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Bolden, Garver visit Stennis

NASA faces interesting and challenging times, as well as a one-time generational opportunity to make dramatic advances in space exploration, agency Administrator Charles Bolden told employees at John C. Stennis Space Center on Aug. 20.

"I think there are things we're going to be able to do that will be tremendous, not just for the country but for the world," Bolden said during an all hands session at Stennis. "It's not the same world you grew up in. Things have changed dramatically, and if we want to maintain our leadership, we have to change with them."

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New NASA Administrator Charles Bolden responds to a question during an all hands session at Stennis Space Center on Aug. 20. Bolden was joined by new NASA Deputy Administrator Lori Garver.

Discovery crew completes STS-128 mission

Crew members of the STS-128 shuttle flight returned to Earth on Sept. 11, completing a successful 14-day mission to the International Space Station. Space shuttle Discovery launched Aug. 28 to begin the mission. During the ensuing two weeks, astronauts delivered equipment and supplies to the space station, including science and storage racks, a freezer to store research samples, a new sleeping compartment and an exercise treadmill. The mission featured three spacewalks to replace experiments and install new equipment.

From the desk of

Gene Goldman

Director
Stennis Space Center

"You say yes, I say no; you say stop, and I say go. ... You say goodbye, and I say hello!"

(The Beatles, "Hello, Goodbye," 1967)

My 26-year-old baby girl just graduated, majoring in communications. We talked a lot recently, as she finished group projects. Frustrated, she told me that she finally realized the most important and difficult part of effective communication is actually to listen to whom you're talking. I agreed that was profound and would have certainly made her teenage years, as well as many of mine, less contentious. As the father lamented in "My Big Fat Greek Wedding" – "Nobody listens to me!"

Recent surveys show we do a poor job of communicating with employees at Stennis. I heard that in my senior staff meeting. As a young engineer, I railed about mushroom philosophies and poor managers. Now, I realize, I am one. This is a continual, universal struggle. It's also our most important responsibility.

A review of NASA mission mishaps gives multiple examples of failed communication. Most often, the error is related to misinterpreted or poor requirements. In many cases, design changes were missed. The Apollo 13 accident was, at its taproot, due to a fuse revision not being conveyed to a sub-tier vendor. Our missions are extensive and complex, involving thousands of employees. Our problems usually evolve from a miscommunication between two.

We've all played the group gossip game where the original story is barely recognizable when repeated by the last person. Yet, we believe that's just a game. I sit on the pointy end of the Stennis pyramid and think what I say clearly cascades and permeates the organization. I start with the misperception that what I said was even understood. How many managers have had that communication failure? How many employees? How many of us humans?

If I had "the answer," I would have written "the book" instead of this article. Obviously, these lessons apply to everything we do in life. In human spaceflight, they are of mortal consequence.

In addition to assuring we are understood, we must also ensure we understand. Communication must be two-way. As leaders, we have that responsibility. As humans, we should have that compassion.

"From the mouths of babes."

Dream big; work harder!

NASA officials meet with Stennis team

New NASA Administrator Charles Bolden (second from right) and Deputy Administrator Lori Garver met with Stennis Space Center Director Gene Goldman (center), Deputy Director Patrick Scheuermann (right) and Associate Director Richard Gilbrech (left) during an Aug. 20 visit to the center. It was the first visit to Stennis by the NASA officials since they were confirmed for their new posts by the U.S. Senate in July. During the day, Bolden and Garver toured facilities, met with senior managers and other groups and held an all hands session with employees, which included a question-and-answer opportunity. For a report on the all hands session, see Page 1 article.

FULFILLING NASA'S EXPLORATION MISSION

Space shuttle main engine No. 0525 is lifted from the A-2 Test Stand at Stennis Space Center against the backdrop of the new A-3 Test Stand under construction, offering a glimpse of the past and future in the nation's space exploration program. Space shuttle main engines have powered NASA's Space Shuttle Program for the past 28 years. Stennis has tested every main engine used on more than 125 shuttle missions. With the shuttle program set to end in 2010, Stennis conducted the last planned space shuttle main engine test July 29. Meanwhile, construction of the A-3 Test Stand continues for conducting simulated high-altitude testing of the J-2X engine being built to help power the Constellation Program, NASA's plan to return humans to the moon and possibly beyond.

A-3 construction proceeds

Construction of the A-3 Test Stand at Stennis Space Center proceeded with delivery and installation of three large vessels last month.

A pair of 39,000-gallon water vessels (right) and one 35,000-gallon isopropyl alcohol (IPA) vessel, all manufactured by Taylor Forge Engineered Systems Inc. in Paola, Kan., were installed at the test stand site. Installation of additional IPA and water vessels, as well as three liquid oxygen vessels, is expected soon.

In addition, installation of the preassembled stair sections to be used on the stand is under way. Piling is being driven to support chemical steam generators that will allow the stand to simulate altitudes of up to 100,000 feet. That is the key feature for the stand, which is being built to provide simulated high-altitude testing of the J-2X engine being developed to help power the Constellation Program, NASA's plan to go back to the moon and possibly beyond. The high-altitude testing is needed to ensure the J-2X will fire in space. Testing of the new engine is expected to begin on the new stand in the fall of 2011.

Nitrogen sphere undergoes repair

A team of NASA and NASA-related employees recently completed an intricate repair and recertification of a 55,000-gallon liquid nitrogen sphere at John C. Stennis Space Center.

"The project involved coordination with several organizations, but a number of talented individuals came together to contribute to a successful effort," said Bob Schwer, Jacobs NASA Test Operations Group manager of test support services at Stennis. "There was a lot of teamwork."

The effort was needed after an employee at the Stennis high-pressure gas facility noticed a small vapor spray around the intake line at the base of the liquid nitrogen sphere. A borescope inspection identified some weakness in the original welds, which were made more than four decades earlier.

Jacobs NTOG employee Ronnie Dartez takes a pressure reading during the chilling process for the liquid nitrogen sphere at Stennis' high-pressure gas facility.

Operators began assessing options, calling in all teams involved, such as the Engineering and Test Directorate and the Stennis Program Office. "We identified the problem, offered possible solutions and laid out the risks involved," recounted Doug McNair, NASA operations manager for the high-pressure gas facility. "We wanted everyone to have full disclosure and reach a consensus on what to do."

Officials decided a repair was needed, along with a recertification of the entire sphere. The project promised to be painstakingly delicate. "You have to realize that the cryogenics involved with storing rocket propellants is a science unto itself," McNair said.

There also was the matter of reducing Stennis to one liquid nitrogen tank during the six-week project. Pumps have not yet been installed on two of the three operational run tanks at the facility. With the sphere undergoing repairs, the gas facility was down to one tank and one pump. Add to that scenario the fact that the project had to be done during July and August, the heart of hurricane season, when a storm can seriously disrupt liquid nitrogen delivery at Stennis.

Liquid nitrogen is critical at a rocket engine test facility like Stennis, especially to maintain and operate test systems. A loss of nitrogen pressure would put the system at risk of contamination, which could necessitate an expensive and time-consuming restoration process. To avoid that possibility, the team called on the E Test Complex at Stennis to serve as a nitrogen system backup.

They then emptied the nitrogen vessel and commenced repair work, first to one line, then to the second when similar issues emerged with it. The focus then turned to breaking the vacuum on the sphere for the first time in more than two decades. After breaking the vacuum, maintenance and enhancements were accomplished that will extend the life of the sphere and facilitate any future repair work.

The liquid nitrogen sphere actually operates like a giant thermos bottle. Inside the outer shell is a smaller sphere where the nitrogen is stored. Between the inner and outer spheres is perlite insulation, tightly packed within a vacuum space. The perlite and vacuum are needed to maintain the minus 312 Fahrenheit temperature needed to store liquid nitrogen economically.

Breaking the vacuum on the vessel for the first time since 1985 posed several risks. For one, breaking the vacuum on such a large vessel is a slow process that must be carefully regulated. If pressure inside the sphere changes too suddenly or unevenly, the inner vessel could shift and be damaged beyond repair.

However, the greatest risk to the success of the project involved re-establishing the vacuum, McNair said. With vacuum pressure having been maintained for 24 years, it was impossible to predict how a change would affect the many seal gaskets on the vessel and its piping. Even a small crack in one could have meant a failure to re-establish vacuum and achieve acceptance for use.

"We needed to know if the sphere was to certification requirements or not," McNair said. "The recertification removes any doubt as to the safe use of the vessel."

Repairs completed and insulation topped off, operators carefully re-established vacuum on the giant sphere. In late August, the sphere was chilled down, and liquid nitrogen was reintroduced. The sphere has been successfully returned to service.

McNair and Schwer praised the work of team members on the project. "This happening after hurricane season would have been better timing," McNair said. "However, it happened now, and everybody worked together to address it. It was a good project."

STS-127 crew reports on mission to ISS

Members of the STS-127 shuttle mission visited Stennis Space Center on Sept. 10 to share with site employees details of their July visit to the International Space Station. During an all hands session, the astronauts thanked Stennis employees for providing main engines that gave them a "beautiful ride" aboard space shuttle Endeavour. During a 16-day mission, the astronauts delivered the Japanese Experiment module's Exposed Facility and the Experiment Logistics Module-Exposed Section. The mission featured five spacewalks to install the equipment and perform other work on the space station. Following their report to Stennis employees, the astronauts traded commemorative plaques with Stennis Deputy Director Patrick Scheuermann (center). Astronauts visiting Stennis were (l to r): Chris Cassidy, Doug Hurley, Mark Polansky, Julie Payette, Thomas Marshburn and David Wolf.

AGT gains Star Demonstration status

Applied Geo Technologies Inc. recently became the first resident agency at Stennis Space Center to be awarded the Voluntary Protection Programs (VPP) Star Demonstration status by the Occupational Safety and Health Administration (OSHA). OSHA Area Director Clyde Payne presented a plaque of recognition to AGT Safety Manager Sharlene Majors during a Sept. 10 ceremony. Afterwards, AGT employees posed with a VPP Star banner to signify the new status. Once four other key resident agencies have attained Star Demonstration status, Stennis will apply to become an overall VPP Star site.

Stennis employees earn NASA award

Several Stennis Space Center employees were recognized Aug. 31 with NASA's Acquisition Improvement Award for their work related to an urgent refurbishment of a liquid propellant barge project completed in late 2008. Stennis Deputy Director Patrick Scheuermann (left) stands with award recipients (l to r) – Greg Fletcher, contract specialist in the Office of Procurement; Jim Huk, chief of the Program Management Support Division of the Office of Procurement; Stan Gill, rocket propulsion test project manager; Carol Burnside, contracting officer in the Office of Procurement; and Ronnie Rigney, deputy director of the Project Directorate.

2009 Stennis Industry Day attracts big turnout

More than 200 contractors and small business representatives turned out to hear about job opportunities at NASA's Stennis Space Center when the site held its 2009 Industry Day on Sept. 3.

The event offered guests a chance to network and hear presentations by specialists from Stennis, the NASA Shared Services Center and Marshall Space Flight Center in Huntsville, Ala. It also included presentations on current projects at Stennis.

Wayne Carter (right), customer service director for the U.S. General Services Administration, speaks with Ron Boutin, project manager with American Tank and Vessel Inc. of Mobile, Ala.

Michelle Stracener, small business specialist with the Stennis Office of Procurement, said Industry Day is part of a growing effort to work closely with contractors and small businesses. "It's geared toward informing small businesses in Mississippi and Louisiana and along the Gulf Coast about the many opportunities at Stennis Space Center," she said.

Stracener said the turnout was better than anticipated, and attendees picked up valuable information.

BOLDEN

Continued from Page 1

Bolden was nominated by President Barack Obama to head the nation's space agency in May and was confirmed in that post by the U.S. Senate in July. He was joined on his first trip to Stennis as the new NASA leader by Deputy Administrator Lori Garver, who also gained Senate confirmation to her post in July.

During the visit, the two agency leaders toured facilities, met with senior managers and others and conducted the all hands session, which included a question-and-answer period.

In opening remarks, Bolden thanked Stennis employees for their ongoing efforts following the devastating impact of Hurricane Katrina in 2005. "What you have done here over the last four or five years is nothing short of incredible," he said. "You should recognize that we appreciate that. You should also recognize that, without knowing it, the nation appreciates it."

Bolden characterized Stennis employees as loyal, dependable and resilient. "That describes you and your coworkers, and you should remind each other of that every day," he said.

Unfortunately, too many people outside of NASA do not know what the agency does or who its workers are, Bolden added. He denied the view of some that the agency has been adrift, but he agreed that the time has come to make it "even more relevant."

Garver echoed the sentiments, citing her commitment to help the agency do its work "as efficiently and effectively as possible."

During the question-and-answer session, Bolden and Garver responded to queries on the future of space exploration, NASA's commitment to education initiatives and the value of agency work, especially in technological spinoffs to other areas.

Bolden cited his belief that it is time for commercial operators to take over low-Earth orbit activities, such as delivering crew members to the International Space Station, so NASA can focus on "the moon and beyond."

He and Garver both emphasized the need to reach a broader spectrum of people with the NASA message. Much of that effort will focus on a better use of NASA personnel in sharing resources and communicating information, they said.

The two leaders also stressed there is real value in NASA work. At least one study has shown a seven-to-one return on NASA dollars over the course of a program. However, there are many ways to gauge value, Garver indicated. She cited the ongoing International Space Station partnership involving NASA and Russia, noting it is the largest cooperative U.S. effort that has been sustained with the nation during the past 20 years. It is difficult to know how much that has benefited all of civilization, she said.

"So, we need to look at some things deeper than just the return, …" Garver said. "NASA's doing incredible things. And, we're really, really hoping we can do a better job, not only connecting those things with the American public but with the country's leadership, so that we're allowed to do more."

Mark the calendar - Safety Day is Oct. 22

@ Stennis

What is the most important message that needs to be communicated about the work NASA performs?

Editor's Note: *@ Stennis highlights the views and opinions of Stennis Space Center employees.*

"We need to let others know what and how we do things here at Stennis that contributes to the country's overall space exploration program."

Maxine Friendly, Jacobs NTOG

"NASA is more than just space exploration. It's also Earth science and studying how our world works and what we need to do to keep it livable."

Sean Hasselvander, ODIN

"We need to stress the scientific education opportunities offered through NASA and the many developments the agency has brought to the country."

Marta Lyle, Jacobs FOSC

"We need to inspire the next generation of scientists and engineers and show how technology NASA has developed has benefited others."

Robert Ross, NASA

Office of Diversity and Equal Opportunity

Celebrate Stennis diversity Oct. 7

Diversity does not pertain only to the differences in our cultures. It also includes the varied backgrounds, perspectives, and experiences that make us who we are.

This unique individuality contributes to the rich diversity that is Stennis Space Center. Join us Oct. 7 from 10 a.m. to 2 p.m. for the first sitewide Stennis Employee Showcase celebrating what makes us uniquely Stennis.

As part of the Stennis Diversity Council, NASA will be hosting this celebration. In addition to a variety of cultural displays, employees will also be sharing their talents and hobbies.

There are also many other exciting events taking place – performances by the Stennis Child Development Center, a cooking demonstration with samples from the New Orleans School of Cooking, onsite agency and contractor displays, exhibits from our local community, a diversity trivia contest with prizes, and a classic car and motorcycle show, to name a few. These events will be taking place in front of Building 1100 and also in the atrium.

The goal of this event is not merely to experience our different "cultures" for one day, but to make diversity a part of everyday life and to understand that differences are gifts to be shared. Join us in celebrating the amazing diversity and talents of the Stennis workforce!

Women of the Storm executive committee members Diana Pinckley (l to r), Alexis Robinson and Anne Milling display a framed commemorative poster presented following their panel discussion at an Aug. 26 celebration of Women's Equality Day at Stennis Space Center. Women of the Storm is an alliance of Louisiana women who seek to educate elected leaders about needs in areas affected by Hurricanes Katrina and Rita in 2005.

NASA establishes VPP group

NASA has established a Voluntary Protection Programs (VPP) Employee Safety Committee – Motivating OSHA VPP Employee Readiness Success (MOVERS). Its members represent NASA offices and directorates, as well as contractors LMIT, Paragon, and Patriot. Members are: (seated, l to r) Karma Snyder, Maggie Jones, Kelly Sullivan and Wendy Houser; (standing, l to r) Chris McGee, Larry Oman, Sandy Mitchell, Aaron Lunt, Cheryl Lunt and Joseph Lacher. Not shown are: Tammy Bridenbeck, Stephanie Delancey, Barry Robinson, Cecile Saltzman and Darryl Smith.

Hail & Farewell

NASA bids farewell to the following:

Dale McCarty	AST, Experimental Facilities Development Center Operations Directorate
Debrina Harrell	AST, Data Systems Center Operations Directorate
Michelle Craft	AST, Experimental Facilities Techniques Center Operations Directorate

And welcomes the following:

Dorothy Brown	Student Trainee/Accountant Office of the Chief Financial Officer
Mike Killam	AST, Experimental Facilities Development Center Operations Directorate
James Cluff	Information Technology Specialist Center Operations Directorate

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Stennis joins in NASA education webcast

NASA joined in on a national back-to-school effort Sept. 9 with a Distance Learning Network webcast that featured engineers from various facilities, including Stennis Space Center.

On the heels of President Barack Obama's national comments on the value of education, NASA broadcast interviews with young science, technical, engineering and mathematics professionals working at the agency's various centers.

At Stennis, Christine Powell was featured. An electrical engineer, Powell is systems and test integration lead in the Engineering and Test Directorate.

Steve Culivan, an aerospace education specialist at Stennis Space Center, interviews Christine Powell, systems and test integration lead in the Engineering and Test Directorate, as part of a special Distance Learning Network broadcast Sept. 9. The broadcast was in conjunction with a speech by President Barack Obama to the nation's schoolchildren about the importance of education and taking responsibility for their studies. The NASA broadcast focused on the value of science, technical, engineering and mathematics education.

Students complete NASA summer programs

High school and college students involved in the 2009 NASA summer education programs at Stennis Space Center recently delivered final presentations to complete their sessions.

Students from several states and schools spent eight to 10 weeks working with Stennis personnel through NASA's Interdisciplinary National Science Project Incorporating Research and Education Experience (INSPIRE), its Undergraduate Student Research Program (USRP), and the Achieving Competence in Computing, Engineering and Space Science (ACCESS) initiative.

INSPIRE and USRP students conducted research with NASA and NASA-related scientists and engineers on topics ranging from video production and audio-visual work to assessment of design and data management system applications to a study of the hydrophilic properties of photocatalytic titanium dioxide. Students also investigated the historical shoal formation along the Mississippi barrier islands; provided analysis of an ultrasonic, non-intrusive flowmeter for a liquid nitrogen system; and conducted research on test stand electrical design and vacuum insulation systems for cryonics storage vessels.