KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JAN 2 1970 24.4 #76

news release

RELEASE NO: KSC-1-70
FOR RELEASE: January 1, 1969
70

SPACEPORT TOUR PATRONAGE NEARLY DOUBLES IN YEAR

KENNEDY SPACE CENTER, Fla.,--A total of 10,009 visitors boarded Spaceport tour buses Wednesday, bringing the 1969 total to 1,139,254, nearly double the 659,127 who viewed the Kennedy Space Center and Cape Kennedy from the buses during 1968.

The 1969 figure is far in excess of any logged since the tours were initiated in the summer of 1966.

During the six months of operation in 1966, the bus tours had 175,631 paying patrons. The figure skyrocketed to 515,255 in 1967.

The tours, operated by Trans World Airlines for KSC, had their heaviest month of business last July when 194,000 visitors took the two and one half hour tour.

It was last July that Apollo 11 was launched from KSC for man's first landing on the Moon and the tour patronage reflects the intense public interest in the dramatic flight.

An estimated 2 million visitors are expected to come to KSC during 1970, a projection that includes the 20 to 25 per cent who stop at the VIC but do not elect to take the tour and the estimated 200,000 who drive through the Spaceport in their own automobiles on Sundays.

The Spaceport is essentially a family attraction and, traditionally, the heaviest patronage comes during the summer and during holiday seasons when children are not in school.

The largest single day's patronage was logged last Monday (December 29) when a record 13,568 took the tour. Attendance has been heavy for the past week.

Tour patronage was 10,188 on December 26, 9,229 on December 27, 7,943 on December 28 and 13,040 on December 30.

-more-

Public interest has been high since the tours were initiated on July 22, 1966, with 15 buses. The growth has been such that more than 70 buses were required to handle the Christmas holiday crowds flocking to the Spaceport.

The tour includes views of the KSC industrial area, the awesome facilities of Launch Complex 39 and the historically significant launch sites located on Cape Kennedy.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-2-70
FOR RELEASE: January 6, 1970
3:00 p.m.

FOUR SPACEPORT CONTRACTS EXTENDED

KENNEDY SPACE CENTER, Fla.,--The National Aeronautics and Space Administration has awarded four letter contracts for continuation of mission launch support services in the lunar exploration program.

Three of the awards are for the period January 1, 1970 through April 30, 1970, while the fourth, to McDonnell Douglas Astronautics Company of Huntington Beach, California, is for the period January 1, 1970 through June 30, 1970. Before the expiration dates of the letter contracts, NASA and the companies will negotiate definitive contracts for longer time periods.

International Business Machines Corp., Federal Systems Division, of Gaithersburg, Maryland, will receive $4,125,000 to provide services for the instrumentation unit of the Saturn V launch vehicle and associated launch complex activities. The IBM unit is integral to the Saturn V vehicle.

North American Rockwell Corp., Space Division, of Downey, California, will receive $3,100,000 to provide launch services for the S-II, or second stage, of Saturn V and for associated launch complex operations.

The Boeing Company's Atlantic Test Center, of Cocoa Beach, Florida, will receive $7,101,000 to provide launch services for the S-IC, or first stage, of Saturn V.

McDonnell Douglas will provide launch services for the S-IVB or third stage of the Saturn V vehicle and will receive $7,300,000.

All four awards are follow-ons to existing services.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-3-70
FOR RELEASE: January 5, 1970

INTELSAT III COMMUNICATIONS SATELLITE LAUNCH SET JANUARY 7

KENNEDY SPACE CENTER, Fla.--The NASA/KSC launch of an Intelsat III spacecraft Wednesday evening from Complex 17, Cape Kennedy, is programmed to place the satellite over the Atlantic Ocean to supplement the established global system of commercial communications satellites.

The launch window for the long-tank Delta vehicle, built by the McDonnell-Douglas Corporation, extends from 6:10 to 7:10 p.m.

KSC's Unmanned Launch Operations, directed by Robert H. Gray, will launch the spacecraft for the International Telecommunications Satellite Consortium (INTELSAT), a joint venture that includes 70 countries of the world. The Communications Satellite Corporation represents the United States in INTELSAT and acts as manager for the consortium.

Intelsat III will be placed in a temporary elliptical or transfer orbit with an apogee of about 22,700 statute miles and a perigee of about 165 miles.

During the following few weeks, the satellite's new orbit will be refined and circularized to an altitude of 22,300 statute miles at a selected point over the Atlantic Ocean.

Each of the Intelsat III series spacecraft has a 1,200 voice circuit capacity or, if fully utilized for television, a capacity of four color TV channels.

A combination of voice circuits, TV and other forms of communications can be carried simutaneously by these satellites.

Of the five Intelsat III spacecraft scheduled for service, three were activated. The first and fifth Intelsat III satellites failed to achieve orbit on September 18, 1968 and July 25, 1969, due to launch vehicle malfunction.

The other three Intelsat III launches -- on December 18, 1968 and February 5 and May 21, 1969 -- placed communications satellites over the Atlantic, Indian and Pacific Oceans.

-more-

Prior to the Intelsat III series four Intelsat II satellites were launched, and three became operational. The first Intelsat II launched October 26, 1966, failed to achieve synchronous orbit due to malfunction of an apogee motor.

The second Intelsat II was launched on January 11, 1967, placed in service over the Pacific and now is in a reserve status.

The third and fourth in this series were launched March 22, 1967 and September 27, 1967 and placed in service over the Atlantic and Pacific.

The Intelsat II spacecraft, with a design life of three years, has a capacity of 240 circuits or one TV channel. It introduced multipoint communications capability between earth stations in area of coverage.

The first commercial communications satellite -- Intelsat I (Early Bird) -- was launched April 6, 1965 and placed in service over the Atlantic.

With a capacity equivalent to 240 telephone circuits or one TV Channel, Early Bird increased transatlantic communications capacity by nearly 50 per cent and made live commercial TV possible across an ocean for the first time.

Although Early Bird had a design life of 18 months, it operated satisfactorily in continuous full-time service for more than three and one half years and is now in orbital reserve.

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JAN 7 1970

news release

RELEASE NO: KSC-5-70
FOR RELEASE: January 6, 1970

FOUR NASA/KSC OFFICIALS TO ATTEND WELCOMING OF INAUGURAL AIRLINE FLIGHT TO TI-CO AIRPORT

KENNEDY SPACE CENTER, Fla.,--Four NASA officials at the Kennedy Space Center will join area business and community leaders in welcoming the inaugural flight of Eastern Air Lines to Ti-Co Airport at 7:40 a.m. Wednesday.

Miles Ross, Deputy Director, Center Operations, will speak briefly at the ceremony.

Other KSC officials attending will be Gordon L. Harris, Chief of Public Affairs; George E. Harrington, Chief of the Logistics Division of Installation Support; and James H. Herring, Chief of the Transportation Branch, Logistics Division.

Commercial air service comes to Ti-Co following approximately eight years of coordinated effort by NASA, contractor organizations and numerous local organizations.

The nearness of Ti-Co to KSC is expected to eliminate a significant amount of travel time spent in going to and from airports a greater distance away.

NASA is seeking as rapid and efficient air travel as possible for its personnel between KSC and other NASA facilities such as the Marshall Space Flight Center at Huntsville, Alabama, the Manned Spacecraft Center at Houston, Texas, and NASA Headquarters in Washington, D.C.

This interest also extends to good air service for the engineers, technicians and support personnel of the civilian contractors at KSC.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JAN 9 1970 BY 4 2A.4

news release

RELEASE NO: KSC-9-70
FOR RELEASE: January 8, 1970

MYERS NAMED ASSOCIATE ADMINISTRATOR FOR MANNED SPACE FLIGHT

WASHINGTON, D.C., --Dale D. Myers, vice president and general manager of the Space Shuttle Program at North American Rockwell Corp., has been appointed Associate Administrator for Manned Space Flight of the National Aeronautics and Space Administration.

He succeeds Dr. George E. Mueller who left NASA December 10 to become a vice president of General Dynamics Corp. in New York City.

Myers will be responsible for the planning, direction, execution and evaluation of NASA's overall manned space flight program. These functions include management authority over the George C. Marshall Space Flight Center, Huntsville, Ala.; Manned Spacecraft Center, Houston; and the John F. Kennedy Space Center, Fla.

Myers has been in charge of North American Rockwell's space shuttle program since June 1969. Prior to that he had been vice president and general manager of the Apollo Command and Service Module work since February 1968 and vice president and Apollo Program Manager since April 1964.

He joined North American Aviation in June 1943 as an aeronautical engineer and was project aerodynamicist on the F-82, XSNJ and XFJ-1 airplanes. He developed the basic methods used by the company for stability and control analyses, including the effects of aeroelasticity on both dynamic and static stability.

In 1946 he became supervisor of Applied Aerodynamics, a post which included responsibility for all phases of supersonic aerodynamics and thermodynamics concerned with the NATIV missile and other early long-range missile studies. He developed the use of the supersonic canard configuration that since has been utilized extensively on missiles and aircraft.

-more-

Myers later became assistant chief and then chief of the Aerodynamics Section. He became chief of Aerodynamics and Flight Test in 1950, with the added task of developing an organization capable of performing all phases of missile flight testing, including flight test planning, instrumentation, and operations. Early in 1954, he was named assistant director of the Aerophysics Department and was responsible for engineering and management of all phases of the NAVAHO program.

Myers was appointed chief engineer of the company's new Missile Development Division (predecessor to its Space Division in 1956). In this position he managed all engineering and flight test phases for the NAVAHO and for other advanced missile studies.

He was named weapon system manager of the Hound Dog program in 1957, and was appointed division vice president of Engineering in 1960. In December of the same year he became vice president of the Hound Dog program, and served in that capacity until being named vice president and Apollo program manager.

Myers was graduated from the University of Washington in 1943 with a bachelor of science degree in aeronautical engineering. He is married and has two daughters.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JAN 9 1970 B4 20.4

news release

RELEASE NO: KSC-10-70
FOR RELEASE: January 8, 1970

APOLLO LAUNCHES RESCHEDULED

WASHINGTON, D.C.,--NASA announced today that the Apollo 13 manned lunar landing mission scheduled for launch on March 12, 1970, has been rescheduled for April 11, 1970.

The Fra Mauro highland area located at 17 degrees 36 minutes west longitude and 3 degrees 48 minutes south latitude remains as the primary landing site.

The landing sites and mission objectives of the Apollo Program are interrelated, with each mission playing a vital role in the accomplishment of the overall goal of lunar exploration. With the prospective of lowering the rate of Apollo flights, the movement of Apollo 13 to April allows additional time for more detailed analysis of specific mission plans. Follow on launches beyond Apollo 13 are being analyzed to optimize the interval between launches for both operations and scientific return.

The Apollo 14 manned lunar landing mission scheduled for July, 1970, will be rescheduled for the Fall of 1970.

# # #

KSC

KENNEDY SPACE CENTER, FLORIDA

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JAN 14 1970

news release

RELEASE NO: KSC-11-70

FOR RELEASE: Jan. 14, 1970

NEW JERSEY CONCERN AWARDED KSC CONTRACT

KENNEDY SPACE CENTER, Fla.--A $64,430 contract has been given to Philips Broadcast Equipment Corporation, 1 Philips Parkway, Bergen, New Jersey, by the John F. Kennedy Space Center.

The firm will provide one color television camera and associated equipment for video coverage of launches, meetings and for production of video tapes for training purposes.

The Spaceport is the nation's major launch facility for its space exploration missions.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JAN 14 1970
BXY
2A-4

news release

RELEASE NO: KSC-12-70
FOR RELEASE: Jan. 14, 1970

SPACEPORT AWARDS CONTRACT TO DETROIT CONCERN

KENNEDY SPACE CENTER, Fla.--The Kennedy Space Center has awarded a $33,323 contract to Palmer-Shile Co., 16000 Fullerton Street, Detroit, Michigan.

The company will provide storage bin assemblies for warehouse use at the Spaceport.

KSC assembles, checks out and launches space vehicles used in the United States program of space exploration.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JAN 14 1970

news release

B14
SA-4

RELEASE NO: KSC-13-70
FOR RELEASE: January 14, 1970

MARYLAND FIRM GETS SPACEPORT CONTRACT

KENNEDY SPACE CENTER, Fla.,--A $37,446 contract for three fork lift trucks has been awarded to the Raymond Corporation, Rockville, Md., by the John F. Kennedy Space Center.

The electric vehicles will be used by the Spaceport's supply department.

KSC is the main launch center for the National Aeronautics and Space Administration's program of space exploration.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JAN 14 1970

news release

RELEASE NO: KSC-14-70
FOR RELEASE: Jan. 13, 1970

FLORIDA ENGINEERS TOUR SPACEPORT

KENNEDY SPACE CENTER, Fla.--Members of the Central Florida Chapter of the American Institute of Industrial Engineers toured the Spaceport and Cape Kennedy today to acquaint themselves with some of the operations in the nation's space program.

A bus load of engineers were shown the facilities of Launch Complex 39 including the Launch Control Center, the Vehicle Assembly Building, Launch Pad A and the transporter which carries Apollo/Saturn V space vehicles from the VAB to the launch pad.

The engineers viewed the Apollo 13 vehicle on the launch pad, being prepared for its manned lunar mission in April.

They also visited NASA's Cape Kennedy gantries where KSC teams launch unmanned satellites in America's space program.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-16-70
FOR RELEASE: Jan. 14, 1970

LABOR MEDIATORS TOUR KSC AND CAPE

KENNEDY SPACE CENTER, Fla.--More than 150 United States labor mediators toured the Kennedy Space Center and Cape Kennedy today.

The labor experts, who are holding their yearly conference at the Robert Meyer Motel in Orlando, were shown Launch Complex 39, including the Vehicle Assembly Building where the Apollo/Saturn V space vehicles are assembled and checked out for manned lunar missions.

They also toured the National Aeronautics and Space Administration's facilities on Cape Kennedy where KSC teams prepare and launch unmanned satellites in America's program of scientific exploration of space.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JAN 19 1970

news release

RELEASE NO: KSC-17-70
FOR RELEASE: January 16, 1970

MOON ROCK TO BE SHOWN IN STATE BEGINNING FEBRUARY 3

KENNEDY SPACE CENTER, Fla.,--A rock from the surface of the moon, brought back last July by Astronauts Neil Armstrong and Edwin Aldrin, will go on display in Florida beginning Feb. 3, it was announced today by the Kennedy Space Center.

It will be shown in 11 areas around the state, starting at the Spaceport where the historic journey to the moon began, and winding up with a long-term stay at the Museum of Science in Miami.

Apollo 11, the first lunar-landing mission in history began its epochal journey from the KSC's Launch Complex 39. On July 16, Astronauts Armstrong, Aldrin and Michael Collins lifted off from Pad A in a space vehicle that was assembled and checked out for the mission by thousands of Spaceport workers.

These employees and those of the Air Force Eastern Test Range, which assisted in Apollo 11 launch and recovery operations, will view the sample and then it will go on public display.

Viewing schedule for Spaceport and ETR personnel follows:

Feb. 3 -- Lobby, KSC Headquarters Building.
Feb. 4 -- Lobby, Manned Spacecraft Operations Building.
Feb. 5 -- E & L Building lobby (Cape Kennedy).
Feb. 6 -- Lobby, Launch Control Center.
Feb. 7 -- Vehicle Assembly Building during employees Open House.
Feb. 9 -- Patrick Air Force Base, site to be announced.

On Feb. 10, the sample will be returned to KSC where it will be displayed through March 22.

It will be on view at the Visitors Information Center, just outside the gate off Route 1. The VIC draws thousands of visitors weekly, many of whom take the public bus tours of the Spaceport from that starting point.

This is the rest of the lunar rock Florida schedule:

-more-

March 23 -- Orlando, Central Florida Museum and Planetarium.
March 24 -- Tampa, Curtis Hixson Convention Hall (tentative site).
March 26 -- Tallahassee, State Capital Building (tentative site).
March 27-28 -- Children's Museum, Jacksonville.
March 29 -- Daytona Beach, site to be announced.
March 30 -- Gainesville, University of Florida Student Union.
March 31 -- West Palm Beach, Palm Beach Science Museum.
April 1 -- Miami, Museum of Science.

The moon rock display is one of five being made available for public showing. Four are touring the country and the other is at the Smithsonian Institution in Washington, D.C.

The lunar samples are in glass display cases, specially illuminated and arranged to accomodate double lines of viewers passing on both sides of them.

When the display was put on view in New York City, more than 400,000 persons flocked to see it in the Haydn Planetarium, breaking all records in the Planetarium's 100-year history.

In Philadelphia, more than 5,000 persons a day viewed the sample, a rock about the size of a walnut, in the Franklin Institute.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JAN 19 1970

news release

RELEASE NO: KSC-18-70
FOR RELEASE: January 16, 1970

DUCK HUNTERS HAVE GOOD YEAR ON REFUGE AT SPACE CENTER

KENNEDY SPACE CENTER, Fla.,--Duck hunters brought down 5,831 waterfowl this hunting season on the Merritt Island National Wildlife Refuge at the Kennedy Space Center, an increase of 30 per cent over last year.

Some 3,140 hunters -- an increase of 18 per cent over last season -- killed 1,631 birds from along the shores of the Indian River in Area 1 and 4,200 in Mosquito Lagoon, Area 2.

Refuge Manager Hal O'Connor said a four-day hunting week was observed this year compared with last year's five-day week, but that Area 2 was open for a longer period, accounting for much of the increase.

O'Connor said there was an increase in red heads, canvas backs, ringnecks and ruddys this year and a decrease in scaup, pintail and blue wing teal.

"It's interesting that the ducks found in increased numbers are all excellent eating birds," he added.

O'Connor invited local sportsmen to send in their comments on how hunting permits and arrangements were handled and opinions of the blinds available and open-area hunting so that these ideas can be considered for next year's season.

These rules and regulations are established in February and March. Letters should be sent to Hal O'Connor, Manager, Merritt Island National Wildlife Refuge, 105 Julia Street, Titusville, Florida 32780.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JAN 20 1970

news release

RELEASE NO: KSC-19-70
FOR RELEASE: Jan. 20, 1970

SPACEPORT CONTRACT GIVEN TO HONEYWELL

KENNEDY SPACE CENTER, Fla.--Honeywell, Inc. Computer Control Division, Framingham, Mass., has received a contract for $30,135 from the John F. Kennedy Space Center.

Under the contract the firm will provide printed circuit cards required for the maintenance and operation of the Apollo command module simulator.

The simulator, located in the Flight Crew Training Building at the Spaceport, is used by Apollo astronauts practicing for space missions.

The Center conducts launches of manned and unmanned spacecraft in the United States space exploration program.

# # #

ARCH00005692

KSC
KENNEDY SPACE CENTER, FLORIDA
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-21-70
FOR RELEASE: Jan. 22, 1970

SPACEPORT OFFICIALS TO ADDRESS FLORIDA STATE AUDUBON SOCIETY 79TH ANNUAL CONVENTION

KENNEDY SPACE CENTER, Fla.--Two officials of the Kennedy Space Center will address the 70th Annual Convention of the Florida Audubon Society, to be held January 29 through February 1, 1970 at the Ramada Inn, Cocoa Beach.

They are Miles Ross, Deputy Director, Center Operations, and Donald C. Sheppard, Chief of Spacecraft and Vehicle Support Operations, Unmanned Launch Operations, Kennedy Space Center.

Ross will speak at the evening session on opening day of the convention, Thursday, January 29. He will extend an official welcome to the convention members and guests on behalf of the Kennedy Space Center.

Friday, at the noon session, Sheppard will talk on the subject "Earth Resources Research Utilizing Satellite Systems." He will give a progress report on the experiments being conducted by the Smithsonian Institution, several universities, and NASA, using a wild elk in the National Bison Range of Montana. The elk has been fitted with a leather collar bearing a tiny transmitter which will signal the animals whereabouts to the Nimbus III satellite launched in April 1969.

Interesting experiments have been made possible by the Interrogation, Recording and Locating System (IRIS) carried by the elk. This technique has wide applications to geophysical observations and more generally to monitor moving objects.

Field trips for the convention attendees include the Kennedy Space Center and Cape Kennedy Friday, and Sunday, February 1, the Merritt Island National Wildlife Refuge.

# # #

PUBLIC INFORMATION OFFICE, COCOA BEACH - 783-7781, KSC - 867-2467

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JAN 28 1970

news release

RELEASE NO: KSC-20-70
FOR RELEASE: January 28, 1970

EXPLORER I MARKS 12TH YEAR JANUARY 31

KENNEDY SPACE CENTER, Fla.,--Explorer I, which ushered the United States into the space age on January 31, 1958, is still orbiting the earth and is not expected to reenter until at least May, 1970.

The satellite, launched under the direction of KSC Director Dr. Kurt H. Debus, has an apogee of about 364 miles and a perigee of 172 miles. The orbital period is 93.4 minutes, with an inclination of 33.1 degrees.

Some of the lessons learned in preparing this 31-pound satellite have helped pave the way to successful launchings of the 97,250 pound Apollo spacecraft and placing four men on the surface of the moon.

Launching the 70-foot-tall Jupiter C rocket 12 years ago was a valuable teaching aid to the men at KSC who are now launching the 363-foot-tall Apollo/Saturn V space vehicles and the sophisticated unmanned vehicles.

The Jupiter C had a thrust of 75,000 pounds, compared with the 7.65 million-pound thrust of the Saturn V at liftoff. It's diameter was 5 feet, 10 inches, about one/sixth of the Saturn V's 33 feet.

The greatest tangible accomplishment of Explorer I was the discovery of the Van Allen radiation belt, named after Dr. James A. Van Allen, whose experimental instrument package was contained in the satellite.

Dr. Debus, then Director of the Army Ballistic Missile Agency's Missile Firing Laboratory, recalled:

"The launch was a great satisfaction to everyone who worked on it. Our future in space was very uncertain then and there was a need for the nation to realize we couldn't afford to ignore such a field with the impact on prestige and knowledge that could be gained. Explorer I helped open this door of realization."

-more-

The launch might have been postponed for a week or longer had high winds that grounded it for several days persisted another 24 hours.

Dr. Debus said: "The shot had originally been scheduled for January 27, and we were using a new fuel that was so highly corrosive it could only remain in the tanks five days before we would have to replace the seals in the fuel system.

"Upper air currents in the jet stream increased to over 200 knots, and we had to scrub the flight day after day. It would have been too dangerous to fly under those conditions."

By January 31, Dr. Debus got word from a young Air Force meteorological officer that there were indications of the winds dying down. Hourly checks verified these indications, and Dr. Debus called Major General J. B. Medaris, then Commanding General of ABMA, at his hotel and asked for one more day to launch. Permission was granted.

Recalling the countdown, Dr. Debus said, "I wouldn't say there was apprehension, but there was a tone of excitement, of eagerness.

"This was mixed with fatigue for we had been working for days without rest. I think we were all aware that this wasn't just another mission -- that perhaps the entire world was watching this one."

At 10:47:56 p.m., January 31, 1958, the 64,000-pound vehicle stirred into motion from Complex 26, Cape Canaveral, and began its historic mission.

"We knew from the telemetry readings we received that the shot looked good," Dr. Debus said.

Approximately 96 minutes after liftoff, the Jet Propulsion Laboratory tracking station in California acquired signals from the satellite's radio transmitters confirming the preliminary indications that Explorer I had achieved orbit.

Among those in the blockhouse at launch time were the following KSC employees:

Dr. Debus, Robert F. Heiser, Executive Assistant to Dr. Debus; Gordon L. Harris, Chief, Public Affairs; Robert E. Moser, Chief, Test Planning Office, Launch Operations; Dr. Hans F. Gruene, Director, Launch Vehicle Operations (LVO); Isom A. Rigell, Deputy Director for Engineering, LVO; Daniel C. McMath, Chief, Radio Frequency and Telemetry Branch, LVO.

Jack A. Griffith, RF and Telemetry Branch, LVO; Jose L. Gonzales, Measuring Branch, LVO; Carner W. Dowling, Systems Engineering Staff, LVO; Milton Chambers, Chief, Gyro and Stabilizer Systems Branch, LVO; Carl A. Whiteside, Chief, Guidance and Control Systems Branch, LVO; William O. Chandler, Jr., Chief, Electrical Systems Branch (LCC), LVO.

Grady F. Williams, Deputy Director, Design Engineering (DE); Richard P. Dodd, Chief, Civil Engineering and Facilities Management, DE; Albert Zeiler, Chief, Mechanical Systems Division, DE; James R. White, Chief, Electronic/Electrical Systems Division, DE; Peter Minderman, Deputy Director, Technical Support; Karl Sendler, Director, Information Systems (IN).

Reuben L. Wilkinson, Chief, Measurement Systems Division, IN; LaFayette C. Taylor and Walden P. McKim, RF Systems Branch, IN; William M. Bogart, Launch Data Systems Branch, IN; Frank M. Childers, Quality Surveillance Office, IN; Bailey E. Stimson, Chief, Launch Facilities Division, Support Operations (SO); and Bobbie W. Clark, SO.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JAN 29 1970

news release

RELEASE NO: KSC-24-70
FOR RELEASE: January 28, 1970

DEBUS CONGRATULATES VON BRAUN AND REES ON NEW APPOINTMENTS

KENNEDY SPACE CENTER, Fla.,--Dr. Kurt H. Debus, Director of the John F. Kennedy Space Center, wired congratulations to Dr. Wernher von Braun and Dr. Eberhard Rees upon learning of their new NASA appointments.

Dr. von Braun was named yesterday to head NASA's planning effort for future U.S. space missions and Dr. Rees was appointed to succeed Dr. von Braun as Director of NASA's George C. Marshall Space Flight Center.

The wires read as follows:

Dear Wernher:
I extend heartiest congratulations on your appointment to lead NASA's future planning. While this must have been a most difficult personal decision, I know that the national space program will benefit immensely from your unique ability to match vision with sound judgment. The entire launch organization stands ready to support you in this challenging assignment.

Signed: Kurt H. Debus

Dear Eberhard:
I am delighted to learn of your selection as Director of our sister Manned Space Flight Center. No man is better qualified, from depth of experience and knowledge of Marshall's vital role in the U.S. space flight program, to assume this critically important position. My congratulations and my pledge that KSC will continue to work closely with you to further our national goals.

Signed: Kurt H. Debus

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-26-70
FOR RELEASE: Jan. 29, 1970

SPACE AGENCY AWARDS ENGINEERING, DRAFTING CONTRACT TO PAN AMERICAN

KENNEDY SPACE CENTER, Fla.--The National Aeronautics and Space Administration has selected Aerospace Division, Pan American World Airways of Cocoa Beach, Florida, for award of a contract to provide detail engineering and drafting support services at the John F. Kennedy Space Center, Florida.

This contract will cover effort previously provided by a number of contractors and relates to the Saturn IB and V vehicles. Twenty-seven companies submitted proposals for this work.

The contract period of performance is May 1, 1970 through April 30, 1971 with provision to extend the contract in one year increments for 4 additional years. Estimated value of the cost-plus-fixed-fee contract is $2.5 million for the first year.

The Kennedy Space Center conducts NASA's manned and unmanned launches and is responsible for development and operation of launch facilities for the Apollo lunar landing program.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

FEB 2 1970

news release

RELEASE NO: KSC-27-70
FOR RELEASE: January 29, 1970

ASTRONAUT BORMAN LEAVING NASA

WASHINGTON, D.C.,--Astronaut Frank Borman, commander of Apollo 8, the first spacecraft to circle the Moon, will leave active duty with the National Aeronautics and Space Administration July 1 to become an officer in an industrial firm and to assist in the establishment of a new foundation.

Since May 1969, Borman has been Field Director of NASA's space station effort.

Colonel Borman, assigned to NASA by the United States Air Force since 1962, will retire from the Air Force after 20 years of active duty. He will continue to serve NASA as a consultant on Earth-orbiting space stations.

He will become Vice President of Electronic Data Systems, Inc., of Dallas, Texas. The computer services company is headed by Ross Perot.

Col. Borman and Mr. Perot will establish the American Horizons Foundation.

"In establishing the new foundation," Borman said, "it is our hope that through the use of mass media, particularly television, to fully inform the American people about our more pressing national problems and opportunities and to get the American people to actively participate in solving these problems.

"My experience in the space program has been the most rewarding of my life. This new opportunity will enable me to work with a major industrial firm, continue an association with the space effort and to devote a substantial amount of my time through the Foundation to many issues which have interested me for a long time."

NASA Administrator, Dr. Thomas O. Paine said, "It is almost impossible to measure Col. Borman's contributions to our national space effort. All of us vividly remember his Apollo 8 mission at Christmas 1968, but he meant much more to us as an inspirational leader, an engineer and a planner. He has reached a turning point in his personal career and we wish him well, knowing that he will continue to contribute to this country."

-more-

Borman is also a director of Global Universal Sciences of Midland, Texas.

Prior to the historical Apollo 8 flight around the Moon in December 1968, Col. Borman performed a variety of special duties, including backup command pilot for the Gemini 4 flight and member of the Apollo 204 Review Board.

He was command pilot of the Gemini 7 mission, launched Dec. 4, 1965, and participated in establishing a number of space "firsts" -- among which are the longest manned space flight (330 hours and 35 minutes) and the first rendezvous of two manned maneuverable spacecraft -- Gemini 7 and Gemini 6. He became an astronaut in September 1962.

Col. Borman entered the Air Force after graduation from the U.S. Military Academy and received his pilot training at Williams Air Force Base, Ariz.

From 1951 to 1956, he was assigned to various fighter squadrons in the United States and the Philippines. He became an instructor of thermodynamics and fluid mechanics at the USMA in 1957, and subsequently attended the USAF Aerospace Research Pilots School from which he graduated in 1960. He remained there as an instructor until 1962. He has accumulated over 5,500 hours flying time, including 4,500 hours in jet aircraft.

Awards to Astronaut Borman include the NASA Distinguished and Exceptional Service Medals, Air Force Command Astronaut Wings, and Air Force Distinguished Flying Cross; recipient of the 1966 American Astronautical Flight Achievement Award and the 1966 Air Force Association David C. Schilling Flight trophy; co-recipient of the 1966 Harmon International Aviation trophy; the California Institute of Technology Distinguished Alumni Service Award for 1966; and the New York State Medal for Valor in 1969.

Col. Borman was born March 14, 1928, in Gary, Ind., and grew up in Tucson, Ariz. His parents, Mr. and Mrs. Edwin Borman, now reside in Phoenix, Ariz.

He received a Bachelor of Science degree from the USMA in 1959 and a Master of Science degree in Aeronautical Engineering from the California Institute of Technology, Pasadena, in 1957.

He is married to the former Susan Bugbee of Tucson. They have two children, Fredrick and Edwin.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-28-70
FOR RELEASE: February 2, 1970

KENNEDY SPACE CENTER, Fla.,--Following is the list of community leaders invited to today's briefing at the Kennedy Space Center.

State Legislators

Senator Beth Johnson
Senator Cliff Reuter
Rep. Clifford McNulty
Rep. Charles Davis
Rep. Richard Tillman
Rep. William Powell

County Commission

Chairman Richard Muldrew
Lori Wilson
Jack Hurst
Lee Wenner
Hugh Evans

Mayors

Richard Thurm	Cape Canaveral
Arthur Tate	Cocoa
Robert Murkshe	Cocoa Beach
Glenn Littlejohn	Indialantic
Frederick Christ	Indian Harbour Beach
S. Brown	Malabar
Adger Smith	Melbourne
Val Steele	Melbourne Beach
Clemens Newhous	Melbourne Village
Daniel Cameron, Jr.	Palm Bay
Derek Addiscott	Palm Shores
R. W. Grady	Rockledge
Percy Hedgecock	Satellite Beach
Vernon Jansen	Titusville
Waddy Batson	West Melbourne

-more-

Chambers of Commerce

George Lewis, President	Cape Kennedy Area
Dudley Jewell, Executive Director	
Meredith Eberhart, President	Titusville
Timothy Points, Executive Director	
Beville Outlaw, President	Melbourne
Al Webster, Executive Director	
Ed Whitney	New Smyrna Beach
Robert Kays	Daytona Beach

Planners

John Hurdle, President	Brevard Economic Development Commission
John McCauley, Executive Director	Brevard Economic Development Commission
Jack Glatting, Director	Brevard County Planning Department
Gordon Wagner, Director	East Central Fla. Regional Planning Council

Bankers, Savings & Loan, Realtors

Charles Brooks, President	Mortgage Bankers Association, Brevard County
Robert Brown, President	Central Brevard Realtors Board
C. E. Davis, President	Barnett First National Bank
Ray Dahl, President	First National, Cape Canaveral
J. D. Mackey, President	First Citizens Bank and Trust
Morris Rowe, President	First National, Merritt Island
Howard Hebert, President	National Bank of Melbourne
E. H. Erdman, President	Central Brevard National
George Riley, President	City National, Cocoa
William Mann, Jr., President	First Federal Savings & Loan, Cocoa
Harold Moore, President	United National, Cocoa Beach
John L. Buckmaster, President	First Federal Savings & Loan, Eau Gallie
Richard L. Rotroff, President	First National, Eau Gallie
Charles Choate, President	Harbor City National
Guy Alvarez, President	Bank of South Brevard
R. E. Broom, President	First Federal Savings & Loan, Melbourne
Herman Eberts, President	National Bank, West Melbourne
E. D. Potter, President	National Bank, Melbourne
William Fletcher, President	Brevard National
Earl Jones, President	First Federal Savings & Loan, Titusville
Doyle Frisbee, Jr., President	First National, Titusville

Others

Dr. Jerome Keuper, President	Florida Institute of Technology
John Gandy, President	Brevard League of Municipalities
Dr. Maxwell King, President	Brevard Junior College
Clark Maxwell, President	Brevard Board of Education
Dr. Wayne White	Superintendent of Schools
Roy Stackhouse, President	North Brevard Development Commission
Don Mancini, President	North Brevard Board of Realtors
Frank Daley	Representing Congressman Frey
Charles Martin	Representing Senator Gurney
Harold O'Connor	Bureau of Sport Fisheries and Wildlife
Fran Tunstall	Brevard Development Commission
Bruce Briggs	Volusia County Planning Department
W. N. Bowden	Southern Bell District Manager
J. P. Crowley	City Gas Company Manager
H. V. Burgess	Florida Power & Light Company Manager

Organized Labor

Frank E'Dalgo, IAM
James Fowler, IAM
John McCabe, IBEW
Andrew Younger, IATSE
Ronald Baker, TWU
Bruce Burns, UPGW
Daniel Rosetti, IBEW
Dwight West, Building Trades
Donald Drain, AFGE

Contractors

William W. Vance, PAFB Contractors Association

Media

Robert Bentley, Managing Editor	TODAY
William Conomos, Publisher	Sentinel
R. H. Hudson, Editor	Titusville Star Advocate
Jack Harris, Editor	Melbourne Times
Tom Morley, Manager	WEZY
Jack Siegal, Manager	WMEG
Ronald Rothschild, Manager	WKKO
Chris Young, Manager	WRKT
R. L. Bright, Manager	WRMF

-more-

Media (cont.)

Bo Mitchell, Manager	WKIS, Orlando
Carl Hallberg, Manager	WDBO, Orlando
Walter Windsor, Manager	WFTV, Orlando
John Haberlan, Manager	WESH TV, Orlando
Arnold Schoen, Manager	WDBO TV, Orlando

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

VAL FEB 3 1970

news release

RELEASE NO: KSC-29-70
FOR RELEASE: Feb. 2, 1970

KSC DIRECTOR OUTLINES COST-CUTTING U. S. SPACE PROGRAMS IN 1970's, 80's

KENNEDY SPACE CENTER, Fla.--Dr. Kurt H. Debus, Director of the Kennedy Space Center (KSC), Monday outlined the course the National Aeronautics and Space Administration plans to take in establishing an effective but economy-minded space program for the future.

Dr. Debus was the keynote speaker for the Launch Operations Meeting of the American Institute of Aeronautics and Astronautics in Cocoa Beach, Florida.

The rocket veteran said that in past programs costs have been high due to:

--Time limitations.

--The high quality of work and hardware required for success.

--Rockets, spacecraft and other hardware that were used one time and then by necessity discarded.

--Design work too often performed with disregard for later launch operations requirements.

In the future, Dr. Debus said, there will be a reassessment of how to do these things which will result in an integrated program.

The new transportation systems, he added, will have the reuseability and commonality concepts.

The Spaceport Director said future programs would require combining and recombining modules for Space Station missions in synchronous earth orbit and for missions in lunar orbit and at a lunar base.

He said these preliminaries could provide the capability for automated missions to Mars in the mid-1980's if that mission is funded.

NASA's unmanned and manned programs will be consolidated, Dr. Debus said, and the space agency and the Department of Defense would have common articles of development in space hardware.

-more-

He predicted that the cost of putting a pound of hardware in orbit could be reduced from $1,000 to $10 to $50.

Dr. Debus said that AAP Workshop in the Apollo Applications Program, which he called an experimental space station, will be flown in 1972. Another AAP mission may follow in 1973.

The following hardware, he said, will be used in Space Station missions:

--A two-stage Saturn V configuration for placing large modules into earth orbit.

--Two-stage Space Shuttle, composed of a booster element that would separate before entering orbit and come back for landing and an orbiter which would rendezvous and dock with the space station and later reenter and land.

--A basic 12 man, pancake-type module space station capable of being extended into a modular space base containing living and working space for 100 people. Partial gravity would be provided in crew quarters and some of the laboratories.

--The tug, with a hydrogren-oxygen propulsion system, would be used for orbit-to-orbit work, such as bringing in unmanned satellites into the space station for repairs and returning them, and for moon-orbit to lunar surface capability, making possible a moon base.

--A nuclear stage would be a basic pusher to achieve greater distances in space.

"At the end of this, "Dr. Debus said, "we should be able to set up a dual expedition to Mars, with a special module for a Mars lander."

He said the new systems must be similar to airplane systems in regard to checkout and reuse. The checkout would be mainly by the crew and to a lesser degree by the ground crew.

"The real challenge," he added, "is to find new methods for self-checking equipment and for checkout in orbit.

"Also, operational aspects must be included in the design work."

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-35-70
FOR RELEASE: February 12, 1970

KSC ESTABLISHES PLANNING AND FUTURE PROGRAMS DIRECTORATE

KENNEDY SPACE CENTER, Fla.,--Establishment of the Directorate of Center Planning and Future Programs was announced today by Dr. Kurt H. Debus, Center Director, following approval of the new organization by Dr. Thomas O. Paine, the NASA Administrator.

G. Merritt Preston has accepted the position of Planning and Future Programs Director subject to approval of NASA Headquarters.

"The need for long-range planning became paramount," Dr. Debus said, "with the formulation of the President's Space Task Group Report which has defined a national space program covering the next 20 years."

"The new space operational systems envisioned in that report have great meaning for all of NASA, and especially for KSC as the major launch base. We are in a posture today not unlike that of 1961 at the advent of the Apollo program. So we must coordinate our planning for such future requirements as the Earth orbital shuttle, the space station, nuclear shuttle and other building blocks of the 1970s and 1980s."

The new planning group will be involved with space transportation systems, Earth orbital vehicles, and planetary manned and unmanned vehicles.

The Directorate will consist of a small group of experienced engineers and planners who will be supported by working groups comprised of personnel selected by the line directors on an ad hoc basis to work on specific tasks.

The future programs element of the Apollo Applications Manager's organization will be moved into the new planning group. Portions of the Future Studies Office within Design Engineering will also be assimilated in the new directorate. Supporting research and technology tasks related to future requirements will also be transferred from AAP to the new office.

-more-

KSC-35-70
February 12, 1970

Those future planning functions located within the line directorates, which are concerned specifically with their functional areas, will continue as presently constituted.

The Center planning function relates to the most effective utilization of KSC facilities and manpower in the context of NASA programs which will be developed as outlined in the Space Task Group Report.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

FEB 16 1970

RELEASE NO: KSC-36-70
FOR RELEASE: February 13, 1970

KSC EXTENDS BOEING CONTRACT

KENNEDY SPACE CENTER, Fla.,--The National Aeronautics and Space Administration's John F. Kennedy Space Center has extended a contract with the Boeing Company's Atlantic Test Center, Cocoa Beach, Florida to complete the final design engineering phase associated with Launch Complex 39 mechanical launch equipment.

The extension is for $1,851,639. It brings the total of the cost plus fixed fee contract to $264,102,099.

The extension runs from February 16 through June 30, 1970.

Kennedy Space Center launches Apollo/Saturn V space vehicles from Complex 39.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

FEB 16 1970

news release

RELEASE NO: KSC-37-70
FOR RELEASE: February 13, 1970

KSC DESIGN ENGINEERING REALIGNMENT ANNOUNCED

KENNEDY SPACE CENTER, Fla.,--Realignment of the Directorate of Design Engineering was announced today by Dr. Kurt H. Debus, Center Director, to accommodate the changing workload and prepare for future utilization of the Directorate's resource.

Dr. Thomas O. Paine, NASA Administrator, has approved the organization.

Grady F. Williams, presently serving as Deputy, has accepted the position of Director of Design Engineering, subject to approval of NASA Headquarters.

Reviewing the Directorate's mission, Dr. Debus said:

"We have passed the peak of the Apollo program and entered a new phase in our mission responsibilities. We must look ahead to new concepts of space operations while continuing the manned lunar exploration and making further use of automated spacecraft for scientific and applications purposes.

"The changing emphasis in our efforts, and the urgent need to reduce cost, pointed up the requirement to perform as much design work as possible with our in-house resources while concurrently reducing contracted support. This re-direction of the design engineering organization was planned to take place after the lunar landing."

The sustaining engineering portion of the workload was sharply reduced with the completion of major Apollo facilities and support systems, coupled with the maturity of those systems. As a result three design support contracts with General Electric Co., Catalytic-Dow and Boeing, will be terminated shortly. The anticipated continuing requirement for minimum detailed design and drafting services will be satisfied by a single contract now under negotiation with Pan American Airways.

The Design Engineering Directorate will perform conceptual design with civil service cadre. There will be two second level directors, one responsible for facilities, resources and systems management; the other executing design responsibilities.

-more-

The design group will have three divisions: electrical and electronics, mechanical, and systems engineering. Technical management of the support contract will be provided by the design organization.

The facilities and systems management group will have a requirements and resources element, area management functions, and a project integration office.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MAR 11 1970

news release

RELEASE NO: KSC-39-70
FOR RELEASE: March 10, 1970

LARGE-SCALE WATER SYSTEM PROTECTS KSC LAUNCH PAD

KENNEDY SPACE CENTER, Fla.,--From one minute before until five minutes after the launch of an Apollo/Saturn V space vehicle, the industrial water system at Launch Complex 39's Pad A here uses more water than an average family would use in three years.

Some 350,000 to 400,000 gallons of water weighing about 1,660 tons are deluged on three areas of the launch pad at the rate of four and one half tons per second.

The water is delivered to the deck of the mobile launcher, the flame deflector in the trench beneath the engines and below and above the nine service swing arms on the launch tower by an intricate system of pumps, hydro-pneumatic tanks, valves and water lines.

The source for the water is a ground storage tank that holds more than an million gallons and the pad water pumping station.

A vital Firex water supply system is designed to combat any fires in propellant storage areas and supplies pressurized water to hydrants, hose reels and fire outlets in the launch area, and on the mobile launcher and mobile service structure.

Although the Firex system is used only in case of fire, static pressure is maintained in the lines constantly.

Water for the ground storage tank is supplied from the Cocoa, Florida, city water system. Three 260-foot-deep wells adjacent to the pump station serve as a backup system, but can furnish 575 gallons per minute at launch time as a supplement to the Cocoa water.

The pump station houses three 2,000-horsepower diesel pumps which can each provide 20,000 gallons of water per minute for the industrial system and two 700-horsepower pumps each providing 6,000 gallons per minute for the Firex system.

-more-

During a launch, however, only two of the industrial pumps are brought into service and the third, kept running, serves as a backup.

The flame deflector cooling and quench process comes in two phases. At T-minus 60 seconds, 20 nozzles discharge 13,000 gallons of water per minute from the flame trench walls onto the sloping faces of the deflector to soak and cool the ablative coating in preparation for engine ignition.

The ignition of the engines starts the quench sequence, and 20 additional nozzles spraying 20,000 gallons per minute are added.

After 30 seconds, the quench is shut down and the 20 cooling nozzles continue until about T-plus five minutes. Approximately 100,000 gallons of water are used in the deflector cooling and quench.

At T-minus zero in the countdown, the service swing arm quench is started. About 5,000 gallons of water per minute are sprayed on top and bottom of the nine service arms for five minutes.

Usually, 25,000 to 30,000 gallons are used in this phase of the operation.

A 1,000-horsepower booster pump located on the launch pad lifts the water under pressure to the various swing arm levels up to a height of 320 feet.

The cooling and quench system on the deck of the mobile launcher requires the greatest volume of water of any of the systems. It is designed to provide a water blanket over the entire area to reduce fire and heat damage to ground support equipment.

At T-plus two seconds in the launch sequence, the valves controlling the deck quench are opened, spewing out approximately 29,300 gallons in 32 seconds of operation.

This quench lasts during the time of engine thrust build-up, holddown, and release and until the space vehicle is well clear of the tower.

After 32 seconds, the flow rate is reduced to 20,000 gallons per minute and continues for about four and one half to five minutes.

When the flames from the five powerful F-1 engines of the first stage hit the flooded flame trench and deck, great clouds of steam and vapor erupt.

-more-

When the space vehicle is on the pad, the Firex system is in a fire-fighting mode, covering all levels of the MSS, and the Mobile Launcher.

The numerous facets of the Firex system are controlled by an elaborate sensing and alarm system which can be activated remotely or locally to protect flight hardware and structures.

When water is put into use, the water level in the 4,000 gallon hydro-pneumatic tank drops and a booster pump starts automatically, restoring desired pressure to all lines and assuring a steady supply for the system.

The propellant storage tanks are protected by a deluge system which uses a hydro-pneumatic tank as a source and pressurized lines as conduits for the water.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MAR 5 1970

news release

RELEASE NO: KSC-40-70
FOR RELEASE: March 5, 1970

LEDERER NASA SAFETY DIRECTOR

WASHINGTON, D.C.,--Jerome F. Lederer today was appointed Director of Safety in the National Aeronautics and Space Administration. He was promoted from the Office of Manned Space Flight, where he has directed safety programs since June 1, 1967.

In his new position, Lederer will be responsible for the conception and execution of all safety programs throughout the space and aeronautical elements of NASA. He reports to the Associate Administrator for Organization and Management. Lederer succeeds Bob P. Helgeson, NASA's first Director of Safety, who died last January.

Lederer will continue in charge of manned flight safety, with staff and activities merged into the safety director's office. In the merger, Philip H. Bolger becomes Assistant Director for Safety Programs and Research, and Daniel F. Hayes becomes Assistant Director for Industrial Safety. An Assistant Director for Aviation Safety is expected to be appointed soon.

Lederer, an internationally recognized authority on air and space safety, has received a number of high awards, including the Wright Brothers Memorial Award, and the NASA Exceptional Service Medal which was given for his work with the Apollo lunar landing program.

Born in New York City in 1902, Lederer is a 1925 graduate of New York University, with ME degree in mechanical engineering. He became the first aeronautical engineer with the U.S. Air Mail Service in 1926, served in aviation insurance loss prevention, established and directed the safety bureau of the Civil Aeronautics Board, directed the training of some 10,000 pilots in World War II, and headed the Flight Safety Foundation when it was formed in 1947. He was director of the Foundation for more than 20 years.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MAR 1970

news release

RELEASE NO: KSC-41-70
FOR RELEASE: March 6, 1970

ASTRONOMERS TOUR SPACEPORT

KENNEDY SPACE CENTER, Fla.,--Delegations of German and Japanese astronomers will tour the Spaceport and Cape Kennedy Monday, March 9, as guests of Center Director, Dr. Kurt H. Debus.

The Japanese group is headed by Mr. Sadeo Murayama, Curator of the National Science Museum in Japan. The leader of the German scientists is Mr. E. Birstein.

The 60 visitors will travel to the Spaceport after observing the solar eclipse at Perry, Fla., March 7.

The astronomers will tour facilities at Launch Complex 39, launch site for manned flights to the moon. At launch pad A, they will see the Apollo 13 space vehicle undergoing tests in preparations for launch on April 11.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

MAR 11 1970

RELEASE NO: KSC-42-70
FOR RELEASE: March 10, 1970

POSTMASTERS TOUR SPACEPORT

KENNEDY SPACE CENTER, Fla.,--Members of the Florida Fifth District Postmasters will tour the Spaceport and Cape Kennedy Wednesday, March 11.

The Postmasters, headed by Titusville Postmaster Philip Crannel, are attending a regional meeting in Titusville.

The 30 Postmasters and their wives will tour facilities at Launch Complex 39, launch site for manned flights to the moon. At launch pad A, they will see the Apollo 13 space vehicle undergoing tests in preparation for launch on April 11.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MAR 12 1970

news release

RELEASE NO: KSC-43-70
FOR RELEASE: March 11, 1970

CANADIAN & U. S. LEGISLATORS TOUR SPACEPORT

KENNEDY SPACE CENTER, Fla.,--A delegation of some 50 Canadian and United States legislators will tour the Spaceport here on Thursday, March 12, it was announced by Center Director Dr. Kurt H. Debus.

The visiting legislators are members of the Canada-United States Interparliamentary Group.

Co-chairmen of the Canadians are the Hon. J.P. Deachatelets, Speaker of the Senate; and Mr. Hugh Faulkner, Deputy Speaker of the House of Commons. The U.S. co-chairmen are Sen. Frank B. Church (D., Id.) and Rep. Cornelius E. Gallagher (D., N.J.).

Wives and staff aides will accompany many of the lawmakers.

The visitors will arrive by aircraft at Cape Kennedy Air Force Station at 10:30 a.m., where they will be greeted by Dr. Debus and Maj. Gen. David M. Jones, Commander of the Air Force Eastern Test Range.

The group will then proceed to the Spaceport, Complex 39, for briefings and a tour of the facilities. They will be briefed in the Launch Control Center, and then view the Apollo 14 moon rocket in the Vehicle Assembly Building.

After a close-up inspection of the Apollo 13 space vehicle on its launch pad, the visitors will be guests at a luncheon in the Manned Spacecraft Operations Building. Members of the Spaceport's management staff and their wives will act as hosts at the luncheon, and at other events throughout the day.

Canada and the United States participate in several cooperative space programs. Six Canadian scientists are among those analyzing samples returned from the moon by Apollo 11 astronauts. Canada has also expressed interest in the program to survey earth resources from space.

The visitors depart at 2:30 for the Manned Spacecraft Center in Houston.

-more-

Because last-minute committments may keep some of the legislators in Ottawa or in Washington, the guest list is tentative.

The Canadian delegation is expected to include, from the Senate: Hon. J. P. Deachatelets, Hon. T.D. Leonard, Hon. Alan A. Macnaughton, Hon. M. Grattan O'Leary, Hon. J. Phillips, and the Hon. H. A. Willis.

From the House of Commons: Mr. J. Hugh Faulkner, Mr. Lincoln Alexander, Mr. G. W. Baldwin, Mr. Les Benjamin, Mr. E. Corbin, Mr. Andre Fortin, Mr. Lloyd Francis, Mr. Philip Givens, Mr. Hu Harries, Mr. George Hees, Mr. Fernand Leblanc, Mr. T. Lefebvre, Mr. David Lewis, Mr. David MacDonald, Mr. James McGrath, Mr. Martin O'Connell, Mr. John Roberts, and Dr. Paul Yewchuk.

From the U.S. Senate: Frank B. Church (D., Id.), John Sparkman, (D., Ala.), Ralph Yarborough (D., Tex.), Edmund S. Muskie (D. Me.), Quentin N. Burkick (D., N.D.), William B. Spong Jr., (D., Va.), Mike Gravel (D. Alaska), George D. Aiken (R., Vt.), John J. Williams (R., Dela.), Robert P. Griffin (R., Mich.), Clifford P. Hansen (R., Wyo.) and Ted Stevens (R., Alaska). Mike Mansfield (D., Mont.), Senate Majority Leader, is an alternate delegate.

From the U. S. House of Representatives: Cornelius E. Gallagher (D., N.J.), Harold T. Johnson (D., Calif.), Fernand J. St. Germain (D., R.I.), William J. Randall (D., Mo.), Thomas E. Morgan (D., Pa.), Peter H. Kyros (D., Maine), Samuel S. Stratton (D., N.Y.), Mark Andrews (R., N.D.), Robert T. Stafford (R., Vt.), Odin Langen (R., Minn.), William S. Mailliard (R., Calif.) and Robert Taft Jr. (R., Ohio).

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MAR 16 1970

news release

RELEASE NO: KSC-44-70
FOR RELEASE: March 16, 1970

MELBOURNE FIRM AWARDED SPACEPORT CONTRACT

KENNEDY SPACE CENTER, Fla.,--Radiation Incorporated of Melbourne, Fla., has been awarded a six and one-half month study contract by NASA's John F. Kennedy Space Center.

Value of the contract is $77,412 with the work to be performed in Melbourne over the six and one-half month period beginning March 2, 1970.

Purpose of the study by Radiation's Systems Division is to propose and develop techniques of checking the operability of a backup electronic system without disrupting the normal operation of the system then being used.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-46-70
FOR RELEASE: March 17, 1970

SCOUTS TO ATTEND SPACE SEMINAR

KENNEDY SPACE CENTER, Fla.--Sixty Explorer Scouts from all 50 states and several foreign countries are to attend a special six-day Space Seminar to be held here July 12-18 under the sponsorship of NASA's Kennedy Space Center and the Boy Scouts of America Exploring Division.

Participants in the seminar will be chosen on the basis of essays on the topic "What Is Man's Future in Space?", interest in the space program and school, religious and community service records. Judging will be done by volunteer Explorer leaders.

The winners will be flown to KSC for a busy six days that will include Spaceport tours and briefings and a trip aboard the six million pound transporter used to move massive Apollo hardware about Launch Complex 39 from where the nation's lunar landing missions are launched.

The competition is open to high school students who will finish their sophomore year this spring or members of the BSA high school action program.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-47-70
FOR RELEASE: March 18, 1970

McDONNELL DOUGLAS AWARDED SHUTTLE STUDY CONTRACT

KENNEDY SPACE CENTER, Fla.,--A $49,960 contract to study the technology needed to handle cargo and expendables for a space shuttle system has been awarded to the McDonnell Douglas Corporation, St. Louis, Missouri, by NASA's John F. Kennedy Space Center.

The contract for the 10-month study, to be conducted in St. Louis, was awarded on March 13.

Object of the study is to conceive and develop comprehensive cargo handling concepts for the space shuttle system which is to become operational in the mid to late 1970s.

The space shuttle is to carry passengers, supplies, rocket fuel, other spacecraft, or equipment to and from orbit on a routine aircraft-like basis with both the booster and orbiter elements fully reuseable for a number of missions over a long period of time.

The shuttle is part of a transportation system which will revolutionize manned space flight and was described this way by Dr. Thomas O. Paine, NASA Administrator, at a press conference on the Fiscal Year 1971 budget proposal at Key Biscayne, Florida, on March 7:

"The reduction of the cost of space activities and the increase in man's ability to travel back and forth to space and to work there effectively for long periods of time is contained in the space shuttle rocket plane proposal and the long-life space station for the late 1790s.

"The space shuttle is a two-stage rocket plane which will be able to take off vertically from the surface of the Earth, and at an altitude of about 40 miles and a speed of 7,000 miles per hour, the upper stage will take off and carry men, equipment and supplies, about a 25-ton payload, on up into Earth orbit, with the first stage returning to Earth, landing horizontally like a jetliner.

"The second stage, after performing its mission in space, which may last for a week or two weeks, will re-enter the atmosphere and also land horizontally ready for reuse."

# # #

The shuttle is expected to play a major role in future space exploration. Added Dr. Paine:

"The continued exploration of the moon through the remaining Apollo flights is planned through 1974, after which men will utilize the new space transportation system envisioned in the space shuttle, space station and other new devices coming in the late 1970s."

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MAR 23 1970

news release

RELEASE NO: KSC-151-70
FOR RELEASE: March 19, 1970

TESTING, MATERIALS SOCIETY TOURS SPACEPORT FACILITIES

KENNEDY SPACE CENTER, Fla.,--Some 90 members of the American Society for Testing and Materials were conducted on a general tour of the Kennedy Space Center Thursday afternoon.

The society is conducting technical committee meetings in Cocoa Beach March 18-20.

The tour included facilities at Launch Complex 39 where Apollo/Saturn V space vehicles are assembled, tested and launched and at Cape Kennedy where KSC's Unmanned Launch Operations Directorate launches scientific, communications and technological satellites as well as unmanned probes for other nations and international agencies.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-152-70
FOR RELEASE: March 22, 1970
Sunday

SPACEPORT BIG CONTRIBUTOR TO FLORIDA'S ECONOMY

KENNEDY SPACE CENTER, Fla.,--Exploring space is the name of the game at NASA's John F. Kennedy Space Center and a major fringe benefit for Florida is the number of dollars pumped into the state's economy.

During Fiscal Year 1969 which ended last June 30, KSC contributed $380 million in equipment and service contracts and $42 million in civil service payrolls to help keep the state's economy humming.

KSC's procurement office made $387,811,000 in prime contract awards in FY 1969. The lion's share went to Florida with 186 contracts with 113 companies accounting for $380.6 million of the total amount.

Over $40 million was placed by direct awards to concerns in Brevard County, location of the Spaceport.

State communities sharing in the procurement dollar included Cape Canaveral, $208,000; Cocoa, $83,000; Cocoa Beach, $236,000; Daytona Beach, $27.5 million; Fort Lauderdale, $422,000; Gainesville, $24,000; Grant, $30,000; Jacksonville, $50,000, and KSC $336 million.

The large proportion placed at KSC reflects the efforts of rocket stage and base support contracts with companies whose place of performance is the Spaceport itself.

The companies involved are North American Rockwell, IBM, McDonnell-Douglas, Chrysler, Boeing, Service Technology Corporation, Bendix, Trans World Airlines, Catalytic-Dow, Federal Electric and General Electric.

Other communities with concerns receiving contracts include Melbourne, $224,000; Miami, $143,000; New Smyrna Beach, $41,000; Orlando, $1.6 million; Palm Bay, $37,000; Rockledge, $134,000; Sarasota, $75,000; St. Petersburg, $28,000; Tallahassee, $20,000; Tampa, $41,000; Titusville, $65,000, and Winter Park, $101,000.

-more-

KSC's civil service payroll totaled $42.8 million, $42,181,000 going to employees at the Spaceport living mainly in Brevard, Orange and Volusia counties and the remaining $684,264 going to KSC employees at the Western Test Range in California from where a number of unmanned launches are conducted each year.

The 2,900 civil service personnel represent approximately one-sixth of the Spaceport's 19,000 member workforce.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MAR 24 1970

news release

RELEASE NO: KSC-153-70
FOR RELEASE: March 23, 1970

SIR BERNARD, LADY LOVELL OF ENGLAND TOUR SPACEPORT

KENNEDY SPACE CENTER, Fla.,--Sir Bernard Lovell, head of Radio Telescope Astronomy in England, and Lady Lovell visited the Kennedy Space Center (KSC) Monday for a series of briefings and a general tour.

Dr. Kurt H. Debus, Director of KSC, hosted a luncheon for Sir and Lady Lovell. Others attending were:

Miles Ross, Deputy Director, Center Management; Walter Kapryan, Director of Launch Operations; Raymond Clark, Director of Technical Support; G. Merritt Preston, Director of Planning and Future Programs; and Thomas W. Morgan, Director of the Skylab Program.

On their first stop, the Lovells were briefed on Unmanned Launch Operations (ULO) by John Neilon, ULO Deputy Director. From there they visited the Flight Crew Training Building, where they were briefed on astronaut activities by Larry Thompson, employed by the Manned Spacecraft Center at KSC.

At the Central Instrumentation Facility, Technical Support Deputy Director P. A. Minderman explained Spaceport computer operations to the Lovells.

Following the luncheon, Ross gave an overall briefing on the facilities and operations at Launch Complex 39 (LC-39), where the Apollo/Saturn V space vehicles are assembled, checked out and launched on moon missions.

The Lovells then visited the Manned Spacecraft Operations building High Bay, where they were briefed by Alfred Wiley, Chief of the Industrial Area Operations Staff Office.

They toured the Launch Control Center and the Vehicle Assembly Building, where they saw the Apollo 14 space vehicle being prepared for its trip to the launch pad.

-more-

From there they went to the crawler park site for a briefing by Clark. The crawler is a huge tracked vehicle used to transport mobile launchers, space vehicles, and mobile service structures to and from launch pads.

The Lovells then were driven out to LC-39's Pad A, where they viewed the Apollo 13 vehicle as it is undergoing final preparations for launch on April 11.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

VAL

MAR 24 1970

news release

BV4
E-78

RELEASE NO: KSC-154-70
FOR RELEASE: March 23, 1970

RCA AWARDED SPACEPORT TV TUBE CONTRACT

KENNEDY SPACE CENTER, Fla.,--NASA's John F. Kennedy Space Center has awarded a $142,076 contract to the RCA Corporation, Harrison, New Jersey.

The one-year contract is for the supplying of vidicon electron tubes to the nation's Spaceport.

KSC conducts manned lunar exploration launches from Apollo Saturn V Complex 39 at the Spaceport and unmanned launches from facilities at adjacent Cape Kennedy and the Western Test Range.

Final preparations are now being made for the Apollo 13 mission, scheduled for launch at 2:13 p.m. EST, April 11.

The Apollo 13 mission is the nation's third manned lunar landing expedition and has as a prime crew James A. Lovell Jr., commander; Thomas K. Mattingly II, command module pilot, and Fred W. Haise Jr., lunar module pilot.

The Apollo 13 landing site is the Fra Mauro area, a highlands region approximately 100 miles to the east of where Apollo 12 landed on the Ocean of Storms last November.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

MAR 26 1970

RELEASE NO: KSC-155-70
FOR RELEASE: March 24, 1970

KSC'S UNMANNED LAUNCH OPERATIONS TO LAUNCH NIMBUS FROM WEST COAST

KENNEDY SPACE CENTER, Fla.,--The Kennedy Space Center's Unmanned Launch Operations Directorate is preparing to launch two spacecraft onboard Thor/Agena-13, April 8 from a NASA launch complex at the Western Test Range in California.

The primary payload will be Nimbus-D, fifth in a series of NASA's most advanced research and development weather satellites. The Nimbus project is generally devoted to developing and flight testing advanced sensors and techniques for use on future operational weather satellites.

The "piggyback" payload, which will be placed into its own separate orbit from the Agena stage, is called TOPO-A. This spacecraft, belonging to the U.S. Army Topographic Command, is part of a research and development program to test positioning techniques such as realtime satellite positioning, automatic data relay, and passive (non-radiating) positioning.

ULO's mission with Thor/Agena-13 is to put Nimbus-D into a circular polar orbit about 690 statute miles above the Earth's surface, and to place TOPO-A into a circular orbit at about 680 miles.

After the Thor/Agena separation, the Agena's first burn will be followed by a 46-minute coast period which will take the Agena/Nimbus-D to an altitude of about 690 miles. At that point the Agena main engine will be fired again for about six seconds to round out - or circularize - the orbit.

About four minutes later, explosive bolts will be fired on the spacecraft adapter and compressed springs will push Nimbus-D away from the Agena stage. The Agena will then execute an attitude maneuver, and a small retro engine will be fired to lower the orbit of the Agena in relation to Nimbus-D.

Forty-eight minutes later, an explosive pin puller will be fired to free the "hitchhiker" TOPO-A from the Agena and place it in an orbit about 10 miles lower than that of Nimbus-D. A second retromaneuver by the Agena will then place it in its own orbit where it will not interfere with the spacecraft.

-more-

It is expected that this system, when placed on operational spacecraft, will have applications for meteorology, oceanography, geology, hydrology and ecology - vital fields in the study of the Earth's resources and environment.

An Image Dissector Camera on the satellites will take daytime pictures of the entire Earth, a radiometer will take infrared measurements of the entire Earth both day and night, another radiometer will indicate cloudtop altitudes, and still another experiment will monitor ultraviolet solar energy in the atmosphere.

The basic objective of a research and development spacecraft like Nimbus-D is to provide equipment for future operational satellites that will enable scientists to better explore and understand the nature and behavior of the atmosphere and to reduce the economic impact of adverse weather on nations.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

BY4
#19

RELEASE NO: KSC-158-70
FOR RELEASE: March 25, 1970

KENNEDY SPACE CENTER, Fla.,--Kennedy Space Center Director Dr. Kurt H. Debus has established a Board of Investigation to determine the cause and circumstances surrounding the fires that severely damaged three security vehicles at Complex 39 this morning.

Board chairman is Edward R. Mathews, KSC Apollo Program Manager.

Named board members: Charles F. Henschell, Launch Operations Directorate; Orval Sparkman, Design Engineering; Dr. John B. Gayle Jr., Support Operations; and C. C. Parker, Installation Support.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

APR 1 1970

news release

RELEASE NO: KSC-160-70
FOR RELEASE: March 31, 1970

EXPLORER I

KENNEDY SPACE CENTER, Fla.,--Statement of Dr. Kurt H. Debus, Director of the NASA Kennedy Space Center, concerning the reentry of Explorer I, the first U.S. satellite, after more than 12 years and approximately 58,360 revolutions in earth orbit:

"Explorer I will take its place in the annals of space exploration. It was the first United States satellite and, to those directly involved in the mission, a truly memorable event. Perhaps more than any other action, it stimulated national interest in space and contributed immeasurably to the swift progress which has been achieved in the 12 years since that historic night. Those of us at KSC who shared the experience of launching Explorer I will always treasure the satisfaction we felt along with our colleagues at the Marshall Space Flight Center, the U.S. Army and the Jet Propulsion Laboratory."

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-176-70
FOR RELEASE: Immediate

April 24, 1970

SIMULATED FLIGHT SCHEDULED FOR APOLLO 14 LUNAR MODULE

KENNEDY SPACE CENTER, Fla. -- The Lunar Module for Apollo 14 will undergo its first major manned test Tuesday when the backup crew Eugene Cernan, Ronald Evans and Joe Engle participate in an altitude chamber simulated flight.

Purpose of the simulated altitude run is to test all systems and procedures in advance of actual unmanned and manned tests at simulated altitudes up to 250,000 feet.

The prime crew will participate in an altitude chamber simulated flight of the Lunar Module Wednesday. The prime crew is Alan B. Shepard, Jr., Stuart A. Roosa and Edgar D. Mitchell.

Apollo 14's Command and Service Modules will undergo manned and unmanned altitude chamber tests at later dates.

During the Lunar Module simulated runs next week, crews will remain inside the module within the chamber for a period of about six hours.

There are two spacecraft altitude chambers in the Manned Spacecraft Operations Building. One is configured for the Lunar Module, the other for the Command and Service Modules. Each chamber is 55 feet high, 33 feet in diameter and is capable of simulating space environments up to 250,000 feet.

Lunar Module Test Conductor for Apollo 14 is H. K. Widick. C. B. Mars is KSC's Project Engineering Staff Manager for Lunar Modules and John Hallmark is assigned as Project Engineer for the Apollo 14 Lunar Module.

- end -

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-177-70
FOR RELEASE: Immediate

April 24, 1970

APOLLO 14 CREW TRAINING ENTERS PRE-FLIGHT PHASE

KENNEDY SPACE CENTER, Fla. -- Crew training for the Apollo 14 mission has entered the pre-flight phase.

The Apollo 14 crew, Alan Shepard, Commander; Edgar D. Mitchell, Command Module Pilot; and Stuart A. Roosa, Lunar Module Pilot, are in training following briefings by the Apollo 13 crew in Houston Wednesday.

Shepard, one of the original seven astronauts, became the first American in space as he piloted a Mercury Redstone 302 miles down range from Cape Kennedy to a landing in the Atlantic Ocean May 5, 1961.

Roosa and Mitchell were selected as astronauts in 1966. They will make their first space flight in Apollo 14. Prior to becoming an astronaut, Roosa was an experimental test pilot at Edwards Air Force Base, California. Mitchell is an Air Force officer and a graduate of the Aerospace Research Pilot School.

The crew will participate in altitude chamber tests of the command and lunar modules and train in spacecraft simulators in the Flight Crew Training Building. Every phase of the mission will be simulated prior to completion of pre-flight training.

Apollo 14 will be launched in the last quarter of this year.

- end -

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-180-70
FOR RELEASE: April 30, 1970
10:30 A.M. EDT

GATE 2 OPEN FOR PUBLIC TOURS

KENNEDY SPACE CENTER, Fla. - - A new access route making the Visitor Information Center and bus tours more convenient to Brevard beaches will be tested for 100 days this Summer it was stated in a joint announcement by Kennedy Space Center, NASA and the Air Force Eastern Test Range.

Since tour operations began July 22, 1966, the public has been allowed to drive to and from KSC via Gate 3 which is convenient to U.S. Highway 1 and I-95.

Commencing May 30 and continuing through the Summer season of heavy tourist influx, the public may also drive to and from the Visitor Information Center via State Route 3 and KSC's Gate 2 from 9 A.M. to 6 P.M. daily. The test will end Sept. 6, 1970. If sufficient usage is recorded, a permanent arrangement will be developed.

State Route 3 connects with the Bennett Causeway and SR 520 on Merritt Island. Either of the east-west connectors carry traffic to the beaches or U.S. 1.

- end -

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MAY 1 1970

news release

RELEASE NO: KSC-181-70
FOR RELEASE: April 30, 1970

APOLLO 13 CREW RETURNS TO KSC

KENNEDY SPACE CENTER, Fla.,--The Apollo 13 astronauts will return to the Kennedy Space Center on Monday, May 4, to express their appreciation to the government-industry team that launched them on their flight April 11.

Astronauts James Lovell, John Swigert and Fred Haise will address the members of the KSC launch team in special ceremonies inside the Vehicle Assembly Building starting at about 9:30 a.m. EST.

Miles Ross, Deputy Director, Center Operations, and Launch Operations Director Walter J. Kapryan will participate. Ross will introduce Spacecraft Commander Lovell, who will in turn introduce his fellow crew members.

The Patrick Air Force Base Band will provide music for the ceremonies.

The astronauts are scheduled to depart for the Grumman Plant in Bethpage, Long Island, N.Y., early Monday afternoon.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-182-70
FOR RELEASE: April 30, 1970

FOREIGN MILITARY ATTACHES TOUR

KENNEDY SPACE CENTER, Fla.,--Some 47 foreign military attaches will visit the Kennedy Space Center tomorrow (Friday) as part of their tour of United States Government installations.

The military attaches, accredited to the Department of the Army, will spend some five and a half hours at KSC on a tour of the space complex before departing for Miami in the afternoon.

The tour will include visits to installations at the Cape Kennedy Air Force Station, and lunch in the Manned Spacecraft Operations Building at KSC. During the afternoon, the group will receive briefings at Complex 39, the site of Saturn V launch operations. The itinerary includes a trip through the Launch Control Center firing rooms, Vehicle Assembly Building and stops at the crawler/transporter site and launch Pad A.

The party departs from the Cape Kennedy Skid Strip at about 4:00 p.m.

The 13-day tour of the United States by the Corps of foreign military attaches is an annual event sponsored by the U.S. Army.

The following is the roster of foreign military attaches participating in the national tour:

Argentina	Brigadier General Roberto Marcelo Levingston, Military Attache
Australia	Brigadier H. G. Bates, O.B.E., Military Attache
Austria	Brigadier Ferdinand Foltin, Military and Air Attache
Belgium	Major General John R. Van der Heyden, Defense and Armed Forces Attache
Brazil	Brigadier General Cesar Montagna, Military Attache
Bulgaria	Colonel Iordan Spassov Ivanov, Military, Naval and Air Attache

-more-

Burma	Colonel Tin Tut, Military, Naval and Air Attache
Canada	Brigadier General Ernest D. Danby, D.S.O., O.B.E., C.D. Canadian Forces Attache (Army)
Chile	Brigadier General Ernesto Baeza, Military Attache
China	Colonel Pang-Liang Lo, Acting Military Attache
Congo	Captain William E. I. Mutombo, Assistant Military Attache
Czechoslovakia	Colonel Miroslav Dvorak, Military and Air Attache
Ethiopia	Colonel Teferi Bante, Military, Naval and Air Attache
Finland	Commander Bo G. Klenberg, Assistant Military, Naval and Air Attache
France	Brigadier General Rene J. A. Pessey, Military Attache
Germany	Colonel Gustav Von Detten, Military Attache
Ghana	Colonel Lawrence A. Okai, Assistant Armed Forces Attache
Great Britain	Colonel Peter Anthony Lowe, Assistant Military Attache
Greece	Brigadier General Odysseys E. Tsiliopoulos, Defense and Military Attache
Hungary	Lieutenant Colonel Imre Mozsik, Military and Air Attache
India	Major General Aban Naidu, Military and Naval Attache
Iran	Major Gholamhossein Farshid, Assistant Military Attache
Israel	Lieutenant Colonel David Levin, Assistant Armed Forces Attache
Italy	Colonel Ludovico Luppis, Military Attache
Japan	Colonel Kouzaburo Kawazu, Defense Attache (Army)
Korea	Major General Seok Chu Paik, Defense and Military Attache

-more-

Malaysia	Colonel Tunku Kahar, Military, Naval and Air Attache
Mexico	Major Enrique Cervantes Aquirre, Assistant Military and Air Attache
Nepal	Lieutenant Colonel Hikmat Bahadur Bisht, Military Attache
Netherlands	Colonel G. N. Tack, Military Attache
New Zealand	Brigadier A. H. Sutton, Defense and Military Attache
Norway	Major General Arne Gunnar Lund, Defense, Military and Air Attache and Dean of the Corps of Military Attaches
Pakistan	Brigadier Riaz Karim Khan, MC, PSC, Military Attache
Panama	Lieutenant Colonel Alejandro E. Arauz Valencia, Military, Naval and Air Attache
Peru	Colonel Jorge Chavez Velopana, Acting Military Attache
Poland	Lieutenant Colonel Jan Klasa, Assistant Military, Naval and Air Attache
Romania	Major Ioan Ulescu, Assistant Military Attache
Saudi Arabia	Lieutenant Colonel Jameel Mohamed Abu-Ateeg, Assistant Armed Forces Attache
South Africa	Major Stephanus J. du Toit Potgieter, Assistant Armed Forces Attache
Spain	Lieutenant Colonel Norberto Gutierrez Aragon, Military Attache
Sweden	Lieutenant Colonel Willie Sven Ahs , Assistant Military Attache
Switzerland	Colonel Karl Erny, Defense and Armed Forces Attache
Thailand	Colonel Parmote Thavornchan, Military Attache
Turkey	Colonel Mehmet Erhan, Military Attache
USSR	Major General Mikhail Ivanovich Stolnik, Military Attache
Venezuela	Brigadier General Enrique Pena Briceno, Military Attache
Yugoslavia	Colonel Jovan Kokot, Military, Naval and Air Attache

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

MAY 7 1970

RELEASE NO: KSC-186-70
FOR RELEASE: May 6, 1970

ENGINEER INVENTS LIQUID OXYGEN PUMP CLUTCH ROTATOR AT KENNEDY SPACE CENTER

KENNEDY SPACE CENTER, Fla.,--A Spaceport engineer has invented a mechanism that will save NASA over $10,000 a year and insure against a clutch failure on the liquid oxygen loading pumps for the Apollo/Saturn V vehicle.

John Jamieson of Merritt Island, with the assistance of fellow engineers James Jollay of Titusville and Don Conover of Cocoa in the Propellants and Power Section at Launch Complex 39, developed a rotator for the clutch on the liquid oxygen pumps.

Corrosion of the bearings in the clutch of the pumps spurred Jamieson's invention.

"We were only getting about 60 hours operational use out of something that was supposed to be good for several thousand hours," he said, "because the bearings were sitting in one position for weeks when the pumps were not being used.

"The prolonged contact between the bearings and the bearing channel without lubrication caused both to corrode."

The rotator, attached to the side of the clutch housing, is a motor with sprocket chains on a drive wheel that turns the shafts of the clutch and the motor of the pump at 40 revolutions per minute. This rotation submerges the bearings of the clutch and the motor in lubricating grease inside the housing, preventing the corrosion that results when the lubricant drains from the bearings during standstills.

The variable speed clutch, which performs the same function as the transmission of a car, sits in an individual housing between the motor and the pump.

The clutch adjusts the speed of the pump as the motor speed stays constant. The need for the adjustment of the pump speed is to change the flow rate of the liquid oxygen to the Saturn V vehicle during propellant loading.

-more-

The speed of the pump is controlled by a console in a Firing Room of the Launch Control Center at LC 39. The console is monitored by a contractor systems engineer.

The first clutch rotator was installed shortly after the Apollo 13 launch on a 2,500-horsepower pump capable of pumping 10,000 gallons of liquid oxygen per minute.

Each clutch costs originally about $20,000. The cost of refurbishing a clutch, a necessity after bearing corrosion, has run as high as $16,000. This figure includes the indirect costs involved in replacement and repair. Before use of the rotator, three or four clutches required refurbishment each year.

"With the rotator, we expect the useful life of the clutch to be increased tenfold," said W. P. Wheeler, Chief of the section.

Jamieson, a Massachusetts Institute of Technology graduate, developed his first rotator at KSC from standard equipment that was available in the supply rooms there. The cost of the rotator was about $80.00.

Application for a new technology brief on the rotator is being made by Jamieson. This brief, when completed, will then be distributed to all other centers and to the public for use in government facilities and in industry on a non-patent basis.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MAY 7 1970

news release

RELEASE NO: KSC-187-70
FOR RELEASE: May 6, 1970

KSC SAVINGS BOND RALLY IS SCHEDULED ON FRIDAY

KENNEDY SPACE CENTER, Fla.,--The 1970 U.S. Savings Bond Program will be kicked off at the Kennedy Space Center at 12:30 p.m. Friday with a rally in front of the Headquarters Building.

The principal speakers will be KSC Director Dr. Kurt H. Debus, who is serving as Savings Bond Chairman for Brevard County for the eighth year, and Mike Mainguth, State Director of the Treasury Department's Savings Bond Division.

The 45-piece Patrick Air Force Base band will provide music for the rally.

Dr. Debus said that Savings Bonds play a vital role in maintaining economic stability while helping support such vital commitments as the space program and national defense.

KSC Drive Chairman Gen. Dan F. Callahan, Deputy Director of Administration, said Civil Service employees at the Spaceport are currently leading all other NASA installations in percentage of participation in the bond program. The goal of the drive is to exceed 90 per cent enrollment.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

MAY 27 1970

RELEASE NO: KSC-201-70
FOR RELEASE: May 26, 1970

SPACE INFORMATION CENTER DESIGN REPORT

KENNEDY SPACE CENTER, Fla.,--Charles Luckman Associates, of 521 Fifth Avenue, New York City, has been awarded a contract for $48,840 by the John F. Kennedy Space Center, NASA to research and prepare a design report for a public Space Information Center.

Luckman Associates was selected by the Center's architect-engineer board to complete the project by June 18, 1970.

The proposed facility would supplement an existing Visitor Information Center which is open to the public daily throughout the year. Escorted bus tours of the Space Center including Cape Kennedy Air Force Station are conducted by a concessioner, Trans World Airlines, and have been attended by almost 3,000,000 people since the program began in July, 1966.

The existing facility has been over-taxed during periods of peak visitation.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MAY 7 1970

news release

RELEASE NO: KSC-188-70
FOR RELEASE: May 6, 1970

VAL

2 SECRETARIES PROVIDE SMOOTH FLOW IN UNMANNED LAUNCH OPERATIONS

KENNEDY SPACE CENTER, Fla.,-- Reggie Vietor and Fran Nicholas are at the hub of activity in Unmanned Launch Operations (ULO) at the Kennedy Space Center and have a hand in assuring a smooth, efficient operation.

Their challenging assignments are involved in working with the top men in ULO, Director Robert H. Gray and Deputy Director John J. Neilon.

There is the never-ending heavy schedule of appointments, phone calls, correspondence, conferences and trips concerning specific missions or projects, budgets, facilities utilization, support operations from other organizations and overall management responsibilities.

These activities involve continuing communication and coordination with KSC's Executive Staff and Launch Operations Directorate, the Office of Space Science Applications in Washington, numerous other NASA Centers and Governmental agencies, key managers in the ULO organization at Cape Kennedy and the Western Test Range in California, and representatives of ULO's major contractors.

Reggie has been associated with Gray and Neilon since August, 1957, when all were assigned to the Naval Research Laboratory's Project Vanguard at Cape Canaveral.

Prior to joining Project Vanguard and transferring to NASA in October, 1958, Reggie worked for 12 years with the Department of the Army at the Pentagon. In July, she will have completed 25 years in Civil Service.

She was recently named as one of four KSC personnel scheduled to attend NASA's "Seminar in Leadership for Executive Secretaries" in Atlanta in May. Also, she was recently selected for a feature article on technical secretaries that appeared in the magazine, "Today's Secretary."

Reggie lives in Titusville with her husband, John, and their three children, Debbie, Susie and John H. III. Her main hobby is gourmet cooking, and she likes to fish for recreation.

-more-

Joining NASA in 1962, Fran was originally assigned to the Centaur Operations Branch. In 1965 she was assigned to the Director's Office.

Fran has almost 18 years in Civil Service, serving first with the U. S. Coast Guard Headquarters in Washington. Subsequently, she worked with the Marine Corps at Quantico, Virginia, and for the U.S. Navy in South Florida.

Prior to joining NASA, Fran spent four years with the Air Force Industrial Security Office at Patrick Air Force Base.

She lives in Satellite Beach with her son Craig, 14, who is active in several community and junior high school programs. For a hobby, Fran likes to sew.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

MAY 15 1970

RELEASE NO: KSC-194-70
FOR RELEASE: May 14, 1970

EXTENDED DRY WEATHER ROUSES BRUSH FIRE CONCERN AT SPACEPORT

KENNEDY SPACE CENTER, Fla.,--More than a month of dry weather is causing increasing concern at the nation's Spaceport.

Dry weather brings the danger of brush fires which can be hazardous to launch sites and office areas at the 88,000-acre Space Center.

"We are watching the situation closely," said Norris C. Gray, Fire and Rescue Program Officer at the Spaceport. Gray said that fire fighting teams remain on watch around the clock, seven days a week.

The last measured rain at Kennedy Space Center was on April 12. Since then there have been only traces of rain, not enough to be measured.

Ernest A. Amman, Staff Meteorologist at the Spaceport, called the lack of rainfall "serious but not critical at this time."

"This is the normal dry season," he said. From mid-April until the end of May, records indicate, it simply does not rain much in the Space Center area.

"I would expect some rain after the first of June," said Amman, "based upon the records of previous years."

Citrus growers who lease grove acreage on the Space Center are hopeful that the rains will arrive soon.

They note that a lack of water affects the quality and quantity of on-the-tree fruit and can reduce the next season's yield. Some 3,000 acres of groves, located on Space Center property, are leased to growers by the government.

Most of the Space Center is incorporated in the Merritt Island National Wildlife Refuge. Hal O'Connor, Refuge Manager, said that "the water level is down significantly, several inches."

He remarked that a continuation of this trend could affect the fish population, in coming months, by reducing oxygen content in the water. Presently, the oxygen level in refuge water is adequate.

O'Connor said that most migratory waterfowl which visit the refuge during winter months have flown north.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

MAY 19 1970

RELEASE NO: KSC-195-70
FOR RELEASE: May 19, 1970

KSC "GOOD NEIGHBOR" PHILOSOPHY INCLUDES POLLUTION CONTROLS

KENNEDY SPACE CENTER, Fla.--Brevard County citizens are keenly aware of water pollution problems and part of the Spaceport's "good neighbor" policy is the establishment of stringent standards to prevent, control and abate the pollution of the county's scenic waters through its activities.

Existing KSC anti-pollution policies were reinforced on February 4, 1970, with the issuance of an Executive Order by President Richard M. Nixon in which he asserted:

"It is the intent of this order that the Federal Government in the design, operation and maintenance of its facilities shall provide leadership in the nationwide effort to protect and enhance the quality of our air and water resources."

The Executive Order outlined tight anti-pollution standards and KSC is now busily taking steps to make certain that its operations - always under close anti-pollution scrutiny - comply fully with the Executive Order and the NASA Headquarters directive which followed in April.

The KSC study effort is now being spearheaded by J. F. Burke, Chief of Design Engineering's Management Support Staff.

"Engineering standards and specifications must be set to cover each policy," said Charles Hibbard, a member of Burke's staff. "This means we must take a continuous look at all our existing facilities and design adequate pollution controls into all our new ones."

The controls cover pollution from human wastes, industrial materials, gases and fuels, thermal pollution from heated cooling waters, radioactive materials or any waste waters containing substances harmful to domestic animals, fish, shellfish or wild life.

Hibbard noted that sewage effluents are receiving much attention but added that the Spaceport is faced with treatment and disposal problems not encountered by the ordinary municipality or industry.

-more-

Protection must be provided to prevent pollution from hypergolic propellants, thermal pollution in reverse from possible spills of such supercold (cryogenic) materials as liquid oxygen, hydrogen and nitrogen and the solvents used for cleaning space hardware systems.

Hypergolic spills, for example, would be caught in concrete ponds where they would later be burned under the direction of the KSC Fire Department.

The problem of a liquid hydrogen or liquid oxygen spill would be almost self-solving. Prevented from flowing into the waters, the supercold fluids would return to the gaseous state and evaporate back into the air.

And the Spaceport is not the only judge of its success in preventing pollution, Hibbard noted. Annual reports must be made to the Regional Director of the Federal Water Pollution Control Administration's Southeast Region in Atlanta, Georgia as well as to NASA Headquarters.

Confirmation and clarification of the internal responsibilities for administering the program are now underway.

In Brevard, as elsewhere, there is an increasing concern about the environment and KSC is doing its share to be a "good neighbor".

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MAY 18 1970

news release

RELEASE NO: KSC-196-70
FOR RELEASE: May 15, 1970
3:00 p.m.

SKYLAB LAUNCH SITE CHANGE

Saturn IB and Saturn V launches scheduled for the 1972-73 Skylab Program will be from Launch Complex 39, Kennedy Space Center, Fla.

The decision to conduct Saturn IB launches at Launch Complex 39, rather than Complex 34, Cape Kennedy, was reached after a comprehensive study of the capabilities and costs of both locations, Skylab Program officials said.

The National Aeronautics and Space Administration's Skylab Program calls for the launch of a Saturn V third stage configured as an experimental space station. Three astronauts in an Apollo spacecraft will be launched aboard a Saturn IB about 24 hours later to rendezvous with the space station and spend up to 28 days in orbit.

Two more manned flights to Skylab are planned for approximate three-month intervals thereafter. Both of these missions could last up to 56 days.

Initial plans called for the Saturn IB launches to take place at Complex 34, a part of the U.S. Air Force Eastern Test Range used by both NASA and the Department of Defense.

William C. Schneider, Skylab Program Director, said the decision to move the Saturn IB launch site to Complex 39 was made to take advantage of the more modern facilities at the site and to save money by consolidating manpower and spacecraft support and checkout equipment requirements and to reduce transportation costs.

Advantages include operating inside the Vehicle Assembly Building with its controlled environment as compared with preparation at Launch Complex 34 which is exposed to the weather.

Complex 34, which became operational in 1961, was placed in a standby condition after the Apollo 7 flight in October 1968. Extensive updating of equipment and repair would be required to ready it for the Skylab Program.

-more-

A preliminary estimate is that $10 to $12 million can be saved by using Complex 39 for the series of three Saturn IB launches planned for late 1972 and 1973.

A Vehicle Assembly Building high bay, a mobile launcher and a firing room have been assigned for the Saturn V and its Skylab payload. Similar action will be taken for the Saturn IB.

The Saturn IB will undergo checkout and will be launched from a modified mobile launcher previously used for Saturn V flights. The major change will be the addition of a 128-foot pedestal on the launcher platform. This will allow the present upper swing arms on the launcher to be used with the Saturn IB and the spacecraft.

Relatively minor modifications will be required for propellant and gas servicing of the Saturn IB booster. The rocket hold-down arms used at Pad 34 can be used at Complex 39.

The recent decision to suspend Apollo lunar exploration flights during the period of the Skylab Program led to a reevaluation of the launch sites, Schneider said. This determination released the mobile service structure (MSS) at Complex 39 for use with a Saturn IB and Apollo spacecraft. The MSS is required for manned spacecraft operations at Complex 39.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MAY 18 1970

news release

RELEASE NO: KSC-197-70
FOR RELEASE: May 15, 1970

KENNEDY SPACE CENTER OBSERVES NATIONAL SMALL BUSINESS WEEK

KENNEDY SPACE CENTER, Fla. - - The Kennedy Space Center will observe National Small Business Week beginning May 18 as part of a year-long Federal campaign to promote small business activities.

Tom Davis, KSC industry advisor and small business specialist, said the purpose is to encourage and assist small firms in doing business with the Government.

"Contrary to what one may think, a part of the KSC budget goes to small business firms, even though the greatest amounts are allocated to the stage and large support contractors," he said. Davis noted that many of these companies have small business programs, accounting for additional money via subcontracts.

Davis pointed out that while KSC's overall expenditures declined, the percentage of awards to small firms increased. Last year, small firms received $8.3 million in contracts. Since July 1, 1969, $5.7 million has been awarded to small firms, with indications that the total will reach $9 million by June 30.

The general rule for defining small business is 500 employees, but there are many variations of this theme depending on the type of services rendered and the dollars involved.

Small business procurement at the Spaceport includes printed forms, housekeeping services, video amplifiers, power supplies, thermocouples, machine shop work, precision voltage sources and other items.

Davis said his office reviews all procurement requests and recommends "set asides" for those which probably would interest small businesses on the basis of past experience. These set asides exclude large firms from the bidding, limiting the competition to the smaller ones.

- more -

The KSC office publicizes bids on a bulletin board at Room 2461 of the Headquarters Building and at the Pass and Identification Building at Gate 3. The Center also synopsizes all procurements in excess of $10,000 in the Commerce Business Daily.

Displays throughout KSC will serve as reminders of Small Business Week. Questions pertaining to small business matters should be directed to Mr. Davis at 867-7353.

- end -

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

MAY 19 1970

RELEASE NO: KSC-199-70
FOR RELEASE: May 18, 1970

ARMSTRONG TO HEAD NASA AERONAUTICS PROGRAM

KENNEDY SPACE CENTER, Fla.--Neil Armstrong, the first man to set foot on the Moon, has been named to head the National Aeronautics and Space Administration's Aeronautics Program.

Armstrong, commander of the Apollo 11 lunar landing mission, becomes Deputy Associate Administrator for Aeronautics, Office of Advanced Research and Technology at NASA Headquarters, Washington, effective July 1, 1970.

He succeeds Charles W. Harper who is joining Dr. Wernher von Braun, NASA Deputy Associate Administrator for Planning, in carrying out the agency's planning effort for future U. S. space missions.

In his new position, Armstrong will be responsible for the coordination and management of over-all NASA research and technology work related to aeronautics and cooperation and coordination between NASA, industry and other government agencies with respect to aeronautics.

Armstrong, a civilian astronaut, has more than 20 years experience as a pilot. He was a Naval Aviator from 1949 to 1952 and flew 78 combat missions during the Korean action.

He joined NASA's Lewis Research Center in 1955 (then NACA's Flight Propulsion Laboratory) and later transferred to the NACA High Speed Station (now Flight Research Center) at Edwards AFB, California, as an aeronautical research pilot for NACA and NASA. He was an X-15 project pilot and flew that aircraft to altitudes above 200,000 feet and approximately 4,000 miles per hour.

Other flight test work included piloting the X-1 rocket airplane, the F-100, F-101, F-102, F-104, F5D, B-47, the paraglider, and others. As pilot of the B-29 "drop" aircraft, he participated in the launches of over 100 rocket airplane flights.

-more-

Armstrong became a NASA astronaut in September 1962 and he was command pilot for the Gemini 8 mission March 16, 1966. During that mission he was successful in achieving the first space docking of two vehicles. Shortly after docking a malfunctioning thruster caused the spacecraft to gyrate widely but exceptional piloting skill by Armstrong and his fellow crewman, Astronaut David R. Scott, overcame the problem and resulted in a successful recovery.

Armstrong and Astronaut Edwin E. Aldrin, Jr., on July 20, 1969 accomplished man's first landing on the Moon. Armstrong and then Aldrin became the first men to walk on the Moon as they conducted a two hour and 40 minute exploration of the lunar surface, deployed experiments and collected Moon material for return to Earth.

Armstrong has received many awards and honors including the Octave Chanute Award, the Collier Trophy and the Presidential Medal for Freedom.

Armstrong was born August 5, 1930 in Wapakoneta, Ohio. He attended local schools, received a bachelor of science degree in aeronautical engineering from Purdue University in 1955 and attended the Graduate School at the University of Southern California. He is married to the former Janet Shearon of Evanston, Ill. The Armstrongs have two children.

Harper joined the NASA Ames Research Center in 1941 and, successively, became Assistant Chief of the 7x10' Wind Tunnel Branch, and Systems Research Division until transferring to Headquarters in October 1964 as Director of the Aeronautical Vehicles Division.

He became Deputy Associate Administrator (Aeronautics) in the office of Advanced Research and Technology on May 3, 1967 when the office was created.

Harper was born in Winnipeg, Canada, September 24, 1913 and became a United States Citizen in 1941. He graduated from the University of California, Berkeley, in 1941 with a degree in Mechanical Engineering.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MAY 27 1970

news release

RELEASE NO: KSC-202-70
FOR RELEASE: May 26, 1970

OLDEST MOON ROCK

A lemon-sized lunar rock returned by the Apollo 12 crew has been found to be chemically unique and posses the highest concentration of naturally radioactive elements yet observed in Moon samples.

After preliminary examination by the National Aeronautics and Space Administration and university scientists, it was announced today that "this rock has an apparent age of 4.6 billion years, clearly the oldest rock yet found on the Moon."

During examination of Apollo 12 samples at the Lunar Receiving Laboratory (LRL) at the Manned Spacecraft Center, Houston, this 83-gram (approximately three ounces) specimen was found to have 20 times as much uranium, thorium, and potassium as any other lunar rock.

A group of NASA and university scientists in the U.S. and England were selected and samples of this rare rock are now under investigation. The team is composed of principal investigators whose interests are in the isotopic analyses and age determination of all lunar samples. They are supported by other PIs carrying out mineralogy and trace element studies.

Announcement of the "find" was made jointly at Houston and at the 13th annual meeting of the committee on space research (COSPAR) of the International Council of Scientific Unions (ICSU) in Leningrad, Russia.

Anthony J. Calio, Director of Science and Applications at MSC and Dr. Paul Gast, Chief of Lunar and Earth Sciences Division at MSC announced the unique find along with Dr. G. J. Wasserberg, who presented a paper on the subject at COSPAR. Dr. Wasserberg, of the California Institute of Technology, is one of the U.S. university scientists working on this particular sample.

The preliminary examination at the LRL further revealed that the rock had a texture readily distinguishable from both the breccia and igneous rock samples. Colar variations on the surface of the rock suggested that the rock was macroscopically (visible to the eye) inhomogeneous.

-more-

Plans for the distribution of this rock could not be implemented until a better understanding of its unique characteristics could be obtained. A single slice of this rock was distributed ten days ago to a team of 11 scientists from the United States and England whose interests were particularly well-suited to the study of this unique rock.

The report of the group study stated, "First results on the age of this rock, obtained at the end of last week, indicate that the rock has an apparent age of 4.6 billion years. Thus, it is clearly the oldest rock yet found on the Moon."

"Other rocks from the Apollo 11 and 12 sites appear to have crystalized from an igneous liquid that was formed between 3.3 and 3.7 billion years ago. Isotopic studies on the lunar soil and breccia samples indicate that they may have been derived from rocks as old as 4.4 billion years, but no specific age can be inferred from these results."

This Apollo 12 specimen is essentially identical in age with the date of formation that has been observed for most meteorites. The time of formation of stone meteorites is widely accepted as a time of formation of the planets and even the Sun. Calio and Gast state, "It now appears that we have recovered from the surface of the Moon a sample that dates back almost to the formation of the solar system. We concluded from this that some parts of the surface of the Moon must have remained essentially unchanged since this time. "

"The exact origin of sample 12013 cannot be established at present, but it seems likely that it may have come from a highland area or from the rocks that underlie the Mare region. In the latter case, it could have been transported to its present location by the impact that formed the crater Copernicus. If the 4.6 billion year old age for this rock is substantiated, a wide variety of interesting experiments which will clarify the early stages of the evolution of the terrestrial planets will be made possible by future Apollo missions."

The scientists currently analyzing this unique specimen are among the 193 U.S. and foreign scientists chosen by NASA as principal investigators of Apollo 12 lunar material.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-203-70
FOR RELEASE: May 26, 1970

NEW YORK FIRM AWARDED SPACEPORT CONTRACT

KENNEDY SPACE CENTER, Fla., --The National Aeronautics and Space Administration's John F. Kennedy Space Center has awarded a $99,666 contract to the Roanwell Corporation, 180 Varick Street, New York, New York.

The negotiated, firm, fixed price contract is for headsets, assemblies, switches, cords and connectors to be used to modify voice communications facilities at all KSC areas in support of ongoing NASA missions.

The contract performance period extends from May 22, 1970, through September 25, 1970.

The Kennedy Space Center conducts manned Apollo Saturn V launches from its Merritt Island Spaceport and unmanned launches from facilities at Cape Kennedy and the Western Test Range in California.

# # #

KSC news release

KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

RELEASE NO: KSC-207-70
FOR RELEASE: June 1, 1970

SKYLAB PRESS BRIEFING

The National Aeronautics and Space Administration will have a "Skylab and Beyond"press briefing June 15-16, 1970, at the Marshall Space Flight Center, Huntsville, Ala.

The program will start at 1:30 p.m. June 15 and end at 4:30 p.m. June 16. Officials from NASA Headquarters, the Marshall center, Manned Spacecraft Center, Houston, and the Kennedy Space Center, Fla., will provide information on all aspects of the Skylab program.

Prominent on the agenda will be the inspection of the recently-completed Saturn Workshop mockup. This is the final design of the workshop, a major part of the country's first space station, which is to be launched in 1972. A tour of the assembly building where Apollo Telescope Mount (ATM) solar observatories are being assembled is also on the schedule, as well as Skylab simulations in a large underwater zero-gravity simulator.

The final session will be devoted to a status report on the "integrated program" -- recent work on the proposed space station, space shuttle, nuclear shuttle and tug.

Mockups and hardware will be available for photographs as will demonstrations by astronauts and technicians.

Correspondents planning to attend this briefing should notify the MSFC Public Affairs Office, 205-543-0034 or 453-0035. A block of rooms has been reserved at the Sheraton Motor Inn, Huntsville. To make a reservation, call the Sheraton, 205-837-3250, and identify yourself with the Skylab press briefing, before June 14. Transportation will be provided from the motel to the center.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JUN 2 1970

news release

RELEASE NO: KSC-208-70
FOR RELEASE: June 1, 1970

SARASOTA FIRM AWARDED SPACEPORT CONTRACT

KENNEDY SPACE CENTER, Fla.,--The EMR Telemetry-EMR Division of Weston Instruments Co., Sarasota, Fla., has been awarded a contract for $33,626 by the National Aeronautics and Space Administration's John F. Kennedy Space Center.

The firm, fixed price contract is for the manufacture and delivery of electronic equipment for use in the Vibration Data Acquisition System at Apollo Saturn V Launch Complex 39.

The contract was awarded on May 27 with performance scheduled within 90 days.

The Kennedy Space Center conducts manned launches in the nation's Apollo lunar exploration program from the Spaceport Complex 39 and a wide variety of unmanned launches from facilities at Cape Kennedy and the Western Test Range in California.

# # #

KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-209-70
FOR RELEASE: June 1, 1970

PROGRAM OFFICES CONSOLIDATED

KENNEDY SPACE CENTER, Fla.,--Consolidation of Apollo and Skylab Program Offices at the Kennedy Space Center was approved today by Dr. Thomas O. Paine, the NASA Administrator.

Brigadier General Thomas W. Morgan, U.S. Air Force, who managed the Skylab Program Office, was appointed manager of the combined functions.

The consolidation took effect concurrent with the departure of Edward Mathews, Apollo Program Manager, for a year's study as a Sloan Fellow at Massachusetts Institute of Technology.

General Morgan came to KSC from the U.S. Air Force manned orbiting laboratory program at Los Angeles Air Force Station where he served as operations director from January 1964 to September 1967. He is a graduate of Auburn University with a bachelor degree in aeronautical engineering and attended the Air Force graduate program in guided missiles at the University of Michigan.

General and Mrs. Morgan reside at Patrick Air Force Base. They have seven children.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

VAL JUN 4 1970

news release

RELEASE NO: KSC-210-70
FOR RELEASE: June 3, 1970

LM ALTITUDE RUNS PLANNED

KENNEDY SPACE CENTER, Fla.--Preparations for the Apollo 14 lunar module altitude runs are nearing completion at the Spaceport while launch vehicle personnel are conducting electrical systems checks in the Vehicle Assembly Building.

The unmanned LM altitude run will take place June 5 in the Manned Spacecraft Operations Building followed by a run with the prime crew of Commander Alan B. Shepard and LM Pilot Edgar Mitchell on June 9 and the backup crew of Commander Eugene Cernan and LM Pilot Joe Engle on June 11.

The command module altitude runs will follow in July.

Also in the VAB, fit checks are being conducted between the white room and the boiler-plate spacecraft and a damper arm validation test is being performed on the mobile launcher. This arm minimizes vibrations at the top of the space vehicle.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JUN 4 1970

news release

RELEASE NO: KSC-211-70
FOR RELEASE: June 3, 1970

COMBINED FEDERAL CAMPAIGN MEETING SCHEDULED JUNE 10

KENNEDY SPACE CENTER, Fla.--An organizational meeting for the 1971 Combined Federal Campaign will be held at 10 a.m. on June 10, according to C. C. Parker, Deputy Director for Installation Support at the Kennedy Space Center and Chairman of the 1971 CFC.

The meeting will be conducted in the Installation Support Conference Room, Headquarters Building.

Parker said all federal agencies operating within Brevard County have been invited to send representatives to the meeting to discuss the program with representatives of the three recipient agencies - the United Fund, the National Health Agencies and the International Service Agencies.

Parker noted that the CFC was established by the Civil Service Commission to permit payroll deductions for a sigle fund raising campaign.

"Our total contributions are increasing each year," he noted, "but this year we're stressing a higher per capita participation. Our per capita participation is lower than elsewhere in the nation."

The CFC goal has been exceeded in past years. The 1970 campaign, for example, had a goal of $114,369. Contributions from KSC, the Air Force Eastern Test Range and other federal facilities within Brevard County reached a total of $123,996.

Purpose of the meeting is to establish recipient agency needs and select an executive committee to organize the 1971 CFC drive.

Vice Chairman for the 1971 campaign is Col. Edward C. Merrithew, Director of Civil Engineering at the AFETR.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JUN 4 1970

news release

RELEASE NO: KSC-212-70
FOR RELEASE: June 3, 1970

KSC PLANS SIX UNMANNED LAUNCHES BEFORE YEAR OUT

KENNEDY SPACE CENTER, Fla.--Five launches from Cape Kennedy and a sixth from the Western Test Range are scheduled by the Kennedy Space Center's Unmanned Launch Operations Directorate during the second half of 1970.

Intelsat III-H, newly added to the 1970 schedule, is slated for launch July 15 from Complex 17A. Delta 79 will boost the International Telecommunications Satellite into orbit.

Delta 80 will be used to orbit Skynet-B on August 19 from the same complex. The spacecraft will be the second of two launched by ULO for the United Kingdom. It will go into a synchronous equatorial orbit over the Indian Ocean.

The satellite pair will provide the United Kingdom with a military communications capacity as anintegral part of the Initial Defense Communications Satellite Program (IDCSP).

The second of two North Atlantic Treaty Organization communication satellites, NATO-B, will be orbited from Complex 17A on September 23 by Delta 81. The NATO satellites, in synchronous orbits over the Atlantic Ocean, will provide an immediate communications capability among NATO members.

Also scheduled for late September is the launch of an Orbiting Astronomical Observatory (OAO) on a Centaur (A/C-21) launch vehicle. An extremely complex satellite, OAO permits telescopic observations of the Universe to be made from above the earth's atmosphere.

The remaining two launches during 1970 are tentatively scheduled during November from Complex 17A at Cape Kennedy and from Space Launch Complex-2 West (SLC-2W) at the Western Test Range.

An Improved TIROS (Television Infra-Red Observation Satellite) Operational Satellite, designated ITOS-A. will be orbited from SLC-2W by Delta 82. ITOS-A is the second of 6 satellites sponsored jointly by NASA and

-more-

the Commerce Department's Environmental Science Services Administration (ESSA). The program is designed to establish global weather prediction.

An Interplanetary Monitoring Platform (IMP), carried into a high-apogee orbit by Delta 83, is the final scheduled Cape Kennedy launch during 1970. IMP-I is designed to study radiation environment between the Earth and the Moon's orbit and the interplanetary magnetic field.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JUN 4 1970

news release

RELEASE NO: KSC-213-70
FOR RELEASE: June 3, 1970

SEVEN NASA-KSC EMPLOYEES TO PURSUE GRADUATE STUDIES

KENNEDY SPACE CENTER, Fla.,--Seven NASA employees at the Kennedy Space Center will soon begin full-time graduate study programs coordinated by the Personnel Office, while three others will be returning to the Spaceport following graduate study.

William H. Schick, Launch Operations (LO), will go to the University of Southern California in Los Angeles for his Masters Degree in Aerospace Operations Management.

Robert L. Fairman, Administration; Emmett G. Sherrill, Technical Support; Thomas E. Utsman, Design Engineering; and Albert M. Koller, LO, will be pursuing a Doctorate in Business Administration at Florida State University (FSU).

Thomas E. Martin, Launch Vehicle Operations (LVO), will be in a graduate-level study program at FSU and Albert E. Jorolan, LVO, will be pursuing a Master of Engineering program at the University of Florida.

Returning from FSU after Doctorate studies in Business Administration are John Rice, Administration, and James Ragusa, Support Operations. Dick Uhrmann, Administration, is returning from the University of New Mexico after studying for a Masters Degree in Public Administration.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JUN 4 1970

news release

RELEASE NO: KSC-214-70
FOR RELEASE: June 3, 1970

FILM LIBRARY DOES LANDSLIDE BUSINESS IN KSC TERRITORY

KENNEDY SPACE CENTER, Fla.,--If the film loaned by the Kennedy Space Center's film library during 1969 were unrolled and placed end to end...it would extend from the Spaceport to Los Angeles.

About 5,267 films were issued by the library to schools, colleges, civic groups, industry and TV stations last year. KSC's territory covers Florida, Georgia, Puerto Rico and the Virgin Islands.

This function is under KSC Installation Support, F. H. Miller, Director; J. F. Russo, Documentation Division and Leo Davis, in charge of the Photographic Branch.

"We receive 40 to 50 requests a day for films, with the requests running from one to 60 titles," stated Ed Marsden, Supervisor of the Presentations and Visual Aids section of LTV/STC. "Requests for films are increasing about 8 to 12 percent per year."

The library containing 750 titles is run by Dianne Barnes, Librarian, under Publications Manager, R. P. Senecal; H. J. Hays is LTV/STC Project Manager at KSC.

"Our heaviest demand for films is just before a manned Apollo launch and then many requests for the mission pictures immediately after the mission ends," stated Miss Barnes.

Of the 750 titles in the KSC Library, about 30 percent have been produced by the staff at this Center under the direction of Dan Leto, Film Productions head for Technicolor.

In 1969, approximately 2,285,000 persons saw films from the KSC Film Library in 13,343 showings. Seventeen percent, or about 395,000 viewers, were from elementary, junior and senior high schools and colleges. More than 65 percent were educational TV audiences.

In addition to the above total, 356,697 people saw films from the library in showings at the KSC Visitors Information Center.

-more-

In terms of popularity, "Debrief-Apollo 8," produced by KSC in 1969, has been shown 482 times with an audience of 57,066.

"The John Glenn Story," produced in 1963, remains a favorite, having been shown 411 times to 46,786 viewers.

Other titles high on the list of requests are: "America in Space -- First Decade," 39,431 viewers; "Clouds of Venus," 33,435; and "Apollo 11 Launch Mission Report," 36,118.

"Apollo 9 -- Spider and Gumdrop," "Flight of Apollo 7," "Doorway to Tomorrow," "Universe," and "Four Days of Gemini 4" follow in that order of popularity.

Free loan of films may be made to residents of the United States and Canada who are representatives of educational, civic, industrial, professional, youth activity and Government organizations.

A catalog containing a partial list of titles is available by writing Public Affairs Office, KSC Film Library, Attention LTV P23, Kennedy Space Center, Florida 32899.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JUN 4 1970

news release

RELEASE NO: KSC-215-70
FOR RELEASE: June 3, 1970

'THERE'S ROOM AT TOP', KSC ENGINEER TELLS CONN. STUDENTS

KENNEDY SPACE CENTER, Fla.--"I told students from Weaver High School I wasn't an astronaut...not because I was black, but because I weighed too much," Remer Prince said with a grin.

Prince, an engineer in the Launch Vehicle Checkout Automation and Programming Office at the Kennedy Space Center and seven other Negro scientists and engineers visited Hartford, Conn.'s three high schools to show the minority students that the space program is bi-racial and to assure them if they qualify, there is room at the top.

The four NASA representatives from KSC, Goddard Space Flight Center and NASA Headquarters and four from the Hartford area said they were apprehensive of the type of reception they would receive and of the questions they would be asked.

Why were there no black astronauts? Why was so much money being spent on the space program when there were problems closer to home? And why had they "sold out" and joined the white establishment?

The reception was cordial to warm, he said with no militancy among the students.

Prince told the students that everyone who works for NASA does not have a college degree.

Plumbers, electricians and dozens of other technical personnel with a wide variety of skills are employed by the agency, he said, and are given many responsible positions.

"If you're not going to college, prepare yourself in other skilled areas," Prince said.

Prince is the lead Automation Engineer for Apollo 14 as he was on Apollo II. He must assure that the computer programs used to check out the launch vehicle are in proper configuration to support the testing schedule leading to launch.

He lives with his wife and two children in Titusville.

# # #

PUBLIC INFORMATION OFFICE, AREA CODE 305-867-2468

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-216-70
FOR RELEASE: June 3, 1970

SUCCESS OF APOLLO PROGRAM BIG THRILL TO DON PHILLIPS

KENNEDY SPACE CENTER, Fla.,--"My greatest thrill has been the overall success of the Apollo Program and the first manned landing on the moon."

These words come from Don Phillips, who at 38 is a 10-year veteran in the space business.

At work Phillips faces the complex task as Chief Test Supervisor in Launch Operations at the Kennedy Space Center of coordinating operational testing schedules and establishing work priorities on different space vehicles being prepared for launch.

At home in Titusville with his wife Judy and two children, Susan 9 and Phil 7, he enjoys sporting activities.

"Phil likes baseball," he said, "but Susan prefers the beach and swimming."

Phillips fixes things around the house and repairs his automobiles. Another favorite pasttime is playing chess.

As Chief Test Supervisor, Phillips is in charge of the overall operational management of Launch Complex 39.

"I keep up with day to day activities," he said, "making sure the complex is ready for heavy testing on a space vehicle.

When more than one vehicle is in flow, I establish priorities when required. For instance, if both flows need a piece of equipment and only one is available, I decide which flow gets that piece of equipment."

Phillips also does a lot of reading, keeping abreast of future programs that he will be involved with this decade.

Already he is working closely with Jack Gerding, Deputy Test Operations Manager, who is responsible in Launch Operations for the implementation of modifications at LC-39 for Skylab, a program that will involve launching a Saturn IB from Pad B and a Saturn V from Pad A only days apart in 1972.

-more-

"We coordinate our work so that the flow of Apollo 14 isn't impacted and the Skylab mods proceed smoothly," Phillips said.

Prior to assuming his present position, he served as Lead Test Supervisor for the launch of the following missions:

AS-203, July 5, 1966, launch vehicle development: Liquid hydrogen evaluation flight of the Saturn IB second stage vent and restart capability and also a test of the second stage, instrument unit separation and cryogenic storage at zero "G." The Flight terminated during a liquid hydrogen pressure and structural test.

Apollo 5, AS-204, January 22, 1968, lunar module (LM) development: First flight test of LM verified ascent and descent stages propulsion systems, including restart and throttle operations and evaluation of LM staging and Saturn IB second stage and instrument unit orbital performance.

Apollo 7, AS-205, October 11, 1968, first manned Apollo flight, Commander Walter Schirra, Command Module Pilot Donn Eisele and Lunar Module Pilot Walter Cunningham, 10.8 days duration, eight successful service propulsion firings, rendezvous with Saturn IB second stage to within 70 feet.

Apollo 10, AS-505, May 18, 1969, manned lunar mission development flight to evaluate LM performance in the cislunar and lunar environment, descent of LM to within 50,000 feet of lunar surface, Commander Tom Stafford, Command Module Pilot John Young and Lunar Module Pilot Eugene Cernan.

"My biggest emotional peak," Phillips said, "came on Apollo 7. We were over at Pad 34 and the launch team had a feeling of real closeness due to the proximity of the support building, launch control center and the launch pad.

"We had set our day for launch six months in advance, and although we missed our exact T-0 time due to an egress elevator failure, we launched on the scheduled day for the first time in the Apollo series."

As for the overall space program, Phillips is an optimist.

-more-

"I think it goes a lot deeper than most people think," he said. "We'll always have a space program.

"However, we'll have to continually strive for more economy... more pounds in orbit for the dollar."

Phillips said man will have to be in the loop in space to keep all the sophisticated laboratories, astronomy equipment and communications, weather, earth resources and technological satellites in operation.

One sidelight of his job that Phillips enjoys is briefing and escorting on tours important visitors to KSC.

"We get to meet a lot of interesting people," he said, "such as Sir Bernard Lovell, Gregory Peck and Dr. Robert Seamans."

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JUN 5 1970

BX4
180

news release

RELEASE NO: KSC-217-70
FOR RELEASE: June 4, 1970

NEGOTIATIONS COMPLETED FOR SKYLAB SPACECRAFT

The National Aeronautics and Space Administration has completed negotiations of a supplemental agreement to the Apollo spacecraft contract with North American Rockwell Corp., Space Division, Downey, California to provide four command and service modules for the Skylab Program.

This supplemental agreement definitizes the letter contract issued March 1969. The estimated cost of the cost plus fixed fee/award fee supplement is $305,700,000. The total estimated cost of the CPFF/AF contract for both Apollo and Skylab is $3,618,006,813 (total cost and fee).

The spacecraft will be used to transport astronaut crews to the Earth orbiting Skylab in late 1972 and 1973.

North American will provide supporting test and checkout services in addition to manufacturing the spacecraft. The major portion of the work will be performed at the contractor's facility in California. Prelaunch support operations will be carried out at the NASA Kennedy Space Center, Fla. and related test activities at the NASA Manned Spacecraft Center, Houston.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JUN 5 1970

news release

RELEASE NO: KSC-218-70
FOR RELEASE: June 4, 1970

SKYLAB MODIFICATION WORK

KENNEDY SPACE CENTER, Fla.---Following up the decision to consolidate manned space launches at Complex 39, the Center expects to contract for architectural and engineering services by mid-June for design of structural modifications required to accommodate the Saturn IB launch vehicles.

The task includes a pedestal 127 feet tall which is to be erected on the deck of Mobile Launcher 1, originally fabricated for the taller and more powerful Saturn V rockets. This elevated launcher permits the S-IVB stage and payload to remain in the same juxtaposition for either the Sautrn V or Saturn IB. Also included will be an engine servicing platform, modifications to High Bay #3 platforms and Mobile Service Structure platform 1 to accommodate the smaller diameter Saturn IB first stage. The IB is 22 feet in diameter as compared to 33 feet in diameter for Saturn V.

Fixed priced contracting for construction is planned with bidding firms being allowed the option of on-site or off-site fabrication. There appears to be advantages in fabricating the elevated launcher off-site and transporting it, in segments as large as can be reasonably handled, by barge to the Vehicle Assembly Building basin. The pieces will then be off-loaded and moved into the transfer aisle of the VAB and erected by the 250-ton overhead crane onto Mobile Launcher #1 in High Bay #3.

Award of the contract for fabrication and installation is anticipated by mid-November. Erection would begin about May 1, 1971 and be completed by July 1, 1971.

Firing accessories and ancillary equipment will be designed by the Directorate staff supported by Pan Am for detailed design and drafting. The installation of much of these accessories will be done by the existing support contractors at KSC.

Complexes 34 and 37 on Cape Kennedy are no longer required for Saturn IB vehicles and to the extent feasible, equipment presently installed there will be relocated and used at LC-39.

-more-

D. D. Buchanan, Deputy Director of Design Engineering, said a testing program for the modified mobile launcher will be scheduled prior to the first launch. The Saturn IB flights will transport astronauts to an earth orbiting sky laboratory, known as Skylab, which will be launched aboard a Saturn V vehicle.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JUN 12 1970

news release

RELEASE NO: KSC-219-70
FOR RELEASE: June 11, 1970

ROBERT H. GRAY NAMED KSC DEPUTY LAUNCH DIRECTOR

KENNEDY SPACE CENTER, Fla.,--Robert H. Gray, KSC's Director of Unmanned Launch Operations, has been appointed Deputy to Walter J. Kapryan, the Spaceport's Director of Launch Operations, according to an announcement by Dr. Kurt H. Debus, KSC Director.

Gray was among the first group of engineers to join NASA in 1958 when the Naval Research Laboratory's Vanguard Program personnel were transferred to NASA, shortly after establishment of the Agency. At that time he was the Vanguard Launch Director and had held that post since 1955.

He has directed 145 launches of unmanned space vehicles. These launches from both the East and West Coasts have included all of the civilian and commercial communications satellites such as Echo, Telstar, Syncom, Early Bird, and Intelsat, as well as the Mariner planetary probes; the Ranger, Lunar Orbiter and Surveyor lunar spacecraft; and a large variety of scientific, weather and international satellites.

In his new capacity Gray will assist Kapryan in the management and direction of pre-flight operations and integration, test, checkout, and launch of all NASA space vehicles, both manned and unmanned, for KSC.

Following his position as Vanguard Operations Manager, Gray was named Chief of the Goddard Space Flight Center's Field Projects Branch at both the Atlantic and Pacific Missile Ranges. He assumed his present duties at KSC when the Goddard Launch Operations were consolidated into the KSC organization in 1965.

Prior to joining the Naval Research Laboratory, he was associated with the Bell Aircraft Corporation at Buffalo, New York where he was in charge of the design and operation of the extensive Group Instrumentation Facilities used for rocket engine testing. The engines used on the Agena stages were under development during this period.

Dr. Gray is a graduate of Allegheny College in Meadville, Pennsylvania with a Bachelor of Science degree in Physics. He received an Honorary Doctorate of Science Degree from his alma mater in 1968.

-more-

He holds a reserve commission as major in the U.S. Air Force and spent three and one half years on active duty and served as an aircraft engineering officer following his commissioning from Yale University.

While with the Naval Research Laboratory on the Vanguard Program, Gray received the U.S. Navy's Outstanding Performance Award for his efforts. In 1962 he received from Goddard Space Flight Center the NASA Distinguished Service Award for his outstanding work in launch operations.

In 1963 he and his Delta Vehicle Launch Team were among those honored with receipt of the first NASA Group Achievement Award for their performance in launching Delta Space vehicles.

He was included in a second Group Achievement Award which was awarded jointly by Goddard Space Flight Center and Lewis Research Center for "Outstanding Achievement and Significant Contributions to Mankind's Understanding and Use of Space by Conducting the World's Most Successful Launch Operations Program for Orbiting Unmanned Spacecraft."

In 1967 the Administrator of NASA awarded the NASA Exceptional Service Medal for Outstanding Technical and Leadership Accomplishments in the NASA Launch Vehicle Programs for Unmanned Space Flight and for his Exceptional Abilities as Launch Director which have contributed Significantly to Man's Knowledge of his Space Environment and to the Emergence of an Era of Practical Applications of Space.

Also in 1967 he received the first annual Florida Air Force Association's "General Brereton Award" given to the civilian who made Outstanding and Significant Contributions in the Aerospace Field in the USA. Gray has been cited in more than ten NASA Group Achievement Awards for his contributions to this nation's space program.

He is a member of the AIAA and has served as Vice President of the Niagra Frontier Section of the former American Rocket Society and was on the Board of Directors of the Cape Kennedy Section of the AIAA. He is a member of the Air Force Association and the Instrument Society of America.

Gray and his family live in Cocoa Beach.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

JUN 9 1970

RELEASE NO: KSC-221-70
FOR RELEASE: June 5, 1970

SKYLAB SIMULATOR CONTRACT

The National Aeronautics and Space Administration has selected the Space Division of General Electric Co., and the Link Division of Singer-General Precision, Inc., both of Houston, for competitive negotiations leading to a contract for development of a crew training simulator to be used in training flight crews for the Skylab (formerly Saturn Workshop).

Value of the cost-plus-award fee is estimated to exceed $3.5 million, and will include design, fabrication, installation, checkout, simulation programs, on-site systems engineering and supporting documentation.

The Skylab simulator, to be located at the Manned Spacecraft Center, will simulate system characteristics of the Skylab orbital workshop in both normal and malfunction modes.

It may be operated in conjunction with the Mission Control Center and the existing Command Module Simulator for integrated training of flight crews and flight controllers.

Skylab, scheduled to be launched in 1972, consists of a modified Saturn V third stage (S-IVB) outfitted on the ground as living quarters for three astronauts and includes a solar observatory called the Apollo Telescope Mount (ATM), an airlock module, and a multiple docking adapter. The first flight crew will occupy and work in the Skylab for up to 28 days, with two subsequent crews remaining for up to 56 days.

In addition to the solar astronomy experiments with the ATM, the Skylab will provide facilities to develop data on man's capabilities to operate for extended periods in Earth orbit, to make meteorological and Earth resource observations and to carry out medical, scientific and technical experiments.

The contract will be administered by the Manned Spacecraft Center, Houston, under the direction of NASA's Office of Manned Space Flight, Washington.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JUN 9 1970

news release

RELEASE NO: KSC-222-70
FOR RELEASE: June 8, 1970

MILES ROSS IS NAMED DEPUTY DIRECTOR AT KSC

WASHINGTON, D. C.,---Miles Ross, Deputy Director, Center Operations at the Kennedy Space Center (KSC) in Florida, has been named Deputy Center Director at the Spaceport, Dr. Thomas O. Paine, Administrator for the National Aeronautics and Space Administration, said today.

This announcement follows a decision to consolidate the two deputy positions formerly held by Ross and by Albert F. Siepert, Deputy Director, Center Management. Siepert resigned in March to take a position with the University of Michigan.

Dr. Kurt H. Debus, Director of KSC, said, "Because of Mr. Ross' extensive experience in managing space-oriented programs and his high standing in the aerospace community, he was selected to fill the positon of Deputy Director at the Kennedy Space Center."

Ross had held the position of Deputy Director, Center Operations, since September, 1967. He was responsible for operations related to engineering matters and the conduct of the Center's technical operations.

Prior to his assignment at KSC, he was a Project Manager of the Air Force Thor and Minuteman missile systems with TRW, Inc., Florida Operations, and later became Director of Flight Operations. He was subsequently named Manager of Florida Operations.

Ross also held the position of Flight Test Conductor at China Lake Naval Ordance Test Station for the Terrier missile program while employed by the Applied Physics Laboratory of the Johns Hopkins University. He became Opeartions Manager of the Terrier program for Convair before coming to Brevard County, Florida.

A native of New Brunswick, New Jersey, Ross is a graduate of Massachusetts Institute of Technology where he majored in Mechanical Engineering and Engineering Administration.

Ross and his wife, the former Patricia Remmey of Fairbault, Minnesota, reside in Cocoa Beach, Fla. They have four sons.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-223-70
FOR RELEASE: June 8, 1970

NOTE TO NEWS MEDIA

KENNEDY SPACE CENTER, Fla.---The two-day Skylab press briefing at the Marshall Space Flight Center (announced in KSC News Release #207, dated June 1, 1970) has been rescheduled from June 15-16 to June 29-30.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-225-70
FOR RELEASE: June 9, 1970

SPACEPORT EXTENDS FEDERAL ELECTRIC CORPORATION CONTRACT

KENNEDY SPACE CENTER, Fla.,--The National Aeronautics and Space Administration's John F. Kennedy Space Center has extended its communications and instrumentation support contract with the Federal Electric Corporation, 621-671 Industrial Avenue, Paramus, New Jersey, for an additional year.

The $17,839,162 extension of the cost plus award fee contract extends from July 1, 1970, through June 30, 1971, and is the fourth year of performance under the basic contract calling for a total of five years with annual renewals. The basic contract was negotiated competitively.

FEC performs a wide variety of instrumentation and communications support services at the nation's Spaceport from where the Apollo lunar exploration missions are launched.

These include calibration and standards, field operations and laboratory measurements, data storage and retrieval, automatic data processing, telemetry functions, computer operations, real time data display, instrumentation planning, and launch facilities and environmental data measurements systems as well as numerous internal and external communications operations.

FEC will have received a total of $58,088,166 for the first three years of the contract when Fiscal Year 1970 ends on June 30, 1970.

KSC launches manned Apollo Saturn V missions from the Spaceport's Complex 39 and unmanned launches from facilities at Cape Kennedy and the Western Test Range in California.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-226-70
FOR RELEASE: Immediate

June 11, 1970

SUMMER EMPLOYMENT PROGRAM UNDER WAY AT SPACEPORT

KENNEDY SPACE CENTER, Fla. -- For the sixth consecutive year, the Center will participate in the Federal Summer Employment Program for Youth.

A total of 117 young people will be engaged in two separate activities. Most will be high school and college students. There are a few teachers from four Florida colleges and two local high schools.

The largest number of temporary workers, 73, will serve in the Summer Aid activity. This is designed to provide jobs for needy youth in the 16-21 age bracket who might not otherwise have job opportunities. Some 70,000 Summer Aids will be employed by Federal installations across the nation.

In the college undergraduate, postgraduate and faculty activity at the Center, approximately 44 appointments will be made. Undergraduate students are selected from competitive Civil Service registers. Postgraduate student and faculty appointments are made under authority granted the Center by Federal regulations.

Summer employees in this group are employed in administrative, clerical and engineering fields. Their employment is planned to give them an insight into aerospace techniques and procedures which they can share with students and faculty members when they return to school.

According to James T. Lane, Jr., coordinator of the program for the KSC Personnel Office, this employment has been an important factor in the accomplishment of the Center's missions.

"We have found that summer employees are eager to learn and often come up with innovative ideas," says Lane.

- more -

Some temporary employees in past years have gone to full-time jobs with both NASA and its contractors. An important fringe benefit realized by many students is the encouragement they receive from supervisors to continue education.

Under the guidance of Lane, two educators from nearby colleges organize and conduct training classes for Summer Aids. They are assisted in the classroom by instructors supplied by NASA, aerospace contractors and Brevard Junior College.

Rogers Mansfield of Brevard Junior College is responsible for Aid training. Walter Floyd of Bethune-Cookman College is responsible for counselling.

"Our summer youth program to date has been marked by the diligence and interest displayed by students," says Mansfield.

A feature of the Summer Aid activity is a Youth Council on which elected students work with Mansfield and Floyd to evaluate accomplishments. Mansfield terms student involvement in the council, "highly successful."

A program to recognize the Aids is held at the end of their training. Included will be the presentation of certificates of achievement, comments by community leaders and a keynote address by a representative of the President's Council on Youth Opportunity.

- end -

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JUN 12 1970

news release

RELEASE NO: KSC-228-70
FOR RELEASE: June 10, 1970

NORTH AMERICAN ROCKWELL AWARDED SPACE SHUTTLE STUDY CONTRACT

KENNEDY SPACE CENTER, Fla.,--The National Aeronautics and Space Administration's John F. Kennedy Space Center has awarded a $52,000, seven and one-half month study contract for the Space Shuttle to North American Rockwell's Space Division, Downey, California.

The negotiated contract is for a study of methods of assessing structural integrity for the Space Shuttle for the Electronics Branch of the Electrical/Electronic Systems Division.

The objective is to identify methods of structural integrity testing that will be capable of verifying Space Shuttle structural members in a timely manner.

The Kennedy Space Center launches all the nation's manned missions from the Spaceport's Launch Complex 39 and launches numerous scientific satellites and spacecraft from facilities at Cape Kennedy and the Western Test Range in California.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JUN 15 1970

news release

RELEASE NO: KSC-230-70
FOR RELEASE: June 11, 1970

DR. DEBUS PRESENTS SAFETY AWARDS TO THREE SPACEPORT CONTRACTORS

KENNEDY SPACE CENTER, Fla.,--Three Spaceport contractor firms - General Electric, the Federal Electric Corp., and the International Business Machines Co. - were honored for outstanding 1969 safety records by KSC Director Dr. Kurt H. Debus in a ceremony here Thursday morning.

The awards were earned in the peak year of Project Apollo launch activity. Four manned Apollo Saturn V launches were conducted, including two Apollo missions which succeeded in placing American astronauts on the moon.

'We have had an outstanding safety performance by your three companies," Dr. Debus told the companies' base managers and safety directors. "Let me congratulate you on your excellent contributions. Accidents don't just happen. They are man made and you have done an excellent job in preventing them."

The three companies involved have worked an aggregate of 9,118,008 man-hours since their last lost-time accident.

The Outstanding Achievement Award for all KSC contractors went to the General Electric Co.

Dr. Debus noted that GE had suffered no lost-time accidents during 1969, a year in which its personnel logged 2,448,647 man-hours at work. The no lost-time record extends back into 1968 with company personnel working 3,525,221 man-hours since the last lost-time accident.

"Management and employee support has been excellent," said Dr. Debus of the GE safety record. "Management never permits safety problems to stagnate, solutions are prompt, firm and in the best interests of safety."

The award was accepted on behalf of General Electric by Al Lowell, Manager Kennedy Programs; Cal Fowler, Manager for Operational Services and Engineering, and John Hook, Safety Manager.

-more-

IBM, presented the 1969 award for stage contractors, sustained no lost-time accidents during the year in which its personnel worked 1,243,480 man-hours. Company personnel have logged 4,323,207 man-hours since the last lost-time accident occurred.

Dr. Debus noted that during the month of September and for the remainder of the year, a "plus" was added to IBM's overall evaluation since it was felt it had been earned for the company's consistent zero accident frequency over a prolonged period with more than 4.3 million man-hours worked without a lost-time accident.

The award was accepted on behalf of IBM by R. Ehrhardt, Facility Manager; W. Koleta, Safety Manager, and Carl Bird, Product Assurance Manager.

Federal Electric won the safety award for support contractors.

FEC company personnel sustained only three lost-time accidents against a total of 3,785,767 man-hours worked.

Noted Dr. Debus: "The Safety Engineer has reorganized his Safety Committee, imposed responsibilities upon them for safety improvements in their respective areas and has been successful in maintaining an accident free record since August.

"First aid cases have been reduced five per cent in each month since May. Housekeeping in areas of occupancy has been notably improved and the effort continues."

The award was accepted for FEC by T. J. Cameron, Base Manager, and John S. Cheney, Safety Director.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JUN 16 1970

news release

RELEASE NO: KSC-231-70
FOR RELEASE: June 16, 1970

HOCK NAMED ACTING DEPUTY MANAGER OF KSC APOLLO-SKYLAB PROGRAMS

KENNEDY SPACE CENTER, Fla.,--Robert C. Hock, who has a background in rocket propulsion, nuclear engineering and space program management, is now serving as Acting Deputy Manager, Apollo-Skylab Programs, Kennedy Space Center, Fla.

Hock assumed his new position when the Apollo Program and Skylab Program Offices at the Spaceport were combined. He had been serving as Deputy Manager, Skylab Program, since 1967 when the then Apollo Applications Program Office was established. The name "Apollo Applications" was recently changed to "Skylab."

Hock earned a Bachelor of Science degree in Mechanical Engineering from Georgia Institute of Technology and received his commission in the Army Air Corps in 1943. He retired as Lt. Col., U.S. Air Force, in April, 1966.

Until 1947, Hock worked in research and development at Wright Field, Dayton, Ohio. During this period he studied rocket propulsion at the California Institute of Technology.

In 1947 Hock left the Air Force to take the position of Senior Engineer for ground equipment design with Eastern Airlines.

After two years with Eastern, he returned to active duty and, following a course in atomic energy training, entered Nuclear Weapons Operations, where he served until 1953.

After earning a Master's degree in Nuclear Engineering at North Carolina State College, he served as Chief of the Propulsion Branch in the Nuclear Powered Aircraft Project Office at Wright Field, and on the staff at the Deputy Chief of Plans of the Air Force Systems Command.

In February 1962, he was transferred, on loan to NASA, to Launch Operations Directorate at Cape Kennedy. As Program Manager for the Reactor in Flight Test (RIFT) Nuclear Rocket Program, he remained at the Cape until 1964. At that time he was transferred to Washington in the HQ USAF Space Division Office, Directorate of Development Plans.

-more-

He remained there as Program Manager for the Air Force Space Study Program until his retirement in April 1966.

Hock rejoined NASA in May, 1966, as Chief of the Advanced Programs Office having responsibility for KSC activities in the Apollo Applications Program, advanced planning for space station, lunar and planetary missions and for supporting development.

Mr. Hock resides with his wife and family at 377 North Point Court, Satellite Beach.

Mr. Hock's son, Steven, is a recent graduate of Georgia Institute of Technology in Aerospace Engineering. Daughter Peggy attends Columbia University and a son, David, is a senior at Satellite High School.

Mrs. Hock is the former Mary Jane Adams of Atlanta, Georgia.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JUN 16 1970

news release

RELEASE NO: KSC-232-70
FOR RELEASE: Immediate

June 15, 1970

SPACE STUFF SHOWS UP ON STORE SHELVES

KENNEDY SPACE CENTER, Fla. -- Commercial products--derived from materials and technology developed for the space program--are showing up on store shelves.

James O. Harrell, the Spaceport's Technology Utilization Officer, reports that many companies are now marketing space-derived products. For example, a lightweight, aluminized material used for the Echo satellite in 1962, is now being made into a line of outdoor blankets, sportswear and home fabrics such as drapes.

Another new commercial product available in local stores is a high-energy food stick. The astronauts take these compressed "snacks" along on lunar flights, and a food company is now marketing these sticks in various flavors.

Also along the food line is a cooking pin derived from the "heat pipe" long in use by the aerospace industry. It looks like a very large silver nail but contains a heat transferring liquid and may cut in half the cooking time for a roast of meat.

A product especially useful around the home is a "super glue" derived from silicone sealants which seal some of the joints of spacecraft and satellites. The sealants are being marketed under a number of trade names.

Another product for the home is an inorganic house paint which resists heat, cold, fire and chipping. It was developed as the paint to be used on the outside of spacecraft.

Both professional and do-it-yourself plumbers will find use for another product that has just come on the market. This is a tube swager originally developed for joining tubes on space vehicles. This unique device utilizes a blank 22-cartridge and eliminates the need for soldering devices.

Currently, hospitals are utilizing sensors to monitor patient heart and respiration rates, a direct application of manned space flight technology.

- more -

The near future will bring another application of manned space flight to hospitals--a commercial product derived from the Apollo astronauts' spacecraft couches. Using the basic design of nonflammable material and the springless couch, a company is marketing mattresses which are expected to be utilized by hosptials and nursing homes.

A Technology Utilization exhibit is presently on view at the NASA Visitor Information Center, available to the public at no charge. The exhibit shows various industrial and medical applications of aerospace technology.

- end -

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JUN 16 1970 VAL

news release

RELEASE NO: KSC-233-70
FOR RELEASE: June 16, 1970

CHUCK HENSCHEL LIKES CHALLENGE OF 'SHOOTING FOR THE MOON'

KENNEDY SPACE CENTER, Fla.---"Shooting for the Moon" is a glib phrase for most people.

For Charles F. Henschel it's a challenging fact of life. For "Chuck" Henschel, a 35-year-old Wisconsin native, is Lead Vehicle Test Supervisor for Apollo 14 on a lunar exploration mission scheduled for launch from Complex 39's Pad A on December 3.

Henschel, a Kennedy Space Center test conductor since joining NASA in 1964, faces the awesome responsibility of coordinating the efforts of the launch vehicle and spacecraft elements of the KSC launch team, the Manned Spacecraft Center, the Goddard Space Flight Center Unified S-Band tracking network, the Air Force Eastern Test Range and all other support groups as the clock ticks down toward ignition and fiery flight of the Saturn V from Complex 39.

Lunar launch windows are time critical and seeing that Apollo 14 is threaded through this needle-eye of time is up to Henschel.

"It's something like being an orchestra conductor," explained Henschel. "We must make certain that all interfaces are right and that everyone works together. Planning is the key."

As the countdown clock ticks away the final hours and minutes before Saturn V ignition, Henschel will be busily polling the various launch and support elements to make certain that they are in a "go" condition.

A critical moment comes at T minus 3 minutes, 20 seconds, when Henschel must give the Launch Vehicle Test Conductor approval for the firing command.

The command is passed on and the terminal sequencer is initiated when the firing command is fed into the master computer through a "gate" which opens at T minus 3 minutes, 7 seconds. From here on, the Saturn V is on automatic sequence.

-more-

Henschel is a native of Kiel, Wisconsin, a town about 20 miles west of Sheboygan and 40 miles south of Green Bay, the home of the Green Bay Packers of which Chuck is an ardent fan.

A 1959 graduate of the University of Wisconsin with a bachelor's degree in mechanical engineering, Chuck's first job was with North American Aviation's Columbus, Ohio, Division where he was a flight test instrumentation engineer.

The lure of space exceeded that of aviation and Henschel joined KSC in January, 1964, as a Launch Vehicle Test Conductor working under Robert E. Moser on the Saturn I program at Cape Kennedy.

"I came on board just a few days before the launch of SA-5," recalls Henschel. The Saturn I program kept him busy in the months and years to come and Henschel was a Launch Vehicle Test Conductor on SA-6 through SA-10.

He came over to Complex 39 at the Spaceport as Lead Test Supervisor on SA-501 (Apollo 4), the first unmanned flight of the Saturn V which was to prove or disprove the idea that a 363-foot-tall, 6 million pound collection of hardware, cranky fluids, sweat and tears could actually fly.

"We put in 70 and 80 hour work weeks getting ready for 501," said Henchel. "It was pretty much of a challenge. Some people didn't think it would fly."

Launch was scheduled for 7 a.m., November 9, 1967, and the eyes of the nation were watching over a national TV hookup as the untried rocket on which the country's lunar landing hopes were based went through the final moments of countdown.

Ignition came right on schedule and the Apollo 4 space vehicle logged a perfect flight, clearing the way for the Project Apollo space triumphs which were to follow.

Henschel remembers the Apollo 4 flight as one of the highlights of his space career. Another came with the launch of Apollo 8 on which he served as Pad Test Supervisor.

This was the first manned flight of the Saturn V and it carried Astronauts Frank Borman, James A. Lovell Jr. and William E. Anders into lunar orbit in December, 1968.

Man's first lunar landing came with the Apollo 11 mission of July, 1969, and Henschel played a major role in that launch, too. He was Pad Test Supervisor.

The launch pace has slackened now and Chuck has time for hobbies and pasttimes which were impossible during the high rate of activity as Apollo reached its peak in 1969.

Chuck, his wife, Leslee and son, Christopher Alan, live in a home on a large wooded lot at 218 Flintshire Way, Titusville.

"I like to build things," says Henschel. He does all his own maintenance work on his cars, "putters around the house" and mows his half-acre lot on a ride-and-mow lawnmower. He has his own machine shop.

Among his projects is a dune buggy which he built from scratch. He converted a 1962 Volkswagon frame into a dune buggy in which he tools around Ocala National Forest's boondocks where he owns a lot.

"I like driving the dune buggy into the wilds," says Henschel. "That country reminds me a lot of Wisconsin."

Athletic by nature, Henschel played high school football and basketball and plays in the KARS Softball League. He's also a skiing fan and it doesn't matter much whether the medium is snow or water.

Henschel is firm in his belief that the United States must be committed to probing the potential of space, both in Earth orbit and in journeys to other planets.

"Man is inquisitive by nature," says Henschel, "and that curiosity is an instinct that will have to be satisfied."

Henschel's office is located on the fourth floor of the Launch Control Center with a commanding view of Complex 39. Test supervisors are a rare breed and Henschel is one of eight men specializing in the test supervision of space vehicles capable of blasting men free from Earth's bonds and he sees a need for his specialty in the future.

He is looking forward to the Skylab program in the immediate future and to the Space Shuttle and other space transportation systems to follow.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

JUN 1 0 1970

RELEASE NO: KSC-235-70
FOR RELEASE: June 17, 1970

'SPACE STRUCK' GLORIA DARWIN NOW KENNEDY SPACE CENTER DEPUTY'S SECRETARY

KENNEDY SPACE CENTER, Fla.,--"I was completely space struck!"

This is what prompted Gloria Darwin, executive secretary to Miles Ross, Deputy Director of the Kennedy Space Center, to apply for a job with the National Aeronautics and Space Administration eight years ago.

Alan Shepard and then the late Virgil I. (Gus) Grissom had been catapulted into space on sub-orbital flights in 1961 and Gloria was working in the Service Information Office at the Naval Air Station in Jacksonville when John Glenn became the first American in orbit in February, 1962.

"I requested a job interview right after the Glenn flight," recalls Gloria. She got it and began her NASA career with Support Services in 1962 in what was then the Launch Operations Directorate of the Marshall Space Flight Center. The autonomous Launch Operations Center which was to evolve into KSC did not then exist.

Gloria, an attractive woman with brown hair who makes all the clothes in her chic wardrobe, remained with Support Services for a year before becoming executive secretary to then Deputy Director Albert F. Siepert. While waiting for the Spaceport to be built, they maintained offices in the E & L Building on Cape Kennedy.

Project Gemini was in its early phases when Gloria and her boss moved into the offices on the fourth floor of the KSC Headquarters Building where she has remained ever since.

"When we moved 'right here' in 1965," she recalled, pointing about her office, "the Vehicle Assembly Building had not yet been topped off."

The pace was faster then. Project Gemini was proving out the concepts needed to fulfill the national goal of a lunar landing within the decade of the 1960s, the Spaceport was being made operational and the ambitious undertakings of Project Apollo were in the final planning phases.

"You had the feeling of building, of being in on the ground floor of history in the making," she said of those hectic days.

-more-

Gloria worked with Siepert until his resignation to go to work with a Michigan university. She worked part time for Ross, then Deputy Director for Center Operations, until February when she went to work for him full time.

Gloria is a Brooklyn girl but has no trace of a Flatbush accent.

She attributes this to her marriage at the age of 17 to a career Navy man whose assignments carried them both to many duty stations far beyond hearing range of Flatbush. The Darwins called Jacksonville "home" during the Navy years.

Gloria describes her job as "challenging". During her years with Siepert, her duties extended mainly to the management side of the house. Now, with the merger of administration and operations in Ross as KSC Deputy Director, she has more exposure to the technical side of space.

Her fascination with space remains as great as ever.

"The first landing on the Moon did something Vietnam or the election of a President couldn't do," she observed. "It brought the nation - the whole world - together for at least one day.

The Darwins, residents of Merritt Island, have two children. A daughter, Sharon, is married and lives with her husband in Rochester, N.Y. A son, Wade, works at KSC with the supply department of Trans World Airlines.

Hobbies? "I make all my own clothing and do my own housework," says Gloria. "I guess shopping is a hobby, too; I'm a compulsive buyer."

Her idea of a good vacation is "going somewhere different and doing something different. Then it feels awfully good to get back to work."

"I enjoy my work," she said.

And well she might. In addition to the challenge of her job, the view from her Headquarters Building fourth floor office provides a vast vista covering almost the entire Spaceport.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-236-70
FOR RELEASE: June 15, 1970

SPACE SHUTTLE PHASE A CONTRACT

The National Aeronautics and Space Administration will negotiate with Grumman Aerospace Corp., Bethpage, N. Y., Lockheed Aircraft Corp., Los Angeles, and Chrysler Corp., New Orleans, for 11-month Phase A (feasibility) contracts to study several alternate space shuttle concepts. The Boeing Co., Seattle, will be a major subcontractor to Grumman.

The Grumman/Boeing contract, to be managed by NASA's Manned Spacecraft Center, Houston, involves the study of three shuttle concepts:

(1) A stage-and-a-half shuttle consisting of a single reusable manned spacecraft with an onboard propulsion system and droppable tanks to provide supplementary propellants.

(2) A reusable orbiter with expendable booster. This envisions a second stage orbiting shuttle launched on an existing expendable booster or on a new minimum cost first stage liquid or solid propellant booster.

(3) A reusable first stage using existing J-2S engine technology and solid propellant auxiliary boosters with a reusable second stage orbital shuttle also powered by J-2S engines. The J-2S engine is an advanced version of the J-2 hydrogen-oxygen engines successfully used on the second and third stages of the Saturn V launch vehicle.

Estimated value of the Grumman fixed-price contract is $4 million.

-more-

The Lockheed study, to be managed by NASA's Marshall Space Flight Center, Huntsville, Ala., will define an alternate stage-and-a-half shuttle system including both high and low cross range designs.

Estimated value of the Lockheed fixed-price contract is $1 million. In a related Phase A (feasibility) effort, the Chrysler Corp. will study another concept -- a reusable vehicle that can place a payload into Earth orbit with a single stage. Estimated value of the fixed-price contract is $750,000. The contract will be managed by the Marshall Space Flight Center.

Recently, the National Aeronautics and Space Administration selected the McDonnell Douglas Corp., St. Louis, and the North American Rockwell Corp., Space Division, Downey, Calif., for final negotiations of parallel 11-month Phase B (definition and preliminary design) contracts for studies of the most promising approach to the space shuttle -- the fully reusable two-stage vehicle.

The Grumman/Boeing and Lockheed studies will rigorously reexamine the feasibility of shuttle concepts that might be competitive--technically and economically--with the two stage fully reusable system. The results of these studies, together with those already underway, will assure that nothing is overlooked and that the shuttle concept finally selected for development will indeed provide the most economical space transportation system.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

JUN 18 1970

news release

RELEASE NO: KSC-239-70
FOR RELEASE: June 17, 1970

MORE THAN 200 TOURIST VEHICLES USE GATE 2 DAILY

KENNEDY SPACE CENTER, Fla. -- As many as 200 tourist vehicles used State Road 3 in a day en route to and from the KSC Visitor Information Center during the first two weeks of a three-month trial period.

Between June 4 and 14, more than 2,200 vehicles carrying tourists to the visitor center entered the Spaceport's Gate 2 on Merritt Island from State Road 3. Approximately the same number of visitor vehicles departed via Gate 2.

Visual checks by the KSC Patrol indicate that the number of out of state cars equaled the total of visitor vehicles from Brevard County and other Florida areas.

State Road 3 connects with State Roads 520 and 528, which provide east-west access to the beaches and U.S. 1 and I-95.

Directional signs reflecting Gate 2 access are located on Spaceport roadways and county highways.

Large maps are displayed prominently inside and outside of the VIC, and printed handouts are distributed to visitors.

Visitors are permitted to enter and leave the Spaceport via Gate 2 between 9 A.M. and 6 P.M. daily.

- end -

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-240-70
FOR RELEASE: June 19, 1970

MARTIN MARIETTA AWARDED SPACEPORT SHUTTLE CONTRACT

KENNEDY SPACE CENTER, Fla., --The National Aeronautics and Space Administration's John F. Kennedy Space Center has awarded an 11-month, $76,364 contract to the Martin Marietta Corporation's Denver Division, Denver, Colorado.

The firm, fixed price contract calls for a study of propellants and gas handling facilities needed for the space shuttle system of the mid to late 1970's.

The place of performance is Denver with trips to be made to KSC and the Marshall Space Flight Center to study existing propellants and gas handling techniques and facilities.

KSC conducts all the nation's manned Apollo lunar exploration launches from the Spaceport's Complex 39 and launches numerous scientific satellites and spacecraft from facilities at Cape Kennedy and the Western Test Range in California.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-241-70
FOR RELEASE: June 19, 1970

SPACEPORT AWARDS STC SUPPORT CONTRACT EXTENSION

KENNEDY SPACE CENTER, Fla.,--The National Aeronautics and Space Administration's John F. Kennedy Space Center has negotiated an extension to its contract with Service Technology Corporation, Dallas, Texas, for information support services at the nation's Spaceport.

The contract includes administrative support, reproduction, and publications (graphic).

The period of contract performance extends from July 1, 1970, through March 31, 1971. The amount of the cost-plus-award-fee contract is $3,928,781.

KSC conducts manned launches from Complex 39 in the Apollo Saturn V lunar exploration program and unmanned launches from facilities at Cape Kennedy and the Western Test Range in California.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-242-70
FOR RELEASE: June 19, 1970

SPACEPORT AWARDS TWA SUPPORT CONTRACT EXTENSION

KENNEDY SPACE CENTER, Fla.,--The National Aeronautics and Space Administration's John F. Kennedy Space Center has negotiated an extension to its contract with Trans World Airlines Inc., New York, N.Y., for base support services at the nation's Spaceport.

The contract includes operations support, plant engineering and maintenance, logistics operations, fire protection, security, mail and distribution and quality assurance.

The period of contract performance extends from July 1, 1970, through March 31, 1971. The amount of the cost-plus-award-fee contract is $24,352,091.

KSC conducts manned launches from Complex 39 in the Apollo Saturn V lunar exploration program and unmanned launches from facilities at Cape Kennedy and the Western Test Range in California.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-246-70
FOR RELEASE: June 25, 1970
3:00 p.m.

AC ELECTRONICS AWARDED SPACEPORT CONTRACT

KENNEDY SPACE CENTER, Fla.--The National Aeronautics and Space Administration's John F. Kennedy Space Center has awarded a $2,534,200 contract to the AC Electronics Division, GMC, Milwaukee, Wisconsin.

Under the Cost Plus Fixed Fee contract, AC Electronics is to provide Apollo command/service module and lunar module guidance and navigation systems test and mission support at the nation's Spaceport for the Apollo and Skylab programs.

The contract extends from July 1, 1970, through December 31, 1972.

KSC conducts manned launches for the Apollo lunar exploration program from the Spaceport's Complex 39.

In addition, KSC launches a large variety of scientific spacecraft and communications and weather satellites from facilities at Cape Kennedy and the Western Test Range in California.

# # #

PUBLIC INFORMATION OFFICE, AREA CODE 305-867-2468

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

JUL 1 1970

RELEASE NO: KSC-247-70
FOR RELEASE: June 29, 1970

YOUNGSTOWN, OHIO, FAMILY HONORED AS THEY PUSH SPACEPORT TOUR PATRONAGE MARK PAST 3 MILLION

KENNEDY SPACE CENTER, Fla.--"Royal" welcomes are accorded all Spaceport tour patrons but a pleasantly surprised Youngstown, Ohio, family received a special surprise here Friday when they pushed the patronage past the three million mark.

The family that marked the 3 millionth visitor since guided bus tours were initiated on July 22, 1966, was that of Dr. and Mrs. John Werning, Youngstown, Ohio.

With the Ohio couple were their three children: John Jr., 10; Linda, 8, and Paul, 3.

Dr. Werning, an anesthesiologist, his wife, Marcia, and their children are on their summer vacation. They had already visited St. Petersburg and Sanibel Island when they arrived at the Visitor Information Center, reached via the NASA Causeway off U.S. Route 1, two miles south of Titusville.

They were immediately taken to the Headquarters Building and into the office of Dr. Kurt H. Debus, KSC Director, who presented them with a large framed color photograph of an Apollo/Saturn V.

Following the photographic presentation and informal visit with Dr. Debus, the family was taken on a special tour of the Center by a KSC official.

Trans World Airlines, operator of NASA's guided bus tours, and the community extended cordial welcomes to the Wernings on their return to the Visitor Information Center.

George Friedrich, TWA Manager for NASA Tours, presented the family with a home movie outfit. Marcia Werning received a silver charm bracelet with eight charms depicting NASA's progress in the exploration of space.

-more-

The family was also presented with a framed display of astronaut patches used in Gemini and Apollo flights with a plaque reciting: "Three Millionth Visitor, Kennedy Space Center, Florida, June 26, 1970." The children were also presented with distinctive, individual gifts.

John Hurdle, Chairman, Brevard Economic Development Council, representing the community, presented the family with gift certificates for accommodations at a Cocoa Beach motel and dinner at a Cocoa Beach restaurant.

The community presentation included a day-long fishing trip on a party boat and a visit to a Cape Canaveral museum featuring treasure retrieved from sunken Spanish galleons along the Florida Coast.

-end-

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-248-70
FOR RELEASE: June 29, 1970

COCOA BEACH FIRM AWARDED SPACEPORT CONTRACT

KENNEDY SPACE CENTER, Fla.--J. L. Pearce and Associates Inc., 101 North Atlantic Avenue, Cocoa Beach, Fla., has been awarded a $28,355 contract by the National Aeronautics and Space Administration's John F. Kennedy Space Center.

The contract is for a six month study to develop improved methods of detecting leakage in fluid systems for the Launch Accessories Branch, Mechanical Systems Division.

The place of performance of the fixed price level of effort contract is Cocoa Beach.

KSC conducts all the manned launches in the Apollo lunar exploration program from its Merritt Island Spaceport and launches numerous scientific spacecraft and satellites from facilities at Cape Kennedy and the Western Test Range in California.

# # #

NASA-KSC JUNE/70

PUBLIC INFORMATION OFFICE, AREA CODE 305-867-2468

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

JUL 1 1970

RELEASE NO:

FOR RELEASE: June 30, 1970

APOLLO 14 RESCHEDULED TO JANUARY 1971

WASHINGTON, D. C.--Changes to be made in the Apollo spacecraft and procedures before the Apollo 14 mission will require postponing the launch to no earlier than Jan. 31, 1971.

The changes and new date were announced by Dr. Thomas O. Paine, Administrator of the National Aeronautics and Space Administration, following a review of recommendations of the Apollo 13 Review Board, and evaluation of the Board's report by the NASA Aerospace Safety Advisory Panel, and recommendations by NASA's Office of Manned Space Flight.

The Review Board had reported that a short circuit ignited electrical insulation in spacecraft oxygen tank No. 2, causing failure of the tank, subsequent loss of electrical power and abort of the lunar-landing mission 200,000 miles from Earth on April 13.

Command and Service Module systems will be modified to eliminate potential combustion hazards in high-pressure oxygen of the type revealed by the Apollo 13 accident.

In addition, a third oxygen tank will be added to the Service Module to avoid operations in low oxygen conditions, thereby making possible the removal of unsealed fan motors in the tanks.

Use of Teflon, aluminum and other materials potentially combustible in the presence of high-pressure oxygen will be minimized throughout the high-pressure oxygen system and kept away from possible ignition sources.

All electrical wires will be stainless-steel sheathed and the quantity probe will be stainless steel instead of aluminum.

The fuel cell oxygen supply valve will be redesigned to isolate Teflon-coated wires from the oxygen.

Warning systems on board the spacecraft and at Mission Control will be modified consistent with the Board's recommendations to provide more immediate and visible warnings of system anomalies.

-more-

A comprehensive review of spacecraft emergency equipment and procedures and use of Command Service Modules and Lunar Modules in "lifeboat" modes is now underway at the Manned Spacecraft Center in Houston.

NASA will take steps to disseminate widely throughout industry and the technical community the lessons of Apollo 13 to prevent recurrences in other areas. In this connection, Dr. Paine told the Senate Committee on Aeronautical and Space Sciences today, he has forwarded to Academician M. V. Keldysh of the Soviet Academy of Sciences a copy of the complete Apollo 13 Review Board Report so that lessons which might be learned from the accident can be applied to prevent a similar hazard to Soviet cosmonauts.

Apollo 14 will land in the Fra Mauro region of the Moon, a hilly upland area that was the intended landing site of Apollo 13. The crew will be Capt. Alan B. Shepard, Jr., USN, Commander; Maj. Stuart A. Roosa, USAF, Command Module Pilot; and Cdr. Edgar D. Mitchell, USN, Lunar Module Pilot.

Postponement of Apollo 14 will also move the planned launch date for Apollo 15 several months to July or August 1971, maintaining approximately a six-month interval between launches.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-249-70
FOR RELEASE: June 30, 1970

FRIENDSHIP CONFERENCE ATTENDEES TO TOUR SPACEPORT TUESDAY

KENNEDY SPACE CENTER, Fla.--A group of about 75 participants in the Florida Colombia Alliance conference underway at the Florida Institute of Technology in Melbourne will inspect the massive facilities of the nation's sprawling Spaceport Tuesday afternoon.

The delegation of Colombian and Floridian businessmen, educators and pbulic officials will be given briefings on the Project Apollo lunar landing program and the programs to follow and tour KSC's Complex 39, launch site of all the nation's manned missions.

According to an Alliance spokesman, the organization was formed by citizens of Florida and Colombia in 1963 to foster understanding and the interchange of cultural and economic ideas.

Civic club activities are coordinated, "sister cities" are adopted and ideas are exchanged to foster trade, commerce and public health.

The Alliance has led to student and teacher exchanges. More than 100 Colombian students are currently attending Florida schools on scholarships, three of them at the Florida Institute where they are studying oceanography and management science.

The Alliance's 1970 conference is being held at the FIT campus in Melbourne through Thursday.

# # #

KSC
ENNEDY SPACE CENTER, FLORIDA 32899
TIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-280-70
FOR RELEASE: July 8, 1970

CHRYSLER AWARDED EXTENSION OF SPACEPORT CONTRACT

KENNEDY SPACE CENTER, Fla.--The National Aeronautics and Space Administration's John F. Kennedy Space Center has awarded a $929,227 contract extension to the Chrysler Corporation's Space Division, New Orleans, Louisiana.

The contract extension covers the period July 1, 1970, through September 15, 1970, and is for work associated with preserving Launch Complex 34 and 37 at Cape Kennedy and retention of launch capability for future Skylab Program Saturn IB launches from the Spaceport.

The extension is in addition to $7,189,190 awarded previously, bringing the contract total to $8,118,417.

The Skylab Program involves an experimental space station built into the third Stage of a Saturn V and placed in Earth orbit. Three astronauts in a modified Apollo spacecraft will be launched by a Saturn IB to rendezvous and dock with it.

Skylab astronauts will conduct approximately 60 experiments in the areas of science, technology, medicine and engineering in three missions which will last from 28 to 56 days.

The first Skylab mission is scheduled for launch in 1972.

The Saturn IBs will be launched at KSC on a modified mobile launcher.

# # #

KSC
ENNEDY SPACE CENTER, FLORIDA 32899
TIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-281-70
FOR RELEASE: July 6, 1970

BELL AND HOWELL AWARDED SPACEPORT CONTRACT

KENNEDY SPACE CENTER, Fla. - The National Aeronautics and Space Administration's John F. Kennedy Space Center has awarded a contract with a ceiling amount of $56,640 to the Bell and Howell Company, 501 Park Avenue North, Winter Park, Florida.

The contract, extending from July 13, 1970, through July 12, 1971, covers time and materials for maintenance and repair on equipment manufactured by Bell and Howell.

KSC conducts all the manned launches in the Project Apollo lunar exploration program from its Merritt Island Spaceport and launches numerous scientific satellites and spacecraft from its facilities on Cape Kennedy and the Western Test Range in California.

# # # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

JUL 9 1970

RELEASE NO: KSC-285-70
FOR RELEASE: July 14, 1970

APOLLO 11 LAUNCH ANNIVERSARY THURSDAY

KENNEDY SPACE CENTER, Fla.,--When Apollo 11, the first manned lunar landing mission, lifted off from the Spaceport a year ago next Thursday, 700,000 people watched it from nearby vantage points and millions more saw it on television.

To 23,000 members of the Spaceport work force on that date, the flawless launch was particularly gratifying. Directly or indirectly, most of them had been involved with elements of the incredibly complex 363-foot tall Apollo/Saturn V space vehicle from arrival at the Spaceport through detailed inspection, assembly and testing.

Although four manned Apollo missions had been flown successfully in the preceding nine months--two of which orbited the moon--man had not yet set foot on the lunar surface.

Employee interest, already high, had intensified with each succeeding mission. A number of those in the launch team had been associated with the manned space flight program since 1961 when President John F. Kennedy announced the objective of making a manned landing on the Moon, "before this decade is out." For them, Apollo 11 represented the payoff for eight years of dedicated service.

For Dr. Kurt H. Debus, Director of the Kennedy Space Center, the mission capped some 33 years devoted to the development of rockets.

In early January, 1969, flight hardware for Apollo 11 began arriving at the Spaceport. At that time Apollos 9 and 10 were still undergoing checkout.

The Lunar Module, named Eagle by the crew, arrived first. It was followed by the Command and Service Modules, which would be flown as a unit for most of the mission and would be dubbed Columbia.

-more-

After initial inspection, Eagle's two stages were moved into the altitude chamber at the Manned Spacecraft Operations Building for systems tests and both manned and unmanned simulated flights. During these missions, chamber air was pumped out to simulate the vacuum of space at altitudes in excess of 200,000 feet. Columbia's systems were also tested in altitude chamber missions, both in unmanned and manned configurations.

The prime and backup crews participated in the various chamber runs. Members of the prime crew were Neil A. Armstrong, Commander; Michael Collins, Command Module Pilot; and Edwin E. Aldrin, Jr., Lunar Module Pilot. Backup crewmen were James A. Lovell, Commander; William A. Anders, Command Module Pilot; and Fred W. Haise, Lunar Module Pilot.

The flight hardware for the Saturn V launch vehicle began arriving in mid-January. By March 5, the three stages and the instrument unit had been initially checked out and erected on a Mobile Launcher in the Vehicle Assembly Building. Overall launch vehicle testing was conducted after erection.

In early April, Eagle and Columbia were removed from the altitude chambers, Eagle's landing gear was installed and Columbia's engine nozzle was attached. Then Eagle was encapsulated within the spacecraft Lunar Module adapter and Columbia was mated with it.

The completely assembled spacecraft was moved to the VAB on April 14 and erected atop the launch vehicle, to which it was then mechanically and electrically mated.

The first overall test of the complete space vehicle verified the compatibility of the various systems, ground support equipment and off-site support facilities through a simulated countdown, launch and flight. During the flight portion of the test, the systems were required to respond to both normal and emergency conditions.

On May 21, the day that Apollo 11 was moved from the VAB to the pad three-and-a-half miles away, Apollo 10 was enroute to the Moon in a dress rehearsal of the lunar landing mission. The flight was the first test of a complete spacecraft in the near-lunar environment.

-more-

Apollo 11's Flight Readiness Test was conducted over a period of several days early in June. Both the prime and backup crews participated in portions of this final overall test of the space vehicle systems and ground support equipment. For the test, all systems were operated as close as possible to their launch configuration.

The final major test for Apollo 11, the Countdown Demonstration Test, began on June 27 and lasted almost a week. It was divided into wet and dry phases. During the wet phase, the entire countdown, including propellant loading, was carried out until ignition sequence was scheduled to start at T-8.9 seconds.

After completion of the wet phase, the cryogenic propellants--liquid hydrogen and liquid oxygen--were off-loaded and the final portion of the countdown was re-run. For the dry phase, fuel loading was simulated. The prime crew participated just as they would on launch day.

After both phases of the CDDT were completed, launch crews worked around the clock completing the many tasks necessary before liftoff. The astronauts rehearsed all aspects of their mission in the Apollo simulators and made other final preparations for flight.

Meanwhile, detailed plans were being coordinated between the Spaceport and surrounding communities to handle the expected huge influx of official guests, news media representatives and other visitors. Up to one million visitors to the area were anticipated, although the final crowd estimate ran somewhat lower than that--apparently some were convinced to stay home and watch the event on TV. The extent of world-wide interest in the mission was attested by the record number of media representatives who requested accreditation--approximately 3,500 from 56 countries.

The countdown for the mission began at 8 p.m. on July 10 at T-93 hours. Four built-in holds were scheduled to permit the launch team to rest, provided there were no hardware problems requiring immediate attention. Liftoff was set for 9:32 a.m., July 16.

In the early hours of launch day, liquid oxygen was pumped into the tanks of the second and third stages. When fueling was completed, Apollo 11 would weigh approximately 6,484,300 pounds.

-more-

Astronauts Armstrong, Aldrin and Collins were awakened at 4:15 a.m. After a hearty breakfast they suited up and then were transported to the launch pad some eight miles away. Armstrong entered the spacecraft at 6:54 a.m., followed by Collins and Aldrin. The weather was clear and bright.

As the time for liftoff approached, newsmen overflowed the press site and some 5,000 distinguished guests gathered at the VIP viewing site. Both locations were approximately three-and-one-half miles from the active pad. Among the guests were Vice President and Mrs. Spiro T. Agnew, former President and Mrs. Lyndon B. Johnson, 33 U.S. Senators, 206 Congressmen, 56 Ambassadors, four Cabinet officers and many other government and industry officials.

At 9:27 a.m., T-5 minutes, the Apollo access arm was retracted. A minute later the "cleared for launch" command was issued. When the countdown reached T-3 minutes and 20 seconds, computers took over and the count became automatic. At the press and viewing sites all eyes were riveted on the gleaming white vehicle sitting majestically on the pad.

Ignition sequence started at T-8.9 seconds. Suddenly a spurt of flame and smoke signalled that the first engine of the first stage had come to life. By T-0 all five engines of the stage had built up to full thrust. Now the computer told the four holddown arms to release the straining vehicle. Almost imperceptibly at first, but gaining speed with each moment, Apollo 11 moved upward. It started its historic journey only a fraction of a second behind schedule.

As the thundering vehicle moved skyward, the flames below formed a giant fireball, the air throbbed and the ground trembled. Commentator Eric Sevareid was moved to refer to the event as, "a religious experience which you watch as a biblical scene."

Television, much of it made possible by communications satellites launched by NASA from Cape Kennedy, enabled over 500 million people to witness portions of the eight-day flight. The news coverage by TV and other media was to make its accomplishments familiar to most Americans and millions of others around the world.

-more-

The two most dramatic moments on the epic mission occurred when Eagle touched down on the Moon at 4:18 p.m., July 20, and when Armstrong first set foot on the lunar surface at 10:56 p.m. the same day. Armstrong's two radioed messages to Earth thrilled people everywhere:

"Houston, Tranquility Base here. The Eagle has landed," was the first terse message.

"That's one small step for a man, one giant leap for mankind," he reported later as he stepped down from Eagle's ladder to the powdery surface.

While Collins continued to orbit the Moon in Columbia, Aldrin joined Armstrong on the surface. For approximately two hours before re-entering Eagle to prepare to rejoin Columbia for the return to Earth, they collected rock samples, set up scientific experiments, erected the American flag and took a variety of pictures. During the first hour on the surface, they talked by phone to President Richard M. Nixon, who told them, "For every American this has to be the proudest day of our lives."

The remainder of the mission, rated successful in every respect, is well-known history. When Columbia splashed down in the Pacific 195 hours, 18 minutes and 35 seconds after liftoff, it had traveled approximately one million miles. The Apollo program had achieved its objective five months and ten days before the end of the decade.

Welcomed aboard the U.S.S. Hornet by President Nixon, the crew was informed by him, "As a result of what you have done, the world's never been closer together."

Even as the intrepid crew listened to the President's greetings, the launch team at the Spaceport moved steadily ahead with its checkout of Apollo 12. It did so with a deep sense of satisfaction and the certain knowledge that it had made a major contribution toward unlocking the intriguing mysteries of space.

-end-

KSC

KENNEDY SPACE CENTER, FLORIDA 32899

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

BX 4
SA-4
V 81

RELEASE NO: KSC70-289

FOR RELEASE: July 15, 1970

KSC TO LOSE 85 CIVIL SERVICE POSITIONS

KENNEDY SPACE CENTER, FLORIDA--The National Aeronautics and Space Administration today announced a reduction of Civil Service positions throughout the agency for Fiscal Year 1971 which began July 1.

This Center will lose approximately 85 jobs deducted from the present authorized strength of 2,744.

The reductions were made necessary by a $9,000,000 cut in Research and Program Management funds imposed by the Congress for FY 1971. These funds pay Government salaries, other administrative and support costs.

Dr. Kurt H. Debus, Center Director, said some of the local reduction can be met through normal attrition in the work force. More liberal retirement provisions announced in the past year have encouraged Federal employees to retire earlier on an optional basis.

# # #

MSC 150
MSFC 190
HQS 200
Ames 57
LaR 82
LRC 114
Pasadena 25

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

AUG 3 1970

news release

RELEASE NO: KSC-296-70
FOR RELEASE: July 31, 1970

SPACEPORT IS HOST TO FOREIGN DIGNITARIES

KENNEDY SPACE CENTER, Fla.--Spaceport officials today played host to distinguished visitors from Brazil and Italy.

Governor Osvaldo Melo of the State of Para, Brazil, and Mayor Aventino Frau of Gardone, Italy, visited the lunar launch complex and facilities at Cape Kennedy.

The officials were briefed on the national space program by members of the Kennedy Space Center management staff.

At Complex 39, Governor Melo and Mayor Frau viewed the Apollo 14 space vehicle, scheduled for a lunar landing mission early in 1971. They saw the Vehicle Assembly Building where Apollo/Saturn V rockets are prepared for launch -- the Launch Control Center -- and the launch pad where lunar landing missions begin.

At Cape Kennedy, the two men toured Complex 2-6, where America's first satellite was launched in 1958. They inspected Complex 5-6, employed to launch the nation's first astronaut, Alan Shepard, in 1961. Astronaut Shepard will command the upcoming Apollo 14 mission.

The two visitors saw Complex 14, site of the orbital Mercury launches, and Gemini Launch Complex 19. Their tour carried them by the launch facilities for unmanned weather and communication satellites and other unmanned space missions.

The visitors expressed particular interest in Complex 34, from which the first manned Apollo mission was launched.

= = =

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

AUG 10 1970 BY

news release #82

RELEASE NO: KSC-297-70
FOR RELEASE: August 7, 1970

SPACEPORT REQUESTS CONTRACT PROPOSALS FOR PRINTING AND DOCUMENTATION SERVICES

KENNEDY SPACE CENTER, Fla.,--The National Aeronautics and Space Administration's John F. Kennedy Space Center has requested contract proposals for printing and documentation support services from nearly 70 small business concerns, many of them located in Central Florida.

The request for proposals, issued today, would cover under a separate contract services now included under a much more comprehensive support contract. The small business set aside classification limits bidders to concerns with 500 or less employees.

The multi-year contract has a planned starting date of March 1, 1971, and includes operation of plants providing printing, reproduction, microfilming/documentation and similar services to all NASA elements and NASA contractors at the nation's Spaceport.

These services are now provided by McGregor & Werner Inc. as a subcontractor under a support contract now held by the Service Technology Corporation.

The closing date for proposal submission is September 9.

The Kennedy Space Center conducts all the nation's manned lunar exploration missions from its Merritt Island Spaceport and launches numerous scientific satellites and spacecraft from facilities at Cape Kennedy and the Western Test Range in California.

The following Florida firms were issued the proposal request:

Brevard Graphics Inc., Melbourne; Kirstein & Sons, Orlando; Brevard Printing, Cocoa; Orlando Offset Inc., Orlando; Dakota Microfilm Service, Orlando; Celery City Printing Co., Sanford; Brevard Blueprint Co., Titusville; Quality Graphics Inc., Winter Park; Optim Engineering, Cape Canaveral, and J. L. Pearce & Associates, Cocoa Beach.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-298-70
FOR RELEASE: August 11, 1970
4:30 p.m.

APOLLO ALTERNATE FLIGHT PLANS

WASHINGTON, D.C.,--The National Aeronautics and Space Administration's Office of Manned Space Flight is developing two alternative plans for the future of the Apollo lunar exploration program and has asked two scientific advisory boards for their views on these alternatives.

NASA Administrator Thomas O. Paine has asked NASA's Lunar and Planetary Missions Board and the Space Science Board of the National Academy of Sciences to consider the alternatives. Representatives of the boards will present their views at a meeting with NASA management during the week of Aug. 24. The NASA management group will make a decision on the future course of Apollo following that meeting.

Alternative number 1 is to fly the remaining six Apollo missions as presently planned. Alternative number two would delete two of these missions.

The Apollo schedule now calls for Apollo 14 to be launched Jan. 31, 1971, with Apollo 15, 16 and 17 following at approximate six-month intervals. The Skylab workshop and three astronaut revisits would be flown late in 1972 and 1973 and then Apollo 18 and 19 would be launched in 1974.

The second and more economical alternative would delete two Apollo flights. The four remaining Apollo missions would be scheduled at approximate six month intervals before Skylab. Apollo 14 will explore the Fra Mauro region of the Moon. The new Apollo 15 along with 16 and 17 would use the extended capability lunar modules to permit longer stay times on the Moon and carry lunar roving vehicles to explore the three landing sites of highest scientific interest.

Deletion of the two Apollo missions would make available two Saturn V launch vehicles and spacecraft available for possible future uses such as space station missions.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

AUG 14 1970

news release

RELEASE NO: KSC-299-70
FOR RELEASE: August 12, 1970

KATY CARTER FAMILIAR WITH LEGAL PROBLEMS

KENNEDY SPACE CENTER, Fla.,--Mention a legal problem that's cropped up at KSC during the past six and a half years and chances are good that Kathleen N. Carter knows all about it.

It's not that Katy is inordinately curious but it's an important part of her job. She's secretary to KSC Chief Counsel J.P. Lacy.

Katy's from Missouri - Caruthersville - a Mississippi River town on the narrow appendage of the state extending down like a wedge between Arkansas and Tennessee.

It's Middle America and Katy described it as a typical small town "where everyone knows everyone else."

Katy is a 1938 graduate of the University of Missouri with a bachelor's degree in education. She specialized in music and taught school in Missouri for four years "until I started following my husband around during World War II."

Her husband of 31 years, William A. Carter, remained in service with the U.S. Air Force when the war ended.

Military life suited Katy for she's an enthusiastic traveler. Her husband remained in the Air Force until he earned retirement and the travel opportunities were impressive.

The Carters lived in Germany for three years, in France for three years and spent two years on Guam.

"I like to travel," said Katy, who made visits to 20 countries during the foreign duty assignments.

Like many military wives, Katy kept outside interests alive by taking on a civil service job. She worked for the Air Force for a total of eight and a half years, acquiring much experience as a court reporter, an exacting job requiring speed and accuracy in taking down testimony verbatim.

"Court work is very interesting," said Katy.

-more-

Her husband's final duty assignment was at Patrick AFB and the Carters elected to retire in Cocoa Beach, building a home in the Venetian Way area.

She came to work at KSC as a secretary to former Chief Counsel C. I. Longacre six and a half years ago and remained in that slot when he was succeeded by Lacy.

"I've always been lucky in having a scenic view from my office," she said. "We were in the Apollo Building when the office was in Cocoa Beach and could look out on the ocean. When we moved out here to the Headquarters Building, we found that we had a beautiful view to the north toward the Vehicle Assembly Building."

Her job as Lacy's secretary and KSC's court reporter is demanding but she has other functions to fill as well. She's often called in to take depositions and take down the proceedings of inquiries and conference.

She finds legal work and especially courtroom work fascinating. "It's all interesting," she said of her job. "The work is so varied."

The veteran traveler is staying fairly close to home this year. Earlier this summer, the Carters and their youngest daughter, Camille, soon to be 14, went to Houston to visit their oldest daughter, Mrs. Hazel Kay Joubran.

Katy returned to Cocoa Beach while her husband and Camille embarked on an adventurous drive to Canada and on up the AlCan Highway to Alaska. She, too, would have liked to make the trip but didn't feel she could spare the time off from work.

Owning a boat is almost a civic requirement in Cocoa Beach and the Carters have a 17-footer. Her husband is an ardent fisherman and Katy likes the water, too, but describes herself as "more of a boatrider than an angler."

Camille, the Carter's remaining child at home, attended Our Saviour parochial school in Cocoa Beach last year and will attend Catholic High School in Melbourne during the coming term.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

AUG 14 1970

RELEASE NO: KSC-300-70
FOR RELEASE: August 12, 1970

APOLLO 14 PREPARATIONS CONTINUE

KENNEDY SPACE CENTER, Fla.,--Preparations for the late January Apollo 14 mission are continuing at the Spaceport with both launch vehicle and spacecraft teams planning extensive checkouts in the weeks ahead.

Next Tuesday, Apollo 14 Commander Alan B. Shepard Jr. and Lunar Module Pilot Edgar D. Mitchell are to participate in a manned altitude run in the lunar module in a Manned Spacecraft Operations Building vacuum chamber.

Also on Tuesday, a comprehensive checkout of the Apollo 14 launch vehicle will be run during a malfunction overall test to be conducted in the Launch Control Center's Firing Room 2.

The launch vehicle test involves a checkout of the Apollo 14 Saturn V, ground equipment and personnel proficiency in launch procedures.

On Wednesday, Command Module Pilot Stuart A. Roosa will join Shepard and Mitchell in a simulated altitude run in the Apollo 14 command/service module.

They will be followed on Thursday in a similar exercise by backup crew members Eugene A. Cernan, commander; Ronald E. Evans, command module pilot, and Joe H. Engle, lunar module pilot.

Manned altitude runs of the Apollo 14 command/service module with both the prime and backup crews are now scheduled for early September.

Apollo 14 is scheduled for launch on January 31 on a mission which is to carry Shepard and Mitchell down to the lunar surface in the rugged Fra Mauro highlands region approximately 100 miles to the east of the Apollo 12 landing site on the Ocean of Storms.

The Fra Mauro formation is believed to consist of materials gouged from deep beneath the moon's surface by the event which created the circular Mare Imbrium (Sea of Rains) basin to the north.

The lunar materials in the vicinity may be 5 billion years old, predating the rocks returned from the Sea of Tranquility by the Apollo 11 crew (4.6 billion years) and the Ocean of Storms by the Apollo 12 crew (3.5 billion years).

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-301-70
FOR RELEASE: August 12, 1970

PRESIDENT MOBUTU TO VISIT KSC

KENNEDY SPACE CENTER, Fla. --Lt. Gen. Joseph Desire Mobutu, President of the Democratic Republic of the Congo, and his family will tour the facilities of the nation's Spaceport on Saturday, August 15.

The 39-year-old president and his wife, Marie-Antoinette Mobutu, will arrive from New York City on the final leg of their 12 day visit to the United States. The Mobutus are accompanied by their eight children.

The president and the official party will spend about two and a half hours at KSC, arriving at the Cape Kennedy skid strip early in the afternoon. They will be greeted by their hosts, KSC Director Dr. Kurt H. Debus and Mrs. Debus.

The group will drive to the Complex 39 Launch Control Center where the president will receive briefings on the Apollo program from Launch Operations Director Walter J. Kapryan and on Skylab from Apollo/Skylab Project Manager, Brig. Gen. Thomas W. Morgan.

The president and his party will visit Firing Room 1 before proceeding into the Vehicle Assembly Building to view the Apollo 14 Saturn V launch vehicle.

Other stops on the tour include the crawler-transporter area and Launch Pad A.

The president and his family will depart for California following the tour.

# # #

NOTE TO NEWS MEDIA:

Total number in the group expected to be about 50, including 15 Congolese journalists.

Gen. Mobutu speaks French fluently and will receive the briefings in this language through interpreters.

An itinerary and list of members in the official party will be released to the news media when it becomes available on Friday, Aug. 14. Logistics for press coverage also will be announced.

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-302-70
FOR RELEASE: August 12, 1970

ECHO I ORBITED BY FIRST DELTA 10 YEARS AGO

KENNEDY SPACE CENTER, Fla.--Echo I, a glistening 100-foot diameter passive communications satellite which orbited the earth like a brilliant star, was launched by the first successful Delta 10 years ago today.

The inflatable sphere was the first satellite that could be seen easily with the naked eye and public interest was such that news media carried sighting forecasts on a daily basis so everyone could see it as it passed overhead.

Echo I reentered the atmosphere and burned up May 24, 1968, after almost eight years in orbit but Delta is still going strong.

When Delta 80 hurls Skynet-B into orbit next Wednesday at 8:11 a.m., it will mark the beginning of a new decade of service for one of the most reliable NASA launch vehicles.

Over the years, Delta has achieved a 92 per cent record of successful launches.

Deltas are launched from Cape Kennedy's Launch Complex 17 by the KSC Unmanned Launch Operations Directorate under the direction of John J. Neilon, who recently succeeded Robert H. Gray, now KSC Deputy Director of Launch Operations.

The reliable Deltas have played a major role in the unmanned aspects of the nation's space program.

Delta milestones include placing Pioneer 6 into a solar orbit on December 12, 1965, and hurling Explorer 35 into lunar orbit on July 19, 1967.

On December 13, 1967, Delta 55 scored a doubleheader, placing Pioneer 8 in a solar orbit and, at the same time, putting TTS-1 (an Orbiting Relay Satellite III model) in earth orbit.

-more-

A listing of Delta payloads makes it evident why the rocket has acquired the reputation of being the "workhorse" of the NASA launch vehicle stable:

Echo - 1 satellite
Television Infrared Observation Satellites (TIROS - 9 satellites
Explorer - 16 satellites
Orbiting Solar Observatory - 6 satellites
Ariel - 1 satellite
Telstar - 2 satellites
Relay - 2 satellites
Synchronous Orbit Communications Satellites (SYNCOM) - 3 satellites
Early Bird - 1 satellite
Pioneer - 2 satellites
Pioneer/Test and Training Satellite (TTS and TETR) - 2 satellites
Environmental Survey Satellite (ESSA) - 9 satellites
Intelsat II - 4 satellites
Intelsat III - 6 satellites
Biosatellite - 3 satellites
Geodetic Earth Orbiting Satellite (GEOS) - 1 satellite
Highly Eccentric Orbit Satellite (HEOS) - 1 satellite
International Satellite for Ionospheric Studies (ISIS) - 1 satellite
Skynet - 1 satellite
Improved TIROS Operational Satellite/Orbiting Satellite Carrying Amateur Radio (ITOS/OSCAR) - 1 satellite
NATO - 1 satellite

Delta 80, which begins the new decade for the reliable rocket, is a three-stage vehicle standing 106-feet tall and weighing about 100 tons at ignition.

The first stage "long tank" Thor measures 70 feet and consists of a liquid propellant-burning Rocketdyne main engine system rated at 172,000 pounds of thrust with a burn time of three minutes, 40 seconds.

Three strapped-on Thiokol solid propellant motors, each rated at 52,000 pounds of thrust, with a burn time of 37 seconds, give the first stage a liftoff thrust of close to 330,000 pounds.

The 17-foot long second stage is powered by an Aerojet General liquid propellant-burning engine system rated at 7,800 pounds of thrust with a total burn time of six and one-half minutes.

-more-

The burn time of the third stage Thiokol solid propellant motor with 9,980 pounds of thrust is about 42 seconds. This stage and the spacecraft are enclosed in a protective fairing which gives the top assembly an overall height of about 19 feet.

The fairing is jettisoned about nine seconds after separation of the first and second stages.

Echo I has long since perished but the brilliant "star" moving across the heavens was a visible reminder to the nation and to the world of America's latent space prowess at a time when the Soviet Union appeared far in the lead.

Echo I was used to reflect messages across country and radio signals were also relayed to England and France via the 100-foot sphere to prove the feasibility of using artificial earth satellites as passive communications reflectors.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

AUG 14 1970

news release

RELEASE NO: KSC-303-70
FOR RELEASE: August 13, 1970

G. MERRITT PRESTON BUILDS SAILBOAT

KENNEDY SPACE CENTER, Fla.--She's a slim, trim lady named "Vuelo" and G. Merritt Preston, Director of KSC's Center Planning and Future Programs, has been carrying on a love affair with her for two and a half years.

But Preston's wife, Grace, doesn't mind at all; in fact, she's all in favor of it.

For "Vuelo" - the name means "I Fly" - is the 34- foot Morgan sloop which Preston recently put into the water near his Indian Harbour Beach home after spending his spare weekends for 30 months putting her together from the hull up.

The sailboat project began several years ago when the Prestons and their son, John, spent some time aboard a chartered sailboat sailing the Bahamas in the Abaco region.

A sailboat is a thing of grace and beauty and the Prestons found the experience exhilarating. They decided a boat of their own was in order and Preston checked a number of Florida boatyards before deciding to go the boat kit route.

He chose a Morgan 34 with sloop rig and bought the hull and deck assembled. The kit included centerboard, mast and boom assembly and construction began on a ship's cradle in the Preston's side yard.

Installation of the bulkheads, systems, fittings and interior appointments of a boat the size of "Vuelo" is a labor of love but the end product is a vessel with many more "extras" than the production boat at about two thirds of the cost.

As the months and years passed, Preston and his son transformed the fiberglass hull, miscellaneous parts and hardware into a "living" thing ready for its natural element of wind and wave.

Five thousand pounds of lead were melted, poured and molded to balance her keel. It took a month to install her 20 horsepower diesel auxiliary engine. Preston made the boat's water tanks and making them watertight proved no easy chore.

-more-

An onboard battery alternator electrical system plus a 110 volt system to accept dockside voltage was laboriously installed.

Then came galley, cabin and bunking appointments ("Vuelo" can sleep five) and all the miscellaneous marine hardware items that had to be mounted on her deck.

To the mast and boom were rigged 550 square feet of white dacron sail material.

It was in late June that "Vuelo" was ready to be moved to the water and it took four days to move the boat on rollers 500 yards to a nearby marina where she was hoisted into her element.

"Vuelo" has now become a familiar sight on the Indian River.

"We'll just be sailing her up and down the river until I learn to handle her," said Preston.

The Indian River is shallow but this offers few problems - with centerboard up she has a draft of only 3.3 feet. With it down, the draft increases to 9 feet.

"Vuelo" lives up to her name.

"She really moves out in a four knot wind," said Preston. "She just clips along."

River sailing is not the end of Preston's ambitions for his boat. He hopes eventually to sail her to the Bahamas, dream waters for the wind and wave set.

Would he do it again? Not right now but he noted that his son had already mentioned taking on a larger project.

Preston said that do-it-yourself projects have the advantage of cost savings and improvements over production boats but cautioned those who might consider taking on similar projects.

"Interest and joy in building it must be a prerequisite," said Preston. "It must be viewed as relaxation, a hobby you can enjoy. It was relaxing for me but it can be time consuming and frustrating, too."

"It's a big effort and you get a sloppy job if you hurry. You lose money then," he added. "Think about it before you rush in."

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

AUG 19 1970

news release

RELEASE NO: KSC-313-70
FOR RELEASE: August 17, 1970

SKINDIVER TREATED FOR "BENDS" IN KSC OVERCOMPRESSION CHAMBER

KENNEDY SPACE CENTER, Fla.--Hal Watts, 35, Orlando, a skindiver suffering from the bends, was reported in satisfactory condition at the KSC Occupational Health Facility this morning after treatment in a mobile hyperbaric (overcompression) chamber at the Manned Spacecraft Operations Building.

Dr. Alan Harter, Chief of KSC's Launch Site Medical Operations, said Watts was in satisfactory condition but "totally exhausted from four days of arduous effort."

Watts was rushed to KSC from Orlando by ambulance last night and arrived at the MSOB at 11:56 p.m. He was placed in the hyperbaric chamber within two minutes of his arrival and taken on an evaluation "dive" to a depth of 66 feet.

The pressure was then increased to that of a depth of 165 feet. A standard recompression schedule was placed into effect at 2 a.m. with Watts reaching surface pressure at 5:50 a.m.

Dr. Harter said Watts was able to walk to a litter and was taken to the KSC Occupational Health Facility where he remained until mid-morning today. Both Mr. and Mrs. Watts, who came to KSC to be with her husband, left for their home in Orlando at approximately 10:45 a.m. today.

Dr. Harter spent a portion of the early morning hours in the chamber. With Watts in the chamber during the entire "dive" was Robert K. Martin, Titusville, a Trans World Airlines medical corpsman.

A total of about 14 KSC personnel were involved, including the medical team and the group which operated the mobile hyperbaric unit.

The mobile overcompression chamber in which Watts was treated is one kept on hand in the MSOB as a standby in the event astronauts or other personnel involved in altitude chamber runs become afflicted with the "bends".

Watts had been diving since Thursday in an attempt to recover the body of Fred Schmidt, Bluebonnet Drive, Orlando, who drowned while diving in a sink hole off of West Fairbanks Avenue near Winter Park.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-315-70
FOR RELEASE: August 17, 1970

SPACEPORT HAS REDUCTION IN CIVIL SERVICE WORK FORCE

KENNEDY SPACE CENTER, Fla.--A reduction in force involving 63 Civil Service employees was announced today at the Kennedy Space Center.

The personnel reduction here was part of an overall cut of about 900 positions in the National Aeronautics and Space Administration, announced July 15.

The work force reduction involves professional engineers, administrators, technicians and clerks. The action was the result of limitation of manpower funds in NASA's 1971 fiscal year budget.

Eighty-five positions out of a total of 2,770 were affected at KSC, but 22 of these were covered through attrition.

The reductions are effective September 30.

A meeting was conducted in the Training Auditorium with those affected by KSC's Personnel Chief, Ben W. Hursey who outlined the reasons for the reduction in force and the personnel counseling channels open to them.

# # #

KSC news release

KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

RELEASE NO: KSC-316-70
FOR RELEASE: August 23, 1970
Sunday a. m.

SCIENTIFIC DETECTIVE WORK SOLVES RESUSCITATOR FIRE HAZARD PROBLEM

KENNEDY SPACE CENTER, Fla.--Emergency oxygen breathing bottles have saved countless lives and they're in everyday use throughout the world.

But high-pressure oxygen has its dangers, too, and investigation of a flash fire in an oxygen resuscitator at the nation's Spaceport has alerted industrial and government circles to the potential hazards lurking in the innocent-appearing breathing units designed for emergency use.

Detective work by KSC scientists, engineers and laboratory technicians is leading to a complete new set of specifications which may be implemented in the manufacture of breathing units in use by countless emergency units, police and fire departments, aircraft, the military and wide segments of industry.

Safety considerations are paramount in the aerospace industry and a number of portable life support units are located in the vicinity of manned spacecraft operations.

Such units are kept for emergency purposes in the "White Room" high atop the Saturn V/mobile launchers at the Spaceport's Complex 39 and adjacent to the altitude chambers in the Manned Spacecraft Operations Building where spacecraft are checked out prior to mating with their launch vehicles.

In March, 1969, one of the units charged with pure oxygen at a pressure of 2,200 pounds per square inch was being readied as standby emergency equipment for an Apollo 11 manned spacecraft run in the altitude chambers.

A flash fire broke out in the unit and burned through the side of the regulator.

Referred to KSC's Materials Analysis Branch for testing, an exhaustive examination showed the probable source of the fire to be the oxygen regulator's primary seat. It was made of nylon - an oxygen incompatible material.

-more-

Federal agencies have an ALERT warning system to pass on mutually beneficial information. The ALERTs are distributed to more than 200 government and industrial organizations through the Interagency Data Exchange Program (IDEP).

According to J. M. Fisher Jr., KSC's ALERT Coordinator:

"Failure analysis showed that either a minute foreign particle or a thread of the nylon main seat left from initial machining ignited the nylon seat and the resulting jet of flame burned through the regulator housing.

"All 'soft goods' and other parts of the high pressure regulator were examined. Besides the highly combustible nylon main seat, most of the other soft goods were likewise not compatible with high pressure oxygen.

"Surface roughness or a tiny foreign particle hitting the surface of one of these materials can cause it to ignite in high pressure oxygen," explained Fisher.

The investigation was extended to back up units at KSC and to similar oxygen bottles in use at the Western Test Range in California. These were made by different manufacturers and they, too, contained oxygen incompatible materials.

Maintaining the schedule for Apollo 11, the first manned lunar landing mission, was imperative and the KSC ALERT coordinator suggested material substitutions of Kel-F, Teflon or Viton-A to the manufacturers. Sufficient Kel-F main valve seats were received to allow the Bendix Launch Support Division to refurbish some of the units for the launch of Apollo 11.

Some of the oxygen units found in California were surplus units converted from air to oxygen, and had been sold to other governmental agencies, industry and individuals, all unaware of the danger potential. An ALERT went out from KSC to notify them of the hazard.

KSC's Design Engineering Directorate with suggestions from Support Operations' Life Support Group is developing a new specification for miniature resuscitators which will probably become an industry standard since no comparible specifications now seem to exist.

The Bureau of Mines of the U. S. Department of the Interior was especially interested in the ALERT and KSC's work in eliminating the hazards associated with oxygen. It has distributed preliminary copies of the new KSC specifications to manufacturers and other industry groups for suggestions.

-more-

In a letter to major manufacturers of oxygen breathing equipment, Frank C. Gibson, Acting Project Coordinator of the Bureau of Mines' Safety Research Center, enclosed copies of KSC studies on the material compatibility problem and urged them:

"You should give special consideration to:

"1. Composition of main seals such as high-pressure valve seats where recompression may cause a temperature increase.

"2. Need for a compatible filter between the oxygen supply and valve seats to remove foreign particles from the gas stream.

"3. Change from tapered pipe threads to square threads with seals in order to eliminate metal particles and lubricant problems."

Harold Franks of Design Engineering's Propellants and Gases Branch observed:

"There was little attention to oxygen compatibility among manufacturers of life support equipment," he said. "If there was compatibility, it just happened. There were no real industry-wide controls or specifications."

Franks noted that valves meeting specifications for handling pressures only up to 140 pounds per square inch (PSI) had been used on oxygen bottles in which pressures reached 2,200 psi.

In addition, many of the portable units had been modified from handling air to handling oxygen with little thought of the hazards posed by incompatible materials with high pressure oxygen.

The fire hazard from oxygen increases at a sharp rate as a function of pressure. Nylon is perfectly safe at pressures of 10 to 15 psi. But at 2,000 psi, for example, nylon becomes unsafe and even a minor scratch on a nylon seal will cause ignition through friction heat from the stream of high pressure oxygen.

The result was the model specifications for miniature resuscitators created by Design Engineering earlier this year and now being circulated among manufacturers for their comments.

"Our actions here have excited wide national interest," said Fisher.

-more-

He noted that the Joint American Industrial Hygiene Association-American Council of Government Industrial Hygienists Technical Committee on Respirators will be holding its fall meeting at KSC on October 15 and 16.

In a letter to KSC Director Dr. Kurt H. Debus, E. J. Kloos, committee chairman, wrote: "I believe a meeting of our members, who are all engaged in respiratory protection, with the life support people at KSC will produce mutually beneficial results."

The Joint AIHA-ACGIH Technical Committee on Respirators includes a cross-section of industrial hygienists representative of American, Canadian and British Industries and governmental agencies.

The KSC resuscitator ALERTs were so significant that they were referred to by NASA Administrator Dr. Thomas O. Paine as a space benefit in testimony before the U. S. Senate Aeronautical and Space Sciences Committee on April 6.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

AUG 21 1970

news release

RELEASE NO: KSC-317-70
FOR RELEASE: August 19, 1970

MEDICAL SERVICES CONTRACT CONFERENCE HELD AT KSC

KENNEDY SPACE CENTER, Fla. --A pre-proposal conference with interested companies who may bid on a medical services contract was held yesterday by the Procurement Directorate.

The following firms were represented: Dow Chemical Company, Kelsey Seybold Clinic/Boeing Company, Lockheed Electronics Company/ Space Center Medical Associates, Pan American World Airways, Trans World Airlines and Systemed Corporation.

Purpose of the meeting was to explain the consolidation of medical services at NASA's Kennedy Space Center and the Air Force's Cape Kennedy Air Force Station and to answer queries related to the formal request for proposals.

TWA presently furnishes medical services to KSC and Pan American provides similar services at CKAFS. The proposed contract will be awarded prior to Feb. 1, 1971 for the consolidated services and is estimated in excess of $1,000,000 for the first year. There will be an option to extend the contract annually thereafter up to four additional years.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

JUL 17 1970

RELEASE NO: KSC-291-70
FOR RELEASE: Immediate

July 16, 1970

SPACEPORT MARKS APOLLO 11 ANNIVERSARY

KENNEDY SPACE CENTER, Fla. -- A ceremony today marked the launch one year ago of Apollo 11, the flight which landed men on the moon for the first time.

A commemorative plaque was unveiled by Dr. Kurt H. Debus, Kennedy Space Center Director, at 9:32 a.m., the time of liftoff for Apollo 11.

Community leaders, contractor managers, members of the KSC Senior Management Council and hundreds of employees attended the ceremony. It was held in front of the Launch Control Center at Complex 39, where the Apollo 11 mission began.

Special guests included Hugh O'Brian, founder of the Hugh O'Brian Youth Foundation, and 60 Scouts from the 50 states and nine foreign countries.

Dr. Debus was introduced by Miles Ross, Deputy Director of Kennedy Space Center.

Dr. Debus referred to the Apollo 11 mission as an unprecedented voyage of exploration. He reviewed events and space flights which led up to the historic landing of Astronauts Neil Armstrong and Edwin Aldrin on the moon, July 20, 1969.

At the moment of launch Dr. Debus unveiled an Apollo 11 commemorative plaque which will be displayed inside the Launch Control Center. At the same moment, plaques dedicated to other space flights from Complex 39 were unveiled inside the Launch Control Center.

At the conclusion of the ceremony, Dr. Debus invited those present to join him in the Launch Control Center for a close-up look at the plaques.

Guests included Donald K. Slayton, Chief of Flight Crew Operations, Manned Spacecraft Center, NASA; Col. John H. Boyle, Chief of Staff, Air Force Eastern Test Range; and Col. Edgar H. Albers, Commander, Patrick Air Force Base.

- more -

Community leaders at the Apollo 11 anniversary ceremony included: Mayor Lee Nicholas, Cape Canaveral; Mayor Robert Murkshe, Cocoa Beach; Mayor Vern Jansen, Titusville; Mayor Arthur Tate, Cocoa; Mayor Adger Smith, Melbourne; Honorable William Powell, Florida State Representative; Curtis Barnes, Clerk of Circuit Court Robert Bentley, Editor, Today Newspaper; Rev. Jack Bryant, President, South Brevard Ministerial Association; George J. King, Jr., Assistant to President, FTU; John McCauley, Executive Director, Brevard Economic Development Council; Ed Dishong, President, Local Transport Workers Union; Andrew J. Younger, Union Coordinator, International Alliance of Theatrical Stage Employees; Al Webster, Executive Vice President; Maurice Rouede, First Vice President, Melbourne Chamber of Commerce; Dr. Meridith Eberhart, President, and Tim Points, First Vice President, Titusville Chamber of Commerce; Ronald Crain, President, American Federation of Government Employees; Mrs. I. Swichkow, President, Woman's Club, Merritt Island; Mrs. R. Deaton, President, Junior Woman's Club, Merritt Island; Mrs. Malcolm Ramsey, President, Woman's Club, Cocoa Beach; Mrs. Earl Lauber, President, Woman's Club, Indian Harbour Beach and George Lewis, President of the Cape Kennedy Area Chamber of Commerce.

Members of the Management Council present included: Robert F. Heiser, Assistant to the KSC Director; Walter P. Murphy, Director of the Executive Staff; John P. Lacy, Chief Counsel; Robert A. McDaris, Director of Quality Assurance; John R. Atkins, Director, Safety Office; Dr. Adolf H. Knothe, Chief, Range Safety Staff; Daniel F. Callahan, Deputy Director of Administration; Walter J. Kapryan, Director of Launch Operations; Robert H. Gray, Deputy Director, Launch Operations; John J. Williams, Director, Spacecraft Operations; G. Merritt Preston, Director of Center Planning and Future Programs; Grady F. Williams, Director of Design Engineering; Robert L. Clark, Director of Technical Support; Peter A. Minderman, Deputy Director of Technical Support; Frederic H. Miller, Director of Installation Support; Clarance C. Parker, Deputy Director of Installation Support; Robert C. Hock, Deputy Manager, Skylab Program Office; Chester T. Wasileski, Associate Director for Facilities and Systems Management; and Isom A. Rigell, Deputy Director, Launch Operations.

Contractor - Manager Representatives present were: Dr. Hans P. Bruckner, Bendix Launch Support Division; T. J. Cameron, Federal Electric Corporation; Calvin D. Fowler, General Electric Company; Charles E. Kroupa, Grumman Aerospace Corporation; William L. Duval, McDonnell Douglas Astronautics Company; Thomas J. O'Malley, North American Rockwell Corporation; Robert B. Madden, Pan American World Airways, Inc.; Jim Hays, Service Technology Corporation; Harry Olander, Trans World Airlines, Inc.; John P. Kaiser, A C Electronics Division; Thomas H. Parish, ILC Industries, Inc.; Robert N. O'Donnell, Massachusetts Institute of Technology; Gerry E. Hannemann, General Precision Systems, Inc.; Roscoe Nicholson, Rocketdyne; John Cully, Boeing Atlantic Test Center; George Smith, IBM Cape Kennedy; Edgar H. Brisson, Hamilton Standard.

- end -

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-294-70
FOR RELEASE: July 22, 1970

FLORIDA SECOND IN NASA CONTRACT AWARDS

KENNEDY SPACE CENTER, Fla.---Florida ranked second among the 50 States in NASA prime contract awards in the first nine months of FY 1970 which ended June 30.

Florida's share of the major NASA contracts was $220,291,000 or 11 percent of the total. The contracts were awarded to 227 firms.

California received the largest share of the awards, totaling $605,070,000, to 293 firms. New York State ranked third with $219,314,000 in contracts to 96 firms.

During FY 1969, which ended June 30, 1969, California again led the nation in space contracting with $1,045,855,000 placed with 371 contractors.

Florida ranked second with $403,632,000 to 134 firms and New York was third with $376,397,000 awarded to 135 firms.

In FY 70, the contracts related to manned space flight accounted for $405,051,000 of the awards in California while Florida's total was $170,854,000 and New York's $178,858,000.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-295-70
FOR RELEASE: July 29, 1970

LUNAR ROCK DISPLAYED IN VISITOR INFORMATION CENTER

KENNEDY SPACE CENTER, Fla.--The public has an opportunity to view a rock returned to earth by the Apollo 12 crew.

Obtained in the Sea of Storms by astronauts Charles Conrad and Alan Bean, the Apollo 12 rock differs in a number of ways from an Apollo 11 rock displayed at the Kennedy Space Center and in several Florida cities last February and March, having a coarser texture, containing less titanium but a wider variety of minerals, and being approximately a billion years younger in age.

The rock will be displayed in the Visitor Information Center for the next several months.

###

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-318-70
FOR RELEASE: August 20, 1970

DR. ROBERT H. GRAY IS NAMED TO UNIVERSITY ENGINEERING PANEL

KENNEDY SPACE CENTER, Fla.--Dr. Robert H. Gray, Deputy Director of Launch Operations, has been appointed to the Department of Electrical Engineering Visiting Committee of the University of Florida.

Dr. Stephen C. O'Connell, President of the University, advised Dr. Gray of the appointment for a three-year term. He succeeds Grady F. Williams, Director of Design Engineering for the Space Center, who has completed a similar term.

Purposes of the Committee are to provide a forum and encourage interactions among the university, industry and government; and work toward strengthening the Department of Electrical Engineering to better serve industrial and governmental organizations in Florida.

John Hartley, of Radiation, Inc., Melbourne, Fla., is the Visiting Committee's chairman for 1970-1.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

AUG 26 1970

RELEASE NO: KSC-319-70
FOR RELEASE: August 23, 1970
Sunday

FIRST TEST LAUNCHES IN "PROJECT MIGHTY MOUSE" CONDUCTED AT CAPE'S COMPLEX 43

KENNEDY SPACE CENTER, Fla.--The first test launches in "Project Mighty Mouse" - a six-week program to study the relationship between lightning potential and rocket launches - were conducted at Cape Kennedy's Complex 43 on Thursday.

The launches - a total of 11 over a period of 3 hours - were designed to test pad compatability and give launch crews experience for the six-week test series to be conducted with the cooperation of the Environmental Science Services Administration (ESSA).

The program is tentatively scheduled to begin on August 31.

The mouse that roars is a modified 2.75 inch diameter military aircraft rocket with foldable fins and up to 175 of them may be shot into the skies above Cape Kennedy to monitor cloud-borne electrical fields and trigger lightning discharges.

Project Mighty Mouse has its roots in a study of the electrical discharge from the clouds through the Apollo 12 space vehicle to the ground as it roared upwards through a damp, dismal overcast during launch on November 14, 1969.

According to William W. Bailey, Chief of Design Engineering's Measurements and Computations Section, the Mighty Mouse rockets, ranging in length from 54 to 63 inches according to payload, will be fired into cloud cells over the launch pad or within the target area whenever an electrical field is found to exist by the NASA-6 aircraft.

NASA-6 is a Twin Beechcraft instrumented by ESSA and KSC's Information Systems Directorate with electrical field mills mounted on its nose and the top of its fuselage.

The rockets, being launched from modified NIKE launchers, will bear two types of payloads when the program gets underway.

-more-

The first is a rocket-borne electrical field meter. This will monitor the vertical components of a cloud's electrical field and transmit the data back to the Complex 43 blockhouse.

The second is a spherical lightning trigger device.

"If the charge potential in the electrical field is large enough," said Bailey, "we expect a spark breakdown so that a spark will be propagated on the nose of the rocket.

"This, we feel, will be a triggering mechanism to initiate a lightning stroke," Bailey said.

William Durrett, Deputy Division Chief in the Electrical/Electronics Design Division of Design Engineering, explained the program's aims further:

"Part of the goal," said Durrett, "is to 'bleed down' the strength of the electrical charge within a cloud so that, if necessary, we could launch up through it safely.

"It also stands to give us more information on the charge in the cloud. Combining this with the ground detector readings will allow a more accurate determination of the chance that the cloud will produce a stroke," he added.

Bailey spent a week at the New Mexico Institute of Mining and Technology's Langmuir Laboratories high atop a 10,000 foot mountain near Socorro, N.M., earlier this month in connection with the program.

Langmuir is an atmospheric research center and the area is noted for its rapid buildup of raging electrical storms.

Bailey said a number of test firings were conducted by ESSA at Langmuir and that he was on hand to monitor the tests in preparation for Project Mighty Mouse.

"They did succeed in triggering lightning to bleed down cloud areas," said Bailey. He added that a lightning buildup occurred following the discharge and that test data is still under evaluation to study the rapidity with which clouds can rebuild their electrical potential.

-more-

The tests may have important ramifications for the Spaceport. Lightning incidence here and at nearby Cape Kennedy is second in the United States only to the Tampa area on Florida's West Coast.

Complex 43 is located on the tip of the Cape's "nose", permitting test firings on azimuths ranging from 0 to 180 degrees - that is from due north to due south with all the eastern gradients in between. Firing elevations will range from 45 to 85 degrees.

Mighty Mouse is a solid-fueled rocket with a thrust of 760 pounds and a burn time of 1.6 seconds. This kick imparts a load of 49 "Gs" at liftoff and is sufficient to carry the rocket and its payload to an altitude of 16,000 feet when fired at the maximum elevation of 85 degrees. Maximum flight time is about 70 seconds.

According to Bailey, the firing schedule will depend upon the availability of storms and cloud cells with electrical fields within the target area during the test period.

Fred Stevens of KSC's Unmanned Launch Operations Directorate is test director and in charge of coordinating launch activities with the Air Force Eastern Test Range.

The project manager for ESSA is Dr. Heinz Kasemir of Boulder, Colo. Dr. Kasemir is expected to arrive at KSC in late August as Project Mighty Mouse nears operational readiness.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

AUG 26 1970

news release

RELEASE NO: KSC-320-70
FOR RELEASE: August 21, 1970

KSC OPERATES PLACEMENT PROGRAMS TO ASSIST DISPLACED CIVIL SERVICE EMPLOYEES

KENNEDY SPACE CENTER, Fla.--"Every effort is being made to mitigate the impact of our Reduction in Force upon the affected Civil Service employees," Dr. Kurt H. Debus, KSC Director, announced Friday.

Congressional limitations on personnel in the NASA Fiscal Year 1971 budget resulted in the loss of 900 Civil Service "slots" throughout the agency, 85 of them at the nation's Spaceport.

Notices went out to those affected on this past Monday.

Voluntary separations by normal personnel movements accounted for 22 of the 85 spaces and the actual number of KSC employees subject to involuntary separation is 63. In addition, 23 KSC Civil Service employees were reassigned or lowered in grade.

All personnel affected by this Reduction in Force were advised of their individual status by KSC Personnel Chief Ben Hursey and have available to them the counseling services of the Personnel Office.

"A major effort is being made by the Personnel Office, working closely with all KSC organizations, to advise affected employees as to other positions for which they are qualified and to provide out-placement assistance," said Hursey.

W. S. Simmons, KSC Personnel Office Out-placement Coordinator, outlined the assistance programs being operated for the impacted employees.

These include maintenance of a Reemployment Priority List at KSC, an Agency Wide Program to help place KSC employees elsewhere within the agency, participation in the Civil Service Commission Displaced Employee Program to help place them with other federal agencies and Individual Placement Assistance aimed at finding the affected employees jobs with private industry or with other government agencies.

-more-

In addition, a book of "Vacancies in Government and Industry" is being maintained in the KSC Headquarters Lobby in which vacant jobs are listed by category for easy reference.

An active effort is being made to interest recruiters from industry and other governmental agencies in coming to KSC to interview displaced personnel.

"We're not merely 'scattershooting' in our Individual Placement Assistance Program," said Simmons.

"We will provide each separated employee with 25 copies of a resume and counsel with them on obtaining jobs in the geographic locations in which they are interested.

"We will then contact the Interagency Civil Service Boards of Examiners in that area in an attempt to identify job openings. We will make personal contacts with state and federal employment services in their areas of interest in a concerted relocation effort."

A part of the placement program will be the provision of interview facilities at KSC.

In a letter to all KSC employees on Friday, Dr. Debus noted:

"I realize that the current Reduction in Force has been a trying experience for many of you, and I want you to know that there are no plans for any further reduction in the civil service staff...

"I want to ask each of you to devote your best efforts to your jobs in the weeks and months ahead. We are proceeding with the preparations for launching Apollo 14 and subsequent lunar missions as well as scientific and applications types spacecraft in accordance with the 1970 and 1971 programmed schedules.

"Meanwhile, work is in progress for the Skylab missions, for consolidating manned launches at Launch Complex 39 and we are participating with other NASA Centers in the studies for the space shuttle and the space station projects of the future.

-more-

"There is much to be done which will offer you ample opportunity and challenge."

Dr. Debus also noted:

"Although the NASA FY-71 Authorization Bill is law, the NASA Appropriations Bill is again under consideration in the Congress as a portion of the Independent Offices Appropriations Bills.

"It may be sometime before we know the actual amount of money the agency will receive for this fiscal year. You may be assured that as soon as the facts are known, you will be promptly informed."

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-322-70
FOR RELEASE: August 25, 1970

KSC DIRECTOR TO HEAD MUSCULAR DYSTROPHY CAMPAIGN

KENNEDY SPACE CENTER, Fla.--Dr. Kurt H. Debus, KSC Director, has been appointed to head the Muscular Dystrophy Association's Brevard County campaign for the second successive year.

The drive began Monday, August 24, with the opening of headquarters in Melbourne and will be climaxed on October 8 - 11 with a house-to-house campaign throughout Brevard County by more than 2,200 volunteers.

"This dread neuromuscular disease has stricken thousands of young people," said Dr. Debus, "and we hope every Brevard resident financially able contributes so that research can go on to conquer muscular dystrophy and associated afflictions."

In a letter confirming Dr. Debus' acceptance of the campaign chairmanship, Parker E. Hodgman, Muscular Dystrophy District Director in Orlando, wrote:

"Our Brevard County Program Coordinator, Mrs. Ann Powers, has informed me that you have graciously agreed to serve again this year as our campaign chairman. Your assistance last year aided so very appreciably in helping to make our campaign a successful one."

Mrs. Richard M. Nixon is national honorary chairman for the campaign and entertainer Jerry Lewis is national chairman.

In a letter to Dr. Debus, Lewis held out hope that conquest of MD may be in sight:

"The country that made it possible for men to walk on the moon is going to make it possible for kids to walk on earth - kids with muscular dystrophy - and that's going to happen because of people like you who care enough to take up their cause.

"Exciting things are happening on the research front. Scientists at our Institute for Muscle Disease have succeeded in reversing hereditary dystrophy in animal species - a real scientific breakthrough which is possibly the first step in the conquest of the neuromuscular diseases which afflict so many people.

"We feel sure that, with your help, our campaign in your area will be a tremendous success."

# # #

PUBLIC INFORMATION OFFICE, AREA CODE 305-867-2468

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-325-70
FOR RELEASE: August 31, 1970

APOLLO 14 SPACECRAFT SAFETY MODIFICATIONS

The Apollo spacecraft command and service modules will be modified to enhance their potential use in an emergency mode.

The decision followed an extensive study of consumables and emergency equipment aboard the spacecraft as recommended by the Apollo 13 Review Board.

The modification includes adding a 400 amp hour battery in the service module as an alternate power source in the event the spacecraft's main power supply failed. Provisions will be made to store an additional 20 pounds of potable water in the command module.

Earlier, a decision was made to add a third oxygen tank in the service module as a part of the redesigned spacecraft oxygen system.

These modifications would permit a powered down mode of emergency flight from lunar orbit to landing back on earth.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

SEP 3 1970

news release

RELEASE NO: KSC-326-70
FOR RELEASE: September 2, 1970

KENNEDY SPACE CENTER, Fla.--Manpower levels for NASA launch operations here will remain at the presently planned 15,000-15,500 level until early 1973, Dr. Kurt H. Debus, Center Director, stated today.

The new Apollo launch schedule for lunar exploration announced in Washington today deletes two Apollo missions but these, in effect, will be dropped from the end of the program. Formerly the last two missions to the Moon were scheduled in 1974.

The new manned space flight schedule does not vary from the former schedule through mid-1973 when the third manned launch of the Skylab program will be flown.

Apollos 14 and 15 will be launched in 1971, 16 and 17 in 1972.

In the interest of making most effective utilization of manpower following the Skylab launches, KSC has been given a new responsibility to design launch facilites for NASA's space shuttle program regardless of where these facilities will be located.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-337-70
FOR RELEASE: September 29, 1970

MIGHTY MOUSE DELAYED

KENNEDY SPACE CENTER, Fla.--The operational phase of Project Mighty Mouse, a program designed to study lightning potential phenomena in the Kennedy Space Center area, will be delayed due to modifications required to increase the output of the telemetry system in the scientific payload.

Project officials said tests have shown that the telemetry transmission power associated with the electrical field meter experiment is not satisfactory and must be increased.

The modification work will be performed at the Atmosphere Physics and Chemistry Laboratory of the Environmental Science Services Administration (ESSA) at Boulder, Colorado. The lightning study program is being conducted by ESSA for the Kennedy Space Center.

Mighty Mouse is a program using small solid fuel rockets to monitor electrical fields in clouds and trigger lightning discharges. During the program as many as 175 rockets will be launched into cloud cells over the KSC area to gather data on the relationship between lightning potential and large rocket launches such as the Saturn V.

Two types of payloads are included -- a field meter to monitor the vertical components of a cloud's electrical field and a second device to trigger a lightning discharge. A twin engine Beechcraft plane, especially instrumented for the tests, is also used to detect and measure electrical fields.

The program will be resumed next month after the modification work has been completed.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

AUG 1 0 1970

news release

RELEASE NO: KSC-341-70
FOR RELEASE: August 17, 1970

SPACEPORT, CAPE KENNEDY, TRAFFIC COUNT DECLINES

KENNEDY SPACE CENTER, Fla.--The flow of vehicular traffic into and out of the Center and Cape Kennedy Air Force Station reduced from 45,043 vehicles in January, 1970 to 42,646 in July.

Electronic counters tallied cars entering and leaving access gates for a 24-hour period. All checkpoints reported a reduction, except Gate 3.

By gates the results were:	January	July
Gate 1 - main entrance to Cape Kennedy	18,700	16,186
Gate 2 - southern entrance to KSC	7,776	6,965
Gate 3 - main entrance to KSC	12,510	13,889
Gate 4 - Titusville Causeway	5,025	4,697
Gate 5 - Haulover Canal	1,032	925

Traffic clocked on NASA Causeway between CKAFS and KSC dropped from 7,839 to 4,308 vehicles on the sample day.

Some of the increase in Gate 3 traffic which was reported in July included tourists arriving and departing the Visitor Information Center. The flow of vehicles through Gate 2 also includes visitors entering from the south or leaving in that direction from the VIC.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-342-70
FOR RELEASE: October 5, 1970

LAUNCH SUPPORT FUNCTIONS CONSOLIDATED

Air Force Eastern Test Range and Kennedy Space Center, NASA, announced today that a number of launch support functions will be consolidated in the next few months.

These consolidations are the result of continuing joint studies in an effort to reduce costs. It is estimated that annual savings of more than one million dollars will be achieved.

Functions that will be consolidated are under existing contracts at ETR or KSC. The functions to be consolidated under KSC are medical services, life support services, non-destruct testing, frequency control and electro-magnetic compatibility, and precision cleaning. Those which will be provided by ETR are timing, meteorological support and ordnance storage.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

WL OCT 1970

news release

RELEASE NO: KSC-347-70
FOR RELEASE: October 20, 1970

GERMAN PARLIAMENT DEFENSE COMMITTEEMEN TO VISIT KSC

KENNEDY SPACE CENTER, Fla.--Members of the German Parliament Defense Committee will visit the Space Center Wednesday, October 21.

Dr. Kurt H. Debus, Center Director, will welcome the delegation. Dr. Hans F. Gruene, Director of Launch Operations, will conduct their tour of Launch Complex 39.

The Deputies include:

Professor Dr. Manfred Abelein, Guenter Biermann, Johann Cramer, Carl Damm, Heinrich Draeger, Karl-Heinz Gierenstein, Detlef Haase, Dr. Egon Klepsch, Helmuth Moering, Paul Neumann, Josef Rommerskirchen, Peter Wuertz, Hans-Joachim Fricke, and Erhard Goden.

Rear Admiral Herbert Toepfer and Heinz Plener of the Federal Ministry of Defense will accompany the visitors.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

OCT 2 1970

news release

RELEASE NO: KSC 348-70
FOR RELEASE: October 20, 1970

ALASKA, WYOMING CITY MANAGERS TO ATTEND SPACE MEETING AT KSC

KENNEDY SPACE CENTER, Fla.--City managers from as far away as Alaska and Wyoming will participate in a conference on space technology at the Kennedy Space Center October 22-23 which may be useful in solving municipal problems.

Dr. Kurt H. Debus, KSC Director, will welcome the 70 delegates to the International City Manager Association conference in the KSC Training Auditorium.

Examples of technology innovations stemming from space-related research and development will be described to the guests who may find uses for them in city operations. Among the areas of interest are fire retardant and portable life support systems.

NASA's experience in the use of systems Management technology will also be explored. James Harrell, Chief of the KSC Technology Utilization Office, is in charge of local arrangements.

City Managers are expected from Alaska, Arizona, California, Colorado, Florida, Georgia, Illinois, Iowa, Kansas, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Missouri, Nevada, New Jersey, New Mexico, North Carolina, Ohio, Oklahoma, Oregon, South Carolina, Texas, Virginia, West Virginia, Wisconsin, Wyoming and Washington, D.C.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

OCT 21 1970

news release

RELEASE NO: KSC-349-70
FOR RELEASE: October 20, 1970

REVIEW BOARD NAMED TO INVESTIGATE MISHAP INVOLVING KSC TRANSPORTER

KENNEDY SPACE CENTER, Fla.--Dr. Kurt H. Debus, Center Director, has appointed a Review Board to investigate circumstances surrounding a mishap yesterday which damaged several steering cylinders of Crawler-Transporter No. 1 at Launch Complex 39.

The mishap will have no impact on the Apollo 14 launch preparations since Crawler-Transporter No. 2 will be placed in service. Both crawler-transporters have traveled approximately 300 miles since Complex 39 entered the operational phase.

The mishap occurred while contractor personnel were checking out Crawler-Transporter No. 1 following extensive maintenance work.

The Review Board consists of William Rock, Assistant Apollo-Skylab Program Manager; Dr. John B. Gayle, Jr., John T. Rogers, Robert Newall, Vincent T. Parr and Charles W. Taylor, recorder. Fred X. Hartman is safety advisor and Edward D. Earl, legal advisor.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-350-70
FOR RELEASE: October 21, 1970

SPACEPORT, CAPE KENNEDY OPEN HOUSE TO FEATURE EXHIBITS, FLIGHT HARDWARE

KENNEDY SPACE CENTER, Fla.--A wide variety of exhibits, presentations and displays -- in addition to actual flight hardware -- will be seen by employees and their families attending the KSC-Cape Kennedy Air Force Station Open House from 9:00 a.m. to 4:00 p.m. Saturday.

The most extensive concentration of KSC exhibits will be in the Vehicle Assembly Building (VAB) transfer aisle, where parents and children will be able to see a Moon rock, educational exhibits, future programs displays and models and a Skylab area and a variety of other exhibits.

Also, two Saturn V vehicles being prepared for the Apollo 14 and 15 missions will be seen in high bays of the VAB.

Stage and support contractors will display exhibits, models and educational material.

Also at Launch Complex 39, the Launch Control Center will have a closed circuit television display so that visitors can see themselves on TV, and Firing Room 3 will be open.

However, visitors will not be permitted in the transporter area, nor will a transporter be parked outside the VAB for viewing as planned due to a recent mishap involving one of the tracked vehicles.

Visitors will be able to drive past Pad A, launch site of Apollo 14.

The Visitor Information Center will have many displays and exhibits, including full-scale models of Mercury, Gemini and Apollo spacecraft. It also will have an Apollo 12 Moon rock on display, and show a film on Apollo 12 every half hour.

The Central Instrumentation Facility will operate computers and data systems, display measurement and analysis techniques, operate telemetry modules, and demonstrate a simulated launch countdown.

Most offices in the Headquarters Building, except the fourth floor, Personnel and Security offices, and certain procurement areas will be open. A photographic display and printing and reproduction facilities can be seen here. There will also be a demonstration of mail and distribution equipment.

-more-

The Materials Testing Branch will display testing machines and a vacuum chamber in the Manned Spacecraft Operations Building. Also open will be one of the Acceptance Checkout Rooms, the Flight Crew Suit Room and the Weather Station. A film, "Seeds of Discovery," will be shown every hour on the hour in the Mission Briefing Room.

Apollo command and lunar module simulators can be seen from the glass-enclosed balcony in the Flight Crew Training Building.

The KARS recreational and picnic area at Complex 99 will be open, and soft drinks, sandwiches and snacks will be available.

Other areas open to tour visitors at KSC include the Occupational Health facility, the Plant Engineering and Maintenance Building, Main Fire Station, Utility Annex Building and the Precision Systems Cleaning Laboratory.

The Cape Kennedy Air Force Station will also have many interesting exhibits and displays:

A full scale model of the Lunar Orbiter will be on display in Hangar AE, and there will be a continuous demonstration of equipment and techniques used in "clean room" operation in which unmanned spacecraft are readied for flight. Also, the Central Room will be open.

Launch control rooms on the second floor of the Range Control Center will be open, and movies depicting missile tests will be shown on the first floor.

Weather instruments, balloons and rocket systems, including models of the LOKI and ARCAS rockets, will be on the exhibit at the Weather Station.

There will be a continuous demonstration of computer applications in meteorology. Visitors will have an opportunity to experiment with simple computer applications.

In the Non-Destructive Test Laboratory, a 25-million volt Betatron X-Ray System will be seen, and X-Ray pictures of visitors' watch mechanisms will be made and given to their owners.

A drive through of the Titan III launch facilities can be made by tour visitors. Launch Vehicle 19 in the VAB will be stacked and visible from cars. Launch Vehicle 20 on Pad 40 can be seen from the Cape Road.

At the Skid Strip, aircraft on display for viewing or walking through will include Apollo Range Instrumentation Aircraft (ARIA), a rescue helicopter, and a C-141 transport.

-more-

At Launch Complex 34, the firing room will be open, and visitors may drive through on the perimeter road.

The world's largest collection of missiles and rockets can be seen at the Air Force museum. A film of early launches from this complex will be shown.

Visitors may drive through on the perimeter road at Complex 17, the Delta rocket launch site.

Visitors may drive around the blockhouse at Complex 5-6. This was the launch site for Alan Shepard and "Gus" Grissom in the first U.S. manned flights.

Other areas open at the Cape Kennedy Air Force Station include the Medical/Safety Building, the Missile Propellants Building, the Heavy Equipment Area, the XY Communications Building, the Real Time Computer Center, the FPS-16 Radar and the High Voltage Building. Hangar M will not be open.

Patrick Air Force Base and Port Canaveral areas will not be open for the occasion.

For the benefit of tour visitors, Open House representatives will be available at key areas to explain the exhibits and to provide whatever assistance they can. Cafeterias and snack bars will be open, ambulance and health teams will provide medical coverage, and security patrols will assist in the traffic control and will summon service assistance in the event of automobile breakdowns or difficulties.

A brochure that describes open House activities in detail, including a map showing access routes, is being distributed to all KSC and Air Force employees. Car passes will be available for employees who cannot accompany their families on the tour.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

OCT 26 1970

RELEASE NO: KSC-351-70
FOR RELEASE: October 21, 1970

GRASS MOWING BIG OPERATION COVERING SPACEPORT'S 2,400 ACRES

KENNEDY SPACE CENTER, Fla.--"Mowing the Kennedy Space Center's 2,400 acres of grass is a full time job, and from June through September we never quite get caught up," said Harrell Cunningham, Chief of KSC's Roads and Grounds Section.

About 22 men are assigned to mowing highway median strips, road side slopes and ditches, lawns of the Industrial and Vehicle Assembly Building areas, launch pads, crawlerways, and under power lines.

Areas where personnel work are mowed twice a month.

TWA is the contractor which performs the mowing, and Superintendent R. E. Simpson is the man in charge.

Working under Simpson are Dennis Kelemen, General Foreman of Roads and Grounds and a graduate entomologist, and Kimzie Coward, a horticulturalist.

The Visitor Information Center (VIC), KSC's horticultural "show place," is given special treatment. In addition to the many trees, shrubs and special plantings, it has 14,000 square feet of hybrid Bermuda grass which require different treatment from any other grasses in the area.

Growing along the walk ways on the south and west entrances of the VIC, this hybrid is often mistaken for Astro-turf or artificial grass. Maintenance crews are constantly asked about its characteristics and availability.

The grass is not available on the market at present. When asked why it was not more popular as a home grass, Cunningham said: "It would be if you didn't have anything else to do except take care of your lawn."

Cunningham had brought a small piece of sod from the University of Florida Agricultural Extension Service in 1966 and sprigged it in a protected area. It was then allowed to grow under careful supervision.

Other types of grasses used at KSC include:

Pensacola Bahia, found on all road shoulders, slopes and medians and in other areas around and between buildings in the industrial area and Launch Complex 39.

-more-

St. Augustine, grown on the lawn of the Headquarters Building and behind the Training Auditorium.

Centipede, found on the bore sight range in the Fluid Test area.

Depending on how much rain falls, the crews will mow about once a month from September through December. From January through March, mowers are used only when needed. Heaviest mowing occurs from April through August.

The grasses at KSC are just as prone to disease and insect pests as home lawns. Chinch bugs, nematodes, mole crickets and army worms are the most common pests.

Mole crickets attack the grass roots, causing exposure to the air which kills the plant. These crickets are poisoned.

Army worms eat the grass blades down to the ground, causing the grass to die. Nature helps here, as birds will flock to areas affected and devour the worms.

Nematodes are always present, but it's possible to live with them if the soil has enough moisture and the plants have enough food.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-352-70
FOR RELEASE: October 21, 1970

TEAM OF NASA, CONTRACTOR EXPERTS HANDLE PYROTECHNICS AT SPACEPORT

KENNEDY SPACE CENTER, Fla.--"I guess our parents wouldn't let us play with fireworks when we were kids," said a spacecraft ordnance installation expert with a grin, "so now we are making up for it."

This expert, Bob Watlington, heads up North American Rockwell's skilled team of five technicians and three inspectors who receive, inspect, check out, conduct pre-installation acceptance tests and install all explosive and launch escape system devices on the Apollo command-service module (CSM).

NASA responsibility for ordnance installation at KSC comes under the Director of Spacecraft Operations, John J. Williams. G. T. Sasseen is head of the Engineering Division, E. A. Horton is chief of the Mechanical and Site Utilization Branch and E. A. Timmons heads the Ordnance Systems Section.

Elmer Karberg is the Quality Surveillance inspector of all pyrotechnic installation on Apollo spacecraft at KSC.

Karberg said 264 pieces of ordnance are installed on the entire Apollo spacecraft, 214 on the CSM, launch escape system (LES) and shroud covering the lunar module and 50 on the LM.

Grumman Aircraft Engineering Co. personnel install ordnance on the LM.

Much of the ordnance work is performed in the Pyrotechnic Installation Building, located in the southeastern section of KSC's Industrial Area. A flashing red light denotes the presence of explosive ordnance.

The LES is built up in this building and some of the ordnance is installed on the spacecraft. However, the installation is completed in either the MSO Building, the VAB and on the launch pad.

"We are very proud of our team of technicians and inspectors," said Watlington. "We've been together since the early stages of the Apollo Program in 1964."

-more-

G. R. Gay, W. J. Stanfield, A. L. McCarley and J. H. Bintemire are the veteran technicians, R. H. Terry is a new member of the team, replacing H. J. Black, who recently was transferred to another position in spacecraft operations.

Inspectors J. P. Clifford, C. J. Albury, and R. A. Norwood have been with the team since the start of the program.

The largest ordnance item is the LES, a 33-foot-long "pencil" with a lattice-work tower which sits atop the Apollo space vehicle. It is a highly sophisticated subsystem designed to provide emergency escape for the astronauts in the event of an extreme emergency on the launch pad or in the early stages of flight.

The LES assembly weighs 8,000 pounds and has a solid propellant motor. It is capable of burning for about six seconds and pulling the command module from the launch vehicle to a height of a mile over the Atlantic.

The LES has a thrust of 160,000 pounds, almost twice that of the Redstone rocket which carried Astronaut Alan Shepard and the Mercury spacecraft on the first manned flight into space.

In a normal launch, the LES is jettisioned at about 300,000 feet, or approximately 30 seconds after the second stage is ignited.

In addition to the spacecraft, there are hundreds of explosive charges on the launch vehicle in the forms of shaped charges, detonators, explosive tape, cutting devices, and primers. There are 116 pieces of ordnance on the first stage, 89 on the second and 72 on the third stage and instrument unit.

"The techniques of using explosive and ordnance devices in science and industry has come a long way in recent years." said Howard Baxter of KSC's Ordnance Systems Section. "The wide use of these devices in the space program pin-points the dependability and accuracy of this technology."

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-353-70
FOR RELEASE: October 21, 1970

CITY MANAGEMENT CONFERENCE HELD AT KSC

KENNEDY SPACE CENTER, Fla.--Seventy U. S. cities are represented in the two-day conference which begins tomorrow under joint auspices of NASA and the International City Management Association.

The conference will discuss application of space technology to city problems, with emphasis on water and air pollution, law enforcement, urban construction, fire safety, life support equipment and management systems.

Conferees will identify and define, on a case model basis, specific problems common to most cities during working sessions. Purpose of this study is to demonstrate the methodology by which aerospace technology can be effectively applied in specific areas.

# # #

KSC news release

KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

RELEASE NO: KSC-358-70
FOR RELEASE: November 3, 1970

FOREIGN NEWS INTEREST IN SPACE REMAINS HIGH

KENNEDY SPACE CENTER, Fla.--Measured by the number of foreign newsmen who have toured the Spaceport this year to date, international interest in America's space program remains high.

Close to 700 foreign media representatives toured the Center's launch facilities during the first nine months of 1970 and another 125 are expected by the end of the year.

The schedule of foreign media activity at the Spaceport during a typical month in 1970 included tours by several score newsmen from a dozen or more countries. Those represented last month ranged in size from the African Republic of Dahomey, smaller than Florida, to Brazil, largest nation in South America.

"Each visitor is not only given a conducted tour, but is briefed and given a packet of information about NASA, KSC and various space projects," states U. Wright Kerns, coordinator of media tours for KSC's Public Affairs Office.

"One thing that always amazes our overseas visitors is the freedom they have to examine our equipment and facilities at close range," he adds.

As might be expected, many of the visiting newsmen are particularly interested in cooperative programs involving personnel or hardware from their country or geographic area.

Currently, 74 countries are participating in some form of space activity with the United States. Activities include personnel exchanges, ground-based programs, tracking and data acquisition agreements and cooperative project agreements.

Countries engaged in cooperative satellite and probe projects with the United States during the past year include Canada, France, the Federal Republic of Germany, Italy and the United Kingdom. The European Space and Research Organization (ESRO), consisting of Belgium, Denmark, the Federal Republic of Germany, France, Italy, the Netherlands, Spain, Sweden, Switzerland and the United Kingdom, also has been engaged in several cooperative satellite and space projects.

- more -

In addition to government-level cooperative activities between nations, 76 countries currently are partners in the International Telecommunications Consortium (Intelsat). Intelsat operates a commercial communications satellite system which provides global voice, television, teletype, facsimile and digital transmission capabilities. NASA launches the satellites and is reimbursed for launch service costs.

"We know from frequent clippings and reports we receive that much of the information we supply foreign correspondents is used extensively in overseas papers and on radio and television," remarks Kerns.

The News Center at KSC is already beginning to receive requests for accreditation for the Apollo 14 launch scheduled for January 31. Based on preliminary data, about 1,700 newsmen are expected to apply for accreditation, with approximately 350 representatives from outside the United States.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

OCT 2 3 1970

news release

RELEASE NO: KSC-354-70
FOR RELEASE: October 21, 1970

TWO 'MIGHTY MOUSE' PAYLOADS LAUNCHED IN LIGHTNING STUDY

KENNEDY SPACE CENTER, Fla.--The Kennedy Space Center's Unmanned Launch Operations (ULO) group directed a successful launch of a cloud-measuring payload today in Project Mighty Mouse, but the electrical field proved too low for a second triggering payload to ignite a lightning discharge.

Mighty Mouse is a National Aeronautics and Space Administration project being carried out under contract by the National Oceanic and Atmospheric Agency, Boulder, Colorado, to study the feasibility of discharging lightning potential from clouds before lightning could damage a vulnerable area, such as a launch pad.

Fred Stevens, Chief of ULO's Range Operations Branch, said the measuring payload was launched into a thunderstorm at 2:11 p.m. and it registered an electrical field that was only marginal for attempting to set off a discharge.

A triggering device was launched four minutes later, Stevens said, and "confirmed what we suspected, that the electrical field was too low for the payload to cause a lightning strike."

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-359-70
FOR RELEASE: November 3, 1970

KENNEDY SPACE CENTER, Fla.--More than half the Center's permanent Civil Service employees have professional degrees, according to an analytical report of the work force in FY 1970. Degree holders represented 56.9% of the Government personnel.

Average age of the men working for KSC is 41.1 years while the average for women is 39.4 years. The average Civil Service grade is GS 11.1.

Nearly 18% of the employees hold supervisory positions. Those in scientific and engineering jobs reported an average of 10.8 years in Federal service.

The work force of 2,762 in FY 1970 was 3.6 percent under the preceding fiscal year. However, the 2,762 employees was nearly double the employment in 1964 when KSC counted 1,434 Civil Service personnel.

The report indicated 17.7% received promotions within the year, 5.4% left the Center while the accession rate was 1.4 percent.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-360-70
FOR RELEASE: November 3, 1970

KENNEDY SPACE CENTER, Fla.--Extension of the occupational health services contract, performed by Trans World Airlines, through February 28, 1971, was announced today by the Center.

TWA has provided these services which include occupational medicine and environmental health engineering for KSC since December 1, 1967. The extension involves $253,576 addition to the current one-year contract for $2,539,957.

TWA employs physicians, medical technicians and nurses who operate health facilities for the Government and contractor work force.

The extension continues the services until a contractor has been selected to furnish similar services to NASA and the U.S. Air Force in a combined contract covering the Space Center and Cape Kennedy Air Force Station.

# # #

KSC news release

KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

RELEASE NO: KSC-363-70
FOR RELEASE: November 4, 1970

MERRITT ISLAND NATIONAL WILDLIFE REFUGE WATERFOWL HUNTING BEGINS NOVEMBER 26

KENNEDY SPACE CENTER, Fla.--The waterfowl hunting season on the Merritt Island Wildlife Refuge for 1970-71 will run from November 26 through January 20, announces Refuge Manager Hal O'Connor.

O'Connor said a two-part presentation on waterfowl hunting will be given in the Training Auditorium at KSC from 11:30 a.m. to noon November 16-17. The first will include a color slide presentation on identifying waterfowl and the second will be on refuge and Florida hunting regulations.

The refuge, situated within the boundaries of the Kennedy Space Center, will have two hunting areas. Area 1 is located along the eastern shoreline of the Indian River, extending from Catfish Creek on the south past Marsh Bay on the north, while Area 2 encompasses the Mosquito Lagoon territory.

Hunting will be permitted four days per week -- Sunday, Tuesday, Thursday and Saturday -- but permits will only be required on Thanksgiving Day and all Saturdays and Sundays.

However, for Area 1 -- the blind area -- hunters must first stop at Refuge Headquarters on Highway 402 between the Kennedy Parkway and Highway 406 to draw a blind number and pay the $3 fee.

To obtain a permit for Saturday, Sunday or Thanksgiving Day, a hunter should print his name and address on a stamped postcard and on the back of the card give the date and hunting area preferred.

For hunters wishing to hunt together, names of up to three hunters may be placed on a card designated for the Mosquito Lagoon area. If the card is drawn, the hunter to whom the card is addressed, plus the additional hunters listed on the back, will all be considered to have a permit.

Cards should be sent to the Merritt Island National Wildlife Refuge, P. O. Box 6504, Titusville, Florida 32780, or hunters may bring it to Refuge Headquarters personally.

-more-

Applications will be accepted no sooner than two weeks prior to the date on which the person wishes to hunt.

Beginning at 9:00 a.m. on the Saturday prior to the weekend (or Thanksgiving Day), a public drawing will be held at Refuge Headquarters to fill the available hunting spots for the following weekend in both areas. Hunters are invited to attend and help in the drawing.

When a card is drawn, it will be stamped "Approved" and returned by mail. It will then serve as a permit, and hunters must have it while hunting.

The cards not drawn also will be mailed back, so noted.

The following are some general rules and hints for refuge waterfowl hunting:

--Pits may not be dug, but natural vegetation, portable blinds, nets, tarps or similar forms of concealment are permitted. Vegetation may be cut from the dikes only.

--Dogs must be kept on a leash except when retrieving.

--Car-top boats are better than trailer-mounted boats due to the scarcity of turn-around points on narrow levees.

--Air boats are not permitted on the refuge.

--Hunters under 16 years of age must be accompanied by an adult 21 years of age or older.

--Blind hunting in Area 1 will be permitted from one half hour before sunrise until noon.

--Permits will be issued to only one individual in this area, but this person may have any other two hunters of his choosing accompany him. They do not need permits.

--All shooting in Area 1 will be from established blinds for a fee of $3 per blind. Hunters must park in the parking spot bearing the same number as their blind.

--In Area 1, permit reservations on Saturdays and Sundays will be held until one half hour before shooting time, after which they will be reissued on a first-come, first-served basis to standbys.

-more-

The Refuge Headquarters will be open two hours prior to legal shooting time.

Hunters may use shotguns within a 200-yard radius of their blinds to help retrieve crippled birds that can't fly. A dog or boat must be on hand to retrieve ducks in the water.

In Area 2 -- the Mosquito Lagoon section -- hunting will be permitted from one half hour before sunrise to sundown and a maximum of 250 permits will be issued on Saturdays and Sundays.

Jump shooting will be permitted, but no shooting will be allowed from the railroad right-of-way or any hard-surfaced road.

During the time the Apollo 14 space vehicle is on the pad, hunting will not be permitted south of the railroad tracks or north along the east shore of Mosquito Lagoon from Highway 402 to the end of the paved beach road.

Hunters in Area 2 are expected to disperse themselves so as not to interfere with the hunting of others.

# # #

KSC news release

KENNEDY SPACE CENTER, FLORIDA 32899

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

RELEASE NO:

FOR RELEASE: November 9, 1970

APOLLO 14 WEEKLY STATUS REPORT

Apollo 14 crewmen are scheduled to train in the mission simulators throughout the week. The prime crew will also conduct an EVA 1 simulation on the 10th of November and an ALSEP deployment simulation on November 12 at KSC.

The Apollo 14 flight control team will hold a lunar surface (math model) EVA 2 simulation on Nov. 10. A LM activation/descent simulation with the spacecraft simulators at KSC is scheduled for Nov. 12. On Nov. 13, the flight controllers will conduct a translunar injection simulation with the Apollo mission simulator at KSC.

The Apollo 14 space vehicle is scheduled to begin rollout to Pad A at KSC LC-39 at 6:30 a.m. EST, Monday, Nov. 9. About $4\frac{1}{2}$ to 5 hours are required for the $3\frac{1}{2}$-mile trip to the launch pad. The mobile service structure will be moved into place at Pad A late Tuesday.

Prelaunch preparations later in the week include launch vehicle power-up on Wednesday and launcher-pad propellant checks and spacecraft ground support equipment interface tests on Thursday.

A mission-oriented news conference with Apollo 14 Command Module Pilot Stuart Roosa is scheduled in Firing Room 4 at KSC at 9 a.m. EST Monday, Nov. 9.

Apollo 14 crewmen will train in simulators November 9, 10 and 13 at MSC. The crew will attend the mission review scheduled on November 12 at MSC.

# # #

PUBLIC INFORMATION OFFICE, AREA CODE 305-867-2468

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-364-70
FOR RELEASE: Nov. 10, 1970

SPACEPORT AWARDS $25,050 ELECTRICAL CONTRACT TO WESTERN ELECTRIC COMPANY

KENNEDY SPACE CENTER, Fla.--The Kennedy Space Center (KSC) has awarded a $25,050 contract to Western Electric Co., Inc. to furnish 3,000 electrical connector jacks.

The jacks, produced in North Andover, Massachusetts, are required to rework the wideband transmission system throughout KSC in preparation of the Apollo 14 launch and the follow-on Skylab Program.

KSC is the center within the National Aeronautics and Space Administration responsible for both its manned and unmanned launches in Florida and on the Western Test Range in California.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-365-70
FOR RELEASE: Nov. 10, 1970

IBM AWARDED $82,000 COMPUTER SERVICES CONTRACT AT SPACEPORT

KENNEDY SPACE CENTER, Fla.--The IBM Corporation has been awarded a contract with an $82,000 ceiling to provide computer services at the Kennedy Space Center (KSC).

The contract, which runs through June 30, calls for IBM to support with systems engineering services the IBM System 360, Model 40 and Model 50 computers installed at the Spaceport.

KSC is the center within the National Aeronautics and Space Administration responsible for both its manned and unmanned launches in Florida and on the Western Test Range in California.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

NOV 19 1970

RELEASE NO:

FOR RELEASE: Nov. 16, 1970

APOLLO 14 WEEKLY STATUS REPORT

Apollo 14 astronauts and flight controllers have two combined simulations scheduled this week. Monday an EVA 2 simulation will be conducted with the Apollo 14 prime crewmen Alan Shepard and Edgar Mitchell at the USGS-constructed Fra Mauro lunar site near Flagstaff, Ariz., and Stuart Roosa in the Apollo Mission Simulator at Kennedy Space Center, Fla. Thursday, Nov. 19, the flight controllers will conduct reentry simulations with the Apollo 14 crew in the Apollo Mission Simulator at KSC.

For the EVA-2 simulation, Shepard and Mitchell will be in communication with Mission Control Center in Houston and with Stuart Roosa at KSC. The exercise is scheduled to begin at 9 a.m. EST and will be open to the news media for photography purposes. The crew will be "shirtsleeve" and will make a traverse similar to the one scheduled at Fra Mauro early next February. They will utilize the modularized equipment transporter and the lunar tools during the exercise.

The Apollo 14 crewmen are scheduled to spend the remainder of next week in the simulators at KSC and at briefings.

The Apollo 14 command module pilots will be at North American Rockwell Corp. in California for command module tests. The other crewmen have meetings, briefings, and geology training scheduled during the week.

Apollo 14 space vehicle testing continues at Kennedy Space Center Launch Pad A, Complex 39. Modified oxygen tanks 1 and 2 are scheduled for delivery early this week for installation in the Apollo service Module. Operation of the fuel cells and these cryogenic storage tanks will be verified during the spacecraft integrated systems test on Thursday and Friday.

Saturn V launch vehicle work during the week includes instrument unit radio frequency tests, theodolite alignment of the on-board guidance system, and swing arm pressurization checks.

The Apollo 15 lunar module ascent stage, which arrived at KSC last week, is undergoing reaction control system functional tests in the high bay of the KSC Manned Spacecraft Operations Building.

-more-

NASA-Marshall Space Flight Center will take delivery of a lunar roving vehicle trainer at the General Motors' facility near Santa Barbara, Calif. The vehicle will be used for training astronauts. Tentative date for the turnover is Nov. 17.

Two Skylab reviews are to be held this week at the Marshall Space Flight Center. There will be a design review concerning EVA aspects of the Skylab missions on Nov. 16-20. There also will be a Skylab subsystems review on Nov. 17-19.

On Nov. 20 a briefing will be held for press at Seal Beach, California facility of North American Rockwell on the full scale mock-up of the five story 33 foot diameter space station. The briefing starts at 12 noon EST and concludes at approximately 4 p.m. Participants include:

Charles Mathews, Director, Space Station Task Force, NASA Hq.
Rene Bergland, Manager, Space Station Study Task Group at MSC
Earl Cole, Space Station Study Manager for HR at Los Angeles
Charles Kirby, GE, Manager, Earth Resources Module.

Following the briefing, media will tour the mock-up.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-367-70
FOR RELEASE: Nov. 17, 1970

EIGHT PROPOSALS ON KSC MAIL CONTRACT

KENNEDY SPACE CENTER, Fla.--Mail and distribution services for the Center, currently provided by Trans World Airlines, the base support contractor, will be set aside to be awarded to a small business firm.

Eight proposals were received on the closing date yesterday. The competitive bidders are:

Atlantic Technical Services, Inc.
Community Improvement and Investment Corp.
Delaware Service, Inc.
Kahoe Enterprises, Inc.
Kentucky Building and Maintenance, Inc.
Manuals, Inc.
Mercury Publications
Wood-Ivey Systems Corp.

The proposals will now be evaluated by a Source Evaluation Board appointed by the Center. TWA will continue to provide services pending an award.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-368-70
FOR RELEASE: November 18, 1970

KSC ENGINEER CITED BY CIVIL SERVICE FOR OUTSTANDING SAVINGS SUGGESTION

KENNEDY SPACE CENTER, Fla.--Bill Jafferis, a member of the Systems Engineering Staff in Launch Vehicle Operations at the Kennedy Space Center, has been cited by the U. S. Civil Service Commission for his outstanding suggestion that saved an estimated $1.3 million and earned him $2,420.

In its fiscal year 1970 report, the commission said Jafferis' suggestion to use a remote control device for actuation of a computer switch on the Saturn vehicle solved the problem of redesigning the computer.

Commission Chairman Robert E. Hampton said Federal employee suggestions during the year led to increased efficiency, reduced costs and improved operations worth $176 million. This is the fourth successive year in which benefits from adopted suggestions have exceeded $150 million.

# # #

KSC news release
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
NOV 20 1970
RELEASE NO KSC-369-70
FOR RELEASE: November 18, 1970

KSC'S UNMANNED LAUNCH OPERATIONS TO LAUNCH STAR OBSERVATORY MONDAY

KENNEDY SPACE CENTER, Fla.--KSC's Unmanned Launch Operations (ULO), directed by John J. Neilon, will launch the world's largest space astronomy telescope -- OAO-B -- into a 466-mile circular orbit at 6:47 p.m. Monday to learn more about the birth of stars and the future of our galaxy.

From high above the Earth's atmosphere, the Orbiting Astronomical Observatory will observe distant stars and galaxies in the ultraviolet via its onboard 36-inch telescope with a detail previously unobtainable in space astronomy.

The 4,680-pound OAO is the most complex scientific satellite developed by the United States and contains more than 328,000 parts. It stands ten feet tall.

OAO-B experimenters will use its large telescope to concentrate on the extremely young, hot stars, which emit most of their light in the ultraviolet and are only hundreds of thousands of years old. By comparison, our Sun is about five billion years old, or middle-aged by astronomical standards.

These observations will refine astronomers' knowledge of their temperatures and evolution and permit study of some peculiar stars like Wolf-Rayet, T-Tauri and pulsating variable stars.

The T-Tauri type stars are probably still in the process of condensing and being formed.

One of the most important subjects to be closely studied is interstellar dust, which many astronomers agree may hold the key to the origin and evolution of stars. It is from this dust -- believed to have a high carbon content -- that stars are born.

"Interstellar dust is of considerable significance, cosmologically, in predicting the future course of our galaxy," said Dr. Albert Boggess, Principal Investigator for OAO-B's Goddard Experiment Package (GEP)

-more-

Also, there will be an attempt to study the brightest Quasar, 3C273. This Quasar is 13th magnitude in visible light. GEP is designed for about 12th magnitude. With longer observation times, GEP might be able to go beyond 12th magnitude.

Quasars, discovered in 1963, are the most distant known celestial systems.

ULO will launch the Atlas-Centaur vehicle from Complex 36-B for the Lewis Research Center, which has project management of the launch vehicle.

The OAO program is directed by NASA's Office of Space Science and Applications, while the Goddard Space Flight Center is responsible for project management.

General Dynamics - Convair is the prime contractor for the Atlas-Centaur vehicle, Grumman Aerospace Corporation built the OAO spacecraft and Kollsman Instrument Corporation is the prime contractor for the GEP on the spacecraft.

OAO-B is the third in a series of four observatories planned by NASA. OAO-1 was launched in 1966, but failed shortly after it was in orbit.

OAO-2, launched by KSC in December, 1968, continues to operate. One scientist speculated that man has learned more about the universe from this spacecraft than was learned about it in all of previous recorded history.

OAO-C, scheduled for flight in late 1971, will carry the Princeton University 32-inch aperture high resolution telescope.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-370-70
FOR RELEASE: November 18, 1970

TWO KSC LAUNCH PERSONNEL RECEIVE SPECIAL AWARDS AT NASA HEADQUARTERS

KENNEDY SPACE CENTER, Fla.--Two key members of the Kennedy Space Center launch team recently received NASA Exceptional Service Medals for their outstanding performances in assuring success of the Apollo Program.

Donald E. Phillips of Titusville is Chief Test Supervisor, Launch Operations Test Operations office, and Frank G. Bryan of Merritt Island is a member of the Launch Vehicle Operations Systems Engineering Staff.

Phillips' citation commended his "outstanding technical and managerial accomplishments in the NASA Launch Operations Program for manned space flight missions.

"His exceptional abilities as the Space Vehicle Senior Test Supervisor have contributed significantly to man's knowledge of his space environment through achieving successful launches of manned space vehicles."

Bryan's award was accompanied by a citation which read:

"In recognition of exceptional service as a member of America's space team. His outstanding technical ability, his complete dedication and his untiring efforts have contributed greatly to the successful record of Launch Vehicle Operations in achieving the goals of the Apollo Program."

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

NOV

news release

RELEASE NO: KSC-371-70
FOR RELEASE: November 18, 1970

WILDLIFE REFUGE HEADQUARTERS MOVED TO SPACEPORT PROPERTY

KENNEDY SPACE CENTER, Fla.--The Merritt Island National Wildlife Refuge Headquarters has been moved from Titusville into a newly renovated building on property about one mile west of the Kennedy Parkway on Highway 402.

Refuge Manager Hal O'Connor said the new facility is designed to allow a broader program of work, particularly with conservation and education-oriented groups.

In addition to the reception and office areas, the building houses an auditorium, an exhibits room and a classroom.

One unique feature of the Headquarters will be a sewage treatment facility that will take the waste that normally goes to a septic tank and produce drinkable water as the end product. This will be a prototype of future facilities that hopefully will reduce pollutants entering the nation's lakes and streams.

The auditorium, which will seat 50 people and have equipment to show slides and movies, will be available to conservation and school groups.

The exhibits room will contain materials, models and representations of plants, wildlife and area geology to show how they interact and rely upon one another.

O'Connor, his assistants Jerome Carroll and James Bryan and other wildlife and environmental specialists will utilize the classroom to instruct students from public schools and scouting groups.

In addition, a two-mile-long nature trail is being established south of the Refuge Headquarters so that students and other interested in ecology and conservation can study nature firsthand.

The nature trail, to be built with the help of several volunteer scout groups, will wind past several ponds which are known to attract numerous varieties of fish, plants and animals, including alligators.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

NOV 20 1970

RELEASE NO: KSC-372-70
FOR RELEASE: November 19, 1970

FISHING WILL GIVE WAY TO HUNTING ON WILDLIFE REFUGE AT SPACEPORT

KENNEDY SPACE CENTER, Fla.--Fishermen who use the fresh waters on the Merritt Island National Wildlife Refuge will have to give way to hunters during the waterfowl season which extends from November 26 through January 20.

Sport fishing on the refuge is permitted only on the areas designated by signs as open to fishing. These open areas comprise 36,506 acres.

However, the regulations state:

"Sport fishing is permitted on the open areas year round except during the waterfowl hunting season when fishing is limited to the open waters of Mosquito Lagoon, Banana Creek and the ocean beach."

Fishing may be prohibited at certain times in all or part of Mosquito Lagoon, Banana Creek and along the ocean beach when safety and operational factors by NASA so require. At such times the areas will be posted as closed.

Bank fishing along Banana Creek is prohibited at all times.

After January 20, the following daily limits in fresh-water areas will be in effect:

Largemouth black bass, 10; bream, perch, red-finned pike--an aggregate of not more than 35; pickerel, 15; and other minor species as permitted by state fishing regulations.

Access to the fresh-waters areas during fishing season is permitted only during the period from one hour before sunrise to one hour after sunset.

Fishing is permitted on the open waters of Mosquito Lagoon and the ocean beach 24 hours a day.

Fishermen may not leave fishing rods or pails unattended and taking of any fish with spears or bow and arrow is prohibited. Trot lines, limb lines, nets or other set tackle are not allowed.

-more-

Air-thrust boats are prohibited. Inboard and outboard boats are permitted in the waters open to fishing, except in areas specifically designated by suitable posting by the refuge manager as closed to motor boat operation.

For further information about hunting or fishing on the refuge, contact the Refuge Headquarters, 867-8300.

# # #

KSC NOV 20 1970
news release
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

RELEASE NO: KSC-373-70
FOR RELEASE: November 19, 1970

ENGINEER COMBINES FLYING, COUNTRY LIVING AND WORK

KENNEDY SPACE CENTER, Fla.--Often, fish are jumping in the lake as he walks from his front door to the aircraft parked a few hundred yards away.

In a few moments Walt Parsons is airborne, commuting to KSC over Central Florida terrain he describes as "extremely beautiful."

"To me flying is an exhilarating influence," said Parson, head of the Systems Engineering Division in Design Engineering. "I use the aircraft to come to work as often as I can."

Parsons combines a love of flying with a preference for country living. Five years ago this led to the purchase of 20 acres and a home on the shore of Lake Tohopekaliga, near Kissimmee.

He smiles and remembers that a neighbor "happened to maintain a landing strip 1,000 feet from the house." There Parsons parks his four-place single-engine aircraft.

It is about 15 minutes "flying time" from the home landing strip to TICO Airport, a few miles west of the Spaceport. From the airport, Parsons travels to his office by car.

Lately, he has been commuting by air on a casual basis. For almost two years, though, Parsons made the trip from Tohopekaliga to TICO on an almost daily basis.

"It's contact flying," the pilot said. "I know the landmarks and the landscape." Also, the airplane is equipped with radio and navigational equipment.

One landmark is the VAB, which comes into view a few moments after takeoff. Parsons climbs to an altitude of between 1,500 and 1,800 feet, depending on conditions, and flies at an altitude of between 1,500 and 1,800 feet, depending on conditions, and flies at an average speed of 160 miles per hour.

He saves 30 minutes when he flies, providing he has arranged transportation from the TICO Airport. By car, the trip from Kissimmee to KSC takes slightly more than an hour.

-more-

But it is not just the saving of time or the lack of traffic that draws Parsons to flying. "There is a feeling about flying," he says.

It is a feeling that gripped Parsons early and never let go. After a while, flying models and riding as a passenger were not good enough.

Pilot Parsons bought his first plane in 1963. He purchased his present larger aircraft in 1966. "Some of the other members of the family like to fly," remarked the father of six.

He stated that his flights to Brevard County have been without incident. "Once I did have to circle the airport for about an hour when it became socked in." He keeps a close check on conditions by radio.

Parsons noted that it is prohibitive for an individual to commute in a four-place plane on a daily basis. With passengers there is much dependence on a single pilot.

So Walt Parsons, like many Spaceport employees, is a member of a carpool. Understanding co-members know that when Walt isn't driving, he may want to scratch the flying itch.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-374-70
FOR RELEASE: November 19, 1970

KSC TO CHECK OUT LUNAR ROVER THIS SPRING PRIOR TO APOLLO 15

KENNEDY SPACE CENTER, Fla.--A "space age dune buggy" called the Lunar Roving Vehicle will undergo final checks at the Kennedy Space Center this spring before flying to the Moon with the Apollo 15 crew in the summer of 1971.

The rover will permit Apollo 15 explorers to travel three or more miles from their landing site on the Moon's mountainous Hadley-Apennine region.

Rover rides as a passenger attached to the lunar module. After touchdown on the Moon, the small four-wheel-drive vehicle unfolds and comes to rest on the lunar surface in an upright position.

The 450-pound rover arrives at KSC around April 1, 1971.

"The Spaceport is responsible for final checkout of the vehicle and for installing it in the cargo section of the lunar module descent stage," said Arlin G. Smith, Chief of the Apollo Space Vehicle Office.

"Testing and checkout activities here are expected to be accomplished in a period of about two weeks," indicated Lindsay Bolton, the Spaceport's Project Engineer for the rover.

KSC will support the factory checkout of the rover at the Boeing Corporation's Kent facility in Washington State. Coordinating the Spaceport team which leaves for Washington, probably in January, is Stan Gross, Rover Manager.

On the Moon the battery-powered rover will carry more than double its weight, almost 1,000 pounds. This includes the two astronauts, their gear, 100 pounds of scientific experiments, and 70 pounds of rock and soil samples.

Rover can climb and descend slopes to 25 degrees. Top speed is 10 miles per hour. Operational lifetime is 78 hours during the lunar day.

-more-

Astronauts David Scott and James Irwin will sit side by side in the open frame vehicle. Between them is a piston-grip hand control enabling either rider to drive the rover.

The compact rover is $10\frac{1}{2}$ feet long and almost 6 feet wide. Each of its wheels is independently powered. The vehicle can negotiate step-like objects a foot high or cross a crevess of 28 inches.

"Reliability is obtained through simplicity of design and through redundancy," said Ken Colley, Rover Resident Representative for Marshall Space Flight Center, which is in charge of the rover's development.

For example, there are dual battery systems which give rover the power required for operation throughout the lunar surface portion of the Apollo 15 mission. But either battery system will operate the vehicle for a shorter period of time, several hours.

Power is normally applied to all four wheels. Should one or two wheel motors fail, they are simply decoupled and rover continues to operate.

The vehicle's flexible metal wheels, 32 inches in diameter, provide great strength at minimum weight. Made of woven wire, the wheels are rugged, light, and have traction characteristics designed for a variable lunar terrain.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-375-70
FOR RELEASE: November 19, 1970

RADIATION INC. AWARDED $73,570 STUDY CONTRACT

KENNEDY SPACE CENTER, Fla.--The Systems Division of Radiation Incorporated in Melbourne, Florida has been awarded a six-month study contract by the Kennedy Space Center (KSC).

The $73,570 contract is to look into the development of a handbook on automated redundancy verification techniques. These techniques could be used by designers of space shuttle redundant equipment.

KSC, which conducts NASA's launches from the Spaceport in Florida and the Western Test Range in California, is responsible for the design of launch facilities for the shuttle, a vehicle that will take off like a rocket and land like an airplane.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

NOV 24 1970

news release

RELEASE NO:

FOR RELEASE: November 23, 1970

APOLLO 14 WEEKLY STATUS REPORT

Flight controllers in the Manned Spacecraft Center Mission Control Center will conduct two training exercises with the Apollo 14 astronauts in their spacecraft simulators at the Kennedy Space Center. Lunar orbit insertion abort exercises will be conducted on Tuesday, and translunar insertion and launch abort simulations will be held on Wednesday.

Apollo 15 crewmen will be dividing their time between Apollo spacecraft tests and crew engineering interface tests at the North American Rockwell plant, with the 1-G lunar rover trainer at the GM Defense Research Laboratories, and in guidance and navigation starfield training at the Griffith Planetarium.

The integrated systems tests for the Apollo 14 spacecraft will continue at KSC Launch Complex 39 through most of the week. The new cryogenic oxygen tanks have been installed in the spacecraft service module and will be tested about Nov. 30.

A spacecraft cryogenic oxygen tank failure analysis is underway on an anomaly which occurred during vibration testing when the bulk temperature sensor failed off-scale high and the heater temperature sensor became intermittent. The qualification tank used in the test will be opened to determine whether the sensor failure was structural or electrical. Failure analysis is expected to take at least two weeks.

Other Apollo 14 activities this week include installation and alignment of the Q-ball (angle of attack meter) atop the spacecraft launch escape tower, azimuth checks of the Saturn V guidance system, launch pad water system checks, and space vehicle S-band telemetry tests.

The ascent stage of the Apollo 15 lunar module is undergoing reaction control system functional checks in the high bay of the KSC Manned Spacecraft Operations Building. Apollo 15 launch vehicle swing arm checks are scheduled to take place in high bay 1 of the KSC Vehicle Assembly Building.

# # #

KSC news release

KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

DEC 4 1970

RELEASE NO:

FOR RELEASE: November 30, 1970

APOLLO 14 WEEKLY STATUS REPORT

The Apollo 14 crewmen--Alan B. Shepard, Jr., Stuart A. Roosa, and Edgar D. Mitchell--are scheduled to spend the week in simulations and briefings at Kennedy Space Center (KSC), Florida.

Flight controllers at the Manned Spacecraft Center (MSC), Houston, Texas, will hold three simulations in Mission Control. On Wednesday, December 2, Flight Director Milton Windler and his team of controllers will hold lunar ascent simulations with the flight crew in the command module and lunar module simulators at KSC. On Thursday, Flight Director Gerald Griffin and his team will simulate lunar descents with the flight crew in the lunar module simulator at KSC. On Friday, Lead Flight Director M. P. (Pete) Frank and his team will conduct a lunar surface EVA number 1 exercise using a math model for the simulation.

The Apollo 15 crew -- David R. Scott, Alfred M. Worden, and James B. Irwin -- will be in the MSC simulators Monday, Tuesday, Wednesday, and Friday. Also scheduled during the week are a Lunar Roving Vehicle review, geology briefings, examination of lunar rocks, suit fittings, and reviews of the Apollo Lunar Surface Experiments Package (ALSEP) and lunar drill. Astronaut Worden, Command Module Pilot, will be at the North American Rockwell plant, Downey, Claif., the latter part of the week for some spacecraft hardware tests.

Prime and backup mission commanders and lunar module pilots of the Apollo 15 crew are scheduled to depart Saturday, December 5, for a geology field trip to Hawaii. They are scheduled to return Dec. 13.

The major effort on Apollo 14 launch preparations this week will be the spacecraft integrated systems test. The test was interrupted for several days due to some problems encountered, but no effect on the launch schedule is anticipated. During the test, the command module computer experienced a command failure during a check of the backup guidance system. The computer was replaced with a new unit, but that unit was removed on Monday after testing indicated there might be a problem with the cabling associated with the computer system.

A cabin switch used to jettison the spacecraft apex cover also failed to provide proper readouts during the test and was changed.

-more-

Project officials also made the determination to X-ray welds in the tubing associated with the new cryogenic tanks in the service module. This procedure was implemented after a crack occurred in one weld when a technician inadvertently grasped a line. All the welds have been verified by pressure tests.

Project officials planned to power up the spacecraft and resume the systems test on Tuesday.

The Apollo 15 launch vehicle was scheduled to be dissassembled Monday, Nov. 30, in high bay No. 1 of the Vehicle Assembly Building to insure that no bonding exists in the painted surfaces at the base of the interstage adapter above the S-II stage. A similar precaution was taken with the Apollo 14 launch vehicle before it was moved to the launch pad.

The ascent and descent stages of the Apollo 15 lunar module are undergoing systems testing in the high bay of the Manned Spacecraft Operating Building.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

DEC - 1970

news release

RELEASE NO: KSC-378-70
FOR RELEASE: Dec. 4, 1970 - 3 p.m.

KSC BOARD OF REVIEW ON TRANSPORTER MISHAP GIVES REPORT ON CAUSE OF DAMAGE

KENNEDY SPACE CENTER, Fla.--A Board of Review appointed by Dr. Kurt H. Debus, Center Director, determined that failure to follow established operating procedures was the principal cause of the mishap which damaged Crawler-Transporter No. 1 at Launch Complex 39 Oct. 19, 1970.

The mishap did not affect the Apollo 14 launch preparations. The space vehicle was transported to the launch site on schedule Nov. 9th by Crawler-Transporter No. 2. Crawler-Transporter No. 1 was available for service, if it had been necessary, utilizing the primary steering system.

The mishap occurred when Crawler-Transporter No. 1 was in motion. Piston rods in three backup steering cylinders in the rear trucks were bent because 15 of 16 manual hydraulic isolation valves were closed instead of being opened.

Purpose of the move was to adjust tread belts to proper tension following refurbishment of the vehicle. While the refurbishment was in progress, the vehicle was jacked to a height of about $5\frac{1}{2}$ feet to permit access to treads on the underside of the chassis. Preparations for the move Oct. 19 included jacking down the chassis to traveling height of about $3\frac{1}{2}$ feet, after which the forward motion commenced.

Shortly after the propel command, operators heard a loud noise and noted a "jolt." The machine was stopped immediately.

Damage to the piston rods is estimated at between $8,000 and $10,000 each. Replacement of associated components will cost about $500. Final determination of total cost cannot be made until disassembly and testing has been completed.

Both Crawler-Transporters are equipped with primary and backup steering systems. There are four steering cylinders, two in the primary system and two in the backup system, on each of the four trucks. The primary system was not damaged.

-more-

Damage resulted from transfer of the load from the jacking equalization and leveling system to the steering cylinders due to lowering the chassis while the isolation valves were closed. This fixed the length of the piston steering arm in extended position. Part or all of the weight of the chassis was gradually transferred to the rigid steering arms.

Operating procedures required verification that the valves were open prior to movement, but this step was not taken.

During the jacking down, the equalization and leveling system shut down automatically. The system was re-started because indicators on control panels appeared normal. Similar shutdowns had been previously experienced during routine operations.

The Board noted that the procedure for the movement contained several discrepancies and was not conducive to good operational control. KSC management has reviewed the report and taken action to prevent recurrence of similar mishaps while assuring effective management control over all Crawler-Transporter operations.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

DEC 4 1970

news release

RELEASE NO: KSC-379-70
FOR RELEASE: December 2, 1970

FLIGHT READINESS TEST FOR APOLLO 14 RESCHEDULED

KENNEDY SPACE CENTER, Fla.--The Apollo 14 Flight Readiness Test, an overall space vehicle electrical test, has been rescheduled for December 17-18 due to problems encountered in spacecraft testing. The original dates were December 14-15.

This delay, however, is not expected to impact the January 31 launch date or the time set aside during Christmas so that launch personnel can be with their families. The work will be made up on weekends.

The launch team has resumed the spacecraft integrated systems test after a new control display unit and computer cabling were checked out in the command module. This equipment was changed out following a command failure November 28 during a check of the guidance and navigation system.

Other computer oriented testing, including abort runs and simulated missions, are now underway.

While working in the service module a technician inadvertently grasped a valve assembly oxygen line, and the weld cracked. It has been repaired and reverified. As a result of this incident, other similar welds in the spacecraft underwent pressure checks and X-ray examination to insure their integrity.

As a further check on the welding process, extensive tests were conducted by the Manned Spacecraft Center and the spacecraft manufacturer in California. Data and other results from this testing are being reviewed and analyzed at this time.

Unless the test results indicate otherwise, loading of the super-cold liquid oxygen aboard the service module will begin late December 8 as part of the spacecraft integrated systems test and will continue until late in the week.

# # #

KSC news release

KENNEDY SPACE CENTER, FLORIDA 32899

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

RELEASE NO: KSC-380-70

FOR RELEASE: December 2, 1970

OAO REVIEW BOARD

A review board was established by Bruce T. Lundin, Director of the National Aeronautics and Space Administration's Lewis Research Center, Cleveland, today to look into the failure of an Atlas-Centaur launch vehicle to place the Orbiting Astronomical Observatory (OAO-B) into orbit Nov. 30.

H. Warren Plohr, Chief of Lewis' Advanced Systems Division, was named chairman of the review board. The board is charged with investigating "all factors that may be considered relevant to the flight failure, develop the probable cause or causes of the failure and recommend appropriate corrective action."

Initial analysis of the data indicates that the nose fairing, which protects the spacecraft during launch, did not separate from the Centaur stage at the proper time during the flight. This meant the Centaur had to carry an additional 2,400 pounds making it impossible for it to achieve orbital velocity.

Because a similar nose fairing is being used on a Centaur vehicle to launch an Intelsat satellite in January, Lundin named a member of the Comsat Corp., as an observer on the review board.

Members of the board in addition to Chairman Plohr are Edward F. Baehr, Arthur V. Zimmerman, J. Calvin Lovell and James W. Bagwell, all of Lewis; Wilber B. Huston of NASA's Goddard Space Flight Center, Greenbelt, Md.; Andrew Pickett of NASA's John F. Kennedy Space Center, Fla., all members; Theodrick B. Norris of NASA Headquarters, Washington, and Allan M. McCaskill of Comsat Corp., Washington, observers; Lawrence J. Rose of Lewis, liaison; and J. T. Harper of Lewis, secretary.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

DEC 9 1970

news release

RELEASE NO: KSC-382-70
FOR RELEASE: December 7, 1970

O'BRIEN NAMED KSC CHIEF COUNSEL

KENNEDY SPACE CENTER, Fla.--Dr. Kurt H. Debus, Center Director, announced today that John E. O'Brien will succeed John P. Lacy as Chief Counsel of the Kennedy Space Center.

Mr. Lacy will take up new duties in the Office of NASA General Counsel, Washington, D.C. He held the Center position five years and received a NASA award for his service during the Apollo program. Mr. and Mrs. Lacy reside at 27 Azalea Drive, Cocoa Beach.

Mr. O'Brien joined the Center in July, 1962 as an attorney advisor specializing in procurement matters and he subsequently became Deputy Chief Counsel in 1966. Previously he was employed by the Navy General Counsel's Office in Washington for five years where he was Assistant Counsel for the Bureau of Supplies and Accounts.

A native of Newburgh, N. Y., Mr. O'Brien was graduated from Niagara University and later received a law degree from Georgetown University Law Center. He was selected a Princeton Fellow in Public Affairs in 1965-66, and studied in the Woodrow Wilson School of Public and International Affairs at Princeton University.

In 1969 Mr. O'Brien received a NASA commendation for his contributions to the Apollo lunar landing program. He is a member of the Virginia State Bar, the Federal Bar Association, American Bar Association and the Public Contract Law Section of A.B.A. He is also a member of the graduate faculty of the Florida Institute of Technology.

Mrs. O'Brien is the former Ann Lydon of Jenkintown, Pa. They live at 466 Brightwaters Drive, Cocoa Beach with their children, Ann E., Catherine M., Joan M., Mary P., Margaret E., John Michael, Patricia A. and Teresa M. O'Brien.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO:

FOR RELEASE: December 7, 1970

APOLLO 14 STATUS REPORT

On Tuesday, Dec. 8, Spacecraft Commander Alan Shepard and Lunar Module Pilot Edgar Mitchell, in flight suits, will conduct an extravehicular activity No. 1 simulation in the crew training area at Kennedy Space Center. The activity will be open to news media, with the EVA beginning around 11:00 a.m. The crew will deploy the Apollo Lunar Surface Experiments Package (ALSEP), take photographs, and collect lunar samples during the simulation. On Wednesday, Dec. 9, Shepard and Mitchell will take part in a lunar module mission simulation checkout with the Launch Complex 39A crew. The crewmen will be in the LM on the pad for the exercise. On Thursday and Friday, Dec. 10-11, the crewmen will take part in simulations with Houston flight controllers from their simulator at KSC. Shepard is scheduled to fly the Lunar Landing Training Vehicle (LLTV) on Monday and Gene Cernan, backup commander, on Tuesday in Houston. During the week the crewmen also will take part in briefings and simulator training.

Flight Controllers for the Apollo 14 mission have two simulations scheduled this week at the Manned Spacecraft Center, Houston. On Thursday, Dec. 10, a transearth injection will be conducted with the crewmen in the command module simulator (CMS) at Kennedy Space Center (KSC), Fla. On Dec. 11, a translunar coast simulation will be conducted by flight controllers in Mission Control and the crew at KSC in the CMS. Both simulations will be conducted by Flight Director Gerald Griffin and his team of controllers.

David Scott and Richard Gordon, Apollo 15 prime and backup commanders, and James Irwin and Harrison (Jack) Schmitt, prime and backup lunar module pilots, will be in Hawaii all week on a geology field trip. The command module pilots, Alfred Worden and Vance Brand, will be in Menlo Park, Calif., Dec. 7-8 for lunar orbit photography and related briefings. On Dec. 9-10 they will be in Houston in the training simulators and Friday, Dec. 11 in Dover, Del., at ILC Industries for suit fittings.

The Apollo 14 spacecraft integrated systems test will continue this week at Pad A, Complex 39. Major highlight will be the loading of liquid oxygen aboard the new cryogenic tanks in the service module as a verification of these systems. Tank No. 3 will be filled and pressure-checked on Tuesday with tanks No. 1 and 2 undergoing checkout on Friday.

-more-

The spacecraft fuel cells will be calibrated and activated later this week.

A mission run simulation test of the lunar module is scheduled, starting Tuesday.

The spacecraft is expected to be mated electrically to the launch vehicle by next Sunday.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

DEC 14 1970

RELEASE NO: KSC-385-70
FOR RELEASE: December 10, 1970

NASA-KSC AWARDS $31.3 MILLION APOLLO/SKYLAB SPACECRAFT CONTRACT TO NORTH AMERICAN ROCKWELL

KENNEDY SPACE CENTER, Fla.--The National Aeronautics and Space Administration's Kennedy Space Center (KSC) has awarded a $31.3 million contract to North American Rockwell (NR) Corporation, Downey, California, for mission support of the Apollo/Skylab command-service module (CSM) at the Spaceport.

The new contract requires that the corporation furnish personnel, services, material, and program support to prepare for and process the Apollo/Skylab CSM's from arrival at KSC through the prelaunch, launch, and postlaunch activities.

The contract covers launch operations spacecraft support from November 29, 1970, through December 30, 1972. The CSM's are launched aboard Saturn V rockets in the Apollo program and will be atop Saturn IB's in the Skylab Program.

NR builds the CSM under a Manned Spacecraft Center contract.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

DEC 15 1970

RELEASE NO: KSC-387-70
FOR RELEASE: December 11, 1970

FLIGHT READINESS REVIEW FOR APOLLO 14 SET DEC. 17

KENNEDY SPACE CENTER, Fla.--Climaxing months of detailed preparations for the launch of the Apollo 14 mission to the Fra Mauro area of the Moon, a Flight Readiness Review will be conducted on Center Thursday, Dec. 17.

Dr. Rocco Petrone, Apollo Program Director, will preside. NASA officials responsible for manned space flights will participate including Dale Myers, Associate Administrator; Dr. Kurt H. Debus, Director of the Kennedy Space Center (KSC); Dr. Robert Gilruth, Director of the Manned Spacecraft Center (MSC) and Dr. Eberhard Rees, Director of the Marshall Space Flight Center (MSFC).

The agenda provides exhaustive review of the status of the space vehicle, now on Pad A at Complex 39; the astronaut crew headed by Alan Shepard, first U. S. astronaut to fly a spacecraft; recovery operations supervised by Maj. Gen. David Jones, ETR Commander; the worldwide tracking and communications network, supervised by Goddard Space Flight Center; and many other support functions.

Other participants include:

NASA Office of Manned Space Flight - Charles W. Mathews, Deputy Associate Administrator; Chester M. Lee, Mission Director.

MSC - Dr. C. C. Kraft, Jr., Deputy Director; Col. James McDivitt, Apollo Program Manager; Aaron Cohen, CSM Manager; Owen G. Morris, LM Manager; Donald K. Slayton, Director Flight Crew Operations and Dr. Charles Berry, Director of Medical and Research Operations.

MSFC - E. W. Neubert, Deputy Director; T. J. Lee, his Assistant; Lee B. James, Director, Program Management and William Teir, Deputy Director, Program Management.

KSC - Miles Ross, Deputy Director; W. J. Kapryan, Director, Launch Operations and Brig. Gen. Thomas Morgan, USAF, Apollo Program Manager.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

VAL DEC 15 1970

news release

RELEASE NO:

FOR RELEASE: December 14, 1970

APOLLO 14 STATUS REPORT

The Apollo 14 Flight Readiness Test (FRT), designed to insure all spacecraft and launch vehicle systems are "go" in a near-launch configuration, is scheduled to begin Thursday and conclude Friday afternoon at Kennedy Space Center, Fla.

With the exception of such functions as propellant loading, release of service arms, and liftoff, the space vehicle will be checked just as it is prior to launch. The functions not performed will be simulated electrically.

The Apollo 14 crew -- Commander Alan Shepard, Command Module Pilot Stuart Roosa and Lunar Module Pilot Edgar Mitchell -- will participate in the final portion of the FRT countdown and perform certain mission and abort functions that are required following liftoff.

The FRT follows the successful completion of the Integrated Systems Test on Sunday, including testing of the new liquid oxygen tanks in the service module.

The spacecraft and launch vehicle were mated electrically on Sunday following the Integrated Systems Test so that the plugs-in space vehicle test could be conducted on Monday.

Final preparations for the FRT are scheduled to be carried out on Tuesday and Wednesday while the KSC launch team analyzes data and reports from the earlier tests.

The Flight Readiness Review is also scheduled to take place on Thursday.

The mission remains on schedule for launch on Jan. 31, 1971.

Flight controllers for Apollo 14 will conduct two simulations this week in Mission Control Center at the Manned Spacecraft Center (MSC), Houston. Monday, lunar descent simulations will be conducted with the Apollo 15 crewmen in the Lunar Module Simulator in Houston. Apollo 14 data will be used in this simulation. Thursday, Dec. 17, the flight controllers will conduct lunar ascent simulations with the Apollo 14 crew in the Command Module and Lunar Module simulators at KSC.

-more-

The Apollo 14 crew will be in the KSC simulators most of the week. Shepard is scheduled to fly the LLTV in Houston Monday. On Wednesday, a launch pad walk-through is scheduled with all crewmen taking part in the exercise.

The Apollo 15 crew will be in Houston all week. Activities will include selection of food for their flight, mission review, Command Module and Lunar Module simulator training, and zero and one-sixth G flight out of Ellington Air Force Base.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

DEC 15 1970

RELEASE NO: KSC 386-70
FOR RELEASE: December 15, 1970 p.m.

39,000 MILES OF MAGNETIC TAPE PROCESSED EACH YEAR AT SPACEPORT

KENNEDY SPACE CENTER, Fla.--A small group of workers at the Kennedy Space Center (KSC) has been given the responsibility of cleaning, processing and recertifying enough instrumentation and computer tape each year to reach from KSC to more than a tenth of the way to the Moon.

Richard W. Bivans is NASA's man in charge of the Tape Certification laboratories at KSC, where some 39,000 miles of precision tapes are processed yearly.

Actual work is performed by the tape certification branch, CISS Project, ITT's Federal Electric Corporation (FEC). This team works with the digital and instrumentation tapes used on the space center to ensure that all of the facility's mechanical tapes can be used repeatedly, with a high degree of confidence in each tape's performance.

"This work is vital to NASA's cost savings program," says Hugh Brown, FEC Branch Supervisor. "If this proper maintenance was not guaranteed, a new tape would have to be purchased to replace each one whose performance was questioned in any way."

A tape can be used about five times before recertification is necessary. Over any given period of time, 60 percent of the instrumentation tape--which has a very high degree of necessary confidence--can be saved, processed and recertified as able to handle its responsibilities. On the less critical digital tape used in data processing 95 percent can be returned for reuse after proper processing.

During a previous six month period, 5,059 reels of instrumentation tape were saved for reuse by recertification. At the same time, 18,740 computer tapes were saved. A 12-month projection shows that the tape certification laboratory will put 12,000 reels of instrumentation tape back into use, and 40,000 of digital.

Here's where the mileage comes in. On each reel of the one inch wide instrumentation tape, there are 9,200 feet of recording area. Each one-half inch computer tape is 2,400 feet long.

-more-

For math buffs, it comes to 110.4 million feet of the more expensive instrumentation tape (20,841 miles), and 96 million of the digital--or 18,182 miles.

When a tape comes in for recertification, it enters a kind of "production line," to make sure that each reel has the same amount of type of top-grade care. Each one is assigned an identification number, to assure proper control through the processing cycle, and to give a reference for filing test data on each individual tape.

Next, the tape is cleaned with a special unit designed expressly for that purpose; each reel is physically inspected for defects which could damage the tape. It is then cleaned (as is the shipping can) to prevent contamination during repackaging.

After the cleaning, the tapes are tensioned, then stored to allow the plastic memory of each tape to gradually work it back to its original shape.

The most severe test of a tape's ability to perform properly comes when special test equipment puts test signals of a known frequency and power on the tape, and then "reads" them back to detect signal loss, tape noise, dynamic tape, skew (crookedness), or the space age gremlins known as "glitches."

Any errors in this playback are recorded on charts which become a part of the tape's records.

Tapes which passed this test are then sent to a special winding machine, where, under controlled tension, they are put back on their reels and then returned for use.

Many of the tapes which do not meet the stringent specifications of the test machine are then manually repaired and retested. If repairs would be too extensive or if the tape is too "tired", it is rejected and not put into service again.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

DEC 21 1970

news release

RELEASE NO: KSC-388-70
FOR RELEASE: December 16, 1970

TREE LIGHTING CEREMONY AT KSC PLANNED DECEMBER 21

KENNEDY SPACE CENTER, Fla.--Government and contractor personnel are invited to attend the annual Kennedy Space Center Christmas tree lighting ceremony which will be held at 3:30 p.m. December 21 in front of the Headquarters Building.

Miles Ross, Deputy Center Director, will introduce the program, and Center Director Dr. Kurt Debus will be the keynote speaker.

Father Sean P. Molloy, Paston of Divine Mercy Catholic Church of Merritt Island, will deliver the invocation.

The Cocoa High School Concert Chorale will sing four selections: "Fanfare for Christmas" by Heaton, "Puer Nobis" by Pfautsch, "What You're Going to Call Your Pretty Little Baby" by Ehret and "Carol of the Bells" by Leontovich.

The concert chorale's director is Loys A. Jordan, Jr. The accompanists are Chris Paulson and Debbie Louwerse.

Following Dr. Debus's remarks, Dugald Black, chairman of the NASA Exchange Council, will light the Christmas tree.

The Southern Red Cedar was transplanted last year from another area of the Spaceport and was used at the 1969 tree lighting ceremony.

The NASA Exchange provided the tree decorations.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

DEC 23 1970

news release

RELEASE NO: KSC-389-70
FOR RELEASE: December 22, 1970

GRUMMAN AWARDED $25.9 MILLION MISSION SUPPORT CONTRACT AT KSC

KENNEDY SPACE CENTER, Fla. --NASA's John F. Kennedy Space Center has awarded a $25.9 million contract to Grumman Aerospace Corporation, Bethpage, Long Island, New York, for mission support of the Apollo Lunar Module at the Spaceport.

The new contract requires that Grumman Aerospace Corporation furnish personnel, services, material, and program support to prepare for and process the Apollo Lunar Modules (LM's) from arrival at KSC through the prelaunch, launch, and postlaunch activities.

The contract covers launch operations support from December 1, 1970, through June 30, 1972.

Grumman builds the Lunar Module under a Manned Spacecraft Center contract.

The Apollo Spacecraft is launched aboard a Saturn V rocket by Kennedy Space Center launch teams.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

DEC 23 1970

news release

RELEASE NO: KSC-390-70
FOR RELEASE: December 22, 1970

JOHN M. GERDING NAMED ASSISTANT TO KSC DEPUTY DIRECTOR

KENNEDY SPACE CENTER, Fla.--Appointment of John M. Gerding, Satellite Beach, as assistant to Miles Ross, Deputy Director of the Kennedy Space Center, was announced today.

Gerding will assist the Deputy Director in supervision of KSC technical operations and the implementation of plans and programs, and will have primary responsibilities in reviewing documentation and preparation of briefing notes.

"Mr. Gerding can be very effective in our office because of his long-term role in the Center's on-line operations and his intimate involvement in the development of the Apollo program," Ross said in discussing the appointment.

A native of Michigan, Gerding was graduated from the U. S. Naval Academy in 1954 and commissioned in the Air Force, where he served until 1959 as a B-47 pilot in the Strategic Air Command. He was employed as an operations project engineer by Pan American World Airways at Patrick Air Force Base in 1959, and as a Titan II test conductor by the Martin Company in 1961.

He joined NASA as a spacecraft test conductor with the Manned Spacecraft Center at KSC in 1964, and was transferred to Downey, California, where he served as a deputy in MSC's acceptance and checkout of Apollo command and service modules at the North American Rockwell plant in 1965. He joined the Kennedy Space Center as an Apollo test supervisor in Launch Operations in 1967, later serving as deputy to the Launch Operations Manager.

He and his wife, the former Catherine Billings of Pittsburgh, Pa., have five children, John, 15; William, 13; Beth Ann, 11; Joseph, 9 and Michael, 7. They reside at 470 Park Avenue, Satellite Beach.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-391-70
FOR RELEASE: December 22, 1970
YEAR ENDER

SPACEPORT EXCEEDS GOAL IN PREVENTING ACCIDENTS

KENNEDY SPACE CENTER, Fla.--The Kennedy Space Center (KSC) compliled an enviable safety record in 1970. While working toward a predetermined frequency rate of 1.7 disabling injuries for every 1,000,000 man hours worked, KSC employees greatly exceeded this goal by posting a near perfect frequency rate of 0.19. The only disabling injury occurred when an employee wrenched his knee while working in a SCAPE suit.

The KSC Safety Office has recently innovated several procedures designed to create an even safer working environment at the Center: added emphasis on the safety responsibilities of first line supervisors; safety meetings between the KSC-contractor organizations; and KSC-contractor cooperation in the recording of safety incidents.

Continued from previous years were the formal monthly evaluations of contractor safety programs by the KSC Safety Director and the distribution of posters that depict typical mishaps and potential hazards.

President Nixon has recently announced a "Zero in on Safety" Program for all federal installations in 1971 and 1972. KSC will be asked to reach a frequency rate of 1.0 and an average expenditure of not more than $5.00 for each injury compensation.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

DEC 3 1970

news release

RELEASE NO: KSC-392-70
FOR RELEASE: December 23, 1970
YEAR ENDER

KEY ORGANIZATIONAL CHANGES AT SPACEPORT IN 1970 LISTED

KENNEDY SPACE CENTER, Fla.--Several major appointments marked key changes in the Kennedy Space Center's organization during the past year.

In May, Miles Ross who had served as technical deputy to Dr. Kurt H. Debus since 1967, became the Center's sole Deputy Director. The position of Deputy for Center Management was eliminated.

A new directorate, headed by G. Merritt Preston, responsible for Center planning and future programs, was created. Andrew J. Pickett, former Deputy Director for Operations in the Launch Vehicle Operations Directorate, was named Deputy to Preston.

Preston was formerly Director of Design Engineering. Grady F. Williams replaced Preston in the Design Engineering position.

Two Associate Directors were appointed to Williams. Chester T. Wasileski supervises facilities and systems management while Donald D. Buchanan, who also fills the position of Deputy Director of Design Engineering, supervises the design activities.

The functions of two offices, Apollo Program and Apollo Applications Program, were consolidated. Brigadier General Thomas W. Morgan, USAF, who managed Apollo Applications (which was renamed Skylab), became manager of the combined Apollo-Skylab Programs.

Paul C. Donnelly, Launch Operations Manager since 1965, was promoted to Associate Director for Operations in the Launch Operations (LO) Organization.

In June, Robert H. Gray, former Director of Unmanned Launch Operations (ULO), became Deputy to Walter J. Kapryan, LO Director.

John J. Neilon succeeded Gray as Director of ULO.

In December, John E. O'Brien was appointed to succeed John P. Lacy as Chief Counsel of KSC. O'Brien came to the Center in 1962. Lacy will take up new duties in the Office of NASA General Counsel.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

DEC 23 1970

news release

RELEASE NO: KSC-393-70
FOR RELEASE: December 23, 1970
YEAR ENDER

KSC EDUCATION OFFICE COMPLETING BUSY YEAR

KENNEDY SPACE CENTER, Fla.--The Educational Programs Branch of the Spaceport's Public Affairs Office is completing one of its busiest years to date, according to its Chief, William Nixon.

"We've had to initiate new pilot programs in 1970 to keep pace with the rapidly changing requirements of the educational community," Nixon said.

One of these new approaches was the Space Science Education Workshop for Teachers held last summer at the Kennedy Space Center (KSC).

Twenty-five teachers from more than a dozen states attended a two-week workshop which covered basic space concepts taught by resident experts associated with launch and support activities at KSC.

Participating educators received three hours of college credit upon completing the summer workshop.

Five to seven similar workshops are planned for 1971 as a result of the successful pilot program, according to Nixon. Florida Technological University, Florida State University of South Florida are forming a consortium with KSC for the continuation of the Space Science Education Workshops for Teachers next year.

Last summer, the KSC education office coordinated a space seminar for 67 high school boys chosen from hundreds of applicants who wrote essays about what they considered man's future in space should be.

Nixon and his staff worked closely with actor Hugh O'Brian, whose youth foundation co-sponsored this event with the Exploring Division of the Boy Scouts of America.

The one-week event attracted more than 20 famous Government and industry personalities who spoke to the young representatives from every state and several foreign countries.

-more-

Dr. Kurt Debus, KSC Center Director, designated each participant a space ambassador. These young men utilized information gained at KSC when speaking to interested groups in their home areas.

Nixon noted that one enthusiastic participant from New Mexico started his own space newspaper. Others are speaking regularly to local service groups and clubs.

The Educational Programs Branch initiated a program to meet the needs of the scientific community. Professors from participating universities in Georgia and Florida met with principal investigators who prepare experiments for satellite launchings. A meeting of this type preceded the launch of the Orbiting Solar Observatory in late November.

In another program, university scientists met with a space agency scientist who is analyzing lunar samples returned by an Apollo crew.

The next meeting of this type will take place at T minus one day in the Apollo 14 countdown. Scientists in charge of the lunar surface experiment package and orbital science experiments will discuss their work with the Florida and Georgia educators.

Another first recorded in 1970 was a five-day workshop held at Florida State University to familiarize future instructors with the impact and application of space technology on the industrial arts field.

"So successful was the program and so great the interest expressed by pre-teacher students, that NASA and FSU are working on plans for a similar industrial arts workshop during the 1971-72 academic year," Nixon said.

While operating the pilot programs mentioned earlier, the Educational Programs Branch also conducted its regular activities at KSC and in the field, which includes Florida, Georgia, Puerto Rico and the Virgin Islands.

For example, in 1970, 45,000 students representing more than 800 schools came to KSC and participated in the student lecture tour program.

More than 225,000 persons also attended lectures at the Visitor Information Center as part of the VIC's public briefing program. Lecturers present an overview of NASA activities and current launch programs using models and colorful photographs. The lectures are given hourly seven days a week.

-more-

In 1970, Nixon's office coordinated the Youth Science Congress. A total of 20 research projects were selected from 110 submissions, and their youthful authors spent three days at KSC presenting their work to university and NASA personnel.

One of the Educational Programs Branch's recurring projects is processing Spaceport fan mail. Last year, personnel responded to nearly 50,000 individual public inqueries about the space program. More than 250,000 brochures and publications were distributed in answering this fan mail.

Nixon said that his office is looking forward to another challenging year as new programs are developed and existing ones expanded to meet the requirements of the educational community.

"I like to think that the people we reach through public and special lectures, or through our fan mail operation, are better informed about the importance of NASA programs," Nixon said.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

DEC 28 1970

news release

RELEASE NO: KSC-394-70
FOR RELEASE: December 24, 1970
YEAR ENDER

DR. KURT H. DEBUS SERVES 8TH TERM AS BREVARD BOND DRIVE CHAIRMAN

KENNEDY SPACE CENTER, Fla.--Dr. Kurt H. Debus, Director of the Kennedy Space Center (KSC), has just completed his eighth consecutive year as Brevard County Chairman of the U. S. Savings Bond program.

The 1970 program was participated in by 2782 KSC Civil Service employees, an increase of 447 over the previous year. John Donovan, KSC Coordinator for the program, revealed that the percentage of participation at KSC (94.4) is the highest of all NASA installations.

An equally impressive record was established by KSC in the Combined Federal Campaign, when $83,000 was contributed by 95 percent of the employees.

Nearly 80 percent of this money will go to the Brevard County United Fund, with the rest earmarked for international service agencies, such as CARE and Project HOPE.

Daniel F. Callahan was Chairman of the KSC Savings Bond Program and Robert A. McDaris was the Combined Federal Campaign Chairman.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-395-70
FOR RELEASE: December 28, 1970
YEAR ENDER

80 PERCENT OF NASA/KSC EMPLOYEES TAKE TRAINING, ACADEMIC COURSES

KENNEDY SPACE CENTER, Fla.--Approximately 80 per cent of NASA employees at the Kennedy Space Center, (KSC) participated in one or more of 500 training and academic courses in 1970, according to Ernie Spivey, Chief of the Systems Training and Employment Development Branch of the Personnel Office.

Courses offered through the Employee Development Program are categorized as follows: professional and scientific, technical, supervisory-management-executive and other, which includes between 50-60 specialized administrative and secretarial courses.

The seven-man training branch maintains close contacts with universities, industry and other Government agencies to provide students and interested persons information about courses.

Spivey's personnel conduct an annual training survey of KSC organizations to determine course requirements for the following year.

In 1970, 180 persons participated in graduate study programs offered locally by Florida Institute of Technology, Rollins College, Florida Technological University, Florida State University and the University of Florida Genesys program. An additional eight NASA employees, including four Ph.D candidates, are working toward graduate degrees at other universities.

The KSC Training Branch also coordinates the cooperative program which enables students to alternate their school and work periods. Currently, 100 students are attending 15 universities and are working at the Spaceport as part of the "co-op" plan.

Spivey noted that many of these students remain with the Government following graduation, both in NASA jobs and in positions with other agencies.

While the Employee Development Program is limited to NASA employees, the training branch also coordinates special courses conducted by individual contractors. These include specialized safety courses and stage and spacecraft training which are administered by individual contractors.

- more -

Looking ahead to 1971, Spivey anticipates that his branch will have as many course requirements as it had this past year. He thinks reduced launch schedules should enable more persons to participate in training programs.

New training programs also will be required for Skylab, according to the KSC training officer who has been associated with his office since its inception eight years ago.

Persons interested in scheduling courses should contact their supervisors.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

news release

RELEASE NO: KSC-397-70
FOR RELEASE: December 22, 1970

DEC 23 1970

KENNEDY SPACE CENTER, Fla.--The Kennedy Space Center announced today that the NASA-TWA public bus tours will return to normal operations on Wednesday, Dec. 23. The Visitor Information Center will continue regular operations and the designated tourist stops on the center and Cape Kennedy Air Force Station will be included as part of the itinerary.

Because of the continuing investigation of alleged bomb threats and the launch preparation activities for the upcoming Apollo 14 mission, Gate 2 (State Road 3) will be closed to public access through the launch, which is currently scheduled for Jan. 31, 1971.

KSC and the Air Force Eastern Test Range have determined that the center and Cape Kennedy Air Force Station will be closed to Sunday drive-thru tours through the launch.

# # #

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

DEC 30 1970

news release

RELEASE NO: KSC-400-70

FOR RELEASE: December 29, 1970
YEAR ENDER

SMALL BUSINESS HAS ACTIVE ROLE AT SPACEPORT

KENNEDY SPACE CENTER, Fla. -- Small business concerns continued to play an active role as NASA contractors at the Spaceport in 1970.

During the past year small business firms received contracts in excess of $4.7 million. Over $800,000 of this amount was set aside for placement exclusively with firms on a competitive basis. Negotiations are currently being conducted which are expected to increase this amount to $4.5 million within the next thirty days.

Procurement set asides exclusively for small firms during 1969 totaled $223,147.

Small business firms play an integral role in the operation of Kennedy Space Center, according to Thomas M. Davis, KSC's Industry Advisor.

The KSC Procurement Office reviews all procurement actions in excess of $2500 for the purpose of determining if it is possible to make a set aside for small business. In 1970 there were 58 such set asides for small business firms.

In addition to the small business set aside program, the Space Center is also participating in a program wherein awards are made to the Small Business Administration, which in turn makes the award to a minority group firm. Two contracts in the amount of approximately $200,000 are being considered for award during 1970 under the provisions of paragraph 8(a) of the Small Business Act.

Through the Small Business Act, Congress established that the Federal Government should aid and protect the interests of small business firms in order to preserve free competitive enterprise and strengthen the overall economy of the Nation.

In general, a concern is considered to be a small business if it is independently owned and operated, is not predominate in its field, and employs less than 500 people.

The Small Business Program at KSC is under William M. Lohse's direction and is headed up by Davis, the Small Business Specialist.

# # #

KSC news release

KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

RELEASE NO: KSC-401-70
FOR RELEASE: December 30, 1970

TWO FLIGHTS TO MARS HIGHLIGHT KSC UNMANNED LAUNCH SCHEDULE IN 1971

A busy schedule of launches, including two flights to Mars, awaits the Spaceport's Unmanned Launch Operations Directorate in 1971.

In the past year the Directorate launched 10 automatic spacecraft. At least 10, perhaps more, unmanned missions will be carried out in the coming year.

John J. Neilon, Director of Unmanned Launch Operations, sees the New Year as "one of challenge" and the past year as one of "overall success, with some disappointments."

There is much variety in the 1971 schedule. It includes service missions, the launching of weather and communications satellites for other organizations. There are varied scientific investigation flights.

"The Mariner missions will come in May of 1971," Neilon said. As planned, the spacecraft will orbit the planet and relay to earth data about the makeup of Mars and its atmosphere.

Disappointments referred to in 1970 were two spacecraft which were lost after being placed in orbit, and one payload which did not orbit because of a launch vehicle malfunction.

The first launch of 1970 was Intelsat III on Jan. 14. The 647-pound communications satellite was launched into a transfer orbit from Cape Kennedy by a Delta vehicle. The satellite was orbited for the International Telecommunications Satellite Consortium to supplement the existing network of global communications satellites.

The Intelsat III series spacecraft were developed by TRW Systems Group. Prime contractor for Delta vehicles is McDonnell Douglas Astronautics Company.

- more -

ITOS-1, a 675-pound weather observation satellite, was launched Jan. 23 from the Western Test Range by a Delta rocket. Henry R. Van Goey is Manager of KSC's Western Test Range Operations Division. The ITOS mission was a joint effort by NASA and the Environmental Science Services Administration.

ITOS refers to the Improved TIROS Operational Satellite. The term TIROS means Television Infra-Red Observation Satellite. Radio Corporation of America is prime contractor for the spacecraft. Additionally, for this mission, Delta put into orbit a "piggyback" payload called OSCAR-5. The 39-pound spacecraft was built by amateur radio operators at Melbourne University in Australia.

SERT-II, Feb. 4: The 1,110-pound experimental electric propulsion spacecraft was launched from the Western Test Range by a Thor-Agena rocket. The element Mercury is vaporized to produce charged atoms which are electrically accelerated out through the engine nozzle. Electric propulsion is a promising energy source for long-duration space missions of the future.

SERT refers to Space Electric Rocket Test. The project is managed by Lewis Research Center. Vehicle contractors include Douglas, Lockheed and Rocketdyne corporations.

NATO-I, Mar. 20: The 535-pound military communications satellite was placed in orbit by a Delta vehicle from Cape Kennedy. This is the first of two orbital communications satellites planned by the North Atlantic Treaty Organization. The Air Force manages spacecraft operations for NATO. The spacecraft are built by Philco Ford corporation.

Nimbus-4, April 8: The 1,366-pound research and development weather satellite was orbited by a Thor-Agena vehicle from the Western Test Range. The spacecraft was built by the General Electric Company.

Intelsat III, April 22: This was the second Intelsat launch of the year, again from Cape Kennedy. The communications satellite was successfully placed in orbit.

Intelsat III, July 23: This was the third Intelsat launch from Cape Kennedy in 1970. The satellite was successfully placed by Delta in a transfer orbit. It was lost after an apogee motor was fired to place the Intelsat in stationary orbit.

Skynet-B, Aug. 19: The 535-pound British military communications satellite was orbited by a Delta vehicle from Cape Kennedy. The spacecraft disappeared after an apogee motor was fired to place it in permanent orbit. The Air Force manages the spacecraft at the Cape for the British. Philco Ford built the Skynet satellite.

OAO-B, Nov. 30: The Orbiting Astronomical Observatory spacecraft was launched by an Atlas-Centaur vehicle from Cape Kennedy. A malfunction prevented the payload, a space astronomy telescope, from achieving orbit. A probable cause of the malfunction is the failure of the nose fairing to separate from around the spacecraft. An investigation is underway.

Atlas-Centaur vehicles are built by General Dynamics/Convair. Grumman Aircraft Engineering Corporation is the prime contractor for OAO.

NOAA-I, Dec. 11: This was the final unmanned launch of 1971. The 678-pound National Oceanographic and Atmospheric Agency satellite was launched into near polar orbit from the Western Test Range by a Delta vehicle. This is the first satellite named for the Agency, formerly the Environmental Science Services Administration.

This is a tentative schedule of launches from NASA pads at Cape Kennedy in 1971. The schedule is subject to change.

Two missions are scheduled in January.

Intelsat IV-A is the first of three communications satellites to be orbited in 1971 for the International Telecommunications Satellite Consortium. The lift-off, with a Centaur rocket, is tentatively set for Jan. 13. NATO-B, a communications satellite for the North Atlantic Treaty Organization, is to be launched Jan. 27 using a Delta vehicle.

February-March. IMP-I, an Interplanetary Monitoring Platform, with a Delta vehicle. Goddard Space Flight Center is the developer of IMP.

April. OSO-H, an Orbiting Solar Observatory, with a Delta vehicle. Ball Brothers Research Corporation is the prime contractor for OSO.

May. The launches of Mariner Mars-H and Mariner Mars-I, each with a Centaur vehicle. Jet Propulsion Laboratory manages the spacecraft's development. Henry N. Levy Jr. represents JPL at Kennedy Space Center.

July-September time period. Intelsat IV-B, a commercial communications satellite, with a Centaur vehicle.

October-December time period. Intelsat IV-C, a commercial communications satellite, with a Centaur vehicle. OAO-C, an Orbiting Astronomical Observatory, with a Centaur vehicle.

Launches scheduled from the Western Test Range in 1971:

April. ISIS-B, an International Scientific Ionospheric Satellite, with a Delta vehicle. The ISIS program is conducted jointly by NASA and the Canadian Defense Research Board. RCA Victor Co., Ltd., Montreal, is prime contractor for the Satellite.

October-December time period. HEOS-II, a Highly Eccentric Orbit Satellite, with a Delta vehicle. The scientific-satellite project is under the direction of the European Space Research Organization.

- end -

KSC
KENNEDY SPACE CENTER, FLORIDA 32899
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

VAL

DEC 29 1970

news release

RELEASE NO: KSC-402-70
FOR RELEASE: December 24, 1970

MCGREGOR AND WERNER AWARDED SMALL BUSINESS CONTRACT AT KSC

KENNEDY SPACE CENTER, Fla.--The National Aeronautics and Space Administration has selected McGregor and Werner, Washington, D. C., a small business firm, for award of a contract to provide printing, reproduction and microfilming support services to the John F. Kennedy Space Center.

Estimated value of the cost-plus-award-fee contract is $1,800,000. The one-year contract will be effective March 1, 1971, and contains provisions for two additional one-year periods.

Four companies submitted bids for this work. Bids were solicited in accordance with the Small Business Set-Aside procedures which limit competition to small businesses.

# # #