

Spaceport News

America's gateway to the universe. Leading the world in preparing and launching missions to Earth and beyond.

<http://www-pao.ksc.nasa.gov/kscpao/snews/snewstoc.htm>

John F. Kennedy Space Center

New shoes put pep in crawlers' step

By Linda Herridge
Staff Writer

NASA's two crawler transporter vehicles soon will sport new "shoes." A \$10 million project to replace all 456 tread belt shoes, weighing more than one ton each, on the crawlers at Kennedy Space Center has begun.

The shoes are critical for safely transporting the Space Shuttle to the launch pad. Cracks on old shoes can prevent the cleats from moving along the crawlerway and can compromise the structural integrity of the shoes.

Each of the vehicles has eight belts, and each belt has 57 shoes. Most shoes on the crawlers date back to 1965, when the vehicles were built and first put into service for Apollo launches.

Inspections in late 2003 revealed fatigue cracks in many of the shoes, leading to complete replacement of shoes on both crawlers. Crawler transporter No.



THE NEW crawler transporter shoes, each 7.5 feet long, are delivered. They replace the shoes on the crawlers that date back to 1965.

2, designated for Discovery's Return to Flight mission to the International Space Station, will receive its new shoes first.

"The crawler transporters are going to be in great shape for Return to Flight and the crawler team is delivering," said Mark Hamilton, NASA crawler transporter systems engineer. "This is

by far the most active maintenance period in the history of the crawlers, requiring continuous heavy equipment crane support and the use of custom rigging and tooling."

NASA and United Space Alliance (USA) crawler transporter systems engineers and USA technicians are repairing

the sprockets and rollers on each belt before the new shoes are installed. Welding repair and inspection of some of the sprockets and manufacture of some of the rollers also is being performed at KSC.

The new shoes, each 7.5 feet long and 1.5 feet wide, are being

(See CRAWLER, Page 7)

Safety and Mission Assurance's Swihart strives for the best

By Linda Herridge
Staff Writer

Phil Swihart takes his job ensuring the safety of Kennedy Space Center as seriously as he does caring for his own home.

The safety engineer applied many of the principles he uses in the Safety and Mission Assurance directorate when he built his house two years ago.

Swihart's dedication and commitment to safety at KSC earned him the August Employee of the Month award for his directorate. The honor makes him an example of many safety

engineers who routinely strive to ensure the Center operates at its best. One of Swihart's co-workers nominated him for this peer recognition award.

"I was really surprised and very thankful that a co-worker thought my work was important enough to nominate me," said Swihart. "This is a great place to work and I am thankful for the group of people I work with."

Prior to starting at KSC in 1988, Swihart worked for the U.S. Air Force as an aircraft technician at Wright-Patterson Air Force Base in Dayton, Ohio. With his aviation safety background and experience, he is

often called upon for safety analysis of aircraft and hazardous operations at KSC and CCAFS.

His current responsibilities include systems and facility safety reviews of NASA Construction of Facility projects. He looks for hazards or potential hazards in construction plans and works to prevent them prior to the start of the project.



SAFETY AND MISSION ASSURANCE engineer Phil Swihart.

"For example, if there's a gas line placement near another utility that could cause a hazard,

(See SWIHART, Page 2)



Dr. Woodrow Whitlow
Deputy Director

The Kennedy Update

Hello, everyone! Jim Kennedy is taking a well-deserved vacation, so I'm happy to sit in for him while he takes some time off. It is always busy and exciting around the Center and now is no exception.

For those who may not have heard, due mainly to the impacts of the three hurricanes, the Space Shuttle program announced that the March 2005 launch window is no longer achievable. The earliest window for launch begins May 14; however, the Space Flight Leadership Council will meet at the end of the month to determine the official window we will work toward.

While this is a two-month delay, there is not much you can do when Mother Nature decides to send three hurricanes your way in six weeks. Hopefully, we've seen the last of big storms and we'll be able to dedicate 100 percent of our efforts to carrying out our vital mission for NASA and our nation.

I want to wish our Launch Services Program team the best with the upcoming launch of the Demonstration of Autonomous Rendezvous Technology (DART) spacecraft from Vandenberg Air Force Base, Calif. Once in orbit, DART will make contact with its target - the Multiple Paths, Beyond-Line-of-Sight Communications (MUBLCOM) satellite launched in 1999.

DART will then perform several close-proximity operations, such as moving toward and away from the satellite using navigation data provided by on-board sensors. The entire mission will last 24 hours and will be accomplished without human intervention.

The DART satellite provides a key step in establishing autonomous rendezvous capabilities for the U.S. Space Program and is significant in carrying out NASA's new Vision for Space Exploration. For those wanting to view the mission, NASA TV

coverage will begin at 1 p.m. Tuesday, Oct. 26.

Thanks to everyone for their hard work and good luck to the DART launch team.

Thursday, Oct. 28 is an important day as we hold our annual Super Safety and Health Day in partnership with the 45th Space Wing and our other spaceport partners. While details are in a story on page 8, there are a couple of items to pass along:

With this year's theme, "A winning combination," we have focused the day on safety and health and not primarily on safety as we have in the past. We have several great speakers, including the great 1976 Olympic Decathlon champion Bruce Jenner.

Halloween and the holidays that follow in the next couple of months.

I know ticket sales cut off earlier this week for the "Celebration of Diversity," but I want to thank everyone who is honoring National Diversity Month by attending the event Saturday night at the Radisson Resort in Cape Canaveral. This year's theme, "One NASA Family, Many Cultures," celebrates the diverse communities and backgrounds that form the KSC family.

Diversity is the strength of the KSC family and I want to thank everyone in the Equal Opportunity Special Emphasis Program for all of their hard work hosting this event.

"Let's get focused on our health and safety as we get ready for Halloween and the holidays that follow in the next couple of months."

We also will have an opening ceremony for each shift that day and there will be several sessions to attend and speakers to hear. If you miss something, we plan to have the major events taped and replayed on NASA TV.

Many people have spent months planning the event and I believe they have made it worth your while. So please attend as many sessions as you can, and let's get focused on our health and safety as we get ready for

Speaking previously of Halloween, it's only nine days away and a great time for the kids of our county to enjoy themselves, especially with many of them impacted by the hurricanes. I ask that everyone take the time to drive safely that night to ensure we don't have an unfortunate accident.

As I said, there is a great deal going on at the Center and all of it is good. Take care everyone and have a good week!

September Employees of the Month



THE September Employees of the Month, from left, are: Dawn Steele, Shuttle Processing; Sasha Rodriguez, Cape Canaveral Spaceport Management Office; Michael Dodson, Safety and Mission Assurance; Teresa Lawhorn, Spaceport Engineering and Technology; Jaime Carter, Procurement Office.

SWIHART . . . (Continued from Page 1)

then we need to look at that and solve the problem," said Swihart.

Recent projects included reviewing plans for the Operations Support Building II in the LC-39 area and the new training facility under construction behind the Headquarters Building. Swihart works with Space Gateway Support to review and provide oversight analyses of institutional ground support equipment that interfaces with the Space Shuttle Program.

Currently, Swihart is working on several Return to Flight issues. These include the Halon fire suppression systems on Launch Complex Pads 39A and B and all three Mobile Launch

Platforms; breathing air systems for the Self-Contained Atmospheric Protective Ensemble operations; and the Environment Control and Life Support System (fire detection systems) at the launch pads.

Steve Brisbin, division chief of Institutional Safety and Quality, praised Swihart's work.

"Phil is continually striving to build partnerships with the contract and government organizations who are stakeholders in ensuring safety of our facilities and ground support equipment."

He added, "Phil has often been the catalyst for improving the design review processes and helping the varied employers understand the importance of teamwork to ensure safety at KSC."

NASA Values: Dunn witnesses 'excellence' as patent paralegal

To stress the importance of NASA's commitment to the shared values of safety, the NASA family, excellence and integrity, the Kennedy Space Center Star Alignment Team held an essay contest encouraging employees to submit what one of these values meant to them and to give examples of how it is demonstrated at the Center. This winning essay addresses excellence:

By Carol Anne Dunn
NASA Chief Counsel Office

The United States wouldn't have a Space Program without a commitment to excellence - that indefinable "something" that has propelled men and women for centuries into the realms of achieving the impossible.

NASA is more than a federal agency, it is an imaginative idea exemplified by its commitment to achieving the highest standards in engineering, science, management and leadership. The Agency attracts people because it offers a vision that challenges the intellect and offers a rigor of

purpose.

This rigor of purpose can only be achieved by a hallmark of excellence. This hallmark of excellence often manifests itself in imaginative and creative solutions to problems.

Albert Einstein said: "Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world."

I see this hallmark of excellence every day in my position as a patent paralegal.

Men and women solving today's problems with a commitment to the future - imagination blended with science. These people truly demonstrate and communicate an unquenchable spirit of ingenuity and innovation, and in turn, inspire me to process their paperwork with a regard for the importance and integrity of their work.

Whether it is an environmental process for cleaning contaminated groundwater at the pads or a process that turns nitrogen oxide waste (a byproduct of the scrubbers) to fertilizer, the fallouts from the Space Program have contributed to the wealth of



CAROLANNE DUNN, a patent paralegal in NASA's Chief Counsel Office, wrote the winning essay in KSC's NASA Values contest. She believes the people in KSC's work force "truly demonstrate and communicate an unquenchable spirit of ingenuity and innovation, and in turn, inspire me to process their paperwork with a regard for the importance and integrity of their work."

human knowledge. Science propels these quests of the imagination and continues to propel the men and women of NASA as the Agency pioneers into the future.

Carl Sagan said, "We make our world significant by the

courage of our questions, and by the depth of our answers." The men and women I associate with each day truly exemplify the NASA value of "excellence" in their work as scientists and engineers.

Combined Federal Campaign kicks into high gear at NASA

You become the hero - by caring, sharing and giving

At least 57 percent of NASA employees already have contributed a total of more than \$302,000 to the Combined Federal Campaign. The amount represents 102 percent of the \$294,000 goal.

The campaign is an annual



effort for federal employees to contribute to worthwhile local, national and international charities. Employees can make their contribution online at the campaign Web site, <http://cfc.ksc.nasa.gov>.

Since Central Florida was hit hard by recent hurricanes, the emphasis this year is on contributions to the local charities taking part in this year's campaign. After completing the contribution process, employees are entered into weekly incentive prize drawings for a chance to win prizes such as Maximum Access Passes to the KSC Visitor Complex and gift certificates to the NASA Exchange.

The Combined Federal Campaign runs through the end of October.

October Employees of the Month



STANDING IN THE BACK ROW, from left, are: Matt Carroll, ISS/Payload Processing; Glenn Seaton, Information Technology and Communication Services; Brian Graf, Spaceport Services; Jim Henderson, Independent Authority and Systems Management. Seated in the front row, from left, are: Lorene Williams, Human Resources Office; Maria Lopez-Tellado, Launch Services Program; Margaret Miller, Chief Financial Office.

Are you aware of the Space Shuttle Return to Flight updates?

By Anna Heiney
Staff Writer

In the year since the August 2003 release of the Columbia Accident Investigation Board (CAIB) report, NASA has made steady progress to address key issues and prepare the Space Shuttle fleet for space flight.

NASA's work toward redesigning a bipod attach fitting is a significant Return to Flight milestone. Part of the enormous external fuel tank, the fittings connect the tank to the Shuttle orbiter during launch and ascent. The newly revamped hardware relies on a series of heaters, rather than foam insulation, to prevent ice build-up on the fittings.

The new fitting design will be built into all future tanks and retrofitted on the 11 existing tanks, including the one intended for Return to Flight mission STS-114. That tank is due to arrive at KSC later this year.

When Space Shuttle Discovery separates from its emptied external tank after reaching orbit, Mission Control will be able to review the footage in an entirely new way: from a digital camera built into the orbiter's underside. NASA is pursuing use of the camera, beginning with the Shuttle's Return to Flight, to obtain and downlink high-resolution photos.

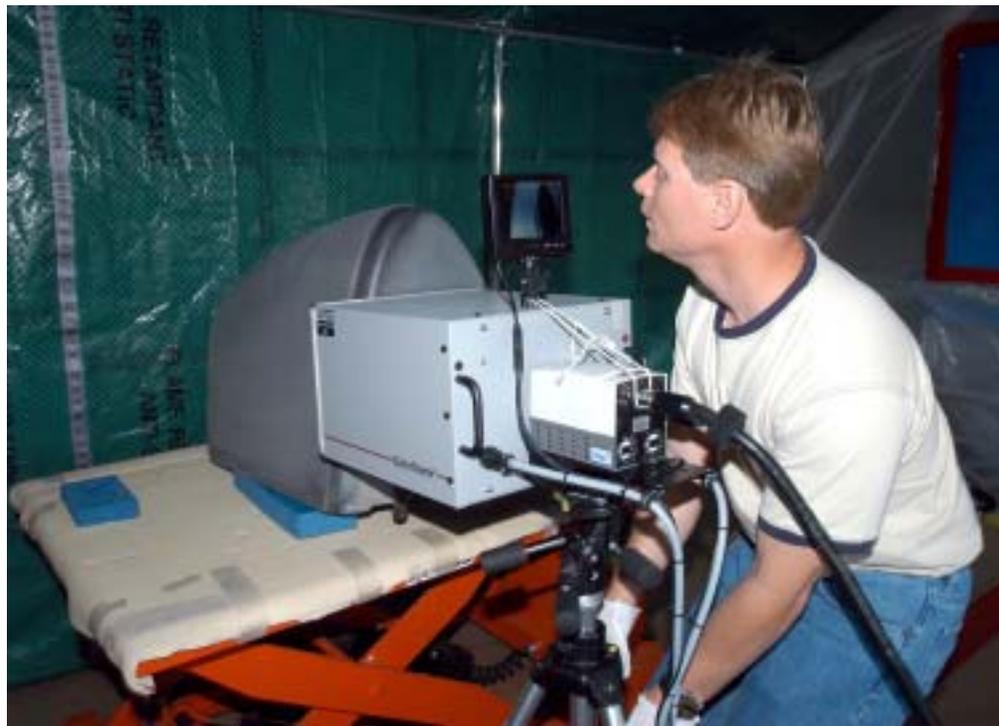
The images will be quickly transmitted to Mission Control, where analysis can begin almost immediately. The new camera is undergoing final preparations following a fit check on the orbiter body.

Inside Discovery's payload bay, wiring is in place that will support the external tank separation camera, wing leading edge impact sensors and the Orbiter Boom Sensor System (OBSS). Designed to satisfy the CAIB's recommendation that Space Shuttle crews have a way to visually inspect the orbiter after launch, the OBSS was successfully tested at NASA's Marshall Space Flight Center in Alabama.

The boom is back at the



IN THE ORBITER PROCESSING FACILITY, workers install wiring in Discovery's cargo bay that will support the addition of an Orbiter Boom Sensor System (OBSS). The OBSS is one of the new safety measures for Return to Flight, equipping the Shuttle with cameras and laser systems to inspect its Thermal Protection System while in space.



JIM LANDY, non-destructive evaluation specialist with United Space Alliance, examines a Reinforced Carbon-Carbon panel using flash thermography. A relatively new procedure at KSC, thermography uses high intensity light to heat areas of the panels. The panels are then immediately scanned with an infrared camera.

manufacturer, MD Robotics, the Canadian company that also makes the Shuttle's Canadarm Remote Manipulator System and the Canadarm II on the International Space Station.

The Reinforced Carbon-Carbon (RCC) panels and nose caps of the Space Shuttles were tested using innovative, non-destructive methods including ultrasound, CAT scans and flash thermography. These methods allowed technicians to get in-depth views of each panel without causing any damage.

The RCC nose cap and most

RCC panels are already installed on Space Shuttle Discovery in preparation for flight.

Another Return to Flight upgrade is the installation of ground-based tracking, imaging and analysis equipment that will record all future launches with unprecedented speed and detail. With a doubling of the number of available tracking cameras and the purchase of high-definition television and state-of-the-art image analysis equipment, NASA will be able to closely watch the Space Shuttle's liftoff like never before.

In addition to upgraded flight hardware and imaging equipment, more employees are dedicated to safety and mission assurance across the Agency. At KSC, the goal is to increase the number of safety personnel from 11 percent of the work force to 15 percent, and that goal is now within reach.

There are still more milestones to look forward to in the coming months as we close in on launch day. For information about NASA's Return to Flight efforts, visit: <http://www.nasa.gov/returntoflight>.

Radar test for MESSENGER launch to help Return to Flight

By George Diller
NASA Public Affairs Officer

Radar-tracking data gathered during the Delta II launch of the MESSENGER spacecraft in early August has provided promising results that may benefit NASA's Space Shuttle Program and Discovery's Return to Flight.

A pair of radars installed at a site north of Haulover Canal tracked the launch phase of the Delta II, including separation of the nine Solid Rocket Boosters and jettison of the first stage and the payload fairing, the nose of the rocket that protected the MESSENGER spacecraft during launch.

"This test was quite successful for us in proving a concept," said NASA project manager Tony Griffith. "The use of high-resolution wideband and Doppler radars allows us to observe almost any possible debris during ascent and means we can observe the Space Shuttle without regard to limitations of visibility, cloud cover and darkness."

More importantly, the tandem radars saw - in significant detail -

ice shedding from the Delta first stage, ejection of the Solid Rocket Booster nozzle throat plugs, and contents of their exhaust. These are normal Delta launch events.

For the Space Shuttle Program, the test showed that the radars, working together, were effective in visualizing the vehicle elements in high resolution. They provide the ability to attain speedy interpretation of the images for initial data analysis after a Space Shuttle launch.

The antennas have been on loan to NASA from the USNS Pathfinder, a U.S. Navy instrumentation ship. The 30-foot-diameter C-band wideband radar antenna and the smaller X-band Doppler radar worked together to image the Delta in flight. The Navy operated the radars for NASA during the MESSENGER launch and NASA was responsible for analyzing the imagery.

"This turned out to be a successful and mutually beneficial partnership with the Navy that we will pursue," Griffith said.

Later this fall, a 50-foot-



THESE ANTENNAS were on loan to NASA from the U.S. Navy. The 30-foot-diameter C-band wideband radar antenna and the smaller X-band Doppler radar worked together to image NASA's recent MESSENGER launch.

diameter C-band wideband radar will be installed on this site for a similar Return to Flight application and for use by the Navy. The radar is being relocated to KSC from the Roosevelt Roads Naval Station in Puerto Rico.

The radars used for the test were returned to the USNS Pathfinder, though the C-band

radar could return as a backup for Return to Flight if it is available from the Navy. NASA is evaluating the procurement of two X-band Doppler radars for use on ships downrange, including one of the Solid Rocket Booster retrieval ships.

Space Shuttle engine returns to KSC after test fire

Inside the KSC Engine Shop, Boeing-Rocketdyne technicians recently removed the container that enclosed the third and final Space Shuttle Main Engine (SSME) for Discovery's Return to Flight mission STS-114.

The engine returned from NASA's Stennis Space Center in Mississippi where it underwent a hot fire acceptance test. The SSME operates at greater temperature extremes than any mechanical system in common use today.

When the hydrogen is burned with liquid oxygen, the temperature in the engine's combustion chamber reaches 6,000 degrees Fahrenheit. The equivalent horsepower developed by the three SSMEs during launch is equivalent to the output of 23 Hoover Dams.



Shuttle Landing Facility's system ensures safe arrival home

By *Charlie Plain*
Staff Writer

With the approaching return of the Space Shuttle fleet to flight in 2005, NASA is preparing for the Shuttles' safe arrival home with the recertification of Kennedy Space Center's runway guidance system.

Known as the Microwave Scanning Beam Landing System (MSBLS), the system acts like a homing beacon for Space Shuttle orbiters returning to Earth. As an orbiter nears the runway, the system relays information to the pilot such as the vehicle's angle of approach and distance to touchdown, guiding it to a perfect landing.

Every two years the MSBLS needs to be certified for accuracy. In the past, NASA has used its own equipment and aircraft for the verification process. However, for the first time NASA will be working with the Federal Aviation Administration to take advantage of its expertise and modern equipment.

"The FAA certifies every other navigation aide that there is for commercial aircraft, so we got together," said John Kiriazes,

NASA's lead technical engineer for the project.

The most obvious sign of the FAA's involvement in the project is the presence of the Bombardier Challenger 601 jet. The Bombardier looks like a typical private jet on the outside, but climb inside and you'll see a bank of computers and equipment taking up half of the passenger cabin. Included in the

mass of hardware are receivers for measuring multiple kinds of navigation signals. This jet and its specialized equipment are what NASA is using to test the accuracy of the MSBLS.

For this evaluation, the test crew placed a perfectly calibrated GPS navigation unit along the runway to precisely mark a point of reference. This GPS unit broadcasts navigation information from its position to the Bombardier and will be the



WORKERS INVOLVED in recertifying the Shuttle Landing Facility's guidance system are, front row from left: Bill Sauble (FAA), Richard Merritt, Gary Wheaton (FAA), Jose Segura-Dolader, Chris Hasselbring, Lin Ballard (FAA), an unidentified FAA official and Dana Geiger. Standing in the back row, from left, are Bill Haskell, Marshall Scott, Steve Lloyd, Kevin Decker, Dr. Woodrow Whitlow (deputy Center director), Cliff McCormick, Joe Madden, John Lufkin (FAA), John Kiriazes, Marie Reed, Rob Frostrom, Rita Willcox, Jim Heald and Conrad Nagel.

standard that the MSBLS is compared to.

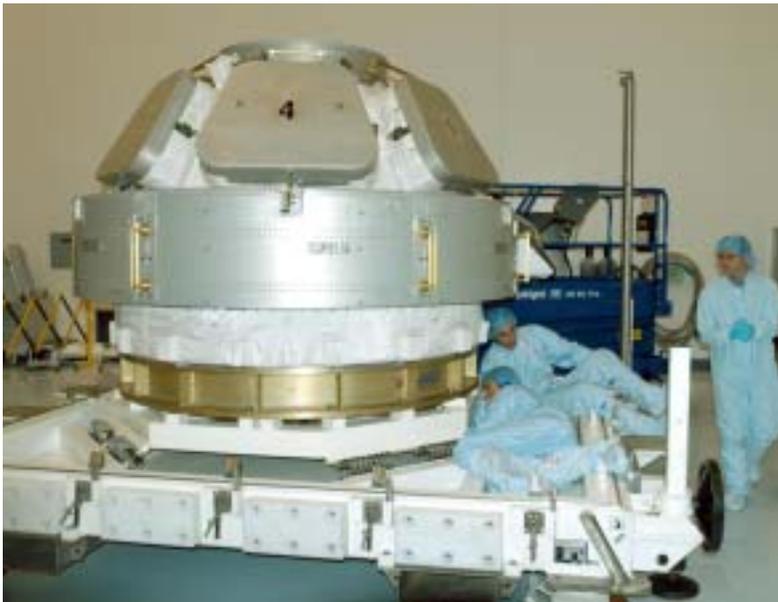
Following placement of the GPS unit, the Bombardier took to the air to make 30 passes over the runway. The aircraft flew passes from different angles to the runway to measure the full spectrum of the MSBLS signal. Throughout the flights, technicians onboard the FAA jet compared the readings from the GPS unit to the MSBLS. If the MSBLS's signal appeared to be

off the mark, technicians on the ground were alerted to adjust the system until it matched the GPS's signal.

The test showed the MSBLS's signal is very accurate and the system is functioning excellently. In fact, the system is working so well, the MSBLS can place an incoming aircraft within two inches of its actual position in the air.

"The aircraft flexes more than that," underscored Kiriazes.

Space Station element is last of core



INSIDE THE Space Station Processing Facility is the uncrated Cupola, an element scheduled to be installed on the International Space Station in early 2009. A dome-shaped module with seven windows, the Cupola will give astronauts a panoramic view for observing many operations on the outside of the orbiting complex. It is the final element of the Space Station core.

'KSC, Can We Talk?' forum offers outlet for employees

By *Gisele Altman*
Equal Opportunity Office

The next, "KSC, Can We Talk" forum will be Nov. 3, and is limited to 12 NASA/KSC employees. If you would like to apply for this opportunity, e-mail your name, mail code and telephone number to CanWeTalk@kscems.ksc.nasa.gov by Oct. 28. Participants must be non-supervisory, non-Senior Executive Service and GS-14 or below, and will be selected by a random lottery.

KSC held its first "KSC, Can We Talk" forum in May, in which topics were chosen by the participants. The event resulted in the following three actions

being noted and tracked by senior management:

1) Management should get out more and visit their employees - *Center Director Jim Kennedy agrees with this need and he continually reminds senior staff to spend time with employees.*
2) There are no "closed loop" corrective action systems - *Participants were reminded that KSC's closed loop system is the OFI system per ISO requirement, and can be found at <http://ofi>.*

2) GPES, as a tool, is not effective; we are still using a pass/fail system - *NASA is currently engaged in a full-scale change of its performance systems, namely adding a third category.*

White House advisor commends Center's disability practices

By Jeff Stuckey
Editor

The Kennedy Space Center was praised for the great employment opportunities it offers people with disabilities during a recent breakfast gathering to celebrate National Disability Employment Awareness Month.

The sold-out event, hosted by the Disability Awareness and Action Working Group (DAAWG), took place Oct. 13 in the Kurt H. Debus Conference Center. Keynote speaker Jennifer Sheehy Keller, who was appointed by Pres. George W. Bush as an administrator in the Office of Special Education and Rehabilitation Services, said she felt honored to speak to the federal agency that serves as a role model for disability hiring.

"I want to say how amazing it is that you have done so much here at the Kennedy Space Center for disabled employees," Sheehy Keller said. "When Center Director Jim Kennedy mentioned how 7 percent of the employees have disabilities, he is right in thinking you need to increase that.



JENNIFER SHEEHY KELLER (far right) was the keynote speaker at the Disability Awareness and Action Working Group's breakfast celebrating National Disability Employment Awareness Month. Jessica Holt repeated the speech in sign language.

"But the average in the federal government, which is a very good employer of people with disabilities, is 2 percent, so you need to pat yourself on the back that you are making important strides."

Sheehy Keller recently completed a detail as associate director in the White House Domestic Policy Council, implementing the president's New Freedom Initiative and advising on policy issues of interest to people with disabili-

ties.

Susan Kroskey, Cape Canaveral Spaceport Management Office director and chairwoman of the DAAWG, thanked the crowd for helping all special-emphasis groups.

"We appreciate all of the overwhelming support you have given us, especially in light of

the fact we have been through three hurricanes that have affected a lot of schedules and operations around the Center," she said. "Everybody really stepped up to the plate."

Following Ivette Rivera's beautiful rendition of the "National Anthem," Kennedy told the audience that everyone, regardless of their capabilities, can contribute to society.

"The fact that 230 of us care enough to attend this breakfast is testimony that the DAAWG is making a difference at KSC," said Kennedy. "I am truly proud that we have gotten serious about celebrating the awareness and the actions of this group.

"To me, the second 'a' in DAAWG (which stands for 'action') may be the most important. We celebrate our employees who live with disabilities and are aware of the way they live their lives. We also take action to make their lives as productive as possible."

Mission accomplished



THE 2004 Five Points of Life Ride, a 4,000-mile bicycle journey from Washington's Puget Sound to KSC's Visitor Complex, benefits charitable organizations involved with organ replacement, bone marrow and other life-saving donations. Each rider has a personal connection to a donation.

XA recognizes volunteer loyalty



THE EXTERNAL RELATIONS directorate, with the help of Director Lisa Malone (pictured at podium) and Deputy Center Director Dr. Woodrow Whitlow, recently recognized its volunteers for their loyal service. These volunteers, current and retired employees, help support launch operations (bus escorts and guest center staff), special events, VIP tours that include elected officials and education groups, the speakers bureau, the display management team and media operations at the Press Site. A few of this year's accomplishments include handling more than 3,100 launch guests, escorting 7,000 VIP guests on personal tours and 3,000 children of KSC employees for "Take Our Children to Work Day."

CRAWLER . . . (Continued from Page 1)

made by ME Global Manufacturing of Duluth, Minn. They arrive at KSC in truckloads of 20 to comply with shipping load limits.

Other upgrades or modifications recently completed on crawler No. 2 include complete electrical rewiring of the motor control center and installation of new driver cabs, mufflers, radiators and ventilation systems. The same work is now under way on crawler No. 1.

Hamilton noted the majority of mechanical crawler parts are unique to the vehicle and are specially manufactured. "We are fortunate that the massive precision components, such as the large drive gear sets and gear shaft bearings, still look new."

NASA's DART set to launch next week

NASA's Demonstration of Autonomous Rendezvous Technology (DART), to be launched Oct. 26 from Vandenberg Air Force Base in California, is an advanced flight demonstrator that will autonomously locate and maneuver near an orbiting satellite. The DART spacecraft weighs about 800 pounds and is nearly 6 feet long and 3 feet in diameter.

The Orbital Sciences Pegasus XL vehicle will launch DART into a circular polar orbit of approximately 475 miles.

The DART satellite provides a key step in establishing autonomous rendezvous capabilities for the U.S. Space Program. While previous rendezvous and docking efforts have been piloted by astronauts, the unmanned DART satellite will have computers and cameras to

perform its rendezvous functions.

Once in orbit, DART will make contact with a target satellite, the Multiple Paths, Beyond-Line-of-Sight Communications (MUBLCOM) launched in 1999. DART will then perform several close-proximity operations, such as moving toward and away from the satellite using navigation data provided by on-board sensors.

The entire mission will last only 24 hours and will be accomplished without human intervention. The DART flight computer will determine its own path to accomplish its mission objectives.

The countdown and launch will be managed by the NASA Launch Services Program at KSC.

Business Expo partners government and industry

Business Opportunities Expo 2004, held Oct. 19 at Cruise Terminal 4 in Port Canaveral, was sponsored by the NASA/Kennedy Space Center Small Business Council, 45th Space Wing and Canaveral Port Authority. This year's 14th annual event featured more than 180 businesses and government exhibitors who gave out information and answered specific questions about doing business.

"This is a fantastic example of the partnering between government agencies and improving the networking

between large and small business," said Dudley Cannon, acting director of KSC's Procurement Office. "It is also a prime example of the partnership between government and industry to ensure the government obtains the best services possible and that industry has the greatest opportunity to participate in exciting government programs."

In addition, various prime contractors and local small business outreach councils identified subcontracting opportunities.



The 14th annual Business Expo featured more than 180 exhibitors.



AT VANDENBERG AIR FORCE BASE in California, workers begin mating the second and third stages of the Orbital Sciences Pegasus XL launch vehicle that will launch the Demonstration of Autonomous Rendezvous Technology (DART) spacecraft.

Spaceport Super Safety and Health Day

Now more than ever, NASA encourages members of the work force to speak their concerns regarding safety. The sixth annual Spaceport Super Safety and Health Day is an opportunity to reinforce a commitment to safety and offer ways to promote a healthy lifestyle.



The event starts at 8 a.m. Oct. 28 in the Training Auditorium with two keynote speakers. Dr. Pamela Peeke will translate cutting-edge health science into easily understandable news you can use. Shortly afterward, U.S. Navy Commander Stephen E. Iwanowicz will give an informative talk about the Navy's Submarine Safety Program.

Afternoon activities will feature vendors near the VAB, O&C and Hangar T at the Cape Canaveral Air Force Station, astronaut visits and opening ceremonies for second and third shifts. Vendor doors open at noon. Transportation will run between the three vendor sites. Visit <http://safetyandhealth.ksc.nasa.gov> for an updated schedule of events.



John F. Kennedy Space Center

Spaceport News

Spaceport News is an official publication of the Kennedy Space Center and is published on alternate Fridays by External Relations and Business Development in the interest of KSC civil service and contractor employees.

Contributions are welcome and should be submitted two weeks before publication to the Media Services Branch, IDI-011. E-mail submissions can be sent to Jeffery.Stuckey@ksc.nasa.gov

Managing editor. Bruce Buckingham
Editor. Jeff Stuckey
Copy editor Corey Schubert

Editorial support provided by InDyne, Inc. Writers Group.
NASA at KSC is located on the Internet at <http://www.ksc.nasa.gov>
USGPO: 733-133/600067