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Spaceport News

John F. Kennedy Space Center - America's gateway to the universe

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Fay has its way, keeps shuttle Atlantis in bay

By Steven Siceloff
Spaceport News

Space shuttle Atlantis stayed indoors while spaceflight equipment moved to safer ground Monday as NASA's Kennedy Space Center braced for Tropical Storm Fay's heavy rain and high winds.

Atlantis was scheduled to rollover to the Vehicle Assembly Building on Aug. 18, but remained inside its Orbiter Processing Facility. The spacecraft is targeted to launch Oct. 8 on a mission to upgrade NASA's Hubble Space Telescope. Postponement of the rollover is not expected to delay liftoff.

Workers drove the astronaut transport vehicle and a large crane into the safety of the Vehicle Assembly Building. Other vehicles that normally weather Florida's thunderstorms on their own were also tucked inside buildings.

"If it needs to be moved, we'll move it and if it needs to be tied down, we'll tie it down," said John Cosat, chief of Emergency Management, SGS. Cosat is part of the Emergency Operations Center staff that coordinates storm preparations, recovery and related activities.

Indoors, workers draped plastic bags over computers, monitors, file cabinets and anything else that can't withstand water damage. Cosat said Kennedy is taking some extra precautions with this tropical storm.

"With this one, it's a little more unpredictable, so we're just erring on the side of caution," Cosat said.

Forecasters and center officials, including Center Director Bill Parsons and Shuttle Launch Director Mike Leinbach, met routinely as Fay progressed past Cuba. The center's actions are coordinated with officials from Brevard County and the U.S. Air Force's 45th Space Wing, which is based at Patrick Air Force Base and also oversees Cape Canaveral Air Force Station.

"We watch for evacuations from the barrier islands, which is not happening this time," Cosat said. "That is something that has a big impact on the Kennedy work force."

The actions were part of the center's regular hurricane readiness plan. The early preparations began Aug. 15 when Parsons declared Hurricane Condition IV, the lowest readiness level.

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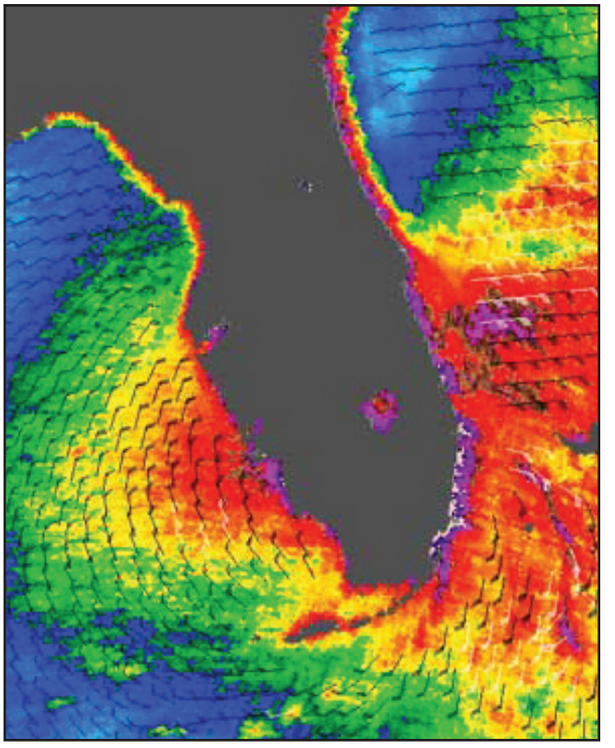


NASA

NASA's QuikSCAT satellite has been watching Fay's winds by using microwaves to peer into the clouds. This image was captured at 7:33 a.m. EDT on Aug. 19.

Area leaders discuss transition challenge in Titusville

How do you eat an elephant? One bite at a time, according to U.S. Rep. Tom Feeney. That was his message to Brevard residents, NASA officials and local lawmakers during a meeting about space issues at Titusville City Hall on Aug. 13. He's not talking about land's largest living animal; he's talking about the transition challenge facing Kennedy Space Center, its work force and the community.

Kennedy Space Center director Bill Parsons said: "We still have 10 missions left of the Space Shuttle Program.

"It's going to require us to be very diligent and extremely focused to make sure that we do that safely. Without flying those space shuttle missions out correctly and safely, there may not be a next program."

Feeney added: "Our job is not to tell you that there won't be a challenge and a problem. Our job is to work together and to mitigate and diminish that problem. "We can do it bit by bit, if we work together."

The U.S. House of Representatives recently passed the largest NASA authorization in history by a 400-15 vote that included accelerating NASA's Constellation Program.

One important provision covered in the bill is for NASA's Shuttle Transition Liaison Office to assist local communities affected by the retirement of the Space Shuttle Program.

"There are lots of things that we can do to take the same technologically skilled work force and transition them into diversified jobs," Feeney said.

Another provision includes studying the possibility of a commercial space launch range at federal installations. Feeney said the bill includes funding for a Commercial Orbital Space Transportation Services Program, or COTS, which could potentially shrink America's reliability on the Russian Soyuz during the gap between the Space Shuttle Program and the Constellation Program. The provision also asks for the White House to tell NASA how to effectively use technology and science for commercial launch opportunities.

"It doesn't say study how we're going to make Kennedy Space Center a 21st century space city, which is what I'm calling for," Feeney said. "But if you read between the

See **Titusville** Page 8

Weightlessness experts enjoy microgravity experience

By Steven Siceloff
Spaceport News

For the past 17 years, Jonathan Partsch's work as a life support technician prepared others for microgravity flights. In June, he experienced weightlessness firsthand.

Riding inside a 727 airliner run by the Zero Gravity Corporation, or Zero-G, Partsch and a group of 75 engineers, scientists and technicians floated in microgravity freedom for 30 seconds at a time, 15 times.

The airplane, known as G-Force One, simulates weightlessness by flying steep climbs and dives called parabolas. While the climb makes passengers feel like they weigh almost twice as much as on Earth, the dives can remove the feeling of gravity altogether.

NASA uses those same principles to introduce astronauts to the feeling of free-fall, and has since the Mercury program began in 1958.

Partsch's aerospace group first experienced the gravity of Mars and the moon before making several turns in simulated zero-gravity.

"During our moon-simulated parabola, which is 1/6 earth's gravity, we found that doing one arm push-ups, even one finger push-ups was a breeze," Parstch said

Later, when the plane pushed its nose earthward like a roller coaster at the top of a hill to start a new dive, the researchers and technicians floated up off the padded floor and began flipping, rolling and bouncing gently off the walls and ceiling. A few seconds later, gravity returned at the bottom of the dive.

"Before coming back down, our flight leader would yell to us, 'feet down, feet down.' This is one order you had better obey, because you were coming down whether you had your feet down or not," Partsch said.

for NASA

Jonathan Partsch was among a group of 75 engineers, scientists and technicians who floated in microgravity freedom aboard G-Force One.

The aerospace group also took turns trying to perform simple first aid, but microgravity challenges even the simplest motions. Something as easy as placing a bandage on an arm becomes laborious.

Although the flight was about as fun a work assignment as anyone will get, there was a serious side to this flight and others like it.

With the shuttle's retirement on the horizon, Florida officials hope these types of flights and other measures will help train NASA's Kennedy Space Center work force for the Constellation Program, which is expected to begin carrying astronauts into orbit in 2015.

Workforce Florida Inc. and the Brevard Workforce Development Board funded the Florida Aerospace Microgravity Training Program, a first-of-its-kind training effort in the aerospace industry. Zero-G, SpaceTEC and Brevard Community College also are taking part in the program.

Before taking to the skies, Partsch went through two weeks of specialized courses and helped in research that covered topics focused on the engineering and physiological aspects of microgravity. He took part in an experiment to determine how weightlessness disorients people and leaves them feeling tired.

Such information is crucial, considering astronauts on a moon mission are expected to live for months at a time in greatly-reduced gravity. The trip to Mars takes months, so astronauts will have to endure long stretches of weightlessness during those flights.

Closer to Earth, Partsch, who works for Wyle Aerospace Group at Kennedy, spent more than a week before the flight carefully documenting his sleep patterns for the study and collecting small vials of saliva for analysis along the way.

Partsch's work didn't end when the G-Force One aircraft touched down on the runway. He had to keep logging his sleep patterns for several days and collecting more saliva samples, in hopes that doctors may find a way to treat or prevent weightlessness fatigue.

Partsch graduated from the program as a micronaut, or as some call it a zeronaut, and is now expected to share what he learned and apply it to future projects.

From **Atlantis**, Page 1

Although the preparation status remained at IV through Monday, most of the steps for Hurricane Condition III were finished in advance, Cosat said. That included designating a group of workers called the "ride-out team." Their main task during a storm is to watch over the center for potential damage.

"If something happens that needs to be taken care of, they'll do it," Cosat said. After the storm passes, the team also issues the first evaluation of the center.

Leinbach said recently that he conducts teleconferences every six hours leading up to a storm so NASA can make sure the shuttles and their payloads have everything they need and are ready for harsh weather conditions. Because storms can threaten space shuttle scheduling, the meetings typically include program officials from other NASA centers, as well as headquarters.

It's been several years since Kennedy has buttoned down for a tropical storm. In 2004, Hurricane Frances tore panels off the side of the VAB. Most of the outside of the building, including its siding and doors, has since been revamped and many of its panels replaced.

"In 2004 and 2005, (the preparations) were more extensive because we faced a direct threat from the Atlantic side," Cosat said.

As of press time, Kennedy had been closed Aug. 19-20. The center was expected to reopen no earlier than 8 a.m. Aug. 21.

Hands-on activities inspire minority students

By Kate Frakes
Spaceport News

The chance to meet an astronaut, freeze leaves with liquid nitrogen and spend the night under a real rocket may sound like an amusement park adventure, but for students involved in the science, technology, engineering and mathematics program, or STEM, with historically black colleges and universities, or HBCU's, it's just another day of learning. On Aug. 6, 132 students and faculty arrived at the Kennedy Space Center Visitor Complex for three days of hands-on STEM activities.

Four designated HBCU's offer minority youth from elementary through high school a chance to study STEM-related subjects at their campuses: Morgan State University, North Carolina Agriculture and Technical University, Prairie View Agricultural and Mechanical University and Tennessee State University. This year, NASA brought each of these HBCU's together by awarding them grants to fund the students' trip to Kennedy.

Kennedy's Teacher and Student Programs Lead Hortense Burt managed the first-time event and hopes it helped relate the students' work in the classroom to current NASA missions.

"The program's goal is to expose minority youth to NASA's missions and increase their interest in the aerospace industry," Burt said. "We want to alert students of the need for them to be academically successful so that they have the background to work in a STEM-based career."

The students participated in group activities led by NASA education information specialists at Kennedy's Center for Space Education.

NASA/Dimitri Gerondidakis

On Aug. 6, 132 students and faculty arrived at the Kennedy Space Center Visitor Complex for three days of hands-on STEM activities. Four historically black colleges and universities offer minority youth from elementary school through high school a chance to study STEM-related subjects.

They learned about new technologies for NASA's Hubble Space Telescope, discussed objectives of the next space shuttle mission and flew into space aboard the Visitor Complex's Shuttle Launch Experience ride.

In addition to hands-on activities, NASA engineers, scientists and astronauts spoke to the students about the importance of academic success.

NASA Propulsion Systems engineer and Tennessee State University graduate Malcolm Boston motivated students to strive for academic success.

As a NASA scholar and four-year summer intern at NASA's Glenn Research Center throughout college, Boston explained the benefits of education programs offered by HBCU's.

"Diversity is a proven, significant factor in organizational success and younger generations benefit from the exposure to cutting edge technology and the engineers who work with it," Boston said

Students also met NASA astronaut John Blaha who discussed his work on the International Space Station and fed their curiosity with his experiences in space.

The event ended with an educational overnight experience at the Apollo/Saturn V Center.

Students also toured Kennedy and got a behind-the-scenes "Dynamics of Technology" tour at Disney's Epcot, to further demonstrate the broad spectrum of possibilities STEM curricula offers.

NASA/Dimitri Gerondidakis

Students learned about new technologies used on NASA's Hubble Space Telescope such as the gyros, which are used to maintain orientation and provide stability in boats, aircraft and spacecraft. They work by a scientific principle called the gyroscopic effect. You can demonstrate this effect by holding a bicycle wheel by its axle and asking someone to spin the wheel. If you try to move the axle of the spinning wheel, you will feel a force opposing your attempt to move it.

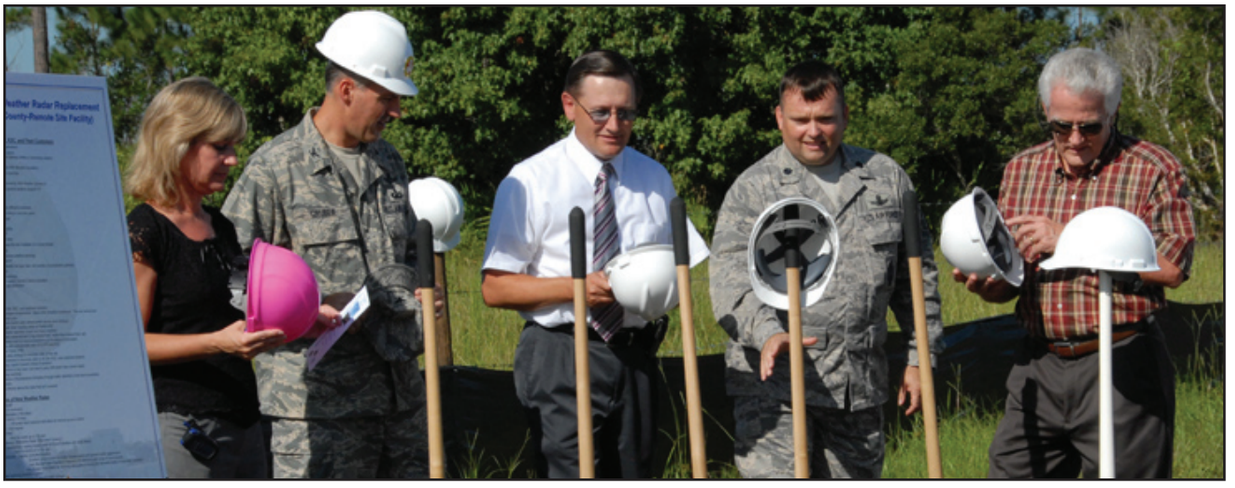
Scene Around Kenn

Reader-submitted photo

Katy Lehtio, a communications technician with InDyne Inc., assembles "52D Desktop" end instruments as part of an OIS-D survivability task. OIS-D is the principal Kennedy Space Center voice-communications system used to support processing of space shuttle and International Space Station components.

Reader-submitted photo

Richard Cota, deputy chief financial officer with NASA, celebrated his retirement Aug. 1 after more than 43 years of service.



NASA/Amanda Diller

Officials prepare to dig in during the Aug. 6 ground-breaking ceremony for a Weather Radar Replacement Facility.

nedy Space Center

Reader-submitted photo

Rita Willcoxon, director of launch vehicle processing, stands with the crew of STS-126 at a crew equipment interface test party earlier this month. More than 200 KSC employees and their families attended the party. The STS-126 crew is targeted to launch aboard Endeavour on Nov. 10.

NASA/Dimitri Gerondidakis

The Kennedy Space Center Prime Contractor Board sponsored the first NASA's Kennedy Space Center Small Business Industry Day forum on July 31 at Boeing Co. in Titusville. The forum advises Kennedy program managers, technical representatives and engineers of various small business capabilities. These capabilities could be used for upcoming contracts at Kennedy involving Shuttle/Constellation transition or other activities.

NASA/Gianni Woods

The Kennedy Space Center Badging Office, building M6-0224 (on State Road 405, west of Gate 3) is providing badging services for employees, deliveries and official visitors. These services formerly were provided at the PIDS 3 Facility, which now is closed.

Reader-submitted photo

John Pancho is leaving Kennedy Space Center after 36 years. He is relocating to California to join his wife, Donna, shown above, and two daughters, Kelly and Chelsea.

Spaceport News wants your photos

You are encouraged to send unique story ideas and exciting photos of workers in action for possible publication. Photos should include a short caption with the names and job titles, from left to right. Send e-mail to

KSC-Spaceport-News @mail.nasa.gov.

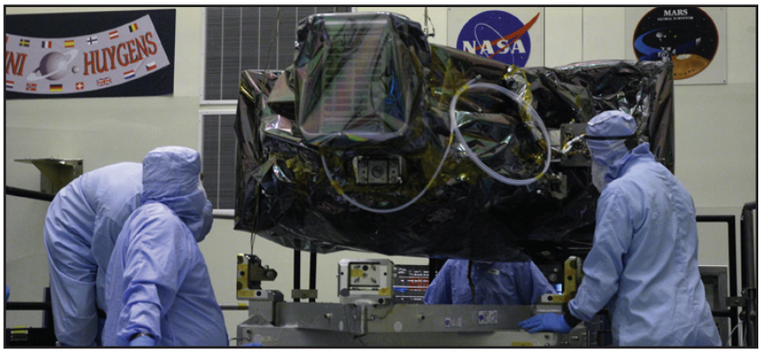
Hubble makes 100,000th trip around Earth

As Kennedy Space Center prepares for its fifth and final servicing mission to the Hubble Space Telescope, the giant observatory continues to send breathtaking images back to astronomers. On Aug. 10, Hubble made its 100,000th trip around Earth, sending back colorful images of a galaxy thousands of light-years away.

Hubble used its Wide Field and Planetary Camera 2, or WFPC2, to gaze at the Tarantula nebula, near the star cluster NGC 2074. The image shows a cloud of sulfur, ionized hydrogen and oxygen gas emissions and dust, likely triggered by a nearby supernova explosion.

Since 1993, WFPC2 has acted as Hubble's main eye, recording razor-sharp images of objects and events that occurred billions of years ago.

Nevertheless, the image taken by WFPC2 as Hubble whirled around earth at 17,500 mph on Aug. 10 could be one of its last. As NASA technicians predicted, the charge-coupled devices on WFPC2 are degrading and sending back images that are slightly distorted by a phenomenon known as "hot pixels." Hubble engineers have been able to correct for the degradation, but their intervention can no longer fight against the aging camera.



NASA/Jack Pfaller

Technicians monitor the movement of the Wide Field Camera 3, or WFC3, as it is lowered onto a work stand in the Payload Hazardous Servicing Facility at Kennedy Space Center. WFC3 will act at the Hubble's main camera once installed by Atlantis' STS-125 crew.

In October, the STS-125 crew plans to replace WFPC2 with Wide Field Camera 3, or WFC3.

"The Wide Field Camera 3 is one of those instruments that is going to make Hubble 10 times better in discovery space. It's the highest science priority of the mission and we are very excited to put this new camera in," said NASA astronaut John Grunsfeld, who will switch out the cameras during one of five scheduled spacewalks.

WFC3 is similar to its predecessor, but there's a key advancement that will broaden the camera's electromagnetic vision across the spectrum from ultraviolet to the visible light our eyes can see, and into the near infrared. This will allow the camera to observe young, hot stars, as well as older, cooler stars in the same galaxy.

"All those different populations of stars exist within the same galaxy. It's the family album, the family photo album for that galaxy," said Hubble Space Telescope's Chief Scientist David Lekrone.

WFC3 also will study dark energy and dark matter, the mysterious force that is not understood in terms of physics, a force that is accelerating the expansion of the universe. Dark energy is believed to be behind the effect known as "gravitational lenses," which appears to warp the way space looks. WFC3 is designed to map the lenses and help determine the character and distribution of dark matter in galaxy clusters.

WFC3 arrived at Kennedy Aug. 11 and is now undergoing routine system functional testing. Some of the tests can get quite involved. For example, technicians will lower temperatures to minus-122 degrees to evaluate delicate detectors inside the WFC3. NASA technicians are scheduled to move the camera onto the Super Lightweight Interchangeable Carrier Aug. 19.

"To witness the final ground checkout and integration of the instrument is a proud moment for all of us," said Hubble Space Telescope Operations Integration and Test Manager Dr. Lisa Mazzuca.

The astronauts' work will allow Hubble to continue its work as a true time machine, peeking in on the universe as it looked billions of years ago.

Computer engineer on mission to keep software safe

By Kate Frakes
Spaceport News

With an impressive list of innovative research presentations spanning from lunar landing to fiber optics, Kennedy Space Center's Engineering Academy venues continue to help engineers push the envelope of possibilities. In an effort to share his technical knowledge within Kennedy's engineering community, five time KEA presenter Dr. Ali Shaykhian is reaching new heights in software safety research.

Shaykhian, a NASA computer engineer, has been delving in software research since joining NASA in April 2000. He serves as technical advisor and consultant to the Checkout and Launch Control System, or CLCS, Project Control Office. Specifically, Shaykhian focuses on families of object-oriented software, like Java, and the safety issues concerning each software product.

"The main goal of my research is to identify the methodologies that would increase the safety and reliability of what we consider to be critical software," said Shaykhian. "I wanted to achieve that in addition to improving the software's efficiency."

Shaykhian's recent research was funded by Kennedy's Core Technical Capability to develop innovative software engineering solutions for software safety applications. He also researched the Real-time Display Tool software, a PC Goal 2 software product that is currently used at the Launch Control Center for the Space Shuttle Program.

In addition to Shaykhian's research, he published and presented more than 15 technical papers on software engineering and reestablished more finite software guidelines. His articles were published in *American Society for Engineering Education* and Neural, Parallel and Scientific Computations conference proceedings.

Shaykhian's devotion to software safety led to his appointment as a NASA Administrator Fellow in May of 2003. After a two-year tenure, Shaykhian was recognized by NASA Administrator Michael Griffin for his exemplary research and instruction at Bethune Cookman College. He also actively participates in nine Kennedy engineering teams and organizations.

"The aspiration to teach others was instilled in me as a child," Shaykhian said. "Since I started teaching 32 years ago, helping people learn has been my life's greatest reward."

Recently, Shaykhian was honored by the American Society for Engineering Education with a two year appointment as the Chair of Minorities for Engineering Division, or MIND. MIND aims to improve the preparation, recruitment and retention of minority students in science, mathematics and engineering fields.

More KEA online

To view video and PDF versions of past KEA events, including Dr. Ali Shaykhian's, or future calendar events, visit: **http://kea.ksc.nasa.gov.**

Nighttime was right time for STS-8

By Kay Grinter
Reference Librarian

In 1983, Space shuttle Challenger's STS-8 mission was a groundbreaker, as the Space Shuttle Program's first nighttime launch and landing.

Challenger's five-member crew was commanded by Richard Truly, with Daniel Brandenstein as pilot. Three mission specialists accompanied them: Dale Gardner, Dr. William Thornton and Dr. Guion Bluford, the first African American to fly in NASA's space program.

Launch was delayed about 10 days to allow ground stations additional time to check out the Tracking and Data Relay Satellite launched in March. Further check out of the satellite from orbit was one of the tasks of the mission.

Liftoff on Aug. 30 from Launch Pad 39A was delayed by lightning and rain. After the rain stopped, astronaut Bob Crippen made a visual inspection of a cloud layer about 9,000 feet over the center, which yielded a "go" for launch. From that point, the countdown proceeded flawlessly to liftoff at 2:32 a.m. EDT, only 17 minutes late.

Truly, a NASA administrator from May 1989 to March 1992, was the only member of the crew who had previously flown in space. Now retired, he recalled from his home in Colorado, "We spent a lot of time preparing for that flight. The liftoff time was driven by our primary task: deployment of an Indian satellite."

That satellite was the INSAT-1B, a multipurpose satellite for India equipped for telecommunications and meteorological functions. It was deployed on flight day two by Bluford.

NASA file

STS-8 mission astronauts enjoy a lighter moment during the Terminal Countdown Demonstration Test.

Remembering Our Heritage

STS-8 was the first of four space flights for Bluford, now retired from NASA and president of The Aerospace Technology Group. From his home in Ohio, he said, "It was a great crew and a great mission, and I enjoyed talking to President Reagan from orbit." Reagan congratulated Bluford for the success of the mission and for "making it plain we are in an era of brotherhood" in America.

Demonstration of the remote manipulator system's ability to handle heavier and heavier objects was made by Gardner using the 8,500-pound payload deployment and retrieval system test article on flight days three and four.

Thornton, a medical doctor, made continual measurements and investigations of adaptation of the human body to weightlessness in an effort to better understand the biophysiological effects of spaceflight. He designed and developed much of the equipment used for his observations.

NASA file

STS-8 was the third flight of space shuttle Challenger, and the eighth shuttle flight. The mission lasted six days, one hour, eight minutes and 43 seconds.

Landing for the six-day mission also was scheduled for nighttime, but the shuttle is not equipped with landing lights. If mounted externally, the lights could not withstand the heat of reentry and if installed on the landing gear, the lights would not be deployed until seconds before touchdown, too late to be of use during final approach.

"In the couple of years prior to the flight, we had to develop a ground lighting system and a compatible heads-up display for the orbiter," Truly said. Lights would be needed at Edwards Air Force Base, the primary landing site, as well as at Kennedy's Shuttle Landing Facility to support a return-to-launch-site abort.

Edwards was chosen for the first night landing as the desert's dry lakebed could provide a wide safety zone. "I thought Kennedy's runway had excellent night lighting and would have felt safe landing there," Truly remarked in hindsight.

Eight xenon-arc flood lights, with 800 million candle power each, illuminated the first 5,000 feet of runway, or the touchdown zone. The runway edge lights were sufficient for the remainder of the landing sequence.

Touchdown Sept. 5 came at 12:41 a.m. Pacific time.

NASA's Ron Phelps was a support test manager for STS-8 and aboard the lead convoy vehicle that approached the orbiter from behind after landing.

"Out there in the desert, there's absolutely no light. Everything is pitch-black," Phelps said. "The plan was for the fire trucks to come down the runway on the opposite side from our convoy vehicles, but the fire chief made a decision to reposition one of the trucks. As our driver started to pull out on the runway, he heard something that just didn't sound right to him and stopped. The fire truck roared past. Other than that, the landing went exactly as planned."

"There was no moon that night. It was really black except for the lights on the ground," Truly said. "All our work paid off with a very smooth reentry, placing us in the correct landing zone. It is always interesting to do something first, and Dan Brandenstein and I were very proud of our success. It proved very certainly that night landings could be made safe to execute."

To date, 30 shuttle launches and 22 shuttle landings have been in darkness.

The STS-125 Hubble Space Telescope servicing mission and the STS-126 mission to the International Space Station are scheduled for nighttime launches.

From **Titusville**, Page 1

lines that's exactly what we instruct the White House to do."

Panelists at the space meeting included Parsons; Marsh Heard, chairman of the Florida Aviation Aerospace Alliance; Frank DiBello, Economic Development Commission consultant; and Steve Kohler, president of Space Florida.

The House wants to set aside funding for commercial, federal and university-based science missions aboard the International Space Station so it can serve as a national and international laboratory. One industry that already has shown a keen interest in experimenting in space is the pharmaceutical industry. Both Heard and DiBello believe targeting commercial businesses and federal programs could bring jobs to NASA's work force during the transition.

"Here's a chance to go up and gather some real data so that we can make conscious decisions about whether or not we have an environmental problem. And if so, how do we attack it? We can use it (ISS) for things like crop management; we can use it for things like water management," Heard said.

Each panelist echoed the sentiment that Kennedy Space Center is a unique national asset and although its future is unknown, there still is a mission at hand.

The U.S. Senate is expected to vote on a similar bill later this year.

Submit speaker abstracts for PM Challenge 2009

Do you have a topic of interest to NASA program and project management stakeholders? Deadline for abstract submissions is Sept. 12. For more information, go to:
http://pmchallenge.gsfc.nasa.gov/speaker2009.htm

Looking up and ahead

No earlier than Sept. 26	Launch/CCAFS: Delta IV, NROL-26; TBD
Target Oct. 8	Launch/KSC: Atlantis, STS-125; 1:34 a.m.
Oct. 18	Family Day at Kennedy Space Center
Target Nov. 10	Launch/KSC: Endeavour, STS-126; 9:31 p.m.
No earlier than Nov. 20	Launch/CCAFS: Delta II, STSS; TBD
No earlier than Dec. 16	Launch/CCAFS: Delta IV, GOES-O; TBD
Target Feb. 12, 2009	Launch/KSC: Discovery, STS-119; 7:36 a.m.
No earlier than Feb. 27, 2009	Launch/CCAFS: Atlas V, LRO; TBD
Scheduled for April 10	Launch/CCAFS: Delta II, Kepler; TBD
Target May 15, 2009	Launch/KSC: Endeavour, STS-127; 4:52 p.m.
Target July 30, 2009	Launch/KSC: Atlantis, STS-128; TBD
Target Oct. 15, 2009	Launch/KSC: Discovery, STS-129; TBD
Target Dec. 10, 2009	Launch/KSC: Endeavour, STS-130; TBD
Scheduled for Jan. 26, 2010	Launch/CCAFS: Atlas V, SDO; TBD
Target Feb. 11, 2010	Launch/KSC: Atlantis, STS-131; TBD
Target April 8, 2010	Launch/KSC: Discovery, STS-132; TBD
Target May 31, 2010	Launch/KSC: Endeavour, STS-133; TBD

Spaceport News wants your photos

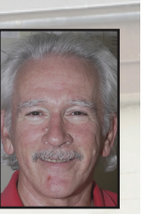
Send photos of yourself and/or your co-workers in action for possible publication. Photos should include a short caption, with names and job titles, from left to right. Send them to **KSC-Spaceport-News@mail.nasa.gov**

WORD ON THE STREET at CM&S

What is your opinion on how the contract changeover is taking place?

"It's the first time I've been involved as a manager and the selection process has been different."
Calvin Wright, logistics operations supervisor, with Northrup Grumman

"Seriously it's been great and I have no qualms. There really have been no glitches."
Pat Kelley, technician, with InDyne Inc.



"Our union steward has been good about keeping us informed. It's one of the best we've had."
Katy Lehtio, communication technician, with InDyne Inc.

"This is my eighth changeover and we're still a little apprehensive about the whole thing."
Ron Whittington, video systems electronics technician, with InDyne Inc.

"There's just a whole lot of anticipation, but we've been through this before."
Kenneth Brown, voice technician, with InDyne Inc.

John F. Kennedy Space Center
Spaceport News

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