

NASA'S Space Launch System Core Stage Passes Major Milestone

Ready to Start Construction

The team designing America's new flagship rocket has successfully completed a major technical review of the vehicle's core stage. NASA's Space Launch System (SLS) will take the agency's Orion spacecraft and other payloads beyond low-Earth orbit, providing a new capability for human exploration

The core stage preliminary design review (PDR) was held Dec. 20 at NASA's Marshall Space Flight Center in Huntsville, Ala., and included representatives from the agency and The Boeing Co. Boeing's Exploration Launch Systems in Huntsville is the prime contractor for the core stage and its avionics. Marshall manages the SLS Program.

"Passing a preliminary design review within 12 months of bringing Boeing on contract shows we are on track toward meeting a 2017 launch date," said Tony Lavoie, manager of the SLS Stages Element at Marshall. "We can now allow those time-critical areas of



This graphic depicts the components that together make up the Space Launch System rocket. The core stage, highlighted, will be manufactured at the Michoud Assembly Facility.

design to move forward with initial fabrication and proceed toward the final design phase – culminating in a critical design review in 2014 – with confidence."

The first flight test of the SLS, which will feature a configuration

for a 70-metric-ton lift capacity and carry an uncrewed Orion space-craft beyond the moon, is scheduled for 2017. As the SLS evolves, a two-stage launch vehicle using the core stage will provide a lift ca-

Letters from Leadership

Happy New Year to the Michoud Team! Let me begin by saying that I hope everyone had a restful holiday season and had a chance to recharge their batteries. 2013 will be a busy year for us as we prepare for SLS core stage manufacturing.

As I transitioned into my role as Michoud director, I spent a lot of time speaking, both formally and informally, with each of Michoud's organizations and individual employees. My discussions covered a wide spectrum of topics and ideas, ranging from simple to complex in size, scale and scope. As a result of your input, our leadership team was able to establish, vet and publish a set of operating priorities that are critical to Michoud's success as NASA's only large-scale manufacturing facility.

The purpose of these operating priorities is to place Michoud on the path to a safe, stable and sustainable future. I believe that in order for Michoud to be successful, everything we do must be guided by these priorities.

- 1. Ensure the safe, high-quality, reliable and on-schedule manufacture, assembly and delivery of SLS and other NASA program and project components.
- 2. Reduce the cost of Michoud's operations to NASA Programs and Projects by increasing tenant revenue and reducing operating costs.
- 3. Operate the site in a way that provides our customers with affordable, superior service, in a safe working environment that benefits both tenant and NASA needs.

The first priority speaks to the core of our very existence. Our facility and workforce sit squarely in the middle of the critical path of our country's human spaceflight ambitions. Facilitating the safe, on-time delivery of the hardware within the budgetary constraints for SLS, Orion and other NASA program and project components is our number-one priority.

The second priority is critical to Michoud's continued success. We must continue to efficiently use and leverage the financial resources at our disposal, and reduce our operating costs as part of our responsibility as stewards of every U.S. citizen's tax dollars.

The third priority addresses the importance of creating a safe, stable and affordable environment for our tenant partners. This will allow us to meet our current tenant's needs, bring on additional tenants and further reduce Michoud operating costs. By partnering with and understanding each of our current and potential customers' needs, our facility can provide a value proposition that fosters a win-win situation for everyone – both for NASA and our tenant partners.

These priorities will serve as a framework to guide our every move. If you have any questions about them, please make use of my open-door policy and take some time to talk with me. I am confident in you and our world-class facility's ability to outperform in each of these three priorities. By coming to work each day with these three priorities in mind and keeping them in the forefront of everything we do, I envision another extremely successful year for Michoud.

- Roy Malone, Director of Michoud Assembly Facility

Beyond Zero Presidential Gold Coin Program

Mike Dawson, general manager of the MSFOC contract, would like to thank the following individuals for their contributions toward creating a "Culture of Caring" at Michoud. MSFOC employees John Barnett was selected as a "Gold Jacket" winner, and Bernie Zagorski was runner-up for the gift card. Both are now eligible for a semiannual drawing of \$500.

Beyond Zero Presidential Gold Coin Recipients for December are:

Heather Brooks

Dawn Karchner

Kim Haisch



Toys for Tots Drive

Michoud would like to thank all employees for their generous donation to the Toys for Tots Program. During the December toy drive, a few hundred toys, games and bikes were collected. The U. S. Marine Corps Reserve distributed the toys to less fortunate children throughout the Greater New Orleans region. The Toys for Tots Program is directed by the Commander, Marine Forces Reserve, from the Marine Forces Reserve Headquarters in New Orleans, La., and is supported by volunteers in the community.



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pability of 130 metric tons to enable missions beyond low-Earth orbit and to support deep space exploration.

The purpose of the PDR was to ensure the design met system requirements within acceptable risk and fell within schedule and budget constraints. An important part of the PDR was to prove the core stage could integrate safely with other elements of the rocket's main engines and solid rocket boosters, the crew capsule and the launch facilities at NASA's Kennedy Space Center, Fla. Core stage designers provided an in-depth assessment to a board of engineers comprised of propulsion and design experts from across the agency and the aerospace industry.

"Each individual element of this program has to be at the same level of maturity before we can move the program as a whole to the next step," SLS Program Manager Todd May said. "The core stage is the rocket's central propulsion element and will be an optimized blend of new and existing hardware design. We're building it with longer tanks, longer feed lines and advanced manufacturing processes. We are running ahead of schedule and will leverage that schedule margin to ensure a safe and affordable rocket for our first flight in 2017."

The core stage will be built here at NASA's Michoud Assembly Facility using state-of-the-art manufacturing equipment. The plant continues modifying its facilities and ordering materials for construction of the rocket. Michoud has built components for NASA's spacecraft for decades, most recently including the space shuttle's external tanks.

Astronaut Lee Morin Visits Michoud



Boeing employee Don Richourd explains to NASA astronaut Lee Morin the preliminary machining work his group is completing in support of the Space Launch System. Morin, an amateur machinist himself, has been working on the design of the interior controls for the Orion Multipurpose Crew Vehicle.

Mix, Mingle and Celebrate Some Jingle



The Marshall Exchange brought some holiday cheer to Michoud employees at a holiday mixer Dec. 17. The event allowed NASA contractors to get together and celebrate the holiday season. Above, Roy Malone, director of NASA's Michoud Assembly Facility, visits with Michoud employees during the mixer.

MSFOC Honors Employees

The Jacobs Technology Manufacturing Support and Facility Operations Contract (MSFOC) honored employees at their 2012 awards banquet Dec. 8 at the Hilton Riverside Grand Ballroom.

Vince Lombardy served as master of ceremonies for the event and, after thanking MSFOC employees for their dedication and hard work all year long, announced the top honors. Bernie Zagorski was honored with the MSFOC Employee of the Year Award, while Dave Turnage was recognized with the MSFOC Supervisor of the Year Award.

Departmental Employees of the Year also were recognized for their outstanding performance within their teams: Darrell Christian for S&MA, Damien Smith for Mission Services, Ryan Rudewick for FMOD, Rudy Tillman for Project Management and Kim Haisch for Business Services.

The MSFOC Employee Morale and Welfare Committee planned the event with a holiday theme, including a buffet and live entertainment. Door prizes, ranging from cameras and gift cards to a flat-screen television, were presented to randomly selected employees. Congratulations to all the winners.





Bernie Zagorski

David Turnage

Holiday Safety Stand Down





The Beyond Zero Leadership Team, left, perform a holiday skit during a work stand-down Dec. 19, held to drive home the message that an accident-free/injury-free workplace can be a reality. Members of the Michoud Beyond Zero Leadership Team, right, pose with members of the United States Marine Corps, who presented our nation's colors at the event. Employees were urged to donate a toy to the Toys for Tots drive as "admission" to the event.

