



National Aeronautics and Space Administration



LAGNIAPPE

John C. Stennis Space Center

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October 2009

Storage tanks arrive at A-3

Update on Pages 4-5



CFC kicks off Oct. 29

Stennis Space Center's 2009 Combined Federal Campaign is set to kick off Oct. 29 from 10 a.m to 2 p.m. in the Building 1100 atrium. The campaign will run Nov. 1-30.

The CFC is the world's largest annual workplace charity effort. Stennis has a goal of \$200,000 for this year's campaign.

Atlantis prepares for mission

Space shuttle Atlantis was rolled to the Vehicle Assembly Building at Kennedy Space Center in Florida on Oct. 6 in preparation for the targeted Nov. 12 launch of the STS-129 mission. Atlantis now will be attached to its external fuel tank and solid rocket boosters for rollout to the launch pad on Oct. 13. As the shuttle enters the assembly facility, its three main engines – all tested at Stennis – are visible.



From the desk of

Gene Goldman

Director
Stennis Space Center



“I think we should judge persons not by the calendar but by their caliber, by the mind and heart and proven capacity.”

(Sen. Hubert Humphrey, 1961)

“When you see uncaring people in high places, everybody should be mad as hell.”

(William S. Coffin, 2004)

“S”trange ... pretty good guy but a little strange.” Have you ever heard that, or said it? What is strange? Who defines it? Who is “who,” and why do we care what “who” thinks? Ah, but we do. We humans. We can find more ways to categorize, differentiate and isolate others than there are residents of the earth.

Most often, we define diversity by gender, race or ethnic background. It is so much broader. Here in the southern NASA centers this time of year, we include college football allegiance. It often taints our opinion of intellectual competence. Then, there is the great divider of age, as we forget the workforce that got this

country to the moon in the '60s was mostly in its 30s. Get off-site, and we can add religion, lifestyle, social strata, occupation, plus innumerable others to our connotation and denotation lists.

During October at Stennis Space Center, we “celebrate” diversity. Diversity Day is a time we share forums, exhibits and various events with our resident agencies to highlight diverse segments of our community. The event always is highly advertised within the center, but not always well-attended. So, it was exciting to see the number of people who participated in the this year’s Diversity Day events. Hopefully, the trend will continue for upcoming events, because some Stennis observances this year have drawn only a half-full auditorium. At times, we barely fill 150 seats from a center population of 5,500 to celebrate the things that make us individuals.

So, despite the encouraging Diversity Day and STS-128 crew visit turnouts, we still have work to do. I have work to do. We all need to start recognizing “the mind and heart” of our neighbors instead of cataloging their differences. The diversity of our experience, synergized with our operations and ethic, is what will strengthen us for all that lies ahead.

Let’s start today. Let’s be mad enough to care more.

Gene

Mississippi lieutenant governor visits Stennis Space Center

Stennis Space Center Director Gene Goldman (left) stands with Mississippi Lt. Gov. Phil Bryant at the A-3 Test Stand construction site during an Oct. 1 visit by the state official.

During his tour, Bryant was updated on construction of the first large test stand at Stennis since the 1960s. The A-3 stand will be used to conduct simulated high-altitude testing on the next generation of rocket engines that will take humans beyond low-Earth orbit. In addition to touring Stennis facilities, Bryant visited the INFINITY Science Center construction site, where he was updated on work under way to construct a 72,000-square-foot facility that will showcase the science underpinning the missions of NASA and resident agencies at SSC. INFINITY will serve as a valuable resource for the next generation of scientists and engineers.



FULFILLING NASA'S EXPLORATION MISSION

Ares 1-X launches Oct. 27

Even as national leaders discuss the future of American space exploration, NASA is set to conduct the first test launch of the Ares 1-X rocket being built to carry humans beyond low-Earth orbit for the first time since the Apollo Program ended in the early 1970s.

The Ares 1-X test is targeted for Oct. 27 from Kennedy Space Center, Fla. The launch window extends from 7 to 11 a.m. that day, with a second window on Oct. 28. A review is planned Oct. 23 to finalize the test date.

Technicians already have completed the stacking – or assembly – of the simulated Ares upper stage, along with a simulated Orion crew module and launch abort system. Team members also have conducted a launch count-down simulation and conducted final tests of the rocket's systems.

Rollout of the test vehicle to Kennedy's Launch Pad 39B is scheduled for Oct. 19.

The launch will provide NASA an opportunity to test and prove hardware, facilities and ground operations, while gathering critical data for the Ares 1 rocket and future launch vehicles. Data collected will be used to verify the effectiveness of the rocket's design and ensure it is safe and stable in flight.

The test is targeted about six weeks after NASA and industry engineers lit up the Utah sky with the initial full-scale, full-duration test firing of the first-stage motor for the Ares I rocket. ATK Space Systems conducted the successful stationary firing of the five-segment solid development

motor 1, or DM-1, on Sept. 10. Engineers will use the measurements gathered from the test to evaluate thrust, roll control, acoustics and motor vibrations. This data will provide valuable information as NASA develops the Ares I and Ares V vehicles.

The Ares vehicles are the centerpiece of the Constellation Program, NASA's plan to send humans back to the moon and possibly beyond. The Ares 1 will serve as the crew launch vehicle, while the Ares V will be a cargo launch vehicle.

For the test launch, the Ares 1-X will simulate the first two minutes of an Ares 1 flight. At about 130,000 feet, the first stage will separate from the upper stage. The separated stage will parachute back to Earth and be recovered at sea for inspection. The simulated upper stage – with the Orion crew module and launch abort system – will continue to about 150,000 feet before entering into uncontrolled descent. It will not be recovered.



The Ares 1-X rocket – with the stacked upper stage assembly – sits at its Cape Canaveral launch pad, poised for its Oct. 27 test flight.

Launch schedule

STS-129

Shuttle Atlantis
Target: Nov. 12, 2009
3:22 p.m.

Wideband Global SATCOM spacecraft (Delta IV)

Target: Nov. 19, 2009
6:45 - 7:30 p.m.

Wide-field Infrared Survey Explorer (WISE) satellite

Target: Dec. 7, 2009
8:10 a.m.

STS-130

Shuttle Endeavour
Target: Feb. 4, 2010
5:20 a.m.

STS-131

Shuttle Discovery
Target: Mar. 18, 2010
12:08 p.m.

STS-133 or 134

Shuttle Endeavour
Target: July 29, 2010
7:45 a.m.

STS-133 or 134

Shuttle Discovery
Target: Sept. 16, 2010
Noon

**Stennis
Safety and
Health Day**
Oct. 22

A-3 Test Stand moves forward

Construction of the A-3 Test Stand at NASA's John C. Stennis Space Center is approaching another milestone with delivery and installation of 14 water, isopropyl alcohol (IPA) and liquid oxygen (LOX) tanks.

Nine of the tanks have been delivered and installed, with the remaining five to arrive on-site in upcoming weeks. The focus then will turn to delivery and installation of the test cell diffuser. That work is expected to begin later this year and be completed by spring 2011. General construction work on the test stand also continues.

"Installation of the tanks moves us to the next step in construction," A-3 Project Manager Lonnie Dutreix reported. "This is a major project for Stennis and for NASA, and it remains fully on schedule for completion and activation in 2011."

NASA authorized construction of the A-3 stand to provide simulated high-altitude testing on the J-2X engine in development. The engine is a centerpiece of the agency's plan to go beyond low-Earth orbit, back to the moon and possibly beyond.

The tanks recently installed will support the chemical steam generators to be used on the test stand. Nine three-module chemical steam generator units – isopropyl alcohol

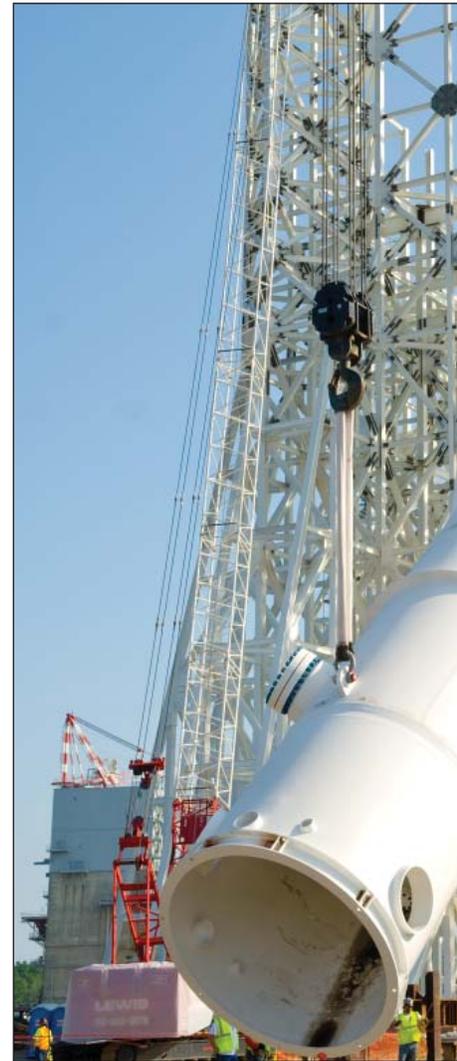
is the chemical involved – will be installed at A-3. Steam produced by these generators will be used to reduce pressure inside the test cell diffuser, allowing operators to simulate altitudes up to 100,000 feet.

With that simulation, operators will be able to ensure the J-2X engine will start in space. Such testing is key; the J-2X must operate in space within the Constellation Program, NASA's plan to return beyond low-Earth orbit in upcoming years.

The chemical steam generator units will be fueled by the three LOX and two IPA tanks recently installed. All five of those tanks are 35,000 gallons each. The nine other tanks installed will provide the water needed to generate steam; each water tank holds 39,000 gallons. The tanks are 65 to 85 feet tall and weigh 270,000 to 320,000 pounds each.

The water and IPA tanks were manufactured by Taylor Forge Engineered Systems Inc. in Paola, Kan. They were shipped by rail to Port Bienville, Miss., then transported by truck to Stennis Space Center.

The LOX tanks were manufactured by Prentex Alloy Fabricators Inc. in Dallas and followed a similar delivery pattern. The Texas company also is manufacturing the large LOX tank and the large liquid



Water (above, left), isopropyl alcohol (above, center)



hydrogen tank that will be placed on top of the A-3 steel structure to provide fuel for rocket engines tests.

The test cell diffuser is being manufactured and installed by American Tank and Valve Inc., which has several locations. However, all work on the test cell diffuser is being done in nearby Lucedale, Miss. The company also will help install the LOX liquid hydrogen tanks on top of the stand next summer.

Completion of the A-3 Test Stand will bring a unique capability to Stennis Space Center, Dutreix explained. The new stand will allow operators to conduct full-duration tests (the amount of time the engine will have to fire during an actual flight)

ward with tank installations



and liquid oxygen (above, right) tanks recently were delivered and installed at the A-3 Test Stand under construction at Stennis Space Center.

on full-scale engines and to gimbal the engines (rotate them in the same way they must move during flight to ensure proper trajectory), all at simulated altitudes of up to 100,000 feet.

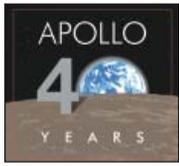
“No other stand in the country allows all three of those aspects at such simulated altitudes at the same time,” Dutreix said. “Other stands have one or two of the capabilities, but the A-3 puts them all together.”

“It’s easy to view this construction as just an engineering project,” Dutreix continued. “But when you stop and think about it, we’re building something pretty important to the future of space exploration and pretty special in the field of rocket engine testing. That’s exciting.”

STS-128 crew members visit Stennis Space Center

Astronauts C.J. Sturckow (seated, left) and Pat Forrester (seated, right) sign autographs during their Oct. 7 visit to Stennis Space Center. The astronauts visited the rocket engine testing facility to thank Stennis employees for contributions to their recent STS-128 space shuttle mission. Sturckow served as commander for the flight; Forrester was a mission specialist.

1961 – NASA authorizes Stennis



Editor's Note: John C. Stennis Space Center has played a pivotal role in the success of the nation's space program. This month, Lagniappe looks back on an important moment in the center's history.

On Oct. 25, 1961, NASA announced plans to build a rocket test facility in Hancock County, Miss. Since then, Stennis Space Center has grown into a multiagency facility engaged in space, oceans and environmental programs, as well as national defense.

The 1961 announcement set the clock ticking for construction of a unique rocket test facility. The project was headed by rocket scientist Dr. Wernher von Braun, who referred to the new site as “my baby.” He said the purpose was to “provide the U.S. with a capability during the next 20 to 50 years for captive test-firing large space vehicle systems.”

The first rocket engine test was conducted April 23, 1966.

After that, every booster rocket stage used in America's lunar landing missions was static fired and proven flight worthy at the site. All performed according to plan to help make the Apollo Program one of America's greatest engineering and scientific achievements.

When the Apollo Program ended in the early 1970s, NASA assigned the space shuttle main engine test program to the site. Since then, all space shuttle main engines have been tested at Stennis. All have performed their missions flawlessly.

In 2007, NASA ensured that Stennis will continue to play a major role in the space program, announcing the facility will test engines for the next generation of launch vehicles. Construction is under way on the A-3 Test Stand, the first large test stand built at Stennis since the 1960s.

For almost 50 years, Stennis Space Center has been – and remains – at the forefront of America's space program.

Consolidated NASA contracts result in savings

NASA's Office of the Chief Information Officer has implemented a strategy for consolidating multiple software and maintenance contracts into single Enterprise License Agreements that provide agencywide support.

Since the Enterprise License Man-

agement Team (ELMT) was formed in May 2008 at the NASA Shared Services Center, it has awarded consolidated contracts for five software requirements. The contracts have resulted in reduced product and operational costs, inclusion of software products not available under individual licenses, and the ability to

transfer excess or unused licenses among centers.

ELMT members received a 2009 NASA Acquisition Improvement Award for their efforts. The team has saved or avoided more than \$4.5 million in costs through the life of the contracts managed.

@ Stennis

If given the chance to go into space, what would you most be looking forward to seeing or experiencing?

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



“Just being up there, just experiencing what it feels like to be weightless and to move around.”

Sheila Arrington
NASA Shared Services Center

“The perspective of being in space and looking back at Earth. I'd go today to see that – and take every picture I could.”

David Brannon
NASA



“Visiting the International Space Station and seeing what it's like actually to live in space.”

Terrence Burrell
Jacobs NTOG

“The chance to see Earth from space, to actually see the planet with my own eyes.”

Loren Truman
Department of Homeland Security



Office of Diversity and Equal Opportunity

Avoid ‘unintentional intolerance’

Mark your calendars; no one wants to miss the opportunity to meet one of the most dynamic speakers in the area of diversity, inclusion and cultural competency.

Steve L. Robbins’ unique concept of “Unintentional Intolerance” has captured wide acclaim as an approach that does NOT blame or point fingers, but challenges individuals and organizations to be more open-minded, mindful and intentional about inclusion and valuing people for their unique gifts, abilities and experiences. Robbins simultaneously challenges and encourages people with a dynamic use of story-telling, humor and extensive knowledge of pertinent issues and concepts.

The NASA Shared Services Center and Stennis are offering a joint training session Nov. 5, with a morning session for managers/supervisors and an afternoon session for non-supervisory employees. (Register through SATERN.)

Unintentional intolerance refers to the manner in which nice, well-meaning people (and organizations) go about potentially excluding others and others’ ideas, even when they want to include them. Research and experience show that all people have biases they often are unaware of, or think about too little. These biases influence one’s decision-making, behavior and attributions to others on a daily basis. Could one be making “bad” decisions and engaging in exclusive behavior without knowing? Could one be throwing away creative ideas and the next big innovation? The answer is, “Yes.” Robbins explores the “hows” and “whys” surrounding unintentional intolerance and



Kendall Mitchell of the Naval Oceanographic Office (right) learns about the culture of Bolivia from Narda Inchausty, president of the Foreign Born Wives Association in Slidell, La., during recent Diversity Day events at Stennis Space Center. Stennis hosted Diversity Day activities for employees on Oct. 7. The day’s events included cultural and agency exhibits, diversity-related performances, a trivia contest and a classic car and motorcycle show.

also gives the antidote for such behavior.

Discrimination can manifest itself in many forms. Learn how to avoid making these unintentional mistakes, making our workplaces, homes and communities better places in which to live and thrive.

“The price of the democratic way of life is a growing appreciation of people’s differences, not merely as tolerable, but as the essence of a rich and rewarding human experience.”

Hail & Farewell

NASA bids farewell to the following:

- Dr. Robert Field** AST, Theoretical Simulation Tech Engineering and Test Directorate
- Buddy Newbold** Safety/Occupational Health Specialist Office of Safety & Mission Assurance

And welcomes the following:

- Apolonia Acker** Student Trainee Office of External Affairs
- Howard Conyers** AST, Structural Dynamics Engineering and Test Directorate
- Travis Snelling** AST, Facility Systems Safety Office of Safety & Mission Assurance

**NASA Stennis Space Center
Shooting For A Star**



Everyone participates in the four elements of VPP:

- **Management Leadership and Employee Involvement** – Safety is everyone’s job; join a safety committee.
- **Work Site Analysis** – Look for hazards, report close calls, participate in inspections.
- **Hazard Prevention and Control** – Wear personal protective equipment; follow emergency procedures.
- **Safety and Health Training** – Join in safety training.

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Stennis supports LCROSS sessions

Stennis Space Center personnel supported a pair of events marking NASA's Lunar CRater Observation and Sensing Satellite (LCROSS) mission Oct. 9. Stennis participated in daylong activities at the Russell C. Davis Planetarium in Jackson, Miss., and the Kenner (La.) Planetarium Megadome Cinema, providing exhibits, videos and educational activities for students at both sites. Scientists now will examine data provided by the LCROSS mission for evidence of lunar water ice, an important resource for future sustainable exploration. Pictured are students from Emily C. Watkins and St. John the Baptist Parish schools at Kenner .



NASA workshop offers training to new teachers

NASA's John C. Stennis Space Center recently teamed with others to provide training in science, technology, engineering and mathematics (STEM) studies to teachers and professors from three Louisiana universities.

Sixty teachers and professors from Louisiana State University and Southern University in Baton Rouge, and Southeastern Louisiana University in Hammond attended the Sept. 26 NASA Pre-Service Teacher Workshop on the LSU campus. The daylong session was a collaborative effort among the universities, NASA's Exploration Systems Mission Directorate, the Stennis Office of External Affairs

and Education and Marshall Space Flight Center in Huntsville, Ala.

"NASA recognizes the importance of investing in pre-service teachers, as they provide the foundation to inspire and engage students in STEM disciplines," said Cheryl Guilbeau, elementary and secondary projects coordinator for the Stennis Office of External Affairs and Education. "The workshop provides a variety of experiences for educators to integrate NASA's mission and resources in their classrooms. When teachers have knowledge and skills to make math and science relevant and exciting, then students will be excited about becoming the next generation of explorers."

The Sept. 26 session featured sessions by Stennis aerospace/education and technology specialists on the NASA Digital Learning Network, "lunar-nautics," rocketry and NASA educational materials and resources. Participants also were taken on a "field trip" to the moon. In addition, Louisiana first lady Supriya Jindal and LSU Dean of Education Jayne Fleener spoke on the importance of STEM education to the future workforce.

The workshop was a one-day "mini-version" of NASA's Pre-Service Teacher Institute, a two-week summer session for early childhood and elementary education majors.