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NASA on a roll testing SLS engines

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What do you remember about Aug. 6, 2012? Nothing comes right to mind? Well, you better believe there are a lot of NASA folk who remember the day. That was the morning the car-sized Curiosity rover survived a so-called “seven minutes of terror” descent to successfully land on the surface of Mars.

Landing the rover began a two-year mission to determine if Mars ever could have supported microbial life. Five years in, Curiosity not only has completed its mission but continues to explore the Red Planet.

The rover has driven more than 10 miles in five years – my granddator had a truck that traveled about that fast. Ark! It has returned more than 200,000 images, including some literal “out-of-this-world” selfies, and drilled 15 rock samples from the surface. It has found evidence of an ancient river and lake on Mars and helped scientists conclude that, despite current conditions, Mars once could have supported life.

Curiosity also has monitored radiation levels from the sun and space. Why? To help NASA plan for the day humans visit the planet.

All this came to mind earlier this month while viewing an RS-25 engine test on the A-1 Test Stand. It was a test of another engine flight controller, meaning that Stennis has now tested four RS-25 flight controllers since March.

Four is enough to power a flight of the new Space Launch System, which uses four RS-25 engines and a pair of solid rocket boosters at launch. Every RS-25 test we conduct here moves us closer and closer to the day of just such a launch. It may seem slow progress on some days, but before you can say “Houston, the Eagle has landed,” we will be sending American astronauts back into deep space aboard SLS, maybe to the moon, maybe to some other destination, but eventually – and most certainly – to Mars.

Imagine that. We are testing engines that will help carry humans to Mars! It has been great to see Curiosity’s tire tracks on the planet, but what I really cannot wait to see is human bootprints.

When it happens, you can bet I am going to frame a photo of it, and at the bottom will be a little silver plaque that reads – Courtesy of Stennis Space Center.



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NASA tests a pair of RS-25 engine flight controllers for SLS rocket

NASA is on a roll when it comes to testing engines for its new Space Launch System (SLS) rocket that will send astronauts to deep-space destinations, including Mars. Just two weeks after the third test of a new RS-25 engine flight controller on July 25, the space agency recorded its fourth full-duration controller test Aug. 9. Engineers conducted 500-second tests of both RS-25 engine controllers on the A-1 Test Stand at Stennis. The test involved installing the controllers on an RS-25 development engine and firing the engine in the same manner, and for the same length of time, as needed during an actual SLS launch. The tests marked milestones toward launch of the first integrated flight of the SLS rocket and Orion crew vehicle. Exploration Mission-1 will be an uncrewed mission into lunar orbit, designed to provide a final check-out test of rocket and Orion capabilities before astronauts are returned to deep space. The SLS rocket will be powered at launch by four RS-25 engines, providing a combined 2 million pounds of thrust, and with a pair of solid rocket boosters, providing more than 8 million pounds of total thrust. The RS-25 engines for the initial SLS flights are former space shuttle main engines now being used to launch the larger and heavier SLS rocket and with the new controller. The controller is a critical component that operates as the engine "brain" that communicates with SLS flight computers to receive operation performance commands and to provide diagnostic data on engine health and status. Engineers conducted early prototype tests at Stennis to collect data for development of the new controller by NASA, RS-25 prime contractor Aerojet Rocketdyne and subcontractor Honeywell. Testing of actual flight controllers began at Stennis in March. NASA is testing all controllers and engines designated for the EM-1 flight at Stennis. It also will test the SLS core stage for the flight at Stennis, which will involve installing the stage on the B-2 Test Stand and firing its four RS-25 engines simultaneously, as during an actual launch. RS-25 tests at Stennis are conducted by a team of NASA, Aerojet Rocketdyne and Syncom Space Services engineers and operators. Aerojet Rocketdyne is the RS-25 prime contractor. Syncom Space Services is the prime contractor for Stennis facilities and operations.



FULFILLING NASA'S EXPLORATION MISSION

NASA guests, Stennis employees enjoy chance to view RS-25 test



Viewing an RS-25 engine test live is a special event, as can be seen by the photos on this and two following pages. Guests for the July 25 test included Michele Sanders, a New Orleans educator and granddaughter of Kathryn Johnson, one of the so-called "human computers" who worked at NASA in the early days of the space program and is profiled in the recent film "Hidden Figures." She was welcomed to the site by Stennis Director Rick Gilbrech (bottom left photo). Astronauts Butch Wilmore and Steve Bowen also viewed the July 25 test and took the opportunity to visit test conductors in the A Test Complex control center. On Aug. 9, Gilbrech welcomed Marshall Space Flight Center Director Todd May (left, bottom center photo) and astronaut Nicole Mann to the rocket engine test site.



FULFILLING NASA'S EXPLORATION MISSION

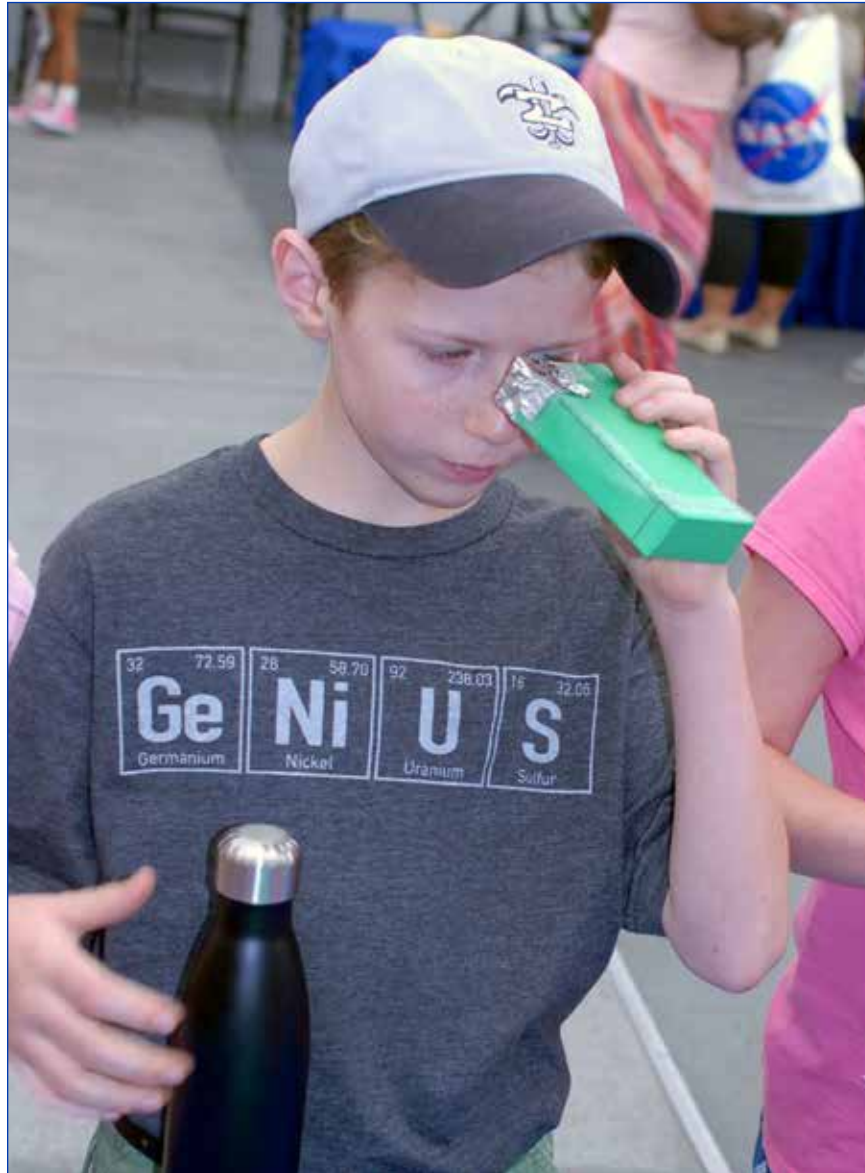


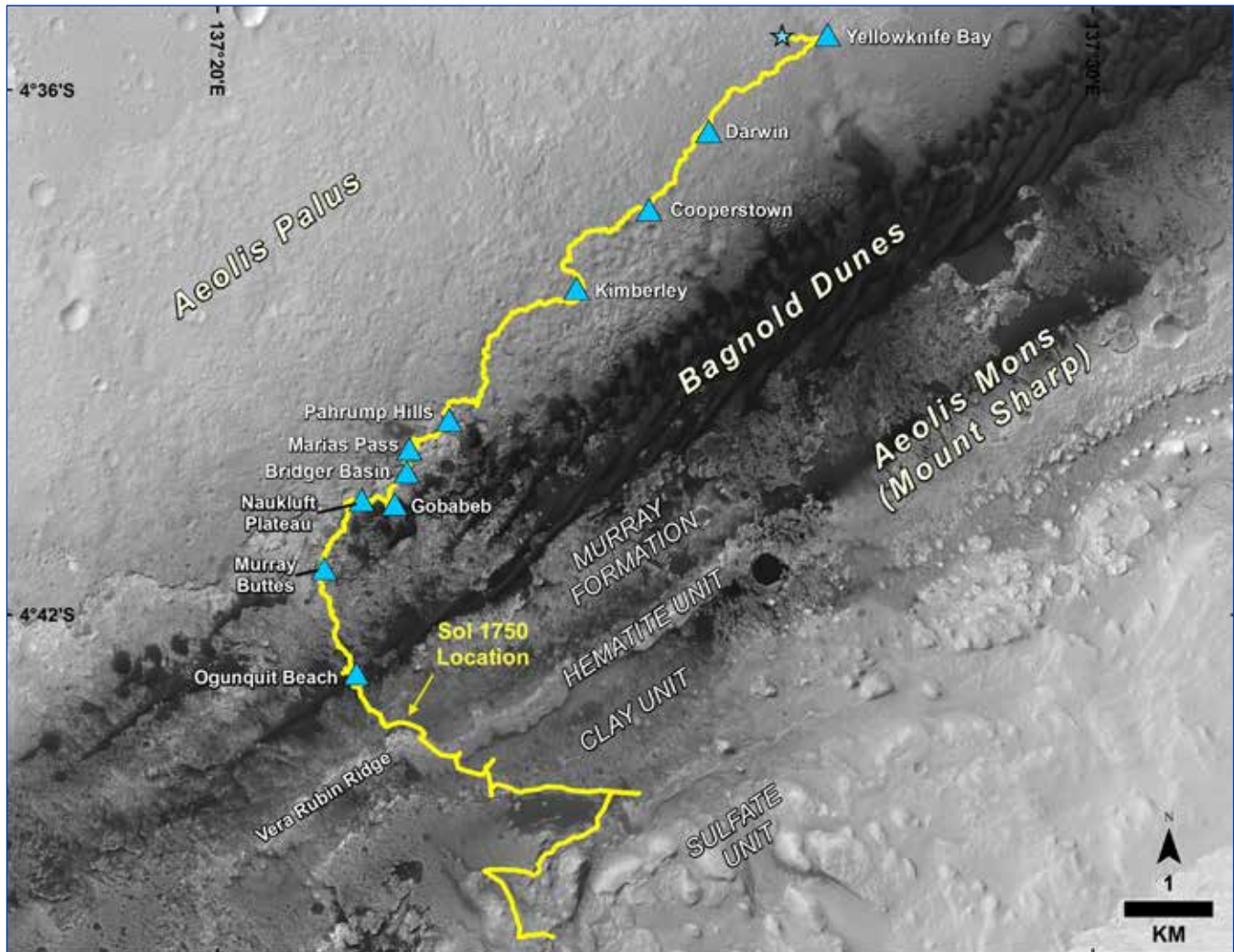
Stennis employees and family members enjoyed the opportunity to view an RS-25 test on Aug. 9 (top photo). Prior to the hot fire, NASA engineer Tommy Carroll shared information about the RS-25 engine and the test procedure with guests. Two weeks earlier on July 25, Michelle Sanders enjoyed the chance to experience an RS-25 test live.



FULFILLING NASA'S EXPLORATION MISSION

Stennis employees enjoyed an opportunity Aug. 9 to invite their kids and family members to participate in back-to-school activities and view the afternoon RS-25 engine test. Prior to the test, Stennis Director Rick Gilbrech (bottom right photo) and others hosted visiting employee children and family members for an afternoon focused on the upcoming solar eclipse across America on Aug. 21. Participants were able to collect information about the solar eclipse, take family photos in front of a solar eclipse backdrop, try out special glasses needed to view the solar eclipse and engage in hands-on eclipse-related activities. In the photos to the right, several children concentrate on creating eclipse artwork and constructing special eclipse viewers. NASA is promoting a variety of activities throughout the country related to the Aug. 21 eclipse, the first total solar eclipse to cross the United States from coast to coast in 99 years. The total eclipse will be visible in locations from Oregon eastward down to South Carolina. Everyone in the 48 contiguous states will be able to view at least a portion of the eclipse, depending on weather conditions in their area, the first time that has been possible since a partial eclipse in 1979.





Happy 5th Birthday, Curiosity rover!

A map of the Mars surface shows the route driven by NASA's Curiosity Mars rover, from the location where it landed in August 2012 to its location in July 2017, and its planned path to additional geological layers of lower Mount Sharp. The blue star near top center marks "Bradbury Landing," the site where Curiosity arrived on Mars on Aug. 5, 2012. Blue triangles mark

waypoints investigated by Curiosity on the floor of Gale Crater and, starting with "Pahrump Hills," on Mount Sharp. The Sol 1750 label identifies the rover's location on July 9, 2017, the 1,750th Martian day, or sol, since the landing. For more information about Curiosity, visit <http://www.nasa.gov/msl> and <http://mars.jpl.nasa.gov/msl/>.

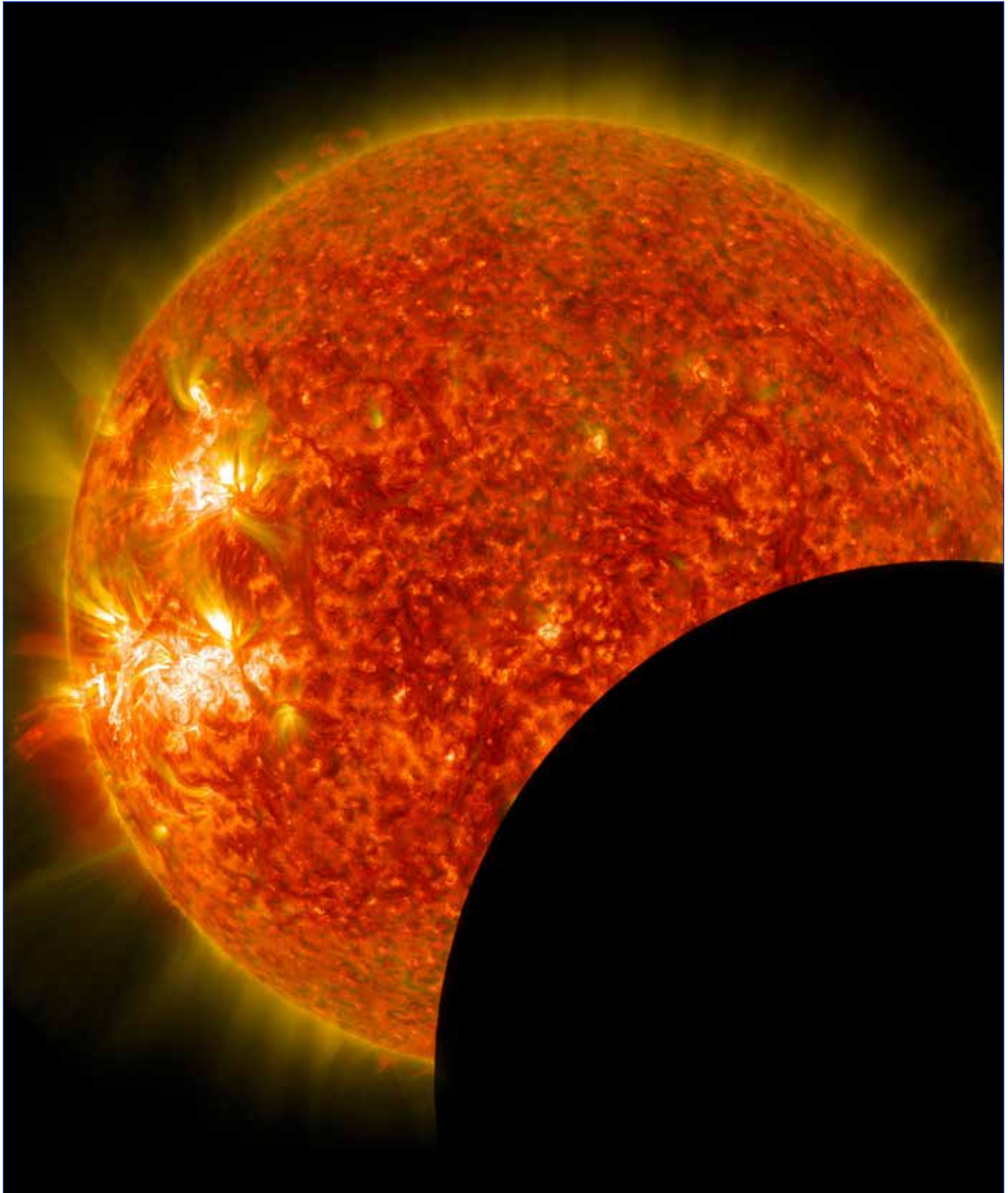
NASA in the News

Opening – Planetary Protection Officer

The recent announcement for a position that NASA has had since the 1960s – Planetary Protection Officer – has generated a lot of excitement in the public, as well as comparisons to many sci-fi movie heroes. It also caught the attention of one self-proclaimed "Guardian of the Galaxy" – an inspired fourth grader from New Jersey who reached out to NASA in a letter to express his interest in serving as the agency's Planetary Protection Officer. In return, 9-year-old Jack Davis received a letter from NASA's Planetary Science Director Jim Green. "At NASA, we love to teach kids about space and inspire them to be the next generation of explorers," Green

said. "Think of it as a gravity assist – a boost that may positively and forever change a person's course in life, and our footprint in the universe." Davis also received a phone call from NASA Planetary Research Director Jonathan Rall to congratulate him on his interest in the position. Although the Planetary Protection Officer position may not be in real-life what the title conjures up, it does play an important role in promoting the responsible exploration of our solar system by preventing microbial contamination of other planets and our own. Learn more about NASA's Office of Planetary Protection at <https://planetaryprotection.nasa.gov>. See the Davis and Green letters at: <https://go.usa.gov/xRmzr>.

Total solar eclipse across America – Aug. 21



A photo transmitted by NASA's Solar Dynamics Observatory satellite shows a partial solar eclipse as seen from space. On Aug. 21, 2017, all of North America will be treated to an eclipse of the sun. Anyone within the path of totality that reaches across the nation can see one of nature's most awe inspiring sights – a total solar eclipse. This path, where the moon will completely cover the sun and the sun's tenuous atmosphere – the corona – can

be seen, will stretch from Salem, Oregon to Charleston, South Carolina. Observers outside this path will still see a partial solar eclipse where the moon covers part of the sun's disk. NASA created a website to provide a guide to this amazing event. It offers activities, events, broadcasts and resources from NASA and partners across the nation. Visit: eclipse2017.nasa.gov.

2017 NASA Honor Awards

Stennis Space Center Director Rick Gilbrech and Marshall Space Flight Center Director Todd May presented annual NASA Honor Awards to Stennis employees during an onsite ceremony Aug. 9.

Three Stennis employees received NASA's Outstanding Leadership Medal. This medal is awarded to government employees for notable leadership accomplishments that have significantly influenced the NASA mission. The award recognizes an individual's leadership and effectiveness in advancing NASA's goals and image.

Kenneth R. Human

received the NASA Outstanding Leadership Medal for his work as Stennis associate director. Human has played a key role in strengthening the workforce culture, helping Stennis gain recognition as the "best place to work" among all NASA centers for six consecutive years and one of the top workplaces among all federal agencies for five consecutive years. He is noted for exemplary leadership and innovative legal and business strategies in support of Stennis and NASA



Robert S. Harris

received the NASA Outstanding Leadership Medal for progressive leadership as procurement officer and senior procurement official at Stennis. Harris is responsible for overseeing a \$4.7 billion acquisition management program and supporting more than 40 resident agencies of the Stennis federal city. He is noted for innovative procurement and high-impact savings strategies,



model leadership and exceptional contributions to the business and cultural success of Stennis and NASA.

Marguerite M. Jones

received the NASA Outstanding Leadership Medal for her work as deputy director of the NASA Safety and Mission Assurance Directorate at Stennis. Jones provided leadership and technical guidance to the successful expansion of restricted airspace at Stennis, a critical need to assure the primacy and privacy of the center's mission. In doing so, Jones demonstrated exemplary leadership in managing complex relationships between NASA and other agencies and components.



Eight Stennis employees received NASA's Exceptional Service Medal. This medal is awarded to government employees for sustained performance that embodies multiple contributions to NASA projects, programs or initiatives.

Randall R. Canady (retired)

received the NASA Exceptional Service Medal for contributions in project construction and management at Stennis, including as chief of the Project Management Division in the Engineering and Test Directorate. Canady joined NASA in 1991. At Stennis, he assisted in the identification of priorities for the revitalization and sustainment of propulsion test facilities and infrastructure, including enhancements for safety and operability. His achievements helped advance NASA mission goals and heighten Stennis' reputation as a world-class facility.



Andrew L. Clarke

received the NASA Exceptional Service Medal for 31 years of service at Stennis including as a project engineer, project manager, facilities manager and real property accountable officer. Clarke has worked on – and often led – more than 40 high-visibility projects that have impacted both Stennis activities and physical landscape. He has contributed to the center with achievements and influence in construction projects, refurbishment projects, public outreach and mentoring



Wendy T. Holladay

received the NASA Exceptional Service Medal for more than 35 years of ongoing service in various roles at Stennis. Beginning in 1982 as a NASA electronics engineer, Holladay has contributed extensively to the development of large-scale electrical and software technical systems for Stennis propulsion test programs and projects. Beyond technical achievements, Holladay has proven to be an exceptional mentor to both NASA engineers and aspiring college and high school students.



Randolph R. Holland (retired)

received the NASA Exceptional Service Medal for more than 32 years of service as a project manager at Stennis. Holland began his NASA career as a data and control systems



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engineer. He led recovery and mitigation projects at Stennis following Hurricane Katrina and provided exceptional leadership and management of other critical site projects as well. His achievements have helped to advance propulsion test quality and capabilities at Stennis.

Melissa M. Huggins

received the NASA Exceptional Service Medal for technical capabilities and leadership as a NASA control system engineer at Stennis. She has been recognized as a consummate team player who works to ensure engine test sequences are programmed correctly, to meet all customer requirements and to enable safe, accurate test activities. Huggins serves as a coach and mentor, helping engineers become reliable resources for the test operations team.



Paul T. Rieder

received the NASA Exceptional Service Medal for 26 years of ongoing service as a NASA aerospace technologist at Stennis. He has excelled in project engineering and provided critical mechanical designs to important NASA propulsion test projects. Throughout his Stennis career, Rieder has worked to meet and exceed customer requirements and expectations, helping to advance the technical capabilities and reputation of Stennis.



Steven W. Taylor received NASA's Exceptional Service Medal for his work as a NASA senior procurement analyst and senior contracting officer at Stennis. Since 2008, he has made

exceptional contributions, particularly in procurement guidance and support on a number of high-profile projects.

Taylor also has provided strategic support and leadership regarding small businesses. He has made key contributions to produce millions of contract dollar savings annually and is recognized as a consummate acquisitions professional.

Charles M. Willis (retired)

received NASA's Exceptional Service Medal for his 26 years of service in design and construction project management at Stennis. Willis was recognized as the authority on the Stennis high-voltage electrical distribution system and is credited with ensuring its reliable operation and maintenance through solution-oriented leadership and inspiring others to perform at optimal levels. Willis also served as the contracting officer representative for a variety of Stennis projects.



One Stennis employee received NASA's Exceptional Public Service Medal. This medal is awarded to individuals who are not government employees but have made exceptional contributions to the mission of NASA.

Glenn W. Faciane

received the NASA Exceptional Public Service Medal for providing oversight and technical expertise to Stennis test activities as a Syncom Space Services (S3) associate manager. Since 1977,



Faciane has supported various test projects and has become known for his staunch work ethic, ability to solve complex technical issues and commitment to performing tasks at the highest level. He now leads the S3 team supporting RS-25 and Space Launch System test projects.

One Stennis employee received NASA's Exceptional Achievement Medal. This medal is awarded to government employees for a significant specific achievement or substantial improvement in operations, efficiency, service, financial savings, science or technology that contributes to the mission of NASA.

Rae Lyn Anderson

received the NASA Exceptional Achievement Medal for her work as NASA software safety and quality assurance manager at Stennis. Since 2014, Anderson has led Stennis' software management and quality assurance efforts, as well as NASA Headquarters software standardization. She has been a key contributor to propulsion testing at Stennis and has led in agencywide software risk assessment. Such efforts have contributed to overall mission success for all of NASA.



Four Stennis employees received the NASA Early Career Achievement Medal. This medal is awarded to a government employee for unusual and significant performance during the first 10 years of an individual's early career in support of the agency.

Howard J. Conyers received the NASA Early Career Achievement Medal for his contributions as a NASA structural dynamics aerospace technologist at Stennis. Conyers has been involved in a variety of structural analysis and technology projects and is most recognized for

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development of the revolutionary High Dynamic Range Stereo-X camera system. Such efforts have contributed significantly to rocket propulsion test activities and has generated widespread public interest in NASA and its work.



Jeanne M. Koger received the NASA Early Career Achievement Medal for her work as a NASA



attorney at Stennis. In that role, Koger has displayed an uncommon level of legal and business expertise to become an authoritative source on a myriad of issues. She also has ensured regulatory deadlines are met in such areas as ethics training and conflict-of-interest financial reporting. Koger has proven a champion of diversity and inclusion efforts at Stennis as well.

Mark P. Turowski received the NASA Early Career Achievement Medal for his work as a NASA



electrical engineer at Stennis. He has excelled at providing critical controls engineering support for a variety of propulsion test projects and currently serves as the lead control system software engineer for the Space Launch System core stage test project at Stennis. Turowski is recognized for his technical excellence in control system software and his pursuit of innovative possibilities in the area.

Casey S. Wheeler received the NASA Early Career Achievement Medal for his work as a NASA



project manager at Stennis. In that role, Wheeler has consistently demonstrated the drive and commitment necessary to ensure Stennis' mission success, an attention to detail and a quick mastery of construction processes. Wheeler has been recognized for exceptional contributions on a number of major infrastructure and construction projects at Stennis.

Four Stennis employees and one group received the NASA Silver Achievement Medal. This medal is awarded by NASA center directors to individuals or teams for a stellar achievement that supports one or more of NASA's core values.

Paula L. Hensarling received the NASA Silver Achievement Medal for her substantial contributions on several



high-priority and complex NASA and commercial propulsion test projects at the E-1 Test Stand at Stennis. A NASA aerospace technologist at Stennis since 2012, Hensarling has served as the mechanical design lead for the multiple projects, with a strong focus on coordination and teamwork in order to deliver precise and timely design products.

Ryan J. McKibben received the NASA Silver Achievement Medal for his instrumental contributions to the success of RS-68, J-2X and RS-25 rocket engine test projects at Stennis. A mechanical operations engineer at Stennis since 2011, McKibben is recognized as an expert in propulsion

handling and test conductance. He also has demonstrated an intricate knowledge of liquid oxygen barge operations, providing key support to the success of some of the site's most challenging propulsion test projects.



Delton S. Rodriguez received the NASA Silver Achievement Medal for his work as NASA



Electrical Safety Program manager to ensure electrical safety at Stennis. Rodriguez is responsible for administering the safety program and for technical decisions and recommendations regarding protection of site personnel and property from electrical hazards. His knowledge, professionalism and commitment to safety have helped ensure the program meets all regulations, laws and requirements.

Jennifer R. Rolison received the NASA Silver Achievement Medal for her contributions as the NASA



team lead for procurement support services at Stennis. Responsible for a multitude of tasks, Rolison leads a team that provides stellar support to NASA Office of Procurement operations. She is recognized as a premier system analyst and has been lauded for her problem-solving skills and expertise. She also has provided expert training on various systems and is noted for her attention to detail and very high level of accuracy and efficiency.

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The R-4403 Expansion Leadership Team received the NASA Silver Achievement Medal for leadership and their technical expertise and guidance in helping Stennis Space Center win approval for an expansion of its restricted airspace to support both NASA and U.S. Navy missions on site. Approval required coordination across NASA, Navy and Federal Aviation Administration (FAA) offices, as well as meeting various environmental and operational requirements. Recognized members of the leadership team were Paul Farr of NASA; Randy Jackson, Adrienne Saboya and Kenneth Kopsco of the U.S. Navy; and Benjamin Baughmann of the FAA.



Group Achievement Award – HIDYRS-X Video System Development

25 years

- Cynthia P. Canady
- Reginald B. Ellis III
- Gregg A. De Felicibus
- Troy E. Frisbie
- Richard J. Gilbrech
- Karen L. Vander

- Howard Conyers
- Andrew Guymon
- Aaron Head
- Nicholas Nugent
- Mark Turowski
- Lauren Underwood



Paul Farr (l) and Benjamin Baughman

Group Achievement Award

HIDYRS-X Video System Development

NASA

Meredith Blasingame (ARC)

Contractor Support

- Daniel Cuervo
- Edward Leggett
- Mary Pagnutti
- Robert Ryan

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Several additional Stennis individuals and groups were recognized for service and contributions as well.

Length of Service Awards

35 years

- Bruce R. Farner
- Leanne Olson
- Thomas M. Stanley Jr.
- Ramona E. Travis

30 years

- Curtis D. Armstrong
- Cabrina D. Bell
- Anita W. Douglas
- Bryon T. Maynard
- James H. Morgan
- Gigi H. Savona
- John E. Stealey



Group Achievement Award – Engine Vertical Installer Team

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Stennis Range Project Team

NASA

- Kim Avery
- Meredith Blasingame (ARC)
- Ray Bryant
- Paul Farr
- Charles Hallal
- Randolph Holland (retired)
- Marguerite Jones
- Carolyn Kennedy (posthumously)
- Rodney McKellip
- Rena Perwien

Contractor Support

- Christopher Jones
- Tuyet-Anh Nguyen



Group Achievement Award – R-4403 Expansion Development Team

Engine Vertical Installer Team

NASA

- Angelica Baker
- David Carver
- Jack Conley
- Laurence de Quay
- Robert Gargiulo
- Bartt Hebert
- Jeffery Henderson
- Michael Holmes
- Jeffrey Lott
- Ronald Rigney
- Neil Toupin

- Nyla Trumbach
- Darrel Varner
- Christina Zeringue

R-4403 Expansion Development Team

NASA

- Carolyn Kennedy (posthumously)
- Katie Carr
- Freddie Douglas
- Paul Farr
- Marguerite Jones
- David Lorance

Contractor Support

- Benny Baughman
- John Beckman
- Joseph Broome
- Steve Brown
- Kevin Conole
- Tom Duley
- Brock Durig
- Dahlette Jacob
- Randy Jackson
- Kenneth Kopsco
- Adrienne Saboya
- Michael Seaner
- Greg Timoney
- Wes Vinyard
- Benjamin Williams



Group Achievement Award – Stennis Range Project Team

Special Recognition Awards

J. Harry Guin Outstanding Leadership Award

- Keith D. Brock

Director's Certificate of Appreciation

- James R. Mirandy
- Bertha L. Jackson

NASA Honor Awards

The Agreement Business Process Design and Documentation Team

- Edward J. Toomey
- Kelly E. Sullivan
- Rodney D. McKellip

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Headquarters Exceptional Achievement Medal

Richard T. Rauch

Travel Business Process Design and Documentation Project

James T. Bevis
Monica M. Watts
Tammy D. Vaughn

Identify Management

3.0 Project Team

Bonita J. Oliver
Desiree K. Davis

Other Special Awards

Joint Real Property Process (BPDD) Team

Tammy D. Vaughn
Monica W. Watts

2016-2017 NASA Systems Engineering Technical Excellence Award

HCFC-225 Solvent Replacement Team
Randall R. Canady
Bruce R. Farner
Thomas R. Galloway
Michael D. Smiles

2016 Headquarters Acquisition Improvement Award SACOM Team

Keith D. Brock
Marvin L. Horne
Michael A. Kersanac
Karen L. Vander
Bradley P. Messer
Patricia White
Deborah S. Norton
Christopher A. Carmichael
Stanley G. Gill
Monica M. Ceruti
Robert S. Harris
Rose Baker (Retired)
Amy M. Langdale
Meredith K. Blasingame (ARC)
Robert E. Watts (JSC)

NASA Lawnet Tools Team Award

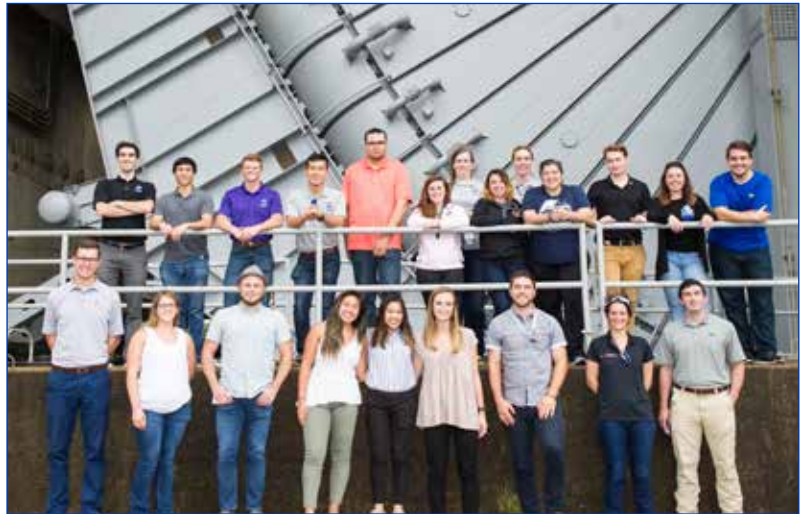
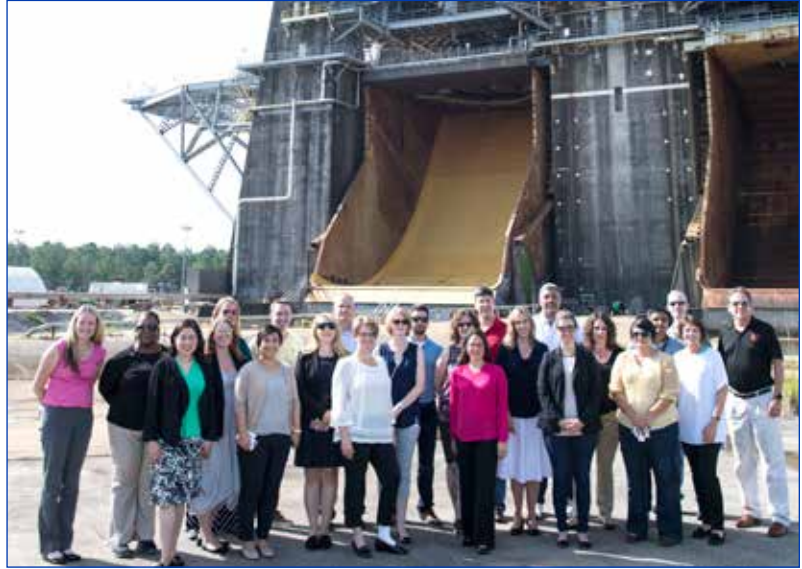
Diane M. Sims

Certificate of Appreciation

Four Certificates on a Card Operations and Implementation Team Award

Bonita J. Oliver
Desiree K. Davis

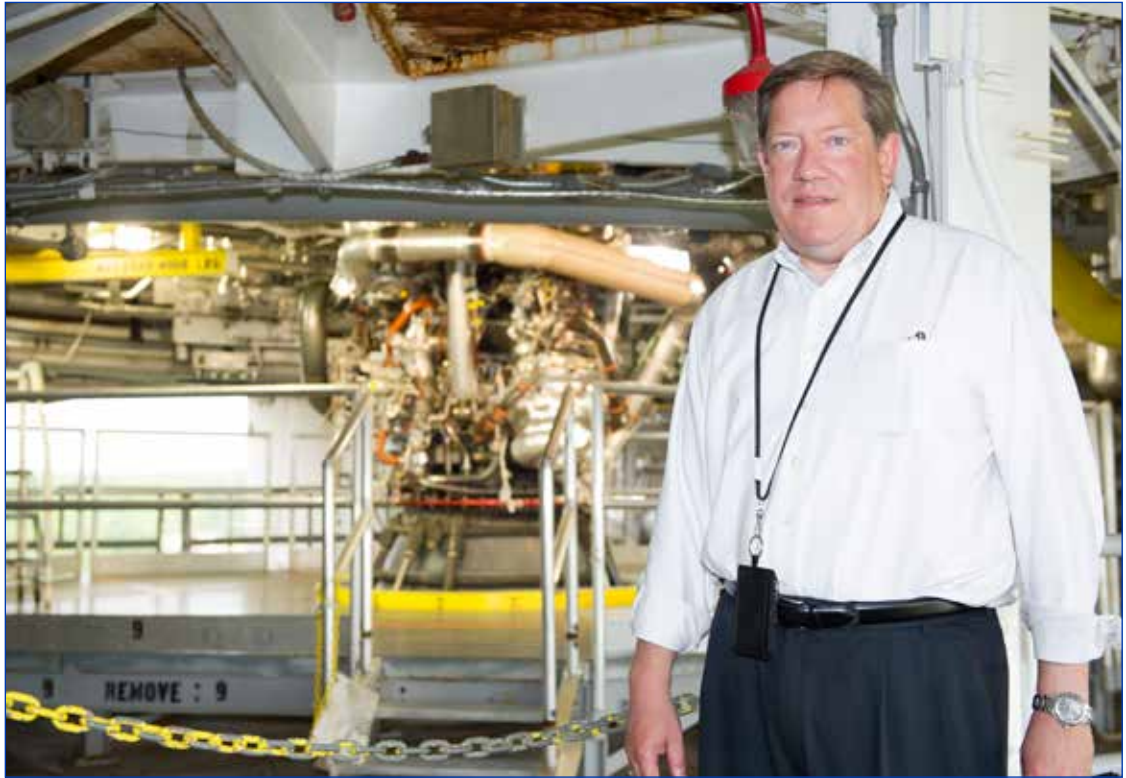
Boeing groups visit Stennis



A trio of groups associated with NASA and The Boeing Co. recently visited Stennis to tour facilities and learn more about work site. Visitors included Boeing senior managers in the company's Program Management Development Program on July 28 (top photo), and Boeing employees from NASA's Michoud Assembly Facility in New Orleans (middle photo) and Boeing interns from NASA's Marshall Space Flight Center in Huntsville, Ala., on July 25.

NASA exploration systems development leader visits

Tom Whitmeyer, NASA assistant deputy associate administrator for exploration systems development, visited Stennis on July 25, touring site facilities and learning about the ongoing test projects for the agency's new Space Launch System (SLS) rocket. Whitmeyer toured the A-1 Test Stand (shown at right), which is conducting tests of the RS-25 engines that will help power SLS, the A Test Complex Control Center to view preparations for an RS-25 test and the B-2 Test Stand, which is being prepared to test the SLS core stage.



Southern Leadership Conference group tours Stennis



Members of the Southern Leadership Conference, state and local officials and representatives from 26 southern states, visited Stennis space Center on Aug. 1 to tour facilities and learn about ongoing work at the rocket

engine test site. The tour included a stop at the B Test Stand, which is being prepared to test the core stage of NASA's new Space Launch System rocket.

Stennis hosts Take Our Children to Work Day



Nearly 200 children of Stennis employees visited the site July 20 to take part in the annual Take Our Children to Work Day activities. Participants enjoyed presentations and an opportunity to visit site facilities and learn about

the work performed at Stennis. In addition to others, students heard from Michelle Sanders of New Orleans, granddaughter of Kathryn Johnson, one of the NASA "human computers" profiled in the recent film "Hidden Figures."

NASA selects technology development projects

NASA has selected 19 proposals from American small businesses and research institutions for Phase II of its competitive Small Business Technology Transfer (STTR) program, totaling \$14.3 million in awards. These include two projects tied to Stennis Space Center.

The selections are for the 2016 STTR program, which supports NASA's future missions into deep space, while also benefiting the U.S. economy. The STTR Program stimulates partnerships between small businesses and research institutions by providing awards for cooperative research and development efforts with potential for commercialization.

The proposals will support the development of technologies in the areas of aeronautics, science, human exploration and operations, and space technology. Awards cover a breadth of research and development needs.

The two selected proposals tied to Stennis Space Center have a combined research and development value of about \$1.5 million. They are:

- "Modular Embedded Intelligent Sensor Network," developed by Angstrom Designs Inc. of Santa Barbara, California, and the University of California at Santa Barbara.
- "Active Radiation Shield," developed by Gloyer-Taylor Laboratories, LLC of Tullahoma, Tennessee, and the University of Tennessee in Knoxville, Tennessee.

"We're really excited about these awards and how the technologies they are developing will not only enhance our ability to collect state-of-the-art data within our test complex but also for what benefits they will enable for assorted deep-space NASA missions and even industrial infrastructure here on Earth," said Ramona Travis, NASA chief technologist at Stennis Space Center.

For more information about the projects selected, visit: https://sbir.nasa.gov/prg_selection/node/58789. For more information about NASA's investment in space technology, visit: <https://www.nasa.gov/spacetech>. To learn more about the opportunities provided by the Small Business Innovation Research/STTR Program, visit: <https://sbir.nasa.gov/>.

Report highlights work of Louisiana-Stennis partnership

An article in the upcoming Federal Laboratory Consortium (FLC) Annual Report of 2016 success stories illustrates a unique and successful partnership between Stennis Space Center and its neighboring state of Louisiana.

The Federal Laboratory Consortium is a national network of more than 300 federal laboratories, agencies and research centers focused on promoting bringing federal technologies from out of labs into the general marketplace. Its annual report is set for release in October.

The article and accompanying photo highlights three “success stories” involving the Louisiana Technology Transfer Office (LTTO) at Stennis, which seeks to foster business partnerships between Louisiana industries and federal laboratories and help bring emerging technologies into the commercial marketplace. The office was opened at Stennis nearly a quarter of a century ago and has grown from its “closet office” beginnings to an official resident agency, staffed full time for the past 17 years.

“Our mission includes assisting Louisiana companies and universities to access the resources at Stennis Space Center,” explains Vic Johnson, who manages the office for the state of Louisiana. LTTO also supports NASA at Stennis (and agencywide) in technology transfer and innovation activities.

One key to accomplishing this is to facilitate collaborations and partnerships. “Sometimes it doesn’t have to be really technical,” explains Johnson. “Just making an accurate assessment and a good quality referral or introduction can produce a successful outcome.” The end goal is a win-win situation for the Louisiana entities and Stennis as shared resources help solve problems and meet critical needs for both in areas of technological research, development and even procurement.

The upcoming FLC Annual Report cites three examples of what the process can look like:

- In 2004, NASA began seeking a site to build its new NASA Shared Services Center (NSSC), which consolidates various transactional and administrative activities across the agency at one location. As part of the proposal package to secure the NSSC for Stennis, the LTTO secured a commitment from the governor of Louisiana to allocate \$1 million in workforce development training funds to meet anticipated staffing needs. “It is certainly possible this regional partnership component was a contributing factor in Stennis’ eventual selection,” Johnson observed. Almost half of

the 450-plus NSSC employees now are Louisiana residents.

- LTTO has provided ongoing support to Worldwinds Inc., – a small, eco-disadvantaged, woman-owned company with offices in Slidell, Louisiana, and at Stennis that transfers cutting-edge technology from NASA, the U.S. Navy, the National Oceanographic and Atmospheric Administration and others into state-of-the-art products/services. A primary focus is analysis of hurricane-induced storm surge to help local communities prepare for, and respond to, storms. Along with the Mississippi Enterprise for Technology (MSET) and the University of Southern Mississippi Office of Innovation at Stennis, the LTTO has assisted the company with NASA Small Business Innovation Research and Small Business Technology Transfer efforts.



The Louisiana Tech Transfer Office (LTTO) at Stennis Space Center recently worked with NASA and one of its onsite contractors, A²Research (A²R), to assist Louisiana Technical Instruments (LTI), a Louisiana oil & gas technology start-up, get critical calibration assistance. Participating in the effort were: (l to r) Pictured left to right: LTTO Manager Vic Johnson, NASA Stennis Advanced Technology Branch Chief Duane Armstrong, A²R Senior Metrologist Brian King and A²R Program Manager Al Watkins.

- Louisiana Technical Instruments (LTI) is an oil-and-gas-related startup based in Covington focused on helping a range of related companies comply with federal methane emissions standards. LTI reached out to LTTO to identify a company that could perform sophisticated calibration testing needed for development of its new emissions technology. LTTO, along with MSET, helped the company partner with A2Research at Stennis for a very successful testing partnership. “I thought the company might be a good fit for utilizing the resources at Stennis, especially since they had searched across Louisiana for someone to conduct the tests with no results,” said Roy Keller, director of the LTTO office in Baton Rouge.

“Louisiana Economic Development and the state of Louisiana are proud supporters of the

Louisiana Technology Transfer Office at Stennis Space Center and its work through such partners as the Louisiana Business and Technology Center, NASA, the Michoud Assembly Facility, our universities and private firms who are commercializing technology throughout our state,” Louisiana Economic Development Secretary Don Pierson said. “Not only do we prioritize technology transfer through state funding, but we continually collaborate with our technology transfer partners to ensure that these combined efforts translate into new business investment, job creation and innovation that advance the economy of Louisiana and our nation.”

The LTTO is a major component of the Louisiana Business and Technology Center, based at the Innovation Park at Louisiana State University (LSU). It is a state of Louisiana office operated under contract by LSU and authorized by a MOU between NASA and the Governor’s Office.

Stennis sites announced as Project Ready

Mississippi Power’s Economic Development department recently announced addition of two Project Ready industrial sites within a designated 1,100-acre development at Stennis Space Center.

The two sites are added to the nine other Project Ready sites that underwent certification in 2016.

The designated space includes two locations for development for a 250-acre industrial park and a 150-acre large industrial site option.

“Mississippi Power is committed to partnering with companies that are interested in the many economic advantages offered by locating their operations in our state,” Economic Development Director Brian Useforge said.

“Enterprise Park is designed to promote industrial development partnerships within Stennis,” he added. “It offers two industrial site locations that are versatile. This Project Ready designation provides prospective companies with a clear path to development, which greatly reduces time, money and risk in their eyes. The certification helps us to better market this

unique asset in our service territory.”

Last year, Mississippi Power collaborated with Stennis in hosting international groups to promote potential unmanned system opportunities and business partnerships.

“Thanks to this partnership, we’re set up to bring in companies to look at Stennis and show them what we have to offer,” said Don Beckmeyer, Stennis Space Center strategic business development manager. “These sites offer unique logistical advantages for potential businesses.”

In addition to Stennis, Mississippi Power is partnering with the Hancock County Port and Harbor Commission on the new Project Ready sites.

“Businesses like Lockheed Martin and Aerojet Rocketdyne are already here,” Janel Carothers, Hancock County Port and Harbor Commission chief development officer, said. “Those, combined with playing on the national asset that is Stennis, definitely makes these sites attractive. This project would be a heavy lift for us, so we’re thankful to Mississippi Power for this partnership.”

Stennis participates in business retreat

Stennis Space Center Small Business Specialist Kay Doane (center) served on a procurement panel of questions and answers to support the New Orleans 2017 8(a) Annual Retreat/Small Business Administration (SBA) Business Development Conference on July 20 at the Xavier University in New Orleans. The event attracted more than 100 local businesses and certified 8(a) firms. The retreat featured speakers from several local government agencies and a question-and-answer session with the procurement panel. The annual event is designed to provide business development training, government contracting training, 8(a) Program updates and information on SBA programs and services. In addition to serving on the panel, Doane also provided guidance on “Doing Business with NASA.” Conference participants included: (l to r) small business opportunity specialists Alec Banks and Gail Borgan, Doane, SBA economic development specialist Marjorae Ball and SBA Deputy District Director Jo Ann Lawrence.



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Stennis has long history of ‘weathering storms’

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.

Hurricane season reaches its peak time in the months of August and September. Reminders to be prepared are everywhere. Not only do the people who live along the Gulf Coast need to be prepared, Stennis Space Center needs to be prepared as well. Stennis has a hurricane preparedness plan that serves the site well, helping it to survive hurricanes like Betsy in 1965, Camille in 1969, Elena in 1985, Georges in 1998 and Katrina in 2005.

Hurricane Betsy was the first test of being prepared. Betsy formed on Aug. 27, 1965. The then-Mississippi Test Facility (MTF) watched the storm as it tracked toward the Gulf Coast. The storm only inflicted minor damage on the test facility when it made landfall near Grand Isle, Louisiana, on Friday, Sept. 10, 1965, and moved into the Mississippi coast area. MTF reopened the following Monday.

Hurricane Camille made landfall at Waveland, Mississippi, on Aug. 18, 1969. At MTF, the days prior to Camille arriving were spent watching, waiting, securing hydrogen and oxygen barges, and tying down anything that might be blown away in 160 mile-per-hour winds. Camille ravaged the area and MTF, but the Gulf Coast is a resilient

community and quickly rebuilt.

Hurricane Elena was a tricky storm to prepare for; it had an unpredictable track, going east in the Gulf of Mexico, then doubling back to make landfall near Biloxi, Mississippi, on Sept. 2, 1985. Hurricane warnings were issued, cancelled and issued again leading up to that time. The then-National Space Technology Laboratories (NSTL) remained ready, and thanks to efforts of “ride out crews,”

there was little damage to the facility.

Hurricane Georges was an interesting storm, making seven landfalls in all, with its seventh and final landfall on Sept. 28, 1998, near Biloxi. Once again Stennis Space Center was prepared and only had to rake up and haul off storm debris scattered across the site.

In 2005, Stennis again was as prepared as it could have been, but Hurricane Katrina was like nothing anyone had seen. Even veterans of Hurricane Camille had never seen anything quite like it. On Aug. 29, 2005, Katrina

made landfall in southeast Louisiana. Thanks to emergency and ride out crews, Stennis, though heavily damaged, quickly was able to get up and running after the storm. Help poured in from across the country and other NASA installations. The community, once again, pulled together to rebuild.

Visit or call (228-688-2643) the Stennis History Office to learn more about recovery efforts following Hurricanes Camille and Katrina.



A superimposed graphic shows the size of Hurricane Katrina as it moves directly over Stennis Space Center on Aug. 29, 2005.

Office of Diversity and Equal Opportunity

Remember trailblazers on Women's Equality Day

It took American women over 70 years of arduous struggle to win the vote, from the Seneca Falls Convention on women's rights in 1848, to the passage of the 19th amendment to the Constitution in 1920. Countless suffragists, both renowned and unsung, lent their support, hard work and contributions to the movement that afforded American women full citizenship.

Three suffragists who played a major role in the latter portion of the movement and in the suffrage parade on Washington D.C. in 1913, where Alice Paul, Inez Milholland Boissevain and Mary Church Terrell.

Terrell was the daughter of former slaves and was one of the first African American women to earn a college degree. Terrell became an important leader in the fight for African American women to become full citizens of the United States. She lectured throughout the country on the importance of the vote for black women.

Paul lead the Washington chapter of the National American Women's Suffrage Association. As her first large-scale push for public support of women's right to vote, Paul organized the largest parade that had ever occurred in Washington, D.C. at that time. On March 3, 1913, the day before Woodrow Wilson's first presidential inaugu-

ration, about 5,000 women marched with banners and floats down Pennsylvania Avenue, from the Capitol to the White House.

Boissevain, a prominent New York suffragist and attorney, became a symbol of the work and sacrifice that went into winning votes for women. Boissevain was only 30 when she collapsed on a Los Angeles stage during a grueling 1916 speaking tour for equal suffrage. Her last public words before her fall were, "Mr. President, how long must women wait for liberty?" Her death on November 25 of pernicious anemia, saddened, angered and inspired her fellow suffragists, who began picketing the White House on January 10, 1917, just weeks after her memorial in the U.S. Capitol.

Women won the right to vote on Aug. 26, 1920, after a 70-year battle to amend the U.S. Constitution. August 26 is recognized each year as Women's Equality Day to commemorate and celebrate the 19th Amendment to the Constitution and to remember the women who fought so courageously to win voting and other rights for American women.

Information included in this article is located online at: www.youtube.com/watch?v=WXWWkhxi9Xg.

**Mr. President,
how long must women
wait for liberty?**

Inez Milholland Boissevain

'Hidden Figures' granddaughter visits Stennis

New Orleans educator Michelle Sanders speaks to Stennis Space Center employees during a visit to the site July 20. Sanders is granddaughter of Kathryn Johnson, one of the so-called "human computers" who worked at NASA in the 1960s and helped enable the early human spaceflights. The story of Johnson and other African American women whose math skills aided the spaceflight program is featured in the recent film "Hidden Figures." During her visit, Sanders also spoke to annual Take Our Children to Work Day participants.





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.



Sheila Varnado



It would not be surprising if Sheila Varnado did not say the same thing every morning as she arrives at Stennis Space Center – “Thank you, Lisa!” Nineteen years ago, Lisa, a friend of Varnado’s, kept telling her about an open finance position where she worked – Stennis Space Center. Lisa pushed Varnado to apply, which led her to become an accounting clerk with Lockheed Martin. Six years later, Varnado became an administrative analyst with AGT at Stennis, and for the past seven years, she has worked onsite as an administrative analyst and safety coordinator with A²Research. She loves the experience, primarily because of the people. “My job is very diverse,” Varnado explains. “I get to work in many different areas with all levels of the Stennis workforce. But at the end of the day, it doesn’t matter who you work for at Stennis – everyone has a connection. It’s like a huge

extended family.” Varnado’s job often takes her outside of Stennis, to work with local communities and help them learn about the work performed on site. She is proudest of those opportunities to represent Stennis and cultivate community relationships. In a sense, Varnado has grown up with NASA and the American space program. She remembers watching the Apollo 11 mission that landed humans on the moon for the first time. She was able to experience much of the Space Shuttle Program firsthand and had the opportunity to witness a launch. Now, she is looking forward to seeing the new Space Launch System rocket lift off, powered by engines tested at Stennis. All in all, it makes for a full and satisfying experience, although Varnado still finds time to help her husband with a family business and spend time with her family of four children and six – “so far” – grandchildren.