Grumman Selected Bids Open On Phase 3 Of Center Construction

Seven construction firms last week submitted bids on Phase Three of the Clear Lake construction work. The contract is expected to be awarded within the next 10 days, and work on the "big package" is expected to begin immediately thereafter.

Apparent low bidders at the Roundup went to press were C. H. Leavell and Company of El Paso, Morrison-Knudsen Company, Inc. of Boise, Idaho and Paul Hardeman, Inc. of Stanton, Calif. in a joint venture. Their base bid was $18,144,904.75.

Phase Three includes 11 office and lab buildings and the temperature and humidity control machinery for the site. The buildings are the nine-story project management building, the auditorium, a cafeteria, the flight operations and astronaut training building, the life systems laboratory, the technical services office building, tech services shop building, systems evaluation lab, Systems Evaluation and Development Division lab and office building, a spacecraft research lab and office building, and the data acquisition building.

Seven alternate additives were attached to the base bid Alternate Number One, which includes a shop and warehouse building, was also bid on by the three firms. Their figure for the basic buildings plus Alternate One was $18,700,870.12.

Bids were opened last Wednesday by Col. Francis F. Koisch, newly appointed Fort Worth district engineer of the U. S. Army Corps of Engineers, in the ballroom of the Rice Hotel. Col. R. P. West, former holder of that post, retired from the Army engineers to become president of Paul Hardeman International, owned by the Hardeman Corporation.

Phase Three construction is expected to begin shortly after the contract is finalized. Construction time is an estimated 450 calendar days.

NASA has $18,969,552 in available funds for Phase Three this fiscal year. The apparent low bidders' figure for the basic construction plus Alternate One was within that limit. Should additional funds become available some of the other alternates will become possible, Col. Koisch said.

(Continued on Page 2)

To Build Excursion Module
Prime Contract Is Worth Some $350 Million

Grumman Aircraft, Inc., of Bethpage, N. Y. will build the spacecraft which will actually touch down on the surface of the moon when the first American lands there.

The announcement came last week from Washington Headquarters of the National Aeronautics and Space Administration. Negotiations are successful, NASA said, Grumman will become prime contractor for the $350 million lunar excursion module (LEM).

Grumman was one of nine companies who were Boeing Company of Seattle, Wash., North American, and Douglas Aircraft of Santa Monica, Calif. Boeing will build the S-1 stage, North American the S-2 stage and the F-1 and J-2 engines for all stages, and Douglas will build the S-4 stage. Saturn systems engineering, assembly, and guidance are under the direction of Marshall Space Flight Center, Huntsville, Ala.

Grumman will design, manufacture and support flight operations of the LEM under the management and technical direction of Manned Spacecraft Center.

Welsh Reaffirms LOR
"In taking this procurement action," NASA Administrator James Webb said last Wednesday, "We are affirming our tentative decision of last July...to base our immediate future space planning on the development of the advanced Saturn, using lunar orbit rendezvous (LOR) as the prime mission mode for...

(Continued on Page 2)
MA-8 Pilot, Date Announced

(Continued from Page 1)
an aerodynamic engineer in 1950. After graduation from AFIT, Cooper was assigned to the Air Force Experimental Flight Test School at Edwards Air Force Base, California. He graduated from this school in April 1957 and was assigned to duty in the Performance Engineering Branch of the Flight Test Division at Edwards. He participated in the flight test- ing of experimental aircraft, including a jet aircraft, as an aerodynamic engineer and a test pilot. Cooper served with the F9F-2 Panthers, F8U Crusaders, F4H-1 Tomcat, F4D Skynight, and F3D Skyknight. His last five months at Patuxent were spent in the Test Pilot School. After his graduation from the Naval War College he was assigned to the Commander in Chief, Atlantic Fleet, as aircraft readiness officer. He has 3,000 hours of flying time, 5,000 in jet aircraft.

Transco Products Will Develop An Antenna System

Transco Products, Inc., Venice, Calif., has been selected by North American Aviation’s Manned Spacecraft Center to design, develop, and produce the research and development telemetry antenna system for the Apollo spacecraft.

The complete antenna system will be developed in Transco’s new $1 million facility in Venice, Calif. Antenna pattern and environmental testing will be done at the new facility.

North American’s Space Division is principal contractor on the Apollo command and service modules.

Grumman To Be Prime Builder

(Continued from Page 1)

the initial manned lunar flight.

Webb said studies of several alternate approaches, using smaller spacecraft than the current Apollo, had been completed since July. The results “make us confident that our present course is the proper one.”

“New knowledge gained tomorrow, next month, next year or whenever, may require that we modify or alter major program decisions like this one. But that possibility does not permit us to delay vital decisions needed now to obtain our national objective to send man to the moon as soon as possible.”

Recommend LEM procurement and the lunar orbit rendezvous method, NASA Director of Manned Space Flight, C. B. E. Slayton, said “in a little over a year, more than a million manhours of some 700 scientists, engineers, and researchers in government, industry and universities have gone into studies of this mission.” Holmes said the results of these studies added up to conclusions that LOR is the preferable method, to undertake. “In moving forward on this mission we will at the same time be expanding our national space capacity as rapidly as possible.”

Present Plans

Under present plans, the Apollo mission by LOR would require a single launch of the three-stage Saturn G-5, which will weigh six million pounds at launch.

Topping this 125-foot tall Saturn would be a 3,000-pound command module housing a crew of three. Beneath this would be a service module, weighing 25 tons, to provide mid-course correction and return to earth propulsion. Be- neath that, housed by an adapter joining the top stage of the booster, would ride the 12-ton LEM.

The booster would be jet- tioned after it has been spent. Enroute to and in orbit around the moon, the Apollo crew would detach the LEM and lock it to the nose of the command module.

Two crewmen would enter the craft, leaving a third man behind in the mother craft to provide a back-up for the inti- cate lunar landing, take-off and subsequent lunar rendezvous and docking with the mother craft.

With the two crewmen back on the command module, the LEM would be left in lunar orbit, the command module, powered by the engines of the service module, returned to earth.

Current estimates indicate the LEM will look something like the cab of a two-man helicopter, measuring 10 feet in diameter and standing about 15 feet tall on its skid-type legs. The legs and touchdown engine assembly will serve a dual function, acting also as a gantry for lunar take-off and remaining on the moon as the rest of the LEM goes to rendezvous with the command module.

The development of the LEM engines represents one of the most difficult development items. This work will be sub-contacted by Grumman.

Both the lunar lander and the lunar take-off engines will burn storable hypergolic fuel, and each will be designed to burn for 8 to 10 minutes.

The take-off engine will be throttleable over a thrust range of from 1,000 to 10,000 pounds, and may be fixed with cabin control jets regulating attitude control, or it could be mounted on gimbals.

The lunar take-off engine
Photo Services Sets Up For Streamlined Operation

Building 122 at Ellington Air Force Base doesn’t look much like the outside of a studio. A visitor would not know for the first time therefore comes in for quite a shock. Because Building 122 houses a lab full of photographic equipment, a trained crew to run it, and a rapidly streamlined, quality-controlled operation which functions with a minimum of waste motion.

This is MSC’s Photographic Services Division, headed by John R. Brinkman. Justifiably proud of his operation, Brinkman is anxious to have the Center’s staff members make the best possible use of it. “I don’t think all of our people realize what we have out here — what we can do,” he said.

A look at production figures illustrates his point. During one recent sample month, picked at random, the lab processed 75,000 black and white prints, a figure which Brinkman says could be doubled shortly. Some 4,000 35-mm negatives, 5,000 film strips and 2,000 color still prints were turned out; the lab could handle twice this volume without overloading, Brinkman says.

This is in process of the lab, which handles black-and-white and color, still and motion picture services, and detailed copying. Building 122 is used in the copying room, in a story in itself, which is completed photographs, a traffic control center which logs work in and out and keeps production records, and a storage area where equipment for the entire Center is stored to be issued as needed.

Still in the “outer offices” the visitor runs across the first of many modern gadgets — an ultrasonic film cleaner which uses high frequency sound to clean either film or recording tape.

Old Commissary

Building 122 used to be an Air Force commissary, but nobody would recognize it now. The old meat storage area has been turned into a chemical mixing and supply area, handling massive amounts of 50 different solutions. When the system of plastic plumbing has been fully installed throughout the building, every developing process will be fed from a center, where one specialist will handle all the mixing.

A quality control room — each of the automatic machines is checked daily for quality assurance. The room, which checks pre-exposed film strips with inhuman accuracy. Next door is the slide binding and printing darkroom. In the black and white printing room, things get down to the ultra-streamlined. Here a contact printer and an automatic enlarger can turn out work, and 70-mm negative and positive work; and Eastman color prints from 4 by 5 through 20 by 24 inches in size.

Special sizes and aerial photo printing are handled in the main enlarging room, where a monster Saltzman enlarger can turn out prints up to 40 by 72 inches. These are developed in a sink the size of a bathtub. Across the room is the Saltzman’s opposite number, a micro enlarger than can blow 35 mm shots to 30 or 40 diameters for very fine definition work.

Film Processing

Working back to film processing, the visitor finds the cut film processor in NASA. The pictures on this page went from the photographer’s camera film holder to finished negative in six minutes while the photographer stood in a brightly lit darkroom and watched.

Cut film, anything from 35- mm to 8 by 10-inch sizes, is fed into the machine from a darkroom, through a wall opening. That’s all there is to it. The enclosed, light-proof processor feeds itself fresh chemicals and runs the negatives through all by itself. They emerge at the other end untouched by human hands — and without fingerprints or scratches.

Color cut and roll film processing, both Eastman and Anscochrome, is fully automated, although color film must go through eight processes in developing each color variation. The lab can handle 35-mm or 3¼ by 4-inch glass bound lantern slides; 4 by 5 through 8 by 10 color negatives and inter- negatives; 4 by 5 through 8 by 10 Eastman ER processes, to Kodacolor, Ektacolor, Anscochrome and Ektachrome. Kodacolor, Ektacolor and Ektachrome duplications also can be done in 35- mm through 8 by 10-inch sizes; Ektacolor prints (transparancies) made from color negatives; and Eastman color prints from 4 by 5 through 20 by 24 inches in size.

Developing solutions for color work are already “tubed in” from as much as 100 feet away, and all color processing uses automatic gas burst agitation.

In motion picture services, the lab is already using automatic machinery for processing black and white movies in 16-mm reversal, reversal duplication, negative, and positive work; 35-mm negative and positive work; and Eastman color printing. Movie services can do 16-mm contact printing, negative, positive or duplicating reversal.

There is a fantastic gadget which does 16-mm contact movie prints, with scene to scene color correction between each frame and special effects such as stop frame printing, fades, dissolves, reverse or zoom action. The printer works automatically from a pre-punched programming tape. In addition to the special effects movies it can turn out, it has an attachment called a wet gate which either eliminates or drastically reduces the scratches which often mar movie film. (For instance, have you ever seen an old movie on television?) In another two months, the same process will be available for 35- and 70-mm movie prints.

Also in the process of being set up are capabilities for color movie film processing in 16, 35 and 70-mm, using commercial Ektachrome and high speed Ektachrome ER processes, to be available by Jan. 15.
Langley Research Center Hails the Space Age With a "Space Face Lift"

Construction of new facilities, the modernization of existing structures, and the addition of engineers, scientists, and other personnel are combining to enable NASA's Langley Research Center to play an increasingly important role in the lunar mission and manned flight beyond the moon.

Located at Langley Station in Hampton, Virginia, next to Langley Air Force Base, LRC was a government-operated Manned Spacecraft Center that the original 35 personnel who formed Space Task Group in November of 1958 were drawn from LRC ranks.

Current construction, including several facilities now underway and others which were finished recently, represents an investment of more than $41 million—sending the estimated plant value of the Center to nearly $250 million. Future projects under consideration by Congress as of late June totaled another $20,472,000.

One of the largest of the nine NASA centers, Langley had grown from the original 35 personnel to nearly $250 million in just two years.

Since MSC moved from Langley AFB, where it was located on the opposite side of the airfield from LRC, to Houston, the Langley Center has re-occupied the east area office, shop, and laboratory buildings which were home to MSC for three years.

Future Plans

Among new projects either underway or planned for future construction are a space radiation effects laboratory for simulating space radiation in research investigations (cyclotron), a vehicle antenna test facility for advanced research on space antenna systems; and additional equipment for research on magnetoplasmodynamics.

Magnetoplasmodynamics is a science dealing with the motion of a gas, or plasma, which conducts electricity in the presence of magnetic or electric fields. This has applications in long-distance space communications, ultra-high velocity wind tunnels for entry research and propulsion and power generation.

Also planned are an environmental research facility for studying spacecraft components and their materials, a stabilization and control equipment lab for testing under simulated space conditions; and a particle accelerator lab for simulating the effects of electric and magnetic fields on planetary research.

An Apollo-type spacecraft and Saturn launch vehicle model are combined for tests in Langley's unitary plan wind tunnel to determine stability, control and other aerodynamic characteristics during the early portion of atmospheric flight.

Lunar Landing Research

Lunar landing research is an outdoor gantry-type structure to support a pilot's compartment, mounted on top of a propulsion module. The latter will contain retro-rockets, used to slow the vehicle for a final descent to the moon's surface, a system of small maneuvering jets and a fuel supply for both. The vehicle will be supported by a gondola system to provide maneuvering freedom.

As a means of simulating the one-sixth gravity on the moon, special buildings will be mounted underneath the facility's traveling bridge crane and be capable of supporting five-sixths of the vehicle's weight all times. The facility will be used to obtain basic information on the rocket-powered vehicle.

The facility will be built near the landing pads track and is expected to be in operation by late 1965.

Docking Simulator

The space vehicle rendezvous docking simulator, to be built within the present NASA Hangar, will provide three degrees of freedom and is designed to operate in a 200-foot-long area in conjunction with a ground-based mock-up of another space vehicle.

The facility will be used to provide basic information in the major problem areas of the rendezvous docking operation in space. The facility is expected to be in operation late this year.

The intense low-frequency noise generated by lunar launch vehicles will some day affect the booster structure, payload, astronauts and those
construction of Massive New Facilities, Improvements

Editor's Note: This is the fourth in a series of feature articles about the activities of other NASA installations. The information concerning Langley Research Center, its major projects and its facilities was supplied by the Langley Public Information Office.

personnel in the vicinity of this country's lunar launching sites.

To study the problem, a low-frequency environmental noise facility is being built. It consists of a test chamber about 20 by 25 feet, and 20 feet high. One wall will be movable, so that a can be placed a various distances from a 15-foot diameter loud speaker in the opposite wall. For comparison, the "woofer" in your hi-fi set is about 12 inches in diameter.

This facility will permit a study of noise problems through exposure of a full-scale spacecraft or large sections of space vehicles to the deep, thundering rumble of large boosters.

High Vacuum

The high-vacuum space structures facility will make it possible to simulate the high vacuum, freezing cold and blistering heat that will be experienced by space vehicles traveling between planets. Of particular interest to scientists are the effects of the space vacuum on those structural properties known to be sensitive to surface conditions. This facility will be located in the present four-foot supersonic tunnel and is expected to be finished late next year.

The hypersonic aerothermal dynamics facility will go into operation in early 1964. Two main systems, one using helium as a test medium and the other using air, are being built. The air system will include an air-heater to simulate reentry heating conditions, so that vehicles can be tested on the ground at temperatures and gas pressures that will be encountered by a space vehicle reentering our atmosphere from a lunar or a various located in the gas dynamics lab.

Five projects totaling more than $25 million are nearing completion or already in operation. They include a $4 million dynamics research lab, an eight-foot high temperature structures lab, a high temperature materials lab, a hypersonic continuous flow facility and an arcjet facility in the hypersonic physics test area.

The hypersonic continuous flow facility is a wind tunnel having a 31-inch-square test section, and capable of testing at Mach 10 and Mach 12 through use of two interchangeable nozzles. The tunnel is a hypersonic, continuous flow, resistance heated facility, and represents the latest advance in this type. When it is put into operation, it will be the only continuous flow hypersonic tunnel in this country capable of reaching at higher temperatures and heating rates than is now possible. The facility is designed for use in studying problems of large test specimens under the combined influence of aerodynamic loads and high temperatures.

The high-temperature materials laboratory, including an arc jet and other experimental equipment for use in research application to the ultra-high temperature problems of missiles and other spacecraft during entry, is located near the gas dynamics laboratory.

Dynamics Research

The Dynamics Research Laboratory will include a variety of equipment, such as a vacuum sphere 60 feet in diameter, and a vacuum tank 54 feet in diameter and 60 feet high, to study dynamics problems of high performance aircraft, missiles, space vehicles, space stations, and satellite packages in simulated density, temperature, acceleration, and vibration environments.

This laboratory will provide the capability for study of both the structural dynamics of the vehicles and their components, and the freebody dynamics with respect to space orientation, control, guidance, and navigation. Located about one block from the NASA West Gate, this facility will be completed in early 1963.

The major new facility in the hypersonic physics test area is an arc-jet test apparatus for the scientific investigation of various materials. The test section be 20 inches in diameter and test temperatures up to 10,000 degrees F, will be obtained. This facility is complete.

Also recently completed were an extension of the test range of the nine by six-foot thermal structures tunnel, conversion of a test cell to provide two sources of very intense noise for noise test research purposes, and a ceramic research heater to provide test velocities of Mach 13 and temperatures to 4,000 degrees at the gas dynamics lab.
Welcome Aboard

Manned Spacecraft Center acquired 83 new employees between October 14 and October 31. A list included activated personnel stationed at Cape Canaveral and one at White Sands, N. M. The rest are here in Houston.

Gemini Project Office: Christine M. Bach
Apollo Project Office: William J. Hartman

Spacecraft Tech. Div.: Roger M. Davidson, and Raymond L. Nelson

Mgr. of Center Services: Charles A. Dillingham, Calissa B. Flagg, Elizabeth Hill, Joyce Landreneau, Vera J. Allen, William R. Smith, Dana G. Clingan, and Frank T. Knutowski


Office of the Director: Orville G. Lindquist

Administration Office, Cape Canaveral: Ruth Ann Adams, and Virginia W. Johnson

Preflight Operations Div.: Cape Canaveral: Haywood E. Matthews, Jr.


Mercury Project Office: William L. Green, Clyde J. Stoker, and Dillard J. Murphy


Security Division: Dinah E. Lunsford, Barbara C. Adams, and Sharron J. Tipton

Flight Crew Opr. Div.: Joe David Garino, and Milton Collinson

Office of Systems, Manned Space Flt.: Charles A. Heubner


Mercury Project Office: Joseph B. Williams

Crew Systems Division: Stig Fleenor, and Robert A. Hasen

Financial Management: William R. Waters, Paul A. Harrelson, Madeleine B. Kline, John R. McDowell, and Ennis R. Walker

Asst. Dir. for Admin., White

MSC PERSONALITY

‘High Sheriff’ Donald Blume Heads MSC Security Division

For a man who majored in social science education, holds a life teaching certificate from Missouri, and began his career as an aerial map maker, Donald D. Blume has spent the better part of his working life in a strange occupation.

Sometimes referred to as the ‘High Sheriff’ of Manned Spacecraft Center, Blume is chief of MSC’s Security Division. Included among the division’s responsibilities are personnel security clearances, badge and pass issuance, physical security and the Center’s guard service.

Blume was born and grew up in St. Louis, Mo., finished Bluetow High School there, entered the University of Missouri at Columbia in September of 1945. He finished his first year before military service interrupted his education, and he spent 18 months in the Army Transportation Corps, a good part of it supervising 600 Korean laborers in rebuilding a railroad bridge over Korea’s second largest river.

Returning to school in 1948, Blume majored in political science, history and geography, got his BS in Education in June of 1951, and received a certificate to teach.

The following fall he went to work as a cartographic aid at the USAF Aeronautical Chart and Information Center in St. Louis, preparing and compiling information for aerial maps from photographs, determining elevation heights and contours, and otherwise using his knowledge of geography and topography.

In November of 1952, however, he spotted a higher-paying job with the Department of the Interior’s Regional Investigations Department, and accepted duty as a general investigator, which brought him to St. Louis. He spent the next six years as a Civil Service investigator, first in St. Louis, then Albuquerque, N. M., and Boulder, Colo., with temporary details in Kansas City, Los Angeles and Seattle, Wash.

In this capacity Blume conducted full field investigations of Civil Service applicants for numerous Federal agencies, and investigated cases of fraud and collusion. He prepared investigative reports, conducted hearings to resolve derogatory and discrepant information, investigated complicated appeals under the Veterans Preference Act of 1944, and trained new investigators.

In August of 1958, Blume transferred to the Manned Spacecraft Center in St. Louis with the Bureau of Naval Weapons Representative Office as an industrial security specialist. Here he administered the Department of Defense industrial security program for McDonnell and for Whirlpool Corporation.

In August of 1960, Blume accepted a position as industrial security officer with the Project Mercury director’s office at Langley AFB, Va. Originally working under Goddard Space Flight Center’s Manned Satellite program, he was reassigned to Space Task Group in the spring effective January 1, 1961.

His title was changed to security officer the following April, and to chief of the Security Division, MSC, when the division was organized. He transferred to Houston in October of last year.

Since 1951 Blume has had two years of graduate work in public administration taken at the University of Colorado in Boulder and at the University of Missouri during the periods he lived in those cities. He is married to the former Elizabeth Ann Hettier of St. Louis and the couple has a son, Jim, 12 years old and now a student at Christman Junior High School in Houston.

Blume says his hobbies are fishing and baseball, both as a participant and spectator. A question about the recent World Series brought a sad sigh. “Anybody that grew up in St. Louis hates the Yankees,” he commented.

Donald D. Blume

Lunar Lunacy

First guy with a rocket-powered couch will make a fortune in space psychiatry. Kenneth J. Hartman, experimental psychologist for the Space Biology Department at Aerojet-General Corporation, predicts the need for psychiatric help in space probably will be far greater than on earth.

The space demon that will cause much of the trouble is called "sensory deprivation," the fact that man will be isolated from all the sights, sounds and other senses he has had on earth.

Scientists have known about some effects of sensory deprivation for many years, in cases of persons isolated from normal sights and sounds for various reasons, such as shipwreck, lonely military duty or even prison, where he’s cut off from the world.

And in tests, they found that the person gets lonesome, bored, hostile—and gets serious and bizarre hallucinations. Here are just a few hallucinations reported after some Air Force tests: "The r.p.m. indicator seemed to have a little man, showing head and shoulders, in a sombrero, holding an umbrella overhead. "The place where the needle was connected began to look like little people. "I saw a miniature Spanish soldier in a silver helmet and yellow blouse and pantaloons."

So there is a predictable probability that the Spaceman will wind up on the psychiatric couch to report, "I dreamed I was a Martian in my made-in-America pressurized space suit."

And he’ll tell, "You’re not sick, you’re just in space."
MSC Space Week is being held this week, which also National Education Week. Space Week centers around a week long program of displays, films, speakers, and special events at Houston and Harris County schools. The highlight of the week will be the announcement of an essay contest for junior and senior high school students. MSC Space Week will also be the start of a comprehensive tour by an MSC Space Exhibit Trailer to most Houston and Harris County schools.

Space Center To Get City Delivery
Houston Postmaster Granville W. Elder announced Friday that immediate steps would be taken to extend city delivery mail service of the U.S. Post Office to include the Manned Spacecraft Center, which is now under construction. According to Elder, surveys have been started this week to determine the immediate and longrange needs of this fast-growing area.

Gemini Astronauts To Do Work With Docking Simulator
Gemini astronauts will receive rendezvous and docking training in a simulator being built to McDonnell for NASA under the technical direction of the Manned Spacecraft Center. With all lights extinguished in the room, the astronauts will "fly" their simulator through the dark to contact the distant Gemini model just as they will in space.

Classes in ballroom dancing and Spanish, a new course planned by McDonnell for NASA personnel will begin again next Tuesday night. The meeting place has been changed from the Ellington Officer's Club to the Ellington ACO Club because of the large number of persons taking the course. Those desiring further information should call Carl Beut at JA 3-5260 or JA 9-8958.

Westinghouse
To Build AC Converter Unit
The Aerospace Electrical Division of Westinghouse Electric at Lima, Ohio, will build the power conversion unit for the electrical system of the Apollo spacecraft. The company was selected for the project by North American Aviation's Space and Information Systems Division, principal contractor on the spacecraft. Cost of the work is still being negotiated.

Called a static inverter converter, the component will be used to convert the electrical power output of the Apollo's fuel cells and batteries from DC to AC power.

Beckman, Inc. Delivers Gas Chromatograph
Beckman Instruments, Inc. has delivered a spaceborne gas chromatograph to the Manned Spacecraft Center under the terms of a $240,000 contract. The instrument, designed for use in future NASA vehicles, is intended to monitor the closed-atmosphere of a manned spacecraft. The total package, consisting of the analyzer unit, panel readout, and helium storage tanks, weighs 12 pounds and consumes only a few watts of power.

Walter Donner, manager of Beckman's Space Engineering Group, says that the instrument is designed to separate and identify individual components in the atmosphere of space vehicles such as Gemini, Apollo, Skylab, or space stations. The space-like darkness to conquer rendezvous and docking will be started this week to progress in its destiny last month, he knowingly provided the perfect introduction for the chief of MSC's Life Systems Division. At the moment MA-8 Pilot Walter M. Schirra completed his third orbit around the earth last month, he unknowingly cemented the path for the chief of MSC's Life Systems Division.

Dr. Stanley C. White Accepts Medal, Speaks To IAAM, Belgian Royalty
At the moment MA-8 Pilot Walter M. Schirra completed his first orbit around the earth last month, he unknowingly provided the perfect introduction for the chief of MSC's Life Systems Division. At the moment MA-8 Pilot Walter M. Schirra completed his first orbit, he unknowingly provided the perfect introduction for the chief of MSC's Life Systems Division. At the moment MA-8 Pilot Walter M. Schirra completed his first orbit, he unknowingly provided the perfect introduction for the chief of MSC's Life Systems Division.

The highligh of Space Week centers around the participation of media personnel, whose award presentation should call Carl Beut at JA 3-5260 or JA 9-8958. Next regular meeting of the Federal Government Accountant's Association will be Tuesday at the Holiday Inn, Wayside and Gulf Freeway. The meeting will open at 6 p.m. with dinner being served at 7:15. Reservations can be made through Gerald L. Grefes, ext. 5227, Dester Haven at 3379, or John F. Vittone, at 7170.

Lindquist Named
(Continued from Page 7)
Lindquist was born in Ottowa, Iowa, on November 25, 1909. He graduated from Sherrard, Illinois, High School and attended the University of Illinois, majoring in business administration and public relations. He came to Texas in 1930 and to Houston in 1933. He is married to Evelyn Hickman of Mingus, Texas, and they have two children, Donald Gene, 25, and Linda Diane, 11.

Another invited award winner was not present at the meeting—Soviet scientist Pro- fessor Jazlovsky, whose award was accepted by the Soviet Cultural Attaché. The plenary meeting and award ceremony followed a two-day session of conferences and talks, beginning with a press conference at the Brussels Press Club Oct. 1. On Oct. 1, Belgian ministers, high level government officials, internationally renowned scientists, diplomatic representatives and invited guests gathered at the Faculty of Medicine of the University of Brussels for the plenary session. Dr. White received his award from Dr. Granpierre, director of the Center of Space Research in Paris and president of the International Academy of Aviation Medicine.

Dr. White was in Brussels to receive a medal award from the International Academy of Aviation Medicine, a new award presented to Dr. White for the medical team connected with Project Mercury flights. Looking on is Dr. Allerd, chief physician of Sabena Airlines, president of the I.A.T.A. and secretary-general of the Academy.

At the moment MA-8 Pilot Walter M. Schirra completed his first orbit, he unknowingly provided the perfect introduction for the chief of MSC's Life Systems Division. At the moment MA-8 Pilot Walter M. Schirra completed his first orbit, he unknowingly provided the perfect introduction for the chief of MSC's Life Systems Division. At the moment MA-8 Pilot Walter M. Schirra completed his first orbit, he unknowingly provided the perfect introduction for the chief of MSC's Life Systems Division. The following report on the progress of Mariner II was re-ceived rendezvous and docking.
Holmes To Take On New Deputy Administrator's Job Plus Old One

In a move aimed at adapting NASA's management structure to the Agency's rapid growth, Associate Administrator Robert C. Seamans, Jr., has named a second deputy associate administrator and realigned functions within his office.

Effective immediately, Donald Brainerd Holmes assumes new duties as a deputy associate administrator to Seamans as well as retaining his program responsibilities as director of the Office of Manned Space Flight Projects.

At the same time, Thomas F. Dixon, who for the past year has served as deputy associate administrator for projects, assumes specific responsibility for NASA Headquarters' relations with field centers engaged principally in other than manned space flight projects.

Seamans characterized the move as another step in the evolution of NASA's emerging organization, reflecting the agency's increase in both the number and scope of projects and the resultant manpower growth.

Previously most field center directors reported directly to Seamans on institutional matters beyond programs and contractual administration. Under the new setup, centers reporting on their institutional operations directly to Holmes will include Marshall Space Flight Center, Huntsville, Ala.; Lewis Research Center, Cleveland, Ohio; Langley Research Center, Hampton, Va.; Goddard Space Flight Center, Greenbelt, Md.; Flight Research Center, Edwards, Calif.; Jet Propulsion Laboratory, Pasadena, Calif.; and Wallops Station, Wallops Island, Va.

Holmes will wear two hats, Seamans explained. "This is justified because of the nature and urgency of his manned space flight program. Working with other elements of my staff, Holmes and Dixon are to in- sure the implementation of standardized procedures, management systems, and reports to the administrator, deputy administrator, associate administrator and program directors.

Holmes, 41, joined NASA Nov. 1, 1961, as director of manned space flight. Prior to his appointment with NASA, Holmes was project manager for the Radio Corporation of America in building the Balistic Missile Early Warning System (BMEWS).

Dixon, 46, came to NASA Sept. 18, 1961, as director of launch vehicle programs. Prior to that, he was vice president for research and engineering of Rocketdyne Division of North American Aviation, Inc.

NASA Expansion Building Begins On Merritt Island

Construction of a manned spacecraft building, the first structure to be built on Merritt Island in the newly acquired expansion of Cape Canaveral, will be started in February, according to the U. S. Army Corps of Engineers in Jacksonville.

Engineers today announced that bids will be opened Jan. 3 on the $12 million, 300,000-square-foot structure which will have portions six stories tall. It will be the second largest building to be erected on the rocket-missile test center, out-ranked only by the technical laboratory constructed several years ago at Patrick Air Force Base.

The spacecraft structure, which will become primary headquarters for the National Aeronautics and Space Administration's lunar landing program, will include administrative facilities, quarters for the astronauts, auditorium and cafeteria, service areas and a large open - space assembly area. The concrete frame building will be composed of three separate facilities under one roof—a two-story administrative facility, laboratory control section and the 6-story... (Continued on Page 7)

O. G. Lindquist Is Named Assistant To Dr. Gilruth

O. G. Lindquist of Houston, has been appointed Assistant for Congressional Relations to MSC Director Robert R. Gilruth.

Lindquist will be responsible for coordinating matters involving Congressional relations and will serve as principal advisor to Dr. Gilruth and other members of the MSC staff on all Congressional matters.

He will also report to NASA Headquarters in Washington significant actions involving Congressional matters, will coordinate response at MSC to requests received from members of Congress, and will coordinate details of visits to MSC by members of Congress and other VIP visitors.

The new MSC official, formerly the administrative vice-president of T. J. Bettes Company in charge of mortgage loans, has been active in Texas business and civic circles for a number of years. Prior to his affiliation with the T. J. Bettes Company, Lindquist held positions as director of public relations for the North Dallas Bank and Trust Company, executive vice-president of Commercial Services of Texas, Inc.; president of the Acceptance Planning Corporation of Dallas; president and owner of the Lindquist Finance Corporation of Houston and other positions in the fields of finance and investments.

In Houston civic affairs, Lindquist has served as president of the Montclair-Sunset Civic Club; judge of Voting Precinct 17; vice-president of the Greater Houston Finance Association; and treasurer of the Texas Automobile Finance Association. In 1951, he was co-chairman of the Commercial Division of the United Fund in Houston and is this year serving as a captain in the division.

He is a life member of the Houston Professional Baseball Players Association; has been cited by former Texas attorney General John Ben Shepard and served as a member of his staff; and has received a Meritorious Award for Civic Activities on the local and state level from former Governor Alan Shivers.

He is the author of "Your Mortgage Contract," an article written for investors and customers of the T. J. Bettes Company.

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