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STS-120 crew visits Stennis

Astronauts thank employees for efforts

Six astronauts of NASA's recent space shuttle mission STS-120 visited NASA's Stennis Space Center in South Mississippi on Dec. 13.

STS-120 astronauts exit their T-38 jets at John C. Stennis International Airport on Dec. 12. The landing marked the first time astronauts have landed their T-38s at the airport near Bay St. Louis, Miss. A recently-installed air traffic control tower helped provide access for the training jets.

The crew members thanked Stennis employees for the reliability and safe performance of the space shuttle's main engines, or SSMEs, which on Oct. 23 launched them aboard space shuttle Discovery on their mission to the International Space Station.

"Thanks to all of your hard work, those SSMEs worked flawlessly for us," said STS-120 Pilot George Zamka.

STS-120 Commander Pam Melroy called the mission "exciting. It takes a tremendous amount of trust to strap ourselves into the space shuttle. We have a lot of faith and trust in the thousands of people who do their jobs safely. Thank you for safely performing your daily operations, in particular those for SSME. Our safety and our lives depend on that system.

"I believe in testing," Melroy said of Stennis' main line of business. "The most critical system on the space shuttle is the rocket engines. We can't go without them. It's crucial we continue to test and monitor the health of the engine system."

*See **STS-120,** Page 3*

A-3 Test Stand concrete poured

In the early morning of Dec. 9, employees with construction contractor IKBI Inc. pour concrete for the foundation of Stennis Space Center's future A-3 Test Stand. Completing the task took 3,365 cubic yards (407 truckloads) of concrete, and the cooperation of four local concrete plants. The 5-foot-thick foundation remained under plastic sheeting for several days as it cured. Meanwhile, workers will continue to pour concrete for the foundations of A-3's support facilities, such as the alcohol and gaseous nitrogen storage facilities. The first piling for A-3's foundation was driven a mere three months earlier.

*See **A-3 UPDATE,** Page 3*

From the desk of

Robert Cabana

Director,
Stennis Space Center

The year is rapidly coming to a close and the holiday season is upon us.

We have accomplished a lot at Stennis this last year, including: multiple space shuttle main engine tests that kept the program on schedule and included the incorporation of the new health monitoring system; conversion of the A-1 Test Stand for J-2X testing; subscale testing of the A-3 diffuser in the E Complex that will verify our design requirements; and groundbreaking and construction of the new A-3 Test Stand that will qualify the J-2X engine for flight, and eventually take us back to the moon.

In addition to all our technical accomplishments, we've completed numerous post-Katrina construction projects and have others under way that will return our infrastructure to top-notch condition and enable us to meet all our commitments in the future.

What all of this means is that everyone has been working really hard to ensure our success. And that means a lot of long hours and time away from our families.

I know that the year's not over and we still have a lot left to do, but I would ask all of you to thank your families for their understanding and support and to try to find time during this holiday season to take some time off to spend with them.

"Everyone has been working really hard to ensure our success. Thank your families for their understanding and support, and try to find time during this holiday season to take some time off to spend with them."

All of us need to recharge our batteries now and then; it makes us more productive when we return, and our families deserve some dedicated time and attention.

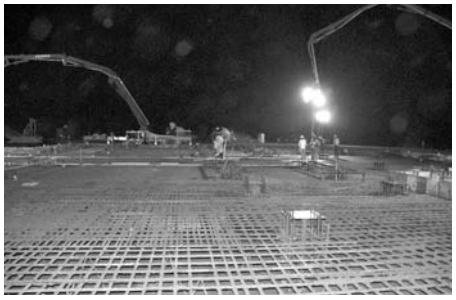
Thanks for all that you do to make Stennis the premier rocket propulsion test center that it is. I hope that you all have a very safe and enjoyable holiday, and come back recharged to take on the challenges of the new year.

With sincere best wishes for a joyous holiday,

Mississippi Senator-elect Baria tours CHL

Mississippi's newly elected Sen. David Baria (left) talks with retired U.S. Navy Capt. Joe Swaykos, director of the University of Southern Mississippi's Center of Higher Learning at Stennis Space Center. Baria, of Bay St. Louis, visited Stennis Nov. 27 to learn more about the Center of Higher Learning's visualization center capabilities and the INFINITY Science Center, now being planned. When complete, INFINITY will be located on Interstate 10 outside the gates of Stennis, and will feature a visualization laboratory experience.

FULFILLING NASA'S EXPLORATION MISSION



STRONG FOOTING – A field of steel rebar forms the frame for the concrete that will become the base of the A-3 Test Stand at Stennis Space Center. The weight of all the steel in A-3's foundation equals more than 1.5 million pounds.

Foundation in place for A-3 stand

LIGHTING THE WAY – Floodlamps illuminate the site of Stennis Space Center's future A-3 Test Stand as concrete trucks jockey for position to deliver their product. Over a 14-hour period beginning at 6 p.m. Dec. 8, more than 400 trucks delivered 3,365 cubic yards of concrete for the stand's foundation. The task was scheduled at night to ensure an uninterrupted traffic flow on local and on-site roads.

More than 400 concrete trucks began rolling onto the site of NASA's Stennis Space Center at 6 p.m. on Dec. 8 to begin pouring concrete for the foundation of the future A-3 Test Stand.

During the following 14 hours, the trucks provided a steady stream of concrete, pouring an average of 300 cubic yards per hour for the test stand, whose official construction began only six months ago.

Called a "monolithic pour," project planners had to ensure the concrete did not begin to form "cold joints" or inconsistencies in its setup that could cause cracks later.

"This particular activity required a tremendous amount of coordination," said Robert Ross, NASA's A-3 deputy project manager in the Office of the Director. "Between our on-site personnel and the contractors, the trucks and providers, setting up the logistics of the deliveries – the planning required was a major achievement in itself."

Five crews overlapping in rotation over the 24 hours surrounding the pour prevented fatigue and "kept everyone safe," according to Bo Clarke, NASA's contracting officer technical representative for the piles and foundation contract.

The A-3, Stennis' first large test stand to be built since the 1960s, will perform altitude testing for the developing J-2X engine that will power the upper stages of NASA's Ares I and Ares V rockets.

FINISHED PRODUCT – With concrete in place Dec. 9, the 160-foot-by-160-foot A-3 base takes shape. The foundation remained under plastic cover for about seven days, and will be allowed to cure undisturbed over the next several weeks. The mix of the material is designed to bear a load of 4,000 pounds per square inch when hardened.

"This is really one of the first major milestones for this construction project," Ross said. "The foundation is a key building block for the rest of the structure. It's one step in the process of meeting our commitments to NASA. Our contractors thus far have performed very well, and we're committed to having the stand ready to test J-2X engines in December 2010."

"One of the things that Stennis should be proud of is that it's an ambitious project, and we're doing it," Clarke said, "even with all the challenges we face post-Katrina. A-3 will give us a brand new test stand that will be robust for the next 30 years. It's going to be the next workhorse for Stennis."

STS-122 Space Flight Awareness Honorees

NASA's SpaceFlight Awareness Program recently recognized 14 Stennis Space Center employees for their contributions to flight safety. At a ceremony in Orlando, Fla., on Dec. 4, astronaut Jim Kelly (back row, fourth from right) and NASA's Deputy Associate Administrator for Space Operations Mission Directorate Lynn Cline (front row, fourth from right), along with Stennis Center Director Bob Cabana (front row, left), presented the SFA awards to (from left): front, Stan Gill, Beth Bradley, Janine Cuevas, Manning Jones, David Failla, Joyce Lawrence; back, Janet Austill, Clyde Adcox, Al Arnold, Ken Cook, Mark Hughes, Byron Ladner, Brandon Conner and Skip Wright. They traveled to Kennedy Space Center in Florida to tour the space center and witness the launch of space shuttle Atlantis on NASA's STS-122 mission, which was postponed to Jan. 2, 2008. The SFA Program recognizes outstanding job performances and contributions by civil service and contract workers throughout the year and focuses on excellence in quality and safety in support of human space flight. The award is one of the highest honors presented to NASA and its contract employees for their dedication to quality work and flight safety.

STS-120

Continued from Page 1

Other members of the STS-120 crew who visited Stennis were mission specialists Scott Parazynski, Doug Wheelock, Stephanie Wilson and Paolo Nespoli, European Space Agency astronaut from Italy.

"You don't know how proud we are of all of you," said Bob Cabana, Stennis center director and a former astronaut.

STS-120 also transported Daniel Tani to the station and returned Expedition 15/16 Flight Engineer Clayton Anderson. Tani will remain aboard the station until NASA's next space shuttle mission, STS-122, which is scheduled to launch in January.

STS-120 transported the Harmony connecting module to the complex to provide attachment points for European and Japanese laboratory modules. During space shuttle Discovery's 15-day, 6.2 million-mile mission, the astronauts conducted four spacewalks, including those that added Harmony to the station.

Harmony expands not only the space station's accommodations for other international laboratories and more people, but also its life support systems. In addition to the Harmony module installation, the STS-120 crew also relocated two solar arrays to boost the space station's power capacity and repaired a torn solar array during the unprecedented fourth spacewalk.

Astronaut Pam Melroy presents a commemorative collage of photos and items flown aboard space shuttle Discovery to Stennis Space Center Director Bob Cabana. Melroy commanded NASA's space shuttle mission STS-120. She and fellow crew members (from left) Doug Wheelock, Stephanie Wilson, George Zamka, Scott Parazynski and Paolo Nespoli visited Stennis on Dec. 13.

While at Stennis, the astronauts presented seven Silver Snoopy awards to employees, and thanked workers for their dedication and safe work history.

See SILVER SNOOPY AWARDS, next page

Silver Snoopy awards

Ronnie Bilbo with Doug Wheelock

Willie Ellis, Alison Lee, and Dwight Strahan with George Zamka and Paolo Nespoli

Rob Moeller (left) and Drew Haas with Scott Parazynski and Pam Melroy

Ian Walters with Stephanie Wilson

Astronauts Pam Melroy, George Zamka, Scott Parazynski, Doug Wheelock, Stephanie Wilson and Paolo Nespoli honored seven NASA Stennis Space Center employees with "Silver Snoopy" awards during their visit Dec. 13.

Ronnie Bilbo is employed by Applied Geo Technologies Inc., a contractor to NASA, in Stennis' Metrology Standards and Calibration Laboratory. He was recognized for his expertise in measuring components, fixtures and parts for the Space Shuttle Main Engine (SSME) Program; and for his ability to accurately measure a wide variety of dimensional disciplines.

Willie Ellis is employed by Jacobs Technology's Facility Operating Services Contract (FOSC) as lead component technician in Stennis' Test Complex Fluid Component Processing Facility. He was recognized for his technical expertise, knowledge of Stennis' rocket engine test complex and leadership in meeting demands on short deadlines.

Drew Haas is an SSME technical advisor for Pratt & Whitney Rocketdyne. He was recognized for his role in ensuring the center tests SSMEs safely and meets objectives. He helps set test schedules and ensures flight hardware is delivered to NASA's Kennedy Space Center to meet launch manifests.

Alison Lee works as a computerized maintenance management systems manager for Jacobs Technology's FOSC. She was recognized for her support of Stennis' rocket engine test complex and base maintenance activities. She helped streamline and automate the process of pressure vessel inspections and developed a Web page for tracking test and technical performance data.

Robert Moeller is a lead test engineer for Pratt & Whitney Rocketdyne. He was recognized for his leadership, skill and dedication as lead test engineer for the A-2 Test Stand. His understanding of the facility, its control systems and processes have ensured the SSME is tested reliably and safely.

Dwight Strahan is employed by Jacobs Technology's FOSC as a marine maintenance mechanic in support of the marine operations. He was recognized for his knowledge of Stennis' tugboat, the Clermont II, used to transport propellant fuel barges to Stennis' rocket engine test stands. His work ensures the tugboat and other equipment are maintained and ready to meet demanding engine test schedules.

Ian Walters works as a senior information technology analyst for SaiTech Inc., a subcontractor to NASA, in Stennis' Information Systems Directorate. He led a team of four to develop a system for the Rocket Propulsion Test Management Board that included Web development, automatic generation of action requests, task lists and other actions to support the RPTMB.

Each recipient was given a Silver Snoopy pin flown on space shuttle Atlantis during mission STS-117, along with letters of commendation and certificates signed by the astronauts. The Silver Snoopy is the personal achievement award given to space program workers by NASA's astronaut corps. Astronauts always present the Silver Snoopy because it is the astronaut corps' own award for outstanding performance, contributing to flight safety and mission success.

Holiday season kickoff

NASA employees gathered Nov. 30 in the lobby of Stennis Space Center's Building 1100 to witness the lighting of the building's holiday tree. Stennis Associate Director Patrick Scheuermann plugged in the lights, and employees joined in a carol sing. The tree lighting marked the opening of Stennis' Holiday Village, which offers noontime entertainment and decorations in the spirit of the season.

Firefighters maintain skills

Stennis Space Center firefighter Crew Chief Warren Fandal guides his 'injured patient' (actually a life-sized dummy) through a vertical manway at the former Army Ammunition Plant during a confined space rescue training exercise held in September. As the site's first responders for all technical rescue incidents, Stennis Fire Department must maintain competency in the skills required and learn advances in technology or rescue techniques to earn its annual recertification. The September training exercise simulated situations in which workers would need rescue from confined spaces such as tunnels.

NASA exceeds goal for CFC

With their gifts of $48,788.08 as of Dec. 3, NASA employees surpassed their $41,038 goal for donations to the Combined Federal Campaign at NASA's Stennis Space Center, which kicked off Oct. 18. Sitewide, CFC has received $189,970.30 (75 percent of its goal) as of Dec. 14. Employees may contribute until the end of December.

The CFC, the world's largest annual workplace charity campaign, supports organizations providing health and human service benefits throughout the world. The Southern Mississippi CFC goal was $811,900 for 2007.

Noted historian was Logtown neighbor

Editor's Note: *Dr. Marco Giardino of SSC's Engineering and Science Directorate provides this column dedicated to the history of Stennis Space Center and the surrounding area.*

Stennis Space Center HISTORY

Many of the Koch family letters make mention of John Claiborne, who lived a few miles down the East Pearl River from Logtown. This is the same John Francis Hamtrack Claiborne recognized today as one of Mississippi's most prominent historians.

Gen. Ferdinand Claiborne, his father, attained great fame as the commander of the Southern wing of the U.S. Army during the Creek War, serving with Andrew Jackson. John's uncle, William C.C. Claiborne was governor of the Mississippi and the Orleans Territories following the Louisiana Purchase of 1803. During his illustrious career, John Claiborne was a member of the Mississippi State House of Representatives (1830-34) and served as a Jacksonian Democrat in the U.S. Congress from 1835 to 1838.

In 1849, John Claiborne and his wife Martha bought the Laurel Wood Plantation on the Mulatto Bayou, in Hancock County. The "Claiborne House," as the plantation was known locally, survived into the 1960s.

Yet this stalwart and upstanding citizen had a dark side. During the Civil War years Claiborne apparently divided his activities, if not his allegiance, between the Union and the Confederacy. In a letter to his commander dated Nov. 1, 1862, Capt. John Cavanaugh, 8th Battalion Louisiana Artillery, wrote: "A prominent citizen of Pearlington, Col. J.F. Claiborne, is in daily communication with the enemy [Union], and no doubt keeps them advised of all that is going on in his neighborhood…."

Claiborne's double dealings were apparently not unknown to his neighbors. On Dec. 7, 1864, Christian Koch wrote to his wife Annette that Claiborne, the "old double traytor [sic]," could get provisions across the Union blockade while other residents of the East Pearl could not. Koch, who was among those who could not get across the blockade despite his sympathy for the Union, added that Claiborne could get him a pass, but that he (Christian) hated him too much to ask.

In the New Year:

Resolve to become better role model

The holidays are here, and the time for New Year's resolutions is approaching fast. Resolutions are easy to make but easier to break. However, the New Year gives us motivation to "start again," to discard the bad habits of the previous year and to begin afresh. We all have made the following top resolutions a number of times:

1. Lose Weight.
2. Get in Better Physical Shape.
3. Stick to a Budget.
4. Reduce Debt.
5. Enjoy More Quality Time with Family and Friends.
6. Quit Smoking.
7. Learn Something New.
8. Volunteer and Help Others.
9. Get Organized.

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

What about "Do unto Others?" As children, we are taught to treat everyone as we want to be treated. This single resolution can positively and profoundly create lasting changes in your life and help to make the world a better place. As adults, we find it is sometimes hard to treat everyone the same or as we would want to be treated.

That is when we need to remember diversity. Diversity is defined as the condition of being different. In other words, it means dissimilarity and variance between things. The differences could be in age, race, color, weight, religion and so on. Trust plays an important role in intercultural, interracial and intergender communication. A lack of trust can result not only in miscommunications, but in no communication taking place.

By treating everyone as we would want to be treated, looking beyond differences, noting similarities and treasuring the attributes others bring into our world, we can learn that fundamentally we are all the same.

Above all, each of us needs to be a role model. We are on display at all times, and must remember our actions speak louder than our words.

AROUND NASA

■ **Hinode offers new insights on solar wind origin:** Images from NASA-funded telescopes aboard a Japanese satellite have shed new light about the sun's magnetic field and the origins of solar wind, which disrupts power grids, satellites and communications on Earth. Data from the Hinode satellite shows magnetic waves play a critical role in driving the solar wind into space. The solar wind is a stream of electrically charged gas that is propelled away from the sun in all directions at speeds of almost 1 million mph. Better understanding of the solar wind may lead to more accurate prediction of damaging radiation waves before they reach satellites. Hinode was launched in September 2006 to study the sun's magnetic field and how its explosive energy propagates through the different layers of the solar atmosphere.

■ **NASA spacecraft on mission to comet Hartley 2:** NASA has approved the retargeting of the EPOXI mission for a flyby of comet Hartley 2 on Oct. 11, 2010. Hartley 2 was chosen as EPOXI's destination after the initial target, comet Boethin, could not be found. Scientists theorize comet Boethin may have broken up into pieces too small for detection. The EPOXI mission melds two compelling science investigations -- the Extrasolar Planet Observation and Characterization and the Deep Impact Extended Investigation. In addition to investigating comet Hartley 2, the spacecraft will point the larger of its two telescopes at nearby exosolar planetary systems in late January 2008 to observe several previously discovered planetary systems outside our solar system. It will study the physical properties of giant planets and search for rings, moons and planets as small as three Earth masses.

■ **Send holiday greetings to space station:** No one will be farther from home this holiday season than the astronauts aboard the International Space Station. NASA astronaut Peggy Whitson, the first female to command the station, and her crewmates are circling Earth at 17,500 mph, orbiting 16 times each day. Whitson and Flight Engineer Yuri Malenchenko, a Russian cosmonaut, have been on the station since Oct. 12. Flight Engineer Dan Tani, a U.S. astronaut, joined them Oct. 25. The crew will have some off-duty time for the holidays and share a special meal. On Dec. 26, a Russian Progress cargo ship will arrive with a special holiday delivery, including fresh food, supplies and gifts. To send a personalized message to the crew, or select a NASA-themed e-postcard to send to a friend, visit: http://www.nasa.gov

Hail & Farewell

NASA welcomes the following:

Tammy Vaughn	accountant
	Office of the Chief Financial Officer
Christel McDonald	management & program analyst
	Rocket Propulsion Test Program Office
Sue McGraw	contract specialist
	Office of Procurement

And bids farewell to:

Rebecca Strecker	public affairs specialist
	Office of External Affairs & Education

STS-122 prelaunch reception

Bob Cabana (from left), director of NASA's Stennis Space Center, speaks to invited guests at a prelaunch reception held Dec. 4 at the Doubletree Hotel in Cocoa Beach, Fla. Among the VIP guests attending were NASA Administrator Mike Griffin and his wife Rebecca, and Mississippi Congresswoman Jessica Upshaw, representative for Hancock and Harrison counties. More than 50 guests toured NASA's Kennedy Space Center, including a stop at the launch site. The reception, sponsored by Jacobs Technology, was part of activities surrounding the launch of NASA's space shuttle mission STS-122. Due to technical issues, the launch was postponed until January 2008.

Brandon team captures FLL title

The FIRST (For Inspiration and Recognition of Science and Technology) LEGO League 2007 Mississippi Championship Tournament was held Dec. 8 at the Mississippi Gulf Coast Community College's Jackson County campus in Gautier.

Students ages 9 to 14 from the private, public and home-schooled sectors from around the state competed in the tournament.

Of the 31 Mississippi competing teams, Team 1832, PEAK Home School Network of Brandon, won the highest honor, the Champion's Award. Team 1201, Home Educators of Southwest Mississippi of McComb, was the Champion's Award runner-up.

The "Techno Warriors" team created the best solution to this year's challenge, "Power Puzzle, which emphasized energy management and conservation.

The FIRST LEGO League (FLL) competition is judged in four areas: project presentation; robot performance; technical design and programming of the robot; and teamwork.

Thirty-one teams from 19 Mississippi schools used playing fields to compete in the Dec. 8 FIRST (For Inspiration and Recognition of Science and Technology) LEGO League 2007 Mississippi Championship Tournament at the Mississippi Gulf Coast Community College's Jackson County campus in Gautier.

NASA recognizes FIRST activities as an excellent hands-on method to increase student knowledge of science, engineering, technology and mathematics. NASA John C. Stennis Space Center supports FIRST by providing, mentors and training, as well as competition event judges, referees, audio-visual and other volunteer staff personnel.

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