



# LAGNIAPPE

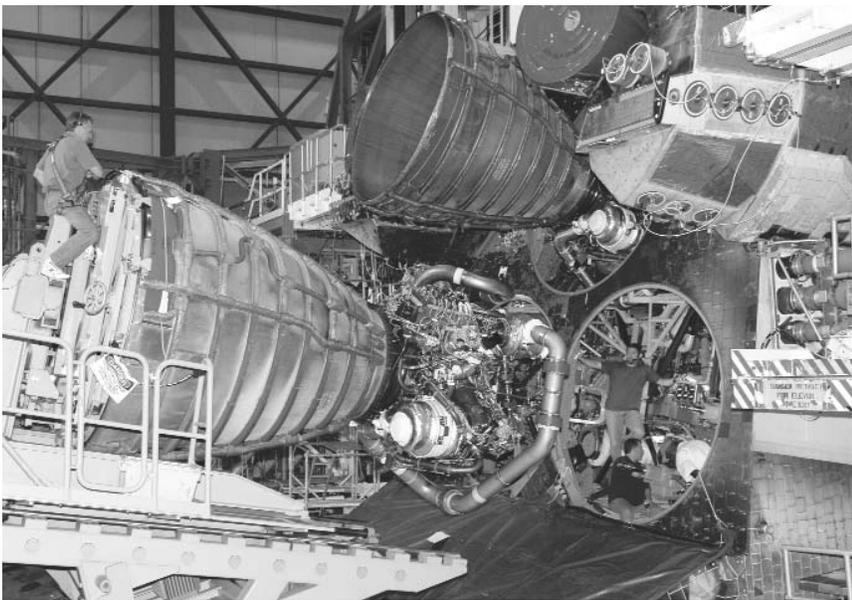
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[www.nasa.gov/centers/stennis](http://www.nasa.gov/centers/stennis)

July 2008

## Atlantis STS-125

Preparations under way for Oct. 8 launch



In Orbiter Processing Facility bay No. 1 at Cape Canaveral, Fla., technicians coordinate the movement of one of the three main engines being installed on space shuttle Atlantis. Main engine No. 1 already has been installed. Atlantis is the designated vehicle for the STS-125 mission scheduled to launch Oct. 8 to service the Hubble Space Telescope. All three of the main engines to be used to power Atlantis on its mission were tested at Stennis Space Center, as has every engine used in the Space Shuttle Program. On the STS-125 mission, Atlantis crew members will spend 12 days and employ five spacewalks to make repairs and upgrades to the Hubble telescope, preparing it for another five years or more of groundbreaking research. The telescope was launched in 1990.

## STS-124 crew completes mission

Space shuttle Discovery touches down June 14, returning crew members of the STS-124 mission.

On the flight, the crew completed the second of three missions to deliver and install the Japanese Aerospace Exploration Agency's laboratory to the International Space Station.



### Space shuttle flight schedule

October 8, 2008

Atlantis STS-125

Service Hubble Telescope

November 10, 2008

Endeavour STS-126

International Space Station work

February 12, 2009

Discovery STS-119

Space station assembly

May 15, 2009

Endeavour STS-127

Space station assembly

July 30, 2009

Atlantis STS-128

Add to space station to create six-person crew capability

October 15, 2009

Discovery STS-129

Space station assembly

December 10, 2009

Endeavour STS-130

Space station assembly

February 11, 2010

Atlantis STS-131

Space station assembly

April 8, 2010

Discovery STS-132

Space station assembly

May 31, 2010

Endeavour STS-133

Space station assembly

(Approved target dates are subject to change based on processing and other launch vehicle schedules)

From the desk of  
**Robert Cabana**  
 Director,  
 Stennis Space Center



Communication. If there's one thing all of us could stand to improve, I'd have to say it's our communication skills. Of all the personnel problems I've had to deal with over the years, I think most of them could have been prevented if better communication had been involved. This even holds true for a lot of the technical problems. Somewhere along the way, someone misinterpreted what the other party said, or what needed to be said wasn't said at all.

Unfortunately, we haven't reached the state in our development where we can perform the "Vulcan mind meld" and read each other's thoughts. If you don't share what you're thinking, it never gets transmitted. Everyone has something to contribute and everyone should feel

free to share their ideas in an environment free of criticism.

Communication is more than just transmitting your thoughts to the other party. It also involves active listening, and we should never be afraid to hear an alternate point of view or dissenting opinion. If you're not clear on what you heard, ask. Tell the other party this is what you heard and ask if that is what they meant.

**"Everyone has something to contribute and ... should feel free to share their ideas ... free of criticism."**

We need to work hard to create an environment of total trust and integrity, where everyone feels free to speak up and where good open and honest discussions can occur. There may be some disagreements, that's OK; healthy discussions are good. But at the end of the day, we're all on the same team, and we need to move forward as one.

Remember, you can never communicate too much, and we can all do better.

Keep charging,

## Congressional staffers visit NASA exhibit in Washington, D.C.



Staff members for U.S. Rep. Steve Scalise, R-Louisiana District 1, stand with astronaut Peggy Whitson during her visit to the Rayburn House Office Building in Washington, D.C. Whitson helped staff a NASA exhibit, "Celebrating the Past, Present and Future," in the nation's capital on June 18. She visited with Robert Casey (left), a student intern with Scalise, and Darren Achord, the representative's legislative assistant.



Staff members for U.S. Sen. Thad Cochran, R-Miss., visited an exhibit showcasing NASA's past, present and future at the Rayburn House Office Building in Washington, D.C., on June 18. Shown here with Myron Webb, NASA legislative affairs officer at Stennis Space Center (left), are Jenny Manly, chief of staff for Sen. Cochran; T.A. Hawks, legislative director; and Parah Fishburn, legislative assistant with the Mississippi senator.

## FULFILLING NASA'S EXPLORATION MISSION

# Space shuttle transition under way

The Space Shuttle Main Engine Transition and Retirement Project is proceeding as scheduled and without major issues at NASA's John C. Stennis Space Center, Manager Cindy Canady reported.

With testing of space shuttle main engines to be completed no earlier than July 2009, work is well under way to assess all property related to that program and transfer or dispose of it properly. Canady estimated 90 to 95 percent of all space shuttle main engine-related property at Stennis would be transitioned to the Constellation Program. Stennis engineers already are at work testing the next-generation J-2X rocket engines to be used in the Constellation Program, which will carry humans back to the moon and beyond.

Expected to be completed by the end of this fiscal year, assessment of shuttle-related property is the first of several tasks included in the transition and retirement project. Stennis expects to complete transition and disposition of its assessed property



Water vapor billows as Stennis Space Center engineers conduct a space shuttle main engine test.

by the end of fiscal year 2010. Other tasks in the project focus on such things as environmental management, identifying and retaining critical space shuttle main engine records and documents, and closing out related space shuttle main engine test operations support contracts.

Stennis has scheduled all project tasks to be completed by the end of the third quarter in fiscal year 2012, Canady said. Meanwhile, there are no

major issues confronting Stennis Space Center management, she noted. This includes the work-force concerns that some NASA centers are facing as the Space Shuttle Program prepares to end in 2010.

At Stennis, civil servant and contractor work forces are expected to transition from the Space Shuttle Program into ongoing work on the Constellation Program as the space shuttle initiative ends, Canady said.

## A-3 Test Stand construction moving ahead

Construction of the new A-3 Test Stand at NASA's John C. Stennis Space Center is moving forward and will be completed on schedule, center Director Bob Cabana said.

The project has encountered some increased costs, but workers are expected to begin erecting the steel structure within weeks, a major step forward in construction.

"We're going to build a test stand we need and want, at a cost we can afford, and on a schedule that meets our requirements," Cabana said in an All Hands session June 11. "That's critical."

Work on the A-3 Test Stand began late last summer; it is the first test

stand to be built at Stennis since the 1960s. The new stand is needed to perform simulated high altitude tests on the new J-2X rocket engine to be used in the Constellation Program, which will carry humans back to the moon and beyond. Tests on J-2X engine components are already under way at Stennis. Testing on the full J-2X engine is scheduled to begin at Stennis in late 2010 or early 2011.

Stennis will be ready, Cabana noted. "Stennis Space Center will not be the reason that the J-2X engine is not delivered on time, ..." he said. "The testing has to get done so we can fly Ares I on time. And we're going to do that."

Some aspects of the A-3 Test Stand construction project were delayed as engineers reviewed revised cost estimates. However, all firm-fixed price contracts continued during that time, and construction remains on schedule for completion and facility activation, said Lonnie Dutreix, A-3 altitude test facility project manager.

Construction of the new test stand and testing of the next-generation J-2X engine is at the heart of Stennis' mission, Cabana indicated during his recent All Hands presentation. "We have to maintain our status as the center of excellence for rocket propulsion testing. That's our No. 1 task."

# Stennis Space Center

Visitors to the National Mall in Washington, D.C., in the two weeks overlapping the Fourth of July saw more than the usual monuments and attractions.

They also had a chance to examine a space shuttle main engine and a J-2 engine that helped power the Apollo rockets to the moon. Young and old alike were able to participate in hands-on space-related activities as well, thanks to Stennis Space Center and other NASA facilities.

This year, the annual Smithsonian Folklife Festival celebrated 50 years of American space exploration by featuring a NASA: Fifty Years and Beyond exhibit for an expected 1 million festival visitors. The annual Folklife Festival is sponsored every summer by the Smithsonian Institution's Center for Folklife and Cultural Heritage.

Initiated in 1967, the festival is the largest annual cultural event in the U.S. capital. It usually is divided into programs featuring a nation, region, state or theme. To date, the festival has featured more than 90 nations, every region of the United States, scores of ethnic communities, more than 100 American Indian groups and some 70 different occupations.



This year, the festival focused on the nation of Bhutan, the state of Texas and NASA. The NASA exhibit included various presentations and displays, all designed to help visitors develop a better understanding and appreciation of the space agency's mission.

Stennis Space Center was a central part of

the exhibit, providing displays and a chance to support the space flight aspect of the NASA presentation. Since the 1960s, Stennis has remained the center of choice for engine testing in the nation. Engineers are preparing to test the engines for the next generation of NASA rockets, which will carry humans back to the moon and



(Top left photo) Stennis Space Center's Propulsion Systems Directorate is the nation's center for propulsion engine testing in Washington, D.C. The Stennis Space Center's Propulsion Systems Directorate is the nation's center for propulsion engine testing in Washington, D.C.

(Bottom left photo) A space shuttle main engine is on display at the Smithsonian Folklife Festival in Washington, D.C.

(Top right photo) A NASA: Fifty Years and Beyond exhibit is being tested at the Smithsonian Folklife Festival in Washington, D.C.

(Bottom right photo) A NASA: Fifty Years and Beyond exhibit is being tested at the Smithsonian Folklife Festival in Washington, D.C. The exhibit is being tested at the Smithsonian Folklife Festival in Washington, D.C. The exhibit is being tested at the Smithsonian Folklife Festival in Washington, D.C.

# r goes to Washington



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(photo) Bryon Maynard (left), an aerospace technologist for Systems & Technologies in Stennis' Engineering and Science Center, uses a "pocket rocket" to demonstrate the concept of rocket propulsion as part of NASA's exhibit at the Smithsonian Folklife Festival in Washington, D.C. Maynard is joined by Bradley Messer (right), chief of the Engineering & Integration Division in Stennis' Engineering and Science Center, and a pair of exhibit visitors.

(photo) With the Washington Monument as a stirring background, the Space Shuttle Main Engine and J-2 engine from Stennis Space Center offer Smithsonian Mall visitors a close-up look at the power of spaceflight.

(photo) A visitor to the Smithsonian Folklife Festival in Washington, D.C., examines a space shuttle main engine display provided by Stennis Space Center. Since 1975, Stennis has been responsible for testing every engine used in NASA's Space Shuttle Program.

(photo) Tammy Estapa and Wesley Oliver from Stennis Space Center are seen with the youngest young people participating in Astro Camp activities at the Smithsonian Folklife Festival in Washington, D.C. Stennis conducts Astro Camp activities at the South Mississippi facility each summer for children ages 10-15. This summer, Stennis employees also brought various Astro Camp activities to the nation's capital for the Smithsonian festival.



## Cabana – ‘We have an awesome team’

Stennis Space Center Director Bob Cabana challenged employees attending an All Hands session June 11 to focus on improving processes and procedures and “to continue to do the best job we can.” Speaking to a full house in the StenniSphere auditorium, Cabana urged employees not to worry about possible changes but to focus on the work at hand, which includes testing the next generation of rocket engines for NASA’s space program. “There will be work to do,” Cabana stressed. “The best thing we can do ... is to do what we said we were going to do. This is a great place to work – and we have an awesome team.”



## 1996: Stennis takes lead in testing new engine



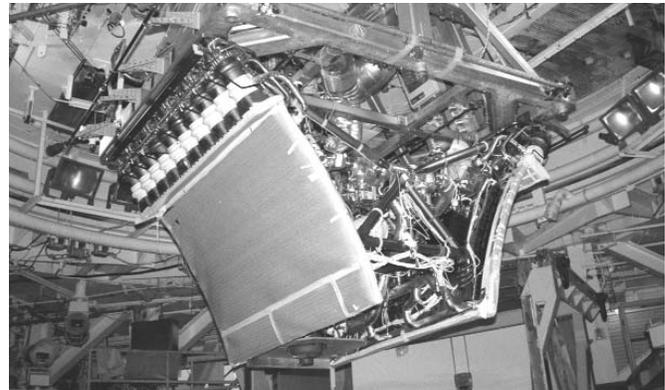
**Editor’s Note:** NASA’s John C. Stennis Space Center has played a pivotal role in the success of the nation’s space program. Each month, Lagniappe looks back on important moments in the center’s history.

On July 2, 1996, NASA announced Stennis Space Center would conduct testing for the X-33 prototype for the Reusable Launch Vehicle (RLV) Program. The venture was expected to bring \$30 million in development to the center.

The X-33 was a half-scale model of the RLV, which was called the new generation of rockets. It was expected to dramatically cut the cost of putting payloads into space. The RLV was to be a reusable, wedge-shaped craft that would take off vertically and land almost as easily as an airplane.

NASA selected Stennis Space Center to test cryogenic fuel tanks; engine components for a new aerospike engine; and ultimately a full-scale, Rocketdyne-built linear aerospike engine to be used to power the X-33. At the time of the announcement, NASA’s Dr. Rick Gilbrech said, “The aerospike engine is a totally new engine. It was considered as a potential engine for the space shuttle 25 years ago, but it lost out to the SSME (space shuttle main engine). But it has been revived and enhanced, and a great deal of new technology will be pumped into it.” In 1996, Gilbrech was RLV-project lead; he later served as Stennis director. He now is associate administrator for NASA’s Exploration Systems Mission Directorate.

The design of the aerospike was significantly different than the space shuttle main engine. It was shorter, more compact, and did not have the large bell-shaped nozzle. Flight-



An installed linear aerospike engine is ready for testing at Stennis Space Center in July 1999. When its space program ended in 2001, the engine was put on display at Stennis. In 2005, when plans were made to build a new J-2X engine for NASA’s Constellation Program, Stennis engineers removed needed turbopump and valve components from the display engine for use in early developmental testing.

qualification testing of the engine began at Stennis in 1998. By the spring of 2000, the engine had been successfully operated at full power and had exceeded the operating time it was expected to experience in test flights.

In March 2001, NASA announced funding for the X-33 Program would end. “We have gained a tremendous amount of knowledge from these X programs, but one of the things we have learned is that our technology has not yet advanced to the point that we can successfully develop a new reusable launch vehicle that substantially improves safety, reliability and affordability,” said Art Stephenson, then-director of NASA’s Marshall Space Flight Center.

Stennis engineers tested both a single and double aerospike engine. The single engine is currently on display in StenniSphere, the Stennis Space Center visitor center.

# Conflict management training planned

NASA's John C. Stennis Space Center is participating in the NASA-wide Conflict Management Program (CMP) and will be offering a course titled "Conflict Prevention and Management in the Workplace."

The training is limited to 30 participants and will be on a first-come, first-served basis. Should classes reach capacity, names will be posted on a "wait list" for possible classes in the future.

CMP is a comprehensive program designed to provide NASA managers, supervisors and employees with strategic tools to address work place conflict and reduce the need to access formal complaint processes. A needs assessment has been completed through targeted focus groups and interviews with senior management to determine issues to be addressed; therefore, training will be specifically tailored to the needs of Stennis employees. During the training, students will learn basic skills in negotiation and persuasion and will develop an awareness of communication dynamics that will help them defuse and deal positively with conflict situations.

From the  
**Office of  
Diversity  
and Equal  
Opportunity**

Three successful conflict management pilot programs have been completed at NASA's Johnson Space Center, Glenn Research Center and Marshall Space Flight Center.

Individuals may register for the Conflict Prevention and Management in the Workplace course through SATERN. For more information or for help registering, contact Natalie Smallwood at 688-3596.

"It will provide Stennis employees and organizations with a new set of tools for working toward early and effective resolution of conflict, including the invaluable asset of open and honest communication," center Director Bob Cabana said.

Training for employees will be July 24 from 8:30 a.m. to 4:30 p.m. in the Conference Center, Room 107. Training for managers and supervisors will be July 25 from 8:30 a.m. to 4:30 p.m. in the Conference Center, Room 107.

## Hail & Farewell

### NASA bids farewell to the following:

**Glen Liebig**                      Lead, Configuration Management  
Office of Safety and Mission Assurance

### And welcomes the following:

**Sarah Legendre**                Student trainer/Legal  
Office of the Chief Counsel

**George Piccolo**                Contract Specialist  
Office of Procurement/DA

**Debrina Harrell**                AST, Data Systems  
Office of the Chief Information Officer

## @ Stennis

## What makes you the proudest about your work at Stennis Space Center?

**Editor's Note:** @ Stennis is a monthly feature highlighting the views and opinions of Stennis Space Center employees.



"The thing I'm most proud of is being associated with a great team of co-workers. It's nice to be in a work environment with bright, intelligent people."

Ron Layel, SaiTech



"Just being able to work with NASA and experience the whole NASA challenge is great. I enjoy my work and being able to develop new skills."

Ranise Brown, Rede

"I'm glad to have the opportunity to work with a very diverse group of people."

Jullian Kobayakawa, Jacobs FOSC



"I witnessed the STS-124. The space shuttle main engines were the driving force. I was proud knowing the engines were tested at SSC; that is OUR part of the mission, and I'm proud to be a team player."

Diane Sims, NASA



# Educators participate in NES workshop

Stennis Space Center’s Education team kicked off summer 2008 with a highly successful NASA Explorer Schools Content Workshop on “Propulsion: Power Beyond Space” the week of June 9.

Eighteen educators from across the United States participated in the weeklong, interactive, inquiry-based workshop focused on propulsion, Newton’s laws and the future of space exploration.

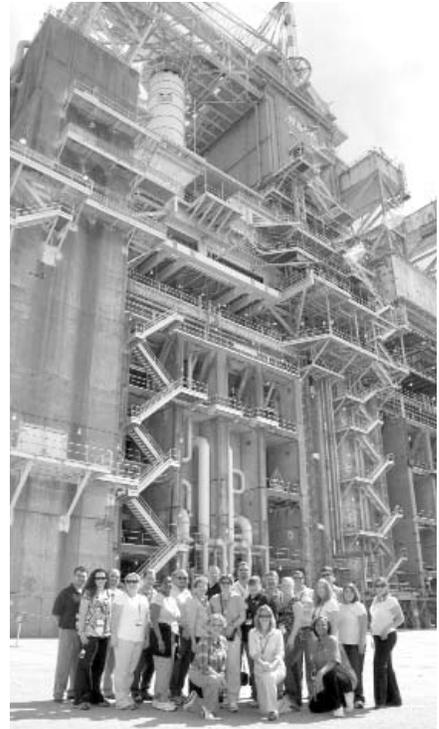
Educators engaged in a multitude of content activities, technology workshops, tours and interactive lectures, all of which used NASA educational materials. Content workshops were designed to teach best-practice educational lessons and reinforce NASA

concepts. Technology workshops included using and implementing podcasting and the NASA Classroom of the Future.

In addition to other activities, former astronaut and Stennis Space Center Director Robert Cabana visited with the educators for a discussion on space travel and how Stennis fits into the plan for the future of American space exploration.

The week ended with educators witnessing the shake, rattle and roar of a space shuttle main engine test.

NASA Explorer Schools participants from across the country stand at the foot of the B-1 Test Stand at Stennis Space Center. Eighteen U.S. educators participated in a recent NES content workshop at Stennis.



## INSPIRE students busy at Stennis

Stennis Space Center recently welcomed several students involved with the Interdisciplinary National Science Project Incorporating Research and Education Experience (INSPIRE) Program.

Students in the NASA-sponsored program will spend June and July in science-related activities at Stennis. INSPIRE project specialist at Stennis is Joy Smith, shown at the back left with students Sandra Okon (l to r), Tiffany Spears, Isaac Heim, Samantha Owen, Mioshiua Knox and Antoinette Tolbert. INSPIRE seeks to encourage high school students and college freshmen to pursue their science-related aspirations.



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