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MARSHALL STAR

In This Week's Star ⊟ (Click to Expand)

Marshall 'Campus' Project Trades 'Temporary Inconvenience for Long-Term Gratification'

By Rick Smith

Image right: Artist rendering of Building 4220 (NASA/MSFC)

More than one Marshall Space Flight Center team member has been known to joke that arriving for work in the 4200 administrative complex offers two daily challenges: the fickle North Alabama weather and the parking.

Marshall's Facilities Management Office team can't do much about the weather. They are, however, spearheading a long-term construction project that is transforming the Marshall Center into a vibrant, cost-effective, 21st-century campus environment -- one where NASA's best and brightest can accomplish work that will open a new chapter in human exploration and discovery.

For now, they say, that means a brief parking crunch. But wait till you see what's in store.

"It's a matter of trading temporary inconvenience for long-term gratification," said Melvin McKinstry, who leads the master planning team in Marshall's Planning & Facilities Utilization Office. "The parking situation at the east end of the 4200 complex will ease up -- and there will be a real payoff when it's done."

Parking is temporarily reduced because of work on the new Building 4220, an ultra-modern, environmentally friendly edifice that will house program offices and engineering facilities for nearly 400 team members. Set for completion in 2013, the five-story structure will include a central atrium, overlooked on each floor by conference rooms, plus accessible, open-air patios on the upper floors -- perfect for small, impromptu meetings, McKinstry suggested, or just to grab the laptop and work in the fresh air for a while.

Building 4220 will replace Building 4202, which is scheduled to be demolished in 2013. Its removal will make room for yet another new office structure, Building 4221, which will be erected where 4202 now stands.

That knock-one-down-and-put-one-up approach, more commonly known across NASA and the federal government as "repair by replacement," is just one way the Facilities Management Office maintains and updates the center's infrastructure -- and it offers enormous health, safety and cost benefits.

Out With the Old, in With the Green

"More than 80 percent of our buildings at Marshall are over 40 years old," McKinstry said. Their age and the construction standards of that era translate to numerous environmental and cost-control issues, from poor heating and cooling and other air-quality issues, to inflexible, hard-walled interiors that limit office and laboratory reconfiguration.

"We talk about 'right-sizing' -- reshaping our resources to most effectively conduct our work," he said. "But equally important is the long-term health and welfare of our team, and the livability of these buildings plays a role in that."

Replacing these antiquated, expensive-to-maintain buildings with new, energy-efficient facilities reduces Marshall's environmental footprint. To date, such overhauls have helped Marshall save up to 65 percent on operating costs for its newest facilities, as noted by former Marshall Center Director Robert Lightfoot during rollout in February of NASA's proposed fiscal year 2013 budget.

That's right in line with NASA's long-term infrastructure goals, McKinstry said. In 2008, as it does every five years, the agency tasked each of its 10 field centers to deliver a new or updated facilities master plan. But this time, NASA set new, stringent goals for reducing energy costs, water consumption and the overall number and age of NASA's offices, labs and test facilities.

Marshall's facilities team didn't flinch; the center was already well on its way to delivering impressive institutional savings, as demonstrated by design and construction of buildings in the 4600 engineering complex -- which twice have been honored with LEED® certification, the U.S. Green Building Council's award for leadership in energy and environmental design. Those facilities, like all new Marshall buildings, were designed to meet rigorous health and safety guidelines in every aspect of construction and operation: quality of air, natural light, noise levels and ergonomics. Wherever possible, even the carpets, furniture and cleaning supplies are non-toxic, non-allergenic and biodegradable.

Shaping the Campus of Tomorrow

The ultimate vision for Marshall's infrastructure, McKinstry said, is a "cohesive, bustling, modern campus atmosphere." The workforce will be loosely centralized on the north and south campuses, anchored, respectively, by the 4200 and 4600 complexes. Simple-to-maintain, aesthetically pleasing "greenways" will connect the two hubs, encouraging more foot traffic and other non-automotive transportation -- another health-conscious move.

While Marshall is dedicated to presenting a leaner, more robust infrastructure, not every old building will be demolished to make way for a 21st-century equivalent. Future plans include scheduling Building 4200 for what McKinstry calls a "gut and redo" -- a cost-effective overhaul of the existing 10-story office structure to bring it in line with its brand-new counterparts. Building 4201, meanwhile, will be torn down completely, with no new structure to be erected on that site. Both projects are on the horizon, tentatively set to follow the completion of 4220 and 4221.

In the meantime, McKinstry is pleased with progress on Building 4220 -- and the facilities team is working hard to ease the

parking crunch. By early April, the 113-car lot between buildings 4203 and 4205 is expected to reopen. The opening of a completely new lot, also northeast of 4203, will follow, accommodating approximately 115 more vehicles.

Then, for morning commuters, it's just a matter of remembering that umbrella.

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

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Marshall's Jerald Kerby Receives NASA Earned Value Management Award
By Sanda Martel

Jerald Kerby of the Marshall Space Flight Center received the NASA Earned Value Management, or EVM, Commitment to Excellence Individual Award on Feb. 22 in Orlando, Fla., at the 2012 NASA Project Management Challenge.

Image left: Jerald Kerby with the NASA Earned Value Management Commitment to Excellence Individual Award he received in February at NASA's 2012 Project Management Challenge annual seminar. (NASA/MSFC/Ray Downward)

Kerby, a financial manager in Marshall's Performance and Capabilities Management Office in the Office of Strategic Analysis & Communications, also serves as NASA's EVM Program Executive and is Marshall's EVM focal point.

Kerby was recognized for his outstanding accomplishments and contributions to the agency in the discipline of EVM. Project Management, or PM, Challenge is a NASA program that examines current program/project management trends and provides a forum for knowledge sharing and an exchange for lessons learned. He was cited for his visionary leadership, ability to engage customers and the ability to focus on the future.

This is the second year a Marshall Center employee has received the EVM Individual Award. Jimmy Black, also of the Performance and Capabilities Office, received the 2011 award.

EVM has been used for years by government and industry projects to measure the performance and health of projects, Kerby said. "It's not just a report, but a tool that integrates the cost, schedule and technical requirements of a project, also linking these areas to the project’s risk-management process.

"NASA continues to lead the government in developing and implementing EVM policies, and in turn provides our projects with a great way to quantify our cost and schedule outcomes," he added.

PM Challenge is sponsored by the NASA Academy of Program/Project & Engineering Leadership, in association with the Office of the Chief Engineer and the Office of Safety and Mission Assurance.

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

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Marshall's Judy Ballance, Teresa Foley-Batts, and Elia Ordonez Featured on 'Women @ NASA' Website

Three Marshall Space Flight Center employees -- Judy Ballance, Teresa Foley-Batts and Elia Ordonez -- share their stories about work and family, and give advice for young women starting out in their careers, in video essays featured on the Women@NASA website.

Ballance is deputy director of the Science and Technology Chief Engineers Office in the Engineering Directorate; Foley-Batts is a policy manager in Marshall's Office of Procurement; and Ordonez is the Hispanic program manager in the Office of Diversity & Equal Opportunity.

Women@NASA is a collection of videos and essays from women across the agency who contribute to NASA's mission in many different ways. It was created by the NASA Open Government team to encourage transparency, participation and collaboration and create a new level of openness and accountability at NASA.

The videos also coincide with Women's History Month. It is celebrated annually in March and highlights the contributions of women to events in history and contemporary society.

The videos are now available for viewing:

Judy Ballance: http://av.ndc.nasa.gov/content/thmb2.php?video=Judy_Ballance.m4v&captions=Judy_Ballance.cap

Teresa Foley-Batts: http://av.ndc.nasa.gov/content/thmb2.php?video=Teresa_Foley_Batts.m4v&captions=Teresa_Foley_Batts.cap

Elia Ordonez: http://av.ndc.nasa.gov/content/thmb2.php?video=Elia_Ordonez.m4v&captions=Elia_Ordonez.cap

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Chamber of Commerce of Huntsville/Madison County Members Tour Marshall Center for Insight into Its Programs and Facilities

Bobby Watkins, standing, director of the Marshall Space Flight Center's Office of Strategic Analysis & Communications, presents a center overview to Chamber of Commerce of Huntsville/Madison County representatives, who visited the center March 1. Marshall Center Acting Director Gene Goldman welcomed the guests and gave brief remarks. It was an introductory visit to Marshall for Chip Cherry, recently selected as the new president and chief executive officer of the chamber. Members toured the Payload Operations Center, Virtual Environments Laboratory and Environmental Control Life Support System development laboratory. The system provides several functions for the International Space Station, including potable water. The chamber members learned more about Marshall's advanced welding manufacturing capabilities and the Space Launch System, which will carry the Orion crew vehicle, as well as important cargo, equipment and science experiments, to Earth's orbit and destinations beyond low-Earth orbit. (NASA/MSFC/Angela Storey)

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Marshall Center's Garry Lyles Awarded National Space Club's 2012 Astronautics Engineer Award
By Megan Davidson

Garry Lyles. (NASA/MSFC)

Garry Lyles, chief engineer for the Space Launch System Program at the Marshall Space Flight Center, recently was awarded the 2012 Astronautics Engineer Award by the National Space Club. The award is presented annually to a space engineer who has made an outstanding personal contribution to the national space program.

The National Space Club is a nonprofit organization devoted to fostering excellence in space activity through interaction between industry and government, and through a continuing program of educational support.

Lyles was chosen for the award for his multi-decade work in engineering management in the nation's human spaceflight systems. "His dedication, exceptional leadership and engineering expertise in the development of new space transportation architecture has demonstrated his allegiance to America's space program and advancement of the nation's future in space," said Norman L. Baker, chairman of the Astronautics Engineer Award.

Lyles has an extensive NASA career. In his current role, which he assumed in August 2011, he is responsible for technical direction of all Space Launch System program activities, which will lead to a new U.S. heavy-lift launch vehicle for NASA's next generation of human space exploration.

He was associate director for technical management in Marshall's Engineering Directorate from 2007 to 2011. He provided leadership during development studies for NASA's next-generation heavy-lift vehicle, as well as being responsible for implementing engineering best-practices to track product delivery and resolution support for the Ares I upper-stage and vehicle-integration projects.

From 2005 to 2007, Lyles served as the first chief engineer for the Exploration Systems Mission Directorate at NASA Headquarters in Washington. In 2004, he was deputy director of Project Constellation at NASA Headquarters, establishing the initial office structure and recruiting agency personnel to formulate a plan for transitioning the Orbital Space Plane and Next Generation Launch Technology Program to the Vision for Space Exploration.

He was manager of the Propulsion Projects Office for the Space Launch Initiative -- also known as the Next Generation Launch Technology Program -- at Marshall from 2001 to 2004. He also provided technical support to the Integrated Space Transportation Plan after the space shuttle Columbia accident in 2003.

From 1996 to 2001, he served as program manager for the Advanced Space Transportation Program Office. He was acting chief engineer for the Space Shuttle Main Engine Project Office from 1995 to 1996. Also in 1996, was appointed to the Senior Executive Service -- the personnel system covering top managerial positions in approximately 75 federal agencies.

He was the NASA resident manager at the Canoga Park Resident Management Office in the Space Shuttle Projects Office at the Rocketdyne space shuttle main engine production facility in Canoga Park, Calif., from 1993 to 1995.

From 1988 to 1993, Lyles served in the Propulsion Laboratory at the Marshall Center, first as branch chief of the Liquid Propulsion Branch and then as deputy division chief and division chief of the Propulsion Systems Division. From 1986 to 1988, he was part of both the external tank and solid rocket motor contingency teams after the space shuttle Challenger accident, relocating to Ogden, Utah, to serve as NASA's lead engineer for an internal motor thermal redesign.

Lyles began his career at NASA in 1976 as an aerospace engineer in the Propulsion Laboratory at the Marshall Center. A native of Albertville, Ala., he earned a bachelor's degree in mechanical engineering in 1975 from the University of Alabama in Tuscaloosa.

Lyles will receive his award at the National Space Club's Dr. Robert H. Goddard Memorial Dinner March 30 in Washington.

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

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SERVIR: Expanding Sensor Networks From the Ground to the International Space Station
By Janet Anderson and Bart Leahy

SERVIR is preparing to have new eyes on the world. NASA and the U.S. Agency for International Development's joint-venture environmental monitoring system is adding a new tool to enhance its research and global observation capabilities via the International Space Station.

Image right: The ISERV camera, once on the space station, will be positioned to look through Destiny's Earth-facing window. ISERV will receive commands from Earth and acquire image data of specific areas on the Earth the next time the station passes over the region. (www.servirglobal.net)

SERVIR, which comes from the Spanish verb "to serve," provides analyses and applications from space-based assets to help developing nations' decision-making regarding natural disasters, climate change and other environmental threats. The latest instrument for advancing their mission is called the International Space Station SERVIR Environmental Research and Visualization System, also known as ISERV.

ISERV is an imaging system designed and built at the Marshall Space Flight Center. It will soon be installed in the Window Observational Research Facility, or WORF, in the space station's Destiny module, where it will be tasked by researchers on the ground as needed to acquire image data of specific areas of the globe through Destiny's Earth-facing science window. The system, based on a modified commercial telescope and driven by custom software, will use its unique, 45-degree downward viewpoint to obtain near-real-time data about Earth-based environmental disasters, humanitarian crises and environmental threats, and transmit them within hours of the event to scientists back on Earth.

"Images captured from ISERV on the International Space Station will provide valuable information back here on Earth," said Dan Irwin, SERVIR program director at the Marshall Center. "It will provide new data and information from space related to disasters, humanitarian crises and the increased effects of climate variability on human populations."

ISERV is a pathfinder instrument, the first of a new series of high-value instruments bound for the space station -- each featuring progressively more advanced sensors. Future versions of ISERV, if funded, eventually could be mounted on the exterior of the station for an even clearer, wider view of Earth.

As part of getting the instrument ready for flight to the station, the ISERV Pathfinder recently underwent a final fit check in the high-fidelity WORF trainer at the Johnson Space Center. The trainer simulates the WORF rack and the high-quality, 20-inch science window in the Destiny module. It was then packed and shipped to Japan for final launch preparations. The payload will be flown to space aboard the Japanese Aerospace Exploration Agency's HTV-3 vehicle, which is set to launch June 26 from the Tanegashima Space Center in southern Japan.

The Payload Operations team at Marshall is creating computer-based training materials to be used by the space station crew to train for ISERV assembly and installation in the WORF rack. ISERV is scheduled to begin normal operations aboard the station by Nov. 1.

ISERV development was funded as a collaborative effort between NASA's Human Exploration and Operations Directorate

and the Science Mission Directorate's Earth Science Division Applied Science Program as part of the NASA/USAID SERVIR partnership.

SERVIR conducts its operations from hubs located in the regions it serves. It has active hubs in Kenya at the Regional Center for Mapping of Resources for Development and in Nepal at the International Centre for Integrated Mountain Development. There are plans to expand the network in the next year. The hubs consist of teams of scientific experts who develop satellite and other geospatial data into useful information for governments and non-governmental organizations in the host nations. Each of the hubs addresses issues ranging from disaster analysis to environmental monitoring, air quality and public health, climate change, biodiversity and short-term weather prediction. Integrating all these outputs gives governments, emergency responders and other decision-makers in developing nations a better view of their environment and more information for adapting to life on our ever-changing planet.

Anderson is a public affairs officer in the Office of Strategic Analysis & Communications. Leahy, a Schafer Corp. employee, also supports OSAC.

Find this article at:

http://www.nasa.gov/centers/marshall/about/star/index.html