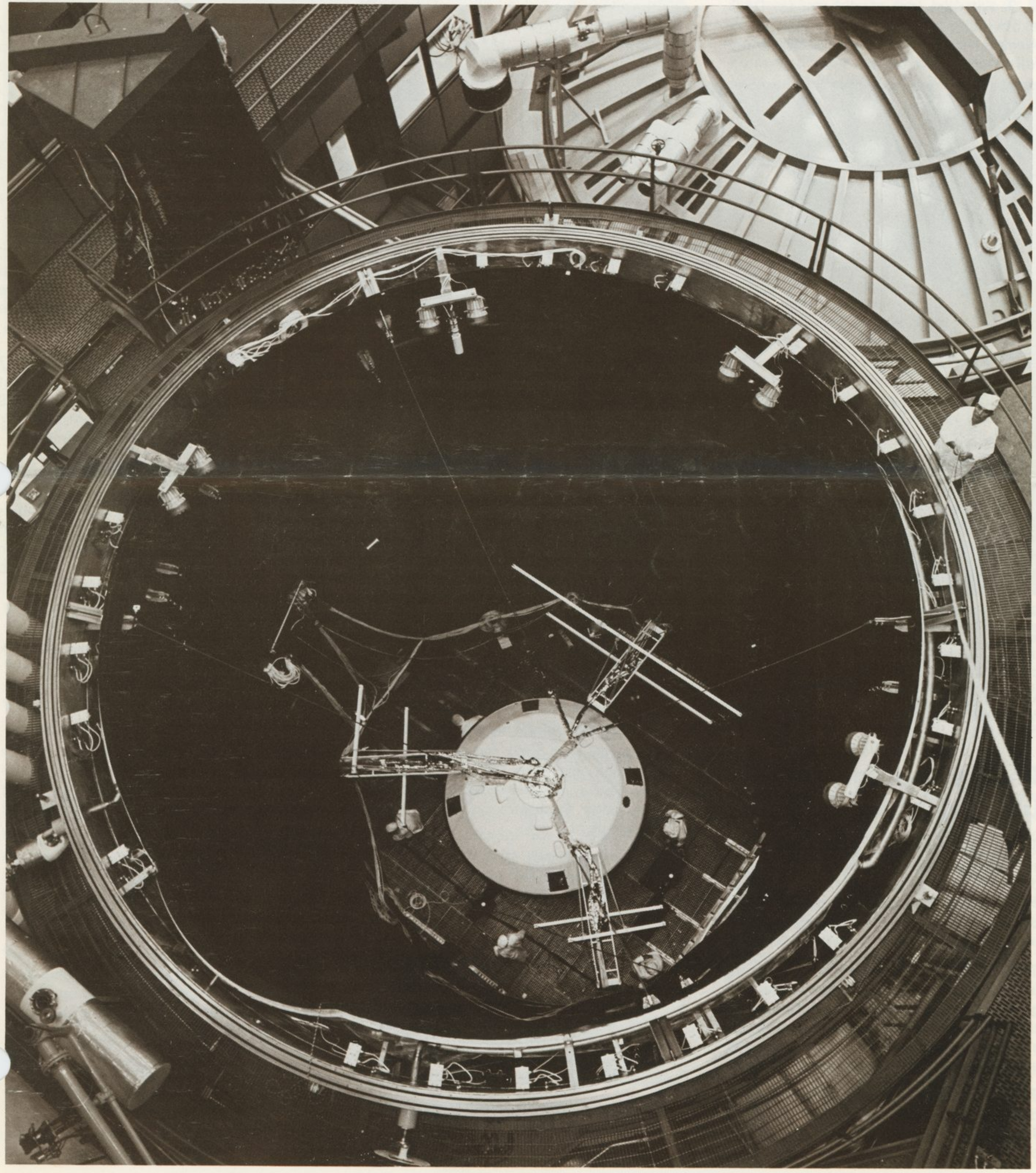


NUMBER 10/1974



R & D winning big share of proposals submitted

There has been an unprecedented rise in the research and development department batting average for technology and subsystems contracts during the first six months of 1974.

R. S. Wiltshire, deputy director for R&D, is obviously pleased by the upswing of events. He attributes the success to the following three factors:

"First, we have a group of real professionals—both technically and managerially—working together as a team.

"Second, the company is very supportive in supplying funds for independent R&D, the cornerstone of the division's technology. And it has strongly encouraged us to develop a wide base of

new customers, in addition to the NAS, and the DOD requirements.

"And third, this year we have more bid opportunities that fit more closely to our engineering, and R&D expertise."

Among the key contracts cited by Wiltshire are: the planetary radio astronomy receiver for the Mariner Jupiter-Saturn 1977 spacecraft; the propellant tanks for the United Kingdom; an integrated payload orbital servicing study for Space Shuttle; an avionics reliability analysis; a spacecraft dynamics analysis; a generalized data management system; and a solar power systems and components research contract.

During the first six months of this year, department efforts to acquire additional business resulted in 127 new business proposals being prepared during the available 127 working days.

In addition, the ER&D effort includes 47 independent research and development tasks in key technology areas and 79 separate contracts presently being performed for 30 different customers.

"It is the combination of this effort with that of our major product areas which, in the past, has brought us successful bids on larger programs, and I am convinced that it will bring us an upswing in business in the months and years to come," he says.



TWO NATIONAL SAFETY AWARDS are presented by Col. George E. Brunzman, Air Force plant representative, to Laurence J. Adams, vice-president and division general manager. The awards, won by the division for its performance throughout 1973, are the National Safety Council's Award of Honor, and first place in NSC's Aerospace Safety Contest.

Division sponsors 3 at UNC science institute

Three Denver area high school juniors, on scholarships made possible by the Denver division, are attending the eight-week Frontiers of Science Institute sponsored by the University of Northern Colorado in Greeley.

The Institute, designed for youths having high interest and aptitude in science, is to give students a better understanding of the nature of scientific investigation and encourage them to continue with advanced studies and careers in science.

The NSF scholarship winners are: Tom H. Brikowski of Denver, Catharine E. Theobald of Golden, and Delwin M. Hunt of Littleton.

Pops Concert capacity crowd seen

A capacity crowd of Denver division employees and their families is expected for the special Pops Concert scheduled at Red Rocks Amphitheater by the Denver Symphony Orchestra on Friday, August 9, starting at 8 pm.

Tickets requested by employees for the company-sponsored performance will be distributed through their departments the week of August 5.

Park gates at Red Rocks will open at 4:30 pm for those desiring to picnic before the concert. A map of the automobile route and parking will be distributed with the tickets. It will show parking lot entry and exit routes designed to expedite parking for all. Employees are urged to study these maps before going to the concert.

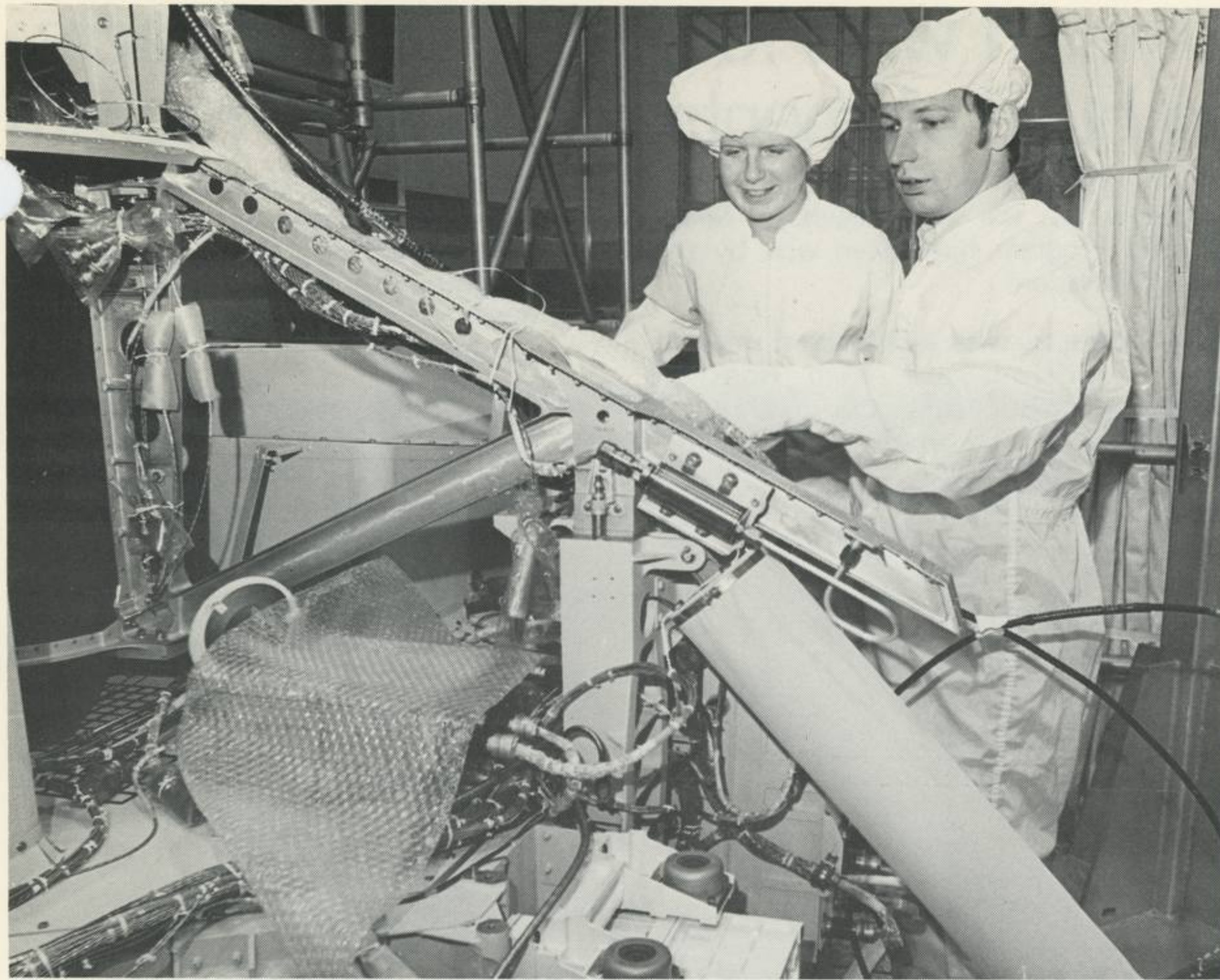
Headlining the entertainment will be guest soloist, Gordon MacRae. He will

sing selections from the stage show, "Oklahoma!" and other popular hits.

Currigan Hall at 13th and Champa Streets in downtown Denver has been established as the alternate concert site in case of rain; announcement will be made before the end of the first shift on the day of the concert on division bulletin boards and broadcast on Radio Station KDEN, 1340 on the dial.

In case of daylong rain, the concert will be moved to Currigan Hall starting at 8 pm with doors opening at 6:30 pm. Light evening showers will not interfere with the Red Rocks performance.

Regulations prevent recording of the performance by either the company or members of the audience. Employees are asked to cooperate.



Viking Lander receives a close inspection above from Cheryl Peltz of Littleton and her friend from Holland, John Kovacs. The two youths

viewed Viking Lander production progress during a tour of the Denver division in July.

Student's Skylab experiment sparks friendship with youth from Holland

Whoever thought cytoplasmic streaming in zero gravity could spark an international friendship between a Littleton, Colorado, girl and a youth from Holland?

Well, it happened—with a little help from Skylab. And, it resulted in a tour of the Denver division July 15 by John Kovacs, from Holland, and Cheryl Peltz, who lives with her parents at 7117 South Windermere in Littleton.

Their friendship resulted when NASA selected 19 proposed experiments from high school youths throughout the nation to be among those conducted aboard a Skylab flight.

Cheryl's experiment—cytoplasmic streaming in near zero gravity—was to determine if the lack of gravity had any effect on the phenomenon of streaming (the movement of the liquid portion of a cell). The cell from an aquatic plant, the elodea, was used for the experiment.

Kovacs, a 24-year-old chemical

production plant worker and a self-professed "space nut," read of Cheryl's experiment and wrote for her autograph and photograph.

His interest later led to an invitation to visit the family in America. This summer Kovacs accepted the invitation, visiting the Peltz family, and touring the division's Viking project. On his return journey to Holland, he visited the Johnson Space Center in Texas and the Kennedy Space Center in Florida.

A June graduate of Heritage High School in Littleton, Cheryl is the daughter of Clarence and Charlene Peltz. Her father teaches fourth grade at Northeast Elementary School in Douglas County. The Littleton girl will attend Colorado State University this fall. She plans to major in veterinary medicine.



William E. Rogers (above, right), general supervisor of logistics, helps check out a reading improvement kit to Irvin Obermeyer, of maintenance engineering.

On the cover --

A Viking lander is positioned inside the giant thermal-vacuum chamber in the Space Simulation Laboratory as engineers and technicians prepare for space simulation tests. The spacecraft will be subjected to most of the rigors of space travel it will encounter on its 460 million mile journey to Mars.

Higher sales, record earnings achieved in first six months of '74

Martin Marietta Corporation achieved higher sales and record earnings for both the second quarter of 1974 and the first half of the year.

Net earnings for the first half rose 67.3% to \$41,638,000, equivalent to \$1.91 per common share outstanding. For the comparable period in 1973 net earnings were \$24,889,000, or \$1.10 per share.

Sales for the six months this year were \$595,665,000, up from \$548,693,000 in the corresponding 1973 period.

The 1974 earnings are Martin Marietta's highest, for both a second quarter and a first half.

J. Donald Rauth, president of Martin Marietta, said, "Our earnings picture at mid-year is encouraging. The aluminum subsidiary continued on the strong earnings trend we reported in the first quarter, benefiting from capacity operations and the industry's general recovery toward more satisfactory profit levels. The chemicals business, which supplies specialty products for the textile, steel and building industries, also made good gains. Cement results were improved over a year ago, and earnings of the aggregates and aerospace businesses were relatively stable when compared with the first half of 1973."

Greater reading speed possible with new aid

A 100 percent improvement in reading speed along with higher comprehension and retention is possible for employees using a reading improvement kit that is now available to them through the engineering department.

Originally used in supervisory training, the self-instruction kit can be checked out and used at home by employees whose schedules do not permit attendance at the comprehensive division-sponsored evening reading classes.

The kit includes a tape recorder, three cassettes, electrical reading pacer, timer, and phrase-flasher with phrase cards all fitted in a foam-lined suitcase.

Also included are an individual student's manual and an exercise manual for ten lessons. They are paced for use by the student at home where he may study at his own pace in his spare time.

The reading improvement kit may be checked out through the engineering department's logistics training and certification unit, ext 3333.

Executive Management Profiles

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

Tenacity and a feeling that his every move is based on logic is the initial impression on meeting Dan A. Linn, the division's director of materiel.

Linn's basic responsibility is the daily supervision of a 130-man staff directly responsible for all outside division procurements in addition to commitments associated with such procurements.

The materiel organization headed by Linn revolves about a nucleus of 60 purchasing specialists who each have a buying function. Their purchasing duties might range from purchasing a single bolt to buying highly complex, sophisticated systems necessary for supporting programs in work by division personnel.

These buying experts are backed up by department personnel to administer subcontracts and provide cost, pricing, and traffic analysis, where necessary.

Linn's routine activities during any given year could see him supervising outside dollar commitments by the division totaling close to \$100 million.

Born in Brooklyn, New York, August 29, 1929, Linn earned his Bachelors degree in political science and civil engineering from Syracuse University in 1951. In 1955, he earned a Masters degree in public administration from Syracuse.

Heading the list of his honors and awards is his appointment in July to the rank of Captain in the U. S. Naval Reserve.

Before joining Martin Marietta in 1973, Linn served two years as central purchasing director for Grumman Aerospace Corporation, and from 1968 through 1971 with General Electric where he had procurement responsibility on all aircraft engine programs.

Linn and his wife, Sharon, reside in Perry Pines, eight miles south of Sedalia and six miles west of Castle Rock.



Dan A. Linn

Division wins four new subcontracts to build elements for Shuttle Program

Four subsystem contracts to build elements for the space agency's Space Shuttle Program have been won by the Denver division.

The contracts, with a combined value of \$11.7 million, are with Rockwell International, Space Division, prime contractor for the orbiter portion of the Space Shuttle.

Work on the four subcontracts will be performed at Denver.

Work to be performed under the subsystem contracts is:

- Provision of propellant tanks to feed the orbiters' reaction control systems during orbital operations and reentry phases of the mission. The tanks operate on a unique capillary action principle designed by Martin Marietta. The tanks are 39 inches in diameter and have a volume of 15.5 cubic feet. The contracts call for the delivery of 63 tanks.
- Design, development, manufacturing,

and testing of a series of antennas for the orbiter. These antennas transmit and receive voice and data microwave communications between the orbiter and ground stations, as well as between the orbiter and its payload cargo. The antenna design uses a concept developed by Martin Marietta for the Viking spacecraft that will land on Mars in 1976. The 52 antennas are designed to be an integral part of the orbiter skin.

- Manufacturing of 416 electronic controlled firing switches called Pyrotechnic Initiator Controller (PIC) to arm, checkout, and fire ordnance devices that separate the orbiter from its booster elements, and,
- Design and building ten caution and warning systems to monitor critical functions in the orbiter and provide the flight crew with audible and visual alarms in emergencies. Items to be monitored include fuel tank pressures, life support systems, and electric systems.

SAMSO marks 20th anniversary

What is now the Space and Missile Systems Organization (SAMSO) of the U.S. Air Force celebrated its 20th anniversary during July. During those two decades, the resulting ballistic missile and space program has been the largest, most complex peacetime military effort ever undertaken in American history.

Since its inception, SAMSO has led the planning, research, development, and acquisition efforts for every missile and space system employed by the Air Force.

And, in fulfilling its role as the major Department of Defense agency for this nation's present and future space and ballistic missile programs, SAMSO has contributed greatly to the comfort, convenience and advancement of the civil sector through technological outfall.

SAMSO came into being on July 1, 1954 with establishment of its predecessor, the Western Development Division.

The first major missile system developed under the organization was Atlas—the



The Space Shuttle will be launched much like a missile, with the external tank used in the launch supplied by Martin Marietta Aerospace.

modified version of which made John Glenn the first American to orbit in space. The Mercury program was followed by two-man Gemini space flights—all launched by Denver-built Titan IIs of the type still operational with the Strategic Air Command.

The next generation Titan vehicle, Titan III, is still performing flawlessly, launching a variety of payloads (or combinations of payloads) into separate and distinct orbits.

And, it will continue to do so as the only large launch vehicle to be used for U. S. launches until the advent of the Space Shuttle and its reusable boosters in the 1980 period.

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