

REMARKS TO NASA ADVISORY COUNCIL
NASA ADMINISTRATOR CHARLES F. BOLDEN, JR.
NASA STENNIS SPACE CENTER, MS

January 14, 2015

Good afternoon, everyone. I am delighted to welcome you to NASA's Stennis Space Center for this first meeting of 2015 for the NASA Advisory Council (NAC).

My thanks to NAC Chair, Steve Squyres, and all the members of the Council for the hard work you do to help NASA address its current challenges by dedicating your time, attention and wise counsel. We appreciate it very much.

I've said this many times, but I want to say it again: I take your recommendations and findings very seriously.

Today, I want to give you a brief overview of what's been happening at NASA since we last met in July at the Langley Research Center.

It has been an incredibly busy and exciting time everywhere we do work, from human spaceflight to science, aeronautics and space technology. We wrapped up a very successful 2014 and look forward to an equally busy and rewarding new year ahead.

Let's start with the budget.

Under the omnibus fiscal year 2015 funding bill, NASA would receive \$18.01 billion to carry out the nation's ambitious space program. This funding affirms the bi-partisan support for NASA and helps the United States maintain its world leadership in exploration and scientific discovery.

The bill invests in our initiative to return human spaceflight launches to the U.S.; groundbreaking technology development and aeronautics; and moves us forward with the Space Launch System and *Orion* on our journey to Mars.

We are scheduled to release our FY 2016 budget in February, and we'll have more details soon about that.

Among the milestones since last we met, one of the largest was the unqualified success of the *Orion* spacecraft's first test flight in December.

The spacecraft performed flawlessly and splashed down on schedule in the Pacific Ocean, in stunning full view of the world.

Our colleagues in the U.S. Navy recovered the capsule, and we will be studying it over the coming months in addition to analyzing the massive amounts of data we gathered from the flight.

Exploration Flight Test-1 (EFT-1), as we called the test, was a huge step for NASA and critical part of our work to pioneer deep space on our Journey to Mars. The teams did a tremendous job putting *Orion* through its paces in the real environment it will endure as we push the boundary of human exploration in the coming years.

The Space Launch System (SLS) that will carry *Orion* to space on its next flight passed Key Decision Point-C (KDP-C), which was a rigorous review of work on the rocket to date.

We approved the program's progression from formulation to development, something no other exploration class vehicle has achieved since the agency built the space shuttle.

On January 9, we also had the first successful test of the RS-25, formerly the space shuttle main engine, four of which will power SLS on future missions, including to an asteroid and Mars. The

engine fired up for 500 seconds on the A-1 test stand right here at Stennis, providing NASA engineers critical data on the engine controller unit and inlet pressure conditions. This was the first hot fire of an RS-25 engine since the end of space shuttle main engine testing in 2009.

In commercial crew, last week the Government Accountability Office (GAO) notified NASA that it has denied Sierra Nevada Corporation's protest of the Commercial Crew Transportation Capability contract awards.

We're pleased the GAO's decision allows the agency to move forward and continue working with Boeing and SpaceX on our initiative to return launches of crewed spacecraft from American soil, that will enable safe and reliable crew transportation to and from the International Space Station on American spacecraft launched from the United States, ending the nation's sole reliance on Russia for such transportation.

We also approved the completion of Boeing's first milestone in the company's path toward launching crews to the Station. The Certification Baseline Review is the first of many more milestones, including flight tests from Florida's Space Coast that will establish the basis for certifying Boeing's human space transportation system.

All told, the Commercial Crew Program and the agency's industry partners completed 23 agreement and contract milestones in 2014 and participated in thousands of hours of technical review sessions.

In commercial cargo, in September SpaceX-4 delivered supplies and experiments, including the Earth science instrument *RapidScat*, to the Station. The instrument inaugurates a new era of Earth observation that will leverage the Space Station's unique vantage point in space. Data will support weather and marine forecasting, including tracking storms and hurricanes.

SpaceX-5 last week delivered cargo and experiments including the Cloud-Aerosol Transport System, or *CATS*, to Station. *CATS* will monitor cloud and aerosol coverage that directly impacts global climate. SpaceX-5 also delivered student experiments lost aboard Orbital-3 in October.

We were disappointed by the loss of Orbital-3, but Orbital Sciences is bouncing back and has announced it will launch again later this year on an Atlas V.

Down select for the Asteroid Redirect Mission (ARM) is proceeding and we plan to announce soon which approach we will take. One would capture an asteroid using an inflatable system, similar to a bag, and the other would capture a boulder from a much larger asteroid using a robotic arm.

Science continues its relentless pace of innovation and discovery. We selected the instruments for the Mars 2020 rover, including

instruments to select and store samples for possible return to Earth, unlock mysteries of Mars' past, and demonstrate how future explorers could use the planet's natural resources.

MAVEN reached Mars in September and began to study the planet's upper atmosphere. *Curiosity* reached Mt. Sharp, its prime destination and has begun its trek up the mountain.

We were part of the European Space Agency's (ESA's) *Rosetta* mission that had its *Philae* lander successfully landed on a comet. A NASA instrument named *Alice* recorded the first far-ultraviolet light spectra of the comet's surface. We look forward to building on *Rosetta's* success exploring our solar system through our studies of near earth asteroids and NASA's upcoming asteroid sample return mission, *OSIRIS-REx*.

On December 6, after a voyage of nearly nine years and three billion miles – the farthest any space mission has ever traveled to

reach its primary target – NASA’s *New Horizons* spacecraft came out of hibernation for its long-awaited 2015 encounter with the Pluto system.

In technology, we continue to analyze data from last summer’s successful flight of the Low Density Supersonic Decelerator. The project won recognition in the “Best of What’s New” rundown in *Popular Science*.

We also completed a complex series of tests on one of the largest composite cryogenic fuel tanks ever manufactured, bringing the aerospace industry much closer to designing, building and flying lightweight composite tanks on rockets.

Aeronautics keeps working to make breakthroughs in not only air travel but also new ways to use our airspace. In October, the agency announced the Langley Research Center had signed a one-year agreement with the Department of the Interior’s U.S.

Fish and Wildlife Service to test small unmanned aerial systems (UASs) for the detection of brush and forest fires.

In December, we began flight tests of computer software that shows promise in improving flight efficiency and reducing environmental impacts of aircraft, especially on communities around airports.

Known as *ASTAR*, or Airborne Spacing for Terminal Arrival Routes, the software is designed to give pilots specific speed and guidance information so that planes can be more precisely spaced, enabling pilots to fly a much more efficient "follow the leader" approach to their destination airport.

We're looking forward to a busy and rewarding 2015 with *Dawn* arriving at Ceres, *New Horizons* arriving at Pluto, the launch of the *Magnetospheric Multiscale* mission (MMS), the first one-year crew increment aboard the Station, and much more.

Thank you. And now I will be happy to take questions.