

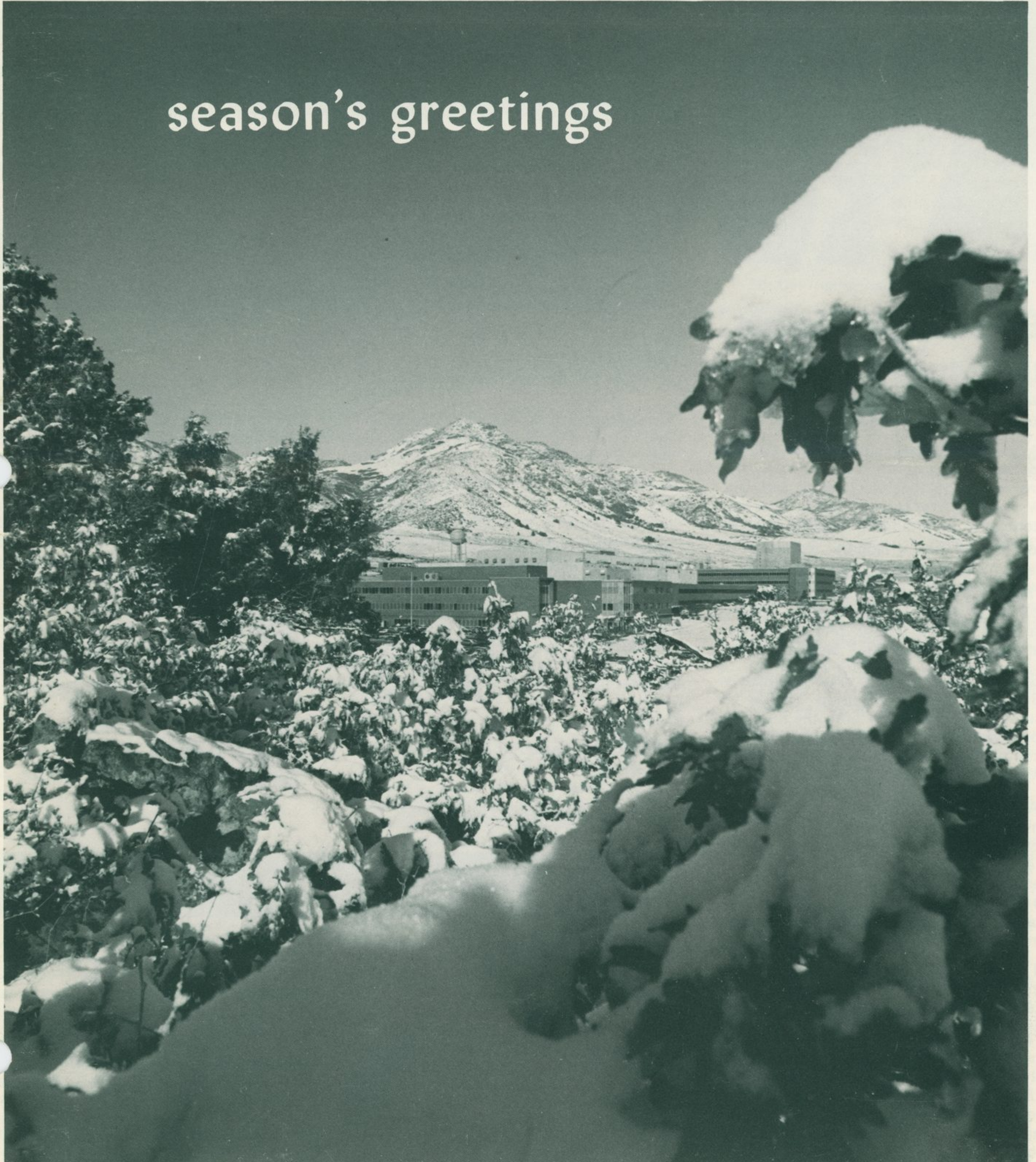
MARTIN MARIETTA

news

DENVER DIVISION

NUMBER 16/1974

season's greetings



Adams cites '74 as pivotal year; opportunities ".... both at hand and on horizon encouraging"



L. J. Adams

Services marketed to industry by Quality department

A major accomplishment of the Quality department during 1974 was the marketing of their services to industry without interfering with existing contracts, according to Quality director G. W. McGee.

"This concept offers the use of our facilities and experienced personnel currently assigned to the supplier quality sections, system safety, and metrology, and quality laboratories," McGee said.

Sales in this area went to approximately 36 new customers during 1974. "A substantial increase in both the numbers of customers and total dollar value of the contracts is anticipated during 1975," McGee added.

Also during 1974, Quality established a monthly director's meeting in which all division safety problems or conditions are reviewed. Directive actions are delineated and follow-up actions are controlled to ensure compliance to all safety requirements in both the system and industrial fields.

This action greatly improved interdepartmental communications and safety conditions throughout the year, McGee added.

In 1975, Quality will continue to provide the support necessary to ensure success of the Kennedy Space Center activities related to Viking and delivery of supplier hardware through scheduled launch of the Viking spacecraft.

To Fellow Employees:

As we close the books on 1974, it is with a note of optimism: 1974 was a pivotal year and the opportunities, both at hand and on the horizon, are encouraging.

The successful conclusion of Skylab is one of the division's historical highlights, and has certainly brightened our already long list of credentials.

Our Titan III's continued to fly flawlessly, with the 66th consecutive successful launch on December 10.

Viking, our biggest challenge, has essentially completed its development and test programs, and we are ready to deliver the spacecraft to the Cape beginning next month—right on time.

The Space Shuttle external fuel tank project in New Orleans is well underway and we have brought the contract negotiations to a satisfactory conclusion.

In spite of our successes, 1974 has been a year of difficulty and disappointments. The end of Skylab and the conclusion of Viking development has brought about a substantial reduction in our work force. Simultaneously, we were unsuccessful in our bids for two key programs.

However, we should look to 1975 optimistically. Titan is still our backbone: we have 35 vehicles at launch sites and on order, and are negotiating for 11, possibly 13 more, to carry us through 1979. We have won key design study contracts on the Large Space Telescope, the interim upper stage for Space Shuttle, and the Shuttle ground systems definition for the Department of Defense.

And most importantly, we look to the first critical phase of the Viking operational program, the launch of two spacecraft in August and September, with confidence in the total integrity of the system.

We recognize the decreasing public support for NASA's space programs. Accordingly, we have established ourselves as a contender for future large contract awards from DOD on classified projects to supplement our NASA programs. We have acquired a number of component design and build contracts from a variety of customers—both government and industry. Our prospects of continuing success in this area are excellent. Also during the coming year, we should see the end of the work force reductions which began in 1972.

As 1974 closes, I feel we are changing. The changing market and a change in our business posture has required changes in our structure. These we have made and we will continue to make as our operating environment changes. I believe that the abilities of our people and our facilities are second to none in the nation. Therefore, with the active support of the great bank of talent represented by you, I am confident of our future success.

Season's Greetings

L. J. Adams
Vice President & General Manager

Denver division chosen for LST role

Martin Marietta Aerospace is one of three companies selected by NASA to perform the preliminary design of a major element of the Large Space Telescope.

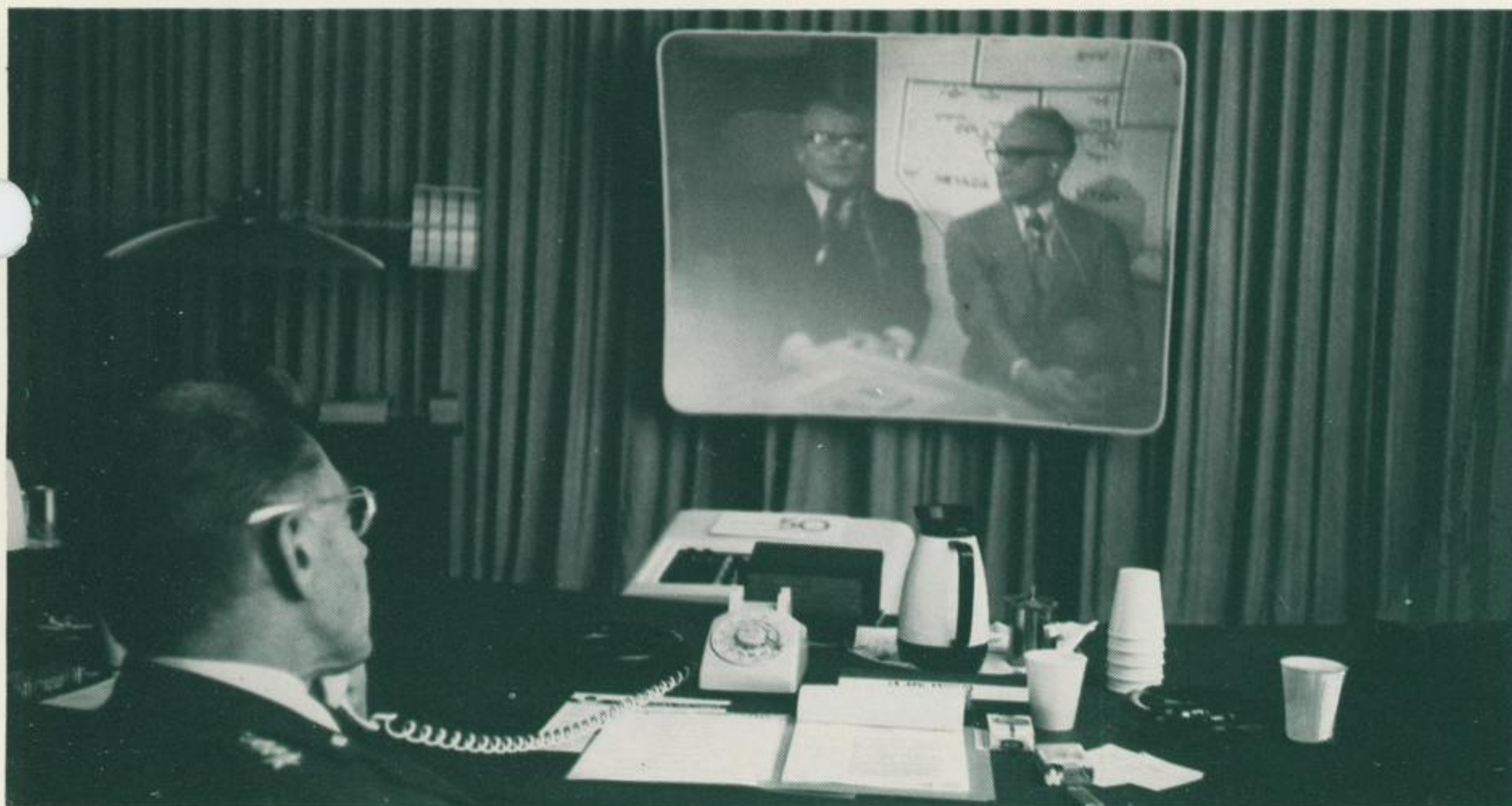
Martin Marietta, The Boeing Company, and Lockheed Aircraft Corporation are performing parallel 15-month design studies. Work on the Martin Marietta study will be at the Denver division.

The LST is the most prominent and largest payload yet assigned by NASA to

the Space Shuttle. Following the studies, NASA will select the optimum approach and conduct an industry-wide competition to select a company to perform the final design and build the flight module.

A 50-man team of engineers and scientists has already started work under Kenneth P. Timmons, project director.

The element is called the Support System Module (SSM).



Division Vice President and General Manager Laurence J. Adams (right) and Dr. Wernher von Braun (left on screen) are seen via satellite broadcast by Lt. Gen. Kenneth W. Schultz, foreground. He is commander of the U.S. Air Force Space and Missile Systems Organization. Adams and Dr. von Braun, vice

president/engineering and development for Fairchild Industries, took part in the telecast from Denver via NASA's ATS-6 satellite to demonstrate the satellite's capabilities to SAMSOC. Built by Fairchild, the satellite is used to beam educational programs and medical information to remote regions of the world.

Department heads review 1974; strong challenge next year

Cost management is Finance goal in 1975

Greater emphasis on cost management, and development of a more advanced and effective estimating technology, are two of the basic goals of finance and planning for 1975, according to Silas B. Fisher, division controller.

"The department is already working on development of uniform and effective cost management and planning systems that will provide total performance management systems for both small and large programs," Fisher explained.

In addition, development of an advanced estimating technology will be started by implementing remote units that are programmed with the MCPS, and the establishment of a new, permanent full-time group to acquire a data base for Martin Marietta Aerospace.

Some of the major accomplishments in 1974 in finance included:

- Successful conclusion of the financial management function for the Skylab program contract, at less than 1% variance from the target cost;
- Establishment of an in-house training program for an MBA degree in Business Administration from Colorado State University;
- Planning and control personnel monitored more than 12,000 major scheduled milestones on large and small hardware and software

programs in the Denver division. Their efforts contributed significantly to the division's overall performance record of 88% on-time completion.

Progress dramatic on Viking project in 1974

Dramatic progress on the Viking project during 1974 has nearly brought to completion more than 7½ years of work to build two flight spacecraft that will explore the surface of Mars in 1976.

Most significant activities on Viking during the past year have been:

- Assembly by division personnel of two flight Landers, beginning with little more than two basic structures last January;
- Successful completion of a thorough science instrument test program;
- Preparations for the mission operations effort, which includes taking more than 200 division personnel to the Jet Propulsion Laboratory (JPL) to fly the mission;
- Support of our major program subcontractors involved sending support teams into the field to all parts of the country;
- An exhaustive two-month series of tests on the proof test capsule to prove the spacecraft's ability to withstand the 440-million mile journey and the intricate Mars landing sequence.

Following tests that are underway this month, the landers will be shipped to Cape Canaveral early next year to be prepared for launches in August and September. Much work for division personnel remains at Cape Canaveral preparing for the launch, and at JPL. Division personnel have already begun the migration to Cape Canaveral.

Once at the Cape, the two spacecraft will undergo additional tests, and more science hardware will be installed. The spacecraft will be completely sterilized and mated to the JPL Orbiter before installation atop the Titan IIIE.

Materiel department records strong gains

Steps to mechanize the materiel system, a new budget control measure, and consolidating procurements of common requirements were major 1974 accomplishments in Materiel.

Director D. A. Linn said 1975 departmental goals include a major feasibility study for materiel systems in conjunction with the Denver Data Center and the Orlando division. And, to the extent authorized, a computerized materiel/procurement system will be implemented to speed up processing of requirements and minimize net costs for placing and administering procurements.

In conjunction with implemented and continuing procurement methods, controls, and improvements, Linn explained that 1975 procurement activities will be accomplished at the lowest cost possible, and continued improvements will be sought to increase on-time delivery.

Materiel accomplishments in 1974 include:

- A system to consolidate procurements of common requirements among Martin Marietta Aerospace divisions was formulated and four interdivisional subcontracts were negotiated. Additional subcontracts will be negotiated in the future. The net result of this activity has been reduced commodity costs to all divisions and substantial savings in administration costs;
- In conjunction with Denver Data Center and the Orlando division, a feasibility study to develop an improved mechanized materiel system was initiated. A survey of other aerospace companies provided ideas for system improvements that are being implemented;
- A system for target pricing purchase requisitions, before procurement action, was put into operation as a budget control measure.

Park facilities given strong attention in '74

"Greatly improved recreational park facilities for employees was one of the 1974 accomplishments of Facilities and Services," said J. Lee Burris, director.

Major goals set for the department in 1975 include installation of a new demineralized water system for the division, and attempts to slow the increasing cost of cafeteria food.

A significant accomplishment for 1974 was the completion and equipping of the Physical Fitness Building at the employees' recreational park. New equipment included exercising machines, related items used by employees, and a building in which employees can change clothes.

A covered picnic pavilion with picnic benches, barbecues, etc., was also completed during 1974 for employee use.

A major goal of the department is to reduce energy consumption by the division thereby lowering operating and maintenance costs, Burris explained.

Alteration of facility operating procedures in 1974 affecting heating fuels, electricity, gasoline, water, and paper resulted in a saving of approximately \$185,000 during the year. Anticipated new procedures in 1975 will push the annual savings over the \$200,000 mark, Burris said.

ER&T team completes year in record fashion

Records were set in new business proposals submitted and new business obtained during 1974 by the division's research & technology programs team.

Looking forward, R&TP director, Raymond S. Wiltshire, explained that emphasis in 1975 will be to maintain a high level of R&TP contracts in technologies which are key to achieving division goals.

"These include software system development, structures and materials, data systems, hybrid microelectronics, manned space systems, aerothermodynamics, lasers, and propulsion," Wiltshire said. And, to meet the 1975 business challenge, emphasis areas have been established within R&TP that specifically support division efforts to obtain increased business from the Department of Defense.

These areas would include electronic systems and payload sensors.

In-house tasks in those areas have been defined, and the necessary scientists and engineering personnel have been assigned

to pursue those projects as well as opportunities within DOD and NASA.

Key to success of the electronic systems effort is the electromagnetic environment simulation capability of the R&TP electronics department. "Our science instrument experience gained with Viking and Skylab programs will support the payload sensor area," Wiltshire explained.

In 1974, the R&TP team obtained a one-a-day proposal flow rate (44% higher than the two previous years), while achieving a higher win/loss ratio.

The original sales goal for 1974 was almost double the total dollar sales achieved by R&TP in 1973. Despite this, that goal was surpassed in the first three months of the year. Total R&TP sales by mid-December had already assured the department a record breaking year.

Shuttle tank work was major Michoud feat

Late in 1979, a new and unusual shaped craft called the Space Shuttle will begin flying men and equipment into space and returning to land at special U.S. airfields.

Work on the external fuel tank for this vehicle was the major 1974 accomplishment at the division's Michoud Operations in New Orleans.

After winning the \$171 million contract in 1973 to design and build the tanks, 290 engineers and managers from the Denver division were transferred to Michoud to begin work. And 438 machinists, technicians, and administrative personnel were added in 1974 as program momentum increased.

"Modernizing the facility came first," according to George E. Smith, Martin Marietta vice president and Michoud Operations director.

"This year has been devoted to redesign and construction to accommodate the many unique requirements of building the Shuttle tanks," Smith said. "We began the fabrication of the required special tooling, completed the preliminary design of the external tank, and were able to verify the design with some small scale-model testing.

"In 1975, we will finish the work of getting ready. Then early in 1976, construction of the first tanks will begin. They must be ready for the first test flight in 1977," Smith added. "Initially, Martin Marietta will build nine tanks for the flight test program."

The task of getting ready will see the completion of construction and tool fabrication and the procurement of special components, valves, and other materials. The final design of the fuel tank is scheduled to be approved by NASA in May.

Contracts department cites nine big projects

Outstanding accomplishments of the contracts and division counsel in 1974 included nine projects particularly significant to division longevity and continued growth.

Director Mark J. Lecker said that "Our foremost goal in 1975 is to build on the exceptional record of performance achieved in 1974," Lecker said. And, emphasis will be on gaining better and closer understanding of how the DOD and NASA will plan their acquisitions of future systems.

Five of the nine outstanding accomplishments during 1974 were:

- Developing a divisional policy to recognize and handle economic price fluctuation to protect the Corporation against undue risks from unusual and unforeseeable inflation;
- Developing and implementing a streamlined, low-cost configuration management system that will accommodate small R&D-type programs without degrading either control or management visibility;
- Consummating an agreement with NASA/LRC to restructure the Viking contract to provide NASA and the division with a better definition of the work to be done;
- Establishing support services and foreign contract sales contracts in the R&D product area to enlarge the division's sales market;
- Establishing the contracts organization at Michoud Operations and definitizing the contract to the satisfaction of NASA and the division.

All employees should check W-4 claims

The Internal Revenue Service reminds employees to make sure they are claiming the correct number of withholding allowances on their W-4 forms.

Each employee is required to file a new Form W-4 within 10 days if the number of allowances he is entitled to decreases.

Situations that could change the number of withholding allowances claimed include: marital status change, death or birth of a dependent, end of support for a dependent, reaching 65, going blind, a change in eligibility for additional withholding allowance changes.

Employees needing to change their W-4 forms should contact their departmental secretary for instructions.



Information and details concerning their upcoming transfer from the Denver division to the Kennedy Space Center were recently given 262 employees and their wives. They will make up the group being transferred to Florida as

part of the Martin Marietta Aerospace launch and support team for the Viking mission. The off-site briefings, conducted during three evening sessions, included talks by school and Florida Chamber of Commerce officials.

Executive Management Profiles

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

A scholarly air, coupled with a conviction that people will invariably "... make it happen," is part of the basic makeup of Silas B. Fisher, division controller and Director of Finance.

Fisher directs and controls the division's Finance department which is divided into four basic areas. Three of those areas comprise what Fisher terms his central finance core.

This central core makes up the accounting and treasury function, which accounts for and reports on the proper conduct of division business.

The second area, estimating, deals almost exclusively with the division's continuing efforts to win new business. The third, overhead and manpower control, measures and monitors the division's overhead investment, critical to successful division performance.

A fourth basic responsibility is financial management of the product areas, where a financial manager is assigned to monitor and control all aspects of the projects.

The foremost responsibility of Fisher's department is to protect and enhance the profitability of the Corporation—ensuring that maximum return is realized on division investments. "And here the employee makes the difference," Fisher



Silas B. Fisher

said. "His interest, desire, and dedication will ensure success, and given the proper objectives and training, he will make it happen."

The finance director's general professorial appearance is enhanced by the intensesness with which he addresses each subject he discusses. And, there is only a slight relaxation when discussing his personal interests.

In his spare time, Fisher enjoys doing anything he has never done before. "A new experience is an exciting thing," he feels. Another, is his interest and skill in detecting and exploring the sense of humor in other people. "Each person has his own particular brand of humor which, when discovered and understood, helps round out his full personality," Fisher claims.

Fisher holds an A.B. degree in Industrial Management from the University of Kentucky where he was graduated in 1950. Additional academic training came at the Salmon P. Chase College (1953-54) and at the University of Louisville in Kentucky (1951-52) where he completed training in accounting.

After schooling, Fisher joined General Electric for nine years. He then joined the Orlando division where he served 10 years, leaving to join Fairchild Industries as a business manager from 1968-1972.

He returned to Martin Marietta in 1972 as manager of central finance at the Denver division. He was named to his present position in early 1974.

Fisher and his wife, Jane, have three children, two boys and a girl. The family resides in Littleton at 6673 South Sycamore Street.

Wide based range of new business obtained in 1974

Marketing-new products team activities in 1974 were highly successful in obtaining a wide range of new business for the division, according to Howard F. Keyser, New Business Planning and Support vice president.

Major feats include:

- Selection of the division as one of three winners of the Phase B study for the Large Space Telescope;
- A contract to build a high-performance planetary radio receiver to be used on the Mariner Jupiter/Saturn mission scheduled to be launched in 1977;
- Obtaining recognition of Transtage as a leading contender for the Space Shuttle interim upper stage (IUS);
- Winning of numerous division contracts and studies related to the Space Shuttle program;

Keyser emphasized that, "...our successes in 1974 were due entirely to the total team effort, and the dedication exhibited by all division departments. This same cooperative effort and expertise will put us in prime position to attain the goals we have set for 1975."

Some of these include:

- Increased emphasis and efforts to obtain new business from the Department of the Defense sector while maintaining and improving the present level of work being performed for NASA and other major customers;
- Continued efforts to have Transtage selected as a finalist in the Space Shuttle IUS competition;
- Maintain Titan III as the primary expendable launch vehicle system for DOD programs;
- Increase Titan III use and capabilities for NASA programs.

Keyser explained that during the coming year, as in the past, the division's marketing-new products team will continue its all-out efforts to provide the division with a broad-based business acquisition record.

On the cover --

A winter wonderland is the setting for the final issue of the year of the *Martin Marietta News*. In it, the snows of winter blend with the contemporary beauty of division buildings* as 1974 draws to a close.

Major launches in '74 by Titan IIIE/Centaur

Major launches by Titan launch vehicles highlighted launch vehicles project accomplishments during 1974.

According to C. E. Carnahan, vice president of Launch Vehicles, some of these included:

- Launch of the first Titan/Centaur vehicle on February 11, from Cape Canaveral. This was the first Titan launch using the Centaur upper stage and the 14-foot diameter fairing.
- On May 30, a Titan IIIC launched the ATS-F (now ATS-6) Experimental Communications Satellite, placing it in near-perfect orbit at a synchronous altitude of 19,316 nautical miles;
- The successful launch of the second Titan IIIE/Centaur on December 10, placed the Helios A satellite in orbit around the sun. This launch was an international cooperative project between the United States and West Germany. The Helios spacecraft was developed and built in West Germany.

Other major 1974 accomplishments for launch vehicles included winning and completing the DOD/STS Ground Operations Study.

Carnahan voiced high hopes for 1975.

"We expect to enter the validation phase for Transtage as the interim upper stage," he said. "Having completed the conceptual phase, we hope to start preliminary design and testing of the Transtage IUS, which will lead to full scale development in 1976.

"Also, we are optimistic about the outcome of the proposal recently submitted to SAMSO for the DOD/STS Ground Support System Definition Program," which is a 13-month follow-on contract.

54 million readers get division news reports

News stories and magazine articles reporting division activities during 1974 reached an estimated 54 million readers worldwide and millions more via radio and television coverage.

This is but one measure of the activities in the division's public relations program described by John H. Boyd Jr., public relations director.

"We enjoy a very solid reputation with the community, its business leaders, and the news media, both locally and nationally. This is not an accident. It comes from years of candor, and thoughtful activities."

Highlights of 1974 include:

- 85,000 students in 107 high schools in the five Denver area counties have viewed the division-sponsored Science Screen Reports;
- Plant tours and briefings were conducted for 7110 persons in the Denver community;
- Representatives from 19 national and international publications and TV networks visited the division to write stories and film programs;
- Displays of division space hardware were shown at five planetariums and in the Smithsonian;
- Special articles featuring Viking, Skylab, and Titan appeared in 10 publications;
- The division participated in three minority opportunity conventions;
- Published special information brochures for newsmen on Titan, Viking, and Skylab;

Strong Data Center support on programs

Strong computer support for two vital division programs and partial implementation of new engineering and manufacturing systems were major accomplishments of the Denver Data Center during 1974.

According to N. L. Robb, Rocky Mountain operations director, the Denver Data Center will concentrate activities on two major undertakings in 1975: full implementation of the new engineering and manufacturing system projects currently underway; and, establishment of a shared computer resource capability between the Denver and Orlando divisions.

Both the new engineering and manufacturing systems will become operational in 1975. This will greatly enhance division operating economy, and allow faster, more cost effective response to customer requirements.

The manufacturing system covers activities in quality control, materiel, and interfacing engineering functions and is made up of five parts. Three of those were implemented in 1974. The remaining two are in the final stages of development and will be implemented in early 1975.

During 1974, one of three major DDC efforts was the conversion of Denver computer systems to support Michoud Operations and its work on the Space Shuttle external tank contract. In addition, DDC was responsible for programming 22 Viking flight operations' software programs in 1974.

Outstanding year is recorded by AFPRO

Air Force resource conservation, ground safety, and personnel training and development were among the outstanding achievements of the Air Force Plant Representative's Office at the Denver division during 1974.

"And, in 1975, we plan to build on the past to improve the future," Air Force Plant Representative Colonel George E. Brunsmann said, in outlining his organization's goals for the coming year.

"Our 1975 priority goal is to improve the effectiveness of our relationship with, and service to, the buying offices in supporting Department of Defense and NASA programs at the Denver division," Colonel Brunsmann said. "And, we will continue to seek ways of improving management efficiency, both internally and with the contractor, to enhance continued government contracting surveillance here.

"Also, AFPRO manning and organizational competence will continue to undergo close scrutiny to attain maximum financial and management economy," Colonel Brunsmann added.

In 1974, AFPRO personnel were significant contributors to the FY 1975 Air Force Resource Conservation Program. Nine submissions, with a cost reduction value of \$1,132,472 applicable to fiscal years 1974-1976, were submitted to the Air Force Contract Management Division, earning the AFPRO a 193% of goal performance.

Another 1974 highlight was winning of the Air Force Contract Management Division's Ground Safety award for the second consecutive year for obtaining a perfect ground accident record.

Recognizing the need to ensure continuing development of AFPRO employees, particularly in the area of understanding of techniques and interrelationships of management, Colonel Brunsmann arranged a management seminar tailored to the needs of his organization's staff.

These courses were designed to help expand the capabilities of present managers in the organization and to help develop the individual for future positions of management.

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