MARTIN MARIETTA
news
DENVER DIVISION

NUMBER 14/1974

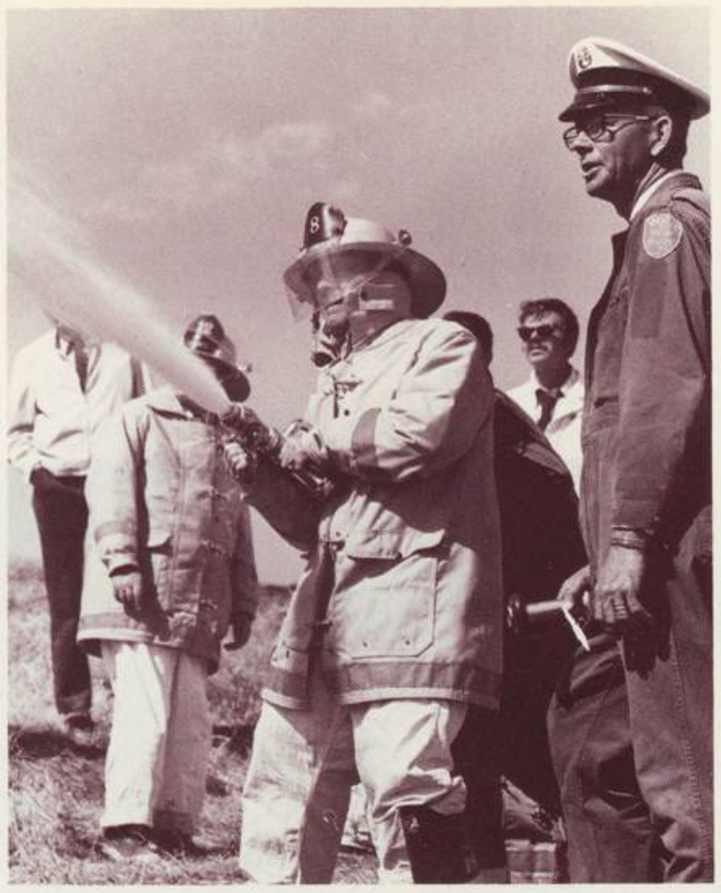
Division Fire Brigade members are trained in emergency procedures

A series of training classes was recently completed to train members of the Denver division's auxiliary fire brigade.

Basic purpose of the fire brigade is to serve as backup to the full-time emergency fire crews and to assist them whenever possible.

Fire Brigade Chief Harry E. Bull explained that the training sessions involved approximately eight hours per man. A total of 220 men representing 83 division departments serve on the brigade.

The training sessions included instruction in the operation of all division fire fighting equipment and procedures and methods used to deal with emergencies.



Proper use of emergency equipment by a Fire Brigade student is being observed by division fire department Lt. William Emerson (right).

Two contracts call for spacecraft subsystem, orbital assembly wor

The division has been awarded two small contracts in the past weeks, one to build a spacecraft subsystem, the other to conduct a study for orbital assembly.

The first was awarded by the Jet Propulsion Laboratory to design and build an electronic component to be used in the attitude control system of the Mariner Jupiter/Saturn '77 spacecraft. The system is called Hybic for Hybrid Buffer and Interface Circuits of Attitude and Articulation Control.

The contract calls for production of the Hybic prototype, a proof test model, four flight subassemblies and the necessary bench test equipment.

The second contract is for a study of orbital assembly and maintenance of structures in geosynchronous orbit during the era following the introduction of the Space Shuttle.

It will involve various aspects of orbital assembly of spacecraft that cannot be put into operation with one launch.

This study is being performed for the NASA Johnson Space Center in Houston.

Vital signs monitor is developed

Remote medical monitoring techniques, designed for manned space flight, have led to development of a portable device able to continuously monitor vital signs of patients in small hospitals, nursing homes, or rehabilitation centers.

The four-pound device is designed to operate from existing patient call systems and conventional electrical outlets. It makes available, at moderate cost, the continuous patient monitoring techniques previously found only in intensive care units of large hospitals.

In operation, three electrodes are placed on the patient's chest. These monitor his EKG (electrocardiogram) and respiration rate. A loss or sudden change in the EKG signal or changes in the normal respiratory cycle automatically switches on an alarm light on the unit and activates a signal at the central call station to alert medical attendants.

The Vitasign Attendant Monitor will be particularly useful in monitoring patients with cardiac diseases, muscular dystrophy, cerebral palsy, tuberculosis, emphysema, and cystic fibrosis.

Initial development work on the monitor was carried out by the NASA biomedical application team at the Southwest Research Institute, San Antonio, Tex.

Members of the Quarter Century Pioneers Club of Martin Marietta's Canaveral Flight Operation attended a luncheon in their honor recently at Cocoa Beach, Fla. The club is composed of employees who have been with the company 25 years or longer. They boast a membership of 25, 17 of whom have 35 years or more service. Many of the members worked in Baltimore for the company, and their experience spans the aircraft/aerospace industry from the Army's B-10 and the great Flying Clipper boats to the present Titan III Launch Vehicle. Total combined employment of the Quarter Century Pioneers Club represents 796 years. Included in the group is O. E. Tibbs, former vice president and general manager of Canaveral operations (second from left, second row). Pictured are, from left (front row): F. L. Boxler, L. L. Cuppett, S. A. Androsko, J. E. Kaminski, J. R. Konarski and J. G. Krall. (Second row): J. M. Peters, O. E. Tibbs (retired), V. L. Tatzin (retired), J. E. Hooker Sr., D. A. Roxby, L. Vittor, and E. J. Janda. (Back row): H. A. Wilmer, C. M. Holly, J. W. Webster, H. R. McConahy, N. E. Penn Jr., and R. E. Crouse. Members not present: H. J. Groncki, A. W. Hoeness, L. L. Karner, E. Krouse, K. W. Traut, and W. Quisenberry (retired).

Authors should enter articles for recognition

Authors of articles that were published in 1974 are encouraged to submit them for consideration in the Denver division's annual awards program to recognize meritorious publications.

Articles that have appeared in professional, technical and trade periodicals, proceedings, and books are eligible for judging.

Authors who anticipate publication of articles before the end of the year may also submit them for consideration. Though deadline for publication is December 31, 1974, entries should be submitted as early as possible. Deadline for entry acceptance is January 31, 1975.

Submission can be secured from the professional development department, extension 3013. Completed entries are to be submitted in accordance with instructions to professional development, mail code 6340.

Offices are relocated

Martin Marietta Corporation's executive offices and other offices formerly situated in New York City have been relocated to Montgomery County, Maryland.

Division employees Shadine Manzer (left), Tom Blejwas (second from left), and Tom Edquist (right) check with research librarian Donna Bowland on some of the many services available.

New computer search capability is added to services offered by library

A window for viewing the accumulated knowledge of man since the beginning of time is provided division employees by the research library on the second floor of the engineering building.

Specializing in information dealing with aerospace technology, the library collection includes 17,000 books, 55,000 technical reports, and subscriptions to more than 450 periodicals. It also has an extensive collection of National Aeronautics and Space Administration (NASA) formal reports.

The newest service offered by the library was activated in April. It makes available billions of additional bits of information through a computer retrieval system called Dialog. Its value to the researcher is comparable to the same assistance the microscope provides the biologist.

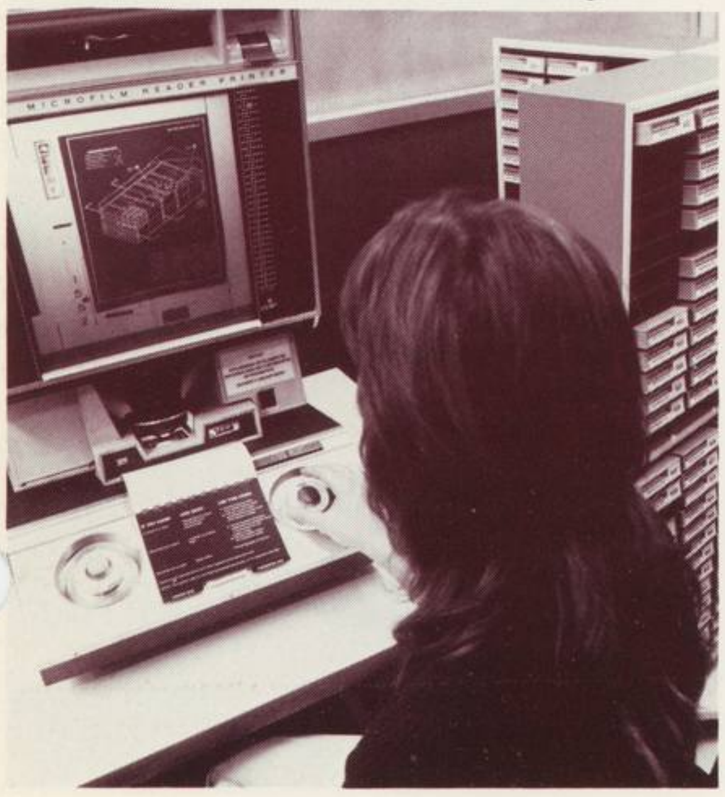
With Dialog, the searcher uses a keyboard similar to most typewriters, a teletype terminal, and a printer. The subject matter desired is typed in, then sent to the computer for processing. The computer stores this information in a working file. The searcher next reviews this file by teletype for items pertinent to his query. The final product is a bibliography with abstracts showing all available information on a subject.

More than 1700 regular borrowers use the library during a given month to check out more than 1000 books, technical reports, and periodicals. This is exclusive of military publications checked out.

Other services include reproduction of articles from the journals on its shelves, ordering publications needed by individuals or departments, providing reference services and conducting literature searches.

The library and its staff is in support services under Jay R. McKee, division chief of libraries.

The carousel of microfilm cartridges behind library employee Gayl Gray contains filmed information which, if in the form of books and documents, would take up many rows of conventional library shelves for storage.



Nuggets Tickets Available

Professional basketball season tickets to home games, offered to employees at special discount prices by the Denver Nuggets, are available through the division recreation department.

Richard E. Weber, director, Professional and Industrial Relations, said a 20% discount is possible provided 20 or more employees purchase tickets.

Division joins 12 other companies in helping minority businessmen

The Denver division and 12 Colorado firms have banded together to ensure minority businessmen the opportunity to obtain new markets.

Their efforts will culminate with start of a business opportunity fair and exposition, Minority Enterprise '74, being held at the Denver Merchandise Mart, October 25-26.

Minority Enterprise '74 will bring together minority businessmen having products and services to sell and representatives of large and small established companies who need to buy such products and services.

John F. Koshak, chief, procurements administration, said that approximately 180 minority businesses are expected to visit some 75 major buying businesses exhibiting at the two-day fair.

The Denver division booth will be manned by Koshak and six other representatives. They include Vito R. Larison, chief, facilities procurements; Philip C. Shuey, chief, commodity procurements; L. George Scheirman, contracts administration; A. W. Mackay, contracts administration; Thomas W. Johancen, maintenance; and Elmer Alexus, facilities.

Companies acting as financial guarantors of the fair along with the Denver division include, Adolph Coors, Eastman Kodak, Dow Chemical, Gates Rubber, Great Western Sugar, Hewlett-Packard, Honeywell Test Instruments division, Mountain Bell, Public Service, Samsonite Corporation, Sunstrand Corporation, and Western Electric.

A $30,000 check representing the corporate gift from Martin Marietta Aerospace is accepted for the United Way's 1974 fund drive by Roger Ringler (right). Presenting the check for the Denver division is Richard E. Weber, director, Professional and Industrial Relations. Ringler, regional vice president for Continental Airlines, is industrial division chairman for the 1974 United Way Campaign.

Exhaustive test series completed to qualify Viking landers for Mars trip

For the past month in a special building here in the Denver division, the sun rose and set every 24½ hours, the temperatures varied from -180°F at night to 60°F in the daytime, and the atmosphere was only 1/200th as dense as in your living room. And, the 250 scientists and engineers working there had their clocks set to Martian time.

It was all part of a series of tests just completed to qualify the Viking lander, most elaborate spacecraft being built and tested here for the National Aeronautics and Space Administration.

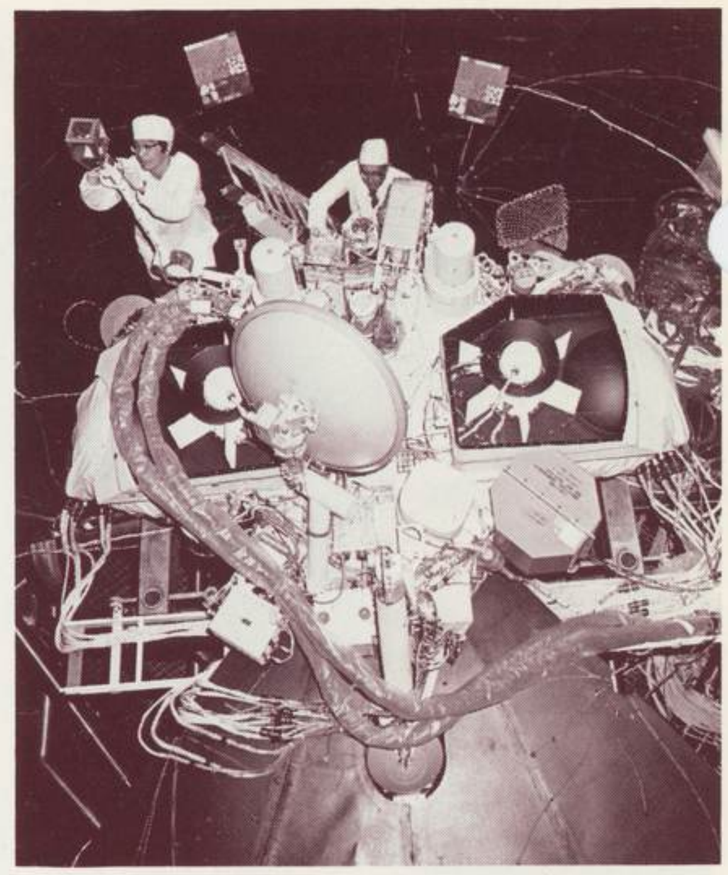
The tests were conducted on a proof test spacecraft in the division's five story space simulation vacuum chamber. The tests were designed to assure NASA that the 1200-pound lander can perform its many scientific experiments during the craft's planned 90-day stay on Mars.

The exact atmospheric and surface conditions expected on Mars were simulated in testing the lander's stereo cameras, weather station, automated soil analysis laboratory, seismometer, and surface soil distribution mechanism.

Boxes of soil similar to that expected near the landing site on Mars were arranged in front of the test lander where its 11-foot boom could scoop it inside the craft for analysis. On Mars, the soil will be analyzed for organic and inorganic materials and for living organisms. Other tests included:

- Operating the two spacecraft cameras throughout the tests recording more than 100 black and white, color, stereo, and infrared photographs, the same as it will do on Mars.
- Testing wind velocities with carbon dioxide blowing past the meteorology instrument, the same as winds on the planet Mars.
- Operating the seismometer, which recorded movement so slight that footsteps of those working outside the chamber were recorded.
- Operating the automated soil analysis laboratory (an x-ray fluorescence spectrometer), which correctly identified a wide range of secretly mixed, unknown soil materials that had been placed on the surface of the test chamber surface.

Throughout the tests, the spacecraft was rotated from side to side on a large platform to simulate movement of the sun over the lander. The sun's radiation was simulated by reflecting eight xenon lamps into a giant reflecting mirror, mounted inside the chamber.



Testing procedures carried out recently on the Viking landers are underway above. The qualifications tests were required before transferring the landers to Cape Canaveral. The two Viking landers are scheduled to leave for Cape Canaveral late this year, the first leg of their 440-million mile journey to Mars.

The two Viking landers being built by the division are nearing completion in the high-bay clean room in the space support building. In less than two months they will be encapsulated for final tests before shipment to Cape Canaveral.

Employees are invited to view the landers. Go to the third floor of SSB, where signs will direct you to the clean room viewing area. Display boards in the viewing area will explain the program.

On the cover --

A halo of cool moisture dramatically highlights a fire brigade member as he moves in to quench a training fire. Training of the auxiliary fire brigade is under Harry C. Bull, with overall supervision by R. B. Morgan, manager, Personnel Safety and Security.

Executive Management Profiles

[Thirteenth in a series of sketches of the division executive management.—Ed.]

Any new business for the Denver division sets into motion an intense contract management effort which ends only after final delivery has taken place.

Heading this complex effort is Mark J. Lecker, director, Contracts, whose 172-man department is responsible for proper conduct of all contractual phases of any job. These jobs include: launch vehicles, Viking, Michoud operations, all new program development work, and the numerous research and development contracts in process.

Mark J. Lecker

Contractual activity starts with any division response to a request for proposal (RFP). That activity, Lecker explains, is similar whether it is for a $5000 study or a $500 million program such as Viking. The degree of complexity and intensity is the basic difference.

The complex task of administering division contracts calls for assigning a manager to each major contract along with the necessary specialists to perform the contracts function. Backing each of these units is a central group of experts under Lecker to supervise and coordinate their activities.

Another significant element of the contracts organization is the contracts requirement and data section. Its function is to prepare contrac specifications and plans and then to keep all technical matters relative to contracts up-to-date and to maintain the configuration status of all hardware. Once the contract moves into operation, the section works with the various departments to ensure meeting contractual requirements. This group also processes all data required.

Lecker was born June 19, 1923, at St. Mary's, Pa. He joined Martin Marietta's quality control department in 1942, and transferred to Engineering in 1945. He received a liberal arts degree from the University of Baltimore in 1951, followed by a J.D. (Law) degree in 1953.

Lecker was transferred to Denver in January 1962, assuming responsibilities for the Titan III program contracts activity, and was named director of Contracts in May 1968.

An avid fisherman and hunter, Lecker is also active in skiing and golf. He and his wife, Dorothy, reside at 6403 South Sycamore Street, Littleton. They have two daughters.

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