

MARSHALL SPACE FLIGHT CENTER

Marshall Star

# Michoud Assembly Facility

 YEAR IN REVIEW 2023



# From the Directors



**Joseph Pelfrey**, Director  
Marshall Space Flight Center

Greetings Michoud,

The past year was truly an impressive year for NASA and the agency's Michoud Assembly Facility. Throughout 2023, the Michoud team never missed a beat, expanding community outreach and employee engagement, all while continuing to meet essential milestones for the Artemis missions. Michoud's workforce is truly resilient, and I applaud the spectacular work that has continued, even through challenges like a global pandemic, site construction, and hurricanes these past few years. Your dedication ensured NASA was able to successfully launch Artemis I. The agency's gratitude was visibly echoed during visits from NASA Deputy Administrator Pam Melroy and Artemis I Launch Director Charlie Blackwell-Thompson.

I am proud of the teams at Michoud that fully integrated all five major structures of the SLS (Space Launch System) rocket's core stage for Artemis II, the first crewed Artemis mission that will send four astronauts around the Moon and return them home, as well as the work being implemented for the completion and delivery of the Orion capsules and SLS core stages for Artemis II-IV. Your daily commitment to NASA's mission and values are imperative to the safety of the astronauts who will fly on upcoming Artemis missions.

I am honored to work alongside each of you and am committed to leading the entire Marshall and Michoud team through our next chapter, guided by our shared values of safety, integrity, teamwork, excellence, and inclusion.

Continue in excellence,

**Joseph**



**Hansel Gill**, Acting Director  
Michoud Assembly Facility

Michoud Team,

Through your hard work and dedication to the Artemis mission, core stage II is almost finished and ready to ship! Each of you are "making history." Your fingerprints are all over the rocket. Like many directors who have served before me, it is an honor and privilege to lead an amazing, world-class workforce at NASA's Michoud Assembly Facility in New Orleans.

Reflecting on 2023, it is no surprise the year was a tremendous success, given the dedication and resiliency of the men and women at Michoud. With the SLS (Space Launch System) core stage for Artemis II finished with final integration testing, the focus will soon turn to a rollout event and facility-wide celebration. Meanwhile, across the 43-acre factory, Michoud is at the pinnacle of production with SLS core stages III, IV, V, and Orion V crew module. In February, we cut the ribbon on the EUS (exploration upper stage) production area which has yielded early production of EUS hardware. Meanwhile, factory roof replacement efforts are underway, Building 110 received new siding, LED lighting upgrades were finalized, and new Enhanced Use Leasing developments will support MAF's continuity.

Throughout the year, we hosted Deputy Administrator Pam Melroy for a workforce development kick-off session; legislators and stakeholders to highlight SLS and Orion space flight hardware; and a wealth of STEM students for tours of our "Rocket Factory." Michoud also filled the year with several on-site events and milestones to include the historical the Artemis I anniversary event, our second Michoud Family Day since returning from COVID, and a Michoud veteran outreach opportunity with The National World War II Museum to host two Congressional Medal of Honor recipients for a unique Valor Outreach event. The opportunity to host American heroes who risked their lives to save others was truly an honor and privilege, one that we will never forget.

I'm proud to share we were selected as one of the manufacturing facilities for the Human Landing System. It's clear that Michoud continues to help lead our way back to space.

Again, I thank all the Michoud team members for supporting the Artemis program and other NASA missions at large. You are the heart and soul of our facility.

Keep up of the good work,

**Hansel**

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**On the cover:** NASA's Michoud Assembly Facility in New Orleans installed the third and fourth RS-25 engines onto the SLS core stage for the agency's SLS (Space Launch System) rocket that will help power NASA's first crewed Artemis mission to the Moon. Michoud is managed by NASA's Marshall Space Flight Center in Huntsville, Alabama.

## Michoud Holds Ribbon-Cutting for Exploration Upper Stage Gray Box

NASA Associate Administrator Jim Free and SLS (Space Launch System) Program Manager John Honeycutt were joined by several elected officials and business leaders Feb. 13, 2023, to cut the ribbon at the exploration upper stage Gray Box ribbon-cutting ceremony at NASA's Michoud Assembly Facility. The "gray box" area is the production and processing area for the exploration upper stage that will provide in-space propulsion for the Block 1B configuration of future SLS rockets, beginning with Artemis IV. With its four RL10 engines and larger fuel tanks, EUS will replace the Interim Cryogenic Propulsion Stage (ICPS) to send astronauts and large payloads to the Moon on a single mission.



## NASA Connects All Major Structures of Artemis II Moon Rocket Core Stage

Teams at Michoud fully integrated all five major structures of the SLS rocket's core stage for Artemis II, the first crewed Artemis mission that will send four astronauts around the Moon and return them home. Technicians joined the engine section to the rest of the rocket stage March 17, 2023. Located at the bottom of the 212-foot-tall SLS core stage, the engine section is the most complex and intricate part of the rocket stage, helping to power Artemis missions to the Moon. The SLS core stage for Artemis II is built, outfitted, and assembled at Michoud.



## NASA Deputy Administrator Melroy Views Artemis II Core Stage at Michoud

NASA Deputy Administrator Pam Melroy visited Michoud in March 2023, viewing the Artemis II core stage, and speaking during the launch of a New Orleans workforce development program. The Greater New Orleans Regional Advanced Manufacturing Partnership aims to build a pipeline for future aerospace workers. Her visit – and the launch of the development program – came as NASA and Boeing, the SLS core stage lead contractor, continue to make progress building core stages for future SLS rockets at Michoud.





## Charlie Blackwell-Thompson Visits Michoud, Thanks Workforce for Artemis I Success

Artemis I Launch Director Charlie Blackwell-Thompson spoke to the Boeing workforce during her visit to Michoud June 30, 2023. Blackwell-Thompson thanked the team for their contribution to the Artemis I mission and emphasized the importance of what they do every day. Boeing employees watched Artemis I launch footage as Blackwell-Thompson recapped launch day. Blackwell-Thompson also spoke about her personal career path, which led to being NASA's first female launch director. She saw the SLS core stage for Artemis II during a tour of the factory, and SLS core stages for Artemis III-V in various stages of production at Michoud.



## Just Super: Michoud Photographer Captures 'Blue Moon' Above New Orleans Bridge

Sometimes getting the job done requires extra time and effort for Michoud team members. Such was the case Aug. 30, 2023, for Michael DeMocker, a photographer for Michoud. DeMocker took the spectacular image of the super blue moon – which had an orange hue – rising over the Crescent City Connection Bridge in New Orleans. “It was my last chance to photograph a blue supermoon until 2037, so I didn’t want to waste my shot,” DeMocker said. “I did a great deal of planning on apps and search engines to find an elevated spot where the rising moon would line up with a New Orleans landmark.” Once at his location, DeMocker wound up climbing on top of his car to frame the perfect shot. The result was, well, super.





## Michoud Serves as Vital Resource for NASA's STEM Engagement

NASA plays a crucial part in engaging the nation's developing workforce to enter science, technology, engineering, and math occupations of today, and the STEM jobs of the future. At the forefront of the agency's STEM Engagement with students and educators is Michoud. Through Michoud's partnerships with local schools in conjunction with the Southeast Region Office of STEM Engagement at NASA's Stennis Space Center, students complete projects that focus on SLS and Orion spacecraft production and learn about a variety of technical skills needed at Michoud, with a concentration on mechanical and electrical skills. During a 2023 visit to Michoud, students from Live Oak High School in Denham Springs, Louisiana, had an opportunity to experience the rocket factory.



## Orion, Lockheed Martin Honor Michoud Contributions to Artemis I Success

Orion program managers joined Lockheed Martin and leadership at Michoud Aug. 2, 2023, to celebrate the individual and team accomplishments that contributed to the successful Artemis I mission. Following a welcome by then Michoud Director Lionel "Lonnie" Dutreix, Orion Crew and Service Module Office Manager Tim Otterson led off the event recalling his last visit to Michoud when the team was nearing completion of the Orion spacecraft elements for Artemis I. Otterson expressed his gratitude to the team for their continued work on the program, including the completion and delivery of Orion capsules for Artemis II – IV to NASA's Kennedy Space Center.



## First RS-25 Engine Installed to NASA's Artemis II Moon Rocket

On Sept. 11, 2023, technicians at Michoud started installing the first of four RS-25 engines onto the core stage of NASA's SLS rocket that will help power NASA's first crewed Artemis mission to the Moon. The work, which was completed in October, followed the joining of all five major structures that make up the SLS core stage earlier in 2023. NASA, lead RS-25 engines contractor Aerojet Rocketdyne, an L3 Harris Technologies company, and Boeing, the core stage lead contractor, continued integrating the remaining engines into the stage and installing the propulsion and electrical systems within the structure.





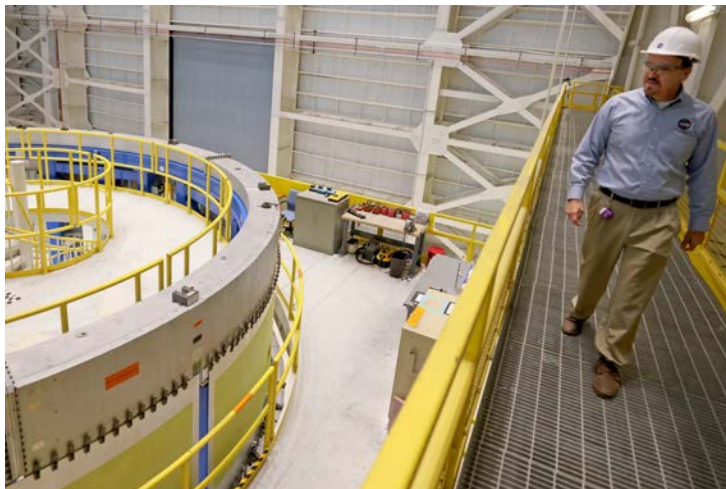
## Ceremony Marks Opening of NASA Educational Display at New Orleans Airport

Representatives from Michoud joined elected officials and other community leaders for a ribbon-cutting ceremony marking the opening of a NASA educational display Sept. 26, 2023, at Louis Armstrong International Airport in New Orleans. The exhibit is a collaboration between NASA, the city of New Orleans, and regional economic development organizations to educate visitors on the role Michoud has played in the production of manned spacecraft and Michoud's impact on economic development for the region. The exhibit is located near the airport's baggage claim on the first floor.



## Take 5 with Hansel Gill, Keith Savoy

Two Michoud leaders shared their insights on leadership, inspiration, mentorship, and more, as part the Take 5 profile series, which features a leader each month from Marshall or Michoud. The Marshall Star interviewed Acting Director Hansel Gill (pictured right), who was deputy director at the time, and Chief Operating Officer Keith Savoy (pictured left).







## Michoud Celebrates Family Day 2023 with Treats and No Tricks

For the second consecutive year, Michoud hosted Family Day, a day when team members can invite their families to visit “America’s Rocket Factory.” Family Day occurred the weekend before Halloween. Team members and their families had the opportunity to view the latest stages of production in the 43-acre factory, including the fully assembled core stage for the SLS rocket for NASA’s Artemis II mission, and were treated to trunk-or-treat as they exited the factory. Michoud passed out candy and Moon Pies to trick-or-treaters of all ages. NASA astronaut Stan Love and astronaut candidate Jack Hathaway took pictures with families in front of the SLS core stage for Artemis II in the Final Assembly area.

## National WWII Museum Brings Valor Outreach Event to Michoud Veterans

Veterans from the multi-tenant workforce at Michoud attended a panel discussion featuring two Congressional Medal of Honor recipients Nov. 1, 2023, in Michoud’s Hero’s Way — a hall lined with the mission patches for every NASA mission, along with crew photos and mission details. When the National WWII Museum in New Orleans learned they would be hosting the week-long Medal of Honor Convention in 2023, they began exploring ideas for local Valor Outreach opportunities. Michoud began as an aircraft factory during the 1940’s, where teams produced C-76 and C-46 cargo planes during WWII. Michoud has since transformed itself multiple times over the years to support not just the space program but multiple government agencies, making it an ideal location for the Nov. 1 event.



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