



Mission Success Bulletin

September 30, 2008

on-line

<http://www.lockheedmartin.com/michoud/>

Outstanding preparation allows quick restart after Gustav

Several days from shore, Hurricane Gustav looked frightening – perhaps even another Katrina. Emergency officials warned residents to evacuate. And as Ride-Out Crew members took up their positions, NASA closed the Michoud Assembly Facility on August 30.

Indeed, Gustav packed a punch when it hit the Louisiana coastline, nearly three years to the day after Katrina. Even though the storm weakened as it missed New Orleans, it still slammed through Lafourche and Terrebonne parishes with high tides and howling winds.

At Michoud, Gustav's sustained winds clocked 60-65 mph, gusting to 89 mph. The Barge Dock flooded as usual, and the storm ripped a few areas on the roof and siding of the Vertical Assembly Building. The predicted rains in New Orleans did not materialize, however, and Michoud's higher, sturdier levees handled the storm surge.

All-in-all, Gustav was a good test for a well-prepared team.

Days before landfall, as Gustav bore down on Louisiana, Production Operations initiated critical steps to protect flight hardware and assure a rapid restart to ET production once the effects of the storm passed. Some of those

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Hubble mission finally at hand

A second shuttle ready to go if needed

Despite delays due to three successive storms – Fay, Gustav and Ike that impacted shuttle processing, crew training and rollouts to the pads – the long-awaited October 10th mission to the Hubble Space Telescope is almost here.

Commander **Scott Altman** is prepared. “I can tell you now we are ready. I do feel the crew has come together. Everybody knows their job, and we are ready to go execute.”

Altman led the most recent servicing mission to Hubble in 2002. Astronomer **John Grunsfeld** will serve aboard his third Hubble servicing mission, and mission specialist **Mike Massimino** will be along for his second trip to Hubble. Altman's crew of seven will replace worn gyroscopes and batteries, and service other equipment enabling a stronger telescope to uncover new wonders from across the universe through 2013 or longer. To accomplish all the work, five spacewalks are planned.

The telescope is credited for vast contributions to astronomy, from studying the solar system and formation of planets to imaging distant galaxies. Scientists credit Hubble for precisely measuring the age of the universe at 13.7 billion years. Hubble has seen galaxies more than 12 billion light years away.

Lockheed Martin has always had an important stake in Hubble, having built the spacecraft in which the telescope is housed. About the size of a

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Atlantis (foreground) and Endeavour one mile away

Gustav response

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activities included:

- Identifying Grand Prairie and Fort Worth, Texas, and Huntsville, Ala. by Materiel Sourcing as cold storage sites for foams and adhesives that had to be preserved. As Gustav's path became clear, Huntsville became the obvious destination for materials.
- Relocating critical materials from Buildings 103 and 220 to Building 320 where power would be maintained.
- Conducting an orderly shut-down of all production systems such as weld control, spray and tooling interface systems so that when the time came to re-start production – all could be slowly, systematically turned back on again.
- Staging cranes in the Vertical Assembly Building so that if the VAB did sustain damage, ET-131 could be hoisted from Cell A.
- Placing Liquid Hydrogen and Liquid Oxygen vessels on tooling breathers to maintain internal humidity control.
- Draping critical tooling and control systems.

Also, on-site *Orion* design and analysis personnel backed up their data to alternate sources and took their laptops with them. Employees covered any hardware left behind.

At the Engineering Development Center across Old Gentilly Road, employees evacuated with their high-end workstations to protect data and preserve the possibility of working at an alternate location.

Orion managers tied into daily telecons with the Communications & Coordination Team after the storm and cascaded the information to employees, often using text messages.

Also, an improved Webmail system let all evacuated employees check e-mail after some computer servers went down.

Once the storm passed, Production Operations based in an ET assessment team on September 3 to check hardware and tooling. "It was a second set of eyes after the Ride-Out Crew," says **Mike Javery**, vice president, Operations. "We put boots on the ground and they went through the entire factory."

Javery doesn't question waiting until September 8 to re-start production. "It was just not a good thing to start any sooner. I felt we were very proactive. The team of 20 subject-matter experts from Production, Manufacturing & Engineering, Safety & Product Assurance, and Quality Engineering assessed hardware and the condition of the tooling to make sure there was no contamination or corrosion present, and that hardware would be in good condition on Monday when we came back.

"It takes 48 hours to get the environment back, the temperature and humidity, before you can spray a closeout or know that your electrical readings are accurate," Javery explains. "People, hardware, tooling, paper, materials, consumables – all must meet requirements prior to commencing production."

Javery also points out that many employees did not get power restored to their homes until the weekend. Re-starting production on Monday allowed employees and their families time to return home and begin clean-up while infrastructure essentials such as groceries, gas stations and hospitals re-opened as well.

"When you think about it, it's remarkable how quickly everything came back together. We did an outstanding job of protecting hardware and materials."

Launch Honorees selected for STS-125

Liftoff – October 14

Dameon Bickham – *Production Operations*
Tim Bordelon – *Production Operations*
Chris Bourgeois – *Program Management & Technical Operations*
Horace Brookter – *Production Operations*
Jack Burks – *Facility Operations & Services*
Rusty Carpenter – *Safety & Product Assurance*
Craig Clauss – *Production Operations*
Glenn Cotty – *Safety & Product Assurance*
Kevin Davis – *Program Management & Technical Operations*
Eugene Flores – *Facility Operations & Services*
Herbert Guynes – *Production Operations*
Mike Huff – *Production Operations*
Donna Hutson – *Materiel Sourcing*
Jerry Pax – *Business Operations*

Supplier Honoree
Vincent Conese -- *AMI Metals*

Over 100 employees to attend Hubble launch

Good news for those who have never seen a launch

Steve Gaiennie will never forget the first Space Shuttle launch he “almost” got to see in 1989. “We drove to Kennedy Space Center, my wife and two young boys. The countdown is going, but suddenly the mission is aborted at approximately 15 seconds to start of main engines. We were terribly disappointed. But the boys soon got over it when we took them to Disney World.”

Now 20 years later, Gaiennie, the senior manager of Plant Engineering, may finally get to see his launch. “It’s kind of special and now one of my sons, Matt, works here.”

And guess what? You may get your chance too if you’ve never seen a launch.

Lockheed Martin has received NASA authorization to tap ET Award Fee money and use it for employees who have never seen a launch in person. “We’re taking the opportunity to send as many people as we can to KSC to see the External Tank and Space Shuttle fly,” says **Wanda Sigur**, ET program manager. “These are people who have spent a long time working on the program.”

Luck may be with the group. The shuttle has flown on the first attempt every time this year – February 7, March 11 and May 31. But we don’t want to jinx it for you.

Currently, *Atlantis* and ET-127 are scheduled to lift off at 12:43 a.m. EDT Friday, October 10, with a launch window of 66 minutes because the mission is headed to the Hubble Space Telescope.

TPS mechanic **Verna Freeman** has visited KSC twice on work crew assignments and served as a Launch Honoree, but the engine cut-off system connector ended her hopes of seeing a launch with her daughter in December. The 27-year employee is eager to see how things come together -- “The Big Picture,” as she terms it. “The chance to see two Orbiters on the pads at the same time will be an experience within itself.”

Up in Huntsville, **Ed Kirch** works on composite nose cones and is responsible for lay-up through the post-cure part of the process. As an honoree, he and his wife missed a launch years ago because a stray hurricane couldn’t make up its mind which way to go. “I’m glad to be going; I thought I would miss seeing a launch,” says the 20-year veteran who wishes his wife were still alive to see it with him.

Tony Flot has never been to KSC. “It’s my dream to see a launch. October can’t come fast enough. This is something I will never forget,” says the 26-year veteran who is associate manager for Facilities.

Gilbert Etienne feels the same way. Having worked at Michoud 28 years and now the associate manager of Weld Operations, he believes it will be an awesome experience. “To be a part of the most extraordinary accomplishments of mankind and to know that I, like others in the Lockheed Martin family, played a role in our nation’s space exploration – it’s something.”

Production planner/scheduler **Viola Balancier** also missed a launch nine years ago as an honoree. With 34 years at Michoud, she says, “I was very surprised because the highlight of working here is actually to see a launch.”

Sigur says the company will send another large number of employees to the November launch and will keep doing so for as many launches as possible.



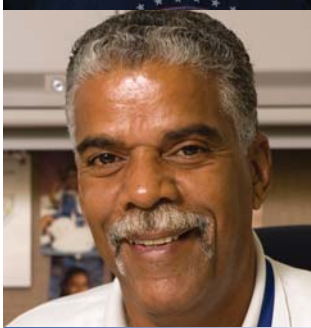
Steve Gaiennie



Verna Freeman



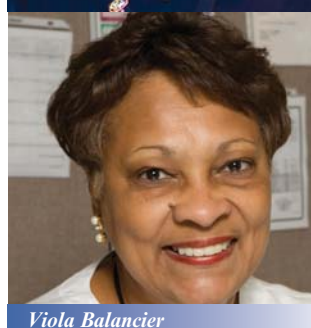
Ed Kirch



Tony Flot



Gilbert Etienne



Viola Balancier

Employees who will attend October 14th launch

Peter Allen	Dan Delaney	Will Henderson	Thu-Phong Nguyen	Timothy Smith
Faye Baillif	Todd Duhon	Terry Hennessy	William Ory	Terri Stewart
Viola Balancier	James Duke	Paul Herrin	Michael Parquet	Dan Swords
Joe Barrett	Frank Duncan	Billie Hill	O’Neal Peters	Roy Thomas
Connie Bartholomew	Neil Duncan	Kenneth Hilton	Kevin Pierre	William Torres
Troylynn Bass	Lavenia Emerson	Lowell Howard	Leslie Pontillas	Richard Treat
Ginger Ben	Steve Enxing	Willie Howard	Ashok Prabhaker	John Trowbridge
Darren Bergeron	Gilbert Etienne	Herbert Ivins	Graham Rashleigh	Warren Ussery
John Blevins	John Fisher	Cheryl Iwanczyk	Mike Ripoll	Antoinette Verrett
Karl Boehme	Tony Flot	Antonio Johnson	Clay Robinson	Kenneth Waller
Don Bollich	Jim Ford	Rebecca Jordan	Terry Roche	Douglas Webb
Daniel Bryant	Steve Francis	Ed Kirch	Celina Rodriquez	Andrew Williams
Douglas Buchholz	Paula Frazier	Chris Lacoste	Bonnie Roper	Chi Chi Williams
Lisa Buller	Verna Freeman	L.J. Ledet	Barry Rousseve	Ronnie Williams
Susan Bullington	Steve Gaiennie	Alvin Lewis	Alan Rovira	Tony Winn
Herbert Bush	Daniel Galbraith	Paul Lorio	Vickie Schmershal	Michael Witter
Lori Cantrell	Edward Goelz	Lorri Manning	Adooph Schmitt	Al Young
Fred Castle	Richard Hake	Kenneth Michael	Patrick Shea	Michael Zimmerman
Robert Champagne	Billy Hale	James Moffett	Dale Shorba	
Eric Champagne	Steven Hanberg	Carolyn Monteith	Amolak Singh	
Ronnie Coleman	Ed Harrington	Tim Murphy	Richard Smith	



Brett Tobey (left), director, Structures & Mechanisms Engineering for Space Systems, stands with design engineers Dave Windham and Anabel Salinas after presenting them with Extraordinary Engineer of the Month awards.

Two named Extraordinary Engineers of the Month

Design engineers **Anabel Salinas** and **Dave Windham** have been named Space Systems Company Extraordinary Engineers.

Several months ago, the External Tank (ET) program launched a major initiative – “Meet the Manifest” – which is developing multiple Producibility Enhancements to accelerate ET processing.

As part of the effort, Salinas supported deletion of Super Light Ablator (SLA) from several areas of the tank’s aft thrust structure. Initially, few computer models existed of the primary structure and cable tray components in this area of the ET. Analysis personnel required the models to evaluate proposed design changes.

With speed and dedication, Salinas prepared approximately 80 CATIA models defining the area and the proposed Thermal Protection Systems design modifications in just 3-4 weeks. This allowed Engineering revisions that reduced approximately 150 labor hours and one production day from the delivery of ET-127 on July 10.

As another part of the Producibility Enhancement initiative, Dave Windham developed a change to the BX spray windows for the Liquid Hydrogen Tank (LH2) Ice Frost Ramps. After seeing production technicians struggling to trim the spray windows on ET-128 (the first implementation of this particular design), Windham suggested changing from angular to point-to-point dimensioning around the periphery of the spray windows.

The change made a huge difference on ET-127’s delivery and saved a projected 200 labor hours and five days of ET schedule.

Hubble

Continued from Page 1

bus, Hubble orbits Earth every 96 minutes at an altitude of about 370 miles. By comparison, the space station orbits at 210 miles. The Space Shuttle placed the telescope into orbit in 1990.

This fifth and final Hubble servicing mission has been a challenge to flight planners. No safe haven exists for the crew in Hubble’s orbit. If something goes amiss, astronauts don’t have enough propellants to reach the space station. So NASA decided a second Orbiter, *Endeavour*, would stand by just in case the need arises.

The primary Orbiter, *Atlantis*, and ET-127 will launch on the mission from Pad 39A. *Endeavour* and ET-129 will stand by at Pad 39B. Both shuttles currently are at their respective pads being readied for flight.

Once *Atlantis* launches and is cleared for re-entry on or about the fourth day of the 11-day mission, *Endeavour* will roll from Pad 39B to Pad 39A to prepare for its November 12th launch to the space station.

With two more successful missions before the end of the year, the massive undertaking of building two tanks side by side, delivered less than a month apart this summer, will be worth the effort and once again demonstrate the commitment of the ET team at Michoud.

Free flu shots this fall

Five to 20 percent of Americans will catch the flu this year. That could be as many as 28,000 of the 140,000 employees who work at Lockheed Martin. So like last year, the corporation will again offer free flu shots to employees.

The Centers for Disease Control and Prevention (CDC) report that getting an annual flu shot is the best way to protect against the flu. In fact, it is 75 percent effective in preventing the illness.

By getting a flu vaccine, you do your part to not spread the flu to your loved ones and co-workers. To schedule your free flu shot, go to LMPeople and click on “Health & Wellness” under “Pay & Benefits.” Click on “Get a flu shot” under “Take Action” on left side of Web page.

To learn more about the flu, <http://www.cdc.gov/flu/>.



Emergency Information

To find out work status during hurricane season at Michoud, go to www.mafstatus.com or call 257-1MAF or 1-800-611-3116, check ETV or listen to WWL-870 radio or visit wwl.com or watch WWL-TV, Channel 4 or go to wwltv.com

ET-130 progress continues despite hurricane delays

Interruptions from Hurricanes Gustav and Ike resulted in work schedule impacts of about four days to ET-130, according to Bill Gilbert in Industrial Engineering. Technicians, on a volunteer basis, have been working overtime to recover schedule.

Items currently in work include installing the final two segments of the Liquid Oxygen feedline, attaching the Liquid Hydrogen cable tray and press line tubing, and mounting the aft interface diagonal strut. Thermal Protection Systems closeouts on both longerons and the aft interface also are in work.

ET-130 is scheduled for delivery in November and launch in February with *Discovery*.



Technicians Judy Atilano (left) and Kathy Wakefield spray primer on an ET-130 LO2 feedline flange.

Health & wellness focus continues as part of long-term strategy to mitigate medical cost increases

With health care costs again projected to be on the rise next year, Lockheed Martin continues to move toward implementing one medical plan for employees on Corporate Benefits early in the next decade.

In this fall's Annual Enrollment for 2009, slated for October 7-23 at Michoud, HMOs and an improved Total Health Plan will be offered.

"Lockheed Martin provides health care benefits to 540,000 people – employees, retirees, dependents and surviving spouses – and medical plan costs of \$1.1 billion represent the biggest share of benefit expenses," says LMHealth Works Director Bill Bonk.

He notes that an employee's share of the cost depends on rates providers charge in a given geographical area plus the individual's use of services in the plan. "The company has been paying about 80% of the total medical plan costs for employees, and each year the cost goes up for employees and the company."

Lockheed Martin is shifting to health and wellness programs integrated with medical plan strategies that attempt to

mitigate cost increases on both companies and their employees.

"Unfortunately, there are no quick fixes, and cost increases are a reality we must face in the near term," said Bonk. "We are investing about \$170 million in health and wellness programs over the next five years as part of a strategy that will incorporate our eventual new medical plan."

The move to a single medical plan "will shift our focus from the traditional role of treating illness to one of individual responsibility for proactively managing health and wellness."

Some employees, Bonk said, might confuse the current Total Health Plan (THP) with the single plan the company intends to move to as early as 2010.

"The eventual medical plan will

be similar to THP, but will have improvements that integrate our health and wellness activities. For example, incentives added to a healthcare fund could significantly offset deductibles and out-of-pocket expenses. We also expect most doctors in our plans today to be part of the large network in the future plan, thus minimizing disruption of service."

The Total Health Plan* this fall will be more competitive from a weekly contribution standpoint and include enhancements based on employee feedback. Also, the evolution to one plan continues.

A new feature: employees who certify they've been tobacco-free for the past 12 months can qualify for discounted rates on Group Universal Life insurance as well as a \$50 incentive added to their paycheck in January, minus taxes. See the Benefits Enrollment Q&A on the Gumbo banner for more information.

** Employees on Corporate Benefits hired since January 1, 2008 have one enrollment option – the Total Health Plan. Union-represented employees are covered by the terms of their collective bargaining agreements.*



Are you Safe?

“Doing it Safely” campaign winners



Winner Tom Maroney with new cap

Tom Maroney, Production Operations, is the September Grand Prize winner of the Safety Department’s “Are you Safe? Doing it Safely” campaign that runs through November.

Maroney received the award for proactively taking control of his 25-foot Safety Awareness Zone. While his partner operated an overhead crane using a remote control, Maroney acted as the suspended load stabilizer. While using a tag line to control the load, position it and keep it from swinging, Maroney stopped an employee attempting to walk through the barricade and under the suspended load. His action demonstrated personal commitment to safety.

The Doing it Safely promotion is designed to encourage employee safety by rewarding those who work safely. Employees who are observed performing

safe work activities may be recognized by Safety and receive gift cards that are redeemable for a designer hat or backpack. Bi-weekly winners and the monthly Doing it Safely Grand Prize winner will be recognized in future issues of *Info SPACE* and the *Mission Success Bulletin*.

Earlier bi-weekly winners:

- August 15 – **Harvey Jackson** and **William Bickham**
- August 29 – **Sidney Charbonnet**

Michoud FOE program judged “Best in Class”

In August 2003, the *Columbia* Accident Investigation Board report mandated that NASA establish a Foreign Object Elimination (FOE) program for the External Tank program at Michoud.

The Michoud FOE program is an automated paperless management system that tracks Foreign Object Debris training records, alerts employees to training expirations, and notifies Security to restrict access in certain production areas to those without proper training. The FOD system contains incident reports and captures cause and corrective action. It’s also a one-stop repository for lessons learned and historical metric and incident data.

The program has received numerous accolades including an Observed Area of Excellence award from the corporate auditor. Because of its continuous improvement and collaboration efforts, Michoud’s FOE program has been selected “Best in Class” and identified as the model to be implemented at all Space Systems sites by first quarter 2009.

Last month the Michoud FOE team attended the National Aerospace FOD Prevention Conference in Las Vegas, comprised of 700 participants from 120 companies. Using the conference theme, “Don’t Gamble with FOD,” the team took first place in the poster contest against 53 other entries.

The team also played a key role in developing the aircraft electronics technician certification – sponsored by the National Center for Aircraft Technician Training – by writing a major portion of the certification test questions.

Overall, the FOE program has made significant strides in eliminating and minimizing Foreign Object Damage in Michoud’s workplace. FOD prevention is a part of operations each day and helps ensure that Lockheed Martin will continue to design, build, and deliver FOD-free products to customers.

Click on <http://maflm509>.

maf.nasa.gov/3600/FOD/new/default.asp for more information about Michoud’s FOE program.



The FOE team shows off its winning “Don’t Gamble with FOD” poster – Cheryl Iwanczyk (left), Manufacturing staff; Charlene Martin-Dauphin, FOD administrator; Robbin Calhoun, staff engineer; and Jim Louis, FOE manager.

Compliance Training Check-up

LM People

Ethics Officer **Lillian Baham-Gosin** asks all employees to review their compliance training record on-line and to complete all training modules due this year by October 24 – to meet Michoud and Space Systems goals. Recently, training modules were added to some employee records.

Baham-Gosin also reports that Michoud stands at 100 percent in completing 2008 Ethics Awareness Training. This year’s training emphasized the role that Trust plays in cultivating open and honest communications, inclusiveness and respect for each other, and an ethical work environment.

Employees support United Way campaign & Blood Drive

UW campaign finishes right at 100 percent

Lockheed Martin's United Way drive ended triumphantly on August 29 with employees pledging \$367,078. That figure is 99.6 percent of our goal of \$368,511.

Chairwoman **Paula Hartley** had nothing but praise for those who gave generously, thus making the campaign a success. "Once again we have exceeded the previous year's total contributions. A heart-felt thank you to all of you who cared: cared about helping your community, family and friends with both your financial and food drive contributions. Thank you for caring!"

Several departments exceeded their United Way goal, passing 100 percent in pledges. Huntsville Technical Operations excelled as high performer, reaching 156 percent of goal.

Besides employee donations, Information Technology Systems sponsored a silent auction that raised \$1,213 in cash, also putting them over 100 percent. In addition, Vice President **Manny Zulueta** presented a \$70,000 check on behalf of Lockheed Martin to the United Way's **Gary Ostroske** at the opening kickoff on August 18.

Altogether, 54 percent of Michoud employees contributed to the United Way campaign.

Contributions of canned goods to the Second Harvest food drive filled 120 boxes, weighing in at 2,463 pounds. Employee donations filled half the Second Harvest truck.

Besides canned goods, employees also gave the gift of life by donating blood during Lockheed Martin's third Blood Drive of the year September 15-19. A total of 317 employees tried to give, and The Blood Center collected 258 units during the blood drive.

Health Services Manager **Kathy Eaton** noted that more volunteers were turned away this drive than in the past due to low iron counts. "The new hemoglobin testing is more specific so some employees could not give. However, these potential donors should look at this as a positive because now they have an awareness of one aspect of their health life that they can address through diet or with their personal physician."

Michoud's next blood drive is in November.



Coordinator Netsy Wheeler and Rich Jeppesen of Business Operations help load boxed canned goods into the Second Harvest truck. Employees donated almost 2,500 lbs. of food during the United Way drive.

Final tank in work

A Transportation & Handling crew moves ET-137's Liquid Hydrogen Tank from the 5019 tool to the 5068 tool on August 28. Under the current Space Shuttle manifest, ET-137 is scheduled to be the final ET to fly.

Delivery is currently scheduled in the April 2010 timeframe with a launch date of May 31, 2010 to propel STS-133 and *Endeavour* to space.



Milestones

Employees celebrating anniversaries with Lockheed Martin in October 2008

35 Years
Warren Schrieffer

Scott Phillips
Antoinette Verrett

20 Years
Glenn Bunch
Terrence Burke
Susan Craddock
Frank Gause
Tommy Imbraguglio
Joseph Lincoln

Gregory Schieleit

30 Years
Charles Arthur
John Blevins
Robert Burge
Michael Howard
Patricia Malphurs
Perry Morton
William Ory
Brian Pearson

25 Years
Joseph Colombo
Jerry Craft
Arthur Fauver
Guy Jackson
Daniel Jurado
Martin Kruger
Andrew Laurant
Jerry Tines

10 Years
Miles Arthur
John Hall
Gene Lassus

5 Years
Tracy Cromelin
Erik Holgerson
Erin Jennings
Danielle Larson
Bert Maatta
Kristy Silbernagel
Bradley Skotko
Quoc Vo
John Williams

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