National Aeronautics and Space Administration
NASA Marshall Star: Oct. 6, 2005 : Vol. 46/No. 4

MARSHALL STAR

Serving the Marshall Space Flight Center Community

Oct. 6, 2005

External fuel tank testing begins at Michoud

Less than a month after being hit by Hurricane Katrina, NASA's Michoud Assembly Facility in New Orleans is once again processing space shuttle fuel tanks. The work will address foam loss during space shuttle Discovery's launch in July.

KSC/NASA

External tank 119 departs Kennedy.

External tank 119, which is expected to be used in the next shuttle mission, arrived at Michoud Oct. 2, after departing the Kennedy Space Center Tuesday, Sept. 27. The huge, orange external tank was transported by NASA's solid rocket booster retrieval ship, Freedom Star. It traveled down Florida's Banana River en route to the Gulf of Mexico-Mississippi River outlet on its 900-mile journey.

"The facility was ready to receive the tank and the Michoud

See Michoud on page 4

Marshall selected to lead development of lunar landing spacecraft

NASA's Deputy Associate Administrator for the Exploration Systems Mission Directorate Doug Cooke has announced the selection of the Marshall Space Flight Center and Goddard Space Flight Center to lead a team in the development of a lunar lander spacecraft as part of the Robotic Lunar Exploration Program (RLEP).

The Marshall Center has responsibility for overall project management and the spacecraft engine development. In addition, Marshall will oversee selection of the launch vehicle for the mission and will evaluate the potential to launch the lander on a test flight of the new Crew Launch Vehicle (CLV). A great deal of the work can and will be done in-house within NASA, according to Headquarters officials.

See Lunar Landing on page 2

Horowitz leads NASA's Exploration Systems Mission Directorate

NASA Administrator Michael Griffin on Sept. 28 named veteran space shuttle commander Scott J. Horowitz as associate administrator for the Exploration Systems Mission Directorate. He will lead the agency's efforts to develop the new spacecraft that will return astronauts to the moon, travel to Mars and other destinations in the solar system.

Griffin also appointed longtime NASA engineer Doug Cooke as deputy associate administrator for the Exploration Systems Mission Directorate.

Under America's Vision for Space Exploration, announced by President Bush in 2004, NASA will retire the space shuttle by 2010 and begin a new era of human space exploration. The Exploration

See Horowitz on page 4

Expedition 12 arrives at space station for 6-month mission

By Lori Johnston Meggs

The 12th crew of the International Space Station rocketed into space Sept. 30, beginning a six-month mission.

A Soyuz spacecraft carried Expedition 12 Commander and NASA Science Officer William McArthur and Flight Engineer Valery Tokarev to orbit. Gregory Olsen also flew on the mission

NASA

Soyuz lifts off.

See Expedition on page 6

Marshall receives small and disadvantaged business award

NASA Administrator Mike Griffin, left, presents the 2004 Small and Disadvantaged Business Utilization Achievement Award to Marshall Center Director David King at a recent awards ceremony at NASA Headquarters in Washington. This is the seventh consecutive year Marshall has been recognized by NASA for exceeding its small business goals, which include providing contract opportunities to small and disadvantaged businesses.

Photo by NASA

Lunar Landing

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"We are excited to lead the Agency team that will land the next piece of hardware on the moon," said Marshall Center Director Dave King. "I am pleased about this addition to our role in supporting NASA's Vision for Space Exploration." Marshall has been given the responsibility for leading the design and development of new crew and cargo launch systems for NASA.

According to NASA Headquarters, Marshall was selected for a variety of reasons. For one, Marshall has broad experience with both robotic and human space flight. Marshall can ensure this robotic lander program stays tightly connected to the overall exploration architecture — including the human space flight elements. Marshall's selection also enhances another priority goal — extensive use of broadly defined teams of NASA participants. Marshall's historical role within NASA postures it extremely well to work across diverse elements of the NASA community to leverage Agency talent for the lander system. Marshall's proposed concept was the best solution for answering the objectives of the mission.

"Our presentation to NASA Headquarters stressed integrating scientific and engineering expertise, and our ability to do that will be critical to successfully carrying out this lunar landing mission," said King.

The lander is tentatively planned for launch as early as 2010. It will demonstrate the ability for precision landings at targeted locations on the moon; evaluate landing zone environment; and determine if lunar resources can support a sustained human presence.

"This mission will have as a primary objective to determine whether there is water-ice in the permanently dark areas within craters in the moon's polar regions. The existence of water-ice has important implications in living off the land when we return with human explorers," Cooke said. "The lunar lander will test critical automated descent and precision landing capabilities needed for human landings, including surface hazard avoidance during landing. The discoveries from this mission and the data it collects will play a vital role in humans returning to the moon and living there for extended periods," he added.

The project will begin immediately with initial design studies and trade-off analyses. Depending on the results of those studies, NASA will establish definitive requirements and design concepts. The detailed schedule and cost estimates will depend on the selected concept(s).

The Robotic Lunar Exploration Program (RLEP) is intended to provide a series of robotic missions to support human exploration. The lunar lander spacecraft is the second RLEP mission. The Lunar Reconnaissance Orbiter (LRO) is the first mission developed under the RLEP. The LRO is being built at Goddard and is scheduled for launch in 2008. The orbiter will carry six instruments that will map and photograph the lunar surface, search for surface ice deposits, and investigate space radiation.

Marshall, Johnson Center team for space station mission success through Hurricane Rita

By Lori Johnston Meggs

When the Johnson Space Center in Houston shut down Sept. 21 in preparation for Hurricane Rita, the Marshall Center's Payload Operations and Integration Center immediately went to its backup plan of action for the International Space Station.

The Johnson Center serves as the lead mission control center for the station, while Marshall's Payload Operations and Integration Center coordinates all U.S. science activities on board.

The Johnson Center officially handed over control of the station to the Moscow Control Center in Russia. But those who had evacuated Houston were not cutoff from communicating with the station and its controllers. The Payload Operations and Integration Center implemented the interim backup control center, activating the data systems that enabled controllers from remote locations to communicate with the team in Moscow. Some Houston controllers relocated to the Goddard Space Flight Center in Greenbelt, Md., while others set up a command center at a hotel in Round Rock, Texas, using data and communications services provided by the Payload Operations and Integration Center. The Marshall team's experience in remote operations gave displaced personnel quick access to voice and data to continue normal station-to-ground control activities.

The Internet voice distribution system, developed at Marshall, was pivotal during the hurricane evacuation. It allowed secure communication between all parties. The personnel at Round Rock also were given remote access to view station timelines and on board procedures.

"Marshall and Johnson operations personnel have a long history of teamwork that has evolved into a significant understanding for each other's roles and capabilities," said Lisa Watson-Morgan, ground systems operations branch chief in Marshall's Mission Operations Laboratory. "This mutual understanding is evident by our rapid deployment of communications systems for our friends from Houston."

This inter-center cooperation proved vital to the station. Engineering personnel in Canoga Park, Calif., had concerns over solar array battery temperatures and discussed them with the Round Rock team members who did not have access to those parameters. The Round Rock personnel requested 24 additional parameters be added to the database to provide more insight into the batteries. The science operations team built the new database with the added parameters within hours. In addition, the Payload Operations and Integration Center flight control team built two displays to monitor newly added battery parameters and ground-to-station communications. Those displays were immediately sent to personnel at Round Rock, allowing the displaced personnel to monitor the data.

During the evacuation, the decision also was made to leave the S-band forward link operational. The S-band link is one of the ways information is transferred to and from the station. This decision allowed the science operations team to provide a semi-private link for the station crew to communicate daily with their families. The Johnson Center resumed control of station operations Sept. 26.

The writer, an ASRI employee, supports the Public and Employee Communications Office.

Adventures in engineering

Sam Ortega, an engineer in the Marshall Center's Reusable Solid Rocket Motor Project, speaks to 110 Madison County high school juniors participating in the "Adventures in Engineering" program in Morris Auditorium late last month. The program promotes careers in science and engineering. NASA sent flyers to the schools inviting students with a strong interest in those fields to register for the program. Joining the Marshall Center as a sponsor of the event were the U.S. Army Aviation and Missile Command, U.S. Army Space and Missile Defense Command, the Missile and Space Intelligence Center and the Huntsville/ Madison County Chamber of Commerce.

Emmett Given/MSFC

Jezierski named NASA's deputy chief of staff

NASA Administrator Michael Griffin on Oct. 3 named Jeffrey T. Jezierski deputy chief of staff for the agency.

This new role is in addition to his duties as White House liaison.

"I am thrilled to be able to announce this promotion for Mr. Jezierski," said the Administrator. "No one at NASA has been more dedicated than J.T. to the task of re-engaging the agency in the business of exploration. His work as NASA's White House liaison has been of tremendous value to me personally, and I welcome the opportunity to add a new level of responsibility to his portfolio."

Jezierski was named NASA's White House liaison in July 2003. He is responsible for the placement and interaction of the presidential appointees at NASA.

He assisted the coordination of the transition to Administrator Griffin from Administrator Sean O'Keefe.

He also coordinates events and communications with the White House and other agencies within the executive branch.

Prior to coming to NASA, Jezierski served as a deputy associate director in the Office of Presidential Personnel at the White House from May 2001 to July 2003.

He previously served as publications director at the Institute for American Values in New York City and as a researcher at the Republican National Committee.

He graduated from Wheeling-Jesuit University in Wheeling, W.Va., with a bachelor's in liberal arts, and earned a master's in public policy from Regent University in Virginia Beach, Va.

Michoud

Continued from page 1

team was eager to get their hands on it," said External Tank Project Manager Sandy Coleman.

Michoud workers began limited testing on the tank as soon as it arrived. Hurricane recovery efforts at the facility progressed better than anticipated. Power has been restored to the entire Michoud complex, and temporary repairs have been made to damaged buildings.

External tank 120 will be shipped from Kennedy to Michoud in the next few weeks.

The external tank, 27.6 feet wide and 154 feet tall, is the largest element of the shuttle system, which also includes the orbiter, main engines and solid rocket boosters. The tank's aluminum skin is only one-eighth-inch thick in most areas, but it withstands more than 6.5 million pounds of thrust during liftoff and ascent. The tank is the only shuttle component that cannot be reused.

During a launch, the external tank delivers 535,000 gallons of liquid hydrogen and oxygen propellants to the three main engines, which power the shuttle to orbit. The tank is covered by polyurethane-like foam, with an average thickness of about one inch. The foam insulates the propellants, keeps ice from forming on the tank's exterior and protects its aluminum skin from aerodynamic heat during flight.

The Space Shuttle Propulsion Office at the Marshall Center manages the tank project. Lockheed Martin Space Systems Co., New Orleans, is the primary contractor.

Horowitz

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Systems Mission Directorate will lead NASA's efforts to implement the presidential directive to establish a human presence on the moon and to prepare for later missions to Mars.

Prior to his new appointment, Horowitz, a retired U.S. Air Force colonel, served as pilot or commander on four shuttle missions. He was director of exploration and space transportation at ATK, the company that produces the space shuttle's solid rocket motors. He also worked as NASA's acting deputy associate administrator for safety and mission assurance.

Horowitz was an Air Force test pilot, F-15 fighter pilot and master flight instructor. He has worked as a scientist at Lockheed-Georgia Co. and as a college professor in California and Germany. He holds doctorate and master's degrees in aerospace engineering from the Georgia Institute of Technology in Atlanta, and a bachelor's degree in engineering from California State University at Northridge.

Cooke, who most recently served as acting associate administrator for exploration systems, has been instrumental in developing NASA's next generation spacecraft concepts. During his 32-year career at the agency, he led the aerodynamic flight test program for space shuttle re-entry, and served as vehicle manager and deputy program manager for the International Space Station Program.

Cooke was a lead Shuttle Program Office manager in returning the space shuttle to flight after the 1986 loss of Challenger. He also served as NASA's technical adviser to the Columbia Accident Investigation Board. He holds a bachelor's degree in aerospace engineering from Texas A&M in College Station.

Horowitz and Cooke will be based at NASA Headquarters in Washington.

Classified Ads

To submit a classified ad to the Marshall Star, go to Inside Marshall, to "Employee Resources," and click on "Employee Ads — Submit Ad." Ads are limited to 15 words, including contact numbers. No sales pitches. Deadline for the next issue is 4:30 p.m. Thursday.

Miscellaneous

BOSS RC-20 Loop Station phrase-sampling pedal for guitarists, vocalists, bands, $150. 303-3702

Madden 2004 NFL game for pc, NIB, rated E, $10. 527-8116

Patio French doors, white, $150. 851-1598

Wood computer desk w/drawers, $100; wedding dress w/veil, size 8, $100. 776-9165

Ariens riding lawn mower, 13HP, 32" cut, serviced recently. 859-6636

GE drop-in range, self cleaning, $60; GE space-maker microwave, $40. 880-9171

Large wood computer cabinet, $85. 536-0655

iPAQ pocket PC hl940, 64MB, RAM/128MB, Compact-Flash memory card, $150. 256-895-9137

Life-size Yoda, Star Wars, $260. 256-859-9784

Sony DVD recorder, $400; WEGA FD Trinitron HDTV, 36", $1,400. 256-655-1733

Electric motors: 1/8HP Westinghouse w/3" grinder wheel, 3.5amp, 1725rpm; Dunlap 1/4HP, 5.8amp, 1750rpm; make offer. 489-1933

K&N air filter, multiple applications, Dakota V8, others, Model E-1290, $25. 325-6000

Private Pilot Ground School kits: Jeppesen Pt61 plus extras, $90; Cessna CBI kit, $100. 882-3753

Wicker headboard, white, full-size with frame, $65. 509-2536/Charlie

Air hockey table, $125. 541-9071

1999 Coleman Niagara large pop-up camper, shower, slide-out, many options, $5,950. 256-753-2278

Console piano, metronome and piano lamp. 256-881-4067

Water softner/conditioner unit w/auto timer, Series 155, whole-house outside unit, $75. 828-6213

La-Z-Boy sofa, green, maroon, gold, includes two decorative pillows, $300. 534-6071

Storage building, 8'x12', frame construction, metal siding/ roof, 4' door, wiring, PT skids, w/lean-to, $900. 256-874-7874

Living room suite, 7-piece; king-size bedroom suite. 256-325-5536

Epson R800 Photo Inkjet, $275. 931-703-5956

Dell 800MHz computer, Office 2000, 256MB memory, 17" monitor, 30GV HD, Zip Drive, $100. 256-777-4439

Mini-bike, 3.5HP Briggs & Stratton engine, $350. 355-1542

New wooden play-set, assembly included, $750; Little Tykes Fort Slide set, $20. 885-2293

Rattan dinette table, 4' diameter, w/4 chairs, matching 6' sofa, 4' coffee table, $250. 353-8010

Cherry drop-leaf end tables and coffee table, glass protectors, $125. 325-7542

Kenmore EVO vacuum, bag-less w/auto clean filter, all attachments, 2 yrs. old, $75. 828-9651

Motorola HS820 Bluetooth ear-piece, over-the-ear, boomless style, $35. 714-3742

AKC registered black Lab puppies, 10-weeks old, first shots & wormed. 256-470-0222

Drexler bachelor chest, $125; Loveman's teacart, $25; 5-drawer file cabinet, $25; hoses. 325-8588

Lexmark 4270 color AIO print, copy fax, $50; color ink cartridge, $25. 541-1788

Multi-exercise weight training bench, $40. 881-1249

Antique oak dresser w/beveled mirror, $300; solid Oak frame couch, multi-colored, $150. 353-0370

DP weight bench w/140 lbs., $25. small deep freezer, $40. 883-8632

Micro-fridge, student dormitory sized refrigerator/freezer w/600W microwave, $50. 468-4274

Forman style griller, large, portable, Thermos Grill2Go/Fire/ Ice, built-in cooler, no hours, $100. 233-0705

Triple dresser w/double mirrors, $350; coffee table, $25; 2 end tables, $25 each; washer/dryer, $75 each. 603-3558

Twin bed w/mattress, box springs, bed frame, $75. 256-655-6293

Antique buffet w/ 3 drawers, Queen Anne feet (67L x 24W x 38H). Phone 830-0254. $800.

Amana 3 1/2 ton gas pack, $75. Coat tree, $10. Expandable clothes rack, $15. Phone 852-6952.

Vehicles

1996 4-Runner, 127K miles, leather, CD, all-power, towing package, roof rack, $6,900. 379-2020

2002 Corvette, silver, approx. 28K miles, $29,000. 653-8311

1996 Chrysler Town & Country LXi, green, leather, 97.5K miles, $4,900. 256-355-6858

Gulfstream, 36', 30K+ miles, generator, jacks, VCR, camera, awning, bath, kitchen, bedroom $36,000. 256-931-0177

1996 Dodge Ram 1500 Sport, V8, red, extended cab, new tires, $6,500. 233-1487

2003 Jetta, 1.8T, 5-speed, 50K miles, leather, silver, sunroof, 30mpg, CD. 355-3031

2003 Chevrolet Z66 Avalanche, 2WD, black, 55K miles, 418,500. 658-2741

1989 Kawasaki KX125F, engine overhauled, sprockets, brake pads, helmet, $1,600. 776-4741

Villian II ski boat, new motor, $3,000; 2003 gas dirt bike, 300DE, $3,000. 679-0073

2002 Kia Spectra, 60K miles, 33mpg, $8,500. 256-339-0970

1996 Buick Century Special, 25K miles, $4,000. 256-498-3864

1999 Bass Tracker PT-175, 40HP Mercury, Eagle Classic, Hummingbird's DF's, 37-lb. MotorGuide TM, $5,000. 256-636-0372

2000 Skeeter SL176 fish/ski, 150HP Yamaha V-Max, two depth finders, trolling motor, $10,000. 256-773-0018

1974 Jeep CJ5, 4x4, Chevy V8 engine, new auto transmission, many new parts, $2,200. 683-9364

1999 Toyota Corolla CE, 94K miles, cruise, dark green, 4WD, automatic, $5,000. 256-881-8303

1993 Acura Legend LS, champagne, tan leather, sunroof, garaged, 160K miles, $5,500. 520-3083

1995 Cadillac Concours Deville, black, all-power, tinted windows, rims, $2,750. 520-2802/Ron

Wanted

Cherry/Apple/Peach (any fruit) wood, will cut down and haul off. 256-656-2965

Operator's manual (or copy of) for Murray 41" cut hydrostatic transmission riding mower. 881-6040

Free

Pedigreed Bengal cat, spayed 2-yr. old female, shy, affectionate, needs quiet indoor environment. 880-9400

Carpool

Carpool from Scottsboro, Dutton, Section, Woodville. 256-259-2164 after 6 p.m.

Obituaries

Newman B. Terry Jr., 84, of Athens died Sept. 16. He retired from the Marshall Center as an aerospace engineer technician in 1979. Survivors include three sons, Gerald Terry and Butch Terry, both of Pelham, and Jerry L. Terry of Athens.

Rachel R. Weems, 83, of Huntsville died Sept. 18. She retired from the Marshall Center as an executive secretary in 1979. During World War II, she was a code and cipher expert for the American Legation in Morocco and North Africa for the U.S. Department of State. Survivors include one son, Raymond Brian Weems of Huntsville; and three daughters, Patricia Weems Furner of Pittsburgh, and Dorothy Ann Weems and Sharon Weems Hudson, both of Huntsville.

Employees learn about breast cancer

Photos by MSFC/David Higginbotham

In an effort to encourage regular exams to increase early detection of breast cancer, the Marshall Center hosted a number of activities Oct. 3 at the center. In left photo, Tameron Harvell, a certified breast health specialist with the Huntsville Hospital Breast Center, spoke to employees in Morris Auditorium. In right photo, the Pink Ribbon Walk was led by Bennie Jacks, left, and Inge Kuberg. A number of educational exhibits on breast cancer detection were featured in the lobby of Building 4200.

Expedition

Continued from page 1

as part of a commercial contract with the Russian Federal Space Agency.

The Soyuz launched from the Baikonur Cosmodrome, Kazakhstan, and docked with the station at 12:27 a.m. CDT Oct. 3. Tokarev and McArthur will stay on board the station until the spring, while Olsen will spend eight days there conducting experiments.

Expedition 11 Commander Sergei Krikalev and Flight Engineer and NASA Science Officer John Phillips have been doing research and maintaining station systems since April. With Olsen, they will undock from the station and return to Earth on Oct. 10.

The writer, an ASRI employee, supports the Public and Employee Communications Office.

NASA TV

The Expedition 11 and 12 crewmembers gather in Zvezda for a quick welcome ceremony. From left, space flight participant Greg Olsen, Expedition 11 Commander Sergei Krikalev, Expedition 12 Flight Engineer Valery Tokarev, Expedition 11 Flight Engineer and Science Officer John Phillips, and Expedition 12 Commander William McArthur.

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Vol. 46/No. 4

Marshall Space Flight Center, Alabama 35812
(256) 544–0030
http://www.nasa.gov/centers/marshall

The Marshall Star is published every Thursday by the Public and Employee Communications Office at the George C. Marshall Space Flight Center, National Aeronautics and Space Administration. Classified ads must be submitted by 4:30 p.m. Thursday, and other submissions no later than 5 p.m. Friday to the Marshall Public and Employee Communications Office (CS20), Bldg. 4200, Room 103. Submissions should be written legibly and include the originator's name. Send e-mail submissions to: intercom@msfc.nasa.gov . The Star does not publish commercial advertising of any kind.

Manager of Public and Employee Communications — Dom Amatore
Editor — Jessica Wallace

U.S. Government Printing Office 2006-523-050-20019

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US POSTAGE PAID
HUNTSVILLE, AL
PERMIT NO. 298