



MARSHALL STAR

Serving the Marshall Space Flight Center Community

May 13, 2010

Lightfoot discusses new Marshall programs and projects, open house at all-hands May 10



Marshall Center Director Robert Lightfoot discusses upcoming Marshall programs and projects during his all-hands.

By Amie Cotton

In an all-hands meeting with the work force May 10, Marshall Space Flight Center Director Robert Lightfoot discussed the current planning status of new programs and projects at the center, and Marshall's 50th anniversary activities.

Lightfoot said that NASA issued a Heavy Lift and Propulsion Technology Program Request for Information last week to industry to further define foundational research and development activities, as well as another heavy lift study that will be led by Marshall. The center director told the work force that Todd May, Marshall associate director, technical, is the point of contact for the effort for Marshall and Garry Lyles, associate director for technical management in the Engineering Directorate, will provide technical support. This program will be a collaboration

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'Behind the Gates of Redstone Arsenal'

Marshall to showcase NASA's mission at Bridge Street Town Centre on May 15

By Jessica Wallace Eagan

Have your family and friends ever asked you what really goes on behind the gates of Redstone Arsenal? Have you ever wondered what other people work on in the buildings you pass going to and from work every day? Bring your friends and family to find out May 15 from 10 a.m.-3 p.m. at Bridge Street Town Centre in Huntsville.

"Behind the Gates of Redstone Arsenal" will showcase the work of Team Redstone – which includes the Marshall Space Flight Center and U.S. Army organizations on the arsenal – with exhibits, games, demonstrations, simulations and information booths. Active exhibits such as Marshall's outdoor mobile theatre and NASA's "Home & City" Nintendo Wii interactive about space spin-offs will help tell NASA's mission.

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Atlantis scheduled to launch May 14 on its final mission

By Sanda Martel

Space shuttle Atlantis is scheduled to launch May 14 on its STS-132 mission to the International Space Station. Launch time is 1:20 p.m. CDT from NASA's Kennedy Space Center, Fla.

The launch date was announced May 5, at the conclusion of the STS-132 Flight Readiness Review held at Kennedy. During the agency-level review, senior NASA and contractor

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NASA's Webb telescope passes key mission design review milestone

NASA news release

NASA's James Webb Space Telescope has passed its most significant mission milestone to date, the Mission Critical Design Review. This signifies the integrated observatory will meet all science and engineering requirements for its mission.

"The mirror testing at Marshall has played a key role achieving this milestone," said Helen J. Cole, James Webb Space Telescope activities project manager at the Marshall Space Flight Center. "Marshall's X-ray and Cryogenic Facility, or XRCF, has a heritage of successful flight telescope systems testing and we're pleased to be providing this capability to the Webb Telescope. Marshall and the XRCF have supported the primary mirror development portion of the James Webb Space Telescope over the past decade, and we're excited that we will continue to support future mirror development and testing."

All 18 mirror segments are slated for at least two tests in Marshall's X-ray & Cryogenic Facility, the world's largest X-ray telescope test facility and unique, cryogenic, clean room optical test location. The test chamber takes approximately five days to cool a mirror segment to cryogenic temperatures. As this cooling takes place, engineers will measure in extreme detail how the shapes of the mirrors change, simulating how they'll react to space temperatures.

"I'm delighted by this news and proud of the Webb program's great technical achievements," said Eric Smith, Webb telescope program scientist at NASA Headquarters in Washington. "The independent team conducting the review confirmed the designs, hardware and test plans for Webb will deliver the fantastic capabilities always envisioned for NASA's next major space observatory. The scientific successor to Hubble is making great progress."

NASA's Goddard Space Flight Center in Greenbelt, Md., manages the mission. Northrop Grumman in Redondo Beach, Calif., is leading the design and development effort.

"This program landmark is the capstone of seven years

of intense, focused effort on the part of NASA, Northrop Grumman and our program team members," said David DiCarlo, sector vice president and general manager of Northrop Grumman Space Systems. "We have always had high confidence that our observatory design would meet the goals of this pioneering science mission. This achievement testifies to that, as well as to our close working partnership with NASA."

The review encompassed all previous design reviews including the Integrated Science Instrument Module review in March 2009, the Optical Telescope Element review

completed in October 2009, and the Sunshield review completed in January 2010. The project schedule will undergo a review during the next few months. The spacecraft design, which passed a preliminary review in 2009, will continue toward final approval next year.

The review also brought together multiple modeling and analysis tools. Because the observatory is too large for validation by actual testing, complex models of how it will behave during launch and in space environments are being integrated. The models are compared with prior test and review results from the observatory's components.

Although the review approved the telescope design and gave the official go-ahead for manufacturing, hardware development on the mirror segments has been in progress for several years. Eighteen primary mirror segments are in the process of being polished and tested by Ball Aerospace & Technologies Corp.

in Boulder, Colo. Manufacturing on the backplane, the structure that supports the mirror segments is well under way at Alliant Techsystems Inc., or ATK, in Magna, Utah. This month, ITT Corp. in Rochester, N.Y., demonstrated robotic mirror installation equipment designed to position segments on the backplane. The segments' position will be fine-tuned to tolerances of a fraction of the width of a human hair. The telescope's sunshield moved into its fabrication and testing phase earlier this year.

The three major elements of Webb – the Integrated Science Instrument Module, Optical Telescope Element and the spacecraft itself – will proceed through hardware production, assembly and testing prior to delivery for observatory integration and testing, scheduled to begin in 2012.

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NASA engineers and Ball Aerospace subcontractors work to guide a mirror segment into position in the X-ray and Cryogenic Facility at Marshall.

'Safety is about your family,' says Morecraft at Marshall Safety Day



Marshall Space Flight Center observed Safety Day on May 5, with emphasis on keeping safety in the forefront of everything we do. This year's theme was "Changing Safety Culture." Roy Malone, director of Marshall's Safety & Mission Assurance Directorate which sponsored the event, introduces Charlie Morecraft, the keynote speaker and a former employee at an Exxon Corp. refinery.

Safety Day keynote speaker Charlie Morecraft rolls up his sleeves to show the Marshall team scars from a refinery explosion in 1980 that burned over 45 percent of his body because he did not follow safety rules. "Everyday I get up and ask myself, 'Why?'" said Morecraft. "Why did I not protect myself that day? For what? Because I wanted to be cool and not follow the rules? Now I have to look at myself everyday and be reminded of my decision." He said safety isn't only about each individual; it's about your family and following the rules precisely so you can go home to them safely at the end of the day.



Listening to Safety Day presentations are, from left, keynote speaker Charlie Morecraft, Marshall Deputy Director Gene Goldman, and Bryan O'Connor, NASA's Safety and Mission Assurance chief. O'Connor spoke about how good communication improves safety in the workplace, allowing employees to work effectively with fewer injuries and accidents.



Four Marshall team members receive Women's Equality Day awards

Four Marshall Space Flight Center team members were honored recently with Women's Equality Day awards for exceptional service to the Marshall Center and the U.S. space program.

The awards, presented annually by the Federal Women's Program in Marshall's Office of Diversity & Equal Opportunity, recognize federal employees in four categories – professional, administrative, supervisory and clerical.

Judy Ballance, acting deputy chief engineer for Marshall's Science & Mission Systems Office, received the professional service award. Linda Yarbrough, resource analyst in the Science & Mission Systems Office, received the administrative service award. Tereasa Washington, director of the center's Office of Human Capital, received the supervisory service award. Thea Baskerville-Brown, management support assistant in the Science & Mission Systems Office, received the clerical service award.

The awards were presented in March during the Marshall Center's commemoration of Women's Equality Day and passage of the 19th Amendment in 1920.

A native of Crossville, Ala., Ballance earned a bachelor's degree in electrical engineering from the University of Alabama in Huntsville in 1985. She joined NASA in 1989 as an electrical engineer. Since 2006, she has ensured technical excellence on a variety of critical NASA science payloads and missions, including the Japanese-led Hinode satellite, launched in 2006 to study the sun's magnetic fields; the Moon Mineralogy Mapper, a NASA survey instrument that flew to the moon in 2008 on India's Chandrayaan-1 probe; and the GLAST Burst Monitor, a joint U.S.-German instrument aboard the Gamma-ray Large Area Space Telescope, launched in 2008 to study high-energy gamma rays in deep space.

Yarbrough, a native of Athens, Ala., received a bachelor's degree in business administration and management from Athens State College, in Athens, Ala., in 1991, and a master's in management science from the Florida Institute of Technology in Melbourne. She joined NASA in 1974, providing administrative support to Marshall's Aeronautics Laboratory. As a resource analyst for the Science & Mission Systems Office's Exploration Flight Projects Office, she creates and monitors procurement documents; liaises with the center's partners across NASA and industry; and provides expert analysis incorporating resources, budgets, programmatic milestones and project schedules.

Washington, a native of Tuscumbia, Ala., received a



Judy Ballance



Linda Yarbrough



Tereasa Washington



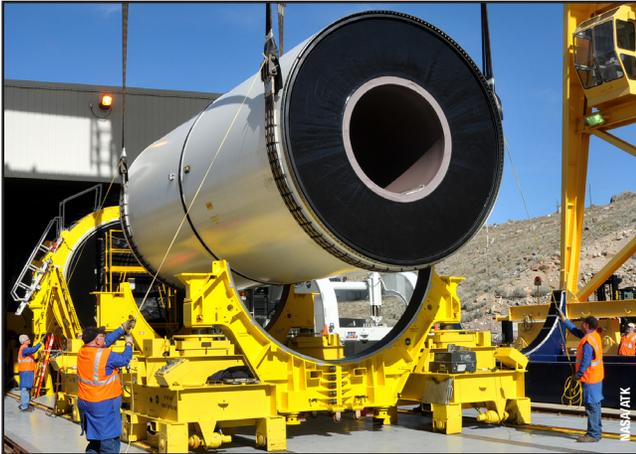
Thea Baskerville-Brown

bachelor's degree in economics from Alabama A&M University in Huntsville in 1978, and a doctorate of jurisprudence from Vanderbilt University School of Law in Nashville, Tenn., in 1982. She began her NASA career in 1982 as a legal research assistant in the Office of Chief Counsel. As director of the Customer and Employee Relations Directorate starting in 1998, and since her appointment to her current position in 2004, Washington has had primary oversight of the Marshall Center's organization and leadership development; academic affairs; training and incentives; work force strategy and planning; federal labor relations; and employee services and operations.

Baskerville-Brown, a native of Fort Lauderdale, Fla., received an associate's degree in administrative assistant/secretarial science from J.F. Drake State Technical College in Huntsville in 1991. She earned a bachelor's degree in purchasing, procurement and contracts management from Athens State College in 1998. She became a Marshall Center co-op in 1990, serving as a clerk stenographer in the Marshall Center's Mission Operations Laboratory, and joined NASA full time in 1992. Currently, she assists in the day-to-day execution of all administrative business in the Science & Mission Systems Office's International Space Station Payload Office.

For more information about the Federal Women's Program, visit <http://eo.msfc.nasa.gov>.

NASA team assembles five-segment motor for testing



Technicians at work at ATK Space System's test stand in Promontory, Utah, gently guide the forward center segment of NASA's five-segment development motor, or DM-2, into place April 14, in preparation for the second full-duration ground test targeted for September. Managed by the Ares Projects team at the Marshall Space Flight Center, this full-scale motor test is designed to advance the knowledge, safety, technology and capability of solid rocket motors. For this upcoming test – called a "cold motor" test – the motor's overall temperature will be lowered to 40 degrees Fahrenheit to validate the motor's performance in cold weather. The motor is being developed by ATK Space Systems, a division of Alliant Techsystems of Brigham City, Utah, the prime contractor for the Ares first stage rocket motor.

All-hands *Continued from page 1*

between NASA and the Department of Defense – specifically the Air Force.

Another Request for Information will be released in May by the Exploration Robotics Precursor Program, said Lightfoot. The program will conduct medium class exploration missions to investigate human exploration destinations such as the moon, Mars and asteroids. The Center Planning Office has been established, he said. The program point of contact is Paul Gilbert, supervisor of the Science Programs & Projects Office in the Science & Mission Systems Office.

There will be additional Requests for Information released from the Exploration Technology Development and Demonstration Program led by the Glenn Research Center in Cleveland, Lightfoot said. Marshall is leading several areas within this program, including surface power systems, advanced in-space propulsion, cryogenic fluid management, advanced materials and Environmental Control and Life Support System. Other areas with agency roles still to be determined include In Situ Resource Utilization, lightweight/inflatable modules, avionics and aerocapture and Entry, Descent and Landing technology.

Lightfoot also discussed formation of the agency's Human Exploration Framework Team, led by Steve Altemus, director of engineering at the Johnson Space Center in Houston and Dan Dumbacher, director of Marshall's Engineering Directorate. The team's goal is to create a decision framework process for human spaceflight that evolves into a long-term, permanent NASA activity. Outcomes will be human spaceflight capabilities and missions for five-, 10- and 15-year horizons, keeping Mars as the ultimate destination.

"They will be taking human spaceflight goals and placing them in an architecture," Lightfoot said.

In a preview of his May 11 Center Director's Breakfast for community leaders, elected officials and industry partners, Lightfoot told the team that he was extending an invitation to the

community to attend the Marshall Center's open house Aug. 21 – part of Marshall's 50th anniversary activities. It will be the first open house since May 2000 before the events of 9/11 in 2001.

"This will be an opportunity to share with the community Marshall's many, many accomplishments throughout the years," he added. "Whether it was Apollo-Saturn, Spacelab, Skylab, Shuttle, Constellation, ISS space science or Earth science, everything happened because of the generations of dedicated people at this center."

Lightfoot – whose discussion with the work force from Morris Auditorium was carried on Marshall TV – said he also was addressing current challenges with mission transition in his discussion with community leaders at the breakfast.

"We started working shuttle transition in 2004 and we are still in the process," Lightfoot said. "Now, we are being asked to make an even bigger change [cancelling the Constellation Program and moving forward with work outlined in the president's 2011 budget proposal] in about eight months. We understand that with change comes consequences. I wish I could take away this uncertainty, but in the meantime we need to continue our work and plan for the future.

"My focus is to keep the skills and capabilities we have in place at Marshall that got us here from the first 50 years, and go work projects and programs in the future," he added.

Lightfoot noted that despite the transition, the Marshall team is performing exceptionally. "Our last shuttle launch [STS-131] was one of the cleanest launches we have ever had," he said. "And PA-1 [Pad Abort 1, a launch abort system flight test] had a successful flight test last week with many members from Marshall actively contributing."

For more information, visit Lightfoot's Director's Corner on Inside Marshall at <http://inside.msfc.nasa.gov/dc/index.html>.

Cotton, an AI Signal Research Inc. employee, supports the Office of Strategic Analysis & Communications.

Launch *Continued from page 1*

managers assessed the risks associated with the mission and determined the shuttle's equipment, support systems and procedures are ready.

"The vehicle is ready to go fly. It's a true testament to the work the teams have done," said Bill Gerstenmaier, NASA's associate administrator for Space Operations.

The 12-day mission will deliver a Russian Mini Research Module, a set of batteries for the station's truss, a high-powered dish antenna assembly and other replacement parts to the orbiting outpost.

Commander Ken Ham will lead the six-member astronaut crew during

the flight. He will be joined by Pilot Tony Antonelli and Mission Specialists Garrett Reisman, Michael Good, Piers Sellers and Steve Bowen.

John Shannon, Space Shuttle Program manager, pointed out that STS-132 – Atlantis' last planned mission – will be an exciting one.

"Twelve days, three spacewalks, tons of robotics... We're putting on spares that make us feel good about the long-term sustainability of the space station, replacing batteries that have been up there for a while and docking a Russian-built module," he said. "This flight has a little bit of everything, and it's been a

great preparation for the team."

After STS-132, two flights to the space station remain before the shuttles are retired at the end of the year: Discovery is targeted to launch in September on the STS-133 mission to the space station; and shuttle Endeavour is targeted to launch in November on the final scheduled mission to the space station.

For more information about the STS-132 mission, visit http://www.nasa.gov/mission_pages/shuttle/shuttlemissions/sts132/index.html.

Martel, an AI Signal Research Inc. employee, supports the Office of Strategic Analysis & Communications.

Bridge Street *Continued from page 1*

The mobile theatre will be located next to DSW Shoe Warehouse in Unit 101. The exhibit will feature a variety of short videos that will take you behind the scenes at Marshall to see some of NASA's most advanced laboratories, test facilities and control centers. Around the theater will be stunning images taken by the Hubble and Chandra space telescopes. NASA team members will be there to answer your questions about Marshall's and Huntsville's role in America's space program.

The Home & City exhibit and other displays will be in Suite 104, previously occupied by Crabtree & Evelyn. These indoor exhibits will demonstrate how space exploration impacts our daily lives. You can navigate a virtual home or city with Wii-based remotes to see hundreds of improvements that NASA has contributed to everyday life. And NASA's moon globe – a virtual replica of the moon's surface based on Apollo and the latest Lunar Reconnaissance Orbiter imagery – will let you get up close to craters and plains on the lunar surface.

"The Huntsville/Madison County and Tennessee Valley community is aware that NASA is right here in their backyards, but they may not know all the cutting-edge science and technology work that takes place behind the gates," said Kevin McGhaw, a legislative affairs specialist in the External Relations Office of the Office of Strategic Analysis & Communications. "This event is a great opportunity for local families to see first hand Marshall's vital role in our nation's space program, and how we help lead the



Marshall's mobile theatre

way in space transportation, science and discovery."

The event is organized by Leadership Huntsville/Madison County's Leadership Class 23. The program's mission is to identify, educate and inspire leaders to serve the community. For more information or how to join, visit www.leadershipsv.org.

For a list of the Army exhibits, visit Inside Marshall. For more information, contact McGhaw at 544-5552.

Eagan, an AI Signal Research Inc. employee and the Marshall Star editor, supports the Office of Strategic Analysis & Communications.

'Focus on Marshall' in Utah for historic motor test

By Lori Meggs

A legacy of smoke and fire is celebrated in the April episode of "Focus on Marshall" – the Marshall Space Flight Center's video program.

The "Focus on Marshall" team traveled to Promontory, Utah, for the final ground test of a space shuttle solid rocket motor in February. The test was conducted to ensure the safe fly-out of the remaining

space shuttle missions. A total of 43 design objectives were measured through 258 instrument channels during the two-minute static firing.

Hear from Marshall Center managers as they reflect on the historic 52nd and final test conducted for NASA at the ATK Launch Systems' facilities in Promontory. You'll also hear from employees who have worked on the

project since the first test was conducted in July 1977.

"Focus on Marshall" airs on Marshall TV May 13, 25 and 27 at 11 a.m., noon and 1 p.m. The series is available each month on NASA TV, Inside Marshall and on the NASA Portal.

Meggs, an AI Signal Research Inc. employee, supports the Office of Strategic Analysis & Communications.

Webb *Continued from page 2*

The Webb is the premier next-generation space observatory for exploring deep space phenomena from distant galaxies to nearby planets and stars. The telescope will provide clues about the formation of the universe and the evolution of our own solar system, from the first light after the Big Bang to

the formation of star systems capable of supporting life on planets like Earth. The telescope is a joint project of NASA, the European Space Agency and the Canadian Space Agency.

For more information about the Webb telescope, visit <http://www.jwst.nasa.gov>.

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, May 20, is 4:30 p.m. Thursday, May 13.

Miscellaneous

King-sized boxsprings, \$75. 658-6353

Sofa and love seat, light brown, \$750. 503-7327

Iris bulbs/fans, purple and light purple, 10 cents each. 423-5734 or 651-3802

Tennessee Walking Horses. 931-307-9436

White clothes dryer, \$150. 468-9377

Maple multi-functional tent bunk bed, <http://www.whalen-furniture.com/products/fammftbb.html#>, mattresses not included, \$700. 881-7000

Netbook Asus Eee PC 1005HA, pink, \$450. 288-6797

Chandelier, Cipriani bowl, golden nickel, 6-plus-3 lights, 33"W x 24"H, picture available, \$100. 777-1810

John Deere front reel mower, model 20SR7, seven blades, high-speed reel, Kawasaki air cooled, \$375. 208-2926

Pali crib, solid wood, natural finish, bottom drawer, mattress included, \$150. 721-1101

360 Games, Grand Theft Auto IV, Prototype, Armored Core, Assassin's Creed II, \$30 each. 777-7746

"Jessica McClintock Home -- The Heirloom Collection" twin sleigh bed, four-drawer dresser, mirror, desk, chair. 651-2234

Marlin 336RC, 35 Rem, Bushnell 4X scope, sling, ammo, \$330. 783-7543

Playstation 3 game, Little BIG Planet, Game of the Year edition, rated E, \$35. 828-1234

Children's Lego table with three chairs, solid wood, storage bin, \$100. 990-3561

Thermos Grill2Go Fire Ice roll-around combo propane grill/ice chest, \$99 obo. 777-3989

Tanning bed, Montego Bay commercial model, 24E-canopy, timer. 609-7259

Two Bonnaroo tickets, June 10-13, Manchester, Tenn., available May 26, \$525.20. 684-0089

Mac wireless mouse, battery, \$30. 506-9417

Vehicles

2008 Pontiac G6, four door, automatic, white exterior, tan interior, warranty, 31k miles, \$12,660. 425-8467

2007 Honda TRX450r 4-wheeler, \$3,950 obo. 205-807-7841

2007 Ford Five Hundred Limited, charcoal gray, loaded, \$10,000. 931-4144

2006 Toyota Tundra, black, double cab, tan cloth interior, bed cover, 51k miles, \$17,500. 837-8389

2005 Honda Accord Hybrid, gray, navigation, leather heated seats, transferrable warranty, 66k miles, \$14,500. 464-9871

2001 Harley Heritage Softail Classic, ivory, extra chrome, 23k miles, \$2,500. 651-2825

2000 Sea Ark, 40HP motor, Minn Kota trolling motor, model 1652, pictures available, \$4,000. 415-2558

1997 BMW Z3, five speed, red/camel, 92k miles, \$8,500 obo. 656-9065

1997 Black Honda Civic EX coupe, 257k miles, \$2,999 obo. 520-2199

1990 Blue Toyota extended cab, 4WD, toolbox, bedmat, 167k miles, \$3,500. 931-307-9426

1989 Dodge Grand Caravan, white, 6 cylinder 3.0, auto, air, 146k miles, \$1,900. 227-0339

1969 Chevelle rear bumper, \$50. 653-4835

Free

Two female cats, about 6 years old, one orange tabby, one solid black. 883-7322

Two large Yucca plants, ready to bloom. 837-6776

Two female tabby cats, 3 and 6 years old, spayed, all shots, food, accessories. 642-6140

Wanted

Working treadmill. 656-2965

Truckload of split and seasoned firewood delivered to SE Huntsville. 714-4651

Pinball machine., arcade size, good working order. 652-5177
Yard swing, complete with stand and canopy. 655-6348

Phone calls to require area code beginning June 5

Marshall internal numbers not affected

Making a phone call in North Alabama will change in early June.

Due to growth in the 256 area code, a new 938 area code "overlay" has been authorized by the Public Service Commission of Alabama. It will cover the same geographic location as the 256 area code.

The change will require that you must include the area code, either 256 or 938, when dialing local and long distance numbers beginning June 5, at 12:01 a.m. CDT.

For example, when dialing the seven-digit local number 555-1212 from your home or a cellular phone, you will have to dial the full 10-digit number 256-555-1212. The change is in place, and you may begin now using 10-digit dialing.

Dialing internal numbers, from office to office, at the Marshall Space Flight Center will not change. You will still dial 4-1234 for 256-544-

1234 or 5-1234 for 256-961-1234.

To make a call external to the Marshall phone system, you should use the following format: For local calls, dial 9-256-555-1212; and for long distance calls, dial 8-931-555-1212, if you are making a call to the area code in south Tennessee. It is important not to dial "1" with either local or long distance calls when using your Marshall desk telephone.

Regional telephone service providers will begin assigning new telephone numbers with the new area code in July. Marshall does not plan to issue any 938 area code numbers under the existing 544 or 961 local telephone numbers at this time. However, if you receive a new cell phone or smartphone through ODIN, the new phone may be assigned a number that uses 938.

Regional telephone service providers do not plan to convert existing 256 area code numbers to 938 area code numbers.

The overlay area code may mean

that you will need to reprogram your cellular phone, desk phone for numbers outside the Marshall phone system, and fax machine speed-dial functions to accommodate this change. In the future, instructions will be posted on Inside Marshall to reprogram your telephone and fax machine speed-dial functions.



Assistance with issues related to the change to mandatory 10-digit dialing is available at:

- 4-9400 for Telephone Services if you have questions related to the upcoming change requiring 10-digit dialing
- 4-HELP, option 7, for ODIN cell phone/smartphone speed dialing changes
- 4-HELP, option 0, for fax machine speed-dial changes
- Number listed on the placard for Xerox Copy Center speed-dial changes

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