National Aeronautics and Space Administration

LAGNIAPPE

John C. Stennis Space Center

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Record-breaking

The June 8 test of the J-2X powerpack on the A-1 Test Stand at Stennis Space Center set a new record of test duration, lasting 1,150 seconds, almost 20 full minutes. It was the longest-duration test firing ever conducted in the A Test Complex. During the test, engineers throttled the J-2X powerpack up and down several times to explore numerous operating points required for the fuel and oxidizer turbopumps. The results of this test will be useful for determining performance and hardware life for the J-2X engine turbopumps. Pratt & Whitney Rocketdyne is developing the J-2X engine for NASA's Marshall Space Flight Center in Huntsville, Ala. **See coverage on pages 4 and 5.**

2012 Hurricane Season Guide appears at end of this issue

"External customers and stakeholders remain impressed by Stennis efforts and wholly value the return on their investments."

From the desk of
Patrick Scheuermann
Director, Stennis Space Center

We are at the halfway point of 2012, and the Stennis team has already accomplished much. Work continues to be achieved in an outstanding and safe manner. External customers and stakeholders remain impressed by Stennis efforts and wholly value the return on their investments.

The NASA deputy administrator came back for another visit to our space center and was excited to listen to employees proudly state achievements. She also had the opportunity to witness her first-ever engine test at the E Test Complex and was very impressed by how it looked and more impressed by how easy the integrated team made it look. Good job!

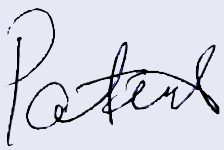
Great things continue to happen in the test complex. The construction phase of the A-3 Test Stand is winding down, and plans to activate this newest asset are ramping up. It is easy to see this newest addition to the Stennis skyline from Interstate 10. Support of Marshall Space Flight Center in Huntsville, Ala., led by former Stennis Director Gene Goldman, has reached new milestones with J-2X engine tests on the A-2 Test Stand and J-2X powerpack tests on the A-1 Test Stand. I was in the test complex June 8 to witness a record 1,150-second long-duration test on the A-1 stand.

The efforts to bring back the B-1 Test Stand liquid hydrogen run tank from the brink were herculean. A quiet and determined team of NASA, Pratt & Whitney Rocketdyne, Jacobs Technology and Lockheed Martin employees put together a unique repair plan and executed it to perfection. Their efforts easily saved the taxpayer over $9 million. It was good to see the RS-68 test program resume. It is extremely important to the first flight of the Space Launch System, EFT-1. WAY TO GO!

The federal city concept is thriving with major construction projects under way. One of the most visible is the project to widen Highway 607 to four lanes all the way to the Interstate 59. Efforts to incorporate the former tenants of the Mississippi Army Ammunition Plant into the greater federal city have been progressing with minimal impact. Major construction projects are ongoing to repair and improve the area's infrastructure to make it more reliable. Thanks to everyone involved for their tireless efforts.

Prime customers, NASA Headquarters and Marshall Space Flight Center, continue to be very pleased with the milestones we achieve. In a letter to Congress, the NASA administrator wrote: "Stennis is where the future of NASA is happening today. The Stennis mission to provide independent rocket engine test services is thriving. There are four different programs currently testing at Stennis. I am proud that these are not just NASA test articles, but are also from the Department of Defense and the commercial space industry. NASA's FY 2013 budget request will continue to ensure appropriate investments are made to sustain and improve the SSC test facilities for decades."

Hurricane season has begun. I strongly encourage everyone to BE PREPARED. That means providing contact numbers to ensure employees and their families are safe in the event of an emergency. Employees should take their stellar approach to safety home and prepare residences and personal belongings for this season. Do not wait until the last minute. Most of all – BE SAFE.



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FULFILLING NASA'S EXPLORATION MISSION

NASA continues J-2X testing

Testing of the next-generation J-2X rocket engine continues to set standards. Last fall, the engine attained 100 percent power in just its fourth test and became the fastest U.S. rocket engine to achieve a full-flight duration test, hitting that 500-second mark in its eighth test. A seven-second test (top photo) on May 16 on the A-2 Test Stand at Stennis moved the space agency even closer to a return to deep space. On May 25, NASA recorded another first during a 40-second test (middle photo) of the engine on the A-2 Test Stand. Test conductors fired the J-2X in both the secondary and primary modes of operation. Previous tests were run in one mode only; combining the two allowed operators to collect critical data on engine performance. During the test, NASA operators also collected data on performance of the test stand with the new nozzle extension and clamshell configuration. In addition, the test provided data on startup and shutdown processes. The J-2X engine is the first human-rated liquid oxygen and liquid hydrogen rocket engine to be developed in four decades. Pratt & Whitney Rocketdyne is developing the J-2X for NASA's Marshall Space Flight Center in Huntsville, Ala.

Stennis Space Center Director Patrick Scheuermann hosted Mississippi First Lady Deborah Bryant during a 260-second test of the next-generation J-2X rocket engine June 13. As in a previous test, NASA engineers fired the engine at both secondary and primary modes to collect performance data. In addition to viewing the test at the A-2 stand, Bryant also toured the B-1/B-2 Test Stand during her afternoon visit. Bryant's husband, Phil, was elected in 2011 as Mississippi's 64th governor.

FULFILLING NASA'S EXPLORATION MISSION

J-2X powerpack test sets A Test Complex record

NASA's Stennis Space Center near Bay St. Louis, Miss., broke its own record June 8 when it conducted a test on the new J-2X powerpack. The test lasted for 1,150 seconds, surpassing the previous record by more than a full minute.

For NASA, the test marked a milestone step in development of a next-generation rocket engine to carry humans deeper into space than ever before. For Stennis, the 19-minute, 10-second test represented the longest duration firing ever conducted in the center's A Test Complex.

"This is the longest and the most complex J-2X test profile to date," said Mike Kynard, NASA's Space Launch System liquid engines element manager. "By combining as many test objectives as we can, we aim to get the most out of every opportunity and work as affordably and efficiently as possible while maintaining a reasonable level of risk."

The powerpack is a system of components on the top portion of the J-2X engine, including the gas generator, oxygen and fuel turbopumps, and related ducts and valves. As designed, the powerpack system feeds the thrust chamber system, which produces engine thrust. By removing the thrust chamber assembly, including the main combustion chamber, main injector and nozzle, engineers can push more easily the turbomachinery components over a wide range of conditions to demonstrate durability and safety margins.

"Setting a new record for the longest duration test on one of our stands in the A complex is a testament to the longevity and versatility of our testing facilities," said Randy Galloway, engineering and test director at Stennis. "These stands, originally built in the 1960s to test the stages for the Apollo Program, then used for the Space Shuttle Program, now are being used to test for the next-generation vehicle that will take us farther than we have ever gone."

This record-breaking test explored numerous operating points required for the fuel and oxidizer turbopumps. The results of this test will be useful for determining performance and hardware life for the J-2X engine turbopumps. The test also allowed operators to calibrate flow meters on the stand, which measure the amount of liquid hydrogen and liquid oxygen delivered to the powerpack.

Before the powerpack test, the longest firing in Stennis' A Test Complex occurred in August 1989, with a 1,075-second test of a space shuttle main engine. The B Test Complex still claims the record for test duration at more than 2,000 seconds.

The J-2X engine is the first human-rated liquid oxygen and liquid hydrogen rocket engine to be developed in four decades. It will power the upper stage of NASA's evolved Space Launch System, an advanced heavy-lift rocket that will provide an entirely new national capability for human exploration beyond Earth's orbit. Pratt & Whitney Rocketdyne is developing the J-2X engine for NASA's Marshall Space Flight Center in Huntsville, Ala.

The June 8 test is part of a second series of firings on the powerpack. NASA engineers performed an initial series of tests on an Apollo-era J-2 powerpack at Stennis in 2008.

NASA in the News

Telescope detects powerful solar flare

During a powerful solar blast on March 7, NASA's Fermi Gamma-ray Space Telescope detected the highest-energy light ever associated with an eruption on the sun. The discovery heralds Fermi's new role as a solar observatory, a powerful new tool for understanding solar outbursts during the sun's maximum period of activity. A solar flare is an explosive blast of light and charged particles. The powerful March 7 flare, which earned a classification of X5.4 based on the peak intensity of its X-rays, is the strongest eruption so far observed by Fermi's Large Area Telescope. For images related to this finding, visit: www.nasa.gov/fermi.

NASA records surprising Arctic discovery

Scientists have made a biological discovery in Arctic Ocean waters as dramatic and unexpected as finding a rainforest in the middle of a desert. A NASA-sponsored expedition punched through 3-foot-thick sea ice to find waters richer in microscopic marine plants, essential to all sea life, than any other ocean region on Earth. The finding provides an important clue to understanding the impacts of a changing climate and environment on the Arctic Ocean and its ecology. The microscopic plants, called phytoplankton, are the base of the marine food chain. Phytoplankton were thought to grow in the Arctic Ocean only after sea ice had retreated for the summer. Scientists now think that the thinning Arctic ice is allowing sunlight to reach the waters under the sea ice, catalyzing the plant blooms where they had never been observed. The discovery was made during a NASA oceanographic expedition in the summers of 2010 and 2011.
For more discovery information and related images, visit: http://go.nasa.gov/LlgQ76.

Astronomers predict galactic collision

NASA astronomers announced May 31 they can now predict the next major cosmic event to affect our galaxy, sun, and solar system: the titanic collision of our Milky Way galaxy with the neighboring Andromeda galaxy. The Milky Way is destined to get a major makeover during the encounter, predicted to happen 4 billion years from now. The scenario came through painstaking NASA Hubble Space Telescope measurements of the motion of Andromeda. The galaxy is 2.5 million light-years away but is inexorably falling toward the Milky Way. Although the galaxies will plow into each other, stars inside each are so far apart that they will not collide with other stars during the encounter. However, they will be thrown into different orbits, with simulations showing that our solar system will probably be tossed much farther from the galactic core. For images, video and more, visit: http://www.nasa.gov/mission_pages/hubble and http://hubblesite.org/news/2012/20. gov/hubble.

For the latest NASA news, visit: www.nasa.gov/news/releases/latest/index.html.

Stennis earns CFC awards

U.S. Navy HT 2 Ryan Vinnedge (right) presents a Combined Federal Campaign award to Stennis Space Center Director Patrick Scheuermann during a May 16 ceremony. Stennis employees led the way in two categories in the 2011 Southern Mississippi CFC effort, ranking first in the number of Eagle Givers and in dollar increase of contributions. Vinnedge presented plaques in recognition of both accomplishments. CFC is the largest annual workplace charity effort in the nation. Federal employees and military personnel in the Southern Mississippi region raised more than $807,000 for health and human service charities around the world during the campaign, surpassing their goal by 10 percent. Stennis Space Center employees contributed $221,000 through the campaign. Stennis had the most Eagle Givers, donors of more than $480 each, in the region. It also recorded the largest dollar increase in gifts from one year to the next. The $221,000 in contributions was $31,000 more than given by center employees in 2010.

Rep. Palazzo staff members visit Stennis

Staff members for U.S. Rep. Steven Palazzo, R-Miss., visited Stennis Space Center on June 14, to learn about work under way at the nation's largest rocket engine test site and to tour center facilities. The congressional staffers had an opportunity to visit with Center Director Patrick Scheuermann and also toured the INFINITY at NASA Stennis Space Center visitor center, which opened in April at Interstate 10, Exit 2. The staff members also toured U.S. Navy and Pratt & Whitney Rocketdyne facilities and learned about Earth science research conducted at Stennis. Shown at the A-1 Test Stand are staff members (l to r): Patrick Large, Megan Mitchell, Steve Parham and Hunter Lipscomb. Palazzo is a first-term U.S. congressman and serves as chair of the U.S. House Subcommittee on Space and Aeronautics.

Stennis hosts outreach activities in Mississippi cities

A Stennis Space Center employee talks to young people gathered for a NASA outreach activity at the Boys & Girls Club in Yazoo City on June 5. The Stennis Office of External Affairs hosted outreach activities during a farmers' market in Canton on June 2 prior to visiting Yazoo City. In each instance, visitors were able to collect information about NASA, _rocket engine testing and other work at Stennis. During the Yazoo City event, participants also engaged in hands-on educational activities, sampled astronaut ice cream, learned about living and working in space and had a chance to take their photo in an astronaut suit display.

A celestial rarity

Stargazers at INFINITY seize rare chance to view Venus transit across the face of the sun

(Left photo) Guests at the INFINITY at NASA Stennis Space Center visitor center use special solar sunglasses to catch a lifetime view of the Venus transit June 5. The rare celestial event in which the planet Venus traverses the face of the sun will not be visible from Earth again until 2117.

(Above photo) Leslie Lowes from the NASA Jet Propulsion Laboratory in Pasadena, Calif., views the June 5 Venus transit through a solar telescope. Lowes participated in an education workshop at the INFINITY at NASA Stennis Space Center visitor center.

Stargazers seized a very rare opportunity June 5 at the INFINITY at NASA Stennis Space Center facility: gazing through special solar telescopes to watch the planet Venus pass between Earth and the sun. The event, called a Venus transit, was the second of a pair of occurrences that produce the planet's silhouette on the face of the sun.

It's quite likely no one alive today will see another. The next Venus transit will occur in 2117.

The crowd gathered at INFINITY included about 30 informal educators gathered for a meeting of the Competitive Program for Science Museums and Planetariums (CP4SMP), an organization that provides grants for science museums and planetariums to enhance programs on space and related fields.

Carla Johns, informal education specialist from NASA's Jet Propulsion Laboratory and a member of CP4SMP, coordinated the viewing. She carried her solar telescope from California to share the experience. "It's something I will remember for a lifetime. I'm not even going to bother to take any pictures because I've memorized what it looks like," she said.

Stennis employee Tom Nicolaides manned the other solar telescope at INFINITY. During the several hours before sunset, when the transit was apparent to residents of the southern United States, viewers checked Venus' progress. Though Venus is about 60 million miles away from the sun, the star's immense size dwarfed the planet. Through the telescope's viewing lens, it appeared as a black dot against the sun's orange-red disk.

"It made for a very spectacular view," Nicolaides said.

Representatives of local media outlets took the opportunity to witness the event and tell their readers and viewers. Several even disassembled disposable "glasses," removing the special filtering lenses and attaching the material to their cameras to be able to capture images without harming their eyes.

Transits of Venus are rare and happen in pairs occurring every 105 years. Only eight transits have been observed since Galileo's time. This year's transit is the bookend of a 2004-2012 pair. No one alive in 2004 had seen a transit of Venus with their own eyes. Hand-drawn sketches and grainy photos of previous centuries could hardly compare to what modern telescopes revealed: Venus backlit by solar fire, then crossing the sun's ghostly corona, and finally gliding past magnetic filaments big enough to swallow the planet whole.

The transit phenomena first gained worldwide attention in the 18th century, when the size of the solar system had yet to be determined. Venus was key to measuring the absolute distances between planets, according to astronomer Edmund Halley. He realized that by observing transits from widely spaced locations on Earth it should be possible to triangulate the distance to Venus, measuring how much nearby stars appeared to shift against remote background stars as the Earth progressed in its orbit around the sun.

The idea galvanized scientists who set off on expeditions around the world to view a pair of transits in the 1760s. Explorer James Cook was dispatched to observe one from Tahiti. Bad weather, primitive optics and other factors prevented the early observers from gathering the data they needed. But in the late 1800s, astronomers armed with cameras finally measured the size of the solar system as Halley had suggested.

The transit phenomenon also has relevance to astronomy's future. There is evidence for more than 100 extrasolar planets (planets outside our solar system) around nearby stars. Current techniques can only detect large planets, but if a planet appears to pass in front of a star, it could be detected.

NASA's Kepler mission, launched in 2009, allows astronomers to find extrasolar planets by looking for tiny dips in the brightness of a star when a planet crosses in front of it. Brightness dips signal the presence of a planet in orbit around the star, even if the planet itself is not visible. The Kepler mission has detected 72 extrasolar planets with a distance from their parent stars similar to the distance between Earth and the sun.

Ready to serve

Stennis firefighters stand on call around the clock, prepared to respond to a range of possible situations

Access any firefighter code or mission statement, and the emphasis will be the same: to protect and save lives and safeguard property within the community served.

The focus is no different for firefighters at Stennis Space Center, but the challenge is heightened by the size and location of the 138,000-acre facility and by the varied nature of work under way at the site, explained Clark Smith, who has served as Stennis fire chief since 2007.

"We're very isolated out here, so anything that happens, we have to be prepared to respond," Smith said. "We have agreements with outside departments, but it would take time for them to respond, and they face the same personnel limitations that we all do. So, we're what we have when needs arise. We need to be ready."

The list of responsibilities for Stennis firefighters is unrelenting. A 31-member team, which includes 17 full-time firefighters, provides basic firefighting, emergency, workforce training and safety services at Stennis around the clock, seven days a week. Eight firefighters are on duty at all times to cover situations that arise anywhere across the 13,000-acre fee, or facility, area, which is itself surrounded by a 125,000-acre buffer zone.

Possible needs include emergency situations any firefighting force faces, but the stakes are even higher at Stennis. For instance, as the nation's largest rocket engine test complex, the center uses a number of cryogenic and high-pressure gases and propellants, raising the need for careful fire prevention and emergency response plans.

Also, as a federal city, Stennis is home to more than 30 federal, state, academic and private organizations and several technology-based companies, which engage in a range of activities, from U.S. Navy riverine training to research involving a wide variety of chemicals.

To be prepared for all possibilities, Stennis firefighters are trained in a range of skill areas, from hazardous materials to confined space rescue to rope rescue. The training is updated regularly to make sure skills remain sharp.

Recently, firefighters engaged in a week of training for high-angle rope rescue. The training can be used for any site structure, but it specifically focused on scenarios applicable to the 300-foot-tall, open-steel-structure A-3 Test Stand under construction at Stennis. "It was yet another opportunity to build our capabilities," Smith said.

In this case, the skills could be critical. Should a high-angle rope rescue be needed at A-3, an outside team could be summoned. However, the response time would be two to four hours, which could be a critical delay.

"Scenarios like that are why we devote time and focus to ongoing and specialized training," Smith emphasized. "We are constantly seeking to hone and fine-tune our skills, so we can stand ready for any type of situation."

(Above photo) Instructor Rob Mortin watches as Stennis Space Center firefighters Lt. Greg Lampley, Rodney Boone, Vance Forrest and Billy Scarborough practice high-angle rope rescue techniques during a May 11 training exercise. The exercise specifically focused on scenarios applicable to the 300-foot-tall, open-steel structure A-3 Test Stand under construction at the rocket engine test facility.

(Right photo) Stennis firefighter Rodney Boone rappels a tower structure during a recent training exercise.

June 2011 – Endeavour flies final mission

Note: For more than 50 years, NASA's John C. Stennis Space Center has played a pivotal role in the success of the nation's space program. This month's Lagniappe highlights a moment in the history of the south Mississippi rocket engine test center.

Space shuttle Endeavour touches down at Runway 15 at NASA's Kennedy Space Center in Florida early on the morning of June 1, ending its 25th – and final – mission. to space.

A year ago this month, space shuttle Endeavour completed the STS-134 mission, its final flight into space on June 1, 2011. The shuttle was powered into orbit for the mission by space shuttle main engines No. 2052, No. 2061 and No. 2057, all three of which were tested and proven flightworthy at Stennis Space Center.

With its return to Earth early June 1 from that mission, Endeavour became the second shuttle to retire, joining Discovery, which completed its final mission March 9, 2011.

Space shuttle Endeavour arrived on the scene in 1991 with something to prove. It was the youngest craft of the fleet, built to replace the lost Challenger orbiter and largely assembled with leftover parts from the construction of shuttles Discovery and Atlantis.

It quickly came of age and completed its 25th – and final – flight to space with an impressive record of "firsts" to its credit.

Following its initial launch May 7, 1992, Endeavour grabbed headlines on its fifth mission – STS-61 in 1993 – when its crew completed a complex repair of the Hubble Space Telescope. As more than one observer commented, the repairs essentially saved the telescope from being little more than orbiting space junk.

In 1998, Endeavour initiated construction of the ISS, delivering the first American component and joining it with a Russian module already in orbit. In an encore performance 10 years later, Endeavour delivered the first element of the Japanese Kibo module to the space station. All in all, space shuttle Endeavour made 12 trips to the space station to deliver a host of parts and components.

In addition, Endeavour was the first orbiter to use a drag parachute during landing. It flew the first African-American woman, Mae Jemison, into space, as well as the first Japanese astronaut, Mamoru Mohri. It also carried the first married couple to fly on the same space mission, Mark Lee and Jan Davis.

During 25 missions, shuttle Endeavour spent 299 days in space, orbited Earth 4,671 times, carried 173 crew members and traveled a total of 122,883,151 miles.

The numbers and the missions they signify add up to a clear conclusion – whatever Endeavour had to prove, it most assuredly did.

Stennis hosts Old Timers' Day

Former Stennis Space Center employees enjoyed a return to the test facility for Old Timers' Day activities May 18. The annual fellowship was attended by about 150 retirees, guests and employees. Jacobs Technology, Keesler Federal Credit Union, the Rocketeria, Seal's Marketplace and the Stennis Recreation Association donated food and drinks. Numerous door prizes were donated and distributed. Event organizers said response to the annual activity was positive, with participants voicing plans to return in 2013.

Office of Diversity and Equal Opportunity

In diverse workplace, communication is key

You'll never get the best from employees by trying to build a fire under them – you've got to build a fire within them.
Bob Nelson

In an ever-increasingly diverse workplace, being able to communicate effectively with others requires people skills. Anyone can be promoted and placed in a position of management. Few have the ability to manage and bring out the highest potential of those they are charged with leading. Here are some helpful communication tips:

• **Understand people.** People not only come in all shapes and sizes, but they come with different personality types as well. People are individuals, with as many similarities from one person to the next as differences. To communicate most effectively will require communicating in the individual's preference style, using his or her language, body gestures, pace and intonation. So, how does one find out how best to communicate with someone? Spend time with them! Do not expect to meet someone off the street and talk intimately with them within a minute. Understanding a subject takes time, whether that subject is an academic one or another human being.

• **Express your thoughts and feelings clearly.** Human brains can only take so much information in at any one time. Individuals are bombarded with messages every second of the day, so to compete with the barrage of "noise" a person faces, one's message needs to be clear, succinct and to the point. It is very worthwhile taking time to plan one's communication, no matter by what method it is delivered, to ensure that it is taking the least amount of time to express the right level of thought in the most receptively simple manner.

• **Speak up when needs are not being met.** Just as important in business relationships as in domestic ones, speaking up to ensure that individual needs are met is a fundamental part of any relationship. In a nutshell, there are six different ways one can be assertive and not aggressive in communication: by rehearsing behavior prior to the communication; by repeating communication (the "broken record" technique); by fogging; by asking for negative feedback; by tentative agreement with negative feedback; and by creating a workable compromise. Assertiveness is a useful communication tool. Its application is contextual, and it is not appropriate to be assertive in all situations. Remember, a sudden use of assertiveness may be perceived as an act of aggression by others.

• **Influence how others think and act.** Each person has the opportunity to influence how others think and act – from something as simple as smiling and saying, "Hello!" as a way of influencing someone's mood, to leading by example during an intense period of change. There are many ways to lead or draw out of others required behaviors and attitudes. Remember that an attitude leads to an emotion, which in turn leads to an action. Shape attitudes to have a more reliable way of predicting actions.

• **Bring conflicts to the surface and get them resolved.** Employees might be harboring secret resentments of some leaders, and unless one finds out what they are (bring these "dark secrets" out into the light of day), it will be impossible to successfully deal with them. It is embarrassing and potentially humiliating and requires a strong level of patience not to launch straight into a defensive mode, but giving people the opportunity to express their concerns, disappointments and anger, face-to-face, gives one a tremendous opportunity to put things right, or to help others see where their thoughts and feelings are misplaced.

• **Collaborate with others instead of doing things by oneself.** The quickest way to bury oneself in excess detail and workload is to try to do everything alone. Sharing the workload can be the smartest thing one will ever do. Here's why: "Leverage." Leverage is taking one's skills and abilities and allowing others to magnify the work capacity. Leaders should train others to do what he or she does so they can focus on something else. For instance, one bricklayer can only lay a certain number of bricks in an hour, but that same bricklayer can train 12 employees to lay bricks, and suddenly, those 12 bricklayers are building monuments while the first bricklayer is out securing more work for them. The original bricklayer also can be learning how to perform advanced bricklaying, or learning supervision skills. Of course, to learn means individuals must be open to improving their approach. One cannot be full of oneself and be open to change.

In conclusion, the whole idea of being people-skilled is knowing or finding how to bring out the best in others in any situation, rather than their worst. By mastering essential people skills, a leader dramatically increases his or her chances of achieving the best outcomes from interactions and business challenges.

Hail & Farewell

NASA bids farewell to the following:

James Cluff	Information Technology Specialist Center Operations Directorate

And welcomes the following:

Joseph Ladner	Management and Program Analyst Office of the Chief Financial Officer

Astro Camp

Each year, more than 400 Mississippi and out-of-state youths visit Stennis Space Center for weeklong Astro Camp and Astro STARS (Spaceflight, Technology, Astronomy & Robotics @ Stennis) activities. Astro Camp sessions are for children ages 7-12. The Astro STARS Camp provides activities for youths ages 13-15. This year, the focus for Astro Camp participants is on "What's Next for NASA! Moon, Mars, Asteroids and Beyond." During interactive camp activities, participants will investigate the science behind 21st century space travel, particularly related to the International Space Station, which will be the focus of much of NASA's research for the next decade. After learning about the ISS and how astronauts live and work aboard the orbiting space laboratory, Astro Camp teams will be asked to design a human outpost for one of three distant destinations in our solar system: the moon, Mars or an asteroid. Participants also visit the INFINITY at NASA Stennis Space Center visitor center during each week's camp. During the Astro STARS Camp this month, participants will engage in hands-on experiences in a variety of areas, including engineering, robotics and multistage model rocketry. Astro STARS students also will build a working refracting telescope, and construct and load test tower models based upon Stennis' new A-3 Test Stand. Camp participants also will have a chance to visit with Stennis professionals to learn about the wide range of STEM (science, technology, engineering and math) career fields.

Stennis education video wins Telly Awards

Stennis Space Center collected a pair of prestigious Telly Awards for an education video encouraging students to consider careers in science- and space-related fields.

"What Will You Become?" gained bronze 2012 Telly Awards in two non-broadcast productions categories: motivational and recruitment.

The one-minute video opens with Lucien Junkin, a robotics engineer at NASA's Johnson Space Center in Houston, challenging students: "You may ask, 'Well, where do I play a role in this?' Well, the next generation of engineers – we gotta have them."

The video then intersperses scenes from student robotics competitions with scenes of NASA engineers at work, showing how skills learned by students can translate into NASA careers and achievements. Using captioning and an energetic soundtrack, the video calls students to consider what career they might follow in NASA.

The video was produced by the Stennis video team, particularly Karl Wilcox and Jennifer Melton, CSC employees working under the ASRC Research and Technology Solutions information technology services contract at the NASA facility.

"This is an exciting and extremely noteworthy achievement for everyone involved," said Katie Wallace, director of the Stennis Office of Education. "More importantly, this award-winning video provides a creative, engaging tool for motivating students to consider studies and careers in science-related fields."

The Telly Awards is the premier award honoring film and video productions. The 32nd annual competition received over 11,000 entries from 50 states and five continents.

Stennis educators offer Camp Dream Street activities

Stennis Space Center education program specialists Chris Copelan (l) and Joshua Finch provide a Working in Space presentation to Camp Dream Street participants during a May 30 visit to Utica. Dream Street is a five-day camp program for children with physical disabilities. Camp participants are primarily from Mississippi and surrounding states. The goal is to offer participants a chance to have fun, make friends, be accepted and learn from the challenges of group life. During their visit to the Utica camp site, Stennis educators also offered stomp rocket and UV bead activities and chances for camp participants to be photographed with Orbie, the inflatable astronaut mascot for Stennis Space Center. More than 160 people were present at the camp, including 76 kindergarten-through-12th grade participants.

Students, interns arrive for summer sessions at Stennis

Students and interns arrived at Stennis Space Center in early June to begin summer sessions and internships.

(Top photo) NASA DEVELOP Student Program leaders at Stennis welcomed a dozen students for the 2012 summer session. They include: (l to r) Virginia Thomas, Mayisha Nakib, Shelby Barrett, Michael Ewing, Hunter Starring, Ross Reahard, Shelby Latino, Maria Arguelles, Cody Dickens, Emma Strong, Chelsey Kelly, Logan Schultz, Cheri Miller (DEVELOP manager), Brandie Mitchell (DEVELOP center lead) and Jason Jones (DEVEOP intern).

(Top right photo) Two NASA Undergraduate Student Research Program students will spend the summer at Stennis as interns. They are Robert Talley (l) from the University of Alabama in Tuscaloosa and Daniel Huggett from Southeastern Louisiana University in Hammond.

(Bottom right photo) Samuel Cerniglia (l) from Pearl River Community College in Poplarville will spend the summer at Stennis as a Mississippi Space Grant faculty fellow. Student William Davis will serve as a Mississippi Space Grant intern.

Hurricane Guide

The 2012 hurricane season has arrived – and NASA's John C. Stennis Space Center has prepared this four-page guide as a resource for Gulf Coast residents. The guide offers invaluable information – a hurricane tracking map, storm-rating information and contact numbers for emergency situations. It also serves as an important reminder – for every Gulf Coast resident to be prepared and alert for whatever the 2012 storm season may deliver.

Stennis hurricane shelter guidelines

As in previous years, Stennis is partnering with the American Red Cross during the 2011 storm season to maximize effectiveness of the facility and keep it in line with guidelines. Stennis is not equipped to be a primary shelter and only becomes a shelter a few hours before the impact of any storm. The Red Cross will manage Stennis as a shelter of last resort with meager accommodations. For those who must evacuate to Stennis, the following guidelines will be in place:

- Employee families must be accompanied by a badged employee.
- Bring a minimum of three days of food, water, medicine and other essential personal items. The Stennis Space Center cafeteria and medical clinic will not be operational during the storm.
- Bring personal bedding, not to exceed single-size bedding; no large, inflatable bedding is allowed.
- Evacuees must register with American Red Cross officials stationed at Stennis shelter buildings. Sign in at the reception desk so accurate records can be kept. This also will allow evacuees to be contacted if there is a message or inquiry about their safety. When leaving, please sign out as well.
- Mark/tag luggage and personal belongings and food containers. Stennis Space Center cannot assume responsibility for personal belongings.
- Parents are responsible for the whereabouts and activities of their children.
- For safety reasons, possession or use of alcohol or other potentially harmful substances in any part of the shelter is strictly prohibited. No firearms or flammable liquids are allowed. Prescribed medication should be noted on the registration card. No smoking is allowed inside the shelter.
- No pets or animals are allowed.
- If evacuees have a medical condition that may present a special problem, please notify the shelter nurse or other staff member. Such conditions should be noted on the registration card.
- Do not leave the shelter until notified that it is safe by a shelter official.
- Immediately after the hurricane, the American Red Cross will make long-term shelters available for individuals who cannot return to their homes. Stennis will not operate as a long-term shelter.
- Employees are reminded to discuss their evacuation plans with supervisors so they can be contacted after a storm or to acquire their company/agency policy on contacts after a storm. NOTE: If NASA employees cannot contact Stennis due to downed communications after a storm, they should call 877-776-4654 to report their status.

Emergency supply kit checklist

- ❑ Flashlight
- ❑ Tissues
- ❑ Battery-operated radio
- ❑ Batteries
- ❑ Pencils
- ❑ Pocket knife
- ❑ Garbage bags
- ❑ Nonperishable food
- ❑ Medicines
- ❑ Sanitary supplies (toothbrush, shampoo, soap, rubbing alcohol, toilet paper, cleanser, bleach, sponge)
- ❑ Water (1 gallon per person a day)
- ❑ Drinks/juices
- ❑ Nuts
- ❑ Rice and pastas
- ❑ Peanut butter
- ❑ Crackers, soups
- ❑ Dried beans
- ❑ Canned goods
- ❑ Can opener
- ❑ First-aid kit/handbook
- ❑ Towels
- ❑ Blankets
- ❑ Candles
- ❑ Matches
- ❑ Clothing
- ❑ Portable stove and fuel
- ❑ Cooking utensils
- ❑ Plastic dishes, silverware
- ❑ Aluminum foil

(List not meant to be all-inclusive but offers suggestions for consideration)

National resource information

American Red Cross 800-REDCROSS (733-2767)
www.redcross.org

Federal Emergency Management Agency (FEMA)..... 800-621-FEMA(3362)
www.fema.gov

National Oceanic and Atmospheric Administration (NOAA)..... www.noaa.gov

NOAA National Hurricane Center ..... www.nhc.noaa.gov

NOAA National Weather Service ..... www.nws.noaa.gov

National Weather Service Southern Region (www.srh.noaa.gov) ..... 985-649-0357 or 504-522-7330

NOAAWatch - NOAA's All-Hazard Monitor..... www.noaawatch.gov

U.S. Department of Homeland Security ..... www.dhs.gov

Mississippi resource information

Mississippi Emergency Management Agency (www.msema.org) 601-933-6362
(24 hrs) 800-222-MEMA(6362)

Mississippi Department of Transportation (www.GoMDOT.com and www.mstraffic.com) 601-359-7001
(activated only during a disaster) 866-521-MDOT(6368)

Mississippi Highway Safety Patrol (www.dps.state.ms.us) ..... 601-987-1212 (*hp from any cell)

Mississippi Board of Animal Health (www.mbah.state.ms.us) 888-722-3106

Governor's Office (www.governorbryant.com) 601-359-3150

Mississippi Insurance Department (www.mid.state.ms.us) 800-562-2957

U.S. Coast Guard (Sector Mobile) 251-441-6211

Mississippi Power (www.mississippipower.com) 800-532-1502

Coast Electric Power (www.coastepa.com) 877-769-2372

Louisiana resource information

Office of Homeland Security and Preparedness (www.gohsep.la.gov) ..... 800-256-7036 or 225-925-7500

Louisiana Department of Transportation (www.dotd.louisiana.gov)..... 225-379-1232

Louisiana State University Hurricane Center (hurricane.lsu.edu) 225-578-6422

Louisiana State Police (www.lsp.org) ..... 225-925-6006 (*LSP from any cell phone)

Louisiana State Police Road Closure Hotline 800-469-4828

Louisiana Governor's Office (www.gov.louisiana.gov) 866-366-1121

Louisiana Department of Insurance (www.ldi.state.la.us) ..... 800-259-5300 or 225-342-5900

U.S. Coast Guard (Sector New Orleans) 504-365-2200

Cleco Corporation (www.cleco.com) 800-622-6537

Entergy (www.entergy-louisiana.com) 800-ENTERGY (368-3749)
Power outages: 800-9OUTAGE (968-8243)

Washington-St. Tammany Electric Cooperative (www.wste.coop) 985-643-6612
Power outages: 866-672-9773

Louisiana-Mississippi interstate contraflow plan

In an effort to assist Louisiana in the event of a mandatory hurricane evacuation, the Mississippi Department of Transportation will implement contraflow (lane reversal) for I-59 and I-55 when requested by Louisiana and approved by the Mississippi governor.

• A contraflow decision is not automatic and will only be used when absolutely necessary. Citizens should not delay evacuation plans in anticipation of contraflow.

• I-59 contraflow will begin in Louisiana, extend into Mississippi and end near mile marker 55.

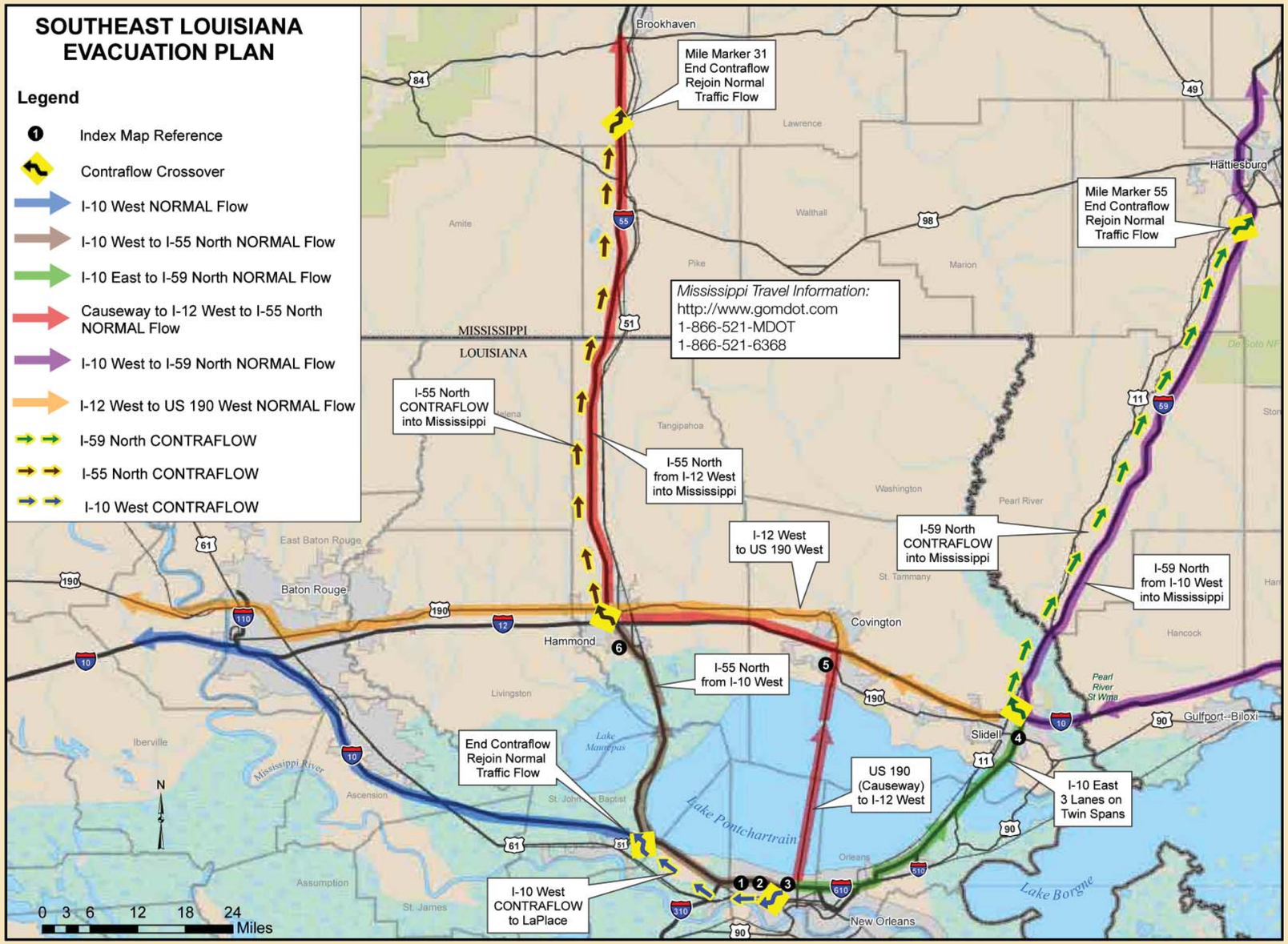
• I-55 contraflow will begin in Louisiana, extend into Mississippi and end near mile marker 34.

• Exits within the contraflow sections of the interstate highways will remain open as conditions allow. Law enforcement officers will assist with traffic control.

• Shoulders of both Interstates 59 and 55 should be kept clear for emergency vehicles. To stop, motorists should use the next available exit.

• I-10 East will be closed when contraflow begins. Individuals should evacuate to the north, not to the east.

• Tune to public broadcasting radio stations for emergency information and road conditions.



Hurricane strength

Category One
Winds 74-95 mph. Storm surge 4-5 feet

Category Two
Winds 96-110 mph. Storm surge 6-8 feet

Category Three
Winds 111-130 mph. Storm surge 9-12 feet

Category Four
Winds 131-155 mph. Storm surge 13-18 feet

Category Five
Winds greater than 155 mph. Storm surge more than 18 feet

Severe weather terms

Storm surge
An abnormal rise of sea/gulf water along a shore as the result, primarily, of winds from a storm.

Watch
Adverse conditions are *possible* in the specified watch area, usually within 36 hours. A watch may apply to thunderstorms, tornadoes, floods or hurricanes.

Warning
Adverse conditions are expected in the specified warning area, usually within 24 hours. A warning may apply to thunderstorms, tornadoes, floods or hurricanes.

Public shelter information

Shelters are operated by trained individuals and are designed to ensure the safety, security and basic needs of sheltering residents are met.

What to bring to a shelter
Residents seeking shelter should bring a change of clothing, a blanket and a pillow for each person in their family or group. Residents also should bring their disaster supply kit, including food, medications, comfort items and special items for infants or elderly persons.

What not to bring to a shelter
No weapons, drugs or alcohol are allowed.