

Spaceport News

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John F. Kennedy Space Center

Shuttle:

STS-81, Atlantis
Jan. 12, 4:27 a.m., Pad 39B
5th Shuttle-Mir docking

STS-82, Discovery
Feb. 11/13, 2:59 a.m., Pad 39A
Second Hubble servicing

STS-83, Columbia
April 3, 2:19 p.m., Pad 39A
Microgravity Science Lab-01

STS-84, Atlantis
May 15, 3:49 a.m., Pad 39A
6th Shuttle-Mir docking

STS-85, Discovery
July 17, 10:04 a.m., Pad 39A
Crista-Spas-02

STS-86, Atlantis
Sept. 18, TBD, Pad 39A
7th Shuttle-Mir docking

STS-87, Columbia
Oct. 9, TBD, Pad 39B
USMP-4, Spartan-201-04

STS-88, Endeavour
Dec. 4, TBD, Pad 39A
1st Intl. Space Station flight

ELVs:

GOES-K, Atlas I, NASA/NOAA
April 24, Pad 36B

Advanced Composition Explorer
Delta II, NASA
Sept. 2, Pad 17A

Cassini, Titan IV/Centaur, NASA
Oct. 6, Pad 40

ELVs, West Coast:

Lewis, Lockheed Martin Launch
Vehicle (LMLV), NASA
March 1 NET, SLC-6

Clark, LMLV, NASA
May 1 NET, SLC-6

SWAS, Pegasus XL, NASA
March 3 NET

SNOE/ORBCOMM,
Pegasus XL, NASA &
Orbital Sciences
May 1

SeaStar/Seawifs, Pegasus XL,
NASA & Orbital Sciences
June 1 NET

TERRIERS/MUBLCOM, Pegasus
XL, NASA & Orbital Sciences
Aug. 1

NOAA-K, Titan II, NASA/NOAA
Aug. 2, SLC-4W

ORSTED/SUNSAT, Delta II,
NASA/Netherlands
Aug. NET, SLC-2W

TRACE, Pegasus XL, NASA &
Orbital Sciences, Dec. 15



ATLANTIS roars off Launch Pad 39B to begin the Space Shuttle launch schedule for 1997. Liftoff occurred ontime at 4:27:23 a.m. EST, Jan. 12.. Awaiting the six-member crew of Mission STS-81 aboard the Russian Space Station Mir is astronaut John Blaha, who will be replaced by STS-81 astronaut Jerry Linenger.

Fifth Shuttle-Mir docking kicks off busy 1997 launch schedule

When the Space Shuttle Atlantis lifted off at 4:27 a.m. from Launch Pad 39B Sunday morning to begin the STS-81 mission, NASA astronaut and Mir 22 crew member John Blaha was aboard the Russian Mir space station getting the last of his gear together for the ride home.

The 81st Shuttle flight begins a busy year of eight Shuttle launches and a slate of expendable launches from Florida and the West Coast for the KSC NASA and contractor team.

After maneuvering to rendez-

vous with Mir, Atlantis was scheduled to link up with the Russian science platform on Tuesday, Jan. 14, at 10:53 p.m.

Once the hatch between the two spacecraft was opened, STS-81 Mission Specialist Jerry Linenger was to take Blaha's place on the Mir 22 crew as the fourth U. S. astronaut to conduct a long-duration mission onboard the space station.

The other STS-81 crew members are Commander Michael Baker; Pilot Brent Jett Jr.; and

(See **Mir**, Page 8)

New Apollo/Saturn V Center opens

Former Apollo astronauts returned to KSC to celebrate the grand opening of the new Apollo/Saturn V Center. A formal gala was held Jan. 8 at the

facility, which houses the Saturn V formerly located next to the VAB.

(See Page 7 for photos of the event.)

Jennings is named acting deputy director

James L. Jennings has been named acting deputy director of Kennedy Space Center, following the retirement of Gene Thomas.

"This is an honor, a privilege and a challenge," Jennings said.



Jennings

Although he has just begun getting used to the new office on the fourth floor of Headquarters, Jennings is already finding plenty to do. Many of his upcoming activities will focus on contractual and personnel issues, such as award fee determinations, high-grade civil service reviews and distribution of performance awards.

He also will serve on the Professional Development and Advisory Committee, the Multicultural Diversity Committee, and act as chairman for the NASA Director's Awards Committee.

"I'll be doing all that I can to keep Jay (Honeycutt) informed and help out in any way that I can," Jennings observed.

Jennings had been director of the KSC Administration Office. In this capacity his responsibilities included industrial labor relations, strategic planning and analysis, internal control activities and Continual Improvement and university liaison activities.

He previously served as KSC's deputy comptroller. He

(See **Jennings**, Page 8)

KSC workers earn Silver Snoopys

Two NASA and two contractor employees received the prestigious Silver Snoopy award in December.



Douglass Lyons and W. Scott Cilento of the Shuttle Operations Directorate were presented with

the award by Shuttle astronaut Terrence Wilcutt.

Lyons is a NASA test director and Cilento is the NASA vehicle manager for orbiter Atlantis.

Wilcutt also presented Silver Snoopys to Allen Twisdale, a flight support engineer with Boeing North American, Rocketdyne Division, and Brad Bjornstad, a technical associate also employed at Rocketdyne.

The Silver Snoopy was created by the astronauts to honor persons who contribute most to the safety and success of human spaceflight, and is presented to no more than one percent of the space center's workforce each year.

Recipients are given a silver pin depicting the famous beagle wearing a spacesuit. All the pins have flown on a previous Space Shuttle mission.

Employees of the Month



HONORED IN DECEMBER are, from left, Kelly Gorman, Biomedical Operations; Cindy Coddington, Shuttle Processing; Bob Libbey, Logistics Operations; Patricia Williams, Procurement Office; Karroll Purer, Associate Director's Office; James Quinn, Administration Office; Cheryl McPhillips, Space Station Hardware Integration Office; and David Edinger, Safety and Mission Assurance. Not shown are Enoch Moser, Payload Processing; David Adcock, Engineering Development; Gretchen Vogler, Chief Financial Officer's Office; and Joyce Stevens, Installation Operations.

KSC awarded for water conservation efforts

Kennedy Space Center was recently recognized with the 1996 Industrial Wastewater Facility Excellence Award by the Florida Department of Environmental Protection.

The annual award recognizes excellence in recycling, reuse and waste reduction.

Over the past four years, KSC has implemented a number of projects to reduce wastewater levels at the center, primarily through increased reuse or recycling. These efforts have led to a reduction in water usage

and the recycling of more than 4.3 million gallons of wastewater annually.

Much of the savings were achieved through good engineering and business sense, avoiding disposal and consumption costs and through reusing or recycling water instead of dumping it, noted Ned Voska, program manager of KSC Water Systems in the Environmental Program Office.

A wash rack used for cleaning generators and other equipment in the Contractors Road area now recycles water instead of dumping it.

Another system involving a circuit board production process and a closed loop recycle system was implemented at the KSC Cleaning Facility. It will be transferred and expanded at the new Component Refurbishment and Chemical Analysis (CRCA) Facility on Contractors Road. (See related story on Page 5.)

Recycle systems have been implemented for the robotic hydrolase process at Hangar AF, where the spent Shuttle boosters are taken, and at the Parachute Refurbishment Facility, where booster parachutes are handled. A recycle process also is now in place at the Visitor Center tour bus washing area.

Three senior NASA managers take on new assignments

Three NASA space program veterans have been assigned to new positions, pending NASA Headquarters approval.

Bobby G. Bruckner has been designated director of Payload Processing. He had been serving as director, Payload Ground Systems.

Bruckner joined NASA in June 1966.

In his new position he will be responsible for the management and technical direction of pre-flight checkout and integration of Space Shuttle and expendable launch vehicle payloads.

Sterling W. Walker, previously the director, Mechanical Engineering, has been designated director of Engineering Development. Walker joined NASA at KSC in 1967.

Walker will be responsible for the planning, development, design, acquisition, sustaining engineering, modification and rehabilitation of all KSC facilities, systems and equipment.

Warren I. Wiley has been designated deputy director of Engineering Development.

He most recently served as deputy director, Space Shuttle Program Launch Integration Office.

In his new position, Wiley will support the same functions as Sterling Walker.

He also will serve as the KSC focal point for the X-33, X-34 programs as well as the next generation of reusable launch vehicles.

Wiley joined NASA in 1971.



Bruckner



Walker



Wiley



WATER CONSERVATION EFFORTS -- The KSC NASA and contractor team has worked diligently to reduce water usage and increased water recycling throughout the center, including here at the Parachute Refurbishment Facility in the Industrial Area, where flown solid rocket booster parachutes are returned and prepared for another flight.



McDONNELL DOUGLAS processes payloads for NASA in a number of facilities including here at the Operations and Checkout Building. The Payload Ground Operations Contract (PGOC) was initiated in 1987.

Boeing/McDonnell Douglas merger would create world's largest aerospace firm

The pending merger of The Boeing Co. and McDonnell Douglas Corp. would result in the world's largest aerospace company, with 200,000 employees and estimated 1997 revenues in excess of \$48 billion.

The transaction is expected to become effective as early as mid-1997. The combined company will operate in 27 states.

Boeing is the world's leading producer of commercial aircraft, while McDonnell Douglas is the world's leading producer of military aircraft.

Headquarters will be in Seattle, with operations in three major locations: the Puget Sound area of Washington state, St. Louis, Mo., and southern California.

The proposed merger affects about 1,750 Florida space industry jobs, according to the Spaceport Florida Authority.

Boeing President and Chief Executive Officer Phil Condit and McDonnell Douglas President and Chief Executive Officer Harry Stonecipher announced the merger Dec. 15.

Condit will be chairman and chief executive of the new firm, while Stonecipher will be president and chief operating officer.

They both said that although

some layoffs are inevitable, major reductions are not expected and operations should continue in all current locations.

"We are going to keep the major operating areas right where they are," Condit said in an article in *Flight Times*, the McDonnell Douglas newsletter. "What we want to do is take advantage of our strengths, look at each organization and make it as efficient as we can."

"We will put in place a transition team that will go through and look at each of those operations."

"In a growing environment, there may be some reassignments, but that growth will allow us to minimize the need for layoffs and at the same time get the kind of synergies that make a merger like this valuable to the shareholders."

The merged companies will maintain the Boeing name, although the Douglas name will continue to be associated with its commercial aircraft. The McDonnell name will be retained in a manner still to be determined.

Two thirds of the new board of directors will be drawn from Boeing's current board and one third from the McDonnell Douglas board.

BOEING



Boeing executive named USA president

Denton Hanford, vice president and general manager of the Boeing Defense and Space Group, Helicopters Division, has been named president of United Space Alliance (USA), effective Jan. 6.

Hanford will be working closely with Chief Executive Officer Kent Black and Chief Operating Officer Jim Adamson to manage USA, a Boeing/

Lockheed Martin joint venture.

Boeing became an equal member company of the USA organization as a result of its recent acquisition of Rockwell's aerospace and defense companies.

Hanford is an aerospace veteran who was involved with development of the Saturn rocket and the Inertial Upper Stage booster.

USA Integrated Logistics unit achieves top quality certification

The Integrated Logistics Division of United Space Alliance (USA) has achieved the highest certification for quality, the ISO 9001 certification.

This is the first time USA or any KSC organization has earned the ISO 9001 rating. ISO 9000 is a set of international standards establishing global requirements for quality management and quality assurance. The standards focus on documentation of operational techniques and management practices used to fulfill customer requirements, while also preventing nonconforming practices.

The Integrated Logistics Division of USA encompasses all areas associated with the manu-

facture, overhaul and repair as well as procurement of Shuttle orbiter hardware and ground support equipment. Specific functions include purchase of spare parts and contracting for repairs from original equipment manufacturers. The NASA Shuttle Logistics Depot (NSLD) is certified to manufacture, overhaul and repair more than 85 percent of the Space Shuttle's approximately 4,000 Line Replaceable Units.

The ISO 9001 certification was awarded by an outside agency following an audit.

A ceremony was held at the NSLD Jan. 10 in honor of the Integrated Logistics Division's achievement.



McDonnell Douglas payload processing contract at KSC extended two years

McDonnell Douglas Aerospace, Space and Defense Systems, Huntington Beach, Cal., has been awarded a two-year contract extension to its existing contract for payload ground operations services at KSC.

The option is worth \$245.7 million and became effective Jan. 1. The contract features options that could carry the contract period of perfor-

mance through Dec. 31, 2001, and bring the total contract value to \$1.9 billion.

This is the fourth extension of the PGOC contract awarded to McDonnell Douglas since the original contract was initiated in January 1987.

McDonnell Douglas provides ground support, test and integration for payload operations at KSC.



NEW FRIENDS -- Astronaut Pam Melroy and KSC Lt. Mark Casey visit with two young patients at University Hospital in Las Vegas. World Challenge sponsor ARA Human Factors donated the firefighter Dalmatian toy and caps.

KSC firefighters rise to challenge

The Combat Challenge is a tough physical competition held each year and is the ultimate test of a firefighter's fitness.

Although the KSC team has made it to the finals for the last four years, the December 1996 competition was specially memorable because the five-member team was accompanied by astronaut Pam Melroy.

Melroy participated in some of the firefighters' training during a recent trip to KSC and was impressed by the difficult drills they must master.

The firefighters' commitment to physical strength has special meaning for an astronaut like Melroy, since several of them are members of the Search and Rescue team that would help astronauts during a contingency.

"These are the people who would rescue us," Melroy said. "We depend on them for our lives and I can't say enough about how impressive their training is."

Four of the five members that competed in Combat Challenge, held in Las Vegas in December, belong to the SAR team.

The finals, called World Challenge, are a couch potato's nightmare.

Wearing full firefighting gear, the contestant must perform a series of five tasks without stopping: carry a coil of hose weighing 45 pounds to fifth-floor level; pull up a bundle of hose of the same weight to that fifth floor level; descend five flights of stairs and strike a 160-pound iron sled a distance of five feet (simulating forcible entry into a burning building) with a sledgehammer; and pick up and drag a 175-pound mannequin a distance of 100 feet.

The tasks must be completed sooner rather than later -- an acceptable time is seven minutes.

KSC firefighter Dawn Tait, who was competing in the finals for the first time, excelled. Her time was 3 minutes, 40 seconds, placing her sixth out of 23 women.

The KSC team and Melroy also took time out to visit two local hospitals, visiting with as many as children as possible and giving each a stuffed Dalmatian firefighter toy.



STICKING TOGETHER -- KSC firefighter Dawn Tait (left) and Melroy show they have the right stuff in the grueling Combat Challenge.



BUDDIES -- Melroy (center) shares a warm moment with KSC firefighters Dawn Tait, Mark Casey, Carmel Shearer and Bob Reed. Not shown is Kurt Bozenhardt, the fifth KSC team member who participated in the Combat Challenge.

LEARNING THE ROPES -- At right, Melroy first became aware of the KSC firefighters' rigorous training when she supported a Terminal Countdown Demonstration Test. Here, she takes her turn at climbing to the top of the 525-foot tall Vehicle Assembly Building and back down again clad in full gear weighing about 50 pounds with EG&G firefighter Joe Cecchi close behind.



DRIVING HARD -- At left, KSC firefighter Mark Casey cheers Carmel Shearer during the demanding contest.



"These are the people who would rescue us... I can't say enough about how impressive their training is."
 - astronaut Pam Melroy

C5 Substation gets needed power boost

The largest electrical project at KSC since the center was built in the 1960s was successfully completed at the end of last year.

The C5 Substation is the primary power interface between Florida Power and Light (FP&L) and KSC for all facilities in the Launch Complex 39 area, including all three Orbiter Processing Facility bays, the Vehicle Assembly Building, Launch Control Center and Pads 39A and B.

Restoration of existing equipment was needed and two additional transformers and associated equipment were installed. Before the upgrade the C5 substation was providing power to the equivalent of about 6,000 homes. Now its capability has increased to 10,800 homes, said

Jim Morgan, NASA lead designer for the effort.

Throughout the project the KSC/contractor team strove for minimized costs and achieved significant savings as a result. The estimated overall cost of completing the project was greatly reduced, and the construction contract — carried out by Barnes Electrical Co., Pensacola — was completed under budget and without impacting the Shuttle launch schedule. Barnes began work in summer 1994 and the transformers were energized for the first time on Dec. 22 last year.

In addition to numerous NASA organizations and Barnes Electric, KSC contractors EG&G Florida and Fred Wilson Associates of Jacksonville also contributed to the restoration.



ROYAL VISITOR — His Royal Highness Prince Edward of Great Britain accepts a commemorative plaque from KSC Associate Director Al Parrish that features a United Kingdom flag flown on the Space Shuttle. His tour included stops at Orbiter Processing Facility Bay 2 where the orbiter Discovery was being prepared for flight, the Vehicle Assembly Building, Pad 39B where the Space Shuttle Atlantis awaited liftoff on STS-81 and the new Apollo/Saturn V Center where the presentation took place. Other members of Edward's family also have visited America's only human spaceflight launch facility: Brothers Andrew and Charles were here in 1983 and 1990, respectively, and their father, Prince Phillip, was here in 1970.

Component Refurbishment & Chemical Analysis (CRCA) Facility opens

Phase I of the new Component Refurbishment & Chemical Analysis (CRCA) Facility is under way. A ribbon-cutting ceremony for the state-of-the-art cleaning plant on Contractors Road was held Dec. 20.

The CRCA will replace the existing KSC Cleaning Facility

located off Saturn Causeway. The facility is being replaced due to substandard, aged facility conditions, operational constraints and to incorporate more environmentally sound cleaning methods.

Phase I provides 30,000 square feet of floor space. Preci-

sion cleaning and refurbishment of numerous types of propellant and other fluid system components are performed here.

Flight and ground support hardware from both KSC and Cape Canaveral Air Station will be processed here. Each component undergoes a specific refurbishment process and is cleaned to a specified standard. The components are then tested, packaged and shipped out for reuse.

The new facility includes a class 100 clean room, a rough clean area, a hydraulic laboratory, and office space. In addition, it provides a gas tank farm, de-mineralized water production plant and a waste water treatment plant. Offices for engineering, administrative and clerical personnel also are located here.

With Phase I construction completed, activation is already under way. The CRCA is scheduled to be fully operational by fall 1997. While Phase I focused on the component cleaning area, Phase II (also under way) involves construction of laboratory areas.

It is expected to be completed



PHASE II of the CRCA Facility focuses on construction of chemical analysis labs where sampling of fuel and oxidizers, such as that used to propel the Shuttle solid rocket booster (an expended one is shown here being towed back to port) can be sampled for purity.

early next year. The labs will allow on-site chemical analysis of a wide range of materials, including the purity of fuels and oxidizers.

The CRCA was designed by BRPH Architects-Engineers Inc., Melbourne. Military Construction Corp., Merritt Island, is the Phase I contractor and Ivey's Construction, also on Merritt Island, is handling Phase II. United Space Alliance and EG&G Florida are activating the facility.



HIGH WINDS and a cold day can't dampen the spirits of KSC and other officials during the Dec. 20 ribbon-cutting ceremony for the new Component Refurbishment & Chemical Analysis (CRCA) Facility/Phase I. From left are Michael McCulley, associate program manager, ground operations, United Space Alliance; Marvin Jones, KSC director of Installation Operations; Steve Williamson, project manager, Wiltech Corp.; Gene Thomas, deputy director of KSC; Walt Stampely, KSC associate director of facilities, Design Engineering; Dick Jolley, president and general manager, EG&G Florida; and Dick Lyon, KSC director of Logistics Operations.

Detailed design ready to begin on advanced X-33 launch vehicle

For the second time in as many months, government and industry managers have successfully completed a Preliminary Design Review (PDR) for the X-33 technology demonstration program. This design review represents the last in a series of PDRs.

The three-day PDR, conducted in California in late December, with NASA and industry team members in attendance, confirmed readiness to begin detailed design of the X-33 Ground Support System and Launch Facility at Edwards Air Force Base, Calif.

In November, a week-long PDR approved a baseline configuration for final detailed design and long-lead procurement.

The next major milestones for the program are a series of Critical Design Reviews (CDRs) starting this month and culminating in an August Operations CDR.

Construction of a 25-acre launch facility at Edwards is

expected to begin in October.

The X-33, a half-scale technology demonstrator, is scheduled to make as many as 15 flights during a 10-month period beginning in March 1999. Launched vertically from Edwards, it will fly up to 15 times the speed of sound at altitudes approaching 50 miles. Potential landing sites are in California, Utah, Montana and Washington state.

Its design features a new "aerospike" rocket engine and a rugged metallic thermal protection system.

The flagship vehicle in the agency's Reusable Launch Vehicle (RLV) program, the X-33 is intended to pave the way for a full-scale, commercially developed RLV after the turn of the century, which could dramatically reduce the cost of putting payloads into space.

The industry team designing and building the X-33 is led by the Lockheed Martin Skunk Works. KSC is a member of the NASA X-33 team.



APOLLO 11 astronauts (from left) Gus Grissom, Edward White and Roger Chaffee at Launch Complex 34 on Cape Canaveral, Jan. 17, 1967.

Apollo 1 memorial ceremony to be held Jan. 27 at Air Force Museum

A ceremony marking the 30th anniversary of the Apollo 1 fire is scheduled for Jan. 27 at the Air Force museum on Cape Canaveral Air Station.

Astronauts Gus Grissom, Edward White and Roger Chaffee lost their lives at Launch Complex 34 on Jan. 27, 1967, when fire broke out during a ground test of the Apollo 1 capsule.

A ceremony has been held at LC 34 for each of the last 12 years, but is being moved this year to the museum to accommodate a larger audience.

This ceremony should last about 45 minutes. Attendees must have an invitation to attend. It will include a presentation by Canadian citizen Nick Proach, who has donated his time and labor to construct a model of the Saturn IB booster and Apollo 1 spacecraft.

The ceremony was organized in part by two private citizens, Bob Castro and Mark Pinchal.

"In view of the tremendous risks involved in space exploration," Pinchal said, "the nation has a responsibility to remember all our astronauts, particularly those who died in service to their country."

A separate private ceremony and visit by the Apollo 1 crew

families is planned also, supported by the Astronauts Memorial Foundation.

For more information on the Apollo 1 public ceremony, or to request invitations, contact:

Bob Castro,
1433 Season's Parkway
Norcross, GA 30093-3105
tel. 770 368-9270

or

Mark Pinchal
5122 Cypress Creek Dr.
Orlando, FL 32811-7602
tel. 407 351-0467, Orlando

For more information on the Apollo 1 museum model contact:

Nick Proach
Mason Site, C-21
R.R. 2
Sechelt, BC V0N 3A0
Canada
tel. 800 293-8877

Although admission to the museum is free, donations to defray costs of the ceremony are welcome and may be sent to:

Apollo 1 Memorial Ceremony
c/o Astronauts Memorial Foundation, Mail Code AMF
Kennedy Space Center, Fla.
32899
tel. 407 452-2887



X-33 PROGRAM will demonstrate in flight new technologies needed for a Reusable Launch Vehicle (RLV), dubbed Venture Star, using the half-scale prototype. The Lockheed Martin Skunk Works design is based on a lifting body shape with a new aerospike rocket engine and a rugged metallic thermal protection system. It will be unmanned, launched vertically like a rocket and reach an altitude of 50 miles and speeds of more than Mach 15 (15 times the speed of sound), and land horizontally like an airplane. Time between X-33 test flights will typically be seven days, and a two-day emergency turnaround time will be demonstrated.



**APOLLO/SATURN V
CENTER GALA**

January 8, 1997

John F. Kennedy Space Center



FORMER Apollo astronauts donned their tuxes to attend the gala. Seated in front (from left) are Buzz Aldrin (Gemini 12, Apollo 11); Richard Gordon Jr. (Gemini 11, Apollo 12); Edgar Mitchell (Apollo 14); Charles Duke Jr. (Apollo 16); and Walter Cunningham (Apollo 7). Standing (from left) are Thomas Stafford (Gemini 6 and 9, Apollo 10 and Apollo-Soyuz Test Project); Russell Schweickart (Apollo 9); Eugene Cernan (Gemini 9, Apollo 10 and 17); William Anders (Apollo 8); and John Young (Gemini 3 and 10, Apollo 10 and 16, STS-1 and 9).



UPPER PHOTO -- NASA Administrator Dan Goldin (at podium) attended the event and was one of the keynote speakers.

LOWER PHOTO -- The former astronauts and their guests and families were treated to the full Apollo experience at the new facility, which includes an exhibit where the first lunar landing is recreated.

FEW training set for Jan. 29 and 30

"Challenge Your Imagination" is the theme of this year's training program sponsored by the Federally Employed Women (FEW) organization. It will be held Jan. 29-30 at the Howard Johnson Plaza Hotel in Cocoa Beach with the following hours:

January 29

7-8 a.m. -- Registration, hotel lobby.

8-9 a.m. -- Opening session. Keynote speaker is Bonnie King, Brevard County Film Commissioner, Florida Space Coast Office of Tourism.

9:15-11:15 a.m. -- Morning session with featured speaker.

2:15-4 p.m. -- Afternoon session with featured speaker.

January 30

Hours and events are repeated.

Featured speakers will focus on topics such as parenting in the workplace, career planning and public speaking. The \$59 fee to attend the program includes a continental breakfast and complimentary lunch. For more information, contact Clara Anderson, 867-3898, your training coordinator or a FEW member.

Jennings. . .

(Continued from Page 1)

also has held management and analyst positions at the Marshall Space Flight Center and NASA Headquarters.

Jennings has received numerous awards during his NASA career, including two Equal Employment Opportunity Awards, the Exceptional Service Medal and the Outstanding Leadership Medal.

Hailing from Alabama, Jennings has a bachelor of science degree in Mathematics and two master's degrees, one in business administration and another in administrative sciences.

Mir. . .

(Continued from Page 1)

Mission Specialists John Grunsfeld, Marsha Ivins and Peter "Jeff" Wisoff.

Blaha has been on Mir since Sept. 19, 1996, when Atlantis docked with Mir during the STS-79 mission. Linenger will remain aboard Mir until he is replaced by STS-84 Mission Specialist Michael Foale. He will return to Earth during that mission, which is currently targeted for May 1997.

STS-81 will continue the joint NASA-Russian Space Agency effort to have a U.S. astronaut aboard the Russian space station on a permanent basis.

Two more docking and astronaut transfer missions, STS-84 and STS-86, are scheduled this year. Two additional long-duration stays by U.S. astronauts will extend the program through May 1998.

Shortly after docking, the astronauts were to begin the transfer of more than 2,000 pounds of hardware and supplies for the Mir 22 crew from a SPACEHAB-DM double module in the orbiter's payload bay. This equipment includes a navigational unit, three storage batteries, a current transformer, 36 food containers, 1,400 pounds of water and clothing.

The SPACEHAB, which is flying in the double module configuration for the second time, will also be used to transfer Russian equipment back to Earth aboard Atlantis, including a navigation unit and an experiment furnace package.

Equipment transferred to Mir during the previous Shuttle docking flight to record data and capture environmental samples also will be returned to Earth.

During the scheduled five days of docked operations, the STS-81 and Mir 22 crews will work together to conduct a total of 44 inflight scientific investigations, most of which are International Space Station Risk Mitigation (RME) and Human Life Science (HLS) experiments



STS-81 Commander Mike Baker (front right) and Pilot Brent Jett (front left) lead the way from the Operations and Checkout Building en route to the Space Shuttle Atlantis at Pad 39B. Behind them are (front to back) Mission Specialists John Grunsfeld, Jerry Linenger, Jeff Wisoff and Marsha Ivins.

in the SPACEHAB and the Russian space station.

The Mir 22 crew members are Commander Valery Korzun and Flight Engineer Alexander Kaleri. They have been in space since Aug. 17, 1996, when they

were launched to replace the Mir 21 crew.

Atlantis will undock from Mir on flight day 9. Weather permitting, the orbiter will land at the Shuttle Landing Facility on Jan 22 at 7:57 a.m. EST.



John F. Kennedy Space Center

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