



Mission Success Bulletin

November 30, 2005

On-line

Work pace increases on ET-119 & 120

With the Thanksgiving break only a memory, Michoud employees are concentrating their efforts on ET-119 and ET-120 – the first two tanks scheduled to fly in 2006.

Technicians will soon begin to remove the ET-119 bipod foam closeout. Prior to beginning that work, employees are completing updated training on properly protecting the tank to avoid work-induced damage.

Meanwhile, engineers and technicians continue the process that will seal the bipod heater wire to preclude any possible nitrogen leak path from the inside of the Intertank to the bipod area. Such a leak path may have contributed to a small foam divot that popped off the bipod closeout during the ascent of STS-114 last July.

Technicians also have removed the ET-119 Liquid Hydrogen Protuberance Airloads (PAL) ramp to one inch above the conathane, the adhesive material that bonds the manual spray to acreage foam. Removal of the Liquid Oxygen PAL ramp will begin shortly.

Currently, both ET-119 and ET-120 reside in Bldg 420. On ET-120, technicians are nearly complete in removing the

37-foot-long LH2 PAL ramp. As the work proceeds, they are inspecting nine crack-like indications detected in the area several weeks ago.

ET-120, the first Return to Flight tank, experienced two loading cycles earlier this year while at Kennedy Space Center. The tank returned to Michoud in October, and for the first time engineers and technicians have an opportunity to inspect a tank that has been through multiple pressurization cycles.

Two of the crack-like indications are visible at the surface of the PAL ramp. Others were detected inside the foam ramp through the use of Non-Destructive Evaluation techniques. Michoud is pursuing controlled dissection and inspection methods to determine the shape and extent (depth) of the indications.

Technicians found no indications in the ET-120 LO2 PAL ramp or in either of the ET-119 PAL ramps.

“We will use tests and analyses to understand the loading conditions and stress levels that the tank endured at KSC to understand foam loss on the STS-114 launch and to demonstrate our design configuration for STS-121,” said **Wanda Sigur**, vice president, ET Project. ■

Hale impressed with Michoud's progress



Warren Ussery, (left), explains the Non-Destructive Evaluation process to Shuttle Management Integration & Planning Manager John Casper, Shuttle Program Manager Wayne Hale and ET Program Manager John Chapman.

Wayne Hale has visited Michoud before, but his November 16th visit was his first since being named NASA Space Shuttle Program Manager several months ago.

Hale wanted to see how Michoud was dealing with the after-effects of Hurricane Katrina, the External Tank work under way and the overall state of the facility.

In his first stop in Building 420, Hale watched engineers perform terahertz imaging on ET-120 and checked the progress on

ET-119 in the adjacent cell.

“You can clearly tell that people are excited about what they're doing,” noted Hale. “I'm just extremely impressed.”

Hale and Deputy Shuttle Manager **John Shannon** also met with the ride-out crew and key members of the transition team who maintained the facility during Hurricane Katrina and initiated recovery efforts immediately thereafter.

Later, the NASA group received a taste of employees' post-Katrina reality through a

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NASA predicts busy future for Michoud

In a November 17th visit, NASA Associate Administrator **Rex Geveden** told employees that “there are a lot of big orange tanks” in NASA’s future plan. Pointing to the Crew Launch Vehicle (CLV) and Shuttle Derived Vehicle (SDV), Geveden said some of that work will happen at Michoud.

“There’s a lot of orange in that architecture for two reasons – first, because we don’t have as much money as we did in Apollo,” Geveden explained.



Artist rendering depicts the Crew Launch Vehicle (left) and the Lunar Heavy Launch Vehicle.

“We have to do it for 60 cents on the dollar. One way is to take advantage of the assets that we have – the ET, Solid Rocket Motors and Space Shuttle Main Engines – because we’ve already developed them, sunk the costs and made investments in tooling and workforce.

“The second reason is because the Michoud workforce is extremely valuable to us because you know how to make the components that we need to get back in space.”

Geveden stressed the need to take advantage of reliable components that NASA has been flying for a long time.

“After spending 30 years in Low Earth Orbit, we’re going back to the Moon and then Mars and then other places. As long as we have that future, MAF has a future.”

For the Space Shuttle, Geveden said the baseline is to fly 18 more flights, provided there are no budgetary or White House changes.

Michoud’s Director of Business Development **Dan Ferrari** said NASA’s shuttle-derived approach for the CLV and SDV is good news for the Michoud Assembly Facility and New Orleans.

“There will be opportunity here, and hopefully Lockheed Martin will win that work,” Ferrari said. “If not, then there will be an opportunity



NASA Associate Administrator Rex Geveden shares his thoughts with employees about Michoud’s future in space exploration.

for a winning competitor to do that work here. There is a future at Michoud.”

A Solid Rocket Booster will power the CLV with an upper stage made at Michoud (see graphic), about 18 feet in diameter, 70 feet long, of lightweight design, about two-thirds the size of an ET.

“CLV is a near-term project,” Ferrari said. “We’re probably going to submit a proposal the latter part of 2006 for work awarded in 2007.”

The Lunar Heavy Launch Vehicle for cargo features two ET-diameter structures – one, a redesigned ET core stage with five shuttle main engines and the other, a combined second stage-Earth departure

stage with two J-2 engines (see graphic).

The proposal for the heavy lift cargo vehicle will be submitted in the 2010 timeframe.

Again, NASA indicates this work will be done at Michoud regardless of which company wins the competition.

For the Crew Exploration Vehicle (CEV), NASA released a draft Request for Proposal (RFP) on CEV last week, with the final RFP scheduled in January. Lockheed Martin is competing against a Northrop Grumman-Boeing team.

NASA will announce the winner in the spring of 2006. If Lockheed Martin wins, part of the CEV structure will be built at Michoud, Ferrari said. ■

Hale visit

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brief tour of New Orleans East. The comparison of the nearby neighborhoods to the Michoud facility proved sobering.

“Things are cleaned up, the plant’s working, the people are here,” Shannon said. “We saw the processing on

tanks 119 and 120. I’m just amazed that the recovery has happened so quickly and you’re getting back to business here, especially considering all they’re dealing with in their personal lives.”

Hale and Shannon then visited several Final Assembly positions to check on Protuberance Airloads (PAL)

ramp Verification and Validation activities and automated PAL ramp development. In the Vertical Assembly Building, they observed hurricane damage and temporary repairs in and around Cell A.

Wherever Hale went, he echoed that safety supersedes schedule.

“The important thing is to

deliver a tank where we don’t have any more foam issues, that we have improved safety to a satisfactory degree where we can start flying on a very routine regular basis,” Hale stated. “It’s important to make it as soon as we can, but it’s more important to do it right.” ■

maffamily – a good place to click

Don't forget your resource for employee and family news at www.lockheedmartin.com/maffamily – your best bet for post-Katrina information. The new site includes news about housing, health care, home recovery, school schedules, credit union, volunteering and a new Q&A on casualty losses for Katrina. ■



Keeping the winter cold out

James Moffett (left) and Rodney Ashcraft secure plastic to the window of a senior citizen's home in Madison County, Alabama. This year Michoud employees – who had moved their work to Marshall Space Flight Center because of Hurricane Katrina – joined forces with Huntsville Technical Operations employees to support the weatherization project. Each year Huntsville employees volunteer to prepare the homes of elderly and disabled citizens for the approaching winter season. ■



"House Busters" gut fourth employee home

Gordon Dyer carts sheetrock from employee Jessie Lee's home on the Saturday after Thanksgiving. The "House Busters" volunteer group has now gutted four homes that were flooded, saving employees time and money in tear-out costs. Volunteers will leave from Building 350's parking lot at 6:30 a.m. Saturday, December 3 to strip employee Kermit Lawrence's home in New Orleans East. All volunteers are welcome. ■



Overwhelming response to clothing drive

Yvonne Vielle (left), Chuck Furst and Leon Simmons organize clothing donated by Lockheed Martin employees at Michoud and Sunnyvale. Employees affected by Hurricane Katrina are invited to come to Building 350-2-J7 to pick up clothing for themselves or family members. ■

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