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Talking Capabilities - At Marshall and Around the Nation

On Jan. 17, NASA Deputy Associate Administrator Lesa Roe, left, and NASA Associate Administrator Robert Lightfoot, right, held an All Hands meeting at the Marshall Space Flight Center. Introduced by Marshall Center Director Patrick Scheuermann, center, Lightfoot and Roe discussed the work of NASA's Technical Capabilities Assessment Team, or TCAT -- an initiative launched in 2012 and designed to ensure the agency has the right mix of skills, facilities and equipment to execute its missions in coming years -- keeping America the world leader in space and expanding our boundaries farther than ever before. *(MSFC/Emmett Given)*

NASA Space Launch System Could Make 'Outside the Box' Science Missions Possible

By David Hitt

When it comes to scientific probes exploring the far reaches of our solar system, the rules could be changing.

The human spaceflight community joined the space science community Jan. 13-14 at the Outer Planets Assessment Group (OPAG) meeting in Tucson, Ariz. There, scientists heard from the Space Launch System (SLS) Program about the capabilities and progress being made on the rocket, and discussed the potential benefits it also could bring to robotic exploration of the outer solar system.

"The potential use of SLS for science will further enhance the synergy between scientific exploration and human exploration," said John Grunsfeld, astronaut and associate administrator for science at NASA Headquarters. "SLS has the promise of enabling transformational science in our exploration of the solar system and cosmos."

*See **SLS Science Missions** on page 2*

New Redstone Arsenal Gate Changes to Take Effect Jan. 27

By Rick Smith

New hours of operation for three Redstone Arsenal gates will go into effect Jan. 27.

- Gate 8 (Patton/Goss roads) will be closed Monday through Friday, but will be open Saturdays and Sundays from 5:30 a.m. until midnight.
- Gate 3 (Redstone Road) will be open for incoming and outgoing traffic from 5:30 a.m. until 1 p.m. but will only be open for outgoing traffic after 1 p.m. Gate 3 will be closed to outgoing traffic at 6 p.m. Monday through Friday.
- Gate 7 (Martin Road) will be open for incoming and outgoing traffic from 5:30 a.m. until 1 p.m. but will only be open for outgoing traffic after 1 p.m. Gate 7 will be closed to outgoing traffic at 9 p.m. Monday through Friday.

*See **Gate Changes** on page 3*

SLS Science Missions

Continued from page 1

Currently under construction, the SLS will be the world's most powerful launch vehicle. Designed to enable human exploration missions to deep-space destinations, including an asteroid and Mars, SLS is working toward a first launch in 2017. For that first flight test, the rocket will be able to launch 70 metric tons (77 tons) of payload into low-Earth orbit, almost three times what the space shuttle could carry. From there, SLS will be evolved to a configuration that will be able to carry 130 metric tons (143 tons), more weight than any rocket ever has been able to carry.

"While many people think of the Space Launch System in terms of human exploration, SLS could have a wide application in a lot of other areas, including space science," said Steve Creech, assistant program manager for strategy and partnerships for SLS. "For missions to the outer planets, for example, SLS could make it possible to do things that are currently impossible, such as sending larger scientific spacecraft with more instruments to far off destinations with reduced transit times."

Agency scientific and engineering teams have been evaluating whether there would be potential benefits from launching deep space robotic spacecraft, such as the Europa Clipper, a proposed mission to one of Jupiter's icy moons, on the SLS rocket.

The studies determined the rocket would enable the spacecraft to fly direct trajectories to our solar system's outer planets, rather than using planetary gravities to gain speed, reducing transit time compared to current launch vehicles. In the case of the Europa Clipper, for example, the transit time would be reduced to less than half of what it would be using other launch vehicles.

"For as long as people have been launching rockets into space, mission designers have had to work within certain limitations -- a spacecraft can only be so heavy and it has to fit within a certain width," Creech said. "Depending on how large you make it, it can only go so fast, which in some cases limits where you can go. Today, if you want to send a mission to the outer planets, you have to be able to make it fit within that box. With SLS, we're about to make that box much larger."

The initial configuration of SLS will be able to launch payloads in a shroud compatible with current spacecraft designs. (NASA)

To read the full story, click here.

Hitt, an ASRC Federal/Analytical Services employee, supports the Office of Strategic Analysis & Communications.

Defense Association Honors Marshall's Schumacher

Dr. Daniel M. Schumacher, manager of the Science and Technology Office at NASA's Marshall Space Flight Center, has been honored with an award for exceptional technical achievement by the Air, Space and Missile Defense Association, or ASMDA.

The 2013 Space and Missile Service Excellence Award-Government was presented to Schumacher Jan. 7, during the association's annual luncheon. Founded in Huntsville in 1995, the ASMDA is a non-profit, educational and scientific organization which promotes the importance to national security of air, space and missile defense systems.

"I'm honored and very grateful to be recognized by the community with this important award," Schumacher said. "We achieve unprecedented things at Marshall by leveraging relationships with our partners, thereby maximizing everyone's potential for success."

The honor recognizes Schumacher for the broad range of groundbreaking space science and technology work he has managed at the Marshall Center since assuming leadership of the Science and Technology Office in 2010. Among the highlights: oversight of the Chandra X-ray Observatory, flown to space in 1999 and still the world's most powerful X-ray telescope; cryogenic testing for NASA's next-generation James Webb Space Telescope, set to launch in 2018 to study some of the oldest formations in the universe; Earth-monitoring systems such as SERVIR which share critical environmental data and intelligence with stakeholders around the world, from the U.S. National Weather Service to far-flung third-world communities; and NASA's Centennial Challenges program, providing prize money to non-government entrepreneurs and inventors competing to deliver aviation and spaceflight technologies that could change the way we travel and explore.

Dan Schumacher, manager of Marshall's Science and Technology Office. (NASA/MSFC)

Schumacher also was honored for creating and enhancing valuable partnerships within and outside NASA, incorporating industry, academia and government to maximize opportunities for advances in creation of new technologies or scientific research.

Gate Changes *Continued from page 2*

Col. Bill Marks, garrison commander at Redstone Arsenal, said the changes should be considered permanent -- the result of new force reductions imposed to all military facilities by the Department of the Army. He did note that no furloughs or layoffs are expected; reductions in security personnel primarily will come through attrition.

"As we implement directed manpower reductions, we must reassess how we provide services and rebalance mission requirements with resources," Marks said. "Changes to our gates always create inconvenience and frustration for everyone involved, so it will take teamwork and patience to work through this."

Marks cautioned drivers to expect additional, intermittent lane reductions during all shifts. Future changes may follow as personnel numbers are adjusted to meet traffic -- and budget -- requirements.

Because Gate 9 at Rideout Road remains the most heavily trafficked gate during peak hours, Marks encouraged Team Redstone personnel to consider using other, less populated gates when possible.

"Our priority remains the safety and security of our workforce and our arsenal," he said.

Smith, an ASRC Federal/Analytical Services Inc. employee, supports the Office of Strategic Analysis & Communications.

NASA Ranked Best Place to Work in Government for Second Year in a Row

The Partnership for Public Service released their annual report of the best places to work government late last month. After polls and rankings were tallied, NASA claimed the top spot as the Best Place to Work in Government for the second consecutive year.

NASA Administrator Charles Bolden issued the following statement regarding the honor.

"NASA's selection as the Best Place to Work in Government for the second year in a row is a testament to the excellence of our workforce and their determination to maintain America's leadership in space exploration.

"In a year of budget uncertainty and a government shutdown, NASA employees never missed a beat. In the tradition of the 'can do' spirit that has enabled us for more than 50 years to turn science fiction into science fact, they have consistently rolled up their sleeves and worked hard at achieving our major goals which include leading the expansion of a domestic commercial space industry for low-Earth orbit transportation, and developing a heavy lift launch capability to take humans farther than they have ever explored – to an asteroid in the next decade and to Mars by the 2030s.

"Our employees are also focused on continuing our ambitious programs of aeronautics modernization, technological innovation and scientific and planetary exploration to achieve new breakthroughs in space and to bring critical benefits to Earth.

"I am honored and proud to lead such a dedicated team of employees. They are what make NASA the Best Place to Work in Government."

Marshall Space Flight Center Deputy Director Teresa Vanhooser also commented on the announcement.

"It's very gratifying to see that Marshall Center employees think so highly of their work environment, as evidenced by the Partnership for Public Service Best Place to Work in Government annual report.

"The NASA Marshall Space Flight Center workforce is committed to accomplishing NASA's exciting and challenging mission. Whether building the Space Launch System, the most powerful and capable launch vehicle ever designed, supporting innovative science experiments on the space station, or achieving scientific and technological advances, the uniquely skilled Marshall Team continually strives for excellence."

For the complete list of rankings, visit http://bestplacestowork.org

Progress on NASA's Space Launch System Featured on NASA-TV

The recent "First Light" of the avionics for the Space Launch System, or SLS, at the Marshall Space Flight Center is featured in the latest edition of "This Week @NASA," a weekly video program broadcast nationwide on NASA-TV and posted online. The avionics hardware and software were integrated and powered up for the first time during a media event, achieving an important milestone in the development of the SLS.

The weekly program also included video of NASA Administrator Charlie Bolden visiting the Michoud Assembly Facility to review progress on new construction and installation of specialized equipment which will help engineers at Michoud build the massive core stage of the new rocket.

You can watch this edition of This Week @NASA at the NASA-TV YouTube channel.

Don't Panic: The Hitchhiker's Guide to Spaceflight Project Management

To achieve mission success at NASA requires effective project management and successfully negotiating the scrutiny of review boards. The agency's Office of the Chief Engineer wants to give managers and team leads the confidence to achieve success with the first Virtual Project Management Challenge Webcast of 2014 called "PM and SRB Handbooks: The Hitchhiker's Guide to the Universe of NPR 7120.5E."

The first two acronyms in the title of the webcast are relatively easy to explain: Project Management and Standing Review Board. However, according to the webcast organizers, the requirements and guidelines listed in NASA document NPR 7120.5E can be daunting. This important document applies to all spaceflight programs and projects and establishes the requirements by which NASA formulates and implements missions.

Mike Blythe, deputy director for safety for the NASA Engineering and Safety Center, and James Ortiz, NASA's director of the Independent Program Assessment Office, will present electronic versions of the new Project Management and Standing Review Board handbooks and answer pressing questions about NPR 7120.5E during the live Internet session Jan. 28 from 10 a.m. to noon CST. The guides provide additional information, tables, figures and concrete examples on the how and why of implementing NPR 7120.5E requirements.

While the Marshall Space Flight Center has taken some of those requirements a step further with document MPR 7120.1 and captured more guidance and best practices in Marshall Center Handbook 3173, the agency level handbooks will be helpful in offering another perspective. Both Marshall Center documents are available in the Integrated Document Library.

The Virtual PM Challenge 2014 is a monthly event in which speakers discuss various aspects of agency project management. It is available to NASA employees, contractors, grantees and the general public. Each session is live and interactive, with opportunities for the audience to pose questions to the speaker via a session moderator. Sessions are recorded and made available on the Virtual PM Challenge website for on-demand viewing within 10 days after the event.

The seminars count as continuous learning for NASA Project Management certification. To learn more, refer to the online FAQs; for more information about the seminar and to register, visit the session abstract. The RSVP link is at the bottom of the website.

The webcast will use the Silverlight player, which must be installed on your computer prior to the event. Organizers of the class recommend you install and test Silverlight well in advance of the webcast, as some NASA centers require administrator privileges to install software.

Obituaries

Donald John Ackerman, 84, of Meridianville, died Jan. 10. He retired from the Marshall Center in 1981 as an electrical engineer. He is survived by his wife, Penny Patton Ackerman.

William "Bill" Reuben Perry, 83, of Huntsville, died Jan. 4. He retired from the Marshall Center in 1980 as an aerospace engineer.

Gerald E. Hall, 80, of Decatur, died Jan. 13. He retired from the Marshall Center in 1998 as an aerospace engineer. He is survived by his wife, Addie Hall.

Julian Tovell Gleaves Jr., 89, of Huntsville, died Jan. 16. He retired from the Marshall Center in 1978 as a contract specialist. He is survived by his wife, Jo Gleaves.