



Mission Success Bulletin

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ET-119 remains on course for a July launch

External Tank-119 took another major step toward the launch pad when technicians at Kennedy Space Center mated the tank to the Solid Rocket Boosters (SRB) last week.

The next milestone for ET-119 will be the Orbiter mate with *Discovery*, now scheduled for May 12. *Discovery* could roll to the pad for processing as early as May 19, in anticipation of a July launch window.

vent valve controls tank pressure during loading and acts as a safeguard against over pressurization.

Michoud technicians finished all the work on schedule and made a final foam repair in the nosecone area once the tank had been returned to the vertical position for the SRB mate.

“Our crew has done an outstanding job,” said **Jim Feeley**, ET launch integration senior manager.



TPS technician Troy Smith and production supervisor Terry Lee check the foam closeout on ET-119 at Kennedy Space Center.

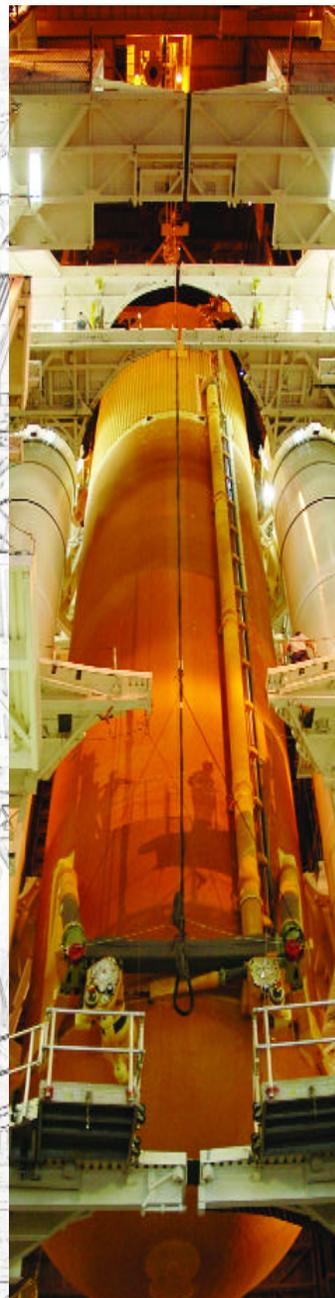
Several crews of Michoud workers have been busy at KSC the past month removing and replacing the engine cut-off (ECO) sensors in the aft end of ET-119's Liquid Hydrogen Tank and the Liquid Oxygen Tank (LO2) vent valve located beneath the nosecone.

The four ECO sensors provide back-up measurements to main engine cut-off. The

“They faced several challenges but worked through them using normal processes and got the vehicle back in flight-ready shape again.”

Meanwhile, NASA and Lockheed Martin decided to eliminate previously-scheduled Critical Design Reviews that consume departmental time and resources and instead

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ET-119 rests in the Integration Cell after the SRB mate.

NASA to fly ice frost ramps “as is”

NASA Shuttle Program Manager Wayne Hale announced Friday in a news briefing that ET-119 would fly with its ice frost ramps in their current configuration for the STS-121 mission.

Following the decision several months ago to remove the Protuberance Airloads (PAL) ramps and after reviewing all available test data, Hale said that he felt it was more appropriate to make only the PAL ramp change for this flight.

“When you make a major change (PAL ramp removal), you should fly that major change without other major changes to see how it performed, and then if you have subsequent changes to be made, you make those in subsequent flights.”

The shuttle manager said that NASA will continue working on an ice frost ramp design to keep ice from forming during propellant loading on the pad and to keep foam from shedding during ascent.

Michoud focuses on energy cost reductions

Costs increase 46 percent in one year; simple steps can produce big savings



Rising energy costs are hitting everywhere, and Michoud is no exception. Since Hurricane Katrina, the facility's energy costs have skyrocketed even though consumption approximates pre-storm usage.

Soaring rates – Michoud's electric bill was over \$3 million from October 2005 to January 2006 – currently affect all NASA sites while available resources to pay the bills are dwindling.

Over 4,000 pieces of equipment (desktop computers, printers, scanners and laptops) and hundreds of copiers, lamps, coffee pots and radios are used daily on the facility. Many of these items are often left on when not in use, which contributes to energy guzzling.

Computers are the worst offenders. “We want you to turn off your computer every day unless notified otherwise by ITS,”

insists **Steve Stefancik**, Information Technology Systems manager. “The claim that daily shut-down hurts the hard drive is nominal compared to the energy wasted by leaving them on.”

It costs the facility around \$60,000 a month when computers are on 24 hours a day. Shutting them off at the end of a workday could save \$35,000. Combine all the other ITS equipment, electronics and appliances on-site, and Michoud could realize significant savings.

NASA also is mandated to conserve based on the Energy Policy Act of 2005, which requires Federal buildings to reduce energy consumption 20 percent by 2015. NASA and Lockheed Martin are determined to cut electric, gas and water usage on the facility. With the support of the Energy Conservation Committee, targeted efforts already are under way encouraging employees to whittle down the wattage.

“We need to reduce our consumption by two percent on this campus for 2006,” urges **Marshall Byrd**, vice president & general manager. “We aren't just adhering to Federal guidelines in doing so; we're practicing good stewardship. I'm asking for the cooperation of all employees in helping to achieve this goal.”

Employees who have ideas on ways to conserve energy can contact **Lisa Brown**, Facilities & Environmental Operations, who is energy program coordinator at 7-5411. “We all must do our part in conserving energy,” she says. ■



ET-119

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focus on Design Certification Reviews. A Debris Verification Review is scheduled later this month.

Also, an abundance of testing to support ET-119

continues taking place.

These include environment assessments for structural margin and loads, structural capability testing on the LO2 cable tray, Thermal Protection Systems configuration

verification testing, ice frost ramp venting, thermal vacuum analysis and wind tunnel testing, and bipod wire thermal cycle confidence testing. Some testing will continue into June. ■

Activity swirls all around ET-118

The pace of work on ET-118, the second flight tank for 2006, continues to increase as the May 30 delivery date approaches. The tank, which is in Building 420, Cell 2, now has two critical path activities: installation of Developmental Flight Instrumentation (DFI) and completing modifications to the bipod.

“Our employees are virtually all over the tank

right now,” says **Wanda Sigur**, ET Project vice president. “There's plenty of work to do, and we're making progress on all fronts.”

DFI will provide flight data on how the tank performs without Protuberance Airloads (PAL) ramps, the major modification from ET-121 that flew on the STS-114 mission last summer. ET-118 will be the second tank to fly without the ramps.

Currently DFI tube reinstallation has been completed for both the external Liquid Oxygen Tank and Liquid Hydrogen Tank cable trays. Technicians have also completed the rough-routing of accelerometers to the filters and harnesses inside the Intertank.

Crews continue to work on bipod modifications as well. Completion of the initial Thermal Protection Systems

(TPS) work will take place prior to wire bonding and sealing, which will be followed by the final TPS closeout spray.

Additionally, crews are working on other areas as well – the longerons, bellows drip-lip, camera placement and antenna, diffuser and ice frost ramps. With less than one month to its planned delivery, ET-118 is a work in progress. ■

Hurricane plan - the first step to personal safety



Hurricane season begins in one month and is predicted to be an active one. Although history suggests that major storms the magnitude of Hurricane Katrina only strike the New Orleans and Gulf Coast area every decade or so, we must always be prepared.

The Michoud Assembly Facility faired exceptionally well last year, considering the devastating power of

Hurricane Katrina. This wasn't the result of luck, but many years of planning, preparing and developing a well-trained ride-out crew and a well-executed emergency operating plan.

This should serve as a reminder for all employees to take responsibility for their personal preparedness. Considering the loss of wetlands, the lack of protection for those living in FEMA trailers, and the many buildings still under repair, a lesser hurricane could deliver a serious blow to the community and require an earlier evacuation.

The Emergency Operating Advisory Committee at Michoud has been preparing for the upcoming season by implementing

numerous actions based on lessons learned from Hurricane Katrina. These actions involve the safety of the ride-out and recovery teams, accounting for employees during an evacuation, getting information to employees, repairing and hardening the site to improve its ability to withstand another storm, and making plans for alternative work locations in the event of another long-term shutdown of the facility.

Disaster plans are not just for businesses. Employees and their families need plans as well. Now is the time to prepare your emergency plan.

Several excellent sources for preparing such plans include:

- <http://www.fema.gov/pdf/hazards/hurricanes/survivingthestormhurricane.pdf>
- <http://www.fema.gov/areyouready/hurricanes.shtm>
- Hurricane Awareness Briefing on the safety website: http://omega.maf.nasa.gov/index.jsp?pcType=menu&pcFile=PA_D3730,
- [Links to additional weather information on the mafstatus page: http://www.mafstatus.com.](http://www.mafstatus.com)

This month employees will receive information on the status of the actions to help them prepare for the upcoming season in a post-Katrina environment. So don't leave it up to luck. Remember, success is the result of previous preparation. ■

NASA astronauts pitch in at House Busters



Tess Gioia's house before and after

The sun was shining; the skies were blue – perfect weather for a launch. One week after the Space Shuttle program celebrated its 25th anniversary, three NASA astronauts continued exploring new, almost alien, territory.

Their countless hours in simulators and years devoted to training could not prepare them for their latest mission – performing the arduous task of house busting **Tess Gioia's** home in Violet, Louisiana.

Astronauts **Tony Antonelli**, **Don Pettit** and **Butch Wilmore**

joined NASA Deputy Director of Program Assurance **Corky Clinton**, his son **Trey** and 16 Lockheed Martin employees in tackling the task with gusto.

Together, they formed one of the largest Wednesday crews in House Busters' history. Beginning early, the volunteers completely gutted the home by 12:15 p.m.

"It's inspiring to see co-workers take time to help fellow NASA team members in a true time of need," said Wilmore, a pilot in the

astronaut corps. "The Michoud portion of that NASA team continues to set a stellar example for all to follow."

Clinton said House Busters was truly an experience that he and his son will carry with them the rest of their lives. "Although we had seen countless images on TV, the impact of driving through the

neighborhoods and being inside an actual home made the destruction and devastation of folks' lives very real. The graciousness and appreciation expressed by Tess really touched our hearts. My son was particularly moved by the pictures that Tess had. He said, 'Dad, you've got to see

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Corky Clinton (left) from MSFC and astronaut Tony Antonelli pile debris.



Rebuilding after Katrina

The employee: **Myron Mitchell**, lead electrical test engineer, Production Operations, and recent candidate for New Orleans City Council District E

The challenge: Provide evacuated New Orleans East residents and business owners with accurate and timely information on returning and rebuilding efforts in the area

Accomplishments to date: Frustrated with the lack of information on the state of his flooded home and neighborhood, Mitchell organized a website <http://www.rebuildnoe.com> to keep displaced New Orleans East residents informed on the city's re-population and reconstruction process.

Dissatisfied with the city's ability to provide information on rebuilding procedures, Mitchell also uses his website as a forum to provide direction for his neighbors' rebuilding efforts.

As the neighborhood's restoration began, accumulation of garbage and debris became a serious problem. City services were essentially non-existent in the East, so Mitchell applied the same focus and drive he uses to solve External Tank issues, and started spending portions of his day cleaning up the streets.

Since I-10 runs through New Orleans East, he felt it was imperative debris wasn't the first and only impression visiting officials left with following tours of the area.

Starting with only the help of his daughter, Mitchell canvassed co-workers who also lived in the area to pitch in with the undertaking. Several radio stations and website www.nola.com promoted the clean-up events. As a result, others joined Mitchell in his volunteer efforts.

Despite his busy schedule as lead electrical test engineer for the ET, especially on ET-119, Mitchell also manages to volunteer for House Busters and the Katrina Clean-up Crew.

He firmly believes that the problems facing the city can be resolved by applying the same logic and discipline he uses as an



ET engineer. That is why he ran for the District E City Council seat. (Mitchell finished third in a field of nine in the April 22nd election.)

Personal Philosophy: "If we are going to use the opportunity to rebuild the city the way it can be rebuilt, we can't wait for our representatives to do it. We ARE the representation today.

"No one knows the needs of the city better than the people who live here. In order to do this, it's going to take individuals, grassroots efforts, private sector and volunteerism – especially volunteerism – to rebuild this city, not the government." ■

Astronauts present Snoopy Awards



Astronaut Tony Antonelli presented Christi Johnson, Finance, a Silver Snoopy Award for sustained dedication to the accuracy of labor charging practices and efficiency in payroll processes for the External Tank Project.



Quality Assurance Engineer Mike Bankster receives his Snoopy Award from astronaut Butch Wilmore for diligence in supporting pre-launch and launch activities for External Tank flights.



Also receiving a Snoopy from Wilmore is Dave Waguespack, Facilities & Environmental Operations, for outstanding performance operating the Small Tool Repair Crib.



Earth Day planters

Marshall Byrd, vice president & general manager (from left); **Patrick Scheuermann**, NASA Michoud chief operating officer; **Don Noah**, NASA acting resident manager; and **Rey Abadie**, director, Facilities & Environmental Operations, plant a tree on Earth Day at Michoud's Exploration Park. This year Earth Day focused on the restoration of damage from Hurricane Katrina – the tens of thousands of trees knocked down, wetlands loss and coastal restoration. ■



Katrina event celebrates quick recovery

On a sun-splashed Thursday morning, the NASA-sponsored Hurricane Katrina recovery luncheon was quite a contrast to the terrible event and incredible response it was recognizing.

The day started with the all-astronaut band Max Q. (for maximum dynamic pressure) warming up the crowd by playing a number of popular hits. Drummer **Chris Ferguson**, the pilot for STS-115, the second flight scheduled this year, explained why the band had come to Michoud.

"I think it's great to be able to give a little bit back to the folks who have sacrificed so much over the last six months to get us going in the midst of what they were enduring at home."

After lunch was served up by NASA and Lockheed Martin management, **Marshall Byrd** called several individuals to the stage to acknowledge the employee efforts that returned



Sandy Coleman

Michoud to limited operational status in less than 35 days.

"This is the highest performing team that I have ever worked with," offered **Sandy Coleman**, former NASA ET program manager. "And as you delivered the latest tank, you proved that one more time. You are so resilient."

Chip Jones, former NASA resident manager, added his



Max Q., the astronaut band, invigorated the crowd.

thoughts as well. "You showed me what real dedication to the space program was and what it really took to get hardware out the door. I hope to get to

record amount of time in the face of personal obstacles, in the face of professional challenges. If I had the rest of

employees who attended the luncheon from around the country who gave Michoud employees so much support



Chip Jones

continue to work with many of you because of my new position with the CLV project."

Shuttle Program Manager **Wayne Hale** told employees, "I came for a special purpose today which - number one - is to celebrate with you guys for getting back up on-line in a



Wayne Hale



Marshall Byrd presents a special award to Ken James for outstanding House Busters' effort.

the NASA space flight community operating like ET, we'd be on our way to the moon today."

Representing Associate Administrator for Space Flight **Bill Gerstenmaier** who sponsored the luncheon was Deputy Associate Administrator **Mike Hawes**. "This is just a tiny, tiny thing we can do to try and reflect the respect and feelings we have for you as an incredible workforce."

Marshall Byrd also thanked 30 special Lockheed Martin



Mike Hawes

before, during and after the storm.

Then Byrd presented **Ken James** with a shuttle

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Milestones *Employees celebrating anniversaries with Lockheed Martin in May 2006*

30 years

Carl Marshall

25 years

Jeanette Arabie

Michael Armstrong

Brian Avenel

Dan Boudreaux

Mack Cuenca

Lawrence Eloie

Doug Fogg

Stephen Fricke

Robert Fuller

Michael Hayes

Eduardo Jocson

Mary Mangiaracina

Patrick Martin

Zachary Melton

Kenneth Michael

Stephen Molero

Jean Paille

Jerry Pax

Barry Readeau

Darryl Schackai

Henry Seymour

James Sharp

Daryl Smith

Danny St. Romain

Joseph Stephenson

Cleveland Thomas

Ron Wetmore

Gary Wild

Gregory Woods

Richard Zehner

20 years

Maurlie Knauer

10 years

Diana Blackwelder

Russell Meitzler

Deborah Ong



Recovery event

Continued from Page 5

model and plaque from his House Busters' friends. "Ken has volunteered at 28 of 34 homes and put in hundreds of hours of service. If you rack up the costs of what we've saved our employees whose homes flooded in the community, it's almost \$200,000."

Moved by the recognition and his wife's surprise attendance at the ceremony, James' philosophy about House Busters was straightforward, "I've enjoyed it. I'm going to continue doing it. It was just something I felt that needed to be done."

In closing, Byrd summarized Michoud Operations' overriding purpose. "We all know why we're here – to provide the very best product that we can for our customer, and to stay focused on returning to flight. So Wayne (Hale), I want you to know that we don't deviate from that mission. The way we support each other and go off and stay focused on our product line, we're going to get there." ■

House Busters

Continued from Page 3

the pictures and look at her backyard. It was beautiful.' The dedication and spirit demonstrated by the Lockheed Martin/MAF team to help their co-workers and to work through such adversity while continuing to produce tanks to meet the launch schedules are exemplary."

Delighted and overwhelmed by the team's tremendous accomplishment, homeowner Gioia stood back and looked at her bare-to-the-studs home.

"I was amazed at how quickly they gutted my home. It's wonderful to see that these people do care and want to help. I am truly grateful."

Nail another piece of sheetrock to the mantel. Gioia's home is number 32 on a list of 34 houses completed by House Busters. Under the leadership of **Gordon Dyer**, the volunteer group has enlisted the help of 104 Michoud employees, 43 Tulane students, seven NASA employees, 47 other Lockheed Martin employees, and eight friends and family members.

Ten more homes remain on the House Busters list, hopefully, to be completed before hurricane season begins June 1. If you would like to volunteer to help your fellow employee take the first step on the road to personal recovery, contact Dyer at 7-0352. ■

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