NASA opens ‘door to exploration’

After 20 years, the west high-bay door of the historic Operations and Checkout Building reopens for assembly work on the new Orion crew capsule.

By Anna Heiney  
Staff Writer

As the door is closing on NASA’s Space Shuttle Program, another door is opening to make way for the next generation of human space vehicles: the Constellation Program.

The 50-foot-tall door at the west end of the high bay in Kennedy Space Center’s historic Operations and Checkout Building was opened for the first time in more than two decades during a ceremony Sept. 26.

“We’re gathered here today in recognition of the first step in the journey,” said International Space Station/Payload Processing Director Russell Romanella. “This is truly a symbolic event. We have an exciting future, and today we’re really opening the door to exploration.”

Lockheed Martin plans to use the 40-year-old facility to complete final assembly and testing of the new Orion crew capsule, NASA’s next-generation human spacecraft. The first flight with astronauts aboard is planned for no later than 2014, and the Orion capsule’s first flight to the moon is planned for no later than 2020.

Originally called the Manned Spacecraft Operations Building, this five-story facility was essential to the Apollo Program. This is where the Apollo command and service modules were inspected after their arrival at the space center, mated and put through integrated testing before transfer to the Operations and Checkout Building.

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KSC All Hands meeting unveils new engineering directorate

By Linda Herridge  
Staff Writer

Kennedy Space Center’s new Engineering Directorate and the center’s role in future space missions were among the subjects discussed during an All Hands meeting with Center Director Jim Kennedy on Sept. 26.

“The future is bright at KSC, but we have to manage it,” Kennedy said to the audience in the Training Auditorium and those watching on NASA TV. “We are the processing center for the future space exploration program.”

Kennedy said the center has a compelling future and recent surveys show that Congress and 77 percent of the American public support the space program.

As the Space Shuttle Program comes to an end, Kennedy said traditional work likely will decrease. “We care about the work force,” he said. “We will continue to pursue non-traditional work, such as the recent award of the Orion effort to Lockheed Martin and their subsequent decision to assemble Orion in KSC’s Operations and Checkout Building.”

Pat Simpkins, director of the new Engineering Directorate, discussed the reorganization efforts and goals for the future. He said the basic tenets of the new directorate will be integrity, credibility and capability.

(See ENGINEERING, Page 7)
A traffic review board works to make driving safer on center

By Jennifer Wolfinger
Staff Writer

Cars weaving around parking lots, cyclists sharing the road, buses stopping regularly and pedestrians rushing to meetings may sound like a city’s busy downtown area, but it’s a common scenario at secluded Kennedy Space Center.

To assist the work force in maneuvering around the center safely, the Transportation Office’s Traffic Management Review Board monitors employee issues and implements new safety measures as needed. The projects include everything from repairing traffic light masts, developing new lawn-mowing schedules and providing consistent speed limit signs, to encouraging major construction and policy changes. The group also looks for cost-effective solutions, such as painting speed limits on the road in some areas instead of installing signs.

Recently, First Street, which is in front of the Headquarters Building, was expanded to include 36 parking spaces for disabled employees. Furthermore, a temporary light is currently behind the building to provide safer lighting conditions. The fixture will eventually be replaced with an experimental solar-powered light which conserves energy.

Everybody should contribute to transportation safety by using common sense and following regulations. By not parking automobiles on grass, a driver can reduce the chance of a fire igniting. When jogging, go against traffic; when biking, go with the traffic, and avoid these activities during peak travel times. Drivers who unexpectedly swerve off the road should beware of elevated manhole covers on site which can total vehicles if hit.

“Observe the rules of the road and follow the Florida Department of Transportation standards. Deputy sheriffs make up our police force, and they can issue Florida or federal driving citations,” warned Tom Dwyer, the board’s co-chairman.

According to him, to combat unlawful speeding -- the top KSC violation -- the center is also adopting the policy to double speeding fines in construction zones. This policy will be in effect during upcoming construction on the NASA Causeway Bridge. Notices about the policy will be publicized beforehand.

“When people go through construction sites, they don’t slow down. The deaths caused by related accidents are one of the top three types of fatalities across the state, as far as OSHA is concerned,” Dwyer said. This has resulted in construction site-related deaths becoming one of the top three fatalities. For transportation and traffic questions, contact Traffic Enforcement Supervisor Lt. Renee Allen at 861-5149 or the Watch Commander at 853-2159.

For more information about KSC’s Transportation Office, visit http://centerops.ksc.nasa.gov/offices/centerdiv/transportation.htm and the site’s “Transportation Information” link.
Headquarters Building entrance, disabled parking provide easier access

By Linda Herridge  
Staff Writer

A clear blue sky served as the backdrop for the unveiling of a new entranceway and special parking area at Kennedy Space Center’s Headquarters Building on Oct. 6. KSC Director Jim Kennedy, along with the new Engineering Directorate Deputy Scott Kerr, Center Operations Director Michael Benik, and Sharon White, a representative from the Disability Awareness and Action Working Group, helped to mark the special event.

Representatives from KSC’s Spaceport Services, the architect and engineering firm and general contractor were also present.

Kerr said the new parking area comprises 68 total spots, including 36 Americans with Disabilities Act-compliant disabled spots, 10 government vehicle visitor spots, three electrical sites for recharging the alternative-energy vehicles, 19 visitor spots and a bus loading/unloading zone.

The enhanced pedestrian walkway features concrete and brick pavers with the NASA logo in mosaic tile. The entranceway also features solid poured concrete planters, new landscaping, additional site lighting, an automatic irrigation system and improved storm water and runoff control.

The renovation project began in December 2005 and is the direct result of requests by the DAAWG to increase and improve entrance access and parking spaces for the center’s disabled members of the work force.

“One of my favorite expressions is, ‘I am KSC and proud to be,’” Kennedy said. “I really respect the DAAWG and their courage to ask for these improvements and KSC’s team effort to address their concerns.”

Kennedy said this is the first remodeling or facelift to the facility entrance since it opened for use in 1965.

White complemented the design team for increasing the accessible parking along the front of the building. “They are top-of-the-line wide parking spaces that allow for immediate access,” White said. “Thank you for making us an important part of this center.”

Mike Benik, director of Center Operations, said this project is just the beginning of the revitalization of the infrastructure at the center. He noted that west side parking should be open by the end of the month once modifications for electrical vehicles are completed.

KSC’s Justin Junod was the NASA project manager and lead design engineer. Construction was done by general contractor V.A. Operations, said this project is just the beginning of the revitalization of the infrastructure at the center.

Anania becomes director of Human Resources

By Jennifer Wolfinger  
Staff Writer

Kennedy Space Center management recently welcomed its newest member, Tracy Anania. She assumed the role of human resources director Aug. 6. In this position, she’ll facilitate the directorate’s mission to provide human capital management solutions for the center, and employee training and development for current and future missions.

“As director of Human Resources for Kennedy, I’m responsible for staffing positions in organizations, helping managers create performance plans for employees, training employees, work force planning largely centered around work force trends, projecting future human resources requirements, and responding to Headquarters initiatives in regards to work force planning,” she summarized.

Anania immediately knew she was destined to be in human resources once she heard a description of the field during a college course at the University of Wisconsin. She later earned a Bachelor of Science degree in industrial and organizational sociology and human resources from the university. After college, she enrolled in the U.S. Army’s internship program. This step led to her becoming director of human resources at an Army research and development lab in New Jersey.

“It’s a tremendous honor to be selected. I never in a million years thought I’d work for NASA. I was amazed that everybody was so receptive to my ideas, and embraced me as somebody who could contribute,” she said. “The staff I inherited is amazing, on their game, pleasant, and ready and willing for challenges.”

Approximately 35 employees will support Anania’s initiatives. She intends to develop methods for managers to realize their efficiencies, improve the performance review process, and ultimately develop a new system where employees can directly impact their salaries instead of the current pay-grade schedule.

“I want to bring representatives from all components from all of Kennedy to help,” she said. “If employees have a say in their future, they embrace it more than they might otherwise.”

In her limited free time, she enjoys rollerblading, exercising and doing yoga. Anania and her husband, Tony, have been married for 12 years.
Operations and Checkout Building reopens west door for ‘CEV factory’

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the Vehicle Assembly Building.

Later, the Operations and Checkout Building was used for testing of Spacelab science modules that flew on space shuttle missions and International Space Station trusses. However, the west door wasn’t used and hasn’t been opened for the duration of the shuttle program.

Space Florida and Kennedy Space Center worked together to begin transforming the high bay into a configuration similar to the facility’s original concept. With assistance from the Space Coast Economic Development Commission, the state provided $35 million through Space Florida to bring Lockheed Martin to Kennedy, and to use this facility as a factory for Orion crew modules and service modules.

Additionally, the state funded a $735,000 project to clean out the facility. The Boeing Company’s Checkout, Assembly and Payload Processing Services team removed Spacelab facility structures and equipment — including 50 tons of structural steel that was part of the test stands — and updated, inspected and reactivated the west door.

“We are so proud that we were selected, along with the entire Orion team, to be the people who will be generating the next vehicle that’s going to take us to the moon, Mars and beyond,” said Lockheed Martin Director of Government Relations Adrian Lafitte. “We’re ready to open, and start our piece of the project.”

Also participating in the ribbon cutting were Conrad Nagel, consultant for Space Florida; Mark Jager, program manager of Checkout, Assembly, Payloads Processing Services with Boeing; and Lynda Weatherman of the Economic Development Commission.

As the ceremonial scissors snipped through the red ribbon, the six-paneled door slid open with barely a sound, beginning a new chapter in the storied building’s rich history.

Kennedy Space Center Director Jim Kennedy, who was a sophomore at nearby Cocoa Beach High School when construction on the building was completed in 1964, noted the upcoming work on the Orion crew exploration vehicle helps to ensure the center’s future.

“We open these doors today to a bright future,” Kennedy said. “It is a ‘CEV factory.’ What a great idea, for non-traditional work to come to the Kennedy Space Center to give us a bright future as we work this challenging mission together.”

NASA OFFICIALS cut the ribbon to officially reactivate the Operations and Checkout Building’s west door as an entry to the crew exploration vehicle environment. From left are Russell Romanella, director of the ISS Payload and Processing Directorate; Conrad Nagel, consultant for Space Florida; Adrian Lafitte, director of government relations for Lockheed Martin; Jim Kennedy, director of KSC; Mark Jager, program manager of Checkout, Assembly, Payloads Processing Services with Boeing; and Lynda Weatherman of the Economic Development Commission.

AT LEFT, in this April 1969 photograph, the Command Module 107 and Service Module for the Apollo 11 mission are moved from Chamber “L” to the work stand inside the Operations and Checkout Building in preparation for the first manned lunar landing. Also shown in the background is the Command Module 108, used for the Apollo 12 lunar landing mission.
Historic Firing Room 1 to be remodeled for transfer to the Constellation Program

By Linda Herridge
Staff Writer

With all eyes at Kennedy Space Center focused on the future of space exploration, the first step toward supporting future vehicle launches is currently taking place in Firing Room 1, recently dedicated the Young/Crippen Firing Room, in the Launch Control Center. The Shuttle Processing Transition Team is working to decommission FR1 for transfer to the Constellation Program by no later than January 2007.

The transition work involves NASA Launch Processing System engineers, InDyne, Space Gateway Support and United Space Alliance engineers and technicians. Bill Potteiger, NASA shuttle transition integration project lead, said the first phase of the work involves removal of all equipment above the raised floor, including consoles, console enclosures, furniture, electronic equipment, racks, plaques and on-station manuals. Workers are also making repairs to the existing ceiling.

The transition team held management briefings and determined that FR1 decommissioning would pose no risk to the current Space Shuttle program, which will use FR4 for all remaining launches.

George Jacobs, NASA shuttle program transition manager, will oversee the transfer of all shuttle property to the new owner. He said the Space Shuttle Program at KSC consists of approximately 300 facilities and tens of thousands of pieces of equipment.

“Firing Room 1 is the first such facility to be transferred to the Constellation Program for reuse,” Jacobs said.

Mario Busacca, in the Environmental Program Branch, said the Launch Control Center is listed as an historic property on the National Register of Historic Places. Before work began, NASA analyzed the activity to determine if it would have an adverse effect on the property and communicated the decommissioning plans to the State Historic Preservation Office. According to Busacca, it was determined that removal of the equipment from FR1 would not cause the facility to lose its historic value.

Potteiger said the consoles will be put in storage while the KSC artifacts manager works to find display locations at KSC and elsewhere. The Launch Processing System will retain some of the old equipment to use as spares for other firing rooms.

“It is sad because this signals the end of an era,” said Vince Cubero, who is a USA ground project manager. “But we’re happy because we are moving forward from one chapter to another in the manned exploration program.”

Cubero’s transition team is responsible for coordinating all requirements, scheduling and costs to remove the existing LPS hardware and subsystems and will also provide oversight and coordination with other KSC contractors as well as the in-house labor for the actual decommissioning.

Curtis Williams, launch processing hardware and system software co-lead, said it’s exciting to consider that the transition is one of the first steps toward providing an infrastructure that will eventually support mankind’s return to the moon. He shared a little-known factoid about FR1—the Master Console sign carries the signatures of many notable visitors including Bob Crippen, Story Musgrave, Prince Charles and Prince Andrew.

“It is tremendously exciting to begin to see the physical transformation of the historic firing room that launched Apollo 11 and 13, as well as the first shuttle launch in 1981,” said Mike Leinbach, NASA launch director. “This firing room will play a key role in our vision for space exploration as we prepare to launch the demonstration flight for Constellation - ARES I-1 in 2009 and pave the way for manned missions starting in 2012.”
2006 Intercenter Walk/Run hosts largest crowd

As participants in the 2006 Intercenter Walk/Run stretched under a hangar at the Shuttle Landing Facility, Kennedy Space Center Director Jim Kennedy welcomed the record crowd and gave them inspiration to cheer on their fellow employees.

“This is the biggest run and walk we’ve ever had, including more than 450 registered participants and ‘walk-ins’ on top of that, so congratulations to all of you,” Kennedy said.

“I would like to recognize that 12 days ago, Atlantis landed on the very runway we’re going to be on and I want to say to all the men and women, government and contractor, and the Air Force team who is with us today, it’s a team effort to make the great things happen at the Kennedy Space Center,” he said.

“Whatever your role was, thank you for what you do for Kennedy. Have a safe and enjoyable run, and we’ll see you at the finish line.”

According to Debra Orringer, fitness center employee and organizer of the event, the biggest number of registrants before this year was approximately 200 participants.

SPACEPORT EMPLOYEES enjoy the 2006 Intercenter Walk/Run at the Shuttle Landing Facility, where more than 450 workers participated.

Simulation group paves the way for future missions

By Jennifer Wolfinger
Staff Writer

Kennedy Space Center’s Information Technology Software Development organization is accelerating the use of simulations to prepare for future space flight missions.

“When humans have to go where humans typically don’t go, as in the hostile environment of space, simulation is essential. The better we are at simulation, the better we will be at exploration,” said Priscilla Elfrey, IT process control specialist, National Center for Simulation founder and former project manager. She also is the NASA-wide Modeling and Simulation Team lead.

Modeling and simulation lowers the cost and improves the performance of NASA activities and can potentially transform workers’ analysis, design, operations and training.

Under the leadership of Ben Bryant, the IT software development division supports NASA and KSC modeling and simulation customers. Technical Assistant Mike Conroy is also the agency’s level-two Constellation Project Office lead for data presentation and visualization. The branch’s civil service modeling and simulation specialists, led by Matt Verdier, recently partnered with the Florida Space Authority to ensure the crew exploration vehicle assembly will take place at KSC.

The staff has also been working with Valador, a simulation and game company in Virginia, and with project manager Dave Mann of Arctic Slope Research Corp. to develop the Distributed Observer Network to bring simulation out of the laboratory and to desk computers of NASA engineers, including the Constellation team.

With this, an authenticated simulation goes through a game engine that produces a derived simulation, like a PDF.

“This is somewhat less detailed than the original, but allows dispersed teams to observe, share information, solve problems and arrive at an informed consensus,” she said.

These tools also simulate KSC facilities to plan for ground support operations; they were instrumental in the Columbia accident investigation, and often presented engineers with design options that aren’t detected during “real world” tests.

Last month, the NASA-wide Modeling and Simulation Team participated in the Space Community Forum, a conference established with the Simulation Interoperability and Standards Organization to expand NASA’s networks, information resources, credibility and the visibility of modeling and simulation for space. The organization consults with the Institute of Electrical and Electronics Engineers for standards, a priority for all simulation developers.

Elfrey is chairwoman of the organization’s Space Community Forum, which includes Conroy and several other NASA, industry and contractor members.

For the past three years, KSC has partnered with five NASA centers to produce a One NASA booth and demonstrations at the InterService/Industry Training Systems and Education Conference, the largest simulation exhibition in the world.

“We have won major awards there for our application of modeling and simulation to analysis,” she said. “Those accomplishments and increasing activities with professional societies and one another is the sort of participation we encourage.”
Forty years ago, activation of Launch Complex 39 was crucial to meeting NASA’s goal to land a man on the moon by the end of the decade. Firing Room 1 in the Launch Control Center was designated for one of the first major tasks: checkout of the first Saturn V test vehicle.

A Site Activation Board was appointed in March 1965. Forty NASA and contractor representatives attended the first meeting.

The board adopted a Performance Evaluation and Review Technique (PERT) approach to accomplish its daunting task efficiently. PERT schedules defined each task, performer and deadline in a descending and expanding level of detail and provided three levels of control.

The first-level details focused on major control milestones for the Saturn V Program. One of the first was the checkout of the Saturn V test vehicle, SA-500-F, using the facilities and hardware that would be used for the actual launches.

The second-level details tracked each major element required to reach a key milestone. Firing Room 1 readiness, for example, was essential, as was the preparation of the other facilities required for the SA-500-F checkout.

The details at the third level followed the progress of all subsystems within a facility. In this case, the operation of dedicated panels, such as the propellants loading panel, was charted.

In September, the Site Activation Working Group was formed to resolve technical interface problems and devise methods of accomplishing new requirements.

For example, nearly 100 miles of cable were required for communication and instrumentation from the Launch Control Center to Pad B alone.

NASA alumnus James Fulton, as chief of the Launch Vehicle Branch in the Saturn V Test and Systems Engineering Office, recruited Donald “Pete” Simmons to lead the splinter Cable Working Group, responsible for untangling the complex’s cable network.

“Pete Simmons oversaw the development of a cable accounting system,” Fulton recalled from his home in Cocoa Beach. “This approach significantly reduced the number of complicated cable diagrams generated in earlier projects.”

The system tracked more than 60,000 cables, including all connectors by part number, cable length, cable makeup, procurement action and date, furnishing agency, “need” date recorded in the PERT schedules (the date on which an item was required), “from and to” locations, and installation contractor.

By October 1966, all of the primary test objectives of SA-500-F had been met, including check-out of the liquid oxygen, liquid hydrogen and RP-1 lines and systems.

KENNEDY recapped the past year’s achievements, including the successful launch and landing of Discovery on mission STS-121 and Atlantis on mission STS-115, the Operations Support Building II ribbon cutting, Exploration Park Industry Day, the Zero-G flight from the Shuttle Landing Facility, the New Horizons launch aboard an Atlas V, the 25th anniversary of mission STS-1, and the dedication of Firing Room 1 to astronauts John Young and Bob Crippen.

He recognized Human Resources Director Tracy Anania and Information Technology Director Mike Bolger for achieving the Senior Executive Service level. They were awarded pins and certificates of recognition.

Remembering Our Heritage

40 years ago: Firing Room 1 was crucial to launch site activation

By Kay Grinter
Reference Librarian

A PERFORMANCE Evaluation and Review Technique (PERT) was taken and brought order to Launch Complex 39 site activation. PERT schedules defined each task, performer and deadline in a descending and expanding level of detail.
Sold-out audience enjoys Hispanic Heritage Month Luncheon

By Jeff Stuckey
Editor

Miguel Rodriguez shared stories of success and determination with a full house at the 2006 Hispanic Heritage Month Luncheon on Sept. 29 at the Kennedy Space Center Visitor Complex’s Debus Center.

The acting director for the Rocket Propulsion Test Program Office at the Stennis Space Center in Mississippi discussed his career moves at NASA, including achieving the rank of Senior Executive Service.

He recalled being put in charge of the housing committee to find homes for 1,100 people, including NASA, contractor and military personnel shortly after Hurricane Katrina blasted the Gulf Coast.

“I left Stennis the day before Hurricane Katrina hit the coast and returned six days later to find a tree on my house and windows broken,” he said. “I spent a week cleaning up, then contacted the then-Stennis Center Director, Bill Parsons, and asked how I could help. It was very successful.”

The aspect that amazed Rodriguez the most was not seeing any sadness on the faces of people who were most affected by the storm. On the contrary, everybody was upbeat and ready to get back into action.

“Amazingly, we were able to perform an engine test two months later for the R68,” Rodriguez said. “It was not because we were pushing these people to get this done. The engine test provided those people the only thing in life that was a balance. They could control their work; however, they could not control the effects of the storm on their homes and their families.”

Coincidentally, Rodriguez, who started his NASA career at KSC and owns a home near Orlando, is returning to work at the center. “It’s great to be back at the center,” he said. “About one year ago, I told Jim (Kennedy) that I needed to get back to my family — not only my personal family, but also my family here at Kennedy.”

Center Director Jim Kennedy, who introduced Rodriguez to the audience, talked about the impact Hispanics make at the center.

“You national theme is fitting: ‘Hispanic Americans: Our rich culture contributing to America’s future.’ And contribute you do, every day, in so many ways.”

Kennedy said. “There are 173 NASA civil servants working at KSC that proudly know, and share with the rest of us, they are Hispanic Americans. We are so proud you are.”

Joe Tellado, chairman of the Hispanic Employment Program Working Group and host of the event, told the crowd that KSC has its own field of dreams.

“It has evolved from programs such as Mercury, Gemini, Apollo, Space Shuttle, Space Station and is now leading to our new space exploration initiative,” Tellado said. “The dream is becoming a reality each day. Our center is evolving to fulfill this dream, and Hispanics are helping to lead the way. Diversity is what is happening to eliminate adversity.”

Educators Resources Center, Exploration Station gain grant

NASA recently awarded a grant to the University of Central Florida and the Florida Space Grant Consortium to continue operating the NASA Educators Resources Center and the Exploration Station at the Kennedy Space Center Visitor Complex.

The cooperative agreement aims to attract and retain students in science, technology, engineering and mathematics through educational opportunities for students, teachers and faculty at both of these areas, located in the Center for Space Education. The grant is for one year with four year-long extensions.

“KSC maintains its commitment to excellence in education to ensure the next generation of explorers is fully prepared to join our work force,” said Steve Dutczak, NASA ERC/ES coordinator.

The Educators Resources Center helps teachers learn about and use NASA’s educational resources, providing educators with demonstrations of educational technologies such as NASA educational Web sites and NASA Television. The Exploration Station offers free educational student programs for student organizations. Students participate in a variety of hands-on activities using aerospace hardware that complements the teaching of rocketry, space flight, space science and space exploration. These programs meet National Curriculum Standards associated with math, science and technology, as well as correlate to the Sunshine State Standards. Last fiscal year, the programs together served 8,550 educators and 20,000 students.