National Aeronautics and Space Administration

John C. Stennis Space Center

LAGNIAPPE

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Firing up the New Year

Flight-engine test gets ’06 under way

Water vapor surges from the flame deflector of the A-2 Test Stand at NASA’s Stennis Space Center on Jan. 9 during the first space shuttle main engine test of the year. The test was an engine acceptance test of flight engine 2058. It’s the first space shuttle main engine to be completely assembled at Kennedy Space Center. Objectives also included first-time (green run) tests of a high-pressure oxidizer turbo pump and an Advanced Health System Monitor engine controller. The test ran for the planned duration of 520 seconds.

STS-114 astronauts present Silver Snoopy awards at Stennis

Six employees at NASA’s Stennis Space Center were honored Dec. 14, 2005, with a “Silver Snoopy,” the personal achievement award given to space program workers by NASA’s Astronaut Corps.

They were Mississippi Space Services’ Mark Corr and Richard Ferrill, both of Bay St. Louis, Miss.; and Pratt & Whitney Rocketdyne’s Reginald Hudson of Kenner, La., Annette Moran of Lakeshore, Miss., Anthony Peterson of Long Beach, Miss., and John Znachko of Biloxi, Miss. Mississippi Space Services is the prime contracting agency for NASA’s facilities and engineering services at the center; Pratt & Whitney Rocketdyne assembles and tests the space shuttle main engine for NASA.

Corr and Ferrill each received a Silver Snoopy pin flown on a

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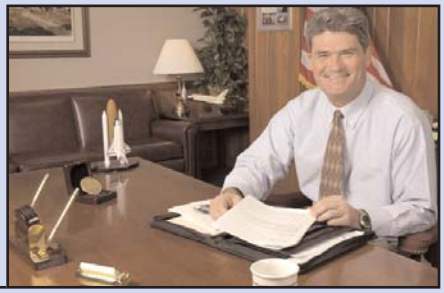
During an All-Hands in the StenniSphere Auditorium, STS-114 Commander Eileen Collins (left) and Mission Specialist Steve Robinson thanked Stennis employees for their efforts to return the space shuttle to flight.

Day of Remembrance: NASA will observe a Day of Remembrance on Jan. 26 honoring the crews of Columbia, Challenger and Apollo I, and all who have given their lives in the cause of exploration and discovery.

From the desk of

Bill Parsons

Stennis Space Center Director



Happy New Year. Wow! What a year 2005 was for NASA, Stennis Space Center and the entire Gulf Coast region. We've had many triumphs, tragedies, challenges and changes during the past 12 months. Whether good or bad, we faced all those events head-on and are continuing to move forward.

Some of the triumphs we experienced were NASA's return to flight with Space Shuttle Discovery's launch of STS-114 and the celebration of 30 years of testing space shuttle main engines right here at Stennis.

And then there was Hurricane Katrina. This record-breaking storm has changed our lives forever, but I am certain we will recover and become better and stronger as a result. As we continue to recover, I am proud that NASA and Stennis Space Center have been focused on what really matters – our people.

Not only did Stennis have to deal with Katrina, you also had a change in leadership during this same period. Thank you for welcoming me back to Stennis and supporting me as we worked through the numerous challenges.

We also welcome back the Lagniappe. The Lagniappe has a long and storied history at Stennis Space Center, and I am confident it was the right decision to revive it.

Now, as we begin 2006, we will continue to face challenges and changes. Agencywide, the NASA budget will be rolled out soon, the space shuttle will be retired in about five more years, and NASA is moving forward with plans to implement the Vision for Space Exploration. Here at home, Stennis is in the process of a reorganization that will bring the center more in line with the exploration vision.

I urge everyone to embrace the challenges and changes we are certain to face, and in doing so, we will once again meet them head on and emerge a better, stronger team.

Take care of yourselves, work safe, and let's all have a great and prosperous New Year!

SSC technologist one of Latina magazine's Women of the Year

As an aerospace technologist at NASA's Stennis Space Center, Rosa Obregon helps test engines to power rockets toward the stars. Now – thanks to Latina magazine – she's in the company of stars.

Latina's December 2005/January 2006 issue names Obregon one of the 10 Women of the Year for her contribution to NASA's space shuttle mission in July, the first shuttle flight since the 2003 Columbia accident. The magazine gives actress Eva Longoria of ABC's show, "Desperate Housewives," top honors as the Woman of the Year.

Obregon, a Corpus Christi, Texas, native, like Longoria, says, "I'm extremely honored by the recognition, proud to represent NASA and my family, and flattered to be included in a group of Latina women who have worked so hard to succeed in their professions."

Obregon's lifelong fascination with space began during visits to her parents' hometown of Monterrey, Mexico, where she would marvel at the star-filled sky. She eventually earned a bachelor's degree in aerospace technology from the Massachusetts Institute of Technology. After graduating in June 2004, Obregon joined the Stennis team.

At Stennis, she has been involved in a hybrid rocket motor test program and was one of five test conductors for the External Tank Foam Test Project. That test team simulated weather conditions for a shuttle launch to determine what kinds of ice and frost formed on the fuel tank's foam insulation. The test results provided necessary information for Space Shuttle Discovery's liftoff from NASA's Kennedy Space Center, Fla., on July 26, 2005.

"Her story is very inspiring because she's so young and has already accomplished so much," said Damarys Ocana, Latina magazine's associate editor. "We're always looking for women who can be role models for our community. We like to feature women who, like Rosa, worked hard in school and show that it's possible to stick to one's dreams and accomplish great things."

Reaching out to the next generation of explorers

Aberdeen begins Explorer School partnership

David Throckmorton, deputy center director at Stennis, addresses the Aberdeen (Miss.) Middle School student body at the kickoff ceremony for the school's three-year partnership with NASA under the NASA Explorer Schools Program. Held Nov. 16, the kickoff featured an appearance by Astronaut Roger Crouch.

Education Resource Center goes 'mobile'

Pearl River Central Middle School teacher Renee Burge (left) browses materials taken to the school by Stennis' Educator Resource Center. The Carriere, Miss., school was the first stop for the 'mobile ERC.' Since Hurricane Katrina, staffers have been taking the materials on the road for teachers to select classroom resources.

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space shuttle mission; and a letter of commendation and certificate, both signed and presented by Astronaut Eileen Collins, commander for the most recent space shuttle mission, STS-114. Peterson, Hudson, Moran and Znachko also received pins, and letters and certificates signed and presented by STS-114 Mission Specialist Steve Robinson.

Astronauts always present the Silver Snoopy because it is the astronauts' own award for outstanding performance, contributing to flight safety and mission success.

While at Stennis, Collins and Robinson spoke to Stennis employees at an All-Hands meeting, thanking them for their efforts to return the space shuttle to flight. "By the way, those engines worked great," Collins said. "Thanks for all your hard work."

Mark Corr
Mississippi Space Services

Richard Ferrill
Mississippi Space Services

Reginald Hudson
Pratt & Whitney Rocketdyne

Annette Moran
Pratt & Whitney Rocketdyne

Anthony Peterson
Pratt & Whitney Rocketdyne

John Znachko
Pratt & Whitney Rocketdyne

From the
Office of Diversity and Equal Opportunity

'Lunchtime' videos honor Dr. King

NASA Stennis Space Center will commemorate the birthday of Dr. Martin Luther King Jr. with 'lunchtime' video sessions and an exhibit. Video sessions are set for Friday, Jan. 13, 11:30 a.m.-12:30 p.m., Santa Rosa Conference Room, B1100, biography – Martin Luther King Jr.: 'The Man and the Dream'; Tuesday, Jan. 17, 11 a.m.-noon, Maury Library, B1003, presentation: 'In the Spirit of Unity and Service'; and Wednesday, Jan. 18, 11:30 a.m.-12:30 p.m., Santa Rosa Conference Room, B1100, Dr. Martin Luther King Jr.: 'A Historical Perspective' (documentary).

'We must work unceasingly to uplift this nation that we love to a higher destiny, to a higher plateau of compassion, to a more noble expression of humanness.' – Dr. Martin Luther King Jr.

Year in review: 2005 was a year o

The year 2005 will be remembered as one of the most eventful for NASA's Stennis Space Center, whose employees experienced spectacular successes and overcame enormous challenges.

NASA Returns to Flight

On July 26, 2005, Space Shuttle Discovery launched from Kennedy Space Center in Florida, marking the first shuttle flight since the loss of Space Shuttle Columbia in February 2003.

Discovery's three main engines were tested and proven flight-worthy by Stennis personnel who supported the mission in other, unprecedented ways.

In November 2004, engineers simulated weather conditions typical of space shuttle launch days to see what kinds of ice and frost form on the super-cooled tank and how that affects its insulation.

Stennis Space Center technicians used thermal imagers – "cameras" that turn infrared light emitted as heat into electronic signals that can be translated into images – to help Michoud Assembly Facility in New Orleans detect flaws in the external tank foam.

Stennis engineers also tested the helium gas flow through space shuttle external tank liquid hydrogen diffusers to compare the effects of two diffuser screen types. Tests showed a significant difference in the flow between the two types, and helped isolate the cause of an abnormal liquid hydrogen tank vent valve cycle during external tank tests prior to Discovery's launch. (The valve opens and closes to ensure the liquid hydrogen stays at the correct pressure in the final two minutes before launch.)

When the STS-114 mission was delayed by suspected false readings in main engine cutoff sensors, Stennis tested nine of the sensors July 21-22 on the E-1 Test Stand. The sensors are used in the space shuttle's liquid hydrogen and liquid oxygen run tanks. They were slowly chilled in liquid hydrogen to see if they would produce a dry indication when they were, in fact, wet. All nine sensors performed normally.

30 Years of Space Shuttle Main Engine Testing – and Counting

In August, Stennis commemorated 30 years of testing space shuttle main engines. In the 1970s, when there was no Internet, laptop computers or CDs, engineers at Stennis were testing a new reusable rocket engine, built to power the world's first reusable spacecraft – America's space shuttle.

Since the first test on May 19, 1975, the NASA/contractor team at Stennis has conducted more than 2,200 tests on the shuttle's main engines.

On Aug. 10 and 11, current and former employees, along with state and community leaders from Mississippi and Louisiana, marked the anniversary with speakers, a panel discussion and a test firing of a space shuttle main engine. Retirees who played major roles in the 30 years of shuttle engine testing were also recognized. The governors of Mississippi and Louisiana issued proclamations saluting Stennis Space Center's "remarkable accomplishments."

Weathering Nature's Harshest Blow

When Hurricane Katrina hit Aug. 29, 2005, as the third strongest hurricane to ever make landfall in the United States, it dealt a devastating blow to Stennis and Michoud as its eye passed directly over Stennis Space Center.

During the storm and its aftermath, a ride-out crew of hundreds of NASA and contractor employees worked 24 hours a day to help protect Stennis, despite their own losses. (The homes of approximately 1,000 of Stennis' nearly 4,500 workers were either destroyed or made uninhabitable.) Normal operations shifted to a mission of recovery.

For more than a week after Katrina, Stennis served as an emergency shelter for more than 3,500 people – area residents, and employees and their families. During that time, cafeteria workers and volunteers served approximately 9,000 meals a day at no charge.

Space Shuttle Discov
return to flight missio

The Stennis Occupational Health Clinic provided primary and emergency care, seeing between 90 and 150 patients a day, including 32 special-needs patients. Clinic staff gave more than 800 inoculations at Stennis and 200 tetanus shots to people in the surrounding community.

Stennis served as a base of operations for federal and state relief agencies, including a FEMA-affiliated force of more than 1,500 people. Truckloads of essential items, including water, meals and ice were dispatched daily from Stennis. Stennis also served as a staging point for approximately 1,500 members of urban search and rescue teams. Donated items were set up at the Stennis warehouse for employees and their families.

New Center Director

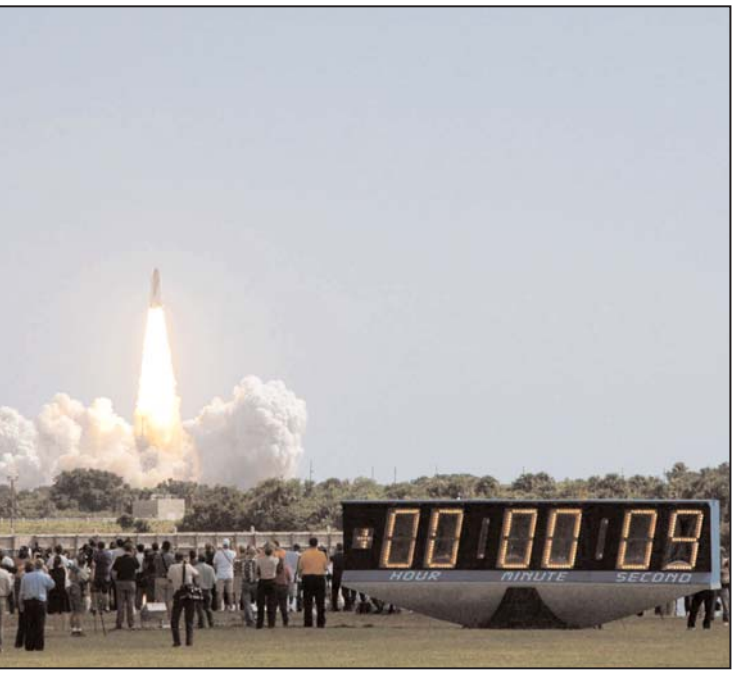
NASA's former Space Shuttle Program Manager Bill Parsons returned to Stennis to lead recovery operations, and on Sept. 13 was named center director, beginning his second term in that position. He replaced RAdm. Thomas Q. Donaldson V, USN (Ret.), who left to serve as an executive on loan to the Mississippi Emergency Management Agency.

On Sept. 14, NASA employees attended their first All-Hands meeting after the storm, hearing words of encouragement from Parsons.

Recovering From the Storm

The NASA Office of External Affairs and Education implemented a free day camp for children of Stennis employees. Lockheed Martin Space Operations donated supplies and lunches. Operation Backpack, a program that donates school supplies, delivered 250 backpacks filled with school supplies and goodies to

# of success, stamina and survival



very launches from Kennedy Space Center on July 26, 2005, for NASA's n, STS-114. The engines that powered the flight were tested at Stennis.

the children.

Approximately 150 children of Stennis employees took part in Nickelodeon's Worldwide Day of Play at Stennis on Oct. 1.

Emma Campbell, 7, and her brother, Charlie, 5, create windsocks to test principles of flight during Stennis Day Camp, a free camp for Stennis employees' children who were waiting for their schools to open after Katrina.

More than 250 Stennis employees helped with debris removal in the communities around Stennis and in outlying areas of Jackson County, Miss., and metropolitan New Orleans.

NASA's Applied Sciences Directorate used remote sensing images taken from the International Space Station to record Katrina's track and its devastation. These images can be of important use in planning future development.

On Oct. 29, the center returned to its main line of business, conducting its first space shuttle main engine test after the storm.

2006: A Bright Future Builds From a Proud Past

As 2006 unfolds, NASA and Stennis prepare to observe two milestones in the history of space flight. April will mark the 40th anniversary of the first rocket engine test and the 25th anniversary of the first space shuttle flight. On April 23, 1966, Stennis conducted the first test of the huge first and second stages of the

The year 2005 marked the 30th anniversary of testing the space shuttle main engines at NASA's Stennis Space Center, which culminated with this engine test Aug. 11.

Saturn V rocket that took Americans to moon. In the 1970s, Stennis tested the space shuttle main engines that powered the first shuttle flight, STS-1, which launched from Kennedy Space Center on April 12, 1981.

NASA's Shared Services Center displayed its commitment to locating at Stennis. The center, which will provide administrative and customer support for NASA employees and contractors, conducted a job fair at Stennis on Oct. 22. When operational in 2006, the center will add up to 450 jobs to the local economy.

Stennis continues its legacy as America's largest rocket engine test complex as it supports NASA's shuttle program, which is preparing for the next shuttle mission, STS-121, expected to launch this spring.

Haynes Haselmaier, who works in the Propulsion Test Directorate, cuts a tree that fell on a fellow employee's house near Slidell, La. He was on a crew that was part of a NASA and contractor volunteer team of more than 250 people who helped remove trees and debris in the surrounding communities.

Teams build robots, rebuild sense of community

The FIRST (For Inspiration and Recognition of Science and Technology) Robotics Competition officially began Jan. 7 with a regional kickoff at StenniSphere. During the kickoff, FIRST presented a game problem and parts kits to participating Louisiana and Mississippi high school teams who'll build robots for spring contests. The competition aims to inspire students in the pursuit of engineering and technology.

In the weeks leading up to the kickoff, the school teams gathered mentors, sponsors, tools, funds and dozens of other forms of support to design, build and program their robots in just six weeks.

Participating Mississippi teams include Gulfport High School; Mercy Cross High School, Biloxi; Picayune Memorial High School and Pearl River Central High School (combined team); Warren Central High School, Vicksburg; Provine High School, Jackson; and Choctaw Central High School, Choctaw.

Louisiana teams are New Orleans Charter Science and Mathematics School; High School for Engineering Professions and Scotlandville Magnet High School (combined team), Baton Rouge; Southwood High School, Shreveport; Madison High School, Tallulah; Bogalusa High School; Covington High School; Salmen High School, Slidell; Northshore High School, Slidell; and McMain Magnet School, New Orleans.

Stennis employees who have committed to mentor area teams are: from NASA, Bo Clarke, Gulfport and Choctaw teams; Scott Olive, Picayune-Pearl River; James Cluff and Jim Barnett, Gulfport; Wendy Holladay, Northshore team; Karma Snyder, Mercy Cross; and Michele Beisler, Salmen; from NASA contractors, Allen Forsman (MSS), Picayune; Keith Fulton (CSC), Gulfport and Choctaw; Bonita Oliver (CSC), Gulfport; and Judy Carter (CSC), Mercy Cross.

Bo Clarke, mentor for Gulfport High School's Team Fusion, offers strategy tips to students and coaches during the FIRST Robotics Competition kickoff held at StenniSphere on Jan. 7. Clarke is the lead building and infrastructure specialist for NASA's Shared Services Center at Stennis.

Katie Wallace, Stennis' FIRST coordinator in NASA's Office of External Affairs and Education, said engineering mentors will be crucial during the six-week design and construction process, and other volunteers will be valuable, too. "They don't have to be engineers," she said. "The teams will need help from people who can build Web pages, handle budgets, write reports or help brainstorm in planning sessions."

Before Hurricane Katrina slammed the Gulf Coast, the annual contest was educational, a fierce sort of fun. But in a post-Katrina world, the event carries new meaning. For many of the 15 Louisiana and Mississippi schools that will compete in 2006 events, FIRST Robotics will also meaan another step toward normalcy.

Volunteers pitch in to build playground

More than 650 volunteers – many of them employees at NASA's Stennis Space Center – weathered rain and cold to transform Bay St. Louis' old City Park into a playground on Saturday, Dec. 17. Volunteers assembled and erected a slide, swing set, jungle gym, sand box and planter benches in an eight-hour time frame. The playground was the first new structure built in the town devastated by Hurricane Katrina. Financed and led by KaBOOM!, the project was the nonprofit organization's first on the Gulf Coast after the storm. KaBOOM!'s vision is to create a great place to play within walking distance of every child in America.

Test program generates data, future engineers

Wayne North works with Ratessiea Lett in the test control center of the E Complex. North mentored Lett in NASA's Undergraduate Student Research Program.

A futuristic rocket engine being tested at NASA's Stennis Space Center is a source of critical data for new technology, but it's proving to be a lot more. It's an invaluable training ground for test conductors as well as a hands-on classroom for mentoring the next generation of engineers and technicians.

Three years ago, Wayne North could not have imagined sitting at the test conductor's console of a rocket engine developed with the latest propulsion technologies. Just before graduating from Tuskegee University in 2002 with an aerospace science engineering degree, he said to himself, "NASA sure would be a great place to work, but that's pretty far-fetched."

Three years ago, Wayne North could not have imagined sitting at the test conductor's console.

But last December, all his education and training came together, when he conducted a test of the Integrated Powerhead Demonstrator. "It was the best experience of my life," North said.

The IPD is a reusable, liquid-fuel rocket engine being jointly developed by the U.S. Air Force, NASA and two contractors: Pratt & Whitney Rocketdyne and Aerojet Corp. The IPD will not be flown, but data from the tests are expected to be valuable in developing future rocket engine technologies.

North had been interested in flight since growing up in Ozark, Ala., not far from the U.S. Army's Fort Rucker, where all Army aviation flight training is conducted.

Nearing graduation from Carroll High School in Ozark, North considered studying medicine. But his love for flight won out and he chose Tuskegee, the only Historically Black College & University with an accredited aerospace engineering curriculum.

When NASA was recruiting engineers at Tuskegee during his senior year, North learned Stennis had tested the rocket engines that took Americans to the moon, and has tested and proven flight-worthy every space shuttle main engine since 1975. "I decided that testing rocket engines at Stennis Space Center is where I wanted to be," he said. "It was almost like destiny."

North was hired by NASA and went to work at Stennis' state-of-the-art E Complex test facilities, which are designed for rocket propulsion testing involving ultra high-pressure gases and high-pressure, super-cold fluids.

He also became a mentor in NASA's Undergraduate Student Research Program, which offers selected undergraduates the opportunity to do mentored research for 10 weeks during the summer. Gulfport, Mississippi's Ratessiea Lett, a graduate of Harrison Central High School, was chosen in 2004 to be mentored by North, who also lives in Gulfport.

She worked side by side with him, and learned all she could about how the IPD works.

"I found out there were many different types of jobs there that would be a good fit for me," Lett said.

She's echoing North's advice to students. "There are a lot of different things you can do as an engineer," he said, "but it all starts with basic math and physics. If you study things you're interested in, school can be a breeze. It doesn't matter what you do, you have to have fun going to work."

Lett is holding true to the advice, and it's paying off. After studying mechanical engineering at Gulf Coast Community College, she entered Mississippi State University last fall to continue her studies. But she had to take a few days off in October. She was chosen to represent NASA in the Poster Presentation at the International Astronautical Conference in Fukuoka, Japan, where she presented a poster on her research at Stennis.

The Integrated Powerhead Demonstrator test fires with Wayne North as test conductor.

Grateful for help

NASA employees at Stennis Space Center, along with their families, thank NASA's nine other field centers and Headquarters for their help recovering from Hurricane Katrina's devastating effects. Members of the NASA family gathered for a 'Fall Family Feast' Nov. 17 in the Atrium of Stennis' administrative building.

Stennis celebrates the holidays

With Santa at his side, Stennis Director Bill Parsons hangs an ornament on the holiday tree in the lobby of Building 1100, officially lighting the tree and opening the Holiday Village in the building's Atrium on Dec. 1. The village remained open through Dec. 23. Below, Santa is ferried down the Pearl River to the NASA holiday party by the Navy's Special Boat Team TWENTY TWO. The party, held Dec. 10 at Stennis' Rouchon House, included a Santa's Workshop, where Santa posed for photographs, and families made gifts and cards, decorated a special tree and received gifts from Santa.

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