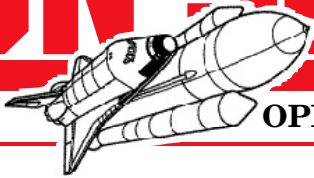


MISSION SUCCESS[®]

October 15, 2001

MICHOUD



OPERATIONS

BULLETIN

Stronger welds...fewer repairs...lower costs Thumbs up for External Tank modifications

An undercurrent of eagerness resonated throughout the room at the conclusion of the recent ET design review – when NASA gave Michoud Operations the green light to proceed on key modifications for ET-134 and beyond.

“These changes support several Space Shuttle program initiatives, enhance safety and reliability with stronger welds and fewer repairs, reduce cycle time and lower costs,” explained **Mike Quiggle**, manager of producibility enhancements.

Changes include using the Friction Stir Weld (FSW) technique, different weld wire, and reverting back to Aluminum 2219 material [used on ETs prior to the Super Lightweight Tank (SLWT)] on various tank sections, along with design improvements.

The most innovative change is

FSW, a process originally invented in the United Kingdom, which Michoud has spent the past six years adapting for the ET.

“I’m very excited that we’re able to implement Friction Stir Weld into production,” remarked **Dave**

“These modifications are crucial to our commitment to Mission Success, and are essential in meeting and maintaining Michoud’s contractual commitments to our customer.”

– Ron Wetmore, ET Program Manager

Hartley, shuttle upgrades manager. “After years of development, we finally brought this technology to the state where it can be applied to human-rated

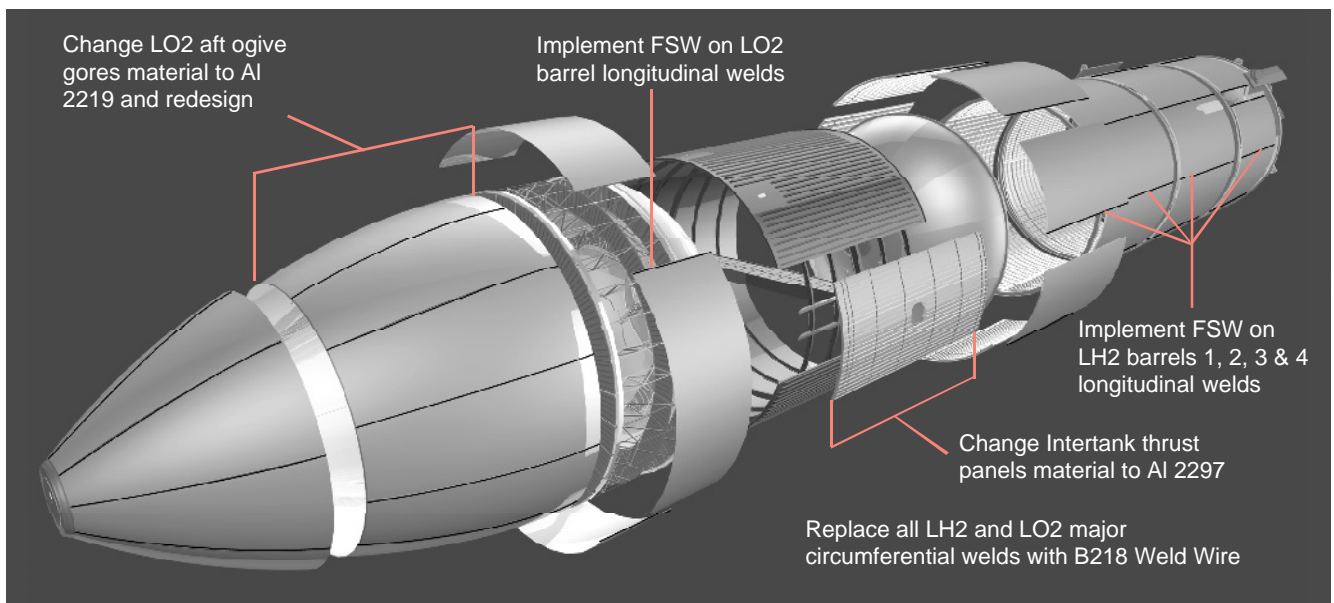
launch vehicles.”

The process uses a high-speed rotating tool, which produces frictional heating that turns the material into a “Play-Doh-like state” and “stirs” the material together, creating a seamless bond.

This translates into stronger welds and fewer repairs, reducing the overall ET fabrication schedule.

Design initiatives to the Liquid Oxygen Tank and Intertank thrust panels maintain SLWT performance, but compensate for heavier, more robust 2219 material.

“These modifications are crucial to our commitment to Mission Success, and are essential in meeting and maintaining Michoud’s contractual commitments to our customer,” emphasized **Ron Wetmore**, ET program manager.





Astronauts check out External Tank production
Welder Eric Gueldner (left) describes how the Liquid Hydrogen Tank is built to astronauts Janet Kavandi and Michael Gernhardt.

NASA Safety Day is October 17

NASA Safety Day is a time to reflect on how we can all work safely here at the Michoud Assembly Facility. "Crew meetings throughout the day will promote an open discussion of safety topics - not only at work, but also at home," said **Steve Turner**, manager of Safety.

Jerry Smelser, manager of the External Tank Project at Marshall Space Flight Center; John White, NASA resident manager; and Ron Wetmore, ET program manager also will make informal visits to departments during the day.

In addition, astronaut Heide Stefanyshyn-Piper will present several safety-related Silver Snoopy Awards at 10:30 a.m. in Building 103, Column K-5.



Snoopy Award Winners

STS-104 crew members visited Michoud Operations on October 3 and presented Silver Snoopy Awards to outstanding employees who have contributed to the success of Space Shuttle missions. The winners later posed with the astronaut crew. Front row from left: Steve Ehrlicher, Howard Roland, Danny Winn, Cort Phillips, James Moffett and Michael Raybon. Middle

row: Ben Hanslick, Heather Quintini, Becky Jordan, Janet Castelluccio, Denise deAlminana, Antoinette Sandifer, Gontran Celerier, Ram Goswami and Joseph Gebbia. Back row: James Cenence, Michael Simpson; astronauts Michael Gernhardt, Charlie Hobaugh, Steve Lindsey, Janet Kavandi, Jim Reilly; Shy Parikh, Warren Schrieffer and Bobby Biggs.

Michoud Operations' United Way Campaign October 15-26

No recent event in American history can match the terrorist attacks of September 11 in generating national patriotism and gift giving. Millions of Americans are donating to countless funds to support the thousands affected by this horrific event, and to aid in the rebuilding efforts in New York City and Washington D.C.

The biggest recipient of these funds has been the American Red Cross. A United Way Agency, the Red Cross responds immediately to help a community in time of need.

Here in southeast Louisiana, tropical storm Allison was a graphic reminder this summer of the need to support the United Way and its member agencies at home. The American Red Cross was there providing assistance to thousands who were flooded during the storm's rampage.

"The Red Cross came to our subdivision in Slidell distributing food, drinks and cleaning supplies," said **Sandra Hindman**, Contracts and Estimating. "We didn't have to stop what we were doing to fix something to eat, they were there."

The United Way works to improve our region by supporting more than 135 health and human service programs administered by 65 local agencies. Employees who contribute to the United Way can direct their contributions to an agency of their choice.

Wayne Rupp of Facilities and Environmental Operations directs his contributions to the Boy Scouts of America. "I've been involved with the Scouts for 15 years," says Rupp. "In that time I have watched my son move up through the ranks to make Eagle Scout, and I am glad to see that the United Way supports the Boy Scouts in New Orleans."

Last year, Michoud Operations employees raised over \$412,000 for the United Way. This year, the call is out to meet the need again, but



Employees restore picnic tables during United Way Day of Caring
Greg Martin (left) and Robert Carroll, Huntsville Technical Operations, participate in the Day of Caring by cleaning, sanding and sealing picnic tables at the Family Services Center in Huntsville, Ala.

UW Participation Incentives	Qualifications
(10) \$100 "I" Bonds*	2000-01 sustaining Michoud UW contributors
(10) \$100 "I" Bonds*	Contributors at close of Michoud UW campaign
(5) \$100 "I" Bonds*	Year-round monthly drawings for sustaining Michoud UW contributors
Mazda B2500 Truck (Courtesy Royal Olds)	Area UW drawing for contributors at the Supportive Level
\$500 in gasoline (Courtesy Murphy Oil USA)	Area UW drawing for contributors at the Supportive Level

* Lockheed Martin awards - to be announced at Management Leadership Team and on EWS.

the mechanics of the campaign have changed. Instead of canvassers coming to meet with you and filling out contribution cards, you can go on-line to the **LMPeople/mymoney payrolldata /charities**

Employees can select from the following United Way agencies:

- New Orleans UW
- UW of Madison County (AL)
- UW of Brevard County (FL)
- UW of Southern Mississippi

- UW of St. Charles (LA)
 - UW of Los Angeles County (CA)
- Designation forms for individual United Way agencies are available from departmental representatives.

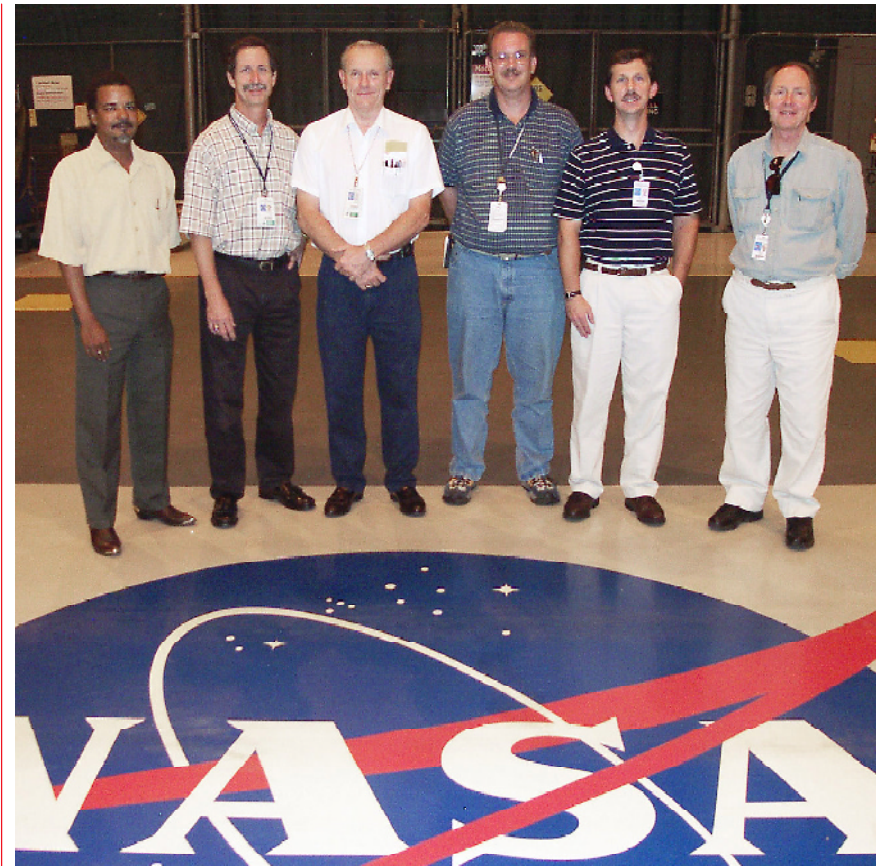
Your contributions make the good works of United Way agencies possible. The American Red Cross and the Boy Scouts receive no government funding. It is up to us to make certain that these and other vital resources are available for our community in times of need. Please give generously.

LMPeople self service expands

An expanded LMPeople self service capability with an integrated Learning Management System (LMS) is scheduled to be in place at Michoud Operations next month. You should already be familiar with LMPeople's human resources and payroll self service functions. LMS will add similar functions for learning and development.

You will be able to view and update your learning and development profile, enroll in classes, launch computer-based training courses and view your training history. In addition, you will be able to search the catalog for courses across the company.

Why transition to a new system? LMPeople and LMS create the opportunity for Lockheed Martin to become "one company" from the numerous business units acquired over the years through acquisitions and mergers. Each company has its own policies, practices and systems. LMPeople and LMS organize these under a unified, enterprise-wide solution.



Factory floor refinishing project completed ahead of schedule
The Facilities Flooring Enhancement Implementation Team made up of Andrew Laurant (from left), Steve Gaiennie; customer Joe Marcus, vice president, Production Operations; David Wells, Kelley Easley and Joe Eustis stand "on" the finished product. The three-year project resurfaced 1.2 million square feet of flooring that supports External Tank production.

Cost control steps shrink reduction impact

In March, Michoud Operations estimated that approximately 250 positions would be eliminated in 2001 as a result of NASA's decision to no longer fund the X-33 and X-34 programs, and their plan to reduce External Tank (ET) production from eight to six tanks per year by 2002.

Through the cooperative efforts of NASA, Lockheed Martin management and Michoud employees, reductions in overtime expenditures and other cost-control actions have dramatically decreased the number of employees directly affected by the workforce reduction. As a result, the ET project workforce decreased by an equivalent of 248 positions while affecting only 99 individuals. Of that number, approximately half volunteered for lay-off.

Through the year, Michoud Operations pursued new business opportunities to offset reductions in ET funding, but they did not materialize as hoped. Work on NASA's Space Launch Initiative announced in the spring is important technically, but is not significant from a job creation standpoint; and the U.S. Air Force decision this summer not to fund the X-33 as part of its Military Space Plane program effectively put an end to that program.

A modest level of work continues on the Kistler K-1 launch vehicle restart, although funding has not been released to fully resume production activity.

Other proposals await award decisions, including the Joint Strike Fighter scheduled for an October 26th announcement.

While the recent cost cutting measures have allowed Michoud Operations to meet current funding levels, NASA's Space Shuttle program continues to face budget issues. It is expected that additional actions will be necessary in the future to meet projected ET budgets.



Fiber Placement Machine sample dome arrives from Ingersoll
Bobby Biggs (from left), Wayne Richmond and Barry Keegan display a ten-foot wide graphite-epoxy dome recently fabricated on the new Fiber Placement Machine. Weighing only 23 pounds, the dome is a sample part fabricated during machine checkout last month. The Fiber Placement Machine is a critical piece of equipment for the National Center for Advanced Manufacturing at Michoud. Shipments of machine parts are currently arriving, and operation is targeted for February 2002.

Corporation to pay most of health care increases

Lockheed Martin is again facing double-digit percentage increases in health care costs this year, driven largely by the price of services and growing utilization rates. The result will be increased premiums for many individual companies and their employees.

"At Lockheed Martin, we were able to moderate the trend in rising health care costs throughout the 1990s by negotiating multi-year cost caps with providers to lessen the burden on our employees," said **Terry Powell**, the corporation's vice president of Human Resources. "In the last couple of years, most of these caps have expired and market conditions are much tougher, resulting in significant cost increases.

"While the employee cost for most

health care plans will increase with this fall's enrollment, the company contribution will rise also. Overall, Lockheed Martin will continue to pay the major share of these rising premiums."

Among the cost drivers are increases in prescription drugs that have risen 15-20 percent annually in recent years. Other factors include the price of services, increasing utilization rates and physician fees, along with market conditions in the health care industry. Lockheed Martin's higher utilization rates reflect its demographic profile – an older average employee age and larger family size.

Because of consolidation in the health care industry and fewer plans available, it's more difficult

to negotiate favorable premium rates. Also, in many areas the premium rates charged by providers in prior years were not sufficient to cover their increasing costs of delivering health care services. Premium increases for 2002 reflect the actions of providers to cover these additional costs.

This year many participating employees will see an increase, but the amount will vary because of a variety of options that range in flexibility, deductibles and co-payments. Employees pay the difference between the company contribution for that region and total premium of the plan they choose. Participants pay more to enroll in higher premium plans and less for lower cost plans.

Common Friday off schedule to begin

Eligible Michoud Operations employees await their first Friday off as part of the fully implemented 9/80 Alternate Work Schedule (AWS). With the exception of hourly employees, those necessary to support External Tank production and demonstrated hardship cases, most employees will have October 19 as the first common Friday off.

Following a 9/80 AWS pilot that began in January, management reviewed selective performance parameters such as schedule impacts, lost time and overtime usage to measure program effectiveness. A recent employee e-mail survey explored participation rates, quality of life issues and internal customer reaction to the program. Virtually all results came back positive, with the AWS playing a significant role in achieving that success.

Management selected a primary 9/80 track with the common Friday off because of strong evidence that

the dual track system – with approximately one-third the workforce off on any given Friday – adversely affected planning, coordination and support that one day each week. The primary 9/80 track and common Friday off should eliminate those difficulties.

Major changes resulting from the fully implemented 9/80 schedule are a new eight-day Electronic Time Card with the workweek ending at noon on Friday; and all Friday overtime recorded in the afternoon to assure that salaried employees receive maximum consideration for their efforts over 40 hours. With the transition to the common Friday off, holidays will only be recorded as such for scheduled workdays.

"Some employees may experience minor inconvenience at the start of the common Friday off," said **Hugh Farabaugh**, director, Human Resources. "But I am confident that in a short period of time, everyone will realize the many benefits of the new Alternate Work Schedule."

Blood Drive surpasses goal
 Steve Turner (left), manager of Safety, thanks Scott Johnson for giving blood at Michoud's final blood drive this year. Turner experienced his own close call this summer when he needed ten pints of blood because of internal bleeding. At this drive, 32 employees came forward who had never donated before. Coordinator Kathy Eaton attributes many of these as a response to the September 11th terrorist attacks. The new donors helped Michoud beat its goal of 450 units. Altogether, 469 employees gave the gift of life.



MILESTONES

Employees celebrating September & October anniversaries

30 years

Don Bolstad
 Dennis Deel

25 years

Clifford Burke
 Elliott Delpriore
 Danny Lapeyrouse
 Richard Nelson
 Lonnie Peshek
 Clay Robinson
 Howard Rowland
 Dale St. Romain
 Otis Welsh
 Rickie Zerkus

20 years

Pamela Anderson-Behrens
 Ginger Ben
 James Bullington
 Sheila Cagle
 Keith Campo
 Deborah Chavez-Pittman
 Brent Clayburn
 Michael Fields
 Timothy Flannery
 Margaret Fontenot
 Cheryl Franckiewicz
 Hugh George
 Robert Grascchel
 Norman Harris
 Richard Hartline
 David Henry
 Christi Johnson

Gary Kathmann
 Philip Lapara
 Mikel Lero
 Conrad Lillis
 Tim Livingston
 Herman Lockhart
 Manuel Martinez
 Robert Mazurkiewicz
 Henry McCormick
 Charles McElroy
 Alfred Moses
 Robert Neer
 John Nuccio
 Terry Nunez
 Genetta Price
 Belinda Randolph
 Doris Revere
 Bobbie Schmitt

William Schneider
 Leon Simmons
 Herbert Smith
 Karen Surbeck
 Irvin Verdin
 William Whittington
 Gary Willett
 Richard Wust

15 years

Kathy Eaton
 Paula Frazier
 Samuel Gable
 Charles Huff
 Leslie Pontillas
 Mark Rohlinger
 William Winsor

5 years

Dennis Bales
 Anil Bohil
 Gregory Ertl
 Richard Fineout
 Jay Hardin
 Richard Hibbs
 Derick Juneau
 Dion Lee
 Daniel Lizana
 Antonio Lopez
 Scott Maddox
 John Nussbaum
 Toma Sharkey
 Steven Walker

MISSION SUCCESS[®] BULLETIN

Volume 20, Number 5
 October 15, 2001

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 Mission Success Bulletin is published
 by the Communications Department.

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