

NASA tests 2nd SLS flight engine at Stennis





Stennis launches 2017 Combined Federal Campaign See page 12

t is that time of the year again when my good friend Theopolis Turkey hightails it over to "hide out" in the woods and lazy waters of south Mississippi. It is always good to see him, even if it means passing a vegetarian Thanksgiving. Ark!

This year, Theo came early to enjoy Founders Day Open House on Oct. 19. He had heard me talk about what we do at Stennis but never actually seen a rocket engine test. Wow – did he see a beauty! Everything was perfect – the visitors, the exhibits, the activities, the speakers. As for the test of RS-25 flight engine E2063, no one could ask for anything more. The day was perfect. The weather was good. The test went off without a hitch. Just check out the photos in this issue.

The next time engine E2063 is scheduled to fire, it will be headed for space, carrying astronauts on the historic Exploration Mission-2 flight of the new Space Launch System rocket. That will be the first mission to carry humans back to deep space in more than 40 years. Now, that will be a sight to see!

The evening after the test, Theo and I sat out by the Pearl River, enjoying some refreshment and good oldfashioned friendship. I guess because it is the Thanksgiving season, we ended up talking about the great things we had seen in our lives. Some were personal, but they also included seeing the first image of Earth from space and watching humans walk on the moon.

Theo said he would put the open house engine test on his list. "You can watch it on television," he said, "but that's like watching a video of your baby's first step. It's nowhere near the same as being there."

I reckoned he was right. A full-scale rocket engine test is a sight to see – and one that most people never experience. "We are some lucky ones," I said to Theo.

"In more ways than we can say," he said, pointing to the fall sunset sky just above the slow river. It was too pretty even for a picture – fading strata of copper, rose, taupe and blue. You just had to see it. You know, there are a lot of worlds out there we will explore, but this one has to be the very definition of sublime.

Step outside Thanksgiving (or any) evening and see what I mean. Take just a moment to give thanks before heading in for that second piece of pumpkin pie.



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FULFILLING NASA'S EXPLORATION MISSION

NASA showcases flight engine test at Stennis open house

ost people never view a rocket launch in person, but more than 1,500 people watched the next closest thing at NASA's Stennis Space Center on Oct. 19 – a verification test of a rocket engine that will power a crewed mission to space.

As visitors learned during the Stennis Founders Day Open House event, there were a number of unique factors about this particular test:

Actual Flight Engine

NASA conducts a lot of rocket engine tests at Stennis, many on developmental engines in order to collect performance data or to verify the readiness of a particular engine component. The Oct. 19 test was conducted on RS-25 engine E2063, a complete flight engine. Four RS-25 engines like this one are used to power each flight of the new Space Launch System (SLS) rocket. Using data from the successful test, NASA engineers now proceed with flight certification for the engine for use on an actual flight of the new SLS rocket.

Mirrors Hot Fire Test

The test was conducted in the same manner and for the same length of time that will be needed during an actual launch. The idea is to replicate as close as possible how the engine will be used on a mission. Thus, the test countdown to ignition is largely the same as during a launch, the way the engine is fired and throttled is the same and the length of time it is fired is the same. The only difference between how the engine fires during a test and during a launch is that one remains anchored in place on a test stand while the other actually leaves the ground.

Test Runs Full Duration

Since an anchored engine does not leave the ground, open house participants experienced the full 500 seconds of the test. During a launch, the rocket rises rather quickly out of sight and hearing range. Participants also enjoyed more of an upfront view. A launch must be viewed from at least three miles away; a test is viewed from about half a mile. It is loud enough to wear ear plugs, close enough to feel the vibrations of its power. If the wind blows right, the pure water exhaust from the engine can even condense and rain down on the crowd.

Engine Will Help Make History Engine E2063 is scheduled for use on NASA's second mission of SLS and the Orion crew spacecraft, known as Exploration Mission-2 (EM-2). The first integrated flight test of SLS and Orion, Exploration Mission-1 (EM-1), will be an uncrewed final test of the rocket and its systems. The EM-2 flight will be the first to carry astronauts aboard the Orion spacecraft, marking the return of humans to deep space for the first time in more than 40 years.

"For most people, the chance to view a flight engine test in person is a once-in-a-lifetime opportunity," Stennis Director Rick Gilbrech said. "It's a firsthand look at the American space program. We love sharing that experience and story with others."

The Stennis open house event drew participants from across the Gulf Coast region for a chance to view site facilities, learn about NASA's deep-space plans, enjoy space-related exhibits and celebrate the 56-year history of Stennis.

NASA announced plans to build the rocket engine test site in south Mississippi on Oct. 25, 1961. Construction involved as many as 6,000 people, representing the largest construction project in Mississippi and one of the largest in the U.S. at the time.

The first test at Stennis (then known as Mississippi Test Facility) was conducted on the A-2 Test Stand on April 23, 1963. The site subsequently tested all of the Saturn V engines and stages that carried humans to the moon during the Apollo Program.

Stennis began testing for the Space Shuttle Program in 1975. During the next 34 years, it performed more than 2,300 space shuttle main engine tests, totaling more than 820,000 seconds of accumulated hot-fire time. The site tested the main engines that powered each one of 135 space shuttle missions.

The site now is assigned to test all RS-25 engines for the SLS Program. NASA also will test SLS stages at Stennis, including the core stage that will be used on the EM-1 flight.

"Stennis has been on the front lines of the space program for more than 50 years," Gilbrech said. "This site is a living history book, and the open house test was another page in its incredible story."

For more information about NASA's Space Launch System, visit: https://go.usa.gov/xnDqF.



NASA engineers conduct a full-duration, 500-second test of RS-25 flight engine E2063 on the A-1 help p Test Stand at Stennis Space Center on Oct. 19, 2017. Once certified, the engine is scheduled to part of

help power NASA's new Space Launch System rocket on its Exploration Mission-2. The test was part of Founders Day Open House activities at Stennis.



A NASA drone offers a bird's-eye view of the RS-25 flight engine test on the A-1 Test Stand on Oct. 19.



A zoom-lens photo captures the fire power of the RS-25 rocket engine as it is tested on Oct. 19 during Stennis Space Center Founders Day Open House.

FULFILLING NASA'S EXPLORATION MISSION

Stennis hosts public for Founders Day Open House activities



On Oct. 19, 2017, some 1,200 site employees, family members and visitors from several surrounding states, including officials such as U.S. Rep. Steven Palazzo of Mississippi (bottom left photo), celebrated the 56th anniversary of Stennis Space Center with Founders Day Open House activities. The day included various activities for kids, such as constructing and launching "stomp rockets," completing space puzzles (bottom right photo) and experimenting with how astronauts are able to work wearing bulky space gloves. Other activities included demonstrations and exhibits by Stennis resident agences, as well

as comments by Stennis Director Rick Gilbrech (top right photo); astronauts Butch Wilmore and Don Petit; engineers such as Steve Wofford, Barry Robinson and Gary Benton, all with NASA (bottom center photo, I to r); and others. The event culminated with the certification test firing of RS-25 flight engine E2063 on the A-1 Test Stand. Once certified, the engine is scheduled to help power the Exploration Mission-2 flight of NASA's new Space Launch System rocket. (Open House photos on this page and following pages by Danny Nowlin and Mike Badon of Stennis and Jude Guidry of Michoud Assembly Facility)





FULFILLING NASA'S EXPLORATION MISSION





Stennis open house activities included a chance to build and launch a "stomp rocket" (left anf center photos) and to learn about propulsion using balloons in a rocket transportation demonstration (right photo).



FULFILLING NASA'S EXPLORATION MISSION





Although the RS-25 engine test was the highlight of the Stennis Founders Day Open House (top left photo), site visitors also had a chance to take photos in front of an RS-25 engine (bottom left photo) and to participate in a test stand design challenge (above photo).

FULFILLING NASA'S EXPLORATION MISSION





Stennis Founders Day Open House participants experience what it is like for astronauts to work wearing bulky space gloves (top photo), learn how a rocket engine works (left photo) and get a closeup look at the ocean world at the University of Southern Mississippi School of Ocean Science and Technology exhibit (right photo).



FULFILLING NASA'S EXPLORATION MISSION





FULFILLING NASA'S EXPLORATION MISSION



RS-25 flight engine removed from A-1 Test Stand

NASA removed RS-25 flight engine E2063 from the A-1 Test Stand on Nov. 15, following its successful certification hot fire the previous month. The engine was tested Oct. 19 during the Stennis Founders Day Open House, attended by some 1,200 visitors. It now is scheduled for use on the historic Exploration Mission-2 (EM-2) flight of NASA's new Space Launch System (SLS) rocket. Following an uncrewed SLS Exploration Mission-1 flight, EM-2 will carry astronauts into deep space for the first time in more than 40 years. Four RS-25 engines help power the SLS at launch, firing, providing a combined 2 million pounds of thrust. All of the engines, as well as SLS rocket stages, will be tested at Stennis.



Juno spacecraft returns images of Jupiter's southern hemisphere

See Jupiter's southern hemisphere in beautiful detail in this new image taken by NASA's Juno spacecraft. The color-enhanced view captures one of the white ovals in the "String of Pearls," one of eight massive rotating storms at 40 degrees south latitude on the gas giant planet. The image was taken on Oct. 24, 2017, as Juno performed its ninth close flyby of

Jupiter. At the time the image was taken, the spacecraft was 20,577 miles from the tops of the clouds on the planet. JunoCam's raw images are available online for the public to peruse and process into image products at: www.missionjuno.swri.edu/junocam. More information about Juno is at: https://www.nasa.gov/juno and http://missionjuno.swri.edu.

NASA in the News

NASA moves up launch abort test

NASA's Orion spacecraft is set to undergo a design test in April 2019 of the capsule's launch abort system (LAS), a rocket-powered tower on top of the crew module built to very quickly get astronauts safely away from their launch vehicle if there is a problem during ascent. This full-stress test of the LAS, called Ascent Abort Test 2, will see a booster, provided by Orbital ATK, launch from Cape Canaveral Air Force Station in Florida, carrying a fully functional LAS and a 22,000-pound Orion test vehicle to an altitude of 32,000 feet at Mach 1.3 (over 1,000 miles an hour). At that point, the LAS' powerful reverseflow abort motor will fire, carrying the Orion test vehicle away from the missile. Timing is crucial as the abort events must match the abort timing requirements of the Orion spacecraft to the millisecond in order for the flight test data to be valid. NASA is accelerating the timeline of the test to provide engineers with critical abort test data sooner to help validate computer models of the spacecraft's LAS performance and system functions.

NASA completes review of 1st SLS mission

NASA is providing an update on the first integrated launch of the Space Launch System (SLS) rocket and Orion spacecraft after completing a comprehensive review of the launch schedule. This uncrewed mission, known as Exploration Mission-1 (EM-1) is a critical flight test for the agency's human deep-space exploration goals. The review follows an earlier assessment where NASA evaluated the cost, risk and technical factors of adding crew to the mission, but ultimately affirmed the original plan to fly EM-1 uncrewed. "While the review of the possible manufacturing and production schedule risks indicate a launch date of June 2020, the agency is managing to December 2019," acting NASA Administrator Robert Lightfoot said following the review. "Since several of the key risks identified have not been actually realized, we are able to put in place mitigation strategies for those risks to protect the December 2019 date." The majority of work on NASA's new deep-space exploration systems is on track.

Stennis kicks off CFC charitable giving effort





Stennis Space Center employees launched their annual Combined Federal Campaign (CFC) effort Nov. 16 with a kickoff ceremony that featured remarks from Stennis Director Rick Gilbrech (page 1 photo) and New Orleans Federal Executive Board Executive Director Theresa Trentacoste. At the event, Stennis employees, such as Ken Newton of the NASA Shared Services Center (right photo), were able to gather information about area service organizations supported by CFC gifts. Exhibitors included such groups as the Hancock County Food Pantry, the Humane Society of Mississippi, Friends of Children's Hospital, Military Veterans Advocacy, Basket of Hope, the St. Bernard Battered Women's Program, the Cancer Association of Greater New Orleans, Canopy Children's Solutions and Make-a-Wish Mississippi. CFC is the largest annual workplace charity effort in the nation. Leaders of the 2017 effort include (above photo, I to r): Gilbrech; Joy Monistere, Southeast CFC Regional Office representative; and Trentacoste. The theme of this year's campaign is "Show Some Love."





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1967 – NASA launches historic Apollo 4 mission

Note: For more than 50 years, NASA's John C. Stennis Space Center has played a pivotal role in the success of the nation's space program. This month's Lagniappe provides a glimpse into the history of the south Mississippi rocket engine test center.

Fifty years ago, on Nov. 9, 1967, the first unmanned test flight of the Saturn V vehicle launched from NASA's John F. Kennedy Space Center. All rocket stages and the spacecraft were fully functional on the flight, and the Saturn V S-IC first stage and S-II second stage flew for the first time.

This important mission lasted over eight-and-a-half hours before splashing down in the Pacific Ocean. The mission was a complete success and proved the Saturn V worked and could carry humans to the moon.

The command module had an automatic 70-mm film camera that took photographs of Earth, and two motionpicture cameras were mounted on the thrust structure of the S-II second stage to verify the staging sequence. The cameras filmed at four times the normal speed in order for the footage to be played back in slow motion.

Visitors can see a piece of this history in person at the INFINITY Science Center where the Apollo 4 command module that flew on the flight is on display. *(See page 14 for additional Apollo 4 coverage)*



(Above) A 70-mm camera aboard the unmanned Apollo 4 rocket took this image of Earth from a distance of 9,544 miles.



(Above) The Apollo 4 mission launches from Launch Complex 39 at NASA's John F. Kennedy Space Center on Nov. 9, 1967.

Apollo 4 capsule relocates for display at INFINITY Science Center





The Apollo 4 command module housed in the former StenniSpere museum at Stennis Space Center has been relocated to INFINITY Science Center for public display once more. Until 2012, Stennis visitors could view the capsule during site tours. The StenniSphere museum closed in 2012 with the opening of INFINITY, which now serves as the official Stennis visitor center. Once protectively wrapped, the capsule was transported by truck from Stennis to INFINITY. It was delivered to the ground floor of the science center, then raised to the second floor, where it continues to be developed as a public display. The 8,000-pound capsule is on long-term loan from the Smithsonian Institution's National Air and Space Museum. It was launched into space on the historic Apollo 4 mission, the first unmanned flight of the Saturn V rocket and the first launch from Launch Complex 39 at NASA's Kennedy Space Center. It also was an "all-up" flight of all three Saturn V rocket stages. Previously, stages had been flown individually. Success of the flight already was critical if the United States hoped to achieve the goal of reaching the moon by the end of the decade; the decision to attempt an "all-up" launch only added to the stakes. Following a prolonged preparation process, the mission launched successfully on Nov. 9, 1967. Although the mission lasted less than nine hours, it was deemed a complete success for demonstrating the three-stage Saturn V rocket was ready for future missions. It also showed the third stage could be restarted in space as needed for capsule return to Earth. The Apollo 4 capsule that flew on the historic mission can be seen at INFINITY, located just off of Interstate 10 at Mississippi Exit 2.





NASA awards Multiple Award Construction Contract Two

ASA has awarded 24 Multiple Award Construction Contract Two (MACC-II) contracts to 20 small businesses and four large firms for general construction services at NASA's Stennis Space Center and several other agency locations.

The MACC-II is a regionalized Indefinite Delivery/Indefinite Quantity (IDIQ) contract vehicle for small and large general construction projects. It has an anticipated value not to exceed \$3 billion during an eight-year ordering period. IDIQ construction contracts were awarded in six categories: woman-owned small business; historically underutilized business zone; service-disabled veteranowned small business; 8(A) Business Development Program; small business; and full and open unrestricted awards. The 20 small business set-aside contracts awards are part of U.S. Small Business Administration efforts to help small disadvantaged companies compete in the marketplace. Firm fixed-price task orders will be issued under the MACC-II.

MACC-II project work includes, but is not limited to, alteration, modification, maintenance and repair, demolition, design-build and new construction of buildings, facilities and real property at Stennis; NASA's Johnson Space Center in Houston, including White Sands Test Facility near Las Cruces, New Mexico; NASA's Kennedy Space Center in Florida; and NASA's Marshall Space Flight Center in Huntsville, Alabama, including Michoud Assembly Facility in New Orleans. Other NASA centers and federal tenants at NASA facilities may use MACC-II with approval of the Stennis procurement officer.

MACC-II contract awardees include the following companies with their state location:

Women-Owned Small Business Awards

ELCI Construction Group Inc., Florida Odyssey International Inc., Pennsylvania Diversified Construction of Oklahoma Inc., Oklahoma Baker Klein-Foresight JV LLC, Florida

HUBZone Awards

Healtheon, New Orleans Weldin Construction LLC, Nebraska Pontchartrain Partners LLC, Louisiana Civil Works Contracting, North Carolina

Service-Disabled Veteran-Owned Awards

ESA South Inc., Florida Advon, Florida Birmingham Industrial Construction (BIC), Alabama Firewatch Contracting of Florida LLC, Florida

8(a) Awards

Silver Mountain Construction, Florida Drace Construction Corp., Mississippi Orocon Construction LLC, Mississippi CCI Energy and Construction Services LLC, Florida

Small Business Awards

A&H Ambica JV LLC, Michigan MOWA Barlovento JV-2, Mississippi Southeast Cherokee Construction Inc., Alabama SES Construction and Fuel Services LLC, Tennessee

Full and Open Unrestricted Awards

Brasfield & Gorrie General Contractors, Alabama BL Harbert International LLC, Alabama Caddell Construction Co., Alabama WG Yates & Sons Construction Co., Mississippi





Stennis hosts Small Business Showcase

Stennis Space Center Associate Director Ken Human (left photo) opens an onsite Small Business Showcase on Nov. 1. Hosted by the Stennis Small Business Office, the showcase featured exhibits from a variety of professional companies. Page 16

LAGNIAPPE

Stennis hosts community college students for STEM workshop





The Stennis Space Center Office of Education hosted 42 community college students from 31 schools and 15 states for the Fall 2017 NASA Community College Aerospace Scholars (NCAS) Program the week of Oct. 23. Funded by the Minority University Research and Education Program, NCAS supports community college students who are interested in pursuing STEM (science, technology, engineering and mathematics) studies and future STEM careers. The weeklong workshop is designed to provide students with a hands-on, collaborative NASA experience and to encourage them in ongoing studies. It is hosted at various NASA centers twice a year. The Stennis four-day fall workshop was held on site for select students who successfully completed an online course. During the workshop, students were divided into four teams competing to design and build the most reliable and cost-efficient Mars rover. The teams built a prototype of their robot design to demonstrate its effectiveness during a pair of mock missions on a simulated Mars terrain. The teams also developed mock production budgets and other documents needed in a competition to "win" a NASA contract for their rover design. The teams worked with Stennis Space Center educators and engineering mentors throughout the effort. They also had opportunities to work on developing personal resumes, to tour various Stennis facilities, to hear from Stennis engineers about their work at the rocket engine test center and to view a test of an RS-68 rocket engine on the B-1 Test Stand. For more regarding the NCAS Program, visit online at: https://nas.okstate.edu/ncas/ and https://www.nasa.gov/education.

November 2017

OVERALL BUDGET: \$600 MILLION

Mission 1 Expenses:

- Rover Chassis and Suspension T
- Claw Total:
- Tart Supplier Tete
- MISSION 1 TOTAL COST:
- \$371.748 M

Bon 2 Additional Expenses: Exercise Arm: BONAL MISSION 2 TOTAL OF RETWEEN BOTH AV S432 N/A \$ 3.0 N/A

Communications associate administrator visits Stennis

Jen Rae Wang. associate administrator for the NASA Office of Communications talks with Stennis Deputy **Director Randy** Galloway (I), Associate Director Ken Human (r) and other senior managers during a visit to the south Mississippi site Nov. 14. Wang toured the Aerojet Rocketdyne engine assembly facility and the B-2 Test Stand during her visit, and also met with NASA and NASA Shared Services Center communications personnel.

Stennis recertified as NWS Storm Ready Community

Stennis Space Center announced Sept. 21, 2017, that it has been recertified for another three years as a "Storm Ready Community" by the National Weather Service (NWS) New Orleans/Baton Rouge.

- Promote the importance of public readiness through community outreach and education.
- Develop a formal hazardous weather plan.
- Conduct weather emergency exercises.

NWS Storm Ready Community designation recognizes proactive efforts by a community to sustain and improve local hazardous weather operations. To gain certification, a community must:

- Establish a 24-hour warning point and a centralized emergency operations center.
- Have more than one method to receive severe weather warnings and forecasts and to alert the public.
- Create a system to monitor local weather conditions.

Some 98 percent of all presidentially-declared disasters are weather related. Storm Ready communities across the nation are better prepared to save lives and reduce damage from the onslaught of severe weather through advanced

planning, education and awareness.

The Storm Ready program for Stennis is facilitated by emergency management staff in the Office of Protective Services. For questions or information, call Kenny Volante at 228-688-2160 or Troy Stalvey at 228-688-1202.

Hail & Farewell

NASA bids farewell to the following:

AST, Engineer Project Management

Engineering and Test Directorate

Legal, engineering, legislative groups visit Stennis

A trio of groups visited Stennis Space Center the week of Oct. 16, touring site facilities and learning about work at the NASA rocket engine test site.

(Top photo) NASA Office of Chief Counsel representatives from Headquarters and individual agency centers stand at the B-1/B-2 Test Stand during their visit to the site Oct. 17.

(Bottom left photo) Mid-level engineers from NASA's Marshall Space Flight Center in Huntsville, Ala., stand at the B-1/B-2 Test Stand during their visit Oct. 20.

(Bottom right photo) A group of Mississippi officials and state legislators stand in front of the Saturn V S-II-15 rocket stage at INFINITY Science Center during a visit to Stennis on Oct. 19.

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Stennis program focuses on disability employment

Ishaunna Gully talks to Stennis Space Center employees about her life and work with the nonprofit LIFE (Living Independent for Everyone) Mississippi during a National Disability Employment Awareness Month program on site on Oct. 31. Gully was paralyzed in a domestic violence incident at age 20. She now works to equip young people with disabilities to live indpendently, providing them with peer counseling, advocacy, information, independent living skills and transition services. The theme of this year's awareness emphasis was – "Inclusion drives innovation."

NASA observes American Indian Heritage Month

(Bottom photo) Rolling Thunder, a member of the Vancleave Live Oak Choctaw tribe demonstrates a traditional dance at a Stennis Space Center exhibit marking National American Indian Heritage Month on Nov. 14.

(Right) NASA employees Dorsie Jones and Katrina Emery learn about American Indian practices and customs from Sandra Boswell, also a member of the Vancleave tribe. Boswell is a registered nurse who is recognized as a medicine woman by the tribe.

Close Call Reporting System is important safety tool

Note: The following is part of a regular focus on safety and health at Stennis Space Center. It was written by Kamili Shaw and Karen Patton in the NASA Safety and Mission Assurance Directorate.

Stennis Space Center is home to thousands of civil servants, contractors, tenants and resident agencies. We greet each other daily and watch out for the safety of everyone. This mindset is what keeps the Stennis Close Call Reporting System (CCRS) active. The reports to this system are conditions with the potential to result in an accident, injury or illness. From January-September 2017, 45 reports were made. All personnel with access to the Stennis Intranet can view these reports, the current status and how they were resolved by visiting: https://ssccampus.ssc.nasa.gov/ccrs/Default.asp.

At the end of August, someone reported that the sidewalk in front of Bldg. 9121 was slippery and presented a potential fall hazard. The reporter suggested that a slip-resistant coating be applied. During the investigation, it was discovered that the slippery black film on the sidewalk was likely due to an algae growth. A simple fix of pressure washing the sidewalk was performed in September, and the sidewalk is no longer a fall hazard. Below are pictures of the sidewalk before and after the pressurewash cleaning.

Also in August, someone reported fire alarm panel No.

00977358 inside Bldg. 4010 was malfunctioning. False fire alarms from this panel were happening on a weekly basis. The reporter was concerned that these false alarms would cause personnel to become complacent in the event of a real fire and that unnecessary, serious injuries could result. The parts needed to repair the fire panel were obtained, and the malfunction was corrected by the end of September.

CCRS reports get resolved with the hard work of personnel primarily from Stennis Operations and Maintenance. While not all reports into CCRS can be resolved quickly, it is still important to report hazards found in the workplace. CCRS is one avenue for reporting, and personnel can make an anonymous report, if needed. Three ways to report to CCRS are:

- Through the main Stennis Intranet page at: https://ssccampus.ssc.nasa.gov/ccrs/Default.asp.
- By calling the CCRS hotline at 228-688-SAFE (7233).
- By filling out a hard copy form found in most buildings in common areas or near elevators

You can also talk with your facility manager or supervisor to get the issue resolved. Let us all work together to keep each other safe.

Above images show the sidewalk outside of Bldg. 9121 at Stennis Space Center before it was cleaned (left) and after it was pressure-washed (right).

The sidewalk had been reported through the site's Close Call Reporting System as a safety fall hazard due to slipperiness.

An engaged safety culture keeps Stennis Space Center rocketing forward! To contribute to this page, contact: Kamili Shaw at kamili.j.shaw@nasa.gov or Karen Patton at karen.patton@

Office of Diversity and Equal Opportunity

100-Year-old Native American vet has led a full life

Remember the word "Appreciate." Appreciate family. Appreciate friends. Appreciate life. - Joe Renteria

fter nearly a century of advocacy, National American Indian Heritage Month was first recognized through joint resolution by Congress in 1990. Now recognized annually, November is a time to learn more about the history and heritage of Native American peoples.

This month, we celebrate Joe Renteria, a veteran of World War II and the Korean Conflict and a proud Native American from the Cherokee Nation. A retired U.S. Navy chief photographer's mate, Renteria trudged through muddy, humid jungles during the battle of Guadalcanal and flew reconnaissance missions over enemy ships.

Born in Emporia, Kansas on July 17, 1917, Renteria had a relatively normal childhood. But when he was just 8 years old, his family could no longer care for him, and he was sent to an orphanage. Renteria was athletic, but he was also Cherokee and proud, and he was bullied by other boys. Expelled after a fight, Renteria wandered the streets of the Midwest, homeless and alone. He soon hopped aboard a freight train and traveled across the United States, bound for many destinations: California, Wisconsin and New Mexico. He picked up work where he could.

In New Mexico, he found adventure with the renowned Ringling Bros. and Barnum and Bailey Circus, traveling with clowns, acrobats and a menagerie of animals. Renteria's job was to take care of the animals. In the circus, he also learned to walk on stilts.

When he was 16, Renteria found a place to call home in another orphanage, Father Flanagan's Boys Home. Father Edward Flanagan, a Roman Catholic priest, founded the home, now called Boys Town, in 1917 on the outskirts of Omaha, Nebraska.

When he turned 18 in 1935, during the Depression, there were not many options for a poor boy. Renteria enlisted in the U.S. Army soon after graduation, serving a threeyear stint. He left the Army then and enlisted in the U.S. Navy in 1938, heading to Great Lakes, Illinois, for boot camp. The Navy trained Renteria as an aviation mechanic, sending him to North Island in San Diego.

Renteria transferred to Hawaii in the summer of 1941. Shortly afterward, he was sent to Pensacola, Florida, to the Navy's photography school. Just months later, the United States was dealt a blow when Japan attacked Pearl Harbor in the early morning hours of Dec. 7, 1941. Renteria returned to Hawaii in early 1942 to assist with the cleanup and recovery. One day, as Renteria was performing his daily duties, a lieutenant arrived with a manila envelope marked in a bold red stamp: "SECRET." Carrying his sea bag and photography equipment, Renteria boarded a plane bound for Noumea, New Caledonia, in the South Pacific.

Renteria was soon flying covert missions over the small islands that dotted the South Pacific. His job was simple yet difficult: Find and photograph enemy bases and their fleets, and find areas that might serve as landing sites or forward operating bases. He hand-delivered his photos directly to Adm. William "Bull" Halsey Jr., who commanded the South Pacific Area and, later, the Third Fleet.

To get the proper photos, Renteria would slide the canopy of the aircraft back to avoid the glare of the glass enclosure. Much of the time, anti-aircraft gunfire would pop in black smoke around the plane, sending shrapnel in all directions. To make matters more intense, Renteria and his pilot would fly without any armament – no weapons to defend themselves – to conserve fuel.

Although most of his work was classified, one photo would garner him more accolades than any other he took during the war: a photo of First Lady Eleanor Roosevelt, who made a surprise visit to New Caledonia in 1943. Renteria had just returned from a mission and was quickly sent to the flight line to capture the moment. That photo of Roosevelt, Halsey and Lt. Gen. Millard Fillmore, commander of U.S. Army Forces of the South Pacific, was published in papers across the United States.

In 1954, Renteria retired from the Navy with 20 years of service and moved with his family to San Diego, where he ran the photo lab at San Diego State College. At that time, he also became more interested in his Cherokee roots.

An acquaintance introduced him to a financially struggling First Nation nonprofit group. Renteria used his military training to take charge and increase revenue for the group. Over the years, he also worked with the Indian Human Resources Center, Indian Child Services and Indian Health Services. Today, he remains involved with the Native American community in the San Diego region.

Renteria is now 100 years old, and at 5 feet 4 inches, he is as active as a much younger man. Just five years ago, he still walked on stilts, to the amazement and shock of many. The stilts have been put away, but Renteria is still agile and continues to drive to meetings for Indian Affairs.

Source: All Hands Magazine of the U.S. Navy

Faces of Stennis

Each month, Lagniappe will feature employees at Stennis Space Center whose work enables the center to fulfill its mission as the nation's largest rocket engine test center. This month's employee is highlighted on the following page.

Brianne Burge

You may not know Brianne Burge, but if you are a Stennis Space Center employee who has had to visit the south security gate building or a visitor who has stopped at that building for a guest site badge, there is a good chance you may have met Burge. For the last year-anda-half, Burge has worked as a security support specialist at Stennis. That means she very well may have been one of the security team members answering your badging question or helping you with the guest badging process. If, instead of visiting, you have called the security building with a badging question, Burge may have provided the answer as well. Her duties encompass all of those tasks - and she loves the work. Burge landed the Stennis job thanks to a friend, but she already was well familiar with the site. A native of nearby Poplarville and Wiggins, her father worked at Stennis and even received

an honoree award during his time of service when Burge was a child. Now that she has followed in her father's footsteps, Burge enjoys being a part of the Stennis Space Center family. She particularly likes meeting new people, making them smile and feel welcome and helping to solve whatever badging problems they may have. "I am proud of this team," she says of her security colleagues. "I am confident that we get things done, and we do a great job." Although just beginning her own Stennis career, Burge already looks ahead to new businesses arriving at Stennis and to the growth of NASA, all of which will provide additional opportunities for employees and area residents. Meanwhile, she continues to live in Poplarville, where she loves spending time with her daughter, caring for farm animals and participating in family life and activities.