



# Spaceport News

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John F. Kennedy Space Center

## Group champions process engineering

The Kennedy Space Center Process and Human Factors Engineering Working Group (PHFEWG) is seeking to help member organizations improve safety and operational performance.

The group fosters the development and use of process and human factors engineering techniques at KSC and beyond.

PHFEWG formed last January and during the past year has made a number of accomplishments, enhancing KSC's evolution as a Spaceport Technology Center.

For the uninitiated, process engineering includes the competencies generally associated with the discipline of industrial engineering, such as process modeling and simulation, human factors engineering, work methods and measurement, operations research, scheduling and capacity analysis systems, and management systems engineering.

Human factors engineering, often referred to as ergonomics, is the discovery and application of principles concerning human behavior and

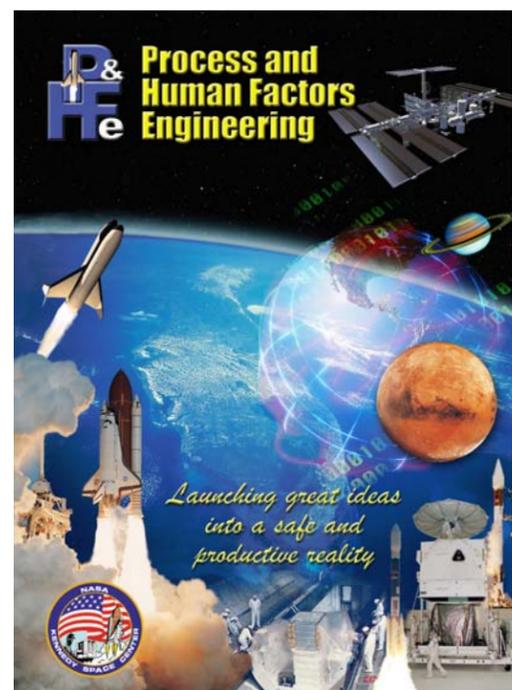
characteristics to the design, evaluation, operation and maintenance of products and systems that are intended for safe, effective and satisfying use by people.

Featuring NASA and contractor organizational representatives, the PHFEWG's primary functions are to facilitate process and human factors engineering knowledge management, support organizations in evaluation of human errors associated with mishaps and close calls, and enhance KSC awareness and understanding of unique process and human factors engineering skills and capabilities.

The team's accomplishments over the past year include these factors:

- completing technology roadmaps for KSC's Spaceport Technology Center initiative,
- completing competency definitions and tier indicators for the KSC competency management system,

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### Holiday Coffee

Kennedy Space Center's annual Holiday Coffee will be held at the Debus Conference Facility at the KSC Visitor Complex on Dec. 11 from 9 to 11 a.m.

### Inside

**Page 2** – KSC team honored with Franklin Covey Award in "Recognizing Our People."

**Pages 3-4** – *Spaceport News* goes inside the Vertical Processing Facility.

**Page 5** – ISS partners make Combined Federal Campaign donations. Joe Rothenberg feted by KSC.

**Page 6** – *KSC Bulletin* now only online.

## NASA/KSC begins VPP effort

NASA/Kennedy Space Center, always concerned with safety and health, has decided to pursue membership in the Occupational Safety and Health Administration's (OSHA) Voluntary Protection Program (VPP).

VPP is a national program designed to recognize and promote effective safety and health management. Membership in the program indicates that the site has one of the best safety programs in the nation. The program has been in existence in the private sector for many years and was opened up to federal sites in 1997.

In a letter to all employees, Center Director Roy Bridges, along with KSC senior managers, committed to improving KSC's safety and health programs by creating a program that will take KSC beyond workplace compliance



and increase awareness and participation of all employees.

Management commitment and employee involvement are key features of the VPP. Managers and supervisors will be responsible for ensuring that the program is instituted within their organizations and must provide documentation of responsibilities met.

A VPP steering committee, led by Bert Garrido, associate director of Safety and Mission Assurance, convenes monthly to evaluate

NASA/KSC's progress in meeting the targeted application date of September 2002.

"The VPP Implementation Team is working very hard to ensure that we meet our application deadline," said Garrido. "Achievement of STAR status will enhance KSC's commitment to safety and health first and benefit all employees across the center."

There are two levels to the program, MERIT and STAR, with STAR being the highest level.

To qualify for STAR certification, average injury, illness and lost worktime rates for the past three years must be below the current comparable private sector average rates as reported by the Bureau of Labor Statistics.

Employee involvement is a

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## Recognizing Our People

# Franklin Covey recognizes KSC team

Kennedy Space Center was awarded the prestigious Franklin Covey Team Award for Synergy and Impact for 2001.

Center Director Roy Bridges and several members of the KSC Change Leaders Network attended the Franklin Covey 8th Annual International Symposium in Salt Lake City, Utah, in October to receive the award.

KSC was among only five organizations worldwide to receive the award in this category.

The Team Award for Synergy and Impact was awarded to KSC for its "outstanding effectiveness in the workplace and community," according to Bob Whitman, CEO of Franklin Covey.

In 1997, under the leadership of Bridges, a Change Leaders Network (CLN) was formed – consisting of more than 35 employee leaders from the Center's NASA civil service workforce – to support KSC's new strategic direction.

The CLN members were appointed, trained and certified as facilitators in the acclaimed Covey workshop "The 7 Habits of Highly Effective People."

"The Change Leaders Network is a vital team of 'change agents'



KSC and Franklin Covey representatives pose for a photograph with KSC's Franklin Covey Team Award. From left, front row, Allen Fletcher (GG), Launa Maier (PH), Shannon Roberts (XA), June Perez (AA-A), second row, John Kuhn (TA), Chaz Wendling (YA), Mario Busacca (TA), Marguerite Davis (QA), Dr. Stephen Covey (Franklin Covey), Dan Jansen (Olympic Gold Medalist) and Hyrum Smith (Franklin Covey).

that is helping our Center move toward our vision as a Spaceport Technology Center," Bridges said.

The CLN has expanded to more than 60 members, including CLN alumni. Bridges envisions the group to be as large as 300 to facilitate KSC's strategic future.

Bridges continued, "It is an honor to be recognized by a world-renowned organization such as Franklin Covey. It is a reflection of the dedication and the hard work of our entire KSC family."

More than 1,100 KSC civil service employees were trained by 25 CLN facilitators in the "7 Habits" to help KSC employees prepare for the large-scale change associated with KSC 2000 and the vision as a Spaceport Technology Center.

Among other services provided by the CLN are change facilitation, peer coaching, strategic communications, internal consulting and team building.

The CLN goals are to be effective facilitators, communica-



Dr. Stephen Covey, author of *The 7 Habits of Highly Effective People*, congratulates Roy Bridges Jr., KSC Director, for KSC's winning the Franklin Covey Team Award for Synergy and Impact for 2001.

tors and role models for KSC's strategic change leadership activities within and among organizations across the Center.

The network encourages, educates and facilitates the acceptance and practice of positive change to influence and lead others toward a more rewarding personal and professional life.

For more information on the Change Leaders Network, contact CLN representative Shannon Roberts at 867-0867.



### Volunteer Breakfast

The Outreach Volunteer Appreciation Breakfast was held Nov. 14 to recognize 400 employees who support the NASA Education Office, the Speakers Bureau, Kennedy Integrated Display Staff, and the Display Management Team with NASA's Outreach Programs. The External Relations and Business Development Directorate is able to accomplish many important activities thanks to the hundreds of knowledgeable and dedicated volunteers who provide support. Most of the volunteers are NASA and NASA retirees, but there are also about 100 contractors representing nine organizations included in the group. The breakfast was the second of two volunteer appreciation events this year.

# Inside the Vertical Process



Janet Cunningham checks the Rigid Array Carrier.



From left, Kathy Maschett, Joe Joyner and Tod Rosenthal work on the Auxiliary Transport Module on the Rigid Array Carrier.



Craig Jones carefully cleans a part that will go into the VPF high bay.



A view of the high bay of the Vertical Processing Facility shows elements of the Hubble Space Telescope Servicing mission Center workers. From the foreground to the background are the Multi-Use Lightweight Equipment Carrier, the Second Axial

The Vertical Processing Facility (VPF) – historically used to process and integrate vertical payloads and upper stages at Kennedy Space Center – was a busy facility during the early part of the Space Shuttle program.

Although the VPF is not often used these days, it continues to play an important role in processing payloads requiring its special attributes. The VPF provides payload processors an extremely clean environment with test

equipment allowing for verification of orbiter/payload interfaces.

The VPF is not the only facility at the Cape Canaveral Spaceport with an environmentally controlled, class 100,000 clean work area high bay and airlock, however; it is outfitted to go far beyond that rating to be able to provide one of the cleanest environments at the Spaceport.

Because the Shuttle originally was used to carry many commercial communications satellites, NASA

scientific spacecraft and Department of Defense payloads – typically vertical payloads – payload processing and integration at the VPF was common.

But after the Challenger accident, it was decided that Expendable Launch Vehicles should be used to carry such payloads, changing the mix of Shuttle payloads processed.

After a transition period, horizontally loaded payloads such as racks of experiments and then Space Station elements became the

norm. Those horizontal payloads were processed at various other facilities both on and off Center.

In recent years the VPF, with its 105-foot-tall high bay, has often been kept in a dormant state, only brought online for a special payload.

Recently the 26,940-square-foot facility was reopened and geared up by the Boeing Co. for processing the Hubble Space Telescope Servicing mission 3B payload.

The VPF was chosen for pro-

# rocessing Facility



John O'Brien checks a diode box for the Rigid Array Carrier.



Equipment for the Hubble Space Shuttle Servicing mission arrives at the Vertical Processing Facility.



Boeing workers prepare the Payload Canister for use in processing servicing mission elements at the VPF.

Telescope Servicing mission payload being checked by Goddard Space Flight Center at Carrier, the Second Axial Carrier and the Rigid Array Carrier.

cessing the payload because even minor contamination can degrade the performance of the Hubble Space Telescope (HST) and because the high bay is equipped with test equipment for interface verification.

"It takes a specialized team with various areas of expertise to get the VPF to a high level of cleanliness," said Bob Hart, Boeing's payload processing lead for the project. "You cannot simply go in and turn on the lights when the VPF has

been off-line."

The HST Servicing mission 3B, which is managed through Goddard Space Flight Center (GSFC), is to fly on STS-109. The mission is scheduled to launch Feb. 14.

A core group of 25 Goddard team members, led by Cliff Lanham, HST ground operations manager for the mission, have set up shop at the VPF and its nearby administrative complex for processing and managing the mission payload.

Depending on the phase of the

processing, GSFC employees from various engineering disciplines will be working on the mission at KSC.

The primary servicing tasks of the mission are to replace Hubble's Solar Array 2 with Solar Array 3, replace the Power Control Unit, remove the Faint Object Camera and install the Advanced Camera for Surveys (which will dramatically increase the science capability of the telescope), install the NICMOS Cooling System, and install New Outer Blanket Layer insulation.

Following the completion of post-shipping processing activities, the GSFC team will work with the Boeing team on KSC integration activities.

"It's been great working with your KSC folks on this project," Lanham said. "We have a number of extremely stringent requirements for a clean environment and they have helped us maintain the standards we need to make sure this payload is launched in a pristine condition."

# ISS partners contribute to CFC effort

Representatives of International Space Station (ISS) partners recently gathered with Center Director Roy Bridges at Kennedy Space Center's Headquarters building to present donations to the Combined Federal Campaign for Sept. 11 recovery efforts.

Steve Mozes, representing the Canadian Space Agency and MacDonald Dettwiler Space and Advanced Robotics Ltd.; Shimpei Takahashi of the National Space Development Agency of Japan; and Agostino Verghini, representing the Italian Space Agency and Alenia, each presented checks to Frank Ramsey, senior campaign consultant for United Way of Brevard County and director of the Combined Federal Campaign at United Way.

"Since Sept. 11, our allies throughout the world have come forward to help our country in the aftermath of the terrorist attacks," Ramsey said. "It was equally wonderful that our International Space Agency partners have chosen to reach out to our local community this year.

"Their generosity is greatly appreciated."

Donations were raised through collections from the workers of the International Space Station partner resident offices at KSC.

Also on hand for the presenta-



International Space Station partner representatives recently gathered with Kennedy Space Center managers to present donations to the Combined Federal Campaign for Sept. 11 recovery efforts. From left are Francesco Santoro of Alenia; Minako Holdrum of the National Space Development Agency of Japan (NASDA); Michele Tripoli and Giuseppe Mancuso, both of Alenia; Todd Arnold, NASA/KSC; Shimpei Takahashi of NASDA; Steve Mozes of the Canadian Space Agency; Agostino Verghini of the Italian Space Agency; Frank Ramsey, senior campaign consultant for United Way Brevard County and director of the Combined Federal Campaign; Center Director Roy Bridges; and Tip Talone, director of International Space Station/Payload processing.

tion were Todd Arnold, deputy chief of the Utilization Division and 2001 KSC CFC chairperson, and John "Tip" Talone, director of ISS/Payload Processing.

"The NASA KSC workforce has stepped forward to ensure that this year's Combined Federal Campaign

effort was the most successful yet," Arnold said. "Their efforts have allowed us to boldly proclaim that we are united and we do care. Most recently, the Space Station International Partners joined in our efforts to touch thousands of lives across this great nation with

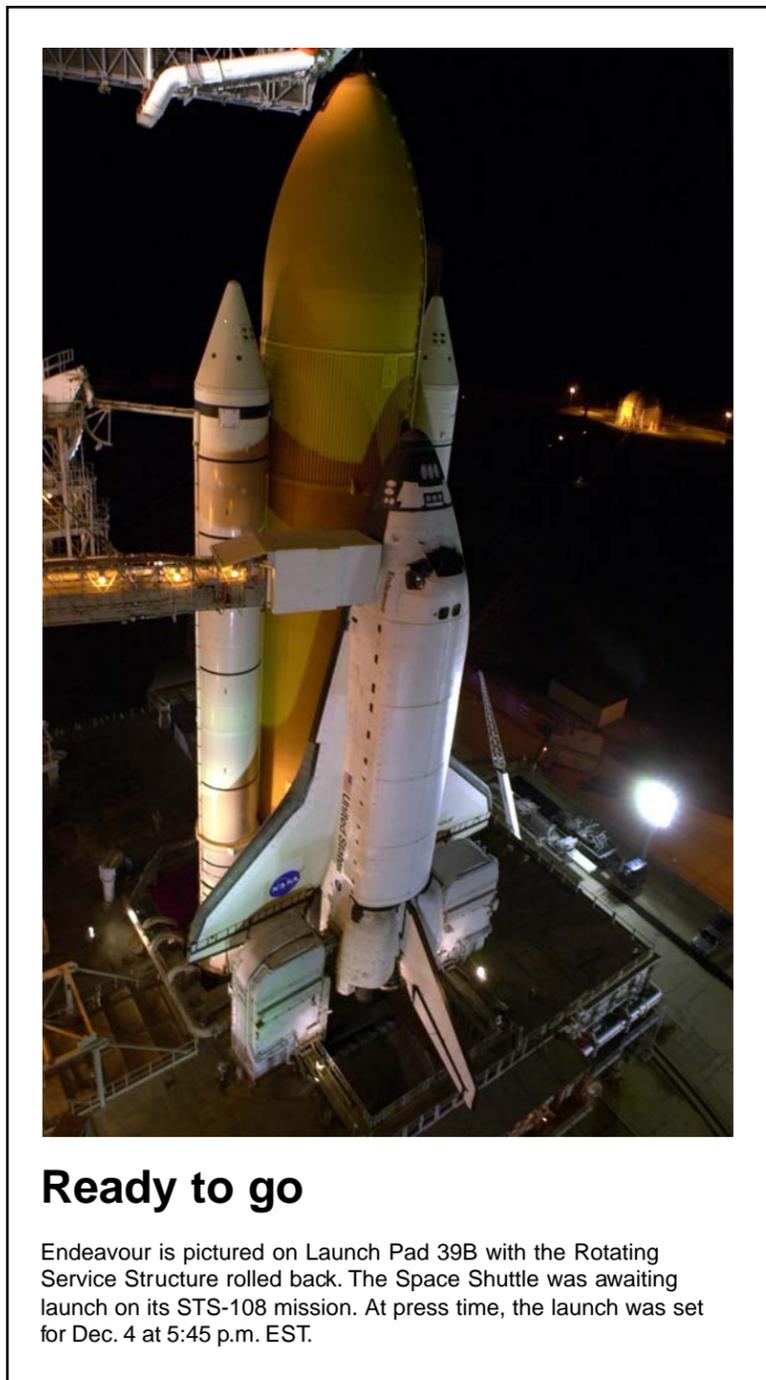
heartfelt generosity."

Commenting on the efforts of the team at KSC, Bridges said, "Once again the KSC team exceeded everyone's expectations. I am especially touched by this generous contribution by our international partner teammates."



## Rothenberg honored

Kennedy Space Center Director Roy Bridges Jr., right, honors Joseph Rothenberg, associate administrator for Space Flight at NASA Headquarters in Washington. Rothenberg is retiring from his post Dec. 15. A retirement party recognizing his service was held at KSC KARS I on Nov. 27. Rothenberg, who joined NASA in 1983, was named associate administrator in January 1998 and has been in charge of NASA's human exploration and development of space. Before coming to NASA Headquarters, he served as director of NASA's Goddard Space Flight Center, Greenbelt, Md., beginning in 1995.



### Ready to go

Endeavour is pictured on Launch Pad 39B with the Rotating Service Structure rolled back. The Space Shuttle was awaiting launch on its STS-108 mission. At press time, the launch was set for Dec. 4 at 5:45 p.m. EST.

### FACTORS ...

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- hosting a modeling and simulation technical exchange meeting to integrate current and proposed spaceport models, and
- supporting human factors initiatives at Johnson Space Center, Ames Research Center and the Federal Aviation Administration.

The team is currently working on a Center-wide human factors baseline analysis scheduled to be completed in January.

The PHFEWG conducts bi-weekly meetings and reports directly to the KSC Safety and Health Council, which is chaired by Center Director Roy Bridges.

“Building and effectively using KSC process and human factors

engineering capabilities is absolutely critical for safe and efficient operations and enabling processes,” Bridges said. “Process and human factors engineering is one of KSC’s important spaceport technology product lines. KSC has gained significant process and human factors engineering experience over the past decade, and one of our roles is to support NASA’s mission by applying this experience to the design of future space transportation systems.”

For more information on the PHFEWG, visit their Web site at <http://technology.ksc.nasa.gov/processengineering/>

Information is also available by contacting Tim Barth, PHFEWG chair, at 867-6230 or Jessica Mock, PHFEWG co-chair, at 861-5971.

### VPP ...

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critical element for a successful safety and health program. OSHA requirements for STAR certification state “employees have at least three meaningful ways to participate in safety and health problem identification and resolution.”

Employees may become involved by participating in worksite inspections or audits, volunteering to serve on a safety and health problem solving committee, or participating in a safety improvement suggestion program. All employees will participate in a job hazard analysis of their work area.

On a daily basis, employees should remember to stay focused

on their safety and the safety of their fellow employees during the performance of their job and to report potential hazards immediately to the appropriate personnel.

Some of the benefits cited by companies that have achieved certification include a decrease in employee injuries and an increase in employee morale.

Both Space Gateway Support and United Space Alliance were recently evaluated by OSHA and recommended for STAR status. STAR sites are exempt from routine OSHA inspections.

Check out the following Web sites to learn more: <http://kscsafety.ksc.nasa.gov/vpppage.htm> or [www.osha.gov/oshprogs/vpp](http://www.osha.gov/oshprogs/vpp).

## KSC Bulletin online only

As of Oct. 1, the *KSC Bulletin* canceled its distribution in a hardcopy format.

An official Web site for the *KSC Bulletin* has been developed to offer new options and features to help with this transition. See <http://kscbulletin.ksc.nasa.gov/>

Current and past issues of the *KSC Bulletin* are available online to view and download.

In addition, your official, unofficial, and personal ads can now be submitted quickly and easily by accessing our *KSC*

*Bulletin* home page and submitting the online advertisement request form. A link to the Web site resides permanently within the KSC Home Internal Web page and the 45th Space Wing home page located in the “News Rack” subdirectory.

You also have the option to access the site directly by typing the URL address from work or home.

To submit your comments on the *KSC Bulletin*, choose “Questions” within the site. All inquiries will be answered as soon as possible.



John F. Kennedy Space Center

## Spaceport News

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