nation's leaders who recognized the strategic importance of space exploration. And most importantly, it is the law of the land, and today NASA is turning that direction into concerted action.

Former chairman of the House Science Committee, Congressman Bob Walker from Pennsylvania, framed the issue perfectly in a speech shortly after the loss of *Columbia*, five years ago: "For every generation, choices are made that lead to greatness or mediocrity." It's all a matter of what each generation, in its time here on Earth, chooses to do with its energy, resources, and intellect. I want to thank this Committee for having chosen a path that leads to greatness, and I ask your help in staying that course.

Thank you.