

SPACEPORT



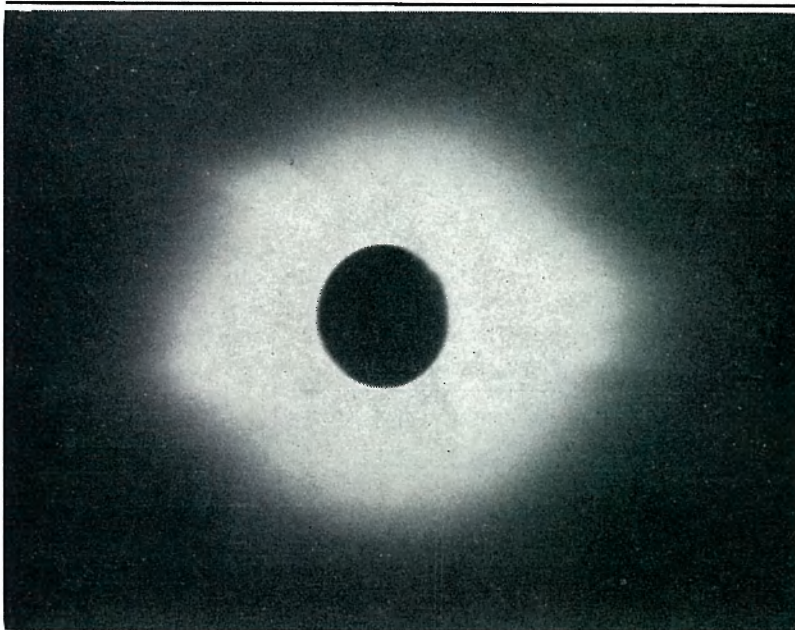
NEWS

Volume 2, Number 35

NASA Launch Operations Center, Cape Canaveral, Florida

August 29, 1963

\$5.35 Billion NASA Budget To Congress



A FRIED EGG with a black yolk? A peeping eyeball sneaking a glance at the pinup? Nope. It's last month's total eclipse, as photographed by Sheldon Smith and Ray Torrey of NASA's Ames Research Center in California. The camera was specifically designed to photograph the polar rays of the sun's corona.

Afghanistan King and Queen To Visit Cape In Two Weeks

The King and Queen of Afghanistan are scheduled to visit NASA facilities at Cape Canaveral within two weeks.

King Mohammed Zahir and Queen Homaira will be hosted on their visit by Dr. Kurt H. Debus, LOC Director. Scheduled to visit Sept.

7-9, the king and queen will be accompanied by their daughter, Princess Bilquis, members of the Afghan government, and United States officials.

Among the members of the Afghan government will be Ali Mohammed, Minister of Court; Abdullah Malikyar, First Deputy Prime Minister; Dr. Abdul Majid, the Ambassador of Afghanistan; and others.

The American group accompanying the Afghan royal couple will include Angier Biddle Duke, Chief of Protocol of the United States.

During their visit the king and queen will be briefed on NASA activities at Canaveral and on the United States' space programs.

Echo II Pact Awarded

NASA has selected the G. T. Schjeldahl Company of Northfield, Minnesota, for a \$362,000 contract to build three ECHO II balloons.

One of the new ECHO balloons will be used for further static inflation tests. Another will be used for the orbital flight and the third is a backup for the flight model.



The Senate and House Space Committees' joint recommendation for a \$5.35 billion NASA fiscal '64 budget was expected to be brought before Congress for a vote this week.

Of this total, \$284,916,000 has been allotted for construction of facilities here at the Launch Operations Center.

NASA's original budget request was for \$5.71 billion, with \$312,855,000 for LOC construction.

Of the \$5.35 billion, \$4.1 billion will go into research and development programs, and is broken down like this:

Maned Spacecraft System—\$1,496,600,000.

Launch Vehicle and Propulsion System—\$1,147,500,000.

Aerospace Medicine—\$11,000,000.

Integration and Checkout—\$125,000,000.

Systems Engineering—\$37,000,000.

Meteorological Satellites—\$63,700,000.

Communications Satellites—\$42,175,000.

Industrial Applications—\$3,500,000.

Geophysics and Astronomy—\$194,400,000.

Lunar and Planetary Exploration—\$274,400,000.

Bioscience—\$21,200,000.

Launch Vehicle Development—\$127,700,000.

Facility, Training and Research Grants—\$40,000,000.

Space Vehicle Systems—\$53,462,000.

Electronic Systems—\$30,362,000.

Human Factor Systems—\$13,200,000.

Nuclear-Electric Systems—\$68,768,000.

Nuclear Rockets—\$94,187,000.

Chemical Propulsion—\$24,497,000.



WITH A LONG weekend approaching, what better way could we spend it than, as pert Mary Ann Mallard of Financial Management, by building castles in the sand.

US-1-MILA ROAD PACT AWARDED

A contract for almost \$5 million has been awarded to a Jacksonville construction company for a seven-mile roadway from the NASA Launch Operations Center's Merritt Island Launch Area (MILA) across the Indian River to Addison Point.

The contract — for \$4,999,276.69 — was awarded by the Corps of Engineers, acting as NASA's agent, to the Hou-daille-Duval Co.

Terms of the contract call for the roadway to be completed by Sept. 1964.

The four-lane roadway will extend some 3.5 miles over the Indian River, and about the same distance to the MILA Industrial Area. It

(See MILA, Page 3)

(See \$5.35, Page 6)



ONE RUNG AT A TIME

Many times, young and also capable people get teed-off because they feel they are not making enough "progress." We know youth is impatient but here is where you get into the act.

Good counseling is part of your job. Point out that the foundation to management is made up of technical know-how, supervisory ability, organizational know-how and ability in human relationships.

This is quite an order for any "youngster" to master — or for anyone else for that matter. But, the better these are handled, the better the chance for advancement.

We know a young fellow who was considered a "crack-jack" in his field. He showed great promise and was pushed ahead. He got several good promotions in short order. These were all in the same organization. Then came what to him seemed the "big break." He was promoted to a central office position which required planning total programs for several organizations.

It wasn't long until his lack of experience became his outstanding trait. He had not learned to plan, to direct other managers, and to use imagination in his management functions.

The good nature, ambition, ability and straightforwardness of this young man failed to save him. His rocket rise proved harmful to the organization as well as to himself. He was demoted to a lesser spot. His comeback will be difficult, if possible at all.

A management career must be based on experience in using the skills needed to manage. The ladder must be climbed rung by rung. Skipping steps in management development can ruin an otherwise successful future.

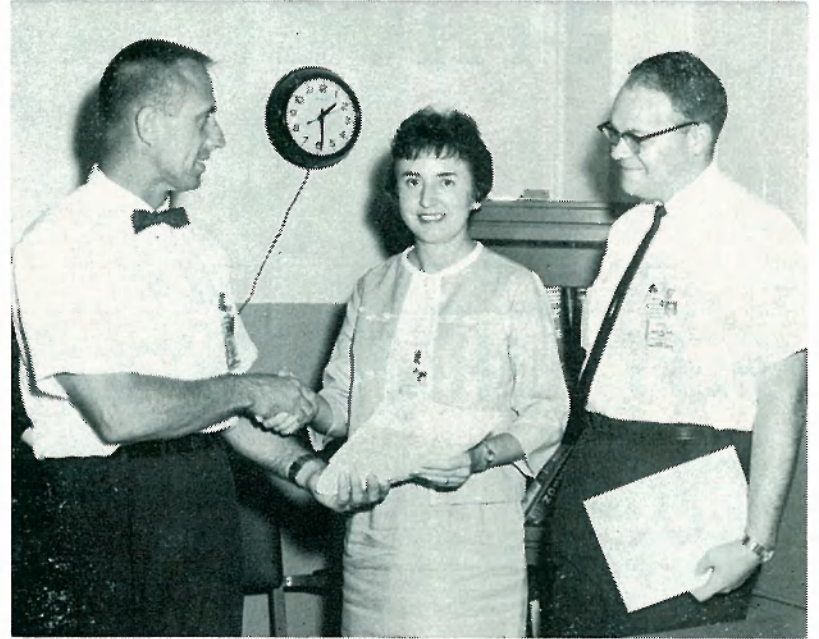
GLENN ADVISES EDUCATION

Astronaut John Glenn advises today's young people to get a broad general education and then to seek the particular field where their special talents will best contribute to the advancement of mankind.

Glenn's advice was written to the 932 pupils of Riverbank School, a primary and secondary institution in Nairobi, capital of the new African republic of Kenya. The pupils had asked permission to name one of their boys' dormitories after Glenn.

In his letter of consent, Glenn wrote: "I believe that each individual is innately blessed with certain talents and capabilities, and it is up to each of us to determine how and where we are going to use these talents.

"What I am suggesting to the young people of today is that they strive for a good, broad, general education; that they remain interested in every subject available to them; that they maintain an intense curiosity in everything they do; and be prepared to contribute to the advancement of mankind through whatever field of endeavor best suits their talents."



MADELINE VOLZ, secretary to Vernon Jansen, left, Chief of the Base Operations Division's Material Support Branch, received congratulations from her boss and Administrative Officer Sid Harbin on presentation of an outstanding performance rating. She won the award, her second, for her work at the Joint Bomarc Test Organization, Eglin AFB, Florida

SPACE ALMANAC

A CHRONOLOGY OF
EVENTS IN SPACE
EXPLORATION AND
RESEARCH.

5 Years Ago

September 2, 1958 — UN Ambassador Henry Cabot Lodge announced that the U. S. would propose a plan for international cooperation in the exploration of outer space to the United Nations.

1 Year Ago

September 4, 1962 — Radio signals to Venus probe MARINER II, nearly 1.5 million miles from earth, repositioned craft and fired on-board rocket to send probe on desired trajectory toward Venus.

LUNAR PUP-TENT

A pup tent is being designed for use by astronauts on the moon. The Manned Spacecraft Center has asked Armour Research Foundation of Chicago to design a portable survival shelter which would protect two astronauts for two to 10 days in case they could not return to Earth on schedule.

SATELLITE FAMILY UNDER NASA STUDY

A new family of data-gathering satellites to collect information from remote areas of the earth is being studied by NASA.

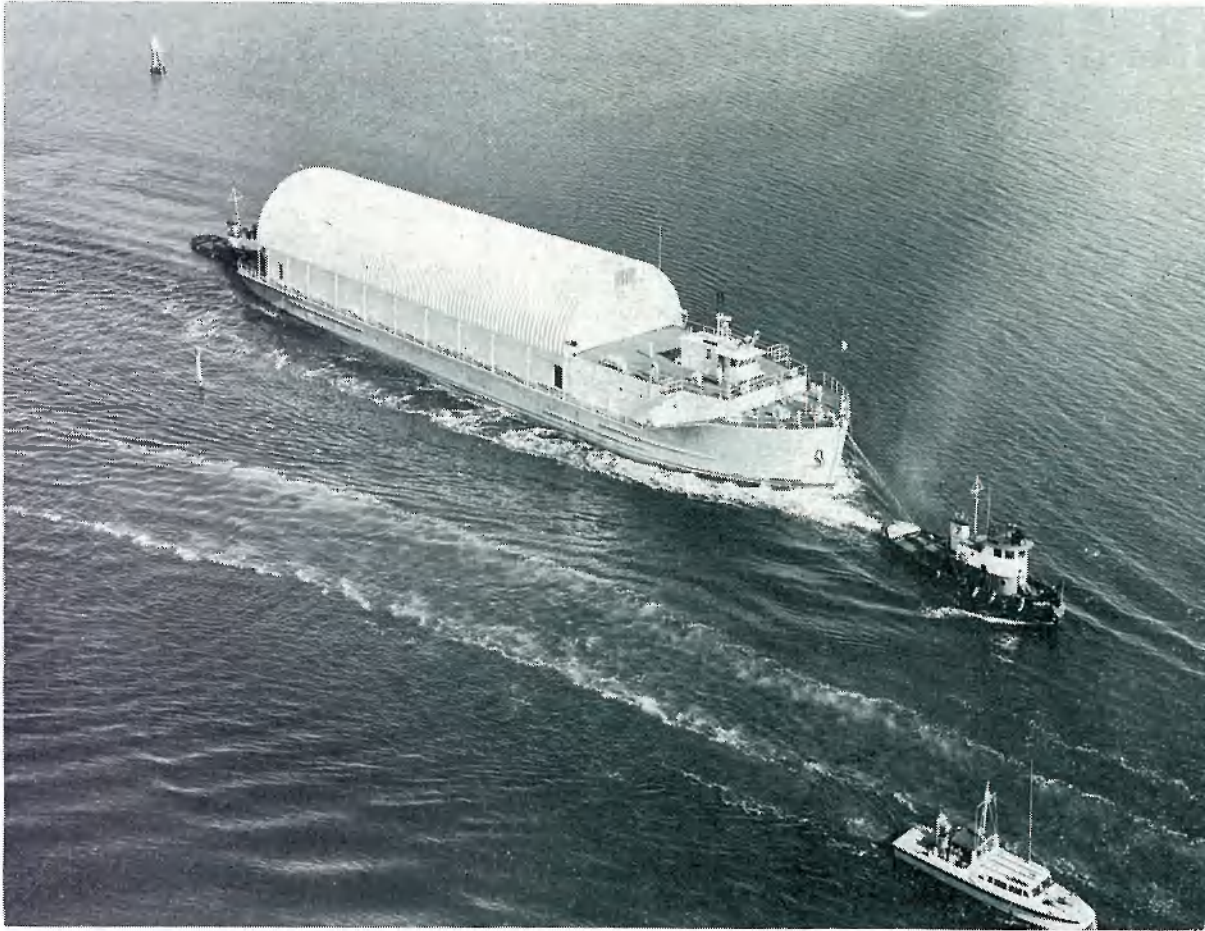
Promising new uses for such a system include: air temperature at various heights, humidity, wind speed and direction, water temperature, wave height and ocean current velocity at various depths and, possibly, the tracking of icebergs and various forms of wildlife, search and rescue, and the location of returned spacecraft.

One method under consideration for gathering information from the ocean would utilize buoys containing the necessary data-sensing equipment. As the satellite passed over it would interrogate each buoy by means of a code. This information would be stored on a magnetic tape in the satellite. Upon command from the ground, the satellite would transmit the information for distribution.

Analysis of the data collected on a world-wide basis would result in a better knowledge of weather and the sea. Possible benefits include improved weather forecasts, and more suitable weather routing of ships.

SPACEPORT

NEWS



THE SATURN BARGE "Promise" was photographed from the air as it approached Canaveral. Its cargo was the SA-5 booster, instrument unit and payload for the fifth Saturn launching. The S-IV second stage will be flown to the Cape next month.

Modeling Activity Outlined In Confab

A presentation to acquaint LOC with the mathematical modeling activity General Electric is performing under the direction of Dr. Don Young of NASA's Office of Manned Space Flight, was held last week.

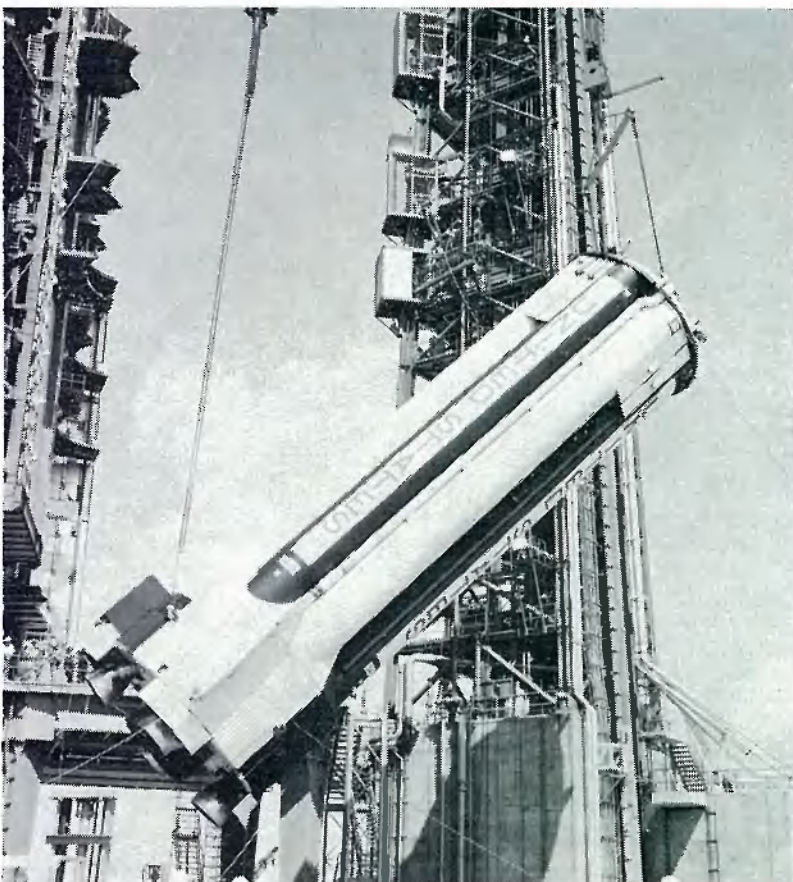
R. S. Grisetti and R. M. Taylor of GE's Daytona office discussed the scope of their present work and outlined suggestions for future studies of the catastrophic failure potentials of launch vehicles during normal launch operations.

Representatives of LOC, Marshall Space Flight Center, and Manned Spacecraft Center organizations attended.

Next Thursday, John Gillooly of Marshall will discuss design analysis effort, which includes failure effects analyses and criticality ranking of Saturn vehicles systems and components.

Interested persons are invited to attend the presentation, to be held in the E & L Conference room at 9 a.m.

Additional information may be obtained by contacting J. L. Bennett of the LOC Reliability Office, UL 3-2120.



FOLLOWING ITS Canaveral arrival last week, the SA-5 booster was hoisted onto Pad B at Complex 37 Monday. Launch of the fifth Saturn vehicle will take place later this year.

WILDLIFE REFUGE

NASA and the Department of the Interior signed an agreement Tuesday establishing a 25,500-acre National Wildlife Refuge on the Merritt Island Launch Area.

The area selected will be the first major waterfowl refuge on the East Coast of Florida. The marshes and surrounding waters comprise a wintering area of prime importance to waterfowl.

MILA ROAD PACT

(Continued from Page 1)

will terminate on the mainland at Addison Point on U.S. Highway 1.

Included in the contract is the construction of a twin, double-leaf bascule bridge over the channel of the Indian River.

The Jacksonville company, which holds a \$2.3 million contract for similar work on the MILA causeway to Cape Canaveral over the Banana River, was one of four companies to bid on the project.



JOE WILLIAMS, NASA Supply, killed this visitor to Launch Complex 39's pad A last week. The five and a half foot diamondback rattler had 11 rattles.

SERVICE AWARDS PRESENTED TO 164 EMPLOYEES

Honorary Service Awards have been presented to 164 LOC employees during the first half of 1963.

A 30-year NASA certificate of service was presented to Daniel Van Kamm en, Procurement and Contacts Office.

Twenty-year awards went to Colonel Clarence Bidgood, Joseph L. Hester, and Woodrow W. McKinney, Facilities; Daniel C. McMath, Instrumentation; Charles L. Buckley, Jr., Security; Commander Simon J. Burttschell, Jr., Administration and Service Office; Adela id H. Cochran, Traffic Management; Carl J. Dahl, Robert C. Nead, Dudley C. Reeves, and Kathryn W. Tate, Procurement and Contracts; Lieutenant Colonel Ralph Hicks, Test Support; Major Robert C. Hock, Plans and Projects Management; Ida B. Hoover, Administrative Services; Robert E. Johnson, Protocol; Paul V. King, Safety Office; Otis L. Leming, Management Analysis; Herman C. McLearn, Jr., and Natalie J. Spielman, Technical Information; Paul O. Siebeneichen, Community Development; Sigfrid E. Carlson, Base Operations; Bradley L. Baker and Richard P. Dodd, Facilities; Richard L. Saieg, Administrative Services; Robert

W. Johnson, Maurice H. Miller, Procurement and Contracts; and Glenn W. Graham, Launch Support Operations.

Those receiving 15-year awards were Dorothy C. Byrd, Guidance and Control Systems; Walter E. Collins and Bernard A. Keene, Launch Support Operations; Paul T. Cornelius and George W. Lusby, Base Operations; James F. Haynes and James R. White, Instrumentation Systems; John H. Schneider, Launch Support Equipment; Rosette H. Tucker and Anna L. Walker, Procurement and Contracts; and William A. Underwood, Financial Management Office; Jack B. Bing, Facilities; Charles I. Longacre, Office of Chief Counsel; Monroe T. Frye, Jr., and Richard McCoy, Procurement and Contracts; John R. Panizza and Lorene L. Verden, Financial Management Office; Walter F. Barney, Plans and Projects Management; Ann C. Kuchta, Security; and William R. Busch, Sr., and Alex Welhan, Launch Vehicle Operations.

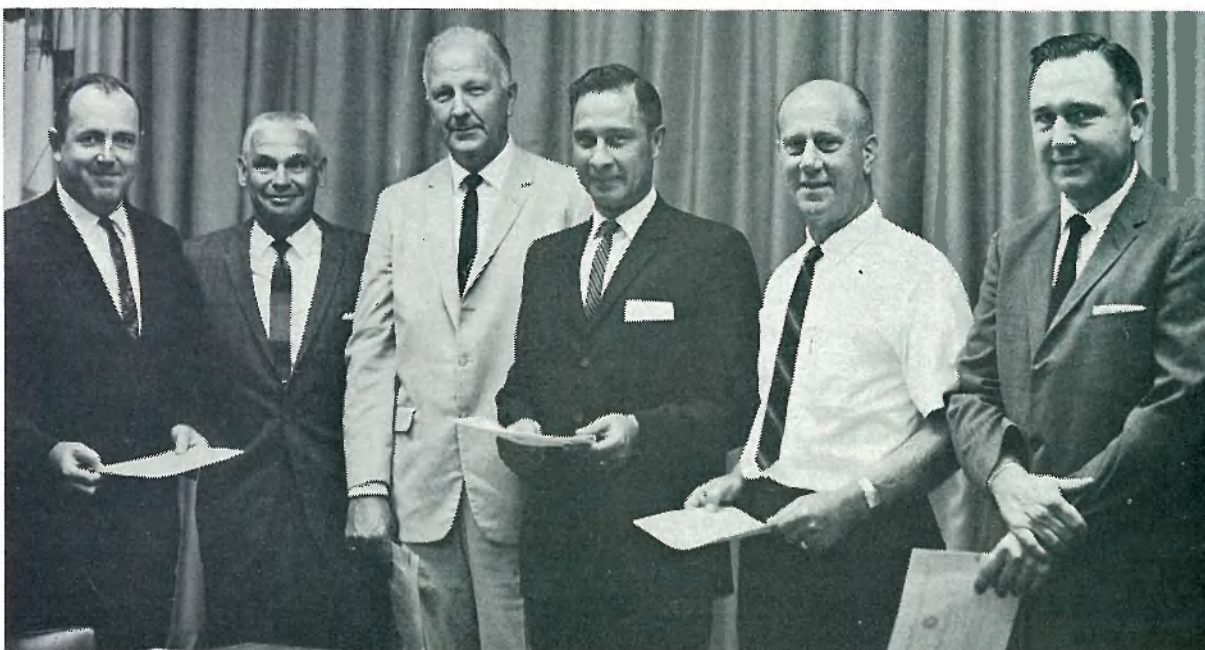
Recipients of the 10-year service award were Charles W. Alsworth, Jr., Mary W. Boyce and James G. Lovan, Technical Information; Arthur J. Carraway, John K. Feussner, John B. Parks, Annie E. Taylor, and Mary M.

Thornton, Facilities; Nihla Dunham and John Mansfield, Base Operations; Joseph W. Hammond, Jr., Carroll V. Hughes and Alvie E. Yarbrough, Mechanical and Structural Systems; Carl B. Harris, Wilfred G. Jelen and Eldon O. Raley, Instrumentation Systems; Charles R. Hart, Robert G. Long, Edward R. Mathews and Marjorie P. Holt, Plans and Projects Management; Curtis W. Hudson and Annie R. Smith, Financial Management Office; Roy E. Lealman, Jr., Guidance and Control Systems; Elmer E. Murchison, Catherine T. Posavec, Charles W. Swanston and Hilma S. Wheeler, Procurement and Contracts; and Joseph H. Powell, Launch Support Equipment Engineering Division; Gloria Z. Darwin, Office of the Director; Glenn H. Smith Base Operations; Leon E. Britt and G. F. Tiesenhausen, Launch Support Equipment Engineering Division; Norman P. Gerstenzang, Facilities; James H. Herring, Administrative Services; Elizabeth F. Moyles, Procurement and Contracts; William B. Lee, Financial Management Office; William E. Johnson, Personnel Office; Frances L. James, Elizabeth M. Baxley and Arthur W. Fowler, Procurement and Contracts;

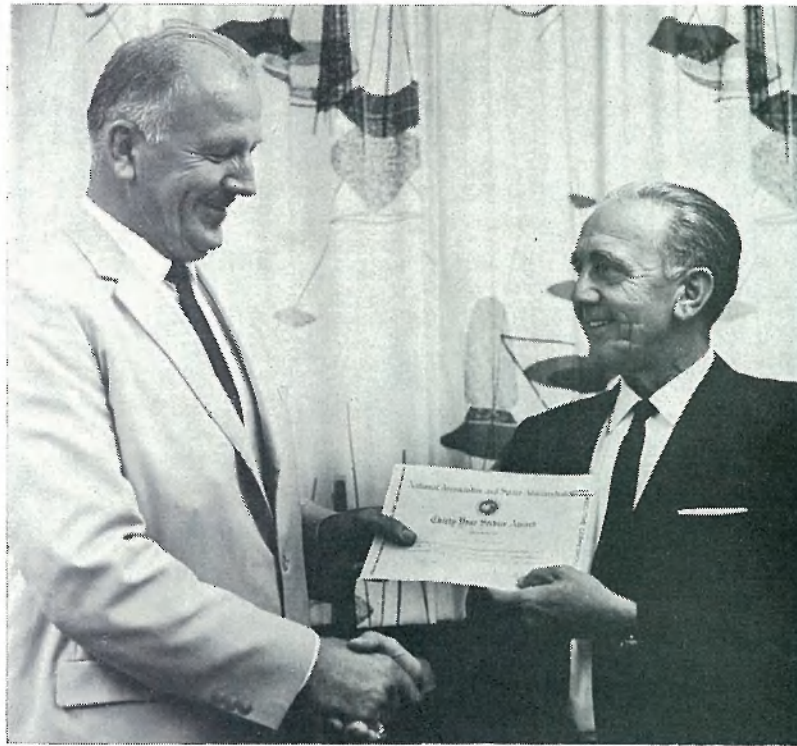
Downing C. Sweat, Jr., Launch Support Operations; Carson C. Burdine, Plans and Projects; and Donald L. Gordon, John N. Brewer, Robert E. Moser, George M. Murray and John A. Perkinson, Launch Vehicle Operations.

One-year emblems were awarded to Catherine M. Archer and Ivie J. Moody, Administration and Services; Richard W. Bivans, William B. Glaser, Robert B. Hughes and Allie M. Whigham, Instrumentation Systems Office; Rebecca S. Murphy, Jean L. Myers, Edward G. Rawls and Russell E. Rhodes, Mechanical and Structural Systems; Mildred L. Chretien and Cyrus Q. Stewart, Facilities; Patricia F. Darling, Security; Clyde R. Bridewell, Instrumentation; Virginia L. Dixon, Community Development; Helen D. Egan, Joseph C. Giles, Estelle G. Coleman and Raymond C. Daley, Base Operations; Kenneth P. Brittain, Henry F. Carlen, Jr., and Clay G. Griffen, Launch Support Equipment Engineering Division; Charles R. Billings, Melvyn A. Bryan, Lewis B. Burgett, Kathryn R. Finney, Albert Kempson, Jr., Nancy G. Newcomer, and David L. Tharp, Facilities; Herbert L. Tash, Administrative Services; Helen D. Dahl, Office of Chief Counsel.

Emogene P. Middleton and Faye R. Smith, Financial Management Office; Betty B. Crippen, Dixie P. Kennedy, John P. Noland, Jr., Phyllis F. Ogletree, George W. Read and Bobby R. Spiers, Procurement and Contracts; Renee M. Toulotte, Management Analysis Office; Mr. Eugene Bishop, John M. Gruetzmacher and Joseph F. Thompson, Plans and Projects Management; John R. Copeland and James L. Joyner, Plans and Projects Management; John W. Donovan, Community Development; Junius B. Stone, Jr., Launch Support Operations Division; Jessie G. Trubia, Safety Office; and John C. Davidson, Frank W. Gavin, Arthur L. Kelly, Charles M. Miller, William E. Moorehead, William H. Ogler, Jack W. Scannell, Edward R. Timmons and Louis M. Whitby, Launch Vehicle Operations.



THESE SIX LOC employees represent more than a century of government service, and were presented awards by LOC Director, Dr. Kurt H. Debus, Monday. Left to right are Charles Buckley, Chief, Security Office, 20 years; Paul King, Chief, Safety Office, 20 years; Daniel Van Kamm en, Procurement and Contracts, 30 years; Charles Longacre, Chief, Legal Office, 15 years; Col. Clarence Bidgood, retiring Chief, Facilities Office, 20 years; and James Herring, Chief, Transportation, 10 years.



CONTRACT Specialist Daniel Van Kammen, left, became the first LOC employee to receive an award for 30 years government service, when Dr. Kurt H. Debus congratulated him Monday.

Three Decades Of Service For P & C's Van Kammen

Daniel Van Kammen, a contract specialist with the Procurement and Contracts Office, has become the first person at LOC to receive an award for completing more than 30 years of government service.

He was presented his award by LOC Director, Dr. Kurt H. Debus, in a brief ceremony Monday.

A native of Haarlem, Holland, Van Kammen immigrated to America as a child and enlisted in the Navy in 1928.

Naval assignments included flight training at Pensacola, and service aboard the carrier Lexington.

During the war he was on a sub rescue ship, operating in the Pacific area, and later he served aboard a transport evacuation ship.

The six-foot, five-inch, 245-pound Van Kammen was an active sports enthusiast in the Navy. He played football, baseball, basketball and tennis, and also boxed and swam.

In 1940, he was an outfielder on the baseball team that won the fleet championship. It was, in fact, his home run that tied the score in the final game.

After retiring from the Navy in 1928, Van Kammen worked first for the Department of Commerce and then for the Bureau of Yards and Docks as a procurement officer and purchasing agent.

He joined NASA in February 1962, and enjoys his work. Van Kammen and his wife Vivian live in Cocoa Beach, where he is an active weekend gardener.



THESE LOC EMPLOYEES were awarded checks and certificates Monday for sustained superior performance of duties in their individual fields of work. Left to right are, Richard Foster, administrative officer, \$250; Ernest Lautzenheiser, engineer designer, \$350; LOC Director, Dr. Kurt H. Debus, who presented the awards; Leo Walsh, supervisory illustrator, \$350; Dorothy Parker, travel clerk, \$250; Willie McClintock, supply specialist, \$350; Robert Hedick, accounting technician, \$250; Angelo Taiani, aerospace technician, \$425; and Otis Leming, management analyst, \$350. Glenn Smith of Base Operations also received an award, but was not present for the picture.

BREVARD NAMES — COLORFUL, HISTORIC

The name origins of towns and cities in Florida are as interesting and colorful as the history of the state itself.

Herewith are thumbnail backgrounds on Brevard County names, as excerpted from Allen Morris' Florida Handbook.

Cape Canaveral

Canaveral is the Spanish word meaning "plantation of cane." The Spaniards named the cape Canaveral because the Indians were growing cane there. The name appears on the earliest maps of Florida.

Cocoa

There are two widely varying accounts of how this unique name came into being.

One says that it came from the coco-plum which grows along the whole Florida east coast and is particularly profuse in the Brevard area.

The other explanation says that while a group of citizens were seeking a name for the town, an old Negress, stand-

ing near a landing at the foot of Willard Street, received inspiration from the label on a box of Baker's Cocoa; her suggestion was adopted.

Cocoa-ites claim there is no other town in the world which bears the same name.

It was founded by fishermen very early in Florida's history, and in 1871, a post office was established at Magnolia Point, some two miles north of Cocoa, but the town itself was not incorporated until 1895.

Eau Gallie

Authorities are agreed that the "Eau" is French for water, but they differ as to the "Gallie." Some say it is French for bitter; others that it is an Indian word for rocky.

The town was established soon after the Civil War by William H. Gleason.

Indialantic

This town was born in the boom of 1925. Mrs. G. F. Duren won a contest to name

it. Her name indicates its site, between the Indian River and the Atlantic Ocean.

Melbourne

Two accounts give slightly different dates for the founding of this town, and ascribe its naming to different persons, but they agree it was named after Melbourne, Australia.

One account says that C. I. Hector sailed in the harbor here in 1872, and the settlement was named after his former Australian home.

Another account says the town was founded in 1878 by Thomas Mason, a London school teacher, and that the name was given later by John Hector Cornwaith, a former resident of the other Melbourne.

Merritt Island

This was once called Stony Point, but in documents as early as 1808 it is referred to as Merritt's Island, or Marratt's Island.

The name may have come from a Captain Pedro Marratt, who was a surveyor for the Spanish government in East Florida. But there was also a Mr. Merritt who had planted crops there before 1823.

Mims

Established in 1894 by three brothers, B. J., C. N. and Robert E. Mims.

Satellite Beach

Derived its name from the nearby missile-space activity at Cape Canaveral.

Titusville

This community was established just after the War Between the States by Colonel Henry T. Titus, who had been a fierce antagonist of John Brown in the struggle over Kansas which preceded the War.

The locality had been known as Sands Point, but Titus, who was postmaster and something of an autocrat, changed the name to perpetuate his own.

POLKA DOT SPHERE TO MEASURE DENSITY

NASA has begun preparations for the launch of two Explorer series satellites on a single Scout launch vehicle late this year.

The Langley Research Center has awarded a \$478,922 contract to the State University of Iowa to provide one of the spacecraft.

The contract covers construction and assembly of one of SUI's series of Injun satellites containing instruments to record corpuscular radiation streaming into the earth's upper atmosphere from space.

The second spacecraft will be a 12-foot polka dot inflatable sphere to measure air density. The sphere, similar to Explorer IX now in orbit, will be built by the Langley Research Center.

Both the sphere and the Injun are scheduled to be launched into a near-polar orbit by a solid propellant Scout vehicle from the Pacific Missile Range late in 1963.



BIRTHDAY GREETINGS were in order last week for Karl Sendler, center, Assistant LOC Director for Instrumentation. Helping him with the cake and coffee are fellow workers, left to right, P. A. Minderman, Dr. R. H. Bruns, J. R. White, G. F. Williams, T. P. Hershey, J. J. Fitzgerald and F. M. Childers.

High-Flying X-15 Claims New Record

Joseph A. Walker, NASA chief research pilot, flew the X-15 airplane to an altitude of 351,000 feet or 66.5 miles last Thursday.

Launched over Smith Ranch Lake, Nevada, 316 miles north of Edwards, Calif., Walker flew the rocket-powered X-15 No. 3 to a new record altitude over the Mojave Desert of

California and landed on Rogers Dry Lake at Edwards.

Previous high altitude mark was set by Walker July 19, 1963, with a flight to 347,000 feet. Thursday's flight was programmed for an altitude of 360,000 feet. The flight was more than 100,000 feet over the altitude for which the X-15 was originally designed.

\$5.35 BILLION

(Continued from Page 1)

Space Power—\$16,524,000.
Aeronautics—\$16,200,000.

Tracking and Data Acquisition—\$218,200,000.

Other major categories in addition to research and development are construction of facilities, for which \$713,060,400 was recommended, and administrative operations, \$518,185,000.

Swedes Eye Fast Moving Arctic Clouds

Sweden, with U. S. cooperation, has successfully conducted a series of sounding rocket launchings designed to study noctilucent clouds near the Arctic Circle in northern Sweden.

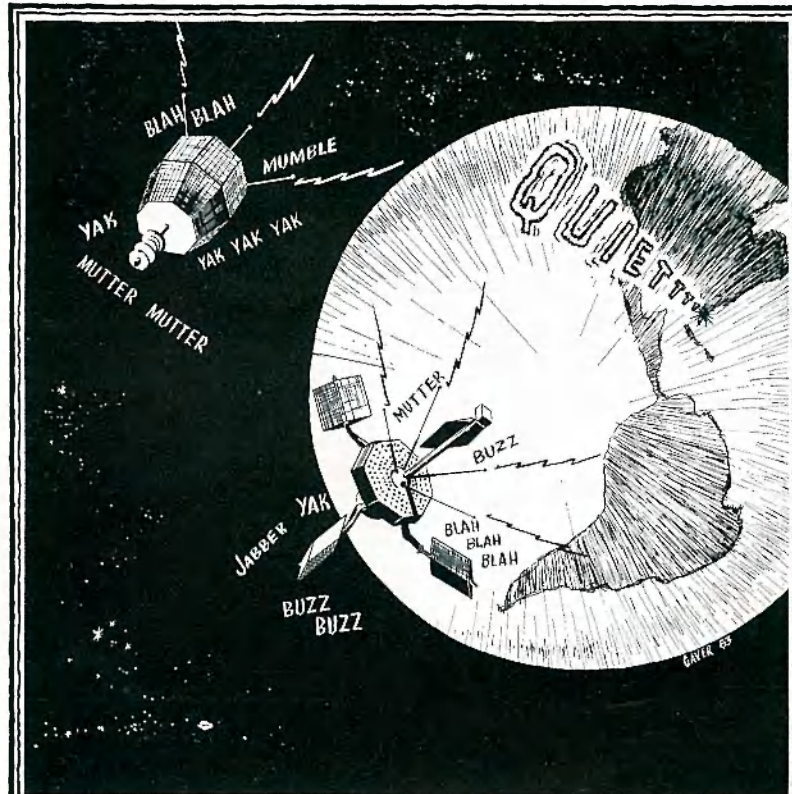
The joint Swedish-U. S. effort is part of a continuing program between NASA and the Swedish Committee for Space Research for cooperation in the scientific exploration of the upper atmosphere.

Noctilucent clouds are faintly luminous, very high and fast-moving clouds which can be observed at twilight only during short periods in late summer and then, only at high latitudes.

Launchings of instrumented sounding rockets to investigate the origin and nature of these clouds were undertaken previously by the Swedish and U.S. organizations during 1961 and 1962. These included launchings of ARCAS rockets to measure winds during the occurrence of noctilucent clouds and Nike-Cajun rockets to make direct samplings of cloud particles.

Four rocket grenade payloads were successfully launched this summer from a launching site at Kronogard, Sweden, aboard Nike-Cajun vehicles.

The payloads, along with associated rocket-borne and ground electronic and optical equipment, included experiments to measure upper atmosphere temperatures, winds, pressure and density during the occurrence of noctilucent clouds and to measure changes in the size of artificial cloud particles created by payload smoke puffs.



Scientists Seek Muzzles For Talkative Satellites

Manmade satellites "talk" too much and—like the neighborhood gossip—much of what they say is not too important.

But cutting out the idle chatter is one of the biggest problems facing NASA computer engineers today.

A really prolific satellite can keep engineers busy almost 24 hours a day recording its voice on magnetic tapes, an expensive process. It gets even more expensive when large computers have to separate meaningful scientific information from a good deal of chaff.

At NASA's Goddard Space Flight Center there is a continuing effort to reduce the amount of information required to be transmitted from a spacecraft without detracting from the scientific value of the information received on earth.

The goal is to have small, but efficient, computers placed on board satellites that could do a highly intelligent editing job. In other words, it would give the satellite's radio transmitter only information that departs from certain norms. This would cut down the electrical power needed to transmit information to earth and reduce the amount of information that ground-based scientists have to analyze.

Lewis Center To Produce Cold Fluid

NASA's Lewis Research Center has become the world's largest producer and user of the world's coldest fluid — liquid helium.

Lewis is operating two 125-litre-per-hour helium liquifiers.

During the past few months the helium plant has been operated around the clock. The more than 80,000 liters per month have been used for the cryogenic cooling of RL-10 Centaur engines prior to ignition during test firings. The new technique of precooling the Centaur engines results in a considerable saving of fuel, increasing the payload capacity of the launch vehicle. In the past, Centaur fuel (liquid hydrogen and liquid oxygen) was used for the cooling process.

Air Transport

Transporting the minus 453 degree Fahrenheit liquid helium to Cape Canaveral is handled by Air Force cargo planes. The fluid is carried in a special 5,000-gallon trailer.

The production and use of the liquid helium vividly illustrates the space program's growing need for tremendous quantities of materials and equipment which were non-existent or little more than a laboratory curiosity a few years ago.

Although the bulk of present liquid helium production is going for the Centaur project, the facility was intended primarily to supply the needs of the Lewis deep space simulation tank. This six-by-twelve-foot tank, using liquid helium for cooling, is capable of pressures in the closest approximation of the true vacuum and cold of space ever achieved in a chamber this large.

All of the helium used at Lewis is recovered through the use of huge helium collecting bags and reused many times.

Hand-written or type-written, if it's classified, protect it.

Ceramics Study Grant Awarded To University Of Washington

NASA has announced a grant to the University of Washington for research into new advanced ceramics and the improvement of existing materials for use in the space program and for industrial applications.

Advanced ceramics are more highly refined and purified than conventional non-

metallic materials and their behavior and properties are largely unknown.

Major purpose of the study, initiated by NASA's Office of Advanced Research and Technology, is "to obtain more information on fundamental characteristics and behavior of ceramic materials and for training research per-

sonnel in this field."

The research will involve gathering more knowledge on the properties and behavior of ceramic materials. Some specific areas of study will be mechanical behavior, very low temperature and high temperature behavior, solid state chemistry and electrical characteristics.

'64 Regulations To Provide Payroll Union Deductions

The Civil Service Commission is developing regulations and procedures to provide for voluntary payroll deduction of employee union dues, starting in January 1964.

Consideration also is being given to proposals for voluntary withholding of employee contributions to recognized charitable and health agencies and to state-of-residence income taxes of employees who work in one state and live in another.

In developing the union dues withholding program, CSC is working with the Labor and Treasury Departments, Bureau of the Budget, General Accounting Office, affected Federal agencies, and union officials. Employee organizations will pay the cost of the administration of the dues deduction system; CSC will set the fees.

Consolidation Needed

A payroll deduction plan for contributions to charity and health drives, however, can be developed only if the various fund-raising campaigns can be consolidated, CSC Chairman John W. Macy, Jr., feels.

"The cost of payroll withholding under present arrangements would be prohibitive," Macy said. He urged a single fund-raising drive each year combining the various charity and health drives into one campaign.

Currently, the Federal Government limits employee solicitations to a United Fund campaign in the fall, a point campaign of health and international agencies in the winter and spring, and a Red Cross drive in March in communities where the Red Cross

NASA NEWCOMERS

A dozen new employees have joined LOC offices in the past few days.

They are: Thomas A. McKean, Vera L. McClellan, Leo L. Libbey, Jr., James L. Ellison, Arthur F. King, Arthur L. Sawyer, Clyde F. Overstreet, Jr., William W. Bailey, Lois P. Elswick, Dianne M. Deimling, Judith A. Buckholz, and Margaret K. Magura.

is not part of the United Fund effort.

If and when regulations are issued by CSC, employees who desire their agency to withhold from their pay, State (or D.C.) income taxes, must make application to their agency.

PRESIDENT TALKS VIA SYNCOM II

President John F. Kennedy with Nigerian Prime Minister Sir Abubakar Tafawa Balewa and UN Secretary General U Thant joined other U.S. and Nigerian leaders Friday in formally inaugurating the new SYNCOM communications satellite.

NASA's spacecraft carried the first live telephone call via satellite between heads of government.

It was part of a half-hour live demonstration program arranged by the U.S. Information Agency and originating from the White House and Voice of America studios in Washington, United Nations Headquarters in New York, and the ground station aboard the USNS Kingsport anchored in Lagos Harbor, Nigeria.

The entire experiment was broadcast simultaneously by the Nigerian Broadcasting Corporation and USIA's Voice of America.

SYNCOM was launched by NASA on July 26 and has passed its preliminary communications tests. On August 4 it was used to exchange press stories and facsimile photographs between newsmen in Nigeria and the United States.

SYNCOM, which is in synchronous orbit with the earth, so that it stays at approximately the same longitude over the Atlantic Ocean and Brazil while moving in an elongated figure-8 pattern approximately 33 degrees north and south of the equator, is the first space communications link to Africa.



IF YOU'RE booked on this weekend's cruise to Nassau, the famous marching flamingoes at the Ardastra Gardens are just one of the many interesting attractions on the island. Take your camera.



Dear Sir:

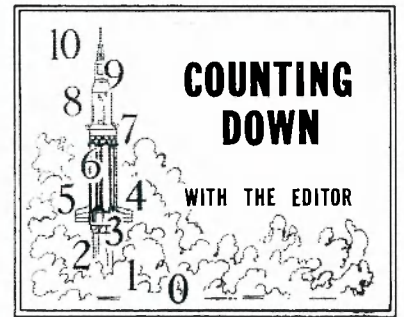
"Maybe, on your next space flight, you will contact Cromwell's ghost. He is symbolized by the moon."

H. J. T.
New Kensington, Pa.

WW Tracking Network

NASA's worldwide tracking network for satellite probes into deep space will be rebuilt during 1964 and improved to give it a capacity for receiving nearly 40 times the present amount of data.

The Deep Space Network and the lunar and planetary communications systems will be converted to the higher frequency S-band operation. This will be in the 2,200-megacycle region where large parabolic antennas focus energy more efficiently.



If you're taking a camera with you on the weekend Nassau cruise, and come back with some quaint, scenic or interesting photos, drop one or two of your best ones in the mail to Spaceport News, and we'll publish a selection.

We'd like to get them as soon as possible, and can return all photos one week after publication.

* * *

In the Spaceport News mailbag this past week was some timely information on sunburns, their causes and how to avoid them.

For instance, even if you're a native Floridian, you probably didn't know there are an estimated three to four million tiny pain receptors scattered over your skin. In fact, a portion of your skin no bigger than a postage stamp contains four yards of nerves and 25 nerve endings.

When the skin is punctured or burned, nerve endings around the site generate a pain signal to the brain. You perceive the pain, then react to it.

Sensitivity to sunburn pain varies. Redheads and blondes tend to be more sensitive to pain and burn more easily than brunettes.

The sun's rays are most intense from 11 a.m. to 2 p.m.

Although cloudiness and rain reduce the amount of burning rays which reach your skin, it's very possible to get a serious burn on an overcast day.

And, the reflection of the sun's rays on water and sand increase sunburn danger, so you can burn even under a beach umbrella or a shade tree.

It's actually not the sun's heat which makes you burn. Light rays, not heat rays, are the villains.

So, whether you're at Cocoa Beach or, this weekend, at Paradise Beach in Nassau, remember to respect ole Sol.