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MARSHALL STAR

Serving the Marshall Space Flight Center Community

Aug. 16, 2007

STS-118 assembly goals accomplished; mission extended to 14 days, landing set for Aug. 22

By Sanda Martel

The three major goals of space shuttle Endeavour's mission to the International Space Station have been accomplished. During the mission, astronauts have installed a new segment for the station's backbone, installed a spare parts platform and swapped out a gyroscope used to orient the station.

NASA managers decided Aug. 12 to extend space shuttle Endeavour's mission at the International Space Station from 11 to 14 days and added a fourth spacewalk that is scheduled to take place Aug. 17.

Endeavour is now scheduled to undock from the space station Aug. 20 and land Aug. 22 at the Kennedy Space Center, Fla.

Space shuttle Endeavour and its seven-member crew lifted off at 5:36 p.m. CDT Aug. 8 from NASA's Kennedy Space Center in Florida, headed to the International Space Station for an assembly mission designated STS-118. The shuttle docked with the station Aug. 10 at 1:02 p.m.

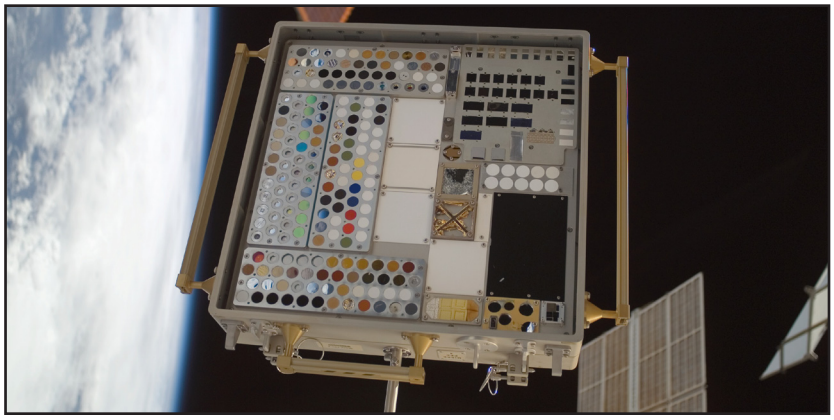
On Aug. 11, mission specialists Dave Williams and Rick Mastracchio, with the assistance of the crew on board the station, completed the first spacewalk of the mission. They installed the S5 truss and relocated the photovoltaic grapple fixture — a handle used by the shuttle and station robotic arms when moving the truss. The fixture was located on top of the S5 and needed to be moved to provide clearance for the solar arrays to track the sun.

A focused inspection of space shuttle Endeavour's thermal protection system was completed and there were five areas of interest. Four locations, including a main area of concern, were related to foam that separated from the external tank on ascent.

See STS-118 on page 5

Seeds, seeds everywhere!

STS-118 mission specialist carries millions of basil seeds to space, brings millions more home for students to study



NASA

Containing hundreds of materials, including basil seeds, the Materials on the International Space Station Experiment-4, or MISSE-4, will be retrieved during STS-118 from its home of nearly a year outside the station, and returned to Earth for analysis.

By Lori Meggs

So, can you make spaghetti sauce in space?

Well, you'll need several ingredients, but you're sure to have plenty of one. STS-118 Mission Specialist Barbara Morgan has carried millions of basil seeds with her on board space shuttle Endeavour to the International Space Station.

These seeds are joining three million other basil seeds that have been flying on the station for a year and are waiting for Morgan to bring them back to Earth.

Materials on the International Space Station Experiment 3 and 4, known as MISSE-3 and -4, are the third and fourth in a series of suitcase-sized test beds

See Seeds on page 4

'Human Capital Information Environment' workforce services portal is open for business!

By Tereasa H. Washington, director of the Office of Human Capital

I am pleased to announce the rollout of the agency's new Human Capital Information Environment workforce services portal. This valuable human capital tool will become your personalized gateway to NASA human resources — or HR — tools, information and services. The agency's human capital community continually strives to provide accurate and timely HR information for our employees and managers. It is in this spirit on this past Monday, after several months of dedicated effort, that NASA launched the agency's new Human Capital Information Environment workforce services portal.

Tereasa Washington

Perhaps you are wondering, "What is HCIE?" and "How will this portal help me?" Simply put, the HCIE portal provides a single Web site that provides links to human capital information and tools. HCIE is an integrated business system "environment" that is accessible by means of an Internet portal. It provides authoritative, consistent, near real-time information to employees and stakeholders across NASA to support achievement of the agency mission. The portal provides access to OHC information systems from one central location and creates a common electronic workplace for NASA employees, managers, business units and workforce planners to conduct human capital business.

Strategic management of the agency's workforce is vital for the success of all NASA's missions, programs and projects. Managers need easy access to the most current data possible to make informed workforce planning decisions and take action in a timely manner.

NASA's Office of Human Capital Management, in partnership with the Integrated Enterprise Management Program and the NASA Shared Services Center, has developed a human capital information environment that provides agency civil service employees with comprehensive HR information delivered to their desktops. The portal rollout is the agency's first step to an integrated HR management environment and toward providing easy access to information employees and managers need. Additionally, the new portal will help the agency to accommodate the requirements under the President's Management Agenda's e-Government initiative.

These offices collaborated to employ the latest technologies to provide you this integrated one-stop service center for live HR news and notices and for all of your HR tools and information. Employees will be able to quickly retrieve their HR data and have direct access to their personal:

- Personnel actions
- Awards and recognition histories
- Benefits statements
- Pay system information
- Training information

Significant features of the portal include:

- Enhanced resources to manage your career, your benefits and our workforce
- Increased levels of oversight and security of your human capital data
- Collaboration tools for human capital related "Communities of Practice"
- Role, location, and occupation-based access to HR tools and services
- Robust search engine to help you quickly locate human capital information and assistance

The second phase of the HCIE rollout is planned for fall of 2007 with the deployment of the HCIE Personnel Data Warehouse — or PDW. During this phase of rollout, selected users will be allowed access to a robust human capital information reporting and workforce planning capability that will be particularly helpful for supervisors, managers and HR specialists. The PDW, the backbone of the HCIE portal, will enable easy accessibility to information used to plan staffing requirements, realignment actions, employee development and competency and performance management capabilities.

HCIE Access and Login Procedures

Step-by-step login instructions and the process required to obtain a User ID and password can be found on the portal's home page at https://hcie.nasa.gov.

A very important feature of the portal is the Password Manager, which enables employees to set up and maintain a secure vault of usernames and passwords to HR systems for single point-of-entry capability. Users also will have the ability to personalize the portal for their individual preferences.

Once employees have set up their password manager feature, they will be able to access the following sites and services:

- USAJobs, the official online resource for federal employment opportunities
- NASA's Automated Staffing and Recruitment System, or STARS, an online service that helps employees apply for vacant positions and helps HR personnel assess resumes and place qualified candidates
- Competency Management System, a NASA-wide application used to measure and monitor the agency's knowledge base
- Employee Express, a round-the-clock online service that allows NASA employees to make changes to their benefits and payroll information and that provides access to their Federal Employee Benefits System
- Thrift Savings Plan, the retirement savings plan for federal workers
- WebTADS, the agency's Web-based time and attendance system
- Employees also will be able to view their personnel information using the NASA Employee Profile System

See HCIE on page 3

NASA awards first stage contract for Ares rockets

NASA has signed a $1.8 billion contract with Alliant Techsystems, known as ATK, located near Brigham City, Utah, for the design, development, testing and evaluation of the first stage of the Ares I and Ares V launch vehicles. The first stage is managed by the Marshall Center.

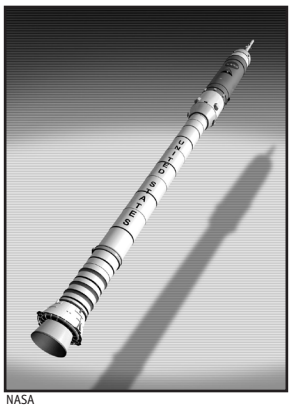
This contract includes delivery of five ground static test motors, two ground vibration test articles and four flight test stages, including one for the Ares I-X test flight.

NASA awarded the cost-plus-award-fee contract to ATK on a sole-source basis. The contract performance period extends through Dec. 31, 2014. First stage boosters for operational missions will be purchased through a separate contract.

ATK and its subcontractors possess the unique engineering capabilities for successful design and development of the first stage of the Ares I crew launch vehicle.

The Ares I first stage will be a five-segment solid rocket booster based on the four-segment design used for the shuttle. The basic design will draw on current hardware, facilities and manufacturing equipment qualified for human-rated solid rocket boosters.

The first stage will incorporate modifications to the current booster that are unique to the Ares I architecture to meet higher performance and reliability



NASA

The Ares I first stage will be a five-segment solid rocket booster.

NASA

At the signing of the NASA contract for the first stage of the Ares launch vehicles are, clockwise from upper left, Alex Priskos, manager of the First Stage Office within the Exploration Launch Projects Office; Bryan Williford, manager of the Space Exploration Support Office; Kellie Craig, contracting officer; Steve Cook, director of the Exploration Launch Projects Office; Emil Posey, manager of the Space Transportation Support Office; and Steve Beale, director of the Office of Procurement.

requirements for the Ares vehicles. Modifications include the additional segment and new solid rocket booster components.

Ares I is an in-line, two-stage rocket that will transport the Orion crew exploration vehicle to low Earth orbit. The first stage will consist of the five-segment solid rocket booster. The second, or upper, stage will consist of a J-2X liquid-oxygen, liquid-hydrogen engine, a new upper stage fuel tank and associated avionics.

Ares V, a heavy-lift launch vehicle, will enable NASA to launch a variety of science and exploration payloads, as well as key components, needed to travel to the moon and later to Mars.

HCIE

Continued from page 2

In the coming weeks, portal capability will be enhanced to include easy access to NASA's learning and travel management systems (SATERN, the System for Administration, Training and Educational Resources and Travel Manager System).

HCIE Workforce Services portal training tutorial and demonstrations

An online HCIE workforce services portal training tutorial is now available on SATERN. Employees are encouraged to complete this tutorial before using the portal. Employees are also invited to attend any of the following HCIE overviews, demonstrations, or training opportunities:

Aug. 16 – HCIE overview and portal demonstration for employees
1:30 to 2:30 p.m.

Aug. 20 – HCIE portal hands-on training for supervisors, managers
Session 1: 9 to 10:30 a.m.
Session 2: 1 to 2:30 p.m.

August 23 – IEMP Business Systems Support Office Open House
Session 1: HCIE Portal Hands-on Training for Administrative Officers
9 to 11 a.m.
Session 2: HCIE Portal Hands-on Training for Supervisors and Managers
1 to 2 p.m.
Session 3: HCIE Overview and Portal Demonstration for Employees
2:30 to 3:30 p.m.

All sessions will be offered in the Marshall Institute in Building 4200, Room G13. No registrations are required.

Help desk and more information

If you would like additional information regarding the portal, go to https://hcie.nasa.gov. The Marshall Center Help Desk is available for customer support and questions at 544-HELP, Option 0.

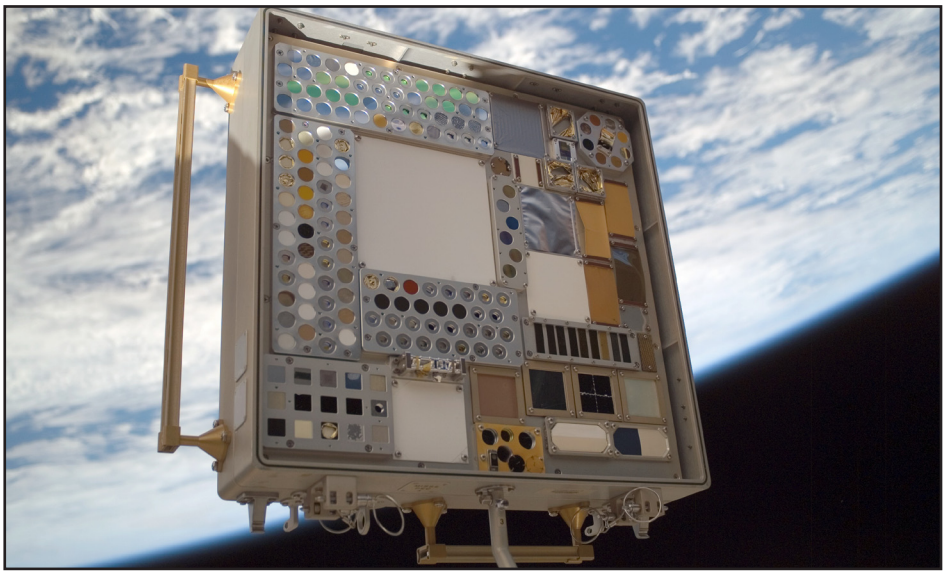
I encourage all employees to actively use the portal, to visit the portal site often and to take advantage of the briefings and training opportunities offered. For more information on the HCIE or the workforce services portal, please call your HR specialist.

Seeds

Continued from page 1

containing many different materials, including seeds, placed outside the station to test how they withstand the harsh environment of space.

Some of the basil seeds will remain on the station to be grown in microgravity. The rest will be returned to Earth and divided into kits for students to study seed germination rates — how fast the space basil grows compared to Earth basil. Students will also learn more about the scientific method — techniques for investigating phenomena and acquiring new knowledge about a subject.



NASA

The Materials on the International Space Station Experiment-3, or MISSE-3, was attached to the outside of the space station in August 2006. The suitcase-sized container is filled with hundreds of materials to study how each is affected by the space environment and will be returned to Earth on STS-118.

To get the seeds to classrooms, NASA works with the George W. Park Seed Company in Greenwood, S.C. The company began its relationship with NASA and student experiments in the 1980s with the Space Exposed Experiment Developed for Students, or SEEDS program. During that experiment, more than 12 million tomato seeds flew on the Long Duration Exposure Facility — deployed in 1984 by space shuttle Challenger to provide long-term data on the space environment and its effects on space systems and operations.

"I think the kids will be excited to work with something that's been in space. And to know, for this experiment, there are no answers in the back of a book," said Marshall Center engineer Miria Finckenor, one of the Materials on the International Space Station Experiment investigators. "We hope to get more students interested in science and reach as many as we did with the tomato seeds experiment," she said. More than 40,000 classrooms in all 50 states and 30 foreign countries participated in that program.

In addition to the educational benefits, the Materials on the International Space Station Experiment series, managed by NASA's Langley Research Center in Hampton, Va., is contributing a wealth of data on spacecraft materials to the International Space Station Program, NASA's Constellation Program and a number of defense programs.

The first two external materials science experiments on the space station flew from 2001 to 2005, and another flew on the station a year later. Upon their return to Earth, the samples were examined by principal investigator William Kinard at Langley, Finckenor and many other researchers involved in the project. One of the most significant results from these test beds is confirmation that the contamination control for the station — the method for tracking whether scientific instruments, windows, radiators and other hardware are staying clean from contaminants such as dust, dirt or hair — is working.

The experiments showed that samples of the glass used in station windows were better than 90 percent clear, and samples of the same white thermal coatings used on station radiators looked like new, even after four years in space. "We want to keep the windows clean so the astronauts can not only look outside but are also able to snap good photographs of Earth," Finckenor said. "We also want to keep the thermal coatings white so that the thermal control system — which includes the radiators that keep the station and its crew at comfortable temperature — works properly."

The sixth materials experiment, or MISSE-6, will fly to the station on board STS-123, scheduled for launch in early 2008. It will carry 140 samples from the Marshall Center, including materials such as the heatshield, radiation shielding and data matrix identification markers for the Orion crew exploration vehicle. That vehicle is capable of carrying up to six astronauts to low Earth orbit atop the in-line, two-stage rocket, Ares I crew launch vehicle.

For more information on growing seeds from space, visit: http://www.nasa.gov/audience/foreducators/plantgrowth/home.

The writer, an ASRI employee, supports the Office of Strategic Analysis and Communications.

Obituaries

Robert William Allbritain, 86, of Hazel Green, died July 25. He retired from the Marshall Center in 1995 as a production controller.

Robert Howell Rivers Sr., 85, of Guntersville, died Aug. 5. He retired from the Marshall Center in 1974 as an aeronautical engineer.

STS-118

Continued from page 1

The foam bounced off one of the tank's struts and hit the orbiter's tile. A fifth area was unrelated to the foam. It is a .8-inch protrusion on the main landing gear door's thermal barrier.

Experts on the ground continue to review tests and analyze data from damage to the thermal protection system on the underside of the shuttle, and a decision to repair the gouge on Endeavour, or "fly as is" was expected as soon as all tests are completed.

Mission managers have determined that damage to a small section of Endeavour's heat shield poses no threat to crew safety or mission operations. However, they are discussing options for possible repair work that would ensure preparations on the ground for Endeavour's next flight will go more smoothly.

During the second spacewalk Aug. 13, spacewalkers Williams and Mastracchio successfully installed a new control moment gyroscope onto the space station's Z1 truss. The new gyroscope replaces a faulty one, which was removed during the first half of the spacewalk. The station's four control moment gyroscopes provide primary attitude control for the space station.

A third spacewalk, scheduled Aug. 15, teams Mastracchio with Expedition 15 flight engineer Clay Anderson to prepare the station's Port 6 truss for relocation during STS-120.

Other activities during the mission have included cargo transfers between Endeavour and the station.

STS-118 was a key milestone for the Marshall Center, which developed an innovative new engine safety system to be fully implemented for the first time. The Advanced Health Management System was designed to collect and process turbopump accelerometer data, a measure of turbopump vibration. It also continuously monitors turbopump health and if vibration anomalies are detected, shuts the engine down. The system operated on all three shuttle main engines. Managers said all three space shuttle main engines, including the Advanced Health Management System, performed as expected during launch.

This mission is the 119th space shuttle flight, the 20th flight for Endeavour and the 22nd U.S. flight to the space station. The mission is Endeavour's first flight in more than four years. The shuttle underwent extensive modifications, including the addition of safety upgrades already added to shuttles Discovery and Atlantis.

For the latest information about the STS-118 mission and its crew, visit: http://www.nasa.gov/shuttle.

The writer, an ASRI employee, supports the Office of Strategic Analysis and Communications.

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

Sofa, $150; desks, $50, $100; magazine table, $15; books, $10, $15; cookbooks, $5, $10. 527-6898

1977 Raleigh Record Ace 10-speed bicycle, tall frame, $25. 348-9381

Simmons cherry nursery furniture, four-drawer chest, bookcase top, changing table, bed, mattress, $350. 881-7819

Dog cage, Midwest model 606, 36x24x28, bottom panel, $50. 379-3606

Sapphire video card, AGP Radeon, 9600XT, 256MB, 128 bit, $35. 961-2285

McCulloch Mac 110 chainsaw, 10- and 16-inch blades, hard case, $45. 651-5847

Thule two-bike car carrier; Yakima car roof kayak carrier, $35 each. 586-2215 or 656-4867

Fiberglass cover, fits any standard short bed pickup, reduced price. 880-6364

Pride Legend three-wheel motorized scooter, $1,500 obo. 759-3009

Craftsman work bench, 20-by-52-inch top, assembled, $100 obo. 883-2982

19 Hummel figurines, $95-$650 each. 464-7847

Antique four-drawer display cabinet, $200. 503-6773

61-inch Sony big screen TV, needs projection tube, $600. 461-9182

LeBlanc Vito trumpet, $300. 679-2754

Baby bed, mattress, bumper guard, sheets, $70. 883-0795

David Yurman Tahitian pearl drop necklace, $225 obo. 520-2656

Kids' bedroom set, metal bunk beds, mattresses, matching desk, dresser, $275. 895-5063

Two jigsaws, $25 each; various garden tools, $5 each; chainsaw, $25. 881-4067

Boy's Power Wheels Jeep, yellow, $100. 527-5595

1860s mahogany server, oak Eastlake table. 852-1726

T-shaped bunk beds, built-in desk, shelves, drawers, matching chest of drawers, mattresses, $850. 830-5285

Riding lawnmower, $110; push lawnmower, $25; towed lawn sweeper, $45. 325-2919

Yamaha GH1 grand piano, black, $9,000. (931) 625-0671

Pink wingback chair, $50. 682-5418

Black&Decker electric hedge trimmer, $30; edger, $55; dorm refrigerator, $25. 679-1910

26-inch Flat Panel LCD HDTV, $395. 656-0077

Leblanc Vito tenor saxophone, accessories available, $1,299 obo. 355-6093

Fender hard guitar case, fits Stratocaster, Telecaster-style guitars, $75. 714-3742

Snapper lawn tractor, 14.5 HP, 38-inch deck, $1,500. 880-1838

Samsung 32-inch HDTV, CRT, remote, $320. 655-1986

Four cemetery plots, Tri-Cities Memorial, Florence, Ala., $4,000. 436-1106

Upright piano, ebony, $400. 665-6021

Solid oak crib, mattress, $250. 655-9267

Vehicles

2006 Jeep Liberty, diesel, 4x4, towing package, six-CD changer, heated leather seats, $24,500. 325-3696

2005 Ford Focus, silver, five speed, moon roof, heated seats, loaded, 41k miles, $10,750. 783-6242

2005 ProCraft bass boat, 200 Mercury optimax motor, loaded, $18,600. 774-3279

2004 Mazda RX8, six-speed, red, 30k miles, $17,000. 777-3879

2004 Nissan Pathfinder LE, leather, Bose, power seats/locks/windows, cruise, 40k miles, $19,500. 429-8534

2003 Harley-Davidson Ultra Classic Electraglide, 100th anniversary edition, loaded, $13,500. 683-1846

2004 Trailblazer LS, 4X4, charcoal, $10,000. 426-9402

2003 Tahoe, leather, captain seats, rear bench, rear air. $18,000. 468-0854

2002 Nissan Maxima, pearl, fully loaded, cloth seats, 102k miles, $8,900 obo. 507-4356

2002 Nissan Frontier XE pickup truck, king cab, bed liner, green, 42k miles, $10,500. 883-6894

2001 PT Cruiser LE, loaded, 81k miles, $6,999; Chevy 350 turbo transmission, $300. 797-8895

2001 Dodge RT Stratus, V6, five speed, loaded, 122k miles, $6,000. 345-1331

1999 Honda Accord, five speed, keyless entry, 157,500 miles, $7,500 obo. 682-8112

1999 Volvo S70, black, tan leather, moon roof, CD, 170,500 miles, $5,500. 566-3598

1998 Grand Marquis LS, four-door sedan, power windows/locks, leather, 33k miles, $7,000 obo. 880-3254

1992 Toyota Camry LE, 241k miles, $700. 325-2622

Wanted

Calhoun "Book of College English 2005"; Calhoun "Precalculus 7th Edition," Larson-Hostetler. 655-0565

Reading tutor for 5th grader, two-three days a week. 759-3009

Pool cover, 18-by-36-foot in-ground pool. 858-9655

1998-2001 Jaguar XJR, Vanden Plas, XJ8 L, XJ8, fairly low miles. 797-8895

Pine needles needed, will rake. 722-9535

Whitewater kayak, equipment. 882-0461

Suspended ceiling parts, 24-inch cross-tees, older style for 25- to 40-year-old grid system. 233-0705

Lost

Two GB memory stick, Bldg. 4202 area, password protected. 679-3921

Free

Three-piece computer desk, desk, hutch, printer stand. 353-4922

ATK awards Student Launch Initiative winners

In July, representatives from aerospace engineering firm ATK, headquartered in Brigham City, Utah, visited the Marshall Center to present a $5,000 check to University Student Launch Initiative winners from the University of Alabama in Huntsville.

At the ceremony were, from left, University of Alabama in Huntsville representatives Jerod Wooten, aerospace undergraduate team member; Daniel Cavender, aerospace engineering graduate and rocket team leader; Dr. Marlowe Moser, research professor and rocket team advisor; and Dr. David Williams, president of the university; and Marshall Center Director David King; former astronaut Jim Halsell, ATK vice president of the Huntsville division; and Don Sauvageau, ATK director of Advanced Space Programs.

David Higginbotham/MSFC

The annual University Student Launch Initiative, which concluded this year with student team launches in Tennessee in May, is sponsored by the Academic Affairs Office at Marshall. The event challenges college teams to design and build reusable rockets that carry working science payloads and are capable of flying to an altitude of 1 mile. NASA engineers and scientists evaluate each rocket design, including propulsion systems, materials used for construction, and safety features.

The ATK prize money will be used by the team from the University of Alabama in Huntsville to attend a future space shuttle launch.

Women's Equality Day luncheon to be held Aug. 23

Friday, Aug. 17, is the last day to purchase tickets to the Women's Equality Day luncheon and awards ceremony, to be held Aug. 23 at the Redstone Officers' and Civilians' Club.

The keynote speaker will be Sharon Houy, associate deputy director of the Defense Intelligence Agency in Washington. Performing will be vocalist Melani Yancy, who in May won the "AER Idol" contest supporting the Army Emergency Relief fund, and the band Seeds of Joy.

The luncheon will begin at 11 a.m. Tickets are $12. For reservations or special accommodations, call Abbie Johnson at 544-0014.

The annual luncheon and awards ceremony is presented by the Combined Federal Women's Programs. Women's Equality Day commemorates the 87th anniversary of the 19th amendment, which gave American women the right to vote.

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