

Mission Success Bulletin

December 15, 2005

On-line

NASA to fly ET without PAL ramps

NASA announced today a decision to remove the Protuberance Airloads (PAL) ramps from the External Tank for future flights.

Bill Gerstenmaier, the associate administrator for Space Flight, said investigative teams have spent two months looking at aerodynamic loads and learned a tremendous amount about PAL ramps. "We are moving forward with the analysis. There's still a lot of engineering to do."

Without the PAL ramps, Gerstenmaier said a closeout would be needed on the ice frost ramps to prevent ice formation on bracketry. He also stated he did not think a redesign of the cable tray or pressurization lines is needed, but that future wind tunnel

tests will give the program more information.

The associate administrator would not speculate on what impact the "no-PAL ramp" decision would have on the shuttle's flight schedule.

PAL ramps have become the focus since a large piece of foam came off the Liquid Hydrogen PAL ramp on ET-121 last July as *Discovery* ascended into space. Until then, the PAL ramps had not posed a problem in over 20 years of shuttle flights.

Last month, Non-Destructive Evaluation revealed crack-like indications in the LH2 PAL ramp on ET-120 – a tank that had experienced two cryogenic loading cycles at KSC during a tanking test and scrubbed launch attempt earlier this year. ■

Commander visits Michoud



Collins

NASA astronaut **Eileen Collins** thanked employees today at a General Assembly for their hard work and spoke about the Return to Flight mission in July.

Collins is the first woman to command a flight and pilot the shuttle. ■



Thermal Protection Systems technicians **Ronnie Clark** and **Carlos Saavedra** dissect a recently sprayed PAL ramp mock-up panel.

Investigative teams making headway

Regardless of the decision to remove Protuberance Airloads (PAL) ramps from the External Tank, the In-Flight Anomaly teams investigating STS-114 foam loss will continue their work.

"The investigation is proceeding," says **Paula Hartley** who serves as Lockheed Martin's lead on a management team overseeing the investigation.

"We are committed to determining the root cause of each of the foam loss events."

The five teams are examining foam loss on the PAL ramps, bipod, flange, ice frost ramps and acreage.

Hartley says the final report for all teams is scheduled to be released by April 2006.

The bipod team is the farthest along and has identified root cause as cry-

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Contractors replace blown-out VAB skylights
Ironworkers from AC Dellovade Company make their way up the side of the Vertical Assembly Building to replace the remaining skylights with blue panels that will surround the top of the VAB.

MS&TC to transition to Michoud management

Management of the Lockheed Martin Mississippi Space & Technology Center (MS&TC) at Stennis Space Center is transitioning from Sunnyvale to Michoud Operations. The transition will be accomplished in two phases.

Phase 1 is effective December 19 and will transition 35 employees from thermal propulsion and quality inspection areas from Lockheed Martin Technical Operations at Stennis. Phase 2 is effective prior to the end of the first quarter of 2006 and will transition 85 employees from Lockheed Martin

Space Systems – Sunnyvale to Michoud Operations.

Employees will continue to work at the MS&TC site at Stennis.

MS&TC is involved in satellite propulsion subsystem integration, thermal blanket, heat shield production, tube product support and precision cleaning.

A study indicated the potential for significant benefits from the combined synergies of a more cost competitive program operations, and the presence of local senior management support and oversight for production operations. ■

Knauer to lead Small Launch Vehicle Integration effort

Larry Knauer has been named director, Small Launch Vehicles Integration, for Michoud Operations. In his new position, he will be responsible for the development of a small payload delivery line of business.

Knauer joined Lockheed Martin in 1982 as a propulsion engineer in Orlando, Fl. for Missile Systems. He came to Michoud in 1994 as deputy director of the Super Lightweight Tank program

and subsequently served as vice president of Technical Operations.

Knauer left Lockheed Martin in 1999 when he was vice president and deputy director of the X-33 program at Michoud Operations to become president of Space Propulsion for Pratt & Whitney.



Knauer

He holds an aerospace engineering degree from Georgia Tech and a master's in management from the Massachusetts Institute of Technology. ■

Clothing drive adds second location

Response to the Lockheed Martin clothing drive has been overwhelming. There are so many clothes that organizers are moving the garments from the second floor of Building 350 Lobby to two new locations. The first location in Building 350 Lobby reopens December 19 to all Michoud Assembly Facility employees and families. The second location will be in Building 101, 1st Floor, Column EB 27 - ED 33. This location opens December 22 and is accessible through the holidays for employees and family members. ■

Investigative teams

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ingestion/cryopumping through the electrical harness. Engineering and Production are working in concert to establish and implement a fix. In preparation to rework the harnesses, the ET-119 bipod closeout has been removed and removal of ET-120's closeout is in work.

A separate tiger team has been established to investigate the cracks identified on ET-120 in proximity to the

PAL ramp.

Also, Hartley praised the teams for retrieving critical materials, tooling, test articles and documentation and quickly relocating to Marshall Space Flight Center to continue their work after Hurricane Katrina.

Many team members moved their families to Huntsville and worked there for several months. Team members began to return to Michoud in late October. Nearly all will be home for Christmas. ■

Employee grateful for House Busters

Jessica Jacques believes the water in her Gentilly home got as high as ten feet as a result of Hurricane Katrina, then receded to six to eight feet and stayed at that level for two weeks.

"I thought I was going to come back in a few days, but realized I couldn't," says Jacques, a Thermal Protection Systems technician, who evacuated with her mother and daughter to live with relatives in Georgia.

When she returned to New Orleans, she was able to save one keepsake – her great, great grandmother's marriage certificate. "I lost my mom's things. I do not have a picture of my daughter. You have to deal with it."

Now the House Busters volunteer group is making its Saturday stop at Jacques' home, and she will join them in ripping out her flooring, sheetrock, and insulation.

"They roll," says Jacques who volunteered at an earlier house project emptying wheelbarrows full of drywall. "A lot of the people in House Busters know each other, and



Volunteer Randy Wiggins removes carpets and other debris from an employee's home after it flooded with four feet of water.

some have house losses of their own. It's a good unselfish group."

Jacques' home will be the House Busters' eighth house to

gut. Gordon Dyer who organized the volunteer effort reports there are 26 more employee houses on the list.

"We're taking the ones in

the worst condition first, and it looks like we're going to be busy for several months," Dyer said. "Our main goal is to try and help our fellow employees – our friends – get their lives back together."

Dyer encourages employees to join the House Busters group on Saturday morning at 6:30 a.m. in the Michoud parking lot. "Think what a Christmas gift it would be to help an employee with his or her home. You're guaranteed a hug from the homeowner."

Jacques who now lives at the St. Vincent Guest Home hopes to eventually return to her home and reconstruct it with help from her uncles and brothers.

While worried about housing, she says the hardest thing is splitting up the family. "My mother's still in Georgia. My daughter who went to UNO is now in Baton Rouge at LSU.

"People need people," Jacques says. "Some tasks are way too big, and you have to admit you need help."

And that's what House Busters is all about. ■

Storm recovery DVDs



The hurricane DVD that previewed at a General Assembly last month depicting NASA and Lockheed Martin's response to Hurricane Katrina is being distributed to each employee this week. The DVD also will be shown to select external audiences in the coming months. ■

maffamily – click on it often

Your best resource for employee and family news is www.lockheedmartin.com/maffamily – the website to check to get the latest

post-Katrina information. The site includes recent news about tax seminars, insurance, FEMA, housing, health care, school schedules, volunteering and Q&A's on other important topics. ■





Lockheed Martin gives Blood Center a shot in the arm
 Just as your body replaces blood cells after a donation, this time Lockheed Martin infused The Blood Center with a \$10,000 donation to replace equipment and supplies lost in the hurricane. Marion LaNasa, director, Communications, presents the check to Suzy Strouse of The Blood Center while Kathy Eaton, coordinator, Employee Assistance Program, looks on. Make plans to donate the gift of life at Michoud's first blood drive of the year January 16-20.



Milestones

Employee anniversaries in December

30 years

Douglas Buchholz

25 years

Russell Baker

Robert Bruce

John Dunn

Charles Holding

James Shepherd

20 years

Celia Blum

Donald Gilliam

Jimmie Moring

John Scazzafavo

15 years

John Caillouette

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