Marshall Star, February 29, 2012 Edition

MARSHALL STAR

In This Week's Star ⊟ (Click to Expand)

Marshall's Tereasa Washington: 'Show Excellence Every Day'

By Rick Smith

As the Marshall Space Flight Center concludes its annual Black History Month commemoration, the Marshall team reflects on the broad messages of unity it's heard: the need to recruit and retain a diverse next-generation workforce steeped in science, math and engineering; and the importance of an inclusive community, working toward common goals for the good of NASA, the city and the region that Marshall calls home.

Image right: Tereasa Washington (NASA/MSFC/Given)

"Fostering that environment of diversity, inclusion and collaboration across our community and among our young people starts with us," said Tereasa Washington, director of the Marshall Center's Office of Human Capital. "It starts here, in our everyday work, recognizing the value of every voice, and the experience, background, knowledge and perspective each of us brings to bear."

That truth transcends Black History Month, Washington said -- it enfolds every aspect of the center's mission.

She praised Marshall Center Director Robert Lightfoot's commitment to diversity, inclusion and the safety and wellness of the workforce as a whole, and said those values directly line up with the goals of the Office of Human Capital.

"What we need to do to ensure success as a center is put the right talent in the right place every time it's needed," she said. "What excites me about this job is seeing people grow and learn. We nurture their skills and competencies, but also their attitude, their excitement about the mission at hand. That team spirit and dedication are what sustains Marshall through any ups and downs."

Stoking the 'fire in the belly'

Washington said she knows tomorrow's strong, diverse, successful team is today studying hard in classrooms around the nation -- perhaps not altogether sure of their career aspirations, possibly fearful about a turbulent economic era, but already hooked on space, science and exploration.

"They may not know exactly what they want out of their careers yet, but they come to us with knowledge and passion and a belief in unlimited possibilities," she said. "It's our job to listen to them and to give them guidance and perspective and challenging work. With care, feeding and respect, they will become great employees."

She's equally driven to maintain that "fire in the belly" among longtime and lifetime workers as well. "It thrills me when we can help long-term team members find a new niche, and their passion is reinvigorated," she said.

To these ends, Marshall is a strong participant in agency programs that cultivate leadership and teamwork, such as NASA's Mid-Level Leader Program and NASA First, and supports other informal employee-led efforts, such as Marshall NEXT. They all demonstrate that "being a leader doesn't just mean being a manager or supervisor," Washington said. "The newest co-op can be a leader. Fresh enthusiasm, a keen eye, a new way of solving problems? These things forge new paths.

"Passion breeds leadership, and leadership breeds success," she added.

To bring out those qualities, Marshall needs "every person engaged to their utmost," she said. "When we look for what we have in common while truly embracing and respecting our differences -- every point of view, every unique perspective -- we get what we need from everybody."

That's why diversity and inclusion remain important topics, she said. "Whether we're talking about race or ethnicity, age or gender, sexual orientation or we're talking about people feeling safe to be themselves and being free to come to the table -- being welcome, being integral."

Finding solutions, guiding success

The Office of Human Capital has functional responsibility for culture change and enabling a healthy culture. OHC teams with organizations and offices across Marshall to realize these goals that are directly aligned to the center's focus areas of diversity and inclusion, collaboration and safety, and wellbeing of employees. OHC has been leading the diversity and inclusion effort for the past two years on behalf of the center director, working closely with the Office of Diversity and Equal Opportunity. OHC also has played a key role in the employee safety and wellness focus, providing valuable organization development and change management support to this effort.

Additionally, Washington has been a participant on the Center Collaboration Team, which has worked to better integrate capabilities and fuel success, Washington said. Led by Jonathan Pettus, director of Marshall's Office of the Chief Information Officer, the collaboration team has pursued ways to foster communication while assessing, among other things, internal partnerships across the center, with respect to the traditional roles and unique expertise of each organization.

"To efficiently get work done, we intend to leverage these centers of excellence more broadly," Washington said.

Heading all these internal campaigns for excellence is the Marshall Culture Advisory Team, an advisory group headed by Pettus which includes 10 senior executives from across the center. "The Culture Advisory Team advises the Office of Human Capital, and has functional responsibility for culture change," Washington said. "We look at the whole picture: What should the center be doing? What is it the center needs? Where do we focus our 'culture-impacting' resources? The Culture Advisory Team helps us do that -- key players holding vital conversations, based on what we're hearing from the workforce."

What stokes Washington's own fire in the belly when it comes to these tasks? "What sustains me," she said, "is the belief that NASA does something important for the identity of this country. We achieve, we innovate, we deepen knowledge and improve lives, and NASA's emphasis on exploration also reminds us that we are citizens of this Earth and the entire universe. What we do every day -- in our individual roles, on our teams, as a unified workforce -- cements that.

"We have to show excellence every day," she said. "I believe I have a role in that. I believe everyone does."

Smith, an AI Signal Research Inc. employee, supports the Office of Strategic Analysis & Communications

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NASA Deputy Administrator Lori Garver Discusses FY-2013 Budget with Media at Michoud

NASA Deputy Administrator Lori Garver, right, talks to the news media about the proposed budget during a visit to the Michoud Assembly Facility. At left is Michoud Director Chris Crumbly. Garver discussed NASA's commitment to human space exploration of our solar system and also acknowledged Michoud's long legacy of service from the Apollo Program through the Space Shuttle Program. (MSFC/Michoud)

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NASA Announces Winners of 2011 George M. Low Award for Quality

NASA has presented its premier honor for quality and performance, the George M. Low Award, to two companies that share a commitment to teamwork, technical and managerial excellence, safety and customer service.

The Low award demonstrates the agency's commitment to promote excellence and continual improvement by challenging NASA's contractor community to be a global benchmark of quality management practices.

The 2011 awards were presented Feb. 23 at NASA's ninth annual Project Management Challenge in Orlando, Fla., to:

-- Teledyne Brown Engineering, Inc. of Huntsville. Teledyne Brown Engineering provides space systems engineering, exploration, science, operations and maintenance, and manufacturing services to the Marshall Space Flight Center; and payload and cargo integration for NASA's Johnson Space Center. This is the second time in the past five years that Teledyne Brown Engineering has received the award in the large business service category.

-- Sierra Lobo, Inc. of Milan, Ohio. Sierra Lobo develops critical systems and technologies, and provides research support services associated with aeronautics and space exploration at NASA's Glenn Research Center; Langley Research Center; Kennedy Space Center; Ames Research Center; and Johnson Space Center. Sierra Lobo, also a two-time winner, received the award in the small business service category. It previously received the award in 2007.

The award was established in 1985 as NASA's Excellence Award for Quality and Productivity. It was renamed in 1990 in memory of George M. Low, an outstanding leader with a strong commitment to quality products and workforce during his 27-year tenure at the agency. Low was NASA's deputy administrator from 1969 to 1976 and a leader in the early development of space programs.

For more information about the George M. Low Award, visit:
http://www.hq.nasa.gov/office/codeq/gml

For information about NASA and agency programs, visit: http://www.nasa.gov

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The Face of Mission success at Marshall Is: Nathaniel Boclair, Manager of the Space Systems Operations Branch in

the Mission Operations Lab

Image right: Nathaniel Boclair (NASA/MSFC/Fred Deaton)

- **Organization:** Engineering Directorate
- **Years at Marshall:** 35 years
- **Education:** Bachelor's degree in computer science and mathematics, Mississippi Valley State University, Itta Bena, 1980
- **Responsibilities:** I oversee the Space Systems Operations Branch, which performs flight command and control functions. The branch also manages the payload use of onboard command and data handling, and communications and tracking systems that directly support International Space Station research. I provide certified data management coordinators and payload rack officers to support mission preparation and real-time execution. These systems and tasks form the backbone of the payload command and control capability for the space station. Flight controllers in the Payload Operations Center at the Marshall Space Flight Center monitor and maintain the health of the onboard data systems, plan flight system configurations, command onboard equipment, and control the downlink and distribution of mission-critical science and housekeeping data.
- **How does your work at Marshall support the agency's goals?** The Human Exploration and Operations Missions Directorate at Headquarters manages the agency's initiatives in long-duration spaceflight for humans. Our work with the space station is about extending the human presence beyond Earth, while contributing a wealth of information to the life science and materials science disciplines, as well as many other areas of science and technology research. Ultimately, the station is about humanity reaching beyond the present limitations of borders and ideologies, and admitting that we are all in this survival, growth and exploration game together. We are proving that more can be done through cooperation than competition.
- **Have you found any unique, cost-saving or collaborative processes or innovations in the last year?** I provide support to the Obsolescence-Driven Avionics Redesign, or ODAR, project. ODAR is a collaboration effort being led out of the Advanced Avionics Development Office at the Johnson Space Center involving both ground and mission operations engineers and controllers at Johnson, Marshall, the Goddard Space Flight Center and the White Sands Complex, as well as the contractors who design, develop and maintain the station data systems. ODAR has two purposes: to reduce the number of orbital replacement units on the station, thus reducing costs in replacing obsolete, end-of-life avionics devices; and to enhance the amount of data and video communications to and from the station. The amount and quality of video being downlinked will be increased while reducing the bandwidth required through the original downlink communications system -- the Ku-band subsystem. These innovative solutions will enhance both the scientific operations and the everyday station operations in support of the crew.
- **Safety remains Job One for NASA; how do you strive to live by that code?** It is my responsibility to oversee and ensure that the payload rack officers and data management coordinators have all of the training and certifications necessary to safely operate the payload complement and supporting equipment aboard the station in order to achieve mission success for the science community.
- **What do you hope to accomplish in your role this year?** I want to lead my team in support of the successful integration of the Improved Payload Ethernet Hub/Gateway, which is an Orbital Replacement Unit for the existing Payload Ethernet Hub/Gateway. This increase in functionality will bring the onboard local area network up to current Ethernet performance standards, providing the capability for space station users to utilize standard Internet protocols for their payload designs, leading to potential reductions in cost and design time.
- **What is the biggest challenge you face?** When facing fiscal and technical constraints, we seem to always find our

way through. The teamwork and “can-do” spirit of the people always makes it happen. Our biggest challenges occur in our relationships with each other. Where I direct a lot of energy is encouraging us to trust each other, to give our best at all times, and find renewal by seeing the big picture. Also, you never know the burdens a person is carrying because of circumstances outside work. Keeping people first is very important, and can be in tension with the job requirements at times. But ultimately the people are what matter the most.

- **What is something people would be surprised to find out about you?** I am a NASCAR fan and love to attend races.

To learn more about Boclair, visit http://www.youtube.com/watch?v=sR85BtWNpZA.

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ACES Contract Replacing Computers, Other Equipment Across Marshall, NASA
By Rick Smith

In March, civil service and contract employees across the Marshall Space Flight Center and NASA will start receiving new desktop and laptop computers, mobile communications devices, printers and associated software.

NASA awarded the Agency Consolidated End-user Services, or ACES, contract to Hewlett Packard Enterprise Services of Plano, Texas, in late 2010, replacing the Outsourcing Desktop Initiative for NASA, or ODIN, contract. ACES is one of three contracts awarded under the IT Infrastructure Integration Program, or I3P, designed to transform NASA's information technology infrastructure services from a center-based model to an enterprise-based one. Each I3P contract focuses on a different enterprise service: ACES provides our computers, laptops and mobile device services; the NASA Integrated Communications Services, or NICS, provides local and wide-area network services; and the Enterprise Applications Service Technologies, or EAST, provides integrated application services for all NASA centers.

At the Marshall Center, the ACES contractor began operations and support of legacy ODIN equipment Jan. 1, and is now finalizing the refresh schedule for all Marshall users. Approximately 300 laptop and desktop systems have been put in place to date at Marshall for validation and pilot testing of the new hardware and systems.

New desktop and laptop computers, handhelds and other hardware -- including products from Hewlett Packard, Lenovo, Dell and Apple -- will be delivered for all end-user systems, except some mission-critical resources that may require existing assets to be retained. Information technology managers, or ITMs, for each organization have provided the initial order and will continue to coordinate the equipment ordering process. A list of those managers can be found here.

Users can expect to have their computers -- from lightweight laptops to high-end workstations -- refreshed every three years. The ACES response time to trouble tickets will be eight hours or less.

The NASA Shared Services Center at Stennis Space Center has launched the Enterprise Service Desk and Ordering System -- a consolidated service desk and self-service website to provide trouble-ticket support and ordering capability for all I3P contracts. For more information about ACES, read the FAQ or visit the main website.

Marshall team members also are encouraged to keep abreast of ACES news and ask questions of the transition team here: https://explornet.msfc.nasa.gov/groups/its-all-about-aces-desktop-services.

Smith, an AI Signal Research Inc. employee, supports the Office of Strategic Analysis & Communications.

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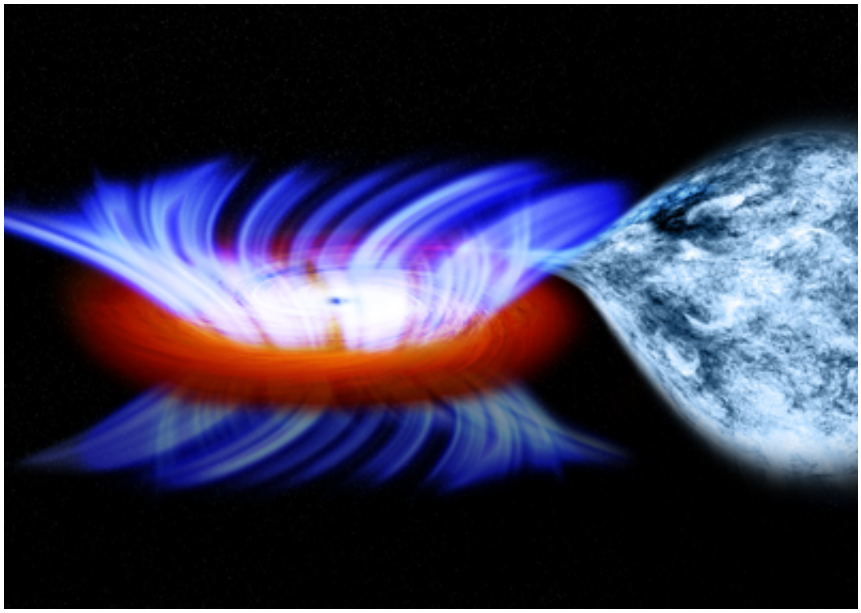
NASA's Chandra Finds Fastest Wind From Stellar-Mass Black Hole
NASA news release



Astronomers using NASA's Chandra X-ray Observatory have clocked the fastest wind yet discovered blowing off a disk around a stellar-mass black hole. This result has important implications for understanding how this type of black hole behaves.

Image left: Artist impression of binary system containing stellar-mass black hole IGR J17091. (NASA/CXC/M.Weiss)

The record-breaking wind is moving about 20 million mph, or about 3 percent of the speed of light. This is nearly 10 times faster than had ever been seen from a stellar-mass black hole.

Stellar-mass black holes are born when extremely massive stars collapse. They typically weigh between five and 10 times the mass of the sun. The stellar-mass black hole powering this super wind is known as IGR J17091-3624, or IGR J17091 for short.

"This is like the cosmic equivalent of winds from a Category 5 hurricane," said Ashley King from the University of Michigan in Ann Arbor and lead author of the study published in the Feb. 20 issue of The Astrophysical Journal Letters. "We weren't expecting to see such powerful winds from a black hole like this."

The wind speed in IGR J17091 matches some of the fastest winds generated by supermassive black holes, objects millions or billions of times more massive.

"It's a surprise this small black hole is able to muster the wind speeds we typically only see in the giant black holes," said co-author Jon M. Miller, also from the University of Michigan. "In other words, this black hole is performing well above its weight class."

Another unanticipated finding is that the wind, which comes from a disk of gas surrounding the black hole, may be carrying away more material than the black hole is capturing.

"Contrary to the popular perception of black holes pulling in all of the material that gets close, we estimate up to 95 percent of the matter in the disk around IGR J17091 is expelled by the wind," King said.

Unlike winds from hurricanes on Earth, the wind from IGR J17091 is blowing in many different directions. This pattern also distinguishes it from a jet, where material flows in highly focused beams perpendicular to the disk, often at nearly the speed of light.

Simultaneous observations made with the National Radio Astronomy Observatory's Expanded Very Large Array showed a radio jet from the black hole was not present when the ultra-fast wind was seen, although a radio jet is seen at other times. This agrees with observations of other stellar-mass black holes, providing further evidence the production of winds can stifle jets.

The high speed for the wind was estimated from a spectrum made by Chandra in 2011. Ions emit and absorb distinct features in spectra, which allow scientists to monitor them and their behavior. A Chandra spectrum of iron ions made two months earlier showed no evidence of the high-speed wind, meaning the wind likely turns on and off over time.

Astronomers believe that magnetic fields in the disks of black holes are responsible for producing both winds and jets. The geometry of the magnetic fields and rate at which material falls toward the black hole must influence whether jets or winds are produced.

IGR J17091 is a binary system in which a sun-like star orbits the black hole. It is found in the bulge of the Milky Way galaxy, about 28,000 light years away from Earth.

The Marshall Space Flight Center manages the Chandra program for NASA's Science Mission Directorate in Washington. The Smithsonian Astrophysical Observatory controls Chandra's science and flight operations from Cambridge, Mass.

For more information about Chandra, visit http://www.nasa.gov/chandra.

For an additional interactive image, podcast and video on the finding, visit http://chandra.si.edu.

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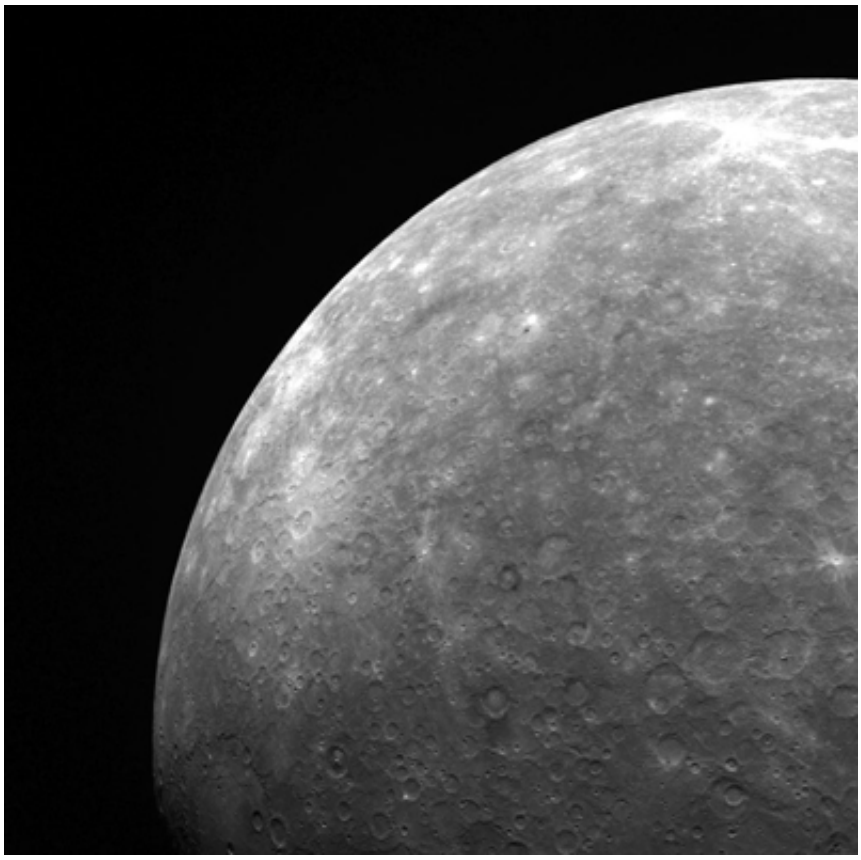
A Tour of the Planets: Mercury Live Chat

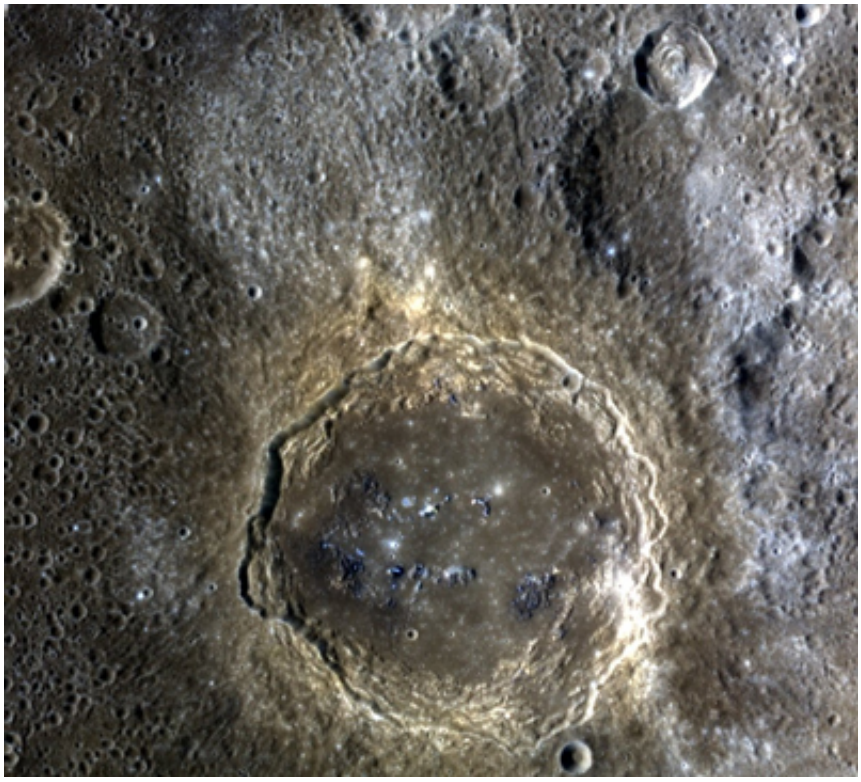
March is said to "enter like a lamb," but this mild month also ushers in a few excellent times to see planets in our solar system -- starting with Mercury.

Image right: The limb of Mercury. (NASA/Johns Hopkins University Applied Physics Laboratory/Carnegie Institution of Washington)



Mercury is normally overshadowed by the sun, but until about March 12, the planet is at its greatest elongation from the sun's glare. Just after sunset on March 5 will be the best chance of the year to see Mercury through a telescope, but to the unaided eye it will appear as only a tiny dot in the sky.

If you don't have a telescope handy, make plans to take a peek through ours! On March 5 from 6-8 p.m. CST, you can watch a telescope view of Mercury from Marshall Space Flight Center via a live Ustream view embedded on this page. Marshall Center planetary scientist Renee Weber will also answer your questions about Mercury via live web chat. As a fun bonus, the telescope will also have a look at Mars, another bright planet in the March night skies.



Joining the chat is easy. Simply return to this page a few minutes before 6 p.m. CST on March 5. The chat module will appear at the bottom of this page. After you log in, wait for the chat module to be activated, and then ask your questions. The Ustream view of Mercury and special guest Mars will also appear on this page.

Image left: Firdousi crater on Mercury, with blue halos of ejecta. (NASA/Johns Hopkins University Applied Physics Laboratory/Carnegie Institution of Washington)

About Chat Expert Dr. Renee Weber

Dr. Renee Weber is a planetary scientist at the Marshall Center. She serves as the project scientist for the Lunar Mapping and Modeling Project, a software project designed to provide lunar maps and surface feature information to mission planners and other lunar researchers. Renee's scientific research focuses on planetary seismology, in particular the reprocessing of seismic data from the Apollo missions. She is involved in several international efforts with goals of sending modern, broad-band seismometers to both the moon and Mars.

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NASA Signs Contract Modification for Engineering and Support Services
NASA news release

NASA has signed its final contract option with InfoPro Corp. in Huntsville to continue engineering technicians and trades support services for the Marshall Space Flight Center.

The $45.7 million contract modification includes $4.1 million for mission services and a potential maximum order quantity value of $41.6 million for additional support services that are available through orders under the indefinite delivery, indefinite quantity portion of the contract.

The contract covers a wide range of engineering technicians and other trade skills to perform testing, ground and space-based research, test operations, data analysis, machine and electrical shop operations, and other technical activities.

The one-year contract option begins on March 1, 2012. The performance based, cost-plus-award-fee, mission services contract with an indefinite delivery, indefinite quantity portion has a potential mission services value of $56.9 million and a potential maximum order quantity value of $150.8 million, with the exercise of this final option period. The contract was originally awarded in March 2008.

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Marshall Resident Management Office at Kennedy Moves to New Location

The Marshall Space Flight Center Resident Management Office at the Kennedy Space Center has consolidated its office. All

of the staff are now located in the Assembly and Refurbishment Facility on Contractor Road, 2nd floor, Room 2119 office suites.

Marshall team members visiting Kennedy for official business should contact Jolene Martin, Resident Management Office manager, at 321-867-4325.

As usual, badging or access assistance should be coordinated through Diane Fleming, administrative operations specialist, at 321-861-3205.

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Obituaries

Mary Lively, 97, of Huntsville died Feb. 16. She retired from the Marshall Center in 1974 as a press operator supervisor. She is survived by her husband, Everett Lively.

Roland F. Griner, 88, of Huntsville died Feb. 17. He retired from the Marshall Center in 1980 as an aerospace engineering supervisor.

James Mize Garrison, 97, of Hartselle died Feb. 23. He retired from the Marshall Center in 1974 as an aerospace engineering technician.

Find this article at:

http://www.nasa.gov/centers/marshall/about/star/index.html