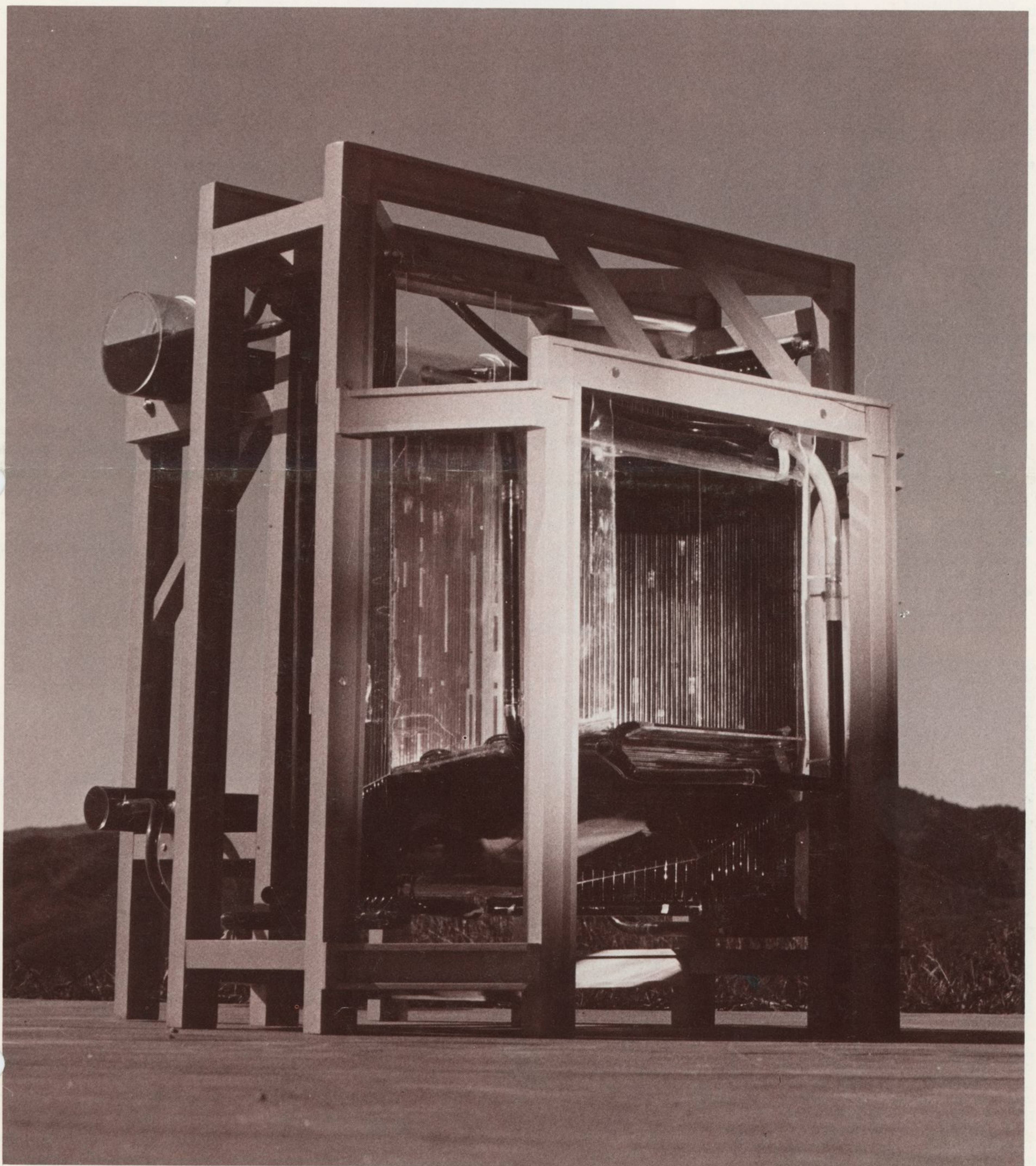


MARTIN MARIETTA

news

DENVER DIVISION

NUMBER 8/1975



On the cover --

Division to work on solar energy pilot plant

One megawatt thermal bench model of a cavity receiver steam generator is shown on the cover. The division has been selected to assist in the subsystem research experiments and preliminary design of a proof of concept pilot plant for a central receiver solar thermal power system.

Fact sheet on the project:

The Task

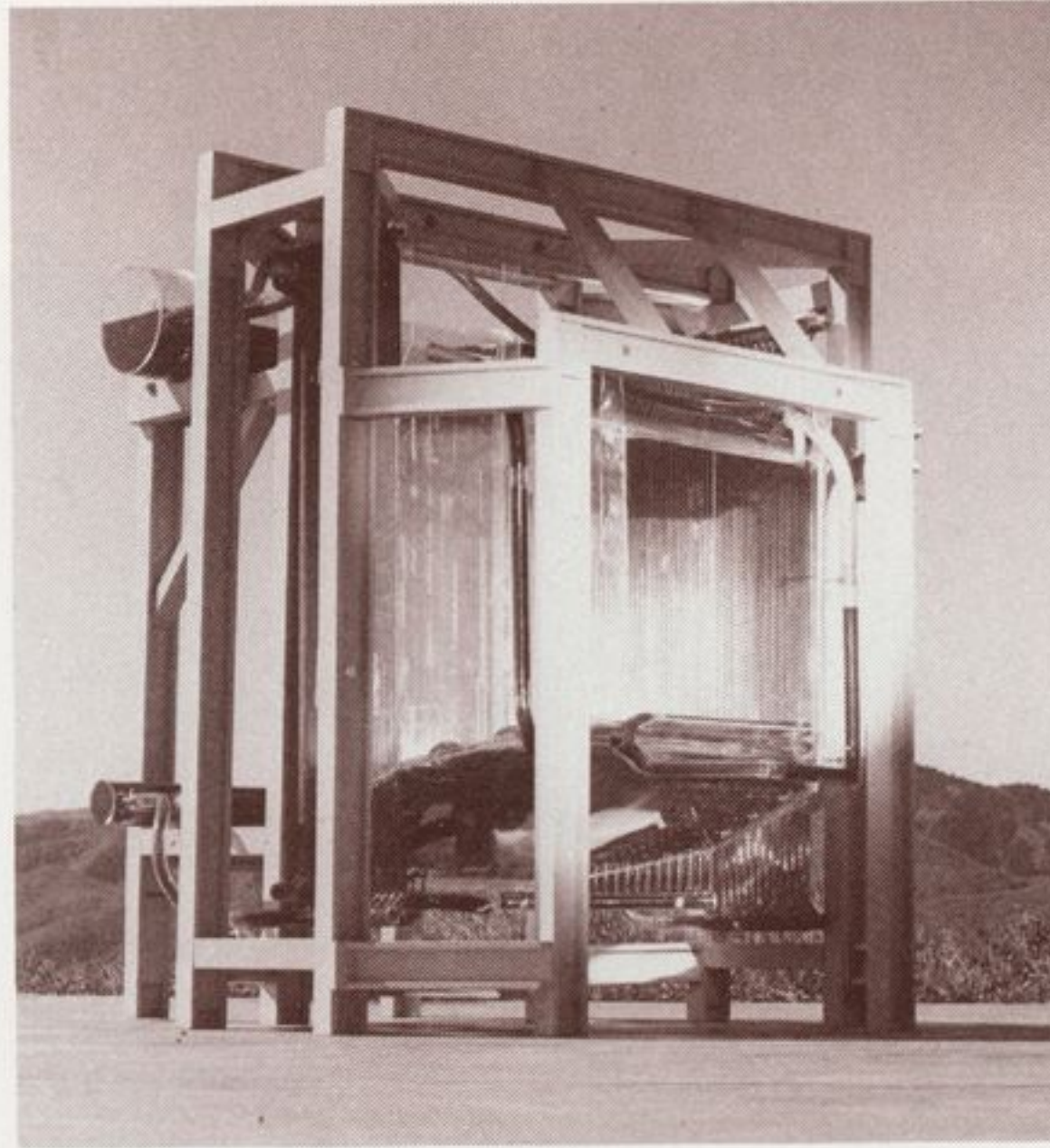
- Produce a preliminary design of a ten million watt solar energy conversion power plant to be located at a site to be determined.
- Build eleven 20x20 ft heliostat mirrors positioned for calorimeter (heat output) tests. To be built and tested at the Martin Marietta Denver division.
- Build a five million watt thermal boiler. To be built and tested at Sandia Laboratories, Albuquerque, New Mexico. Will be electrically fired.
- Build a heat storage system capable of storing four million watt hours of energy. Will be built and tested at Georgia Institute of Technology.

The Team

- Prime and Integrating Contractor—Martin Marietta Aerospace Denver division
- Architecture-Engineering Subcontractor—The Bechtel Corporation Scientific Development division, San Francisco, California.



Robert Timothy, left, president of Mountain Bell and chairman of the Colorado Safety Association, presented the National Safety Council's award of honor early this month to L. J. Adams, vice president and general manager of the division. The award, earned by the division for its 1974 safety performance, is the Council's highest recognition for an outstanding occupational safety record.



- Receiver Designer Subcontractor—Foster Wheeler Corporation, Livingston, New Jersey
- Collector Designer Subcontractor—Martin Marietta Aerospace Denver division
- Thermal Storage Designer Subcontractor—Georgia Institute of Technology, Engineering Experiment Station, Atlanta, Georgia

Government Agency

- Energy Research and Development Administration, San Francisco Operations Office

Contract Term

- Two years, including reporting period.

Martin Marietta Staff Personnel

George W. Morgenthaler,
vice president,
Technical Operations

Floyd A. Blake,
director,
Solar Energy Research Programs

J. Carney Howell,
deputy project director

Objectives

- Establish the technical feasibility of a solar thermal power plant of a central receiver type with significant commercial potential.
- Obtain sufficient development, production and operating data to indicate the economics of operation for commercial power plants of similar design.

Number of Personnel

Total: 26; Average: 20.

Parallel Program Contractors

McDonnell Douglas Astronautics Co., Huntington Beach, California; Honeywell Systems and Research Center, Minneapolis, Minnesota; The Boeing Co., Seattle, Washington.

Program Value

\$8 Million initial funding to be divided by ERDA among the four contractors.

Start Date

June 15, 1975

ATS-6 moved; Will track Apollo—Soyuz

The NASA Applications Technology Satellite-6 (ATS-6) is about midway in its six-week journey from over the Pacific ocean to a new position above Lake Victoria in East Africa.

When it reaches its new position, the largest and most powerful communications satellite ever built will be used in

Evening at Pops returns for summer

The 1975 "Evening at Pops" television series begins Sunday, July 6 at 7:30 p.m. over the 253-station network of the Public Broadcasting System.

This is the fourth season the series has been made possible by a grant from Martin Marietta.

The 13-program series of the best programs from previous years will be telecast by Channel 6 in Denver.

mid-July to track the Apollo and Soyuz spacecraft and to relay television and data from the orbiting spacecraft to Earth.

The ATS-6 was placed in geosynchronous orbit May 30, 1974 by a Titan IIIC launch vehicle.

New location of the ATS-6 also puts it in position for an instructional television experiment to begin Aug. 1 involving several thousand villages in India.

While over the Pacific, the satellite was used to relay experimental health service and educational TV broadcasts to remote locations in eight Rocky Mountain states, Alaska, and Appalachia, where terrestrial television coverage is not feasible. It also was used for a variety of technological and scientific experiments.

Following the year-long experiment in India, the satellite will be returned to a position in range of the U.S. for further experimental use.

Reference book on Viking ready for key newsmen

The Viking press handbook, prepared by the division's public relations department, is being delivered to key newsmen in preparation for the spacecraft launches in August.

The handbook is a reference work for newsmen to help them follow and accurately report on the mission.

There are three major sections:

The first is a discussion of the romance, intrigue, mystery, and fascination Man has had for Mars since the beginning. The section traces the thoughts up through Mariner IX.

Section two is a transcript of interviews with 14 key Viking scientists in which they speak to their own beliefs about Mars, its chemistry, its physics, and the possibility of life on the planet.

The third section contains a physical and technical description of the Viking mission, the spacecraft, and scientific experiments.

It is expected that about 1200 journalists will use the handbook as they write about the Viking program during the next two years.

Copies of the copyrighted book will also be sent to universities, libraries, congressmen, and scientists.

LTV awarded external tank tooling contract

Martin Marietta Aerospace has awarded a tooling contract valued at approximately \$6 million to LTV Aerospace Corporation's Vought Systems division to design and build major external tank assembly fixtures for Space Shuttle.

The contract includes tool design and fabrication of three huge fixtures that will be used for trimming and welding the external tanks and installation and check out of the fixtures at Michoud.

The largest fixture will be 166 feet long and 34.5 feet high. It weighs 170 tons.

It will trim the mating edge of the 27-foot diameter dome and barrel section to fit together and then will weld the two sections, all in one continuous operation.

AFPRO honors two employees

Two civilian employees in the Air Force Plant Representative office at the Denver division have been cited for their performances.

Edward W. Hauer, chief of the AFPRO quality assurance division, received the Meritorious Civilian Service award, highest civilian award presented by the Air Force.

He was honored for his part in national space programs, including Gemini, Skylab, Viking, and the Titan III family of launch vehicles.

Mrs. Vayda P. Swope received an Outstanding Performance Rating for 1975. She is chief of the management support division.

Titan success string starts again at one

A new string of Titan launch vehicle successes started June 8 when a satellite employing a Titan III space booster was launched by the Air Force space and missile test center at Vandenberg AFB, California.

The old string ended at 68 consecutive successful launches when a payload launched May 20 failed to orbit.

Early indications were that an electrical failure in the guidance system caused the unsuccessful mission. The Transtage was not given the proper commands because of the guidance system problem.

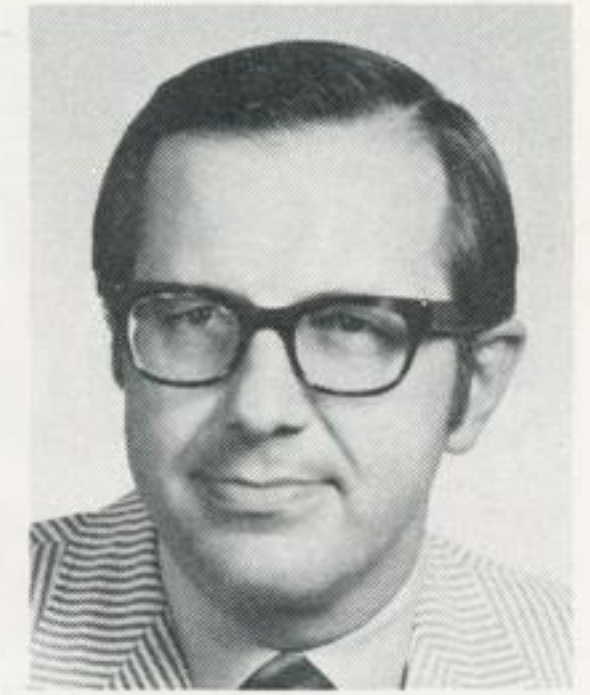
Additional Titan launches are scheduled for this year, including those involved in the Viking program in August.



Michael M. Davis, mass properties engineer—Interim Upperstage, was elected an Honorary Fellow of the Society of Allied Weight Engineers at the international engineering organization's 34th annual meeting in Seattle. Davis is serving his seventh consecutive term as executive secretary of the society.



Vayda P. Swope



Edward W. Hauer

Mrs. Swope exceeded the standards of performance for her position in quality and quantity of work, problem solving, planning and organizing ability, adaptability, leadership, and working relationships.

College counselors to be here in July

Representatives from area colleges and universities will be at the division during the second week in July to counsel employees. Those who want information on college policies, courses, and admission for themselves or members of their families are invited.

All sessions will be held from 2 to 4 p.m. in the second floor cafeteria.

Schools and the dates representatives will be on site:

University of Denver, July 8; University of Colorado, Denver and Boulder, July 8 and 9; Metropolitan State College, July 8 and 10; Community College of Denver, July 8 and 9; Arapahoe Community College, July 8; Colorado State University, July 10.

Lowrie briefs Orlando group

Walter O. Lowrie, vice president and Viking program director, recently briefed 20 Orlando division management and technical representatives on the Viking program. Also attending the session at the Kennedy Space Center were Florida Technological University School of Engineering faculty members.

Lowrie detailed the unique technical problems being solved in the course of creating the Viking Mars lander and its scientific experiments.

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Summertime Entertainment Scheduled

Letters announcing two division family entertainment events for this summer will be mailed to employee homes early in July. Included with the letter will be a family ticket for the Fun Day at Lakeside and an attendance poll card for the Denver Symphony Pops Concert.

Family Fun Day at Lakeside, July 19

The division's Family Fun Day will be held at Lakeside Park, 45th and Sheridan, Saturday, July 19 from 10 a.m. to 5 p.m.

Emphasis of the Fun Day will be on younger children. All rides and amusements—except the speed boats—will be free. Games, with prizes, are being planned for younger children.

Families are encouraged to pack a picnic lunch even though the refreshments stands will be open and food and drink may be purchased at them.

The family ticket enclosed with the letter is good for admission to the park and free parking. No tickets are necessary for the rides.

Kiddieland, the train, and the merry-go-round will open at 11 a.m. with the remainder of the 42 rides and amusements opening at noon.

In case of rain, the event will be held July 26.

Pops Concert at Red Rocks Aug. 3

The Denver Symphony Pops Concert, with Doc Severinsen as guest artist, will be held at Red Rocks Sunday, Aug. 3 at 7:30 p.m.

The concert will appeal to older children and adults.

The attendance poll card, which requests information on the number of members of the immediate family that will attend, should be returned before July 18. Tickets for the concert will be distributed through department coordinators.

Severinsen is one of the top trumpet soloists in the nation and appears regularly as conductor of the orchestra on the Johnny Carson show.

In case of rain, the concert will be held at the Coliseum, I-70 and Brighton Blvd. Change in the location will be announced the day of the concert over KDEN, 1340. Starting time will remain the same.

On The Job

A. J. "Joe" McDonald—job title: painter-finish—daily applies paint with thickness varying no more than 3/1000th of an inch. Width and height dimensions have the same preciseness.

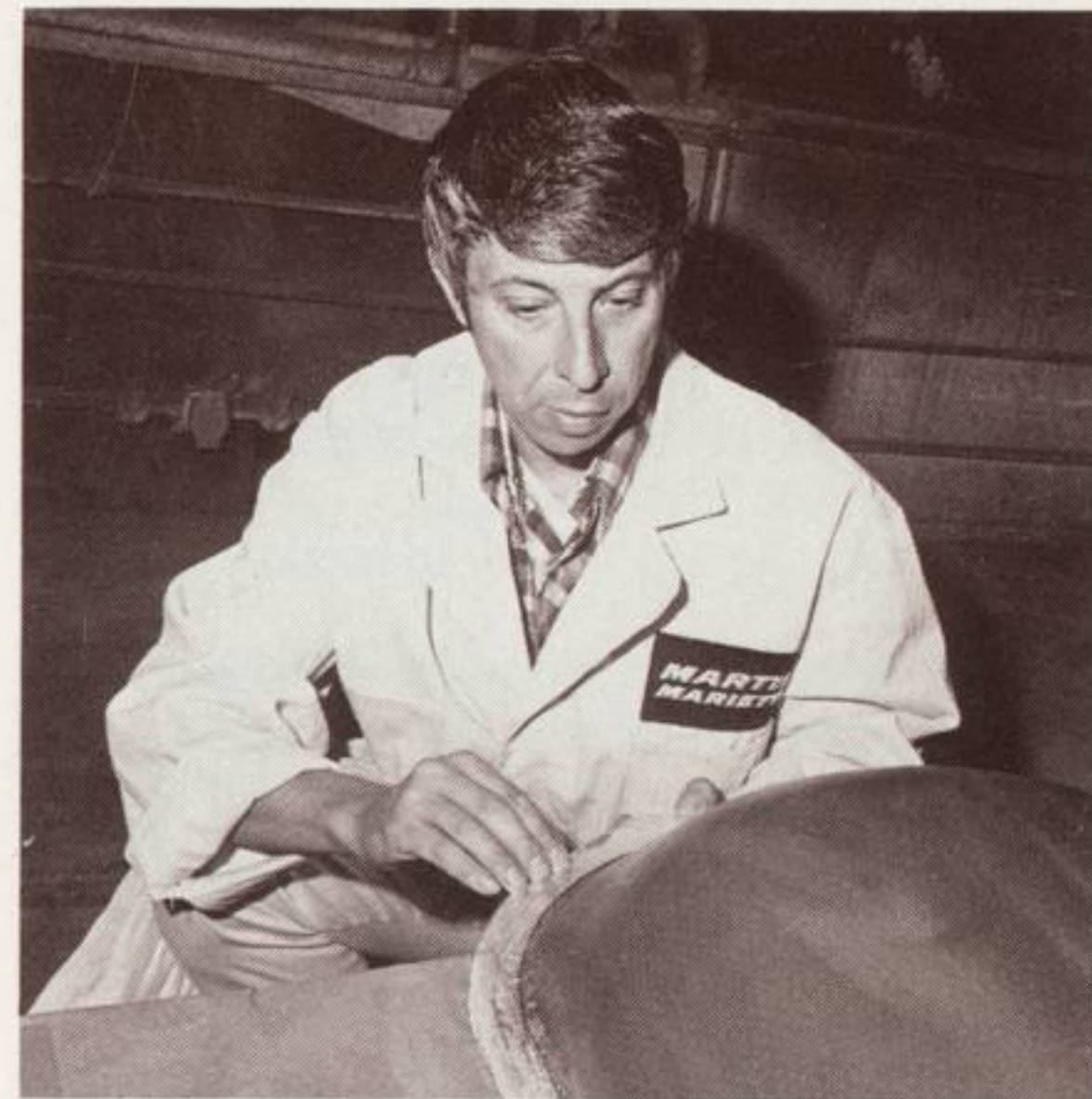
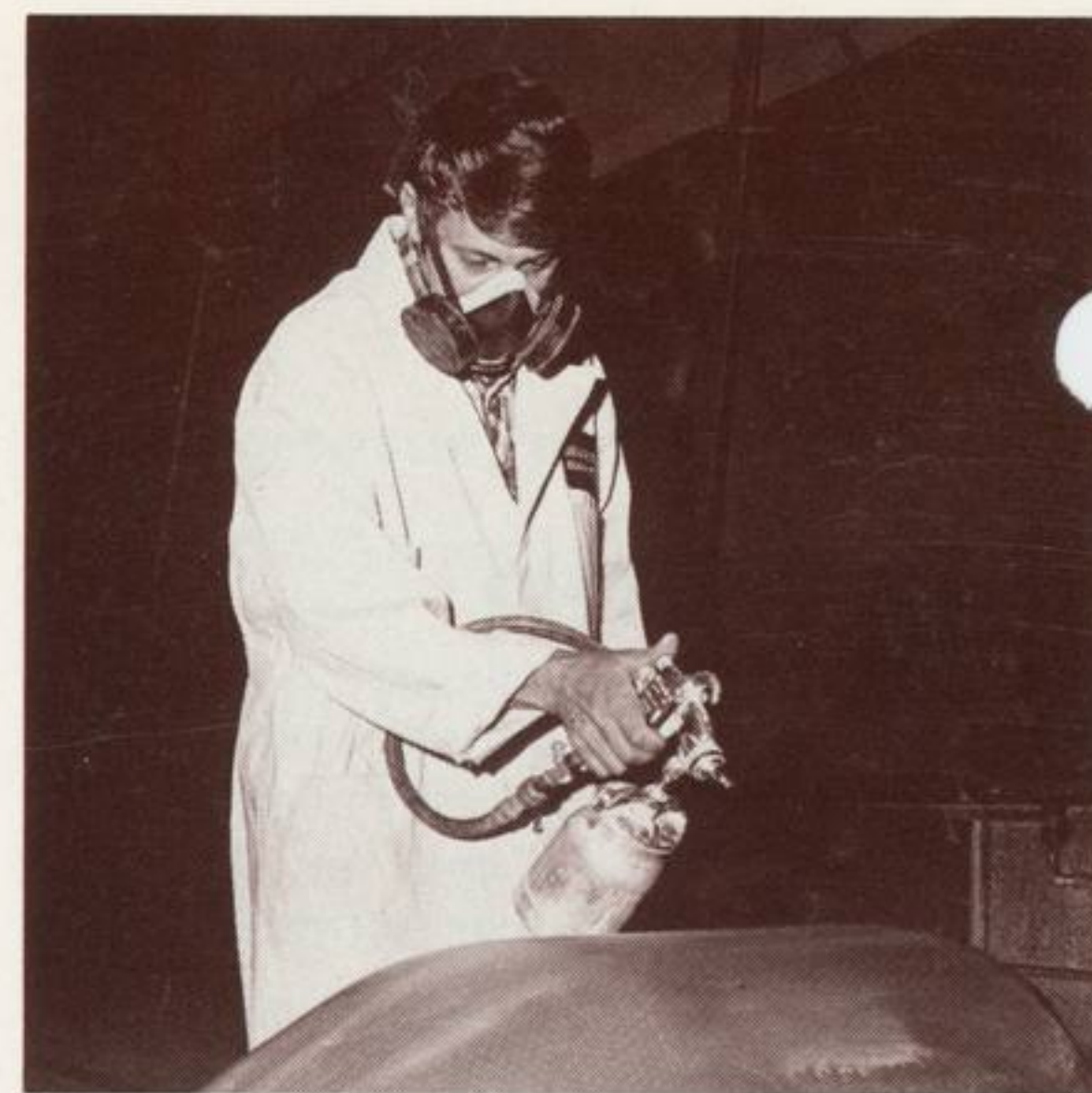
He and three other painters-finish are responsible for painting Titan launch vehicles. They also painted Skylab and Viking.

"The specifications for applying paint are as exact as they are for machined parts," McDonald said, "and we do it by hand."

The paint is not used for purely cosmetic purposes. It has a great deal to do with thermal, structural, and weight characteristics of a spacecraft or launch vehicle. Paint contributes to mission success.

McDonald has been making his contribution to the success for nearly 18 years.

Music and shipbuilding—from scratch in wood—are his hobbies. The most time-consuming of McDonald's outside interests, however, is not a hobby. He is chief of the Edgewater fire department where he has been a volunteer for 20 years.



Division JA companies reach finals

Three division-sponsored Junior Achievement companies and 10 company members were finalists in the 1975 JA annual award program.

The T.N.T. Company and United Achievers were finalists in all award categories: company of the year, marketing company, production company, and

best annual report. Things Unlimited was a best annual report finalist.

Participants who were finalists were Steve Hartel and Charles Johnson, president of the year; Mike Beattie, marketing executive; Scott Friedman, personnel executive; DeNeil Hogan and Chris Scott, corporate secretary; Diana Rogers, treasurer; Bob Copenhaver, best salesman and achiever; Brenda Goodwin, achiever.

Four participants also earned Dale Carnegie scholarships. They were Theresa Rosell, Terrie Fallon, Diana Rogers, and Brenda Goodwin.

Serving this year as JA company advisers were Emil Fuscick, Dianne Patrick, Bill Severson, Charles Bird, Sylvan Moreau, Phyllis Siefkes, Geraldine McQuiston, Ron Orr, John Speranza, Gloria Trabue, Allen Bailey, Chuck Beattie, Wallace E. Goodwin, Dan Padilla, Cecil Schaefer, and Dorothy E. Wagner.

R. M. Rodriguez is coordinator of the JA program for the division and also was a team captain in the program's fund raising campaign. Employees who assisted in the fund raising were Elmer Alexus, John R. Decker, Art Ingraham, Tom Johancen, Dean Morrow, Fitzroy Newsum, Irv Obermyer, Roger Prince, and Carol Selby.

U.S. space program developments used in new pacemaker

Nickel-cadmium batteries, electronic circuitry, and quality control procedures derived from the U.S. space program have been used to develop a revolutionary cardiac pacemaker.

The pacemaker can be recharged through the skin by the patient who simply places a recharging vest over the implanted pacemaker. It was developed at the Applied Physics Laboratory at Johns Hopkins University.

More than 1,200 heart patients, ranging in age from one to 93, have been recipients of the new device. So far, only two of the devices have malfunctioned—without harm to the patient—giving the pacers a remarkable reliability record of more than 99.8 percent.