

# Spaceport News

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John F. Kennedy Space Center

## NASA F2M town hall successful

It's not often that hundreds of Kennedy Space Center employees can casually offer constructive criticism of NASA to people capable of making changes, and at the same time know they're being heard.

Approximately 300 civil servants did just that at a town hall meeting Jan. 23 at the Training Auditorium.

The remaining KSC workforce joined in by watching the assembly on NASA Television and submitting realtime comments via e-mail.

This improvement effort is formally known as NASA's

(See F2M, Page 8)

## Investigators visit KSC

Two trucks containing debris from the space shuttle Columbia arrived at Kennedy Space Center Feb. 12. They were the first to bring debris from Barksdale Air Force Base near Shreveport, La., to KSC where investigators are placing the pieces in relation to their original positions on Columbia.

Members of the Columbia Accident Investigation Board (CAIB) also arrived at KSC Feb. 12.

The group toured facilities, including the Orbiter Processing Facility Bay 2, housing the Shuttle Endeavour, and Bay 3, where Discovery is undergoing maintenance.

The CAIB also visited the Vehicle Assembly Building where Shuttle Atlantis, with its external tank and solid rocket boosters, is atop its mobile launch platform.

The CAIB met at intervals throughout the day with KSC officials to get an overview of ground processing activities.

On Thursday the board visited

(See Columbia, Page 6)



Members of the Columbia Accident Investigation Board were in the Vehicle Assembly Building Feb. 13 to look over Space Shuttle Atlantis. In the center (gesturing) is the chairman, Retired Navy Adm. Harold Gehman Jr. The board visited sites at KSC to become familiar with the Shuttle launch process and elements. The independent board is charged with determining what caused the destruction of the Space Shuttle Columbia and the loss of its seven-member crew on Feb. 1 during reentry.

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Page 7 – The first in a series of articles on "One NASA" from the various NASA centers.

## Florida teachers celebrate at KSC



Members of the Florida League of Teachers listen to the program at the Kennedy Space Center Visitor Complex Universal Theater.

Jan. 24, the Florida League of Teachers kicked off its 10<sup>th</sup> anniversary celebration at the Kennedy Space Center Visitor Complex Universal Theatre.

Joining in the kickoff celebration was Director of External Relations, JoAnn Morgan; Pam Biegert, chief, Education Programs and University Research Division; and Dan Leblanc, president and chief operating officer of KSC's Visitor Complex. The guest speaker, former astronaut Charlie Walker, enlightened the audience with his educational experiences and

(See TEACHERS, Page 6)

# Recognizing Our People

## Wayne Hale new launch integration manager

Veteran NASA Flight Director Wayne Hale has been named Space Shuttle Launch Integration manager stationed at the Kennedy Space Center.

Hale replaces Astronaut Jim Halsell, who has begun training as commander of Space Shuttle mission STS-120. Space Shuttle Program Integration Manager Linda Ham served as acting Space Shuttle Launch Integration manager through the launch of Space Shuttle mission STS-107 and will continue in that role until Hale assumes full duties.

The Space Shuttle Launch Integration manager oversees all launch preparations and has the final responsibility for a go or no-go decision at each Shuttle liftoff.

“Wayne is the most experienced ascent and entry flight director at NASA and will bring tremendous talent and expertise to his new post,” said Space Shuttle Program Manager Ron Dittmore.

Hale began his career at NASA in 1978 as a flight controller in JSC's Propulsion Systems Section.

He served as a propulsion officer for 10 Shuttle missions, beginning with STS-2. He

The Space Shuttle Launch Integration Manager oversees all launch preparations and has the final responsibility for a go or no-go decision at each Shuttle liftoff.

went on to head the Integrated Communications Section in Mission Operations and the Propulsion Systems Section before being named a Space Shuttle Flight Director in 1988.

He has served as an ascent and entry flight director for 28 shuttle missions, most recently for mission STS-113 in November. He also has served as a lead flight director for three Space Shuttle flights.

Hale has a bachelor of science in mechanical engineering from Rice University and a master of science in mechanical engineering from Purdue University.



Kennedy Space Center's new Space Shuttle launch integration manager is Wayne Hale, formerly a NASA flight director.



### Welcome

James Kennedy, the new deputy director of Kennedy Space Center was honored with a welcome reception at the Doubletree Oceanfront Hotel Cocoa Beach on Jan. 21. The reception, was sponsored in part by the Florida Space Business Roundtable, the Economic Development Commission, the National Space Club, the Boeing Co., Lockheed Martin and United Space Alliance.



# Hazardous weather information available

What is the No. 1 weather killer in Florida? When do we have our worst tornadoes? How do you handle rip currents?

The "Florida Hazardous Weather Awareness Week-2003" was held Feb. 16 through 22.

Full details and education information are available at [www.floridadisaster.org/hwa03/home.htm](http://www.floridadisaster.org/hwa03/home.htm).

Weather safety training is also available from the 45th Weather Squadron at 853-8410.

Each day of the Florida Hazard-



ous Weather Awareness Week featured a particular weather hazard in our state.

The most immediate weather

threat to the Space Coast is tornadoes.

Our strong tornado season slowly rises in February, peaks in late March, and then falls in April. The largest tornado outbreak in Florida history was February 1998.

However, the past several years have had reduced tornado activity and people may have become complacent – especially new arrivals that have never seen one of our tornado outbreaks.

This year, we may see a return to more severe winter weather due to

the moderate El Nino in the Pacific Ocean.

If you haven't already, now is the time to prepare for this late winter-spring strong tornado season.

These tornadoes often occur late at night, so be prepared to hear the warning sirens at any hour.

Better yet, since not all areas have sirens, or you may not hear the sirens when deep in sleep, buy a NOAA weather radio that will sound an alarm if the National Weather Service issues a warning for your area.

# AIAA hosts propulsion seminar at BCC

Future space propulsion technologies and those for current launchers were presented at the Brevard Community College Planetarium in Cocoa Feb. 15.

This Space Propulsion Symposium was organized by the Cape Canaveral Section of the American Institute of Aeronautics and Astronautics (AIAA).

Cape AIAA President Doug Wright said that the purpose of the symposium was twofold: "We wanted to serve our membership and offer a technical program that is a benefit to them. We also



wanted to offer a program that is of value to local students so that they can get a better understanding of real-world engineering problems and how to go about solving them."

The Cape Section includes chapters at Embry-Riddle and Florida Institute of Technology.

Lockheed Martin's Ed Christiansen discussed the Russian RD-180 engine used for Lockheed Martin's

Atlas III and V.

He noted that the related RD-170 engine is rated for manned spaceflight, which could have implications for NASA's orbital space plane program.

Six other lectures focused on emerging technologies. NASA Marshall Space Flight Center sent Dr. Mike Houts, who spoke on space fission propulsion and power, and J. Boise Pearson discussed solar thermal propulsion.

Pratt and Whitney personnel gave three lectures. Russell Joyner told about nuclear hybrid propul-

sion and power; Robert Faulkner addressed hypersonic airbreathing propulsion; and Chris Hagger summarized propulsion research for the Integrated Space Transportation Plan.

"With recent events, the orbital space plane concept is getting more attention," Hagger said.

Dr. John Brandenburg of the Florida Space Institute closed the symposium with his work on the Microwave Electro-Thermal Thruster.

For more information about the program, visit [www.CapeAIAA.org](http://www.CapeAIAA.org).

## NASA finalizes contract with USA

NASA has settled negotiations that increase the value of a two-year extension of the Space Flight Operations Contract (SFOC) held by United Space Alliance, LLC, in Houston, by \$59.91 million.

NASA's exercising of the two-year SFOC extension, which supports the Space Shuttle Program, was previously announced in August 2002 with negotiations continuing.

This final agreement on price, terms, conditions and scope of work for the contract, through Sept. 30, 2004, brings the total value of the two-year contract extension to \$2.90 billion.

The SFOC is NASA's prime contract for support of the Space Shuttle and provides operations services for the International Space Station. The effort under this contract entails the provision of space flight operations including all work necessary and appropriate to support scheduled space flight missions through the two-year period. This is a cost reimbursement contract with award fee, incentive fee and performance fees.

The principal places of performance of work under this contract are United Space Alliance facilities in Houston; Huntsville, Ala.; and the Kennedy Space Center; and major subcontractor facilities in Huntington Beach, Calif.; Houston; and Cape Canaveral.

## Spaceport Technology Development Contract awarded to ASRC Aerospace Corp.

NASA's Kennedy Space Center (KSC), Fla., has awarded the University-affiliated Spaceport Technology Development Contract (USTDC) to the ASRC Aerospace Corporation of Greenbelt, Md.

The contract is a cost-plus award fee/incentive fee performance-based indefinite delivery/indefinite quantity (ID/IQ) contract.

The contract features a four-year, seven-month basic period of performance beginning March 1 with five one-year options for a potential nine-year seven-month contract term.

The basic contract's estimated cost is \$220 million with a potential value of \$600 million over the entire period inclusive of the five one-year options.

Under the contract, ASRC

Aerospace, along with their USTDC partners; Swales Aerospace, Beltsville, Md.; Sierra Lobo, Inc., Milan, Ohio; and the University of Florida, Gainesville, will provide non-routine engineering development products and services to operational customers performing processing, launch, landing, and range activities at KSC.

ASRC will perform applied research and development functions to meet future technology challenges.

The work will be performed at KSC and at NASA facilities located on Cape Canaveral Air Force Station, Fla. ASRC Aerospace is a wholly owned subsidiary of the Arctic Slope Research Corporation, Barrow, Alaska.

## Payload and vehicle processed at KSC

# SORCE's

The NASA-sponsored Solar Radiation and Climate Experiment (SORCE) launched into low-Earth orbit from the Pegasus XL Expendable Launch Vehicle originating from Cape Canaveral Air Force Station's Skid Strip Jan. 25.

The Pegasus was released from the Orbital Sciences Corporation L-1011 aircraft approximately 100 miles off shore over the Atlantic Ocean.

The event was significant not only because of the payload launched, but also because it marked the first time both a Pegasus launch vehicle and payload were processed, tested and integrated simultaneously inside the same Kennedy Space Center facility prior to being transported to the launch site.

Generally, payloads are integrated with the Pegasus launch vehicle at Orbital's facility at Vandenberg Air Force Base in California and then ferried to KSC or other launch sites aboard the Orbital Sciences Corporation L-1011 aircraft.

The SORCE payload arrived at KSC in October and was transported to the Industrial Area's Multi-Payload Processing Facility (MPPF) low bay for testing and validation while awaiting Pegasus' arrival.

Pegasus, built by the Orbital's Launch Systems Group, Dulles, Va., arrived at KSC from VAFB in mid-December and was transported to the MPPF high bay for testing, verification and three flight simulations prior to launch.

Tammy Harrington, KSC SORCE Mission Integration Manager said, "The arrival of the Pegasus XL launch vehicle marked a significant milestone in the launch preparations for the SORCE mission. This mission demonstrated the unique capability where the Pegasus launch vehicle and the SORCE spacecraft were co-processed and integrated entirely at KSC." SORCE was the third Pegasus launch from CCAFS, but the first Pegasus



"campaign mission" operation at NASA KSC.

SORCE is a Principal Investigator-led mission managed by the University of Colorado's Laboratory for Atmospheric and Space Physics (LASP). The SORCE project is managed for NASA by Goddard Space Flight Center. The instruments were built by LASP, who subcontracted to Orbital Sciences Corp. Space Systems Group for the spacecraft bus. The SORCE satellite includes four instruments that will study and measure solar irradiance as a source of energy in the Earth's atmosphere.

According to Gary Rottman,

LASP Principal Investigator for SORCE, the satellite will make the best possible Sun measurements over long durations.

"The information that SORCE gains for us will be beneficial for generations into the future. This is a good example of how we can study things that we couldn't do 50 years ago," he said. "The importance of the SORCE mission is it will help us to understand what the Sun is putting out and if it's changing over time, and it will help us to understand Earth's changes."

Rob Fulton, the SORCE Spacecraft Program Manager for Orbital, commented, "The launch processing of SORCE with Pegasus at KSC

was a tremendous example of multiple organizations working as a single team to ensure a successful launch and start of the SORCE mission. The spacecraft team appreciated the support from all of the KSC personnel involved with the launch."

NASA KSC was responsible for procuring and managing the launch service for SORCE, including oversight and insight of launch vehicle and launch site engineering and integration, and launch countdown management.

The MPPF will also be used to process NASA's GALEX (Galaxy Evolution Explorer) mission in the first quarter of 2003.

# progress



## Inside the Multi-Payload Processing Facility

A unique facility at Kennedy Space Center, the Multi-Payload Processing Facility (MPPF) was constructed in 1995 and is located in the Industrial Area at the Center.

The facility is 19,647 square feet in area, and true to its name, it can accommodate one or more payloads in processing at the same time depending on their size. The facility supports the Checkout Assembly Payload Processing Program but also provides services to the customers whose payloads arrive for testing and processing.

According to Facility Manager Joseph Talavera, the building is a 100,000 particulates per million clean room, and that means it is an exceptionally clean environment for customers whose payloads require this. "It is probably one of the cleanest facilities in the area in regards to particulates," said Talavera. "And we've worked very hard to also make the facility one of the most energy-efficient in the Industrial Area."

The goal was to reduce energy use by 10 percent, but in actuality, the team was able to reduce energy consumption by 17.5 percent. During processing and testing of the NASA-sponsored Solar Radiation and Climate Experiment (SORCE) spacecraft, for example, the facility contin-

ued to operate using only one air handler to cool the area.

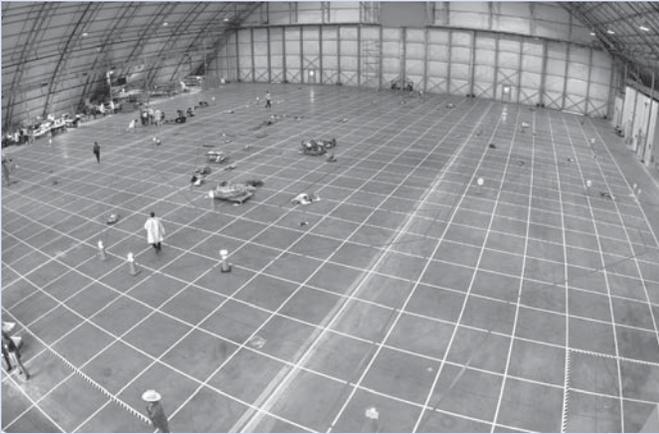
The MPPF has a high bay and a low bay and is equipped with a 20-ton overhead crane. In addition, the MPLM Access Certification Equipment (MACE) training unit is also located inside the MPPF. The MACE is an exact replica of the U.S.-made Unity module on the Station and is used to support training activities for the Space Station Processing Facility.

According to Talavera, the MPPF can accommodate several payload customers with the flexibility to meet air quality, cleanliness, scheduling and protocol requirements for each. "We always try to stay one step ahead to meet customers' needs," commented Talavera. "We strive to meet all customer requests."

An example of the MPPF's multi-processing abilities included payload processing activities for Missions STS-95 and STS-88. Several payloads were processed inside the MPPF concurrently including the SPARTAN201, IEH-03, SAC-A and MightySAT-1. Also, prior to Mission STS-99, the very large Shuttle Radar Topography Mission (SRTM) payload was tested and verified inside the MPPF and occupied more than 95 percent of the facility's high bay space.

## COLUMBIA ...

(Continued from Page 1)



The grid on which the pieces of Columbia debris will be organized is captured in this aerial view of the RLV Hangar floor. The debris has begun arriving at KSC from the collection point at Barksdale Air Force Base, Shreveport, La. As part of the ongoing investigation into the tragic accident that claimed Columbia and her crew of seven, workers will attempt to reconstruct the orbiter inside the RLV.

the Solid Rocket Booster (SRB) Disassembly Facility and tour of the SRB assembly and refurbishment facilities. Members visited the Launch Control Center and Launch Pad 39A, where Columbia was launched.

Retired Navy Admiral Harold Gehman, CAIB chairman, spoke briefly with news media representatives. He said the CAIB wants to look at four things at KSC: launch procedures; Shuttle refurbishment between flights; the Columbia mishap reconstruction site; "and be sure in our own minds the process here for Columbia reconstruction meets our investigatory needs."

The efforts will take place in the Reusable Launch Vehicle Hangar located adjacent to the Space Shuttle runway at KSC.



Former Astronaut Charlie Walker shares his experiences with members of the Florida League of Teachers.

## Florida quarter might feature Shuttle

Feb. 12 Governor Jeb Bush voted for his favorite Florida quarter design, kicking off the beginning of a three-week Internet voting period.

Governor Bush will be reaching out to Florida's teachers, school children, residents and visitors alike to take part in choosing one of five designs to grace the back of the Florida quarter.

The "America's Spaceport," featuring a Space Shuttle superimposed over an outline of the state and surrounded by 27 stars signifying Florida as the 27th state admitted to the Union is sure to be a popular design with Kennedy Space Center workers as will "Gateway to Discovery," which highlights Florida's past with a Spanish galleon and Florida's future with a rendering of a Space Shuttle.

The voting period will end on March 5 at 9:30 a.m. The public will be able to cast their votes by visiting the state's [www.myflorida.com](http://www.myflorida.com) Web site. Residents who do not have access to a computer can still cast their votes by using computers and Internet services that are available free of charge at their local libraries. Votes can also be mailed to the Governor's Office of Citizen Services, The Capitol, Tallahassee, Florida 32399.

The design that captures the most votes will be submitted to the United States Mint for circulation. More than 1,500 designs were submitted, but only five designs were selected by the Florida Commemorative Quarter Committee and forwarded to the Mint.

The Mint is expected to circulate the Florida quarter in spring 2004.

## TEACHERS ...

(Continued from Page 1)

warmed his listeners with his open appreciation for the difficult role that they play as educators of the next generation of explorers.

The Florida League of Teachers was organized in 1993 by the Florida Department of Education, Division of Human Resource Development to establish a vehicle for engaging some of Florida's most outstanding teachers in statewide implementation of school improvement and accountability.

The major work of League teachers is modeling, training, facilitating and coaching to promote other teachers' continual improvement in the instructional setting.

League members serve as demonstration teachers, coaches and facilitators.

"KSC was honored that this organization chose Brevard County as the site to celebrate this milestone," Biegert said. "We're always glad to have the opportunity to help teachers inspire the next generation of engineers and scientists."

The NASA/KSC Education Division, the Educator Resource Center (ERC) and the Aerospace Education Services Program (AESP) put together an exciting day of events including viewing the newly released Space Station IMAX film, an educational tour of the Space Center and interdisciplinary math and science activities.

The league's dedication to improving the quality of learning for all students and empowering teachers to meet the challenges in our schools and educational system as a whole is greatly appreciated.

# Stennis engineer recommends flexible attitude

**EDITOR'S NOTE:** *This is the first in a series of stories from the various NASA centers on the One NASA concept.*

Since coming to work for NASA in 1995, engineer Karen Vander has seen the basis for the One NASA ideals at work every day.

As the executive secretary for the Rocket Propulsion Test Management Board (RPTMB), NASA's decision-making body for the agency's rocket propulsion testing,

Vander provides the daily coordination of the board composed of NASA staff members from White Sands Test Facility, Las Cruces, N.M.; Marshall Space Flight Center, Huntsville, Ala.; Glenn Research Center – Plum Brook Station, Sandusky, Ohio; and Stennis Space Center, Hancock County, Miss. Vander believes the team approach used by the RPTMB is an example of what can work for the whole agency.

"The management board *is* the One NASA concept," she said. "The board works openly in an atmosphere of trust. Everyone has a say, but the goal is to find the best match of assets for propulsion test programs."

Administrator Sean O'Keefe introduced the One NASA concept in December 2002 by asking employees to help shape the effort through their thoughts and ideas.

One NASA will require each employee to consider all decisions

## One NASA



Stennis Space Center engineer Karen Vander is a believer in the One NASA concept.

within the context of what is best for the agency rather than for any one organization.

"Mr. O'Keefe's support will help the agency achieve the One NASA goal," said Vander. "With his leadership and his knowledge of federal administration, there's no limit to what we can accomplish."

Although Vander sees One NASA ideals at work daily, she says the initiative can be fully realized only through hard work and cooperation.

"We're doing it now," said Vander. "We just have to strengthen what we have. We have to continue to find ways to do our jobs better. We have to work as a team."

Part of achieving the One NASA goals will mean overcoming old-fashioned, center-centric ideas.

"Even though we sit in different states or come from different places, we're still one organization, and we should work that way," said Vander. "What center we come from

should be nearly invisible. We all need to be working toward a common goal to meet NASA's mission."

The NASA community can help further One NASA, said Vander, by being flexible.

"We're going through a lot of changes now. But as long as the communication lines keep flowing, that's going to help."

As One NASA ideals improve interagency cooperation, Vander noted, the practice will also benefit the agency in its interactions with other federal organizations.

"We're building relationships," Vander said. "We have to build on our commonalities to strengthen the agency."

"Karen has risen to meet every challenge we have put in front of her," said NASA's Mike Dawson, assistant director, Stennis Space Center, who has seen Vander put the One NASA values to work to benefit NASA and its relationships with other federal agencies. "She is currently leading the development efforts of a system to accurately and efficiently track high-valued rocket propulsion test components to be used in new propulsion system designs and existing propulsion facilities throughout NASA and the Department of Defense."

Vander is an engineer in the Propulsion Test Program Office at Stennis Space Center. Her husband, Maury, is also a NASA engineer.



## Sea turtles released

A large sea turtle with a transmitter is released into the Mosquito Lagoon. It is one of several turtles found stunned, impacted by the unseasonal cold temperatures experienced in Central Florida. The cooperative effort of KSC contractor Dynamac Corp.'s Aquatics Program and the Merritt Island National Wildlife Refuge warmed the turtles and evaluated them for release. Most were tagged and the largest one received a transmitter, provided by the University of Central Florida, for satellite tracking. The turtles were then transported through the Haulover Canal to a location away from the main channel for release.



F2M program participants (left to right) were Dennis Griffin, executive secretary F2M Task Force at NASA Headquarters (HQ); Courtney Stadd, NASA chief of staff and White House liaison, co-chair F2M Task Force; Roy Bridges, KSC director; Rich Wickman, energy coordinator, Environmental Management Division, Office of Management Systems, HQ; Patrick Ciganer, special assistant to the administrator for Financial Management, HQ; Anne Guenther, director of the Analysis Division, Office of Procurement, HQ; and Greg Hayes, director of Human Resources, Johnson Space Center.

**F2M ...**

*(Continued from Page 1)*

Freedom to Manage (F2M). The F2M Task Force, led by NASA's Chief of Staff and White House Liaison Courtney Stadd, ended its Agencywide town hall meeting tour

at KSC.

The purpose of the meetings were to discuss ideas that help attain F2M's goals of eliminating the restrictions, delays, micro reviews and obstacles to managing work in a dynamic environment, while still maintaining high productivity and high quality.

There are no excuses for being apathetic after the Task Force's visit, as F2M offers an outlet (<http://f2m.nasa.gov>) for all NASA employees to submit questions, comments and suggestions, and more importantly receive responses.

Contributing to F2M helps the Agency identify and remove performance barriers. This includes measures such as changing rules, regulations, and procedures – whatever it takes to make NASA efficient, effective and accountable.

KSC Center Director Roy Bridges encouraged active F2M participation.

“The purpose of F2M is grand and sweeping. It enables managers to do better jobs and allows members of the team to do their jobs more effectively. Without good ideas we won't get much out of this,” he said.

Specifically, F2M focus areas are human resources, procurement, financial management, intellectual property and external relations and

other miscellaneous areas of concern. Respective representatives described each focus area, and the Internet procedures for submitting and tracking F2M inputs were also explained.

After the initial F2M introduction and forum, break out sessions were held in different Headquarters Building rooms to discuss the focus categories in depth.

Due to restricted seating, directors invited a limited number of employees to participate based on their job responsibilities and areas of expertise.

Stadd emphasized the importance of the workforce's opinions to the overall success of the effort.

“Right now, we have 671 inputs. We're trying different approaches to deal with them all,” he said. “The only way to know we're doing this right is through feedback.”

He also explained the need to break down barriers.

“We can't continue doing things one way, just because that's the way we've always done it.”

**Remembering Our Heritage**



**Syncom I launches Feb. 14, 1963**

By 1960, Hughes, RCA and AT&T were urging NASA to develop a different type of communications satellite. Hughes believed that geosynchronous satellites, which orbit Earth 22,300 miles (35,900 km) above the ground, offered the best location because the high orbit allowed the satellites' orbital speed to match the rotation speed of Earth and therefore remain essentially stable over the same spot. With the Defense Department's active support, NASA offered Hughes a sole-source contract to develop an experimental geosynchronous satellite, which it called Syncom. Only 17 months after Goddard Space Flight Center awarded the contract, NASA launched Syncom I, Feb. 14, 1963, but it stopped sending signals a few seconds before it reached its final orbit. Five months later, NASA then launched Syncom II, which demonstrated the viability of the system. The third Syncom transmitted live coverage of the Olympic games in Tokyo to stations in North America and Europe.



John F. Kennedy Space Center

## Spaceport News

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