



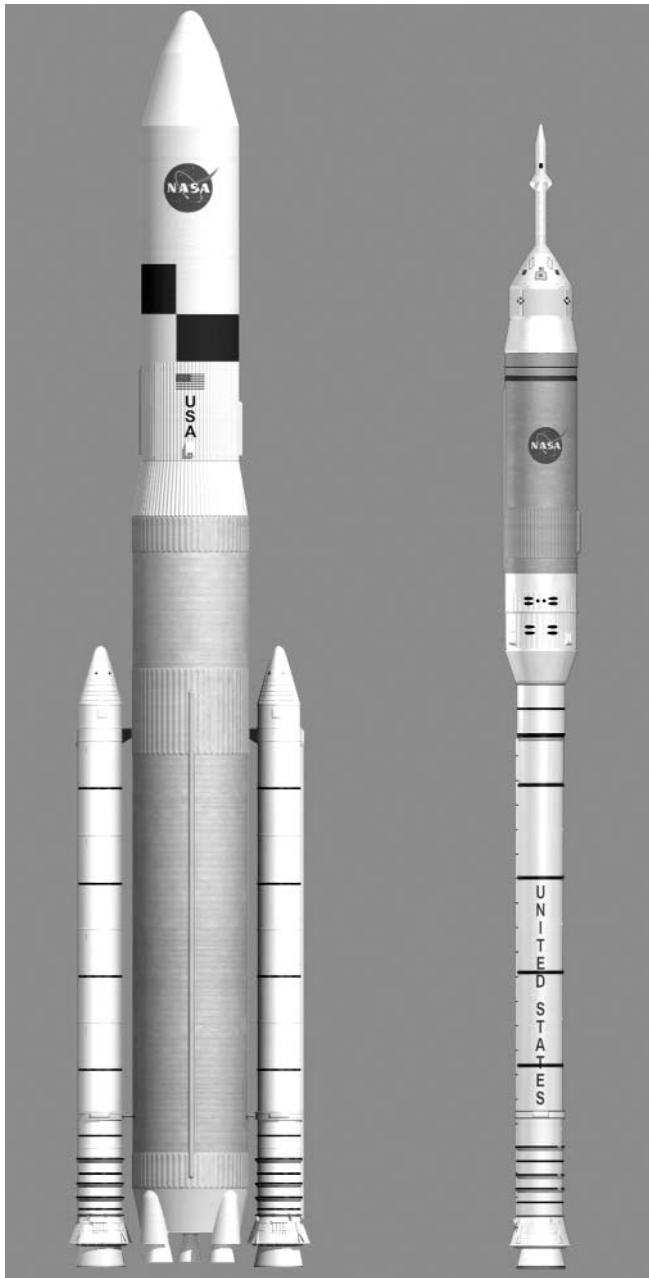
LAGNIAPPE

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www.nasa.gov/centers/stennis

June 2006

SSC plays vital role in NASA's Project Constellation



Engineering concept of NASA's new Cargo Launch Vehicle (left) and Crew Launch Vehicle. Pratt & Whitney Rocketdyne's RS-68 engine will power the core stage of the Cargo Launch Vehicle, and the J-2X will power the upper stage of the Crew Launch Vehicle. Both engines will be tested at Stennis Space Center.

NASA announced June 5 agency center responsibilities associated with the Constellation Program for robotic and human moon and Mars exploration.

This distribution of work across NASA's centers reflects the agency's intention to productively use personnel, facilities and resources from across the agency to accomplish the Vision for Space Exploration.

"Our past experiences have provided the foundation to begin shaping the space exploration capabilities needed to create a sustained presence on the moon and on to Mars," said Scott Horowitz, associate administrator for NASA's Exploration Systems Mission Directorate. "Our programs and projects are evolving as we develop the requirements to execute the Vision for Space Exploration. At the same time we are aligning the work that needs to be accomplished with the capabilities of our NASA centers."

"This is an exciting time for our nation and for Stennis Space Center," said Center Director Richard Gilbrech. "By building on more than 40 years of experience in rocket propulsion testing, Stennis will continue to serve in its traditional test role, testing elements of the Constellation Program."

In addition to primary work assignments, each center will support moon and Mars surface systems conceptual designs. Centers also support additional Constellation program and project activities.

Center assignments:

Stennis Space Center manages and integrates rocket propulsion testing for the Crew Launch Vehicle Project. Stennis leads sea-level development, certification and acceptance testing for the upper stage engine, sea-level development testing for the upper stage main propulsion test article and sea-level acceptance testing for the flight upper stage assembly.

See **CONSTELLATION**, Page 6

From the desk of
Dr. Richard Gilbrech
 Director,
 Stennis Space Center



It's hard to believe it has been more than nine months since Hurricane Katrina wreaked havoc along the Gulf Coast. Yet, here we are already into the 2006 hurricane season. Because the storm season is indeed here, now is the time to make sure you're ready should another hurricane come our way.

Although the 2005 Atlantic hurricane season had a record 28 storms, including 15 hurricanes, the National Oceanic and Atmospheric Administration has predicted yet another active hurricane season for 2006. NOAA is predicting 13 to 16 named storms with eight to 10 of those becoming hurricanes. Four to six of the hurricanes could become "major" hurricanes of Category 3 strength or higher.

After the devastation felt by our region in the aftermath of Hurricane Katrina, the importance of personal preparation cannot be understated. In the days following this tragic storm, NASA's first concern was for the welfare of its employees, and I can assure you that continues to be the case.

I have no doubt that Stennis Space Center and its employees will build on the lessons we learned in previous hurricane seasons, and do what it takes to ensure the safety of our families, homes and communities. But I urge you, there's no time like the present to get prepared.

The National Weather Service has an excellent Web site that provides information on preparing for the hurricane season. For more information, please visit the site at: <http://www.nhc.noaa.gov/HAW2/english/intro.shtml>.

With proper advance planning, I'm certain we will weather the upcoming season together.

Richard O. Gilbrech

SSC sends delegation to Capitol Hill



The directors of NASA's 10 field centers met with more than 100 members of Congress March 23-24 in Washington, to provide updates on the role each center will play in the nation's Vision for Space Exploration: to return to the moon before the end of the next decade, paving the way for eventual journeys to Mars and beyond. Center Director Dr. Richard Gilbrech, NASA Astronaut Kay Hire, Legislative Affairs Officer Myron Webb and NASA Engineering and Safety Center Chief Engineer for SSC Shamin Rahman met with members of Congress from both Mississippi and Louisiana.

Pictured at left, Mississippi Sen. Thad Cochran meets with Gilbrech and Hire. Below, Gilbrech and Hire are pictured with Louisiana Rep. Bobby Jindal (left photo) and Mississippi Rep. Gene Taylor (right photo), who each represent districts where the majority of SSC employees live.



FULFILLING THE VISION FOR SPACE EXPLORATION



Methane testing may play role in future exploration

A unique test project resulting from a joint partnership between Technology Development and Rocket Propulsion Test offices at NASA's Stennis Space Center may play a role in America's Vision for Space Exploration: to return humans to the moon before the end of the next decade, paving the way for eventual journeys to Mars and beyond. The project at Stennis uses a portable test stand to test a potential fuel, or propellant, for new rocket engines.

Called a thruster test bed, the small test stand at Stennis' E-3 test facility is mounted on a flatbed trailer measuring roughly 4 feet by 12 feet and uses gaseous methane and liquid oxygen as propellants. The test bed was developed through a Small Business Innovation Research (SBIR) Phase II contract by AJT & Associates, based in Cape Canaveral, Fla.

"Using the portable test bed in testing oxygen-methane at Stennis Space Center is a great example of how a technology can be matured from a prototype to an operational technology to support NASA exploration needs," said Ray Bryant, who manages the SBIR/STTR (Small Business Technology Transfer) programs at Stennis Space Center.

The thruster test bed was designed to support tests on various hydrocarbon-fueled engines with up to 1,000 pounds of thrust. It was initially configured as a standalone system for gaseous oxygen/kerosene propellants, but was modified for integration into the E-3 test facility and reconfigured for methane testing.

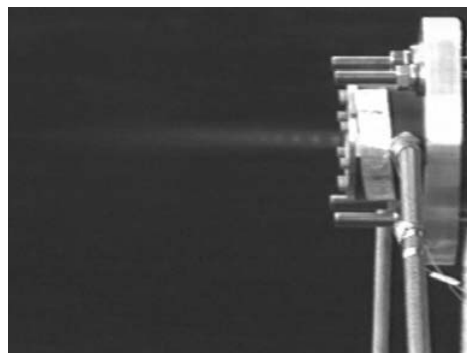
The tests support NASA's investigation into the use of nontraditional propellants as part of the agency's plan to



Unlike some test stands at Stennis Space Center that tower hundreds of feet above ground, this thruster test bed is mounted on a trailer that measures 4 feet by 12 feet. The methane-oxygen tests conducted on the test bed could play a role NASA's plan to return to the moon, and eventually travel to Mars and beyond.

develop system control hardware, heavy-lift launch systems and crew exploration vehicles to fulfill the goals of the nation's Vision for Space Exploration.

Oxygen-methane propellants may be a better choice than the traditionally-used hydrogen-oxygen combination for powering lunar ascent and return missions because methane would store more easily, last longer and be safer to handle. Most importantly, oxygen-methane is the easiest propellant combination to synthesize or "mine" from the atmospheres of Mars and the moon.



The plume with Mach diamonds is visible during an oxygen-methane test at SSC.

Randy Holland, former project manager for the methane thruster test bed, said the project aimed to further develop propulsion test experience with methane propellants, and to build an application platform for developing plume diagnostics on hydrocarbon fuel and Integrated System Health Management technologies.

See **METHANE**, Page 11

STS-121:

Space Shuttle Discovery prepared for July launch



Space Shuttle Discovery awaits a July launch on Launch Pad 39B at Kennedy Space Center, Fla., after its successful "rollout" on May 19.

Space Shuttle Discovery's 4.2-mile journey from the Vehicle Assembly Building to Launch Pad 39B was accomplished on May 19. Mounted on the Mobile Launcher Platform and carried by the mammoth crawler-transporter, Discovery emerged from the assembly building at 12:45 p.m. EDT. The "stack" rolls along at less than 1 mph.



Discovery will bring a third crew member to the station, European Space Agency Astronaut Thomas Reiter. This will be the first three-person crew since the Expedition 6 crew returned to Earth May 4, 2003. Without the space shuttle to ferry equipment to the station after the Columbia accident, only two people could be supported on board until the necessary provisions were in place.

The team has completed prelaunch loading of hypergolic propellants into the forward and aft reaction control systems and the orbital maneuvering system pods, as well as fuel loading for the orbiter's auxiliary power units.

Discovery will carry the Italian-built Multi-Purpose Logistics Module (MPLM) Leonardo, with more than two tons of equipment and supplies aboard.

The crew of space shuttle Discovery will continue to test new equipment and procedures that increase the safety of space shuttles during the STS-121 mission to the International Space Station. It also will perform maintenance on the space station and deliver more supplies and cargo for future station expansion.

Steve Lindsey, an Air Force colonel, will command Discovery. He is making his fourth spaceflight, and second as commander. The pilot will be Navy Cmdr. Mark Kelly, making his second flight.

This mission is to carry on analysis of safety improvements that debuted on the Return to Flight mission, STS-114, and build upon those tests.

Others aboard, in addition to Reiter, will be mission specialists Mike Fossum, Stephanie Wilson, Piers Sellers and Navy Cmdr. Lisa Nowak. This will be the first spaceflight for Fossum, Wilson and Nowak. Sellers is making his second spaceflight.

SSC engineer looks to the stars, produces stellar images

Tom Nicolaides has been looking to the stars since he was a child, and now the NASA engineer is bringing that vision back down to earth.

Nicolaides, a New Orleans native now living on a small farm in Carriere, Miss., is an avid “astrophotographer” in his time away from Stennis Space Center where he works as a systems integration engineer. By using a high-powered telescope and a digital camera, Nicolaides captures images from space, including the solar system, galaxies, constellations, nebulae and more.

His fascination with celestial bodies began in elementary school when his school library only had one book about astronomy. He re-checked the book week after week until his father finally bought him his own copy – and a telescope to go with it.

Whenever people asked what I wanted to be when I grew up, I always said “an astronomer,” Nicolaides said. “It didn’t quite work out that way, but I still do it in my spare time.”

Nicolaides began merging his interest in astronomy with photography in college by using a film camera, but he was never satisfied with the outcome. About four years ago after moving to Carriere from Slidell, La., his wife Sharon suggested he take the hobby to the next level. Nicolaides purchased an advanced telescope and digital camera, and he hasn’t looked back.

Each image is the result of Nicolaides’ intense labor. He spends about an hour setting up his telescopes, camera and computer in his horse pasture, tracking each subject for several hours or overnight.



NASA's Tom Nicolaides pursues his hobby of astrophotography from his horse pasture in Carriere, Miss. Nicolaides, fascinated with astronomy since childhood, uses a digital camera and a powerful telescope to create images of celestial bodies.

“It’s not easy,” Nicolaides said. “So many things have to be just right. . . first and foremost, the weather.”

He uses software to combine the sequence of 100 or so exposures into one composite image, and then adjusts the contrast, color and other variables to produce the best possible effect. The end results are breathtaking images filled with bursts of light against a dazzling star field and other detailed views impossible to see with the naked eye.

His wife, Sharon Nicolaides, a financial analyst with Computer Sciences Corp. at Stennis Space Center, also professes an interest in astronomy. The two were members of the Pontchartrain Astronomy Society in New Orleans in the 1970s, but never met until both began work at Stennis Space Center.

“My interest is more about being able to identify the constellations and the aesthetics of sky objects; his is extremely technical,” Sharon said. “He’s surpassed the amateur level. It’s definitely advanced astrophotography.”

One of Nicolaides’ favorite images is the constellation Orion, taken in his first successful astrophotography session following Hurricane Katrina. Despite the devastation around him, Nicolaides was able to find one positive: the lack of city lights allowed his celestial targets to stand out more clearly in the night sky.

More information about Nicolaides’ astrophotography, the equipment he uses and examples of his work are available at his Web site, <http://www.first-light.org>.



This photo of the constellation Orion is the first successful image Nicolaides captured after Hurricane Katrina.

CONSTELLATION

Continued from Page 1

Ames Research Center, Moffett Field, Calif., leads the crew exploration vehicle (CEV) Thermal Protection System Advanced Development Project.

Ames is developing information systems to support the Constellation Program Safety, Reliability and Quality Assurance Office.

Dryden Flight Research Center, Edwards, Calif., leads CEV Abort Flight Test integration and operations including Abort Test Booster procurement and integration with the Flight Test Article.

Glenn Research Center, Cleveland, leads the CEV Service Module and Spacecraft Adapter integration, providing oversight and independent analysis of the prime contractor's development of these segments. Glenn has lead responsibility for the design and development of several crew launch vehicle (CLV) upper stage systems.

Goddard Space Flight Center, Greenbelt, Md., provides co-leadership of the Constellation Program's System Engineering and Integration navigation team and software and avionics team.

Jet Propulsion Laboratory, Pasadena, Calif., leads a multicenter activity in

support of the Mission Operations Project to plan systems engineering processes related to operations development and preparation. JPL provides co-leadership for the Constellation Program Office Systems Engineering and Integration Software and Avionics team.

“By building on more than 40 years of experience in rocket propulsion testing, Stennis will continue to serve in its traditional test role, testing elements of the Constellation Program.”

*– Stennis Space Center Director
Dr. Richard Gilbrech*

Johnson Space Center, Houston, hosts the Constellation Program, the CEV Project and the Mission Operations Project. The Constellation Program manages and integrates the program and all projects. The CEV Project Office manages and integrates all CEV elements including prime contractor work. The Mission Operations Project manages and integrates all activities related to mission operations.

Kennedy Space Center, Fla., hosts the Ground Operations Project. The project manages all activities related to ground operations for the launch and landing sites, including ground processing, launch and recovery systems.

Langley Research Center, Hampton, Va., leads Launch Abort System integration supporting the CEV Project, providing oversight and independent analysis of the CEV prime contractor's development of the system. Langley leads the Command Module Landing System Advanced Development Project for CEV. Langley provides vehicle integration and CEV test article module development for the Advanced Development Flight Test.

Marshall Space Flight Center, Huntsville, Ala., hosts the Constellation Launch Vehicle projects. The projects are responsible for project management of all CLV and Cargo Launch Vehicle-related activities. Marshall provides the CLV first stage design, and is responsible for launch vehicle demonstration testing including the Advanced Development Flight Test.

While these decisions will result in budget and personnel allocations at the centers, detailed estimates will not be available until after prime contractors are formally selected for the program's major projects, such as the Crew Exploration Vehicle, Crew Launch Vehicle and Cargo Launch Vehicle.

For information about the program visit:

<http://www.nasa.gov/constellation>.

Stennis Space Center has been given responsibilities for the new Crew Launch Vehicle (CLV), a critical element in our nation's plans for humans to explore the frontiers of space. SSC's responsibilities include:

CLV

- Serve in a focused program management and integration role for Constellation Systems rocket propulsion testing
- Lead sea-level development, certification and acceptance testing for upper stage engine including facility modifications and test operations
- Support altitude development & certification testing for upper stage engine
- Lead sea-level development testing for upper stage main propulsion test article, which includes facility modifications and test operations

- Lead sea-level acceptance testing for flight upper stage assembly, which includes facility modifications and test operations

Ground Operations

- Support design, development, testing and evaluation of propellant test and delivery systems, ground engine check-out facility simulation and analysis, engine and launch facility planning and development

Program Office tasks include:

- System Engineering & Integration - Support to flight performance systems integration group (propulsion test integration) and systems engineering processes and tools
- Test & Verification - Propulsion test integration and coordination with rocket propulsion test management board
- Advance Projects Office - Support architecture refinement and conceptual design of future elements

Rolls-Royce engine testing facility breaks ground at SSC

Officials present for the Rolls-Royce groundbreaking at SSC on June 1 included, from left, State Rep. J.P. Compretta; State Rep. Jessica Upshaw; State Sen. Billy Hewes; Stennis Space Center Deputy Director David Throckmorton; Gov. Haley Barbour; State Sen. Scottie Cuevas; Trevor Orman, director of Operations Civil Aerospace for Rolls-Royce; Michael Ryan, executive vice president-Government Business for Rolls-Royce; State Rep. Billy Broomfield; and Anna Kelynack-Boddy, business development manager for Operations Civil Aerospace for Rolls-Royce.



Rolls-Royce broke ground June 1 at Stennis Space Center for its new outdoor jet engine testing facility. The facility will be used to test development and prototype jet engines for performance, noise, validation of safety systems and other factors.

Initially, it will test the company's high-thrust Trent engines, the Trent 1000 and Trent 900, being developed for the Boeing 787 Dreamliner and Airbus A380, respectively. Work is expected to begin at the site in the second half of 2007.

This is the first Rolls-Royce test facility of its kind out-

side the United Kingdom, and the first built from the ground up in the U.S. Last year, the company announced its intent to relocate this test capability from the U.K. to the U.S. There are only three such testing facilities in the world.

Rolls-Royce will spend \$42 million on construction and facility upgrades, as well as utilize existing infrastructure at SSC.

Mississippi Gov. Haley Barbour and First Lady Marsha Barbour joined Rolls-Royce and local dignitaries at the groundbreaking ceremony.

NASA launches new learning management system

NASA's new learning management system is now operational. SATERN (System for Administration, Training, and Educational Resources for NASA) went live on May 8 and can be accessed online at <https://satern.nasa.gov>.

The new SATERN system is designed to support the development of the NASA workforce through a simplified and one-stop access to high quality training products and processes to support learning and development.

An e-Training initiative, SATERN supports the President's Management Agenda by providing effective management of training and career development activities. It increases efficiencies and reduces costs

through standardized processes, consolidation and replacement of three NASA legacy systems:

- Site for Online Learning and Resources (SOLAR): The online, custom content courseware system used throughout NASA;
- AdminSTAR: The training administration system used by all center training offices; and
- NASA Online Registration System (NORS): The system that allows students to register online for courses and is integrated with AdminSTAR (at Marshall Space Flight Center and Kennedy Space Center).

With SATERN, the NASA workforce has Web-based access to train-

ing and career development resources. Supervisors can work with their direct reports to assign and track required training and develop and manage individual learning plans.

In future phases, NASA will build upon this functionality and enable employees and supervisors to use SATERN as a tool for career planning, competency management and individual development planning.

As NASA begins to use this new learning management system, employees are encouraged to access the SATERN informational Web site at <https://saterninfo.nasa.gov> to get information about how to log onto SATERN and take the Web-based tutorial to learn about SATERN's many features.

Buffer zone settlement of Logtown boasted rich past



The Logtown lumber mill

Editor's Note: *Archaeologist Dr. Marco Giardino of NASA's New Business Development Office at SSC provides this LAGNIAPPE column dedicated to the history of Stennis Space Center and the surrounding area.*

One of the more notable landmarks in our buffer zone is the site of the Wingate/Weston/Otis House, located on Main Street in Logtown until 1962. In 1848, W.R. Wingate hired Henry Weston, a young man from Maine, to work at the Logtown lumber mill. Eight years later, Weston owned the mill and moved into Wingate's house. For more than 100 years, the site housed some of the most prominent families of Logtown.

However, one important historic figure that predated all those inhabitants was Jean Baptiste Rousseve, known as "Little Allain" who bought the site of the future house at Cabanage Latimier (as Logtown was then called) in 1788 during the Spanish ownership of the area. Jean was a skill-

ful interpreter of Indian languages like his neighbor Jean Favre. Rousseve and Favre descended from the earliest French settlers at Mobile.

A contemporary of Jean Rousseve writing in 1745 described him as "a prudent and sensible lad who knows them [Choctaws] all, since he was brought up among them and has a perfect command of the language."

Rousseve was named "interpreter for the King" and was a major figure during the Eastern Choctaw war led by the famous Chief Red Shoes. In 1757 Rousseve led an expedition of Alibamu Indians, allies to the French, to Cat Island to intercept a renegade Frenchman who had plundered a wrecked Spanish ship and was fleeing to the British.

It may have been during that expedition that Rousseve traveled up the Pearl River where he made his home 30 years later.

Stennis Space Center HISTORY

Old Timers' Day reunites current, former employees



Retirees, from left, Bill Taylor (Naval Oceanographic Office), Leo Bermond (Johnson Controls) and Thomas Farve (Mississippi Space Services) gather at Stennis Space Center for Old Timers' Day, held May 19. Nearly 150 current and former employees reunited for food and fellowship at the annual event.

LAGNIAPPE commentary: Getting together. . .

Editor's note: *The following commentary written by Mack Herring appeared in the Aug. 22, 1980, issue of "Lagniappe." At the time, Stennis Space Center was known as the National Space Technology Laboratories, or NSTL. Herring was SSC's first public affairs officer and later the site's first historian. His popular, long-running columns featured Gator, the cartoon mascot of SSC. This is the last of a series of columns celebrating Herring's contributions during the 40th anniversary of the site's first rocket engine test firing.*

We believe it would be hard to find a more beautiful place to live than the Mississippi Gulf Coast. The coastline, with its stately live oaks growing right up to the water, may just give the Coast a unique look. The bayous, bays, rivers and creeks add to the charm. Old Handsboro, Pass Christian, Long Beach, Gulfport, Biloxi, Bay St. Louis and Waveland have stood as living and symbolic ghosts of a proud history.

The Coast cities and communities share not only a coastline, historic sites, unique architecture and vast leisure activities, but also a sense of progress – progress in educational opportunities and in the revitalization of downtown and residential areas.

And just to the north of the Coast is Picayune, a town named, we understand, for a newspaper which was named for a small coin. However, there's nothing small about Picayune and the warmhearted people who make it "everybody's hometown." Just across the Pearl River and Honey Island Swamp is Slidell, one of the fastest growing communities in the U.S. And all who have chosen this Louisiana city as their home can give you a list of attributes a mile long that have caused its rapid growth.



So we all at NSTL have much to be thankful for in having a special place to live and one of the most attractive and modern government installations in the country to spend our working hours.

Activities that bring us all together on a "person-to-person" basis are increasing – evidenced by the Rec Association, Toastmasters and various specialty clubs such as the ones enjoyed by the artists and photographers. The success of the blood drives, Combined Agencies Campaigns and a helping hand to fix a flat tire show that agency and element don't separate acquaintances and friendships.

This observer has noticed a growing positive trend toward the most ideal organization – the NSTL family.

– M.R.H.

NASA establishes emergency contact number for its employees

As Stennis Space Center employees prepare for the beginning of another hurricane season, it is imperative for them to plan and be ready for the threat and impact of potential storms to their homes, as well as the center.

The safety and well-being of Stennis employees and their families are of utmost concern.

Everyone should plan ahead for an evacuation strategy. Employees should discuss evacuation shelter locations with their employers.

Employees are also reminded to discuss their evacuation plans with their supervisors so they can be contacted following a storm or to acquire company/agency policy on contacts after a storm.

To receive site status reports, call 228-688-3777.

In the event that NASA employees cannot contact Stennis Space Center due to downed communications after a storm, a toll-free number has been established to call outside the area to report employees' status. That number for NASA employees is 877-776-4654.

NASA helps propel local teacher into Disney spotlight

Bay St. Louis teacher Connie Heitzmann has been selected by the Walt Disney Company's Worldwide Outreach to receive the 2006 Disney Teacher Award.

"NASA and Stennis Space Center played an important part in all this," Heitzmann said. "Stennis Space Center has helped so much with all that's offered there."

Sherrill Reynolds, information services coordinator for the Educator Resource Center at SSC, said Heitzmann has "probably taken every one of the technology workshops we've offered."

Heitzmann is one of 44 teachers nationwide who will receive \$10,000 from Disney and a trip to the Disneyland Resort in Anaheim, Calif., July 29 to Aug. 3. During that week, five exceptional teachers will be chosen. Four Outstanding Teachers and one Disney Teacher of the Year will receive an additional \$15,000 from Disney.

Hancock County Leadership Class tours Stennis Space Center



Pictured is the 2006 class of Leadership Hancock County, a program that was instituted by the Hancock Chamber of Commerce to identify and prepare the community's existing and future leadership resources.

Besides a tour of Stennis Space Center, sessions include field trips focusing on government, economic development, education, smart growth and quality living.

Pictured are, from left, (front row) Kevin Ladner, Karen Ruhr, Yuki Northington, Pam Cuevas, Lynne Chasez, Jenny Bell, Mary Perkins, Kay Gough, Eric Ross, (back row) Deborah Batchelor, Mary Kay Hubbard, Clay Leyser, Deborah Trotter, Richie Santiago, Hank Wheeler, Teri Velardi, Lora Mederos, Gary Knoblock, Whitson Christy, David Mauffray, Ricky Adam. Not pictured are David Knopf, Susan Mayley, Matt Moore, Janelle Nolan and Charlotte Santa Cruz.

'Juneteenth' marks release date of last slaves

Juneteenth is the oldest nationally celebrated commemoration of the ending of slavery in the United States. It commemorates the events of June 19, 1865, in Galveston, Texas, when word of the emancipation proclamation finally reached the enslaved, and a new and uncertain way of life began.

Today, Juneteenth commemorates African-American freedom and emphasizes education and achievement. It is a day, a week and in some areas a month marked with celebrations, guest speakers, picnics and family gatherings. It is a time for reflection and rejoicing. It is a time for assessment, self-improvement and for planning the future. In cities across the country, people of all races, nationalities

and religions are joining hands to acknowledge a period in our history that shaped and continues to influence our society today. Sensitized to the conditions and experiences of others, only then can we make significant and lasting improvements in our society.

From the
Office of Diversity
and Equal Opportunity

Beyond freedom for one's self, Juneteenth celebrates freedom for all, worldwide. Juneteenth promotes unity and builds self-esteem through reflection, education and through acknowledgement of achievements.

Juneteenth serves symbolically and in reality as a reference point from which to appreciate the progress and contributions made by African-Americans to society.

Daughter of John C. Stennis visits StenniSphere with students



Margaret Womble, daughter of NASA Stennis Space Center's namesake Sen. John C. Stennis, accompanied a group of DeKalb, Miss., students to StenniSphere, the visitor center at SSC. Womble, a retired teacher in DeKalb, volunteers for a group called Bringing Up Grades Plus Good Behavior. She said it was her third visit to Stennis Space Center and her first visit to StenniSphere.

METHANE

Continued from Page 3

This is the first testing in which SSC has used a hydrocarbon fuel to develop technology for monitoring the health of an engine by diagnosing its flame plume. It has produced a stable, repeatable source of measurable plume emissions for collecting data and establishing performance baselines. The project will help validate computer codes that model the combustion process, and has given technicians the chance to examine the capabilities and method of Integrated System Health Management within the test environment.

As the United States continues preparations to send future explorers to the moon, Mars and beyond, these tests, conducted aboard a small trailer at NASA's Stennis Space Center, hold the potential to help pave the way for the journey.

Hail & Farewell

NASA welcomes the following to SSC:

Rosalind Baker - Contract specialist, Operations Contracting Division

Tim White - Aerospace technologist, Quality Assurance/Office of Safety & Mission Assurance

Keith Pierce - Aerospace technologist, Quality Assurance/Office of Safety & Mission Assurance

Michelle Craft - Aerospace technologist, Experimental Facilities/Project Management Division

AROUND NASA

■ **NASA initiates summer program for American Indians:** NASA and the American Indian Higher Education Consortium (AIHEC) announced the launch of the NASA AIHEC Summer Research Experience Program. The program is a strategic approach to inspire young American Indians to pursue careers in science and engineering.

Sixty participants representing 14 Tribal Colleges and Universities will take part in the programs at seven NASA centers this summer. Participants will be assigned to research and engineering teams exploring robotics, 3-D design, geospatial data analysis and astrobiology while fostering long-term relationships with their research mentors at the field centers.

"American Indians are very under-represented in the fields of science and engineering," said Gerald Gipp, Ph.D., executive director of the American Indian Higher Education Consortium. "The program is a critical step toward changing that equation by encouraging young American Indians to pursue careers in science and engineering while also building a welcoming environment that nurtures their career path."

■ **Shuttle tank ET-118 departs New Orleans, bound for NASA's Kennedy Space Center:** The space shuttle external tank designated ET-118 departed NASA's Michoud Assembly Facility in New Orleans June 5. Shipped via NASA's transport vessel Liberty Star, the tank arrived in Florida June 9. ET-118 will be mated with Space Shuttle Atlantis for the STS-115 mission, scheduled for August 2006.

■ **First images from NASA's CloudSat have scientists sky high:** The first images from NASA's new CloudSat satellite are already revealing never-before-seen 3-D details about clouds. Mission managers tested the flight and ground system performance of the satellite's Cloud-Profiling Radar in late May, and found it to be working perfectly. The satellite's first images may be viewed at <http://www.nasa.gov/cloudsat>.

"CloudSat's radar performed flawlessly, and although the data are still very preliminary, it provided breathtaking new views of the weather on our planet," said Graeme Stephens, CloudSat principal investigator and a professor at Colorado State University, Fort Collins, Colo. "We have now begun continuous radar operations, and we look forward to releasing our first validated data to the science community within nine months, hopefully sooner."

■ **NASA welcomes European space station module:** NASA is celebrating the arrival of an important component to the International Space Station, the Columbus research laboratory. Columbus, the European Space Agency's primary contribution to the station, arrived at NASA's Kennedy Space Center, Fla., May 30 from Germany. Columbus will expand the research facilities of the station, providing researchers the ability to conduct a variety of experiments in the area of life, physical and materials sciences.

Summer Astro Camp launches to 'Moon, Mars and Beyond'



June 5 kicked off the first week of Astro Camp, the popular day camp at Stennis Space Center.

Counselor Rachel Selzer (left), Kourtne Jenkins, 9, of Nicholson, Miss.; Alexandra Greenlee, 9, of Carriere, Miss.; and Seth Baker, 6, of Slidell, La., perform a science experiment to learn what types of 'fuel' will best propel their 'rockets.'

The theme for this year's sessions is 'Moon, Mars and Beyond,' in which campers design, build and test a model rocket based on the principles that would be used to build a rocket suitable for a mission to the moon or Mars. They learn details like how far they would travel, how long it would take, what supplies they would need and how to survive in that environment.

Rocket Rulz teaches science principles

NASA Stennis Space Center's education staff recently treated students at Aberdeen (Miss.) Elementary School to the Rocket Rulz program.

'Rocket Rulz... Real Science! Real Loud!' is an exciting day of activities that help students understand how NASA uses Newton's Laws of Motion in rocket propulsion testing. The program also helps students see how things they learn in the classroom apply to practical situations.



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