Space Systems Company – Michoud Operations

LOCKHEED MARTIN

We never forget who we're working for.™

Mission Success Bulletin

February 26, 2006

on-line

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

Production ready to shift into high gear

Factory prepares for much busier schedule in support of shuttle flight manifest

Almost every week, Michoud reaches another important milestone.

Two weeks ago, employees were preparing for the first proof test in four years on a Liquid Hydrogen Tank in Building 451, a structure ravaged by Hurricane Katrina. A week earlier, a reactivated Cell G in the High Bay Building completed its first automated foam spray application on Intertank acreage in a similar period of time.

And in the factory, workers recently welded the forward dome to ET-132 Liquid Hydrogen Tank – the final weld needed to complete that tank.

No doubt, the External Tank production line is getting busier by the day. Every tank is in the production flow, including the start of construction on stringer panels and Intertank riveting for ET-138, the final tank on the current manifest.

Most of the action since the *Columbia* accident, and then Katrina, has centered on Final Assembly, Cell A, and Building 420. Now, look for more activity in the factory and other cells in the Vertical Assembly and High Bay Buildings.

As a sign of progress, Michoud has recertified 25 of the 26 'grandfathered' automated weld processes. "That's big," emphasizes **Mike McGehee**, senior manager, ET Recurring Build, "because that means we can go out and weld on all of our weld tools."

Prior to the accident, Michoud ran three welding shifts; afterward, cutting back to one. On February 12, welding initiated a second shift – with the focus on major weld where the Liquid Oxygen and Liquid Hydrogen Tanks are assembled – and a third shift is planned for August. To get to this point, Michoud has been hiring and training welders for months.

"We're going to increase the through-put via major weld to meet the manifest," asserts McGehee. "It's important that welding produces to populate the downstream shops. I call it feeding the rest of the world. That's where the tanks go out to proof, and then to the VAB for the beginning of cleaning, priming and TPS (Thermal Protection Systems) applications."

Mechanical Assembly is also fully activated and supporting all builds throughout the factory.

A rebuilt and checked out Building 451 is back in the proof test business. As this story is written, technicians are testing the ET-131 LH2 tank with 10 percent loads prior to actual proof testing with nitrogen gas. Early data has shown that there are some issues to work out of the system prior to performing the full proof test.

Meanwhile, the majority of VAB and High Bay cells inactive since Katrina are about to return to life as well. In the VAB, Cell A is operational with Cells B, C, D, E, and F coming back on-line soon. In the High Bay Building, Cells G and H are operational with Cells J, K, & L set to return (see chart on Page 3 for Cell status).

In Building 420, technicians continue processing modified tanks for retrofitting.

Another production milestone – workers prepare ET-131 Liquid Hydrogen Tank in Building 451 for 10 percent load testing prior to the first full proof test in four years.

Continued on Page 4

MS&TC at the core of satellite production

Lockheed Martin's Mississippi Space & Technology Center (MS&TC), located at Stennis Space Center, plans to ship not one, but two satellite cores to Sunnyvale, Calif. within weeks of each other.

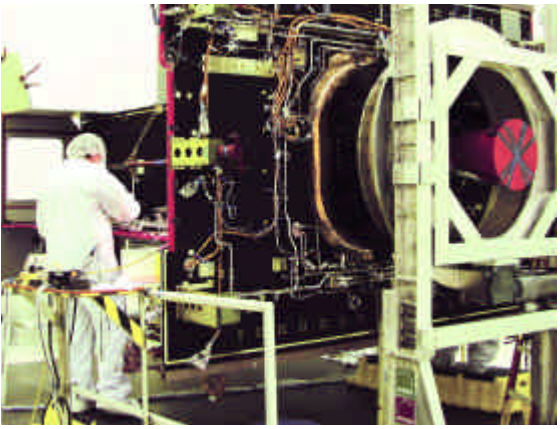
The JcSat-11 shipped February 15, and the Advanced Extremely High Frequency-1 (AEHF-1) is scheduled for delivery in March.

"The team here is truly exceptional and is paving the way for future business to come to Stennis," stated Site Director **Laryssa Densmore**.

On the JcSat-11, the MS&TC team welded and installed the propulsion system, installed propulsion harnesses and heating system, built and installed thermal blankets, and performed high pressure testing and electrical check-out as part of the core's build-up phase.

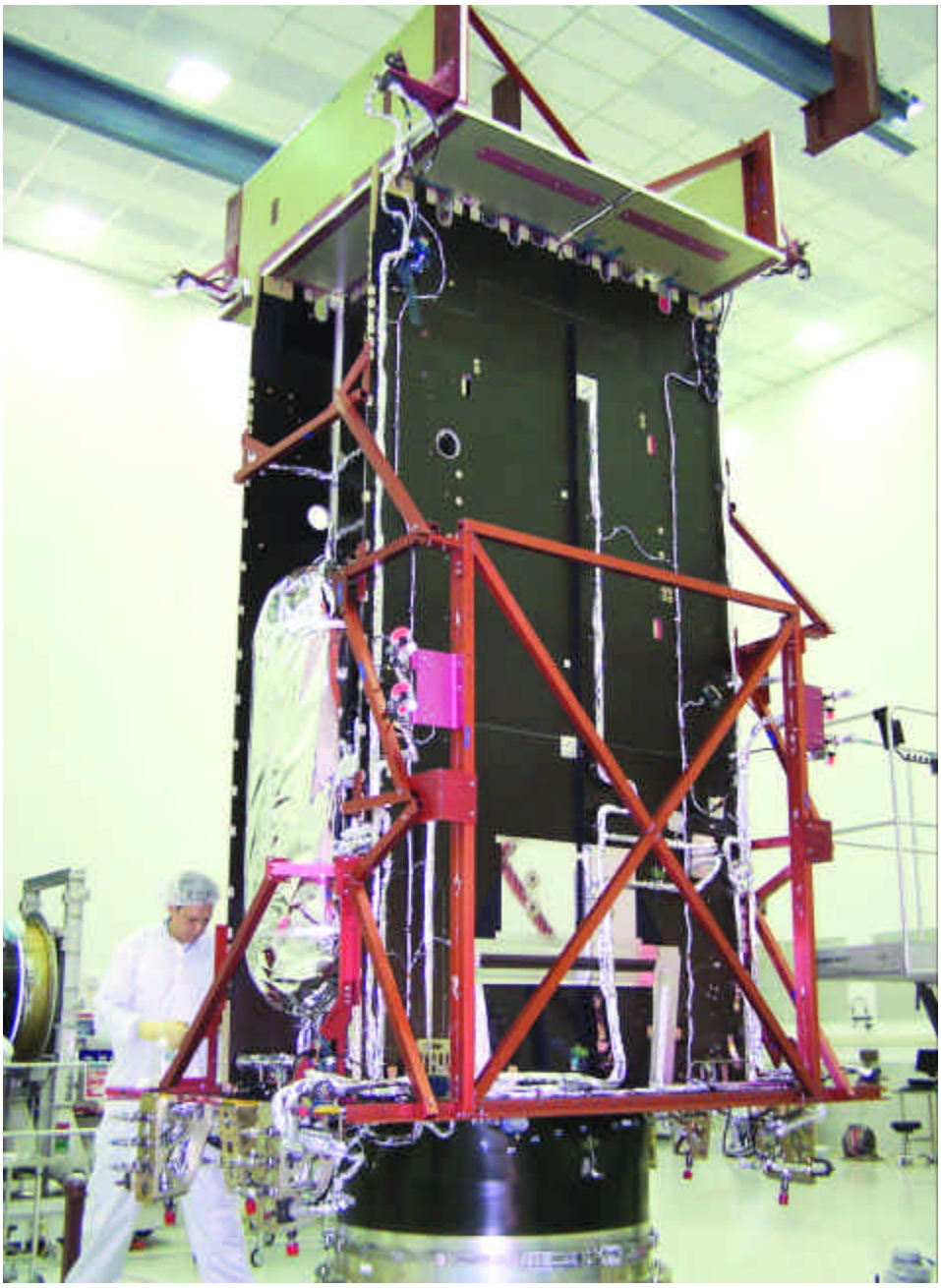
In Sunnyvale the direct broadcast satellite will complete final assembly, integration and test, and solar array installation before being shipped to Baikonur, Kazakhstan to launch on a Proton rocket with a liftoff date to be determined.

Previously, the Lockheed Martin team at Stennis had worked on and delivered the JcSat-9 and JcSat-10 satellites. JSAT Corporation owns and operates nine satellites in the Asia-Pacific region. Among other services, the company provides digital broadcasting, video and data, and international telecommunications services.



Technician Dave Wilson works on harness installation on the AEHF-1 satellite core.

After shipping JcSat-11, the Lockheed Martin team will deliver the military AEHF-1 satellite core to Sunnyvale. There, it will undergo final assembly, integration, test, and solar array installation, and then launch from Cape Canaveral, Florida in 2008 on an *Atlas V* rocket.



Technician Keith Martinez finishes harness and ground tab installations in preparation for an electrical test on JcSat-11 at the Mississippi Space & Technology Center at Stennis.

The first of three planned satellites, AEHF-1 features the first MS&TC-assembled Xenon propulsion system and will weigh 13,500 lbs. at liftoff.

The AEHF satellites will provide global, secure, protected, and jam-resistant communications for high-priority military ground, sea, and air assets. The system will consist of three satellites in geosynchronous earth orbit that provides ten to 100 times the capacity of the 1990s-era Milstar satellites.

MS&TC expects to deliver two additional AEHF satellite propulsion cores by year-end – and also receive two additional new cores, promising for a busy 2007. ■

Atlantis mates with ET-124 and Solid Rocket Boosters

NASA puts together the final components of the STS-117 stack earlier this month at Kennedy Space Center before rolling to the pad. The first launch of the Space Shuttle this year is scheduled for 5:43 a.m. central time on March 15.

NASA releases 2008 budget

Congress cuts 2007 budget by $545 million back to 2006 levels

The Bush Administration recently released its 2008 fiscal year (FY) budget* that includes $17.3 billion for NASA, a 3.1 percent increase over the president's request for the agency in 2007.

NASA Administrator **Michael Griffin** commented that the budget signaled the president's commitment to NASA and to maintaining our nation's leadership in space and aeronautics research.

While the proposed FY 2008 budget includes the 3.1 percent increase, the current FY 2007 NASA budget is frozen at $16.24 billion, the FY 2006 level. A funding resolution passed by the House of Representatives in early February and approved by the Senate on February 15 essentially reduced overall funding for NASA by $545 million from the president's FY 2007 request of $16.8 billion back to the 2006 level.

The overall federal spending measure now goes to the White House for final approval.

NASA officials indicated that progress on the shuttle replacement effort will be severely affected by the proposed budget cuts.

"The fiscal year 2007 appropriation, if enacted as the House has resolved, will jeopardize our ability to transition safely and efficiently from the shuttle to the *Orion* Crew Exploration Vehicle and *Ares I* Crew Launch Vehicle," reported Griffin following release of the FY 2008 budget on February 5. "It will have serious effects on many people, projects, and programs this year, and for the longer term."

> *"It (the budget cut) will have serious effects on many people, projects, and programs this year, and for the longer term."*
>
> ***– Michael Griffin, NASA Administrator***
> ***February 5, 2007***

Griffin stated that NASA is committed to producing the *Orion* spaceship and *Ares I* booster, but that the budget impacts may prevent the agency from meeting its deadline to fly *Orion* by 2014. With the Space Shuttle program ending in 2010, he is concerned about the looming multiple-year gap in America's capability to fly humans into space.

"We will be able to allocate less money than planned for *Orion* and less for whoever wins the *Ares* contracts. If I am only able to give contracts later than previously planned, work will show up on the loading dock later than previously planned," Griffin stated.

NASA also will make cuts to science programs and lunar robotic missions in order to fly the remainder of the shuttle missions necessary to finish the International Space Station. The agency will inform the White House and Congress on the impact that budget cuts and the redirection of funding will have on multiple-year space and aeronautics projects and programs. ■

For more information on the NASA budget, please go to: http://www.nasa.gov/about/budget/index.html

**** The NASA FY 2008 budget runs from September 1, 2007 through August 31, 2008.***

Busy factory

Continued from Page 1

ET-117, the next tank in flow, remains on schedule for an April 4th delivery. The final retrofitted tank, ET-126, will be the fourth of five tanks delivered this year. To handle all the work, Building 420 and Final Assembly will soon begin third shift operations in early March.

"It's great to see that the factory has a heartbeat again," proclaims **Hal Simoneaux**, director of Production Operations. "There's a lot of challenging work still in front of us, a lot of hard work still to go in meeting the current manifest, but it's very exciting to see the factory up and running again." ■

Status of Cells in VAB & High Bay Building

Cell	Function	Tank in cell	Status
Cell A	Splice LO2/Intertank to LH2 tank, retrofits flange	ET-125	Reactivated in March 2006
Cell B	LH2 tank forward dome & barrel automated foam spray	Next tank ET-131	Reactivating in July – inactive since August 2003
Cell C	LH2 tank forward dome & barrel automated foam spray	Next tank ET-129	Reactivating in early March – inactive since August 2003
Cell D	LH2 aft dome foam spray	ET-128 staged	Preparing for paper confidence spray in March – inactive since July 2003
Cell E	External/internal wash on LO2 tank & internal wash on LH2 tank	Next tank ET-130 LO2 tank	Resuming production in early March – inactive since December 2003
Cell F	Proof test on LO2 tank	Next tank ET-132	Reactivating in early March – inactive since Nov. 2003
Cell G	Automated foam spray on Intertank acreage	ET-132 Intertank allocated to ET-131	Performed first spray in 4 years in January
Cell H	Revalidating LO2/ Intertank flange closeout	LO2/Intertank test article	Validation proceeding
Cell J	Splice LO2 tank to Intertank	ET-130 LO2 & Intertank	Reactivating in May – inactive since October 2003
Cell K	Prime LO2 tank & foam spray LO2 dome	Next tank ET-130 LO2 tank	Reactivating in April – inactive since Sept. 2003
Cell L	Intertank machining	Next tank ET-132 allocated to ET-131	Reactivating in early March – inactive since June 2003

EVO Board plans to expand projects in 2007

The Employee Volunteer Organization has already gotten off to a fast start this year by participating in MATHCOUNTS and Habitat for Humanity projects.

"I would like to ask Michoud employees to come together in 2007 and volunteer to help out in our communities," **Carolyn Baringer**, EVO president, said.

"This year we will be concentrating on three areas: Housing, Education and Parks/Recreation. In our post-Katrina area, we still have a long way to go to bring this area of the country back to the greatness it once possessed. We can make a difference, and Lockheed Martin personnel are just the right people who can help."

The EVO hopes to expand its reach on projects into a variety of locales so employee-residents who live in areas surrounding New Orleans will have an opportunity to volunteer in their local communities.

"The EVO Board is always open to project suggestions, so please give us a call and let us know of any ideas to help out in your community," Baringer said. ■

Leading the Employee Volunteer Organization this year are first row from left: Syretta Summers; Jennifer Lewis, treasurer; Netsy Wheeler, ex-officio; Mary Buchholz, secretary; and Jennifer Vititoe. Second row: Raynard Bender; Carolyn Baringer, president; Leonard Wiggins, vice president; Tyler Spalding; and Hank Knighton.

Astronauts present Silver Snoopy awards

STS-116 crew members who flew in December visited Michoud on January 31 and presented Silver Snoopy Awards to employees who have exhibited outstanding performance in their disciplines.

Included in the crew front row from left are Mission Specialist **Christer Fuglesang** (Sweden); Pilot **Bill Oefelein**; Commander **Mark Polansky**; and Mission Specialists **Joan Higginbotham**, **Nicholas Patrick**, and **Bob Curbeam**.

Snoopy recipients second row from left:

- **Dexter Dennis –** for leadership and teambuilding skills during Return to Work and re-qualification efforts required to meet Major Weld milestones
- **Richard Wust –** for knowledge of critical systems for the past 26 years as exemplified by the installation of humidity injection air handling units in Bldg 420, allowing Production Operations to process flight hardware and complete ET-124 delivery on schedule
- **Kelley Easley –** for technical guidance and oversight on design projects relating to Thermal Protection Systems mock-up and spray modifications, External Tank production processing facility modifications, and configuration improvements to the main plant chilled water system
- **John Labanosky –** for being instrumental in assuring that ET flight hardware materials are available to meet demanding production schedules
- **Donna Flower-Kraft –** for generating a tank-by-tank Manufacturing Bill of Material and a useable manual Manufacturing Resource Planning system that were key to the timely scheduling and assembly supporting the Return to Flight manifest
- **Harshel Gildhouse –** for inspections during Verification & Validation of the Liquid Hydrogen Tank/Intertank flange modification process that supported Return to Flight
- **Glenn Schmitt –** for innovative contracting techniques and teaming skills that led to contractual development and implementation of all Return to Flight proposals, thus reaching mutually-agreeable positions with NASA
- **Joel LoBue –** for assuring the availability of all flight hardware required to successfully fly-out the Space Shuttle Program following partial termination of the ET supplier base
- **Brian Piekarski –** for leadership and organization on the propulsion analysis team during Day-of-Launch activities ensuring that launch operations are run in a smooth and efficient manner

Astronaut **Jeff Williams** recognized three Michoud Operations employees at Huntsville Technical Operations with the Snoopy award on January 25. With Williams from left are **Henry Seymour**, **Ray Kirch**, and **Richard Welch**.

- **Henry Seymour –** for assuring that Lockheed Martin personnel supporting ET materials and process development activities at Marshall Space Flight Center have access to proper information technology systems
- **Ray Kirch –** for supporting test operations relating to various Space Shuttle elements, most notably the ET
- **Richard Welch –** for supporting ET materials and process development and production activities at MSFC ■

NMA chapter to be organized

Michoud Operations employees will soon have another resource to assist in their personal and career development.

In conjunction with Lockheed Martin Corporation and Space Systems Company, Michoud will establish a local chapter of the National Management Association (NMA) with the goal of providing networking, management, leadership, and personal development opportunities for all employees.

Nationally, NMA serves over 22,000 members, with over 11,000 of those being Lockheed Martin employees.

The Lockheed Martin Leadership Association, New Orleans Chapter as it will be known – will offer a continuous learning environment through monthly meetings and special events focused on individual self-improvement through personal development, community service, and interchange opportunities.

Find out more about this dynamic organization during informational sessions scheduled at 9:30 a.m. Monday, March 5 and 3 p.m. Wednesday, March 7 in the NASA Auditorium. ■

Milestones

Employees celebrating anniversaries with Lockheed Martin in March 2007

30 Years
Chris Barcelona
Peter Finger
Steve Gaiennie
Fred Lockhart
Donald Regan
Leon Richard

25 Years
Andrew Bellau
Dan Callan
Tom Fierke
Sharon Fitzgerald
Walter Glaudi
John Huggins
Patricia Koch
John McDonald
Philip Miles
Philip Scheurer
Derek Townsend
Christi Welsh
Ronnie Williams

20 Years
Arthur Arseneaux
Herbert Claybrook
Robert Meibaum
Sherry Metzger
Ranee Moore
Roland Rivera
Michael Ryals

15 Years
Edward Cherrie

10 Years
Stephen Bragg
Joan Detiege
Frank Hoffmann
Robert Jorns
Celina Rodriguez

5 Years
Ian Thompson

Employees celebrating anniversaries with Lockheed Martin in January 2007

(Our apologies for the oversight in the December 19, 2006 On-line Mission Success Bulletin*)*

30 Years
Stephen Mayfield
Stanley Morand
Eric Nolting
Sidney Prendergast
Noris Silcio

25 Years
Gary Boudra
Beverly Hammons
David Kirk
David Lander
Beverly Vaultz

20 Years
William Baldwin
Herbert Carter
Frank Heubaum
Chet Hirstius

15 Years
Robbin Calhoun
Warren Traub
Thomas Wallbillich

10 Years
Anthony Bradley
James Cousin
Hollis Davis
Johnny Fox
Stephen Francis
Mark Gambino
Claiborne Hammons
William Hawkins
George Huber
Christopher Koch
Larry Koenenn
James Little
Roger May
Quinn Quaglino

5 Years
Larry Brandly
Mark Evans
Richard Gittings
Kendrick Johnson
Scott Lee
Jason Pohlmann
James Sellers
Mary Rodrigue
Damien Smith
Jean-Paul St. Amant
Stephanie Zulauf

Mission Success Bulletin on-line

LOCKHEED MARTIN

Lockheed Martin Space Systems Company – Michoud Operations

Volume 26, No. 2 • February 26, 2007

Director of Communications: Marion LaNasa

Editor: Harry Wadsworth

Graphics, Photography: Amanda Diller, Pete Emig, Chip Howat, Jon Irving, Ryan Martin, Bernie Waddell

Contributors: Laryssa Densmore, Teresa Dillon, Melinda Johnson, Linda Leavitt-Bell

Mission Success Bulletin is published by the Communications Department.