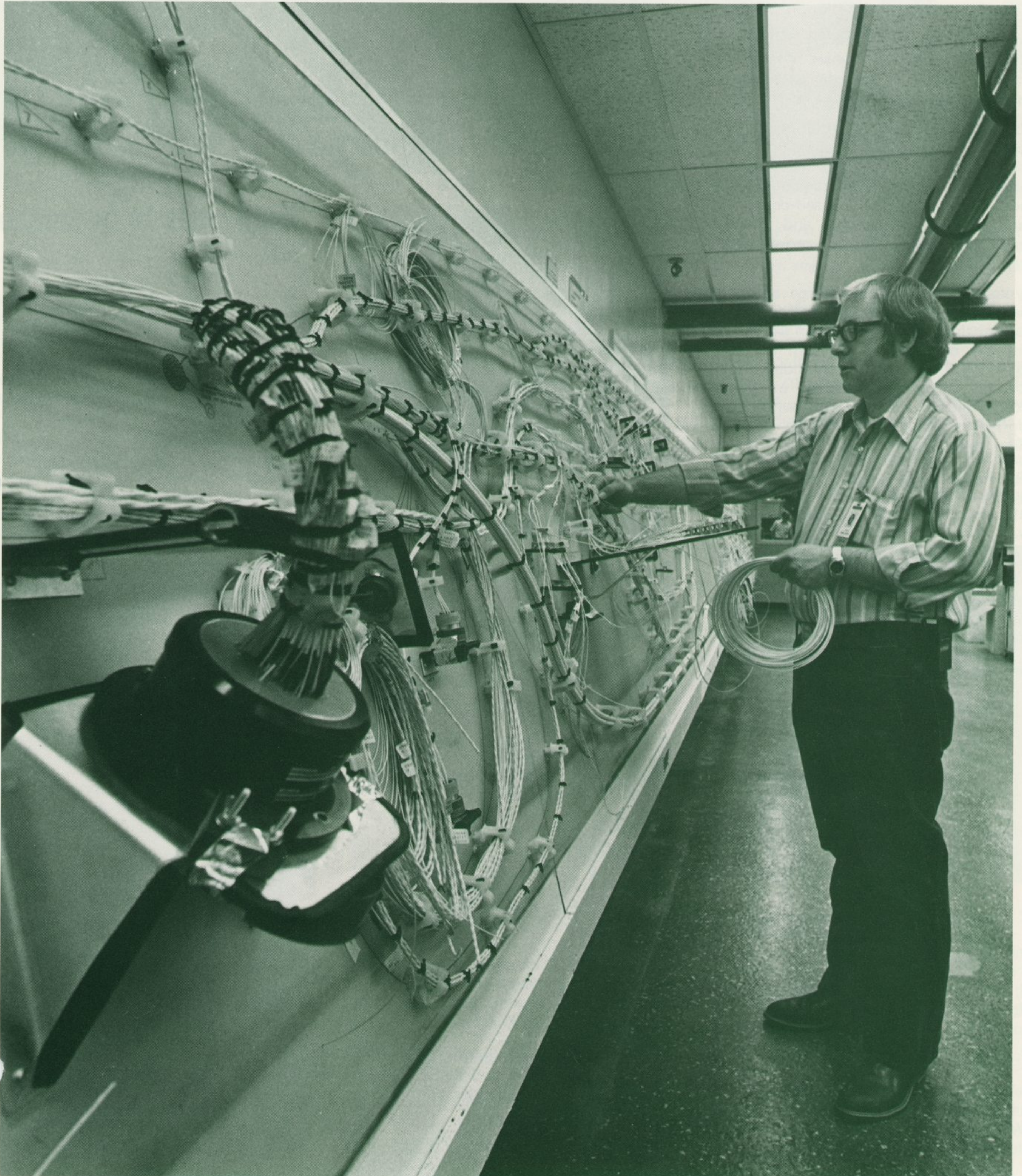


NUMBER 6/1979



Near-field antenna test facility complete

The largest near-field antenna test facility in the United States is about to begin operation at the Denver Division.

Near-field tests are a unique method of simulating a situation where a transmitting source and a receiving antenna are separated by great distances, as in space.

The new structure, an addition to the SSB, includes an 8,000 square foot test chamber and 4,000 square feet that include office space, a test chamber control room, a computer room, a self-contained computer drive to gather and analyze data, and manipulators to move spacecraft and antennas.

Typically, to calibrate a large antenna, the antenna must be separated from the transmitting source by 11 or 12 miles, with no obstructions between the two points. With near-field technology developed by the National Bureau of Standards, antennas can be tested within the confines of the 102-foot long, 80-foot wide, 75-foot high facility.

The facility will be used to test antennas for spacecraft. The facility can accommodate spacecraft designed to fit the 15-foot by 60-foot Space Shuttle cargo bay.

During tests, a probe is placed vertically over the antenna and moved laterally. To assure test coverage of the entire antenna, the antenna can also rotate and move horizontally beneath the probe.

Why aren't you in a carpool?

Denver Division management wants to increase the use of carpools among employees to help the nation conserve energy. It also wants to help employees make use of carpools, but needs to know what can be done to help.

Please answer just two questions and send your answers to Roy Yamahiro, Mail No. 6360.

1. What is preventing you from being in a carpool?
2. What action would help you become a carpool member?

At the last main gate count, more than 30 percent of the cars entering the facility were carrying two or more people.



Near-field antenna test facility was added, at right, to SSB.

On the cover

Lyle Wellnitz, electrical developer, works on the wiring harness for Titan III 34D stage one. The harness is 58 feet 2½ inches long and about 4 feet high. Some wires in the harness are 600 inches long. In all, there are about eight miles of wire in the harness. The device in the foreground is one of the inter-stage connectors.

Employees to be honored

Nearly 175 employees will be honored at a recognition banquet May 11 at the Marriott Hotel for their contributions to the Denver Division in 1978.

Recognition will be given in five categories: outstanding operational performance; technical achievement; publications; inventions, and new technology development.

The engineer, author, and inventor of the year will be named at the banquet.

Porter is named Sloan Fellow

Dr. James D. Porter, Denver Division SCATHA program manager, has been selected as an Alfred P. Sloan Fellow by the Massachusetts Institute of Technology.

He was chosen as one of only 54 mid-career executives from the United States and abroad who will participate in the program. He and the other Sloan Fellows will follow a 12-month course of study leading to a master of science degree in management at MIT's Alfred P. Sloan school of management.

Dr. Porter, who joined Martin Marietta as an associate engineer in advance design, has held a number of management positions. In 1969, he was named deputy for mission analysis and design for the Viking project. Later, he became project engineer for the Viking mission analysis and design. In 1973, he was appointed deputy for mission operations and design and, in 1976, he became chief of mission planning for the Viking flight team.

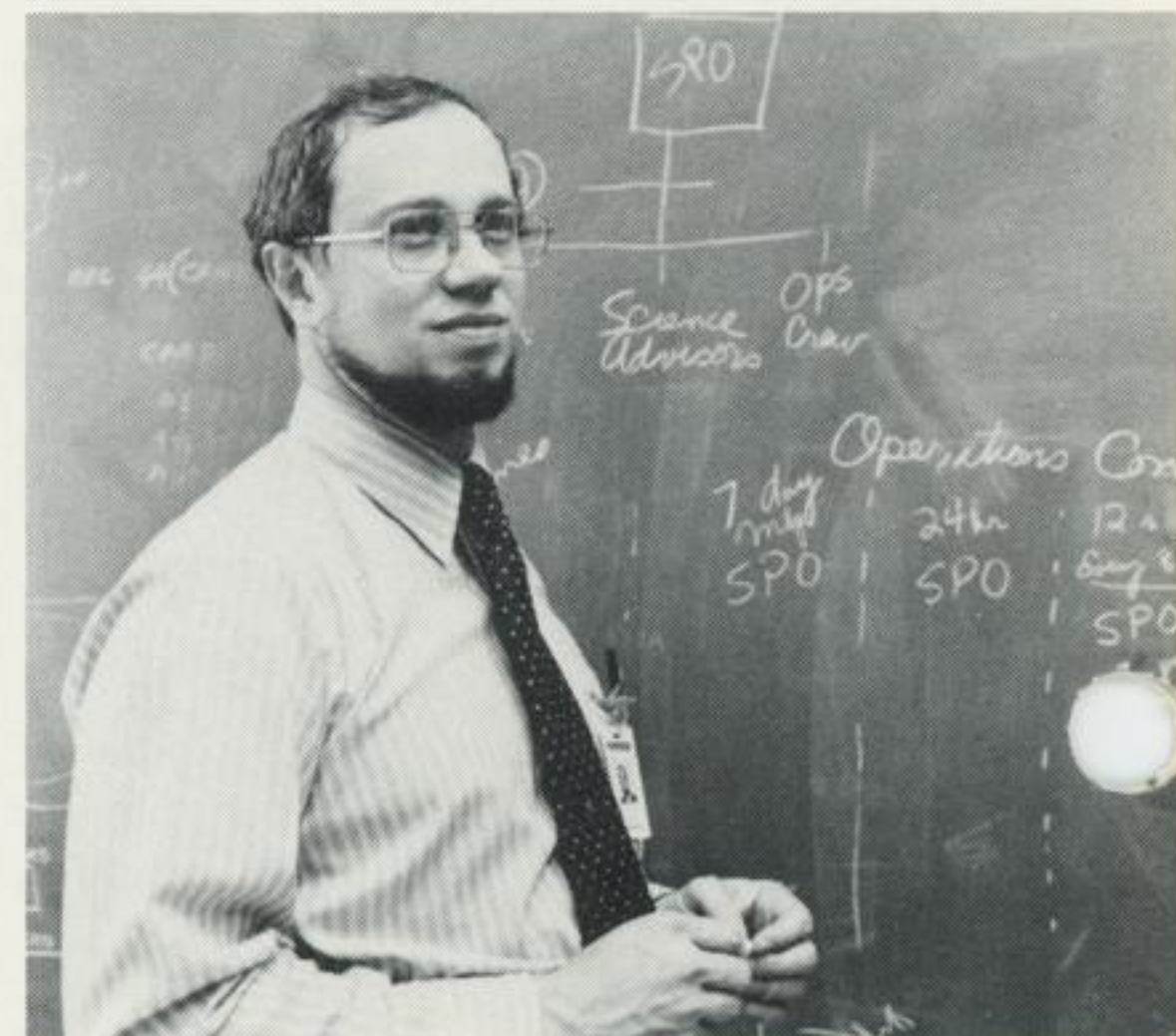
He also helped manage the Space Telescope proposal team and the mission operations and software integration for the SCATHA satellite program.

Dr. Porter earned his BS degree from Pennsylvania State University in 1959

and his MS in engineering from Princeton University in 1960. He received his doctorate in aerospace engineering from Pennsylvania State University in 1966.

The Sloan Fellows program, started in 1931, is the oldest executive development program in the nation. It was initiated by the late Alfred P. Sloan, former chairman of the board of directors of General Motors Corporation.

Martin Marietta is also represented in the program by Steven J. Marcereau, a finance manager at the Orlando Division.



Dr. James D. Porter

Division takes steps to reduce energy costs, consumption

In 1978, the division's bill for oil, gas, and electricity was \$2.1 million. Of that amount, only 10 percent was spent for energy used to process division-produced products during the year. Eighty-five percent of the energy was used for light, heat, ventilation, and air conditioning—items that produce comfortable working conditions for employees.

Marc Espinosa, recently appointed energy and resources administrator for the division, said the utility bill in 1979 is expected to be \$2.5 million. If costs continue to rise at the current rate, the division's utility bill in 1983 could be more than \$5 million.

"With the prospect of fuel shortages and ever increasing utility costs, it is essential that we take steps to reduce consumption," Espinosa said.

As an example, Espinosa implemented energy reduction in the RDL building and proved that consumption and costs can be reduced without adverse affect to the division's production and employees.

"Four energy-saving efforts are expected to reduce costs by 24 percent with a comparable saving in energy in the RDL building," Espinosa said.

Changing the intake vanes on the air supply fan to reduce air flow saves 381,000 kilowatt hours per year and \$6,750.

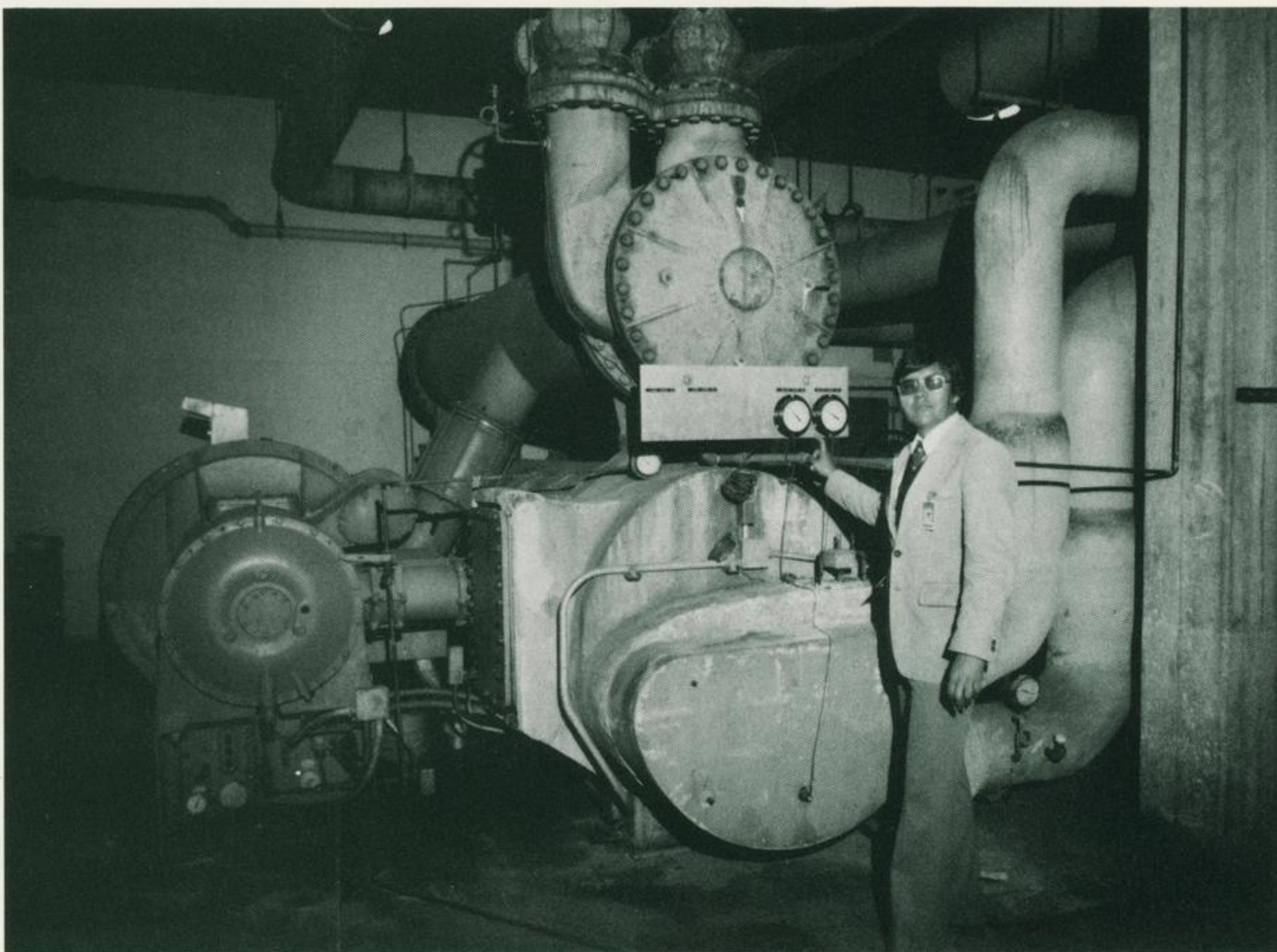
- Using the building automation system to put the air supply fans on a start/stop mode will save 866,000 kilowatt hours per year and \$11,250.
- Shutting down the 300-ton chiller from November to mid-March using outside air to satisfy cooling requirements in the building can save 370,000 kilowatt hours per year and \$4,810.
- Using the building automation system to control lighting in RDL will save 346,000 kilowatt hours per year and \$4,500.

Energy audits are planned for other buildings, with the inventory building and the heat treat area in the factory next.

Espinosa, who worked for utility companies in Arizona and Colorado before joining the division, said employee awareness of energy use and misuse is the key to reduce energy consumption and costs.

"Employees can help us in our efforts by telling us how energy should or should not be used," he said. "We will welcome all suggestions."

Espinosa has his office in the inventory building. His extension is 3263.



Marc Espinosa checks RDL 300-ton chiller for energy-saving possibilities.

Venus radar proposal due in June

The alternative design concept request for proposal for the Venus orbiting imaging radar spacecraft (VOIR84) is expected about June 1.

The proposal will be submitted in late July, according to Charles D. Brown, who is managing the effort.

The division has been involved in the project since 1973 and was one of the participants on the phase A contracts. The report on phase A work, which provides information on costs and feasibility of the program, was submitted in mid-1978 to the Jet Propulsion Laboratory.

A third competition will be held later for the contract to build the hardware and implement the program.

Division wins spacelab life science subcontract

The Denver Division has been selected as a subcontractor by the General Electric Company for a design, engineering, and operations support contract with the Johnson Space Center life science directorate.

The contract was awarded on a proposal submitted in early 1978. Under the contract, General Electric, assisted by the division, will support the Johnson Space Center in the integration of life science experiments in the Shuttle spacelab program.

The task of the VOIR will be to obtain a total topographical map of Venus. Because of the dense cloud cover of Venus, radar is the only practical way to obtain a map of the planet. Such a map is the first step in determining other information about Venus.

A map has been prepared using ground-based radar, but greater detail can be obtained by the orbiting synthetic aperture radar.

The Venus project, the next large program in the NASA planetary exploration series, is similar to the Mariner '71 spacecraft that did surface mapping of Mars for the Viking landing.

Recreation Calendar

Crime Prevention Lectures—by a representative of the Jefferson County Sheriff's department will be given May 23 and May 24 in the SSB presentations room from 4:45 p.m. to 6 p.m. Emphasis will be on preventing sexual assault and burglaries. Sign up in the recreation office.

Bowling Leagues—will begin play May 15 at Belleview Lanes. A minimum of 10 four-player mixed teams is required. Plans for leagues of second-shift employees are being made.

Softball Leagues—for men and coed teams are scheduled to begin to play the week of May 21. Teams must be signed by May 10.

Division gets \$54.5 million launch support contract

The Denver Division has been awarded a \$54.5 million contract for continued launch support services at Vandenberg Air Force Base and Cape Canaveral.

Launch support services include assembly of rocket stages, preflight checkout of systems, and launch operations for Titan IIIB, C, D, and 34D space launch services.

The U. S. Air Force contract calls for services at Vandenberg through September 1980 and at Cape Canaveral through September 1979, with an option to extend the contract for one year.

The division has provided the Air Force with launch support services for the Titan III family since 1964.

Aerospace to exhibit at Paris air show

Martin Marietta Aerospace will exhibit the firm's range of capabilities and products from spacecraft to military and defense systems at the 33rd Paris Air Show in June.

Featured in the exhibit will be a model of the SCATHA spacecraft; work being done in conjunction with Space Shuttle; and four advanced technical weapons delivery and guidance systems.

SCATHA, built by the Denver Division, was launched January 30 as part of a U.S. Air Force effort to solve the mysterious problem of electrical static discharges that have disabled earlier satellites. The spacecraft carries 12 instruments to explore the phenomenon at an altitude of 22,300 miles (35,900 kilometers).

The military portion of the exhibit includes materials and presentations on the fire control/navigation system (TADS/PNVS) being developed for the U. S. Army advanced attack helicopter; the Copperhead laser-guide artillery projectile; and the Pave Penny airborne laser sport tracker. The display also will feature the Orlando Division's simulation and test laboratory, as well as the ATLAS electro-optical airborne attack system, being developed in cooperation with a European firm.

Division to host employees, families at Shrine Circus

The Denver Division will host employees and their families at the El Jebel Shrine Circus Friday or Saturday, June 8 and 9.

The 8 p.m. performance Friday will be exclusively for Martin Marietta employees. On Saturday, at 10 a.m., the performance will be for company employees and the general public. The two performances are necessary because of the seating limit at the Denver Coliseum and anticipated employee participation.

Lost? Found?

Call plant protection

Lost something? Call plant protection. Found something? Turn it in to plant protection.

Plant protection headquarters, located in the division's fire house, maintains the lost and found service for employees.

A check last week showed only a few items being held in the lost and found area: two pairs of gloves, one large red sweater, and one checkbook.

The checkbook is an example of the way plant protection works when something found has an identification. The checkbook has name-imprinted checks. A plant protection investigator is attempting to contact the owner—but there has been no answer at the extension on the first calls.

If you lose an item, call plant protection first to see if it has been turned in. If the item has not been returned, a plant protection investigator will contact you for detailed information about the item and conduct an investigation in an attempt to help you find the item.

Daughters of two employees earn Boettcher awards

The daughters of two Denver Division employees have been named to receive Boettcher Foundation college scholarships.

They are Mary C. Patchett, the daughter of Mr. and Mrs. Robert A. Patchett, and Shari L. Yablonski, daughter of Mr. and Mrs. James R. Yablonski. Miss Patchett's father is a division senior staff engineer while Miss Yablonski's father is an electronics technician.

Both girls had been selected as winners of 1979 Martin Marietta Foundation academic scholarships.

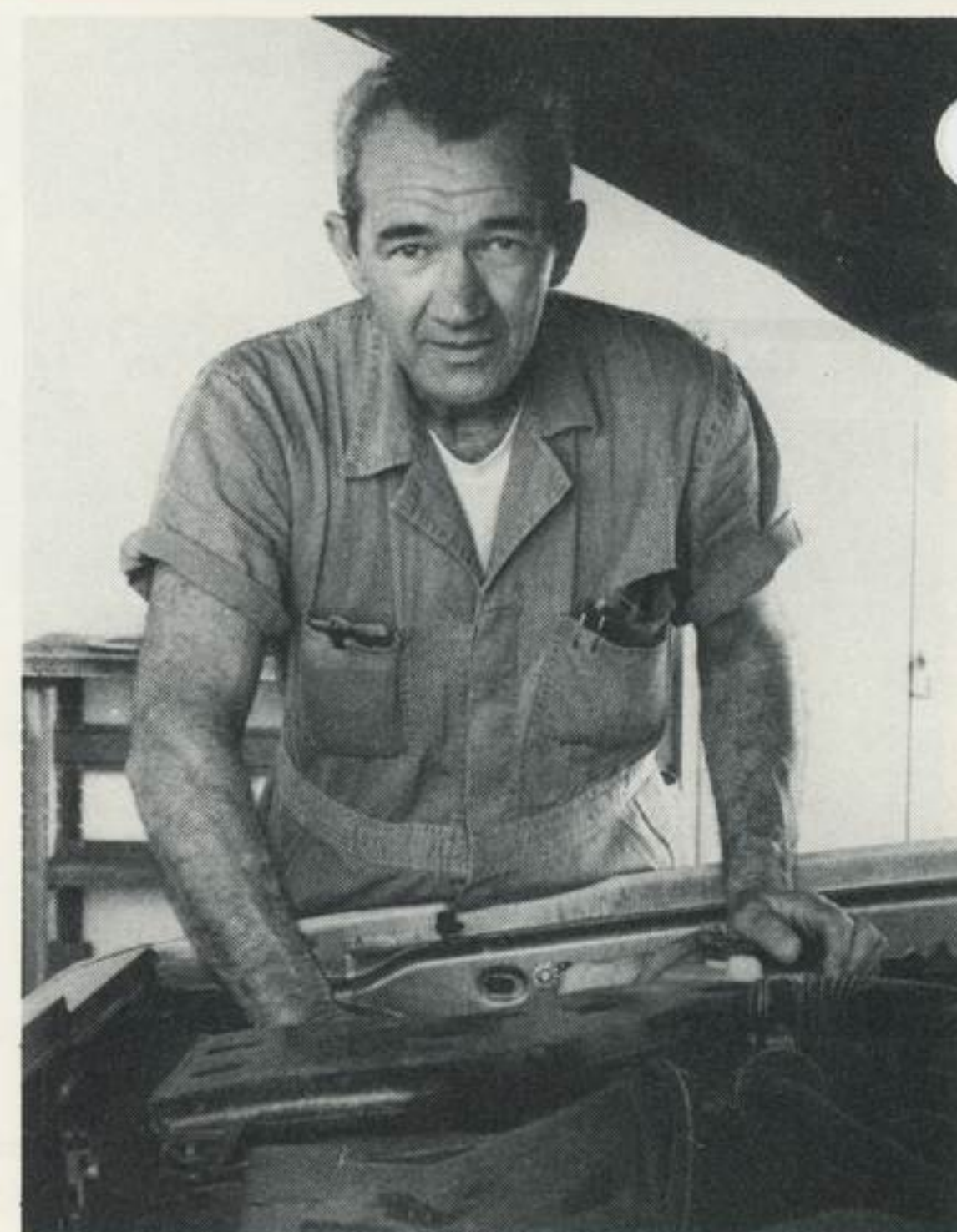
Should they choose to accept the Boettcher Foundation scholarships, they must relinquish the Martin Marietta awards.

Cards have been mailed to each employee asking the number of tickets required and for performance preference. Tickets may be requested for family members living with the employee. Performance preference will be honored within seating limits.

If you did not receive a card, you may obtain one from the recreation office.

All tab cards must be returned to the recreation office, Mail No. 6320, no later than Monday, May 7.

At Canaveral



Griffin D. Watkins was among 42 Canaveral operations employees who received certificates of appreciation for their perfect attendance during 1978. Watkins received special recognition for attaining ten consecutive years without an absence. As a group, the 42 employees have 95 years of perfect attendance.

Canaveral employee chairs seminar

Wally Perkins of the Canaveral operations has been named chairman of a Career Day/Job Opportunity seminar to be held May 16 through 19 at the Joe-Lee Smith Center in Cocoa, FL. The seminar is sponsored by the Gamma Nu chapter of Omega Psi Phi fraternity.

The seminar is designed to identify and define careers available to high school and undecided college students; to provide sources of and requirements for scholarships, fellowships, grants, stipends, work study programs, and loans for acquiring an education; to give information on jobs for the jobless; discuss employment of the unemployed and the underemployed; training and retraining for the untrained or the undertrained; and discuss substandard and minimum standard housing.

Representatives of business, industry, educational institutions, foundations, government, and others are being invited to participate in the seminar.

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At Vandenberg



Andrew Hall, foreground, test conductor, and Celestino Sousa, launch console monitor, conduct countdown operations of the first launch of a Titan III vehicle using PACE.



Supporting test operations of the first launch of Titan III using PACE were Leon Culwell, foreground, engineer; John Graves, standing, technician; Robert Weyrick, seated, left, engineer; and Frank Berardi, quality control inspector.

PACE is used on successful Titan launch

A Titan equipped with the programmable aerospace control equipment (PACE) was successfully launched from Vandenberg Air Force Base.

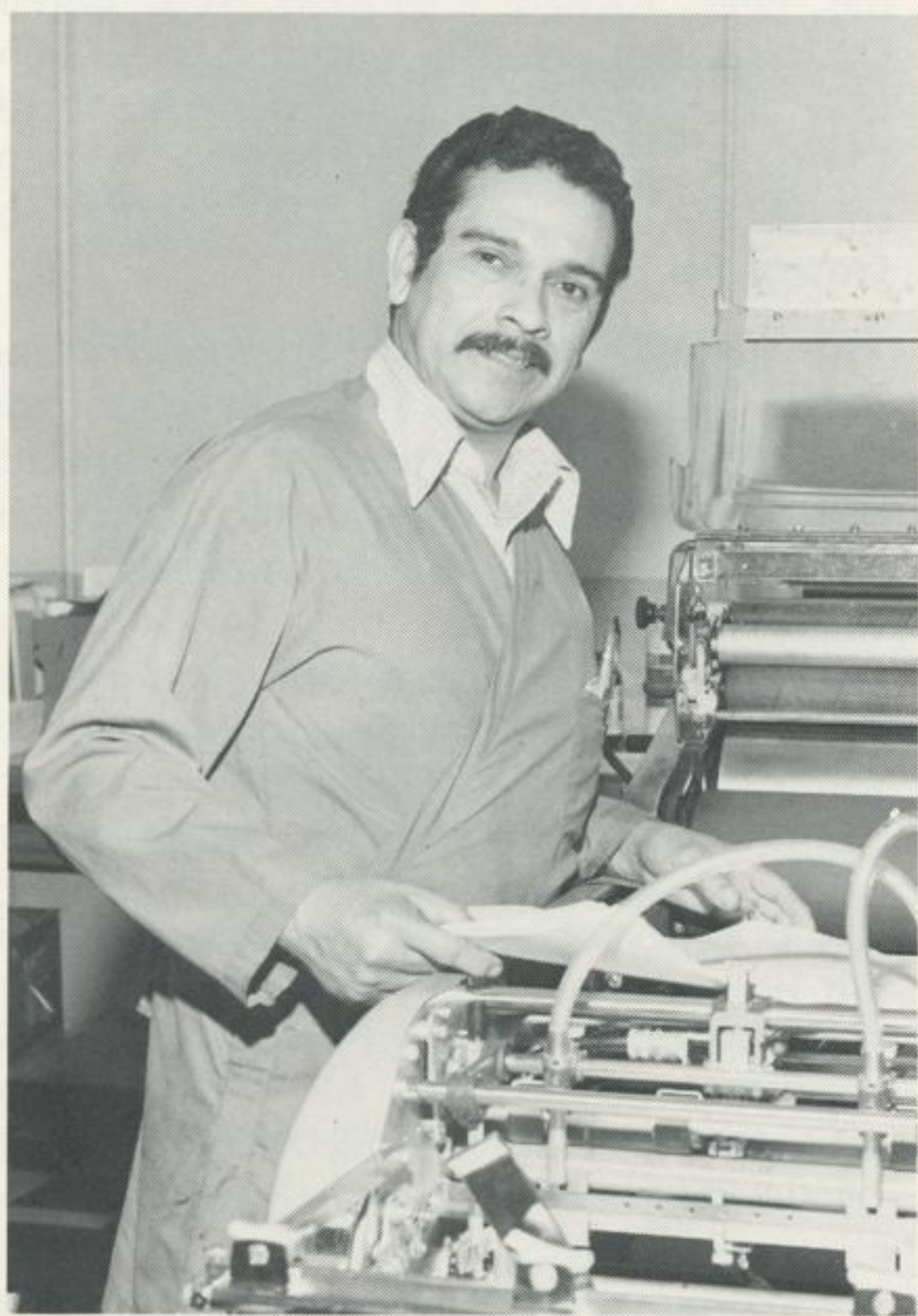
This launch control system uses three computers to control and monitor the airborne system. It performs the preflight checkout and test functions, and the terminal countdown sequence. These func-

tions were previously performed through a vehicle checkout set, the control monitor group, and the data recording set.

Test and operational checkout of new equipment began at Vandenberg in September 1978 and culminated with the successful flight of a Titan III.

Andrew Hall was test conductor on the

launch with Celestino Sousa as launch console monitor; Robert Weyrick, CRT engineer; Leon Culwell, PACE engineer; Frank Berardi, quality control inspector; and John Graves, PACE technician. Systems engineers for the PACE operation include George Rock, Richard Ligon, and Joseph Avello. Lonnie Johnson was the program's technical writer.



Rudy Martinez, the first employee hired at Vandenberg operations in 1959, recently received his 20-year service award from Otha L. Jones, director of Vandenberg operations. When Martinez was hired in March 1959, the entire administrative area consisted of a single, two-story, converted barracks. He is a senior reproduction specialist in the industrial relations and services reproduction unit.

Construction begins on Shuttle launch complex

Initial construction phase on space launch complex 6 to ready it for the Space Shuttle has begun at Vandenberg Air Force Base.

The \$3.8 million contract for the work was awarded Morrison-Knudsen, Inc. by the U. S. Army Corps of Engineers.

The complex was built in the late 1960s for the manned orbiting laboratory program. When the program was cancelled, the complex was never put into operation. Demolition has started, marking the beginning of Space Shuttle work at Vandenberg.

Demolition precedes the extensive modification and refurbishment needed to make the complex ready for the Space Shuttle launch vehicle.

This initial phase will be completed in early October.

Ground breaking at the site was a milestone for the ground support systems project, representing 30 months of extensive concept and design.

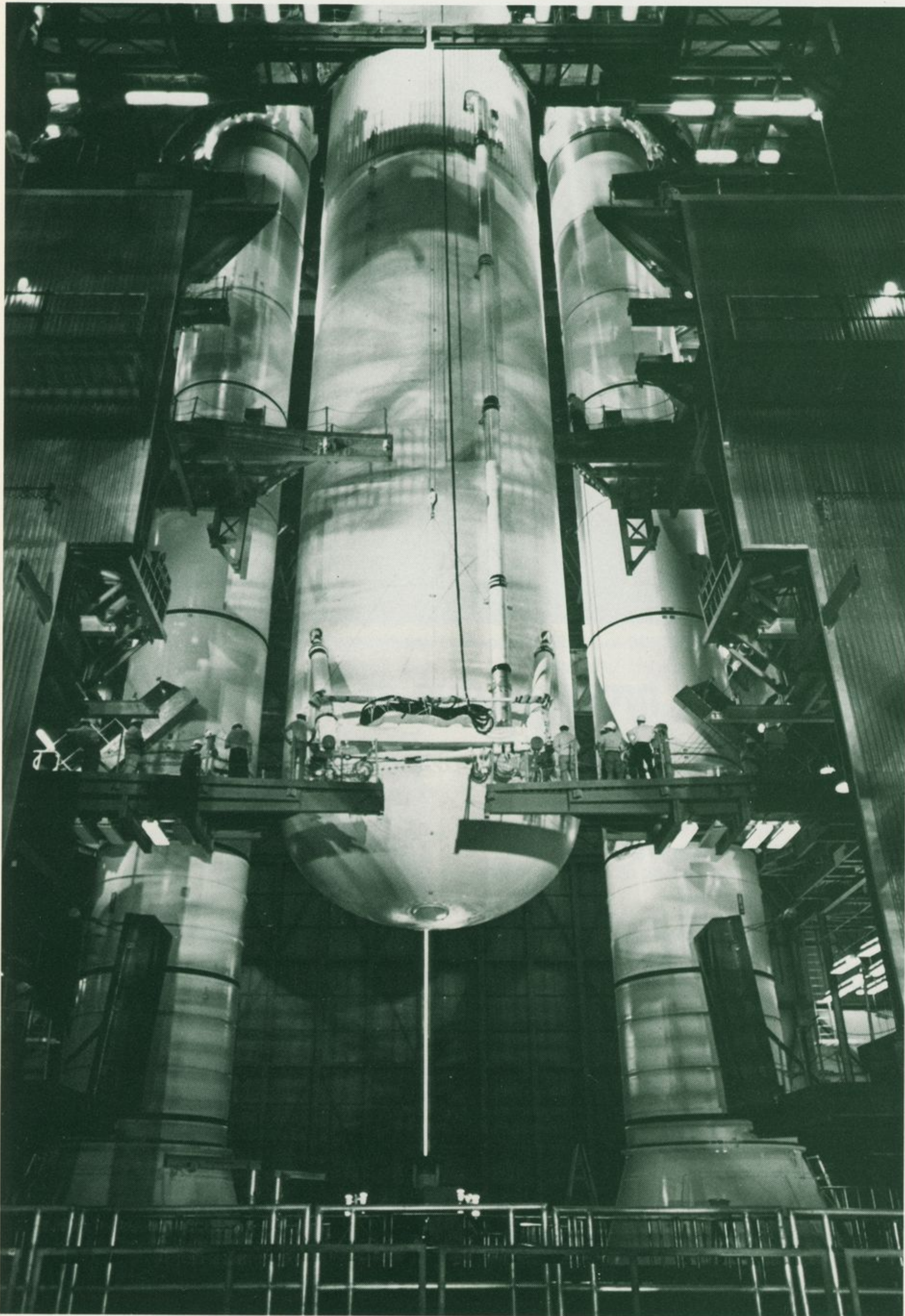


Beverly A. Elarton

GSS secretary honored

Beverly A. Elarton, a secretary at the division's ground support systems office in El Segundo, CA, was named woman of the year by the DeOceana chapter of the American Business Women's Association, representing the South Bay area of Southern California.

She was selected on the basis of "advancement in business awareness, alertness to current business activities, ABWA chapter participation, and extracurricular activities."



The Pathfinder external tank is mated to the two inert solid rocket boosters inside the vertical assembly building at Kennedy Space Center. The orbiter Enterprise will be added later to complete the test version launch vehicle. The Pathfinder launch vehicle will then be rolled out on the huge mobile launch platform to the launch pad for a month of tests. Purpose of the Pathfinder tests is to verify systems and facilities at Kennedy Space Center before arrival of the first flight tank in June.

Facilities man meets all employees

If there were a popularity contest at Michoud, the winner would probably be Augie Mahon, a lanky, white-haired fellow whose laugh and sparkling blue eyes belie his age.

As facilities requirements coordinator since he began, he meets every employee.

"If I don't know everyone, they know me," he said. "I'm in charge of seeing that new hires get everything they need from filing cabinets to desks."

He thoroughly enjoys his work, mainly because it allows him to meet so many new friends.

"The reason I have so many friends," he said, "is because I am completely honest." Then slipping into his Will Rogers-like character, he added, "Why, I'm the most honest person that ever walked in a pair of shoes."

Augie is equally enthusiastic about his home, which has been featured in the "House Beautiful" section of a local newspaper.

The Slidell Times editor went to the home to interview Candy Candido, of Hollywood, one of Augie's many interesting houseguests.

Candido is a longtime movie and radio actor who is master of ceremonies at 30 state fairs each year and is also known for his Walt Disney cartoon character voices.

After the interview, the editor asked to see Augie's home. He was so impressed he asked to feature the home in his paper.

Augie beams with pride as he describes his imported Italian furniture, smoked glass den mirror behind his bar, and the numerous fruit trees and camelia bushes he has planted around his home. "It is really beautiful," he smiled.

Even though he is known for his outgoing manner and playful joking, Augie is careful not to hurt anyone's feelings. "I just couldn't joke with someone in a mean way," he said. "I can't help but consider the other person first."

