Vol. 35, No. 24 December 6, 1996

Spaceport News

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

John F. Kennedy Space Center

Mission update

Mission: STS-80 on Columbia.

Launch date, time: November 19 at 2:56 p.m.

Target KSC landing date, time: December 6 at about 7:57 a.m.

Primary payloads: Orbiting Retrievable Far and Extreme Ultraviolet Spectrograph-Shuttle Pallet Satellite (ORFEUS-SPAS-2), a telescope aimed at unraveling the life cycles of stars and understanding the gases that drift between them. And the Wake Shield Facility-3, which will use the vacuum of space to create advanced semiconductors for the nation's electronics industry.

Status: Columbia's mission has been extended by 24 hours to allow for additional observations from the free-flying ORFEUS-SPAS ultrviolet astronomy satellite.

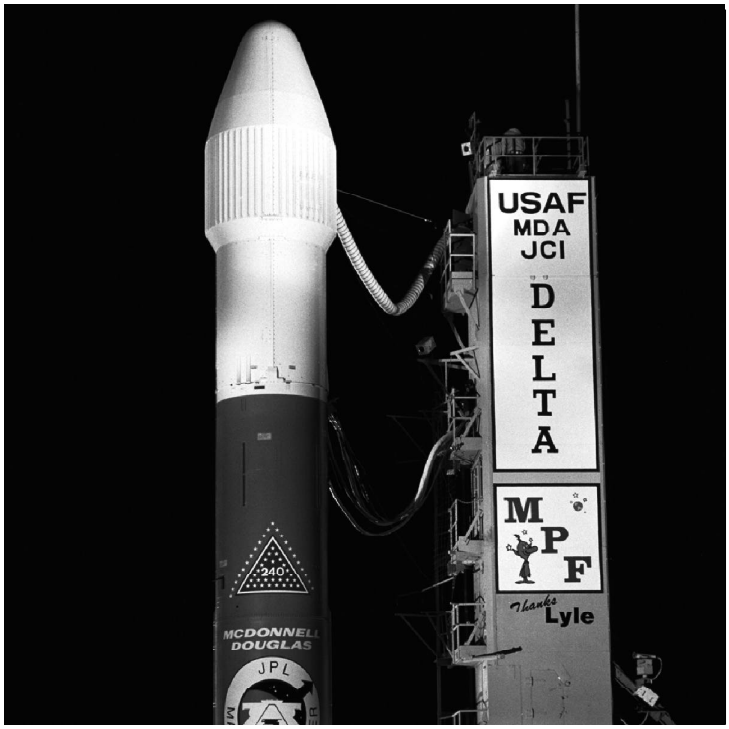
Mission: STS-81 on Atlantis.

Launch date, time: Jan. 12, 1997 at about 4:17 a.m.

Mission: 5th Mir docking

Target KSC landing date/time: Jan. 21, 1997 at about 8:40 a.m.

Forging a path



THE MCDONNELL DOUGLAS Delta II rocket holding the Mars Pathfinder stands poised on Pad B at Launch Complex 17 on Cape Canaveral Air Station awaiting its next launch opportunity. At press time that launch was scheduled for Dec. 4 at 1:58 a.m. after the previous day's attempt was postponed due to a computer synchronization problem.

201 KSC workers commit to buyout

A total of 201 Kennedy Space Center employees have signed up to retire from the center by Feb. 3, 1997 as a result of a buyout approved by NASA Headquarters last month.

Deadline for applying for the plan was Nov. 29. Although anyone indicating interest in the buyout could still back out, that number is expected to be a small percentage of the total, said James L. Jennings, Director of the Administration Office.

The workers will receive a buyout incentive equal to their calculated severance pay entitlement, up to a maximum of $25,000 or one year's salary, whichever is less.

Those accepted in the plan were eligible to leave from Nov. 30 through Feb. 3. *Spaceport*

(See BUYOUT, page 6)

KSC receives Competition Advocacy Award

Kennedy Space Center's efforts to enhance competition for federal contracts by easing the bidding process for all businesses have once again been recognized nationally with the prestigious Competition Advocacy Award from NASA Headquarters.

The award, which KSC has won for three of the last four years, recognizes several steps KSC has taken to open up the procurement process, specifically to small and small disadvantaged businesses that may have had difficulty obtaining bidding information in the past.

The award recognizes efforts

(See AWARD, Page 2)

RECEIVING NASA's Competition Advocacy Award for KSC are, from the left, Ann Watson, deputy director of Procurement, KSC Deputy Director Gene Thomas, Center Director Jay Honeycutt and Procurement Director Jim Hattaway.

AWARD. . .

(Continued from Page 1)

that have been made to identify barriers to competition and the efforts undertaken by a center to eliminate those barriers.

KSC's strength comes from two significant areas: the personal commitment of Deputy Director Gene Thomas, the center's competition advocate, and the team efforts from the technical and procurement community including prime contractors, said Ann Watson, deputy director of the Procurement Office.

Thomas' involvement includes ensuring industry representatives receive quality information about the center's procurement needs; personally evaluating each request for a contract requiring limited or no bidding; and attending Acquisition Strategy Meetings to assure that all aspects of forthcoming acquisitions promote competition. Thomas also serves as KSC's Ombudsman for Acquisition, an agency program that facilitates communication between NASA and current and potential contractors. In that role he makes time to personally meet with companies seeking to do business with KSC.

Watson, who also serves as KSC's small business specialist, developed the center's Central Industry Assistance Office (CIAO) which gives companies an outlet for describing their products or services while at the same time learning about NASA's needs.

One of the key factors in the office's success boils down to communication. "We're very honest," Watson said. "We feel it's important that businesses conserve their resources if a particular situation does not apply to them."

Businesses have found the process of matching their services to NASA's needs has become much more precise through several efforts unique to KSC.

The annual Business Opportunities Expo, which celebrated its 7th anniversary in 1996, brings representatives from industry, NASA and contractors together to share information about needs and services. The event has become one of the premier business opportunity events in the southeast.

Joint counseling sessions, held twice weekly at the CIAO, give businesses the opportunity to meet with representatives of NASA and major contractors without having to obtain security clearance for access to the center. Since its inception in 1994, approximately 40 percent of the companies counseled have received either prime contracts or subcontracts.

KENNEDY SPACE CENTER'S seventh annual Business Opportunities Expo attracted vendors from around the country as well as KSC NASA and contractor representatives to Port Canaveral Nov. 13. More than 200 vendors participated in the event. Above, representatives from KSC's Technology Transfer Office are visted by astronauts Bill Readdy, left, and Carl Walz.

BRUCE MELNICK, center, vice president of McDonnell Douglas Aerospace, Space & Defense Systems at Kennedy Space Center, accepts the 1996 Large Business Contractor Award from Center Director Jay Honeycutt, left, and Ralph C. Thomas, III, associate administrator of the Office of Small and Disadvantaged Business Utilization, NASA Headquarters.

Contractors of the year awarded

Seven contractors were recently recognized as Kennedy Space Center's Contractors of the Year for 1996.

The winning companies were announced during a ceremony at the KSC Visitor Center on Nov. 12. They are:

Large Business Contractor: McDonnell Douglas Space & Defense Systems

Small Business Contractor: Dynamac Corporation

Woman-Owned Small Business Contractor: Britts Air Conditioning, Inc.

Small Disadvantaged Business Contractor: Space Mark, Inc.

Small Business Subcontractor: CAMcad Technologies, Inc.

Woman-Owned Small Business Subcontractor: Wiltech of Florida Corporation

Small Disadvantaged Business Subcontractor: Oneida Construction, Inc.

Ann Watson, deputy director of the KSC Procurement Office pointed out that more than $220 million in prime contracts and subcontracts were awarded by KSC to the small business community in fiscal year 1996. The ceremony is intended to pay tribute to companies who perform on-time quality work at a reasonable cost, she said.

The Internet has become a very effective tool in the distribution of contract information to multiple sources. In addition to posting of procurement announcements and solicitations, business opportunities are made available on a NASA-wide search engine and subscription service.

KSC procurement efforts have also linked with the center's Technology Transfer Office. The Florida NASA Business Incubator Center, which recently opened through a partnership between the state, Brevard Community College and NASA, is also providing information on KSC procurements to tenants. And representatives from procurement joined the Technology Transfer Office in Tallahassee for Space Industry Day.

The Contractor Awards Ceremony provides recognition not only for the top contractors of the year but also for nominees.

The efforts have helped NASA to find suppliers that might never have applied for contracts in the past, Watson said. "That's where competition comes in," she said. "And that's what drives reasonable prices."

KSC's energy savings efforts rewarded with national honor

By Joel Wells

Kennedy Space Center is the only NASA center to receive the 1996 Federal Energy and Water Management Award.

A total of 117 nominees representing 19 federal agencies competed for the award, presented by the Federal Interagency Energy Policy Committee and the Department of Energy.

KSC was selected based on its aggressive response to a 1994 executive order that mandated energy conservation goals and called for innovative ways to reduce energy consumption. Based on KSC's energy consumption in 1985, the order requires an ambitious 30 percent reduction by 2005.

KSC ENERGY representatives who helped with the center's award-winning energy conservation efforts include, from the left, Tim Thurston of the EG&G Engineering Department, Bobbie Sirmons of the EG&G Alternative Fuels Office, Chris Cook, EG&G senior engineer, and Wayne Thalasinos,NASA KSC energy resources manager.

"We have taken an aggressive approach toward energy management and this award recognizes our efforts to surpass a milestone reduction of 10 percent by 1995, but we still have to reach 20 percent by 2000 and then 30 percent by 2005," said Wayne Thalasinos, NASA KSC energy resources manager. "Compared to other agencies and other NASA centers we have done a stellar job, but we still have a long way to go."

In fiscal year 1995 alone, KSC avoided more than $1 million in energy costs. The Base Operations Contractor (BOC) received the 1995 Federal Energy and Water Management Award for outstanding performance in energy management for that year. The BOC Energy Management Office (EMO) contributed to that savings by implementing more than 13 energy conservation projects. Those projects also provided more than $61,000 in rebates from Florida Power and Light (FP&L). Officials expect a cumulative rebate of $1 million at the close of fiscal year 1997.

FP&L specifically recognized the installation of state-of-the-art, energy efficient lights and motors, and the replacement of air conditioning units. The KSC Christmas shutdown, EMO's participation in the design of new facilities and their coordination of the KSC Energy Working Group (EWG) were all steps toward obtaining the award.

The BOC Alternative Fuels Office also earned recognition for its role in making natural gas application a reality at KSC. This small team helped plan the construction of a natural gas pipeline to KSC, conversion of the center's facilities to use natural gas and the opening of a natural gas fueling station for new compatible government vehicles.

"Applying natural gas at KSC will not only save us operation and maintenance costs, but also responds to the Clean Air Act of 1990," said Chris Cook, EG&G senior engineer. Presently, 80 percent of the fuels burned at KSC have been converted from petroleum to natural gas.

The EWG, a NASA and contractor forum, coordinates center-wide energy and water conservation efforts and disseminates applicable information to the entire KSC community. One activity used to reach that community is the annual Energy Awareness Week in October.

"We brought in about 13 exhibitors ranging from carpool organizers to lighting vendors in an effort to educate the workforce on ways to save energy at work and at home," said C.H. Mills, EMO manager. Officials are calling the event a tremendous success, with 5,755 employees visiting the exhibits and taking home handouts.

NASA and BOC energy managers are working on innovative ways to curb future energy consumption. Energy Savings Performance Contracting is the most unique initiative in KSC's strategy to reach the 30 percent goal. This tool will allow NASA to pay contractors working on conservation projects with the money saved by their efforts. When the contracts are paid for, NASA will continue to benefit from the lower energy bills.

While KSC moves ahead toward its energy saving goals Thalasinos warns, "The worst thing we can do now is to relax on our accomplishments. We've picked the easy-to-reach fruit, now every KSC employee needs to control their personal energy consumption and reach for the challenging goals ahead."

Keyholder of the year

SHARON SIEBER of the McDonnell Douglas Space & Defense Systems security staff is presented the Morgan H. Carter, Sr. KSC Key Control Custodian of the Year award for 1996 by Calvin Burch, chief of the Kennedy Space Center Protective Services Office. Sieber received the award for a variety of reasons, including her role in the formal key audit of the 1996 MDS&DS registered key account. Sieber was commended for providing accurate and immediate information necessary for the performance of the audit. She is routinely responsible for more than 140 sets of keys and ensures that the keys are distrbuted in a timely manner. The award recognizes knowledge of procedures, willingness to cooperate with the Locksmith Office, an assurance that documentation submitted to the Locksmith Office is correct, and the proper management of keys on loan. The award is named for the former manager of the KSC Locksmith Office.

Ground broken for Shuttle processing building

New facility to house work on main engines

DIGGING IN to help get the new SSMEPF underway are, from the left, Alfredo Tehran, president of AJT and Associates, Inc.; Wade Ivey, president of Ivey Construction, Inc.; Bob Sieck, director of Shuttle Processing; Walt Stampley, associate director of facilities, Design Engineering; Gene Thomas, KSC deputy director, John Plowden, deputy program manager Space Shuttle Main Engine and Rocketdyne site director at KSC; and Marvin Jones, director of Installation Operations.

The Space Shuttle main engines will be processed in a new facility scheduled to be opened in the summer of 1998.

Groundbreaking was held Nov. 20 for the 34,600-square-foot Space Shuttle Main Engine Processing Facility located next to the Orbiter Processing Facility (OPF) 3 in the Launch Complex 39 area.

Ivey's Construction of Merritt Island was awarded a $5,328,400 contract to complete the structure.

The SSMEPF, which is an addition to the OPF 3, will provide space to increase the capacity and efficiency of engine processing operations currently performed by Rocketdyne.

The area was moved out of the Vehicle Assembly Building due to safety concerns related to the number of personnel and activities in the VAB where Shuttle components are assembled prior to rollout to the pad.

The three main engines generate approximately 375,000 pounds of thrust each during liftoff of the Shuttle, providing about 20 percent of the power needed to boost the Shuttle into low-Earth orbit. They are the only reusable liquid-fueled rocket engines in existence and undergo prelaunch preparation in the Main Engine Shop before their installation into the Shuttle orbiters in the OPF.

SWAT team scores high marks in international competition

KSC is sixth overall, third in state at meet

MEMBERS OF THE KSC Special Response Team are, from the left, John King, Eric Munsterman, Bob Weiss, Bill Barousse (trainer), Brian Kanipe, SRT Commander Pat Ryan, Mike Rodenbaugh, and Speedy Patrick.

Kennedy Space Center's Special Response Team recently was awarded sixth place at the 14th annual SWAT Round-Up held last month at the Orange County, FL, firearms range.

The grueling five-event competition pits the "best of the best" from police departments, sheriff's offices, correctional institutions and government special operations units from Florida, other states and overseas.

The competition includes an obstacle course as well as demanding hostage/officer rescue, sniper/observer and assault scenarios designed to test the shooting skills, physical ability and judgment of competing units under stressful operating conditions.

The EG&G Florida team representing NASA tied for fifth place out of 59 teams and was awarded sixth place after total times for the events were tabulated.

Participants included an elite anti-terrorist group from Germany and teams representing the police departments of Dallas, TX, Washington, DC and Los Angeles, CA.

In addition to sixth overall, the KSC team placed third in the state and third in the Officer Rescue Event.

Federal women paint, refurbish at childrens home

Residents of the Country Acres Parental Home in Titusville had an early taste of Thanksgiving when volunteers from the Federally Employed Women (FEW) Space Coast Chapter visited Oct. 26 on a mission to paint and refurbish the home's 13 bedrooms and boys' lounge.

Volunteers, who also came from United Space Alliance, McDonnell Douglas Space and Defense Systems, Troutman Technical Services, Space Frontier Operations and NASA, cleaned and dusted the rooms and then painted and decorated following color schemes agreed to in advance by the residents of the rooms.

While most of the supplies were donated, many items, including comforters, valances and a new electric stove, were purchased with contributions from employee groups and individuals. Donations were received from many groups affiliated with KSC including McDonnell Douglas, United Space Alliance, Rockwell, EG&G Florida Inc., Lockheed Space Operations Company Employees' Bucks of the Month Club, and the FEW Space Coast Chapter. The LSOC Employee's Bucks of the Month Club contributed a new electric stove which made it possible for the residents to have Thanksgiving dinner at the home.

FEW selected the Country Acres home as its project for Make A Difference Day, a national day of helping others sponsored by USA Weekend and its 466 carrier newspapers, including *Florida Today.*

Employees of the month

HONORED IN DECEMBER are, from the left, John Zuber, Office of the Chief Financial Officer; Ernest Cody, Payload Operations Directorate; Lynna Andrews, Logistics Operations Directorate; Laurel Lichtenberger, Public Affairs Directorate; Aneta Ott, Administration Office Directorate; Patricia Roman, Procurement Office; Chau Le, Engineering Development Directorate; Ted Mosteller, Shuttle Processing Directorate. Not pictured are Sheryl Marshall, Safety and Mission Assurance Directorate; and Kevin Mellet, Space Station Directorate.

Employees invited to sneak preview of Saturn V facility

Kennedy Space Center employees and family members have an opportunity to tour the new Saturn V facility before it officially opens to the public.

Delaware North Park Service is offering tickets to employees to tour the facility the evenings of Dec. 9 and 10. The tickets, to be distributed on a first-come, first-serve basis, will be good for bus service from the Visitor Center parking lot to the facility, located near the Banana Creek launch viewing area. The facility will be open from 4:30-7:30 p.m. and visitors will be able to see the Saturn V and other Apollo- era artifacts and view shows in the Lunar Landing and Firing Room theaters. Tickets will be available Dec. 6 and Dec. 9 from 8 a.m. to 4:30 p.m. in Room 2001 at the KSC Visitor Center. Tickets can also be reserved via e-mail be contacting pat.caroleo-1@kmail.ksc.nasa.gov. The last bus is scheduled to leave the Visitor Center at 6:30 p.m. on the designated nights.

Hubble telescope captures images of quasar galaxies

Newly released Hubble Space Telescope images show that quasars live in a remarkable variety of galaxies, many of which are violently colliding. This complicated picture suggests there may be a variety of mechanisms — some quite subtle — for "turning on" quasars, the universe's most energetic objects.

Hubble researchers also are intrigued by the fact that the quasars studied do not appear to have obviously damaged the galaxies in which they live. This could mean that quasars are relatively short-lived phenomena which many galaxies, including the Milky Way, experienced long ago.

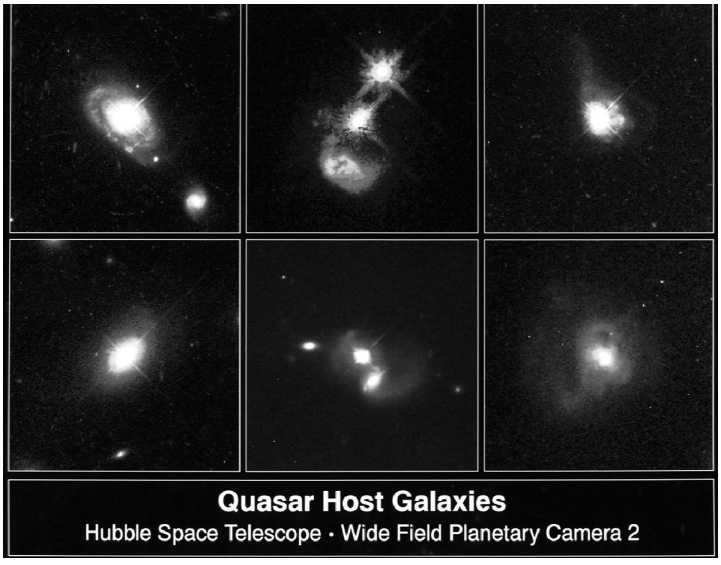
John Bahcall of the Institute for Advanced Study, Princeton, NJ, emphasizes that Hubble's clarity opens a complicated picture. "If we thought we had a complete theory of quasars before, now we know we don't," says Bahcall. "No coherent, single pattern of quasar behavior emerges. The basic assumption was that there was only one kind of host galaxy, or catastrophic event, which feeds a quasar. In reality we do not have a simple picture — we have a mess."

Mike Disney, University of Wales College, Cardiff, U.K., who is the leader of the European team, says, "People had suspected that collisions might be an important mechanism for feeding black holes and generating the vast amounts of energy emitted by quasars. Now we know they are and we didn't know that before Hubble. This is a really exciting achievement."

Though a number of the images show collisions between pairs of galaxies which could trigger the birth of quasars, some pictures reveal apparently normal, undisturbed galaxies possessing quasars.

"We were amazed by the

(See QUASARS, page 6)



TOPLEFT: This image shows quasar PG 0052+251, which is 1.4 billion light-years from Earth, at the core of a normal spiral galaxy.
BOTTOM LEFT: Quasar PHL 909 is 1.5 billion light-years from Earth and lies at the core of an apparently normal elliptical galaxy.
TOP CENTER: The photo reveals evidence of a catastrophic collision between two galaxies traveling at about 1 million miles per hour.
BOTTOM CENTER: Hubble has captured quasar PG 1012+008, located 1.6 billion light-years from Earth, merging with a bright galaxy (the object just below the quasar). The two objects are 31,000 light years apart.
TOP RIGHT: Hubble has captured a tidal tail of dust and gas beneath quasar 0316-346, located 2.2 billion light years from Earth.
BOTTOM RIGHT: Hubble has captured evidence of a dance between merging galaxies.

Astronaut Shannon Lucid is presented with a quilt by students and teachers from Roosevelt Elementary School in Cocoa Beach.

Employees honored with awards recognizing Space Flight Awareness

Several KSC employees have been honored with Space Flight Awareness recognition over the past two months. On Oct. 9 Larry Ellis, recently appointed as director of Process Integration in the Shuttle Processing Directorate, presented an SFA Team Award to the 19-member Operations and Maintenance Requirements and Specifications (OMRS) Closed Loop First Increment Activity Team for its work in automating the OMRS closure process. On STS-78, the first mission to use the added capabilities of the new system, closures appeared in the tracking system almost two weeks sooner than experienced with the manual sign-off system with no loss of accuracy.

In other awards activity astronaut Pam Melroy presented the prestigious Silver Snoopy award on Oct. 24 to Sherri Carlson, NASA; Ron Buckley, Boeing Areospace Operations; Pedro Medelius, I-NET; and Elmer Pensack, McDonnell Douglas Space & Defense Systems. Also on Oct. 24, Ed Lu, Jean Francois Clervoy and Elena Kondakova of the STS-84 crew presented a Snoopy award to I-NET employee Carl Mattson.

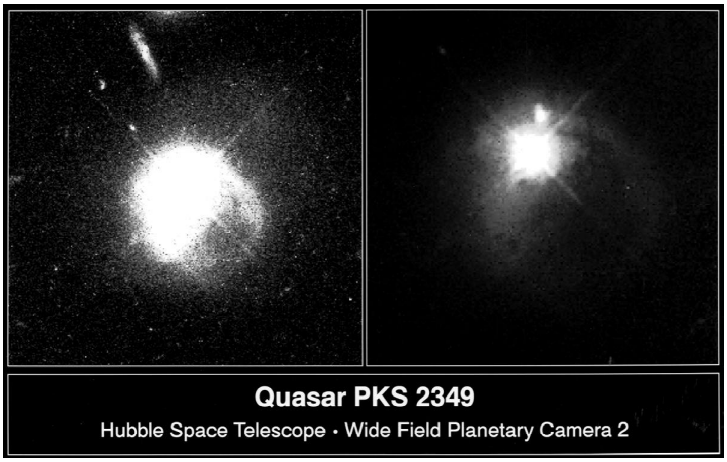
Space Flight Awareness

Astronaut Mike Anderson presented Silver Snoopy awards on Oct. 30 to NASA employees Dan Culbertson and Betty Gruhler.

In November the STS-79 crew returned to KSC to thank employees for their contributions to that mission. The astronauts made a presentation and showed their mission video and slides to a standing-room-only crowd in the Training Auditorium.

The astronauts also visited the STS-79 Payload Test Team members in the Operations & Checkout Building and the employees in the Orbiter Processing Facility Bay 3. Later that afternoon, astronaut Shannon Lucid was presented with a quilt by students and teachers from Roosevelt Elementary School in Cocoa Beach.

On Nov. 14, the STS-79 astronauts (except Carl Walz) presented Silver Snoopy awards to United Space Alliance employees John Shadrick, Rich Walls, Vicki Owens, Jerry Eadens and Vincent Morrow.



THE IMAGE on the left reveals the huge, thin tidal arms of a galaxy associated with the luminous quasar, which is 1.5 billion light years from Earth. In the right-hand panel, the same image is shown at a different contrast level.

QUASARS. . .

(continued from page 5)

beauty and clarity of the Hubble images, as well as the diversity of quasar environments," says Donald Schneider of Pennsylvania State University, State College, PA.

Discovered only 33 years ago, quasars are among the most baffling objects in the universe because of their small size and prodigious energy output. Quasars are not much bigger than Earth's solar system but pour out 100 to 1,000 times as much light as an entire galaxy containing a hundred billion stars.

A super massive black hole, gobbling up stars, gas and dust, is theorized to be the "engine" powering a quasar.

Most astronomers agree an active black hole is the only credible possibility that explains how quasars can be so compact, variable and powerful. Nevertheless, conclusive evidence has been elusive because quasars are so bright they mask any details of the "environment" where they live.

BUYOUT. . .

(continued from page 1)

News plans to recognize those who are departing in a future edition.

The buyout was necessitated by federal budget mandates to reduce the KSC work force by 661 people by Fiscal Year 2000. The reduction would not have been met through normal attrition or the suspension of new hires.

John F. Kennedy Space Center

Spaceport News

The *Spaceport News* is an official publication of the Kennedy Space Center and is published on alternate Fridays by the Public Affairs Office in the interest of KSC civil service and contractor employees.

Contributions are welcome and should be submitted two weeks before publication to the Media Services Branch, PA-MSB. E-mail submissions can be sent to Barbara.Compton-1@kmail.ksc.nasa.gov

Managing editor. . . . . Lisa Malone
Editor. . . . . .Barb Compton
Editorial support provided by Sherikon Space Systems Inc. writers group.

USGPO: 532-112/20036