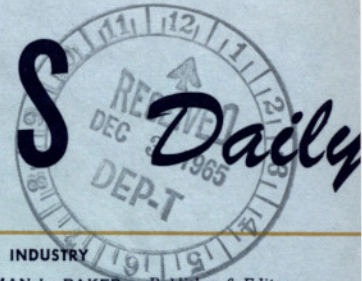


SPACE BUSINESS



Daily

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DOD TO ORBIT DODGE IN JANUARY 1967. There are currently plans on the books for the orbiting by DOD of a special gravity gradient photography satellite sometime in January of 1967. Planned by R&E, the satellite, **DODGE** (DOD Gravity Experiment), would be injected into a near-synchronous orbit where, with a TV camera equipped to transmit color photographs, it would investigate the attractiveness not only of the stabilization system but would provide an exploratory look at the possibilities such a system could provide for weather, communications, and surveillance. It is expected that launch would be with a **TITAN III**.

FCC OKS COMSAT/PAGE MOBILE TERMINAL PACT. The FCC has responded affirmatively to ComSat's request to establish three transportable ground stations for support of the Corporation's **APOLLO** satellite system (SPACE Daily, Oct. 26, p. 285). The Commission's authorization clears the way for ComSat's procurement of the terminals from Page Communications (SPACE Daily, Oct. 18 & 26).

COMSAT ANTENNAE CONTRACTOR CHOICE IMMINENT. ComSat will probably announce the winner today or tomorrow from among the four bidders seeking the contract to supply the master antenna for the two incipient ComSat ground stations (SPACE Daily, Sept. 22). ComSat issued the RFP late last summer (SPACE Daily, Aug. 20). Each antenna will have an 85-foot dish.

FCC DEFERMENT ON ABC SATELLITE DEFERRED. The FCC decision to defer action on the proposed ABC satellite (SPACE Daily, Nov. 24) has been held up and is now expected no earlier than next Wednesday and probably the 15th.

COMSAT CHOOSES PAUMALU CONTRACTOR. As anticipated (SPACE Daily, Nov. 23), ComSat has this week named the company that will prepare the site and build the facilities for the Corporation's Paumalu, Hawaii, ground station, the second of the two stations to be established to augment the existing one at Andover, Maine, to support ComSat satellite systems. J. P. Finan General Contractor Inc., one of the 12 recipients of the Paumalu RFP (SPACE Daily, Nov. 4), will grade, road, and construct at the site under a \$948,362 contract, just as Vern W. Johnson & Sons Inc. will do at the other undeveloped site near Brewster, Washington, under a \$909,382 award (SPACE Daily, Nov. 29). J. P. Finan is headquartered in Honolulu.

ADMINISTRATION NOT RECEPTIVE TO DISARMAMENT FORMULA

Administration officials gave a lack-luster reception this week to a citizens committee's disarmament formula, which included a proposed one-third cut in strategic delivery systems, and a three-year moratorium on anti-ballistic missiles (SPACE Daily, December 1).

However, the government's panel, which notably lacked any Defense Department representation, passed over the question of the one-third cut in offensive weapons, and gave only a token look at the ABM question.

Adrian Fisher, Deputy Director of the U.S. Arms Control and Disarmament Agency, indicated that the cut in offensive weapons is more significant than the moratorium on ABMs (which the committee said have the tendency to "induce" nuclear powers to increase their offensive weaponry). "It would be best," Fisher said, "to study (the ban on) offensive and defensive weapons together, rather than just defensive weapons."

Dr. Jerome Wiesner, chairman of the Committee on Arms Control and Disarmament of the National Citizens Committee on International Cooperation, said he felt that the moratorium would not prove too harmful to the U.S. because of, among other reasons, the unproven ability of the ABM to do its job. Wiesner, former science advisor to President Kennedy, said he had "big doubts" about the ABMs, which he said probably won't be as effective as our anti-aircraft system, which he termed as less than adequate.

Wiesner also commented that development of an ABM system would eat into the U.S. stockpile of fissionable material, thus preventing a cessation in production of weapons-grade fissionable material (another committee recommendation).

A second committee member, Dr. Carl Kaysen, former Presidential advisor on national security affairs, said in terms of relative cost, the most probable build-up in coming years will be in offensive weapons and not in ABMs.

CLARK SUPPORTS ABM MORATORIUM

Senator Joseph S. Clark (D-Pa.) has announced his support of a three-year halt to anti-ballistic missile development as proposed by the Committee on Arms Control and Disarmament.

"I am delighted that the Committee recommends a three-year moratorium in the construction of anti-ballistic missiles," Clark said. "In these matters of arms control we must always remember the importance of weighing the calculated risk of significant Russian cheating against the very real probability that continued underground testing or the early construction of ABMs by either superpower increases the chance of an outbreak of nuclear hostilities which could bring the destruction of civilization."

Clark said the U.S. must take major strides now to "reverse the arms race" and move "towards our agreed goal of general and complete disarmament under enforceable world law."

Col. Lucius A. Perry (USAF, Ret.) has been named manager of launch operations at the Bendix facility at Cape Kennedy, and John R. Carden, previously with North American, has been named manager of program planning.

SPACE ORDNANCE SYSTEMS TO MOVE INTO NEW HEADQUARTERS

Space Ordnance Systems of El Segundo, Calif., has completed construction of a new headquarters building adjacent to four other company facilities, including the present administration-engineering building. The old administration facility will become the firm's center for expanded research, engineering and development activities.

AIR REDUCTION PACIFIC REALIGNS SALES/MARKETING FUNCTION

Air Reduction Pacific (San Francisco), a division of Air Reduction Co., has realigned its sales and marketing function into three specialized products groups--Industrial Gases, Welding Products and Distributor Products. Appointed to head the groups were: Lawrence A. Hamilton, Industrial Gases; George G. Drake, Welding Products; and Leland J. Fife, Distributor Products. Also appointed were regional sales managers for each group to serve the San Francisco, Los Angeles and Northwest Regions.

President Emmett W. MacCorkle says that the move was made "to provide faster and more expert service" to the division's multi-industry, West-Coast customers.

GOODRICH INTERNATIONAL FINANCE GIVEN SEC OK

The Securities and Exchange Commission has issued an order under the Investment Company Act granting an application of the B. F. Goodrich International Finance Co. for exemption from all provisions of the act, subject to certain conditions.

Under terms of the company's application, the parent company--B. F. Goodrich--will acquire and hold all of its outstanding securities, other than debt securities. The finance company, which was organized under Delaware law in October, will finance the expansion and development of Goodrich's foreign operations in a manner designed to assist in improving the balance of payments position of the United States.

It intends to sell an aggregate of \$15 million principal amount of guaranteed notes (due 1982) to a small group of foreign investors. Terms of the agreement call for Goodrich to irrevocably and unconditionally guarantee the principal, premium, interest and mandatory prepayments on these notes. The assets will be invested in or loaned to foreign subsidiaries and affiliates of Goodrich which are engaged in either manufacturing and selling products utilizing technical data furnished by Goodrich and bearing Goodrich trademarks; or selling products made by Goodrich in the United States or by one of Goodrich's foreign subsidiaries or associated companies.

FIRST LINK APOLLO SIMULATOR DELIVERED

The APOLLO mission simulator General Precision's Link Group has built for North American was scheduled to arrive at NASA-Houston yesterday. The 40-ton simulator is designed to familiarize the APOLLO astronauts with the major aspects of their space flights.

RITLAND HONORED BY AIR FORCE

Major General Osmond J. Ritland, awarded the NASA Exceptional Service Medal this week (SPACE Daily, Nov. 30), has been awarded the first Air Force-designed Distinguished Service Medal as he retires from the Air Force by Systems Command Commander General Bernard A. Schriever. The award was in recognition of his "major influence on the nation's military and civilian space programs" and his 29 years of military service as a test pilot, first Commander of the 4925th Test Group (Atomic), commander of the Air Force Ballistic Missile Division, and Systems Command Deputy Commander for Space.

TRW SYSTEMS WINS LA C OF C GOLD SHOVEL AWARD

TRW Systems Group has been named as the 13th recipient of the Los Angeles Chamber of Commerce's Gold Shovel Award for "outstanding contributions to the economy of Southern California." The firm was cited for its capital investment and local expansion plans which "mark the company as a dynamic and progressive force behind the area's continuing prosperity."

US/BRAZIL SIGN ADDITIONAL SOUNDING ROCKET AGREEMENT

NASA and the Comissao Nacional de Atividades Espaciais (CNAE), the Brazilian space agency, have signed an additional agreement providing for a series of 12 **NIKE CAJUN** sounding rocket launchings which will use the acoustic grenade techniques to investigate wind, temperature and other meteorological data between 40 and 100 kilometers altitude. Previous U.S.-Brazilian agreements have called for coordinated launchings to investigate the upper ionosphere, comparative examination of sounding rocket data to study the D and E regions of the ionosphere and the EXMETNET agreement for a series of simultaneous rocket launchings to study the atmosphere of the hemisphere.

LIQUID ZERO G SIMULATOR DEVELOPED

Bell Aerosystems has developed a zero-gravity test package to allow Air Force scientists to explore the behavior of liquid fuel in rocket tanks under conditions of weightlessness. The test package, consisting of a plexiglass propellant tank fitted with a movie camera, lights, a timer, and accelerometers will be flown in a KC-135 or C-131 aircraft flying parabolic trajectories in order to achieve up to 30 seconds of weightlessness. The test package simulator also contains its own electrical power supply, high pressure nitrogen bottle and a receiver to catch the propellant expelled from the test tank.

William W. Swenson has been appointed manager of Bell Aerosystems' Houston office, succeeding Thomas C. Tarbox, who has been named Space Systems product manager in the Marketing Department of Bell's main plant.

BAIFIELD DALLAS OPERATIONS NEAR NORMAL

Fred W. Bailey, chairman of the board of Baifield Industries, reports that operations at Baifield-Dallas are near normal despite a strike by members of the United Automobile Workers. Production of the **SNAKEEYE** air-to-ground missile has not been affected by the strike with shipments of the weapon system continuing without interruption.

The strike, which centers around a demand for a 50-cent-hourly wage increase, involves about 35 per cent of the 550 Baifield-Dallas employees who are members of the UAW. Baifield has offered a total increase of 33 cents per hour to be spread over the duration of its proposed three-year contract. Bailey says that the company will dismiss employees who had not returned to work by yesterday.

AEL NAMES EMTECH OFFICERS

Officers have been named for American Electronic Laboratories' recently acquired Electromagnetic Technology Corp. of Palo Alto, Calif. (SPACE Daily, Nov. 19).

Dr. William A. Edson, who headed the organization before the acquisition, has been retained as president of the new subsidiary. Other officers include: Conrad J. Fowler, AEL chairman and executive vice president, and C. Robert Schaeffer, AEL vice president-finance and secretary, vice presidents; Jesse H. Riebman, AEL treasurer, treasurer; and Frederick D. Lipman, AEL assistant secretary, secretary.

GENERAL DYNAMICS FILES STOCK PLAN

General Dynamics has filed a statement with the Securities and Exchange Commission seeking registration of \$45 million of participations in the GD Hourly Employees Savings and Stock Investment Plan, together with common stock which may be acquired pursuant thereto.

CONTROL DATA FILES STOCK PLANS

Control Data has filed a statement with the Securities and Exchange Commission seeking registration of 643,291 shares of common stock to be offered under the company's Employee Stock Option Plan, Qualified Stock Option Plan, Employee Stock Ownership Plan, and Assumed Employee Stock Options.

MCGIFFERT BECOMES UNDER SECRETARY OF THE ARMY

David E. McGiffert has been sworn in as under secretary of the Army. McGiffert came to the post from the Office of the Secretary of Defense, where he had served as assistant to the Secretary (legislative affairs), since July 1962.

Herbert I. Miller has been appointed to the newly created position of division vice president, defense planning and regional offices, RCA Defense Electronic Products.

MLF DEMONSTRATION WITH RICKETTS ENDS

A year ago yesterday the USS Claude Ricketts, the missile-carrying destroyer with an international crew, officially began its demonstration of the mixed-crew concept as would be used for the proposed NATO MLF (MultiLateral nuclear Force). The demonstration was officially concluded yesterday in ceremonies at Norfolk (Va.), the Ricketts's home port, where Navy Secretary Paul Nitze commended the ship's captain, Commander Thomas Fortson, and his crew for their "exceptionally meritorious service" in the demonstration. He said the concept's feasibility had been clearly confirmed.

During the demonstration the Ricketts was manned by 355 sailors, 184 of whom were Americans with the rest from Britain, West Germany, Italy, Greece, and the Netherlands. Turkey was to have contributed 11 men but, after deciding to refrain from participation in the MLF project (SPACE Daily, Jan. 15), withdrew those men from the crew just before the Ricketts departed on its major voyage (SPACE Daily, Feb. 16). Later, Britain expressed reservations (SPACE Daily, Mar. 1) but did not remove its crew members.

NASA INCREASES PRODUCTION OF ROCKET ALLOY

NASA has ordered increased production of a new hafnium/tantalum alloy, which will be used to provide oxidation protection for components of small, liquid engines, from Fansteel Metallurgical of Chicago.

The alloy was developed under NASA contract by ITT Research Institute. NASA has begun a scale-up program with Fansteel to create an industrial capability to produce the alloy for rocket engine application. The alloy has been tested in liquid-fuel rocket engines. An 80 hafnium-20 tantalum alloy has been extensively investigated, and has provided effective protection for tantalum alloys at temperatures near 4000 degrees F. The new alloy is emplaced by mechanical means (cladding).

Investigation of the clad rocket engine materials and fabrication at IITRI and Fansteel is under the direction of Frank Compitello of NASA's Office of Advanced Research and Technology and Richard Cannova of NASA's Jet Propulsion Laboratory. In addition to use on such liquid engine components as nozzle and throat inserts, the new alloy is being investigated for application for space vehicle leading edges and turbine engine components.

FR-1 DECEMBER 6 LAUNCH CONFIRMED

NASA has confirmed the December 6 launch date (SPACE Daily, Nov. 30) for the French **FR-1** satellite aboard a **SCOUT** vehicle from Wallops Island.

Launched into a nearly polar circular 490-mile orbit with an inclination of 76 degrees and a period of one hour and 40 minutes, the 135-pound satellite will study the very low frequency radio wave propagation in various regions of the ionosphere and magnetosphere and measure electron densities.

A result of a Franco-American agreement of 1963, the two-phase program included the launching of four sounding rockets from Wallops in 1963 and 1965. Phase II of the program will be the launching of the **FR-1**.

DOD NEGOTIATIONS

Radiation Inc.--with Army Electronics Command for research work in the field of satellite communications.

NASA NEGOTIATIONS

Avco Corp., Avco-Everett Research Laboratories--with Marshall for a study of plasma radiation shielding.

Bell Aerosystems Co.--with Edwards for services in support of the Lunar Landing Research Vehicle.

Fairchild Hiller Corp.--with Marshall for analysis of **PEGASUS** flight data.

The Boeing Co.--with Michoud for facilities and equipment required in the performance of manufacturing assembly and testing the **S-IC** stage of the **SATURN V** vehicle.

Airborne Instruments Laboratory, Melville, Long Island, N.Y.--with Goddard for three parametric amplifiers for Applications Technology ground terminals.

Whittaker Corp., NARMCO Research and Development Division--with Western Operations Office for a survey study of fibrous reinforcements for space applications.

The Boeing Co., Aerospace Division--with Ames for a thermal protection system study.

IIT Research Institute--with Ames for a study of celestial inertial navigation for low thrust space flight.

General Applied Science Laboratories--with Marshall for an analytical investigation of plume afterburning.

General Dynamics/Convair--with Marshall for nine months of research and development on assessment of slosh coupling with space vehicle systems.

Lockheed Aircraft Corp., Lockheed Missiles and Space Co.--with Lewis for a study of dynamic characteristics of **NIMBUS** in an **AGENA D** guidance and control design review.

Canoga Electronics Corp., Canoga Park, Calif.--with Goddard for automatic tracking and telemetry systems.

DOD CONTRACTS**Army**

Radio Corporation of America, Aerospace Systems Division--\$1.5 million for the MTE program.

MORE

DOD CONTRACTS - Contd.

Army - Contd.

Hughes Aircraft Co.--\$12.7 million for research and development on the **TOW** (Tube-Launched Optically-Tracked Wire-Guided) missile system.

Belock Instrument Corp.--\$1.3 million for depot maintenance equipment for the **HAWK** missile.

Sylvania Electric Products, Electronics Defense Laboratories--\$59,104 for research work for nine months for Project **DEFENDER** with technical reports.

Black and Veatch, Kansas City, Mo.--\$260,000 for design of outfitting high bay number 2, Vehicle Assembly Building, LC-39, at NASA-Kennedy.

United States Testing Co., Hoboken, N.J.--\$71,990 for inspection certification service, NASA-Kennedy and Cape Kennedy Air Force Station, Fla.

Philco Corp., Aeronutronic Division--\$172,529 for additional research and development on range safety.

Perkin-Elmer Corp., Electro-Optical Division--\$102,340 for installation and operation of Project **GLOW** equipment.

Navy

Douglas Aircraft Co., Missile and Space Systems Division--\$60,000 for missile heating study.

Air Force

Northrop Corp., Norair Division--\$1.8 million for installation, operation and maintenance of the **BOMARC** missile training facility at Vandenberg Air Force Base, Calif.

Aerojet-General Corp., Von Karmen Center--\$72,666 for synthesis of new liquid oxidizers.

NASA CONTRACTS

Washington

Exotech Inc., Alexandria, Va.--\$24,456 for study of analytical techniques in dry-heat sterilization of planetary spacecraft.

Planning Research Corp., Los Angeles, Calif.--\$20,162 for increased effort in the study of the Geodetic Satellite.