Kennedy, CCAFS award contracts in changeover

By Linda Herridge
Spaceport News

Kennedy Space Center’s contracts transition team is working to make the transition from the center’s two largest institutional contracts, the Joint Base Operations and Support Contract and Kennedy Integrated Communications Services, as easy as possible. As the current contract end date of Sept. 30 nears, several of the 15 new contracts recently were awarded by Kennedy Space Center and Cape Canaveral Air Force Station.

At Kennedy, the Institutional Services Contract, or ISC, was awarded to EG&G Technical Services Inc., of Gaithersburg, Md. The Information Management and Communication Support contract, or IMCS, was awarded to Abacus Technology Corp., of Chevy Chase, Md. The Technical Training, or KISS, contract was awarded to REDE-Critique of Metairie, La.

The Medical/Environmental Support Services contract was awarded Aug. 4 to Innovative Health Applications, LLC, or IHA, of Cape Canaveral, Fla.

At CCAFS, the Infrastructure Ops and Maintenance Services, or IOMS, contract was awarded to InDyne Inc., of Reston, Va.

The Consolidated Refuse Collection and Disposal Services contract was awarded to Dorado Services Inc., of Sanford, Fla., while the Fire Protection, Emergency Management/Emergency Medical Services, or FEMS, contract was awarded to Wackenhut Services Inc., of Palm Beach Gardens, Fla. The Vehicle Operations and Maintenance Services contract was awarded to Hallmark-Phoenix 3 of Houston, Texas.

“EG&G is very excited to be back at Kennedy,” said ISC General Manager Kirt Bush. “We have a transition team in place to make sure everything goes smoothly.”

The company held open houses in July, which were attended by more than 1,100 employees. An open house for second- and third-shift workers is planned for early August. Bush said they also plan to hold town hall meetings.

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Teacher workshop focuses on getting families involved

By Alessandra Vaughan
Spaceport News

As NASA prepares for the future of space exploration, the nation’s educators are preparing to teach future lunar explorers. From July 20 through July 25, Kennedy Space Center helped out with this initiative by hosting the NASA Explorer Schools “2008 Focus on Family Involvement Workshop.”

Throughout the week, a team of 21 teachers from across the United States got to check out the latest products and services in science, technology, engineering and mathematics, also known as STEM.

More online
For more information about the NASA Explorer Schools program, go to http://explorer.schools.nasa.gov.

Bostic planned this year’s workshop at Kennedy.

“Throughout the workshop we provided the opportunities and tools necessary for teachers to bring STEM-focused family activity nights to their own schools,” Moore said. “We hope we have introduced them to different, fun and effective strategies to create and promote these activity nights successfully.”

This year’s workshop kicked off with an overview of the NES developed family-tools handbook, a look at NASA’s Digital Learning Network and the Lunar Challenge project.

Teachers then got their creativity flowing and their hands dirty by creating a...
Radio waves from space inspire young minds

By Elaine M. Marconit
Spaceport News

Students take a microphone in hand and start speaking into it. They’re not making an announcement over their school’s PA system; they’re talking with crew members aboard the International Space Station. For an incredible few moments, students communicate with the space inhabitants, asking questions about what it’s like living and working in space.

Amateur, or ham radio, as it’s often called, dates back to the early 1900s. Today, it helps many astronauts and cosmonauts feel more connected to home and Earth while in space.

Amateur Radio on the International Space Station, or ARISS, is a program supported by a team of volunteer radio operators formed to build and operate radio equipment to facilitate communication between the orbiting outpost and Earth.

Sponsored by NASA, the American Radio Relay League, or ARRL, and the Radio Amateur Satellite Corporation, or AMSAT, ARISS affords students the opportunity to develop their interests in technology, science and the space program.

Since 1983, dozens of astronauts have used the Space Shuttle Amateur Radio Experiment, or SAREX, to talk with thousands of students from their temporary home in space.

Space shuttle Atlantis on the STS-106 mission delivered the first ham radio gear to the space station, which was put into use by Expedition 1, the space station’s first permanent crew.

Rita Wright, a former science teacher from the Burbank School in Illinois and ARISS team member, recalls the initial attempt at contacting the space station in December 2000.

Although a powerful snow storm caused it to take three days to set up a connection, “the atmosphere was ripe with excitement,” Wright said.

As the space station orbited almost directly overhead, the connection was made and everyone heard the voice of NASA astronaut and Expedition 1 Commander William Shepherd come through loud and clear. Fourteen students posed their pre-written questions to Shepherd before the station slipped over the horizon and out of radio range.

In the spring of the next year, Shepherd visited the Burbank School and captivated students, teachers and parents alike.

Tony Hutchison, Australia’s national ARISS coordinator, visited his hometown of Bordertown to set up a telebridge linkup from the Bordertown Primary School to the space station. Nearly 500 students and guests, along with local TV and news media, overflowed the school’s library and poured out into the yard as 15 students asked NASA astronaut Dan Bursch their questions.

“It’s not only students who benefit from communication with NASA astronauts.”

Kenneth Ransom is the space station ham radio project engineer liaison between NASA and ARISS at Johnson Space Center in Houston. Ransom recently coordinated a call between NASA astronaut and Expedition 16/17 Flight Engineer Garrett Reisman and young patients at the Arnold Palmer Hospital For Children in Orlando, Fla.

“The youngsters were all smiles,” Ransom said. “The call lifted their spirits and took their minds off their condition for that period of time.”

NASA astronaut and Expedition 12 Commander Bill McArthur has been an avid ham radio operator since he was introduced to the hobby in high school.

“What makes the program work is not what we do on the space station; but the individuals who go into schools set up the equipment, teach students about radio and spaceflight and then allow us to talk to the young people,” McArthur said.

NASA empowers leaders of tomorrow at networking event

By Alessandra Vaughan
Spaceport News

Around the world NASA is known and revered for its leadership in space exploration and discovery. On July 31 Kennedy Space Center carried on that leading tradition by holding the “Energizing Our Emerging Leaders” event.

Young Professionals of Brevard, or ypB, and United Way Emerging Leaders helped Organizational Development Specialist Clay Yonce host the event.

Hundreds of Kennedy employees, including those early in their career and seasoned professionals packed the Training Auditorium for the event.

“The purpose of this event was to excite people about becoming leaders, as well as to let emerging leaders know what it takes to attain leadership roles,” Yonce said.

United Way Emerging Leaders and ypB are two organizations focused on inspiring and empowering the next generation of leaders. Kennedy’s partnership with organizations like these will help the Space Coast thrive as it moves from the Space Shuttle Program to the Constellation Program.

Kennedy Center Director Bill Parsons opened the event and a panel of professional leaders followed.

Attendees were given the opportunity to ask managers from Kennedy about their insights into what it takes to be a good leader. Representatives from ypB and United Way Emerging Leaders told the audience about their respective groups and outlined the benefits of professional social networking.

“Social networking is a great way to get people talking about leadership development, as it helps people to connect with others in the community and share best practices,” Yonce said.

“It was great to see KSC management show such an interest in the young professionals here at Kennedy,” said Jessica Rodriguez from the Constellation Logistics Office. “Their interest in our professional development is a humbling reminder that we truly are the future of KSC.”

Exciting the future leaders of Kennedy is important because they will be more than just directors and managers; they also will serve Kennedy’s future missions to the moon and beyond.
Program challenges gifted students with lunar situations

By Linda Herridge

High school students from 35 Florida schools recently experienced what it might be like to land a rocket on the moon or excavate the lunar surface. During two one-week sessions, eager students worked alongside NASA mentors at Kennedy Space Center to participate in a Governor’s School pilot program for the gifted.

NASA’s involvement in the pilot program included hosting the student groups and creating research projects that explore challenges related to lunar exploration. These challenges included lunar landing, lunar excavating and protecting a pressurized habitat. At the end of each session, the students presented their solutions to a NASA panel of engineers and education coordinators.

Dr. Lesley Garner, the pre-college officer in NASA’s Education Office at Kennedy, coordinated NASA’s portion of the pilot program. Garner hopes the students will have a greater understanding of academic majors they can pursue in science, technology, engineering and mathematics for careers they didn’t know existed.

Funding for the pilot program was provided by the state of Florida and given to three universities, Florida Tech, Embry Riddle Aeronautical University and Florida State University, to plan and pilot test the program. Space Florida, NASA and Delaware North Park Services provided the curriculum.

Kennedy mentors were Drs. Bob Youngquist and Philip Metzger, as well as Rob Mueller and Greg Galloway, all from Kennedy’s Applied Technology Directorate. They presented real space-related problems for the students to solve, along with hands-on activities.

Ferris, who is looking into a career in engineering, said it was interesting to see all the types of available jobs at NASA.

“NASA research will benefit from the students’ fresh ‘out of the box’ solutions for future lunar missions,” Garner said. “It was a win-win situation; and I hope a sustainable Governor’s School for the gifted is the end product.”
Major Trent Tuthill, right, accepts command of Defense Contract Management Agency at Kennedy Space Center, from the DCMA NASA Products Operation Commander, Col. Ray Harris, during a change of command ceremony at the Kennedy Visitor Complex on July 31.

Workers from NASA’s Goddard Space Flight Center prepare the Cosmic Origins Spectrograph, or COS, for instrument testing and integration with the Flight Support System carrier in the clean room of the Payload Hazardous Servicing Facility at Kennedy Space Center. The COS will be installed on the Hubble Space Telescope during space shuttle Atlantis’ STS-125 mission.

A worker from United Space Alliance prepares to close the payload bay doors on space shuttle Atlantis in Orbiter Processing Facility 1 at Kennedy Space Center. The payload bay has been thoroughly cleaned and is ready to receive the carriers transporting the instruments and equipment needed to service the Hubble Space Telescope. Atlantis is targeted to launch Oct. 8.

A pair of ospreys duel near a nest at Kennedy Space Center. Known as a fish hawk, ospreys select sites of opportunity from trees, telephone poles, rocks or even flat ground.

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Technicians install a new valve on Atlantis’ external tank inside the Vehicle Assembly Building at Kennedy Space Center. Small dings were found on the sealing surface of the quick disconnect system that handles liquid-hydrogen fuel for the shuttle’s three main engines. The tank was attached to the twin solid rocket boosters Aug. 3 for the STS-125 mission.
United Space Alliance technicians install Boeing Replacement Insulation 18, or BRI-18, tiles on space shuttle Endeavour during processing activities inside Orbiter Processing Facility 2 at Kennedy Space Center. BRI-18 is the strongest material used for thermal insulation on the orbiters. When coated, it produces a toughened unipiece fibrous insulation, providing tiles with improved impact resistance. Endeavour will deliver a multi-purpose logistics module to the International Space Station on its STS-126 mission. Launch is targeted for Nov. 10.

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 describing what’s going on, with names and job titles, from left to right. KSC-Spaceport-News@mail.nasa.gov

A pair of snakes were intertwined recently near Launch Pad 39A at Kennedy Space Center. Kennedy shares a boundary with the Merritt Island National Wildlife Refuge. The refuge is a habitat for more than 310 species of birds, 25 mammals, 117 fish species and 65 amphibians and reptiles.

Workers spray a heat-resistant concrete called Fondue Fyre into steel grid structures, welded to the wall of the flame trench at Launch Pad 39A at Kennedy Space Center. Fondue Fyre was developed during NASA’s Apollo lunar program.
Fellows set sight on future in space

By Kate Frakes
Spaceport News

Advanced spacecraft, lunar robotics and high-performance spacesuits are critical to the future of space exploration. NASA’s Exploration Systems Mission Directorate, ESMD, is securing that future with the Space Grant Fellowship Project, aimed at strengthening NASA’s educational connections with the college community.

On July 17, the competitively selected university faculty fellows wrapped up their five-week tenure at Kennedy Space Center by sharing information they gathered at their assigned NASA field centers. This year, the group successfully created 116 design projects and 146 internships for college students.

These real-world experiences will serve the ESMD Education Office’s mission to train and develop a skilled work force for NASA’s future.

Gloria Murphy manages the ESMD Space Grant Education Project at Kennedy for the ESMD Education Office at NASA Headquarters.

“This year’s 10 faculty fellows also reviewed two senior design courses that fell under development for NASA by faculty at Auburn University and Michigan Technological University. Jonathan Lambright, associate professor for the Engineering Technology Department at Savannah State University, is a newcomer to the faculty fellowship program.

Lambright collaborated with the Engineering and Science Directorate at Stennis Space Center to produce five senior design projects and six student internship opportunities.

“ESMD is an active role in training students and helping them interested in the sciences, technologies, engineering and mathematics,” Lambright said. “It can only be for the absolute positive if we establish a relationship with NASA where we develop students to help fulfill the NASA vision and mission."

Nadipuram Prasad, associate professor and director of Rio Grande Institute for Soft Computing at New Mexico State University, is one of two participants. Prasad worked with the Science and Engineering Directorate at NASA’s Jet Propulsion Laboratory in Pasadena, Calif.

“Technological growth stemming from space exploration naturally requires curriculum modifications in order to better prepare my students,” Prasad said. “The knowledge gained by faculty fellows can be directly transferred to students, providing them with the talents needed to integrate academic resources with NASA work.”

ESMD collaborated with the Space Grant Consortia to distribute grants to the national network of colleges and universities.

The fellowship’s first year successfully resulted in 95 student interns distributed throughout all 10 NASA field centers and 25 senior design projects mentored by NASA technical experts.

A new annual ESMD Research Paper Competition, as well as the annual ESMD Systems Engineering Paper Competition will take place during the 2008-09 academic year.

Care to judge?
ESMD systems engineers interested in judging competitions call Gloria Murphy at 321-867-8934 or visit the ESMD Web site at http://education.ksc.nasa.gov/ESMD spacegrant

Fiber-optic cables keep ISS a success

By Kate Frakes
Spaceport News

The strands inside fiber-optic cables may only be the size of a human hair, but they’re the heart of the International Space Station’s communication network for video, audio and high-speed data. On July 24, the Kennedy Engineering Academy, or KEA, hosted “Lessons Learned from Implementing Fiber-Optic Cabling in Spacecraft,” where engineers presented new tools and techniques that will make fiber-optic cabling more durable and ensure the success of the space station and its laboratories.

This was the 24th presentation in an effort to share technology within the engineering community.

NASA Aerospace Technology Antonino Pego supported the conversion from copper wiring to fiber-optic cabling because of its advantages.

“Fiber provides a broader bandwidth for data applications than copper and is resistant to the electromagnetic interference of radios and power lines. It also is lightweight and costs less to maintain,” Pego said.

The new cabling was uncharted territory for NASA Lead Avionics Engineer Glenn Perez, who said there was no documented fiber-optic cabling standard for the space station program when Kennedy first started processing the station’s elements in 1997. The concentrated use of fiber-optic wiring throughout the station meant Kennedy technicians had to implement standards for inspecting the quality and installation of fiber-optic equipment they received from outside providers.

Kennedy also had to develop a tool to inspect the fiber end face, or glass surface, at the end of each strand for particles that could hinder light’s ability to pass through. Their findings led to the development of a customized microscope, or fiberscope, which provides a more in-depth inspection of the fiber-optic components.

However, Pego said, “There still is a high risk of potential damage using inspection tools that require physical contact with the fragile pins inside each connector.”

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Pioneer Venus 2 delved into Earth’s twin

By Kay Grinter
Reference Librarian

Exploration of Venus, often the brightest planet in the night sky, began in earnest 30 years ago. Pioneer Venus 2 lifted off from Launch Pad 36A on Cape Canaveral on Aug. 8, 1978, aboard an Atlas-Centaur rocket.

Venus sometimes is referred to as Earth’s twin planet. They are similar in size, mass and composition; but that’s where the similarities end. Venus has no ocean and is covered by thick, rapidly spinning clouds that trap surface heat, creating a scorched greenhouse-like world with temperatures hot enough to melt lead.

NASA designed the 30 experiments aboard Pioneer Venus 1 and 2 as a coordinated observation system. Six spacecraft, the largest number ever devoted to one planet at the time, would make the most measurements at the greatest number of locations.

Pioneer Venus 1 began its journey first, in May 1978. It was an orbiter that would study the Venus atmosphere and other planet characteristics. Pioneer Venus 2 was the multi-probe phase of the mission. Its large entry probe would make detailed soundings of the lower Venus atmosphere and clouds, while three smaller probes descended through the planet’s atmosphere and measured atmospheric conditions at widely separated points before impact.

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NASA alum Jim Womack was chief of propulsion and mechanical systems for the Atlas-Centaur project and later became director of the Expendable Launch Vehicle Program at Kennedy Space Center.

“We were very pushed to get the Pioneer Venus missions launched on schedule because they were major launches for us,” Womack said.” General Dynamics employees did the hands-on work, with NASA overseeing the processing at Pad 36A, the oldest of the two pads at Complex 36.”

The trip to Venus took 123 days. The large entry probe on Pioneer Venus 2 was released Nov. 16, 1978, and the three smaller entry probes on Nov. 20. All four probes entered the Venus atmosphere Dec. 9.

Destruction was expected immediately upon impact. To the surprise of Pioneer Venus scientists, one of the smaller probes survived for 67 minutes after impact, sending back information before the 900 degree temperatures on the planet’s surface silenced it.

Data returned by the probes showed the presence of large amounts of rare gases in the Venus atmosphere, suggesting a far larger contribution by the sun to the planet’s atmosphere than to Earth’s during the early evolution of the solar system.

The Pioneer Venus 1 orbiter was inserted into an elliptical orbit around Venus on Dec. 4, 1978. In May 1992, it began the final phase of its mission. Atmospheric entry destroyed the spacecraft the following August when its fuel ran out.

The total cost of building and operating the probes was $83 million.

Former NASA Administrator Robert Frosch characterized the mission as “a superb success,” congratulating personnel at NASA centers and those involved from the commercial and scientific communities.
Employees of the Month for August are, from left, Thomas Frattin, Launch Services Program; Michael R. Lee, Launch Vehicle Processing Directorate; Michele L. Colon, Engineering Directorate; Andra Jackson, Information Technology & Communication Services; Joseph Mudden, Constellation Project Office; Carl (Wayne) Myers, Safety and Mission Assurance Directorate. Not pictured are: Johnny G. Mathis, Engineering Directorate; and Rodney Brown, Center Operations.

mock lunar colony using recyclable materials. First, a Kennedy engineer described their role during the development of a lunar colony and then asked teachers to assume the role of engineers themselves. Activities such as this are what Moore and Bostic hope educators will bring to their own family activity nights.

Other activities included behind-the-scenes facility tours of the Space Station Processing Facility and Shuttle Landing Facility, as well as grant writing techniques. Teachers also participated in fun space activities, such as a rocket medley where teams built and launched model rockets.

“This year’s workshop was a huge success. Many thanks to everyone who helped make it all run smoothly,” Moore said.

Attendees wrapped up the workshop by sharing how they plan to use the strategies learned to host their own family activity nights in the future.

“Today’s students are tomorrow’s engineers, scientists and astronauts,” Moore said. “Hosting programs like this one help to assure that kids stay interested in math and science and go on to become NASA’s future.”

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Looking up and ahead

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<td>No earlier than Sept. 26</td>
<td>Launch/CCAFS: Delta IV, NROL-26; TBD</td>
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<td>Target Oct. 8</td>
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<td>Oct. 18</td>
<td>Family Day at Kennedy Space Center</td>
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<td>Launch/CCAFS: Atlas V, LRO; TBD</td>
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NASA Employees of the Month: August

Where is the best place to eat at Kennedy Space Center?

“‘At the Burger King Cape-side. The Blind Man is my second favorite place to go.’
Lydia Del Rio, program analyst, with NASA

“‘At the cafeteria here at Headquarters. I just try and find something palatable and it’s convenient.’
Steve Stover, engineer, with NASA

“‘The Visitor Complex. Delaware North has some of the best food around. I really like the burgers.’
Chasity Leek, summer intern, with NASA

“‘Here at Headquarters main cafeteria. It offers the best selection and best variety.’
Mike Paraway, accountant, with NASA

“‘Burger King over on the Air Force side. I really love it because the king serves me lunch.’
Andi Meyer, program analyst, with NASA

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

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