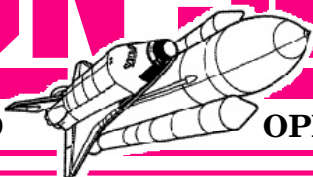


MISSION SUCCESS[®]

February 6, 2002

MICHOUD



OPERATIONS

BULLETIN

LOCKHEED MARTIN



Dennis R. Deel
President & General Manager

February 6, 2002

My fellow employees:

Michoud Operations had a good year in 2001 despite some notable disappointments.

We maintained our 100 percent Mission Success record in six Space Shuttle flights. We improved our safety performance. We achieved process improvements that resulted in labor savings, cycle time reduction and defect reduction. Our customer recognized our efforts with Award Fee improvements. We also took major steps in making the National Center for Advanced Manufacturing (NCAM) operational.

The disappointments included a reduction in External Tank production rate from eight to six a year, cancellation of the X-33 program and a limited award under NASA's Second Generation Reusable Launch Vehicle program.

I anticipate this year to be equally challenging. New NASA Administrator Sean O'Keefe will take a close look at all NASA operations, and we can expect additional pressure on the Space Shuttle program budget.

This year the ET project will support six launches, four of those to the International Space Station. We will deliver six tanks including ET-121, the last of the 5th Buy contract. New initiatives include Friction Stir Welding, digital X-ray and 2219 domes. Besides the shuttle launches, this year we also plan to fly a Hybrid 60K sounding rocket and make the NCAM's Fiber Placement Machine operational.

Last year, new business opportunities did not materialize as we hoped. As we start this year, it appears there will be even fewer opportunities to pursue. Nevertheless, we do expect that our technology investments will lead to work on the Joint Strike Fighter nacelle, and we are also investigating other composite work on the Comanche and Black Hawk helicopters.

To meet current ET commitments and position ourselves to win new business, we must remain focused on operational excellence, improving processes and reducing cycle time.

We must also continue building upon our safety record that typically leads our industry. Our number one cause of accidents and incidents continues to be employee inattention. I am asking management to focus on safety behavior, and each of you this year to concentrate on individual safety performance.

As we face another challenging year, I am confident that by working safely and striving for operational excellence that we will continue to achieve 100 percent Mission Success. Thank you for your ongoing commitment to Michoud Operations and America's space flight programs.

Sincerely,

A handwritten signature in black ink that reads "Dennis R. Deel". The signature is written in a cursive, flowing style.



Space Shuttle Program Council tours ET production line
While meeting in New Orleans recently, several members of the Space Shuttle Program Council posed before a Liquid Hydrogen Tank. From left are Stephen Brettel, NASA Michoud; Jerry Smelser, NASA manager, ET Project; Ron Dittimore, manager, Space Shuttle Program and Council chairman; Dennis Deel, president, Michoud Operations; and Ron Wetmore, vice president, ET Project. Dittimore said he was impressed with the Kaizen improvements that Michoud is making.

Lockheed Martin receives award from Chamber

Calling Lockheed Martin a company whose accomplishments are inspirations for what a state can achieve, the New Orleans Regional Chamber of Commerce recently presented a Vision of Excellence Award to Michoud Operations.

President **Dennis Deel** accepted the award saying, "We're committed to supporting the Space Shuttle through 2012 with quality products and 100 percent Mission Success."

The Chamber also recognized Lockheed Martin for its innovative partnerships such as the one with NASA, the University of New Orleans and the State of Louisiana that created the National Center for Advanced Manufacturing (NCAM). The NCAM partnership positions Michoud for possible Joint Strike Fighter work in the future.

Three receive President's Awards

Michoud Operations President **Dennis Deel** recently presented **Andrew Bullard** and **Michael Rabito** of Program Management & Technical Operations and **Paula Frazier** of Information Technology Systems with a President's Award, one of Michoud's highest forms of recognition.



Andrew Bullard

Deel cited Bullard for "outstanding technical achievement in support of the Intertank Access Door verification test, as well as the ET-117 Liquid Hydrogen Tank crack investigation."

Bullard's work helped qualify the composite Intertank door for flight. On ET-117, his multiple analysis models on potential panel overload scenarios played a major role in helping Michoud zero in on probable causes.

Deel recognized Rabito for outstanding technical leadership and management in developing an internal insulation for cryogenic tanks with a common bulkhead.



Michael Rabito

Rabito tested various insulations, which operated in liquid hydrogen.

Frazier was honored for her performance and leadership while assigned to Manufacturing and Engineering Systems.



Paula Frazier

To support the ITS Process Improvement Initiative, she conducted surveys, assisted in demonstrating new products and took on the role of a Project Planning lead.



Fifteen Michoud employees recently received their Lean/Six Sigma Green Belt certification. Front row from left: Eric Gueldner, Russell Smith, John Trowbridge, Bob Keener and Billy Young. Back row from left: Steven Reeves, Charles Arthur, Jeffry Henton, Bobbie Tucker, Matthew Robertson, Lloyd Demmons, Darrel Pearson, Lance Mercier and Bill Hodgson. Not pictured is Patrick Nikolas.

Green Belts obtain certification

Bob Keener had never done this before. A Production Operations hourly employee, he was picked to lead the SOFI Shop Six Sigma Team. "I was kind of nervous at first, but after a while I got used to it."

Keener's team looked at all 66 parts or small components in the SOFI (Spray On Foam Insulation) Shop. Which parts were being automatically machined? Which were being hand machined? Could more SOFI parts be automatically machined?

The team studied the process and delivered 80 hours of recurring savings per External Tank. A few parts like the vertical struts were big hitters. Manually, it takes 40 hours to trim the SOFI on a vertical strut. Machining does the task in under ten hours.

Recently, senior management honored the first class of certified Green Belts – those who have undergone the training, completed improvement projects and obtained measurable results.

"This kind of involvement will spell success for the customer," predicted **Joe Marcus**, vice president, Production Operations. "Some of you may have wondered at

first what this was all about. Was it just another 'program of the day'? Now you've seen the value and the savings."

Michoud's LM21 program, where teams use Kaizen and Six Sigma methodology, continues to find ways to improve operational excellence. For instance, the Welded Feedlines Team is responsible for improvements in the liquid oxygen (LO2) and liquid hydrogen (LH2) feedlines.

For years Michoud fabricated the straight pipe section of the LH2 siphon feedline as part of the siphon line assembly. This costly and time consuming activity is now purchased as a single piece from a vendor at a substantial savings.

The team also looked at excessive defects created during installation of the tube support ring (TSR) on the LH2 feedline. After study and engineering analysis, it was determined that the TSR could be eliminated.

"These Lean initiatives eliminated parts from the tank and reduced defects by eliminating the welding process, which resulted in labor and schedule savings," said **Brian Magendie**, who leads Lean/Six Sigma efforts.

Hybrid motor firing successful at Stennis Space Center

The Hybrid Propulsion Demonstration Program carried out its final Hybrid 250K motor test on January 17. The 27-second firing went off without a hitch. This was the third firing of this Hybrid motor for a total burn time of 80 seconds.

"Two key technical issues, combustion stability and fuel retention at motor burnout, were successfully addressed in this test," said **Pam Mitchell**, manager, Program Management & Advanced Programs.

Hybrid motors of the 250K thrust class are being studied for current and future launch vehicles. A Hybrid sounding rocket flight demonstration is set for March at Wallops Flight Facility, VA.



Hybrid 250K motor firing last month

Six Space Shuttle missions planned for 2002

Date	Flight / ET	Orbiter	Payload
February 28	STS-109 (ET-112)	Columbia	Hubble Space Telescope Servicing Mission
April 4	STS-110 (ET-114)	Atlantis	Integrated Truss Structure & Mobile Transporter to International Space Station (ISS)
May 6	STS-111 (ET-113)	Endeavour	Multi-Purpose Logistics Module Leonardo to ISS & Crew Rotation
July 11	STS-107 (ET-93)	Columbia	Research Mission, Freestar
August 1	STS-112 (ET-115)	Atlantis	15th Flight to ISS
September 6	STS-113 (ET-116)	Endeavour	Crew Rotation to ISS

Be Prepared!



**ISO Audit is February 25-28
at Michoud Operations**

**Audit is March 18-19
at Huntsville Technical
Operations at MSFC**



Did someone say the word “volunteer”?

The 2002 Employee Volunteer Organization Board of Directors will guide this year’s volunteer activities. They are from left: Dee Geraci, treasurer; Rob Carey, ex-officio; Sandie Campbell; retiree Jack McKean; Steve Garner; Marc Church, president; Bill Burtch, vice president; John Beicher; Linda Savage-Regan, secretary; and Harry Nelson.

MILESTONES

Employees celebrating January & February anniversaries

30 years

Peter Hinkeldey

25 years

Horace Brookter
Richard Clavin
Larry Cox
Eric Leonard
Stephen Mayfield
William McGee
Terry McKeough
Stanley Morand
Eric Nolting
Sidney Prendergast
Jay Schmitt
Noris Silcio
John Trowbridge

20 years

John Beicher
Gary Boudra
Arthur Dowd
Clyde Furst
Charles Gudaitis
Ben Hanslick
Alan Hislop
Paul Houidobre
Danny Howard
Carl Jeppesen
David Kirk
David Lander
Delbert McCleskey
Robert Pontiff
John Pucheu
Beverly Smith

Thomas Thompson
Beverly Vaultz
Joyce Wyatt

15 years

Dwayne Alfred
William Baldwin
Herbert Carter
Frank Heubaum
Chet Hirstius
Steve Jones
Camille McConnell

10 years

Robbin Calhoun
Warren Traub
Thomas Wallbillich

5 years

Jordon Bourgault
Daniel Doell
Johnny Fox
Stephen Francis
Mark Gambino
Claiborne Hammons
William Hawkins
George Huber
Gary Jackson
Chris Koch
Larry Koenenn
James Little
Walter Lymuel
Roger May

Billy Melson
Ovidio Menendez
James Moody
John Olavesen
Quinn Quaglino
Edward Rocha
Mary Rodrigue
Thomas Ruppenicker
Damien Smith
Frederick Walker
Eric Williams
Stephanie Zulauf

MISSION SUCCESS[®] BULLETIN

Volume 21, Number 1
February 6, 2002

Editor: Harry Wadsworth

Graphics, Photography:
Kevin Barré, Travis Kennedy,
Horace Williams

Contributors:
Bob Bruce, Marion LaNasa

**Lockheed Martin
Space Systems Company
Michoud Operations**

Telephone: (504) 257-0094
Mission Success Bulletin is published
by the Communications Department.

Lockheed Martin Space Systems Company
Michoud Operations
P. O. Box 29304
New Orleans, LA 70189-0304

Please send mailing address updates to: sharon.h.hansen@maf.nasa.gov