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Marshall Star, December 14, 2011 Edition

MARSHALL STAR

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Only Two More Days to Contribute to CFC!

The Marshall Center's 2011 Combined Federal Campaign runs through Dec. 16. So far, Marshall's work force has contributed \$609,186 toward the center's \$700,000 goal.



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Marshall to Host Industry Day to Discuss Advanced Booster Dec. 15

NASA news release



The Marshall Space Flight Center will host an industry day Dec. 15 at 9 a.m. in Building 4200, Morris Auditorium, to share information on an upcoming NASA Research Announcement for the Space Launch System's (SLS) advanced booster.

Image left: Artist concept of Space Launch System on launchpad (NASA/MSFC)

Marshall is leading the design and development of the SLS on behalf of the agency. The new heavy-lift launch vehicle will expand human presence beyond low-Earth orbit and enable new missions of exploration across the solar system.

The 130-metric-ton, evolved SLS vehicle will require an advanced booster with a significant increase in thrust over existing U.S. liquid or solid boosters. Through this research announcement, NASA is seeking proposals for engineering demonstrations and risk reduction strategies for advanced booster concepts with the goal of reducing risk in the areas of affordability, performance and reliability.

For more information on SLS, visit:

<http://www.nasa.gov/sls>

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NASA Ready to Test Upgraded J-2X Powerpack

NASA web feature

For engineers working on the J-2X engine program, installation of the upgraded J-2X powerpack on the A-1 Test Stand at NASA's Stennis Space Center on Dec. 5 had to feel like a long-awaited holiday gift.

Image right: Stennis Space Center engineers and technicians install the J-2X powerpack into the A-1 test stand at Stennis Dec. 5 in preparation for testing. (NASA/SSC)

The powerpack consists of a gas generator and turbopumps and is a critical component for the new engine. It is responsible for pumping liquid hydrogen and liquid oxygen into the engine's main combustion chamber to produce the needed thrust capability.

Arrival and installation of the next-generation

engine component marked the culmination of more than two years of extensive modification work to prepare the A-1 stand for the critical test series. The major work effort began after NASA engineers completed an initial series of tests on a heritage J-2 engine powerpack in mid-2008.

Data from that test series was used to upgrade the powerpack that will be used on the J-2X rocket engine being developed to carry humans deeper into space than ever before. The J-2X is being designed to provide 294,000 pounds of thrust, an increase from the 230,000-pound capability of the original J-2 engine used in the Apollo Program.

Testing of the upgraded J-2X powerpack is scheduled to begin in January 2012 at the Stennis Center. The J-2X engine is being developed by Pratt & Whitney Rocketdyne for the Marshall Space Flight Center. It will provide upper-stage power for NASA's new Space Launch System. The SLS will carry the Orion spacecraft, its crew, cargo, equipment and science experiments to space -- providing a safe, affordable and sustainable means of reaching the moon, asteroids and other destinations in the solar system.

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Improved Processes Cut Turnaround Time for Space Act Agreements

By Megan Davidson

Several improvements have been made recently by the Marshall Space Flight Center's Office of Strategic Analysis & Communications and supporting organizations to reduce turnaround time for the center's Space Act Agreements -- facilities, services, capabilities and expertise available to external organizations through a contractual arrangement.

To improve Space Act Agreement turnaround time, the organization revitalized its Space Act Agreement process to create needed efficiencies for the center. It identified the need to perform a kaizen event on the current Space Act Agreement process to develop a performance baseline and find opportunities for improvement. Kaizen, also known as continuous improvement, is a long-term approach to work that systematically seeks to achieve small changes in processes in order to improve efficiency and quality. It was determined that the overall Space Act Agreement process should be completed within 37 working days.

Much of the credit in efficiencies gained in processing agreements is due to collaboration efforts between Marshall's Office



of Strategic Analysis & Communications, Office of the Chief Counsel, Office of the Chief Financial Officer, Office of Procurement, Safety and Mission Assurance Directorate, Office of Center Operations and Partnerships Office. Collaboration with the Office of Strategic Integration at NASA Headquarters has increased process efficiencies as well, which has aligned and streamlined agency processes.

Within the past year, the turnaround time for processing a new Space Act Agreement has been significantly reduced from 100 days to 22 days, further improving the estimate determined by the kaizen. These efficiencies were attained while upholding the required level of policy, legal and financial review. In the last six months, Marshall has seen a 35 percent increase in new partnerships. Even as partnership activity increased, the process time significantly decreased.

While 22 days is the median time for the formal review process by the Marshall Center and NASA Headquarters, negotiation time of a Space Act Agreement will take longer. The planning phase from "first idea" to "formal request" may also be substantial. The Marshall Partnerships Office and Strategic Development Office are brought in early in the planning phase to identify potential issues and improve turnaround time on challenging agreements during the review phase.

"Dynetics recently entered into a partnership with the Marshall Center, whereby the center will provide expertise and facilities to support Dynetics in commercial space technologies activities," said Stephen Cook, Dynetics director of space technologies. "Having just completed the Space Act Agreement process, we are very pleased with the level of prompt and courteous service provided to us by the Marshall Space Act Team."

The Office of Strategic Analysis & Communications also made improvements to the Space Act Agreement process at the Michoud Assembly Facility. The organization supports Michoud efforts to bring more tenants to its facilities through Enhanced Use Lease Agreements by managing Space Act Agreements on their behalf. The leases are cooperative arrangements between NASA and a private sector developer. NASA negotiates a long-term lease of an underutilized property -- land, buildings and other structures -- to the private developer. The developer constructs the facility and enters into lease with tenants, which may be government or non-governmental entities. NASA then receives cash or in-kind services from the developer while retaining ownership of the asset. The team was recognized for its efforts with a Space Act Agreement Group Achievement Honor Award in July for ensuring the agency-wide awareness and coordination of Space Act Agreements and Enhanced Use Leases.

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

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Redstone Archaeologist and Cultural Resources Manager Ben Hoksbergen speaks at Marshall's Native American Heritage Month Lunch and Learn

NASA web feature



Ben Hoksbergen, archaeologist and cultural resources manager for the U.S. Army's Redstone Arsenal, spoke to Marshall Space Flight Center team members at the Native American Heritage Month Lunch and Learn on Nov. 29. Hoksbergen, left, demonstrates the use of an atlatl, a tool that uses leverage to achieve greater velocity in spear throwing. His presentation was about Redstone archaeological investigations, which began in 1978. He said that as of 2010, 100 percent of the land -- 40,000 acres -- has been surveyed. Discovered during his investigations was a prehistoric Indian village, dating to 300 A.D., next to Indian Creek, just south of Martin Road near Gate 7. He shared with team members

samples of the Native American and non-native artifacts found throughout the installation, including arrowheads, pottery and animal bones. To read more about what was dug up behind the arsenal's gates, visit <http://www.theredstonerocket.com/content/researchers-dig-prehistoric-finds-redstone>. (NASA/MSFC/Emmett Given)

Marshall team members examine tools and artifacts discovered by Ben Hoksbergen and his team on Redstone Arsenal. Found during their archaeology investigations were 511 prehistoric sites, 300 historic sites and 151 prehistoric/historic sites. One of Hoksbergen's goals is to document the cultural footprint, and to continue management and preservation of the arsenal's cultural heritage. (NASA/MSFC/Emmett Given)



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Marshall Star to Take Break for Holiday Season; Resumes Jan. 11 with Special 2011 Year in Review

Dec. 21 will be the last issue of the Marshall Star for 2011. The Star, printed 50 times each year, will not publish for two weeks during the holiday season.

Publication will resume Jan. 11, 2012, with a special Year in Review, highlighting the Marshall Space Flight Center's 2011 accomplishments. Visit <http://www.nasa.gov/centers/marshall/about/star/> at 2 p.m. for the new edition.

Find this article at:

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