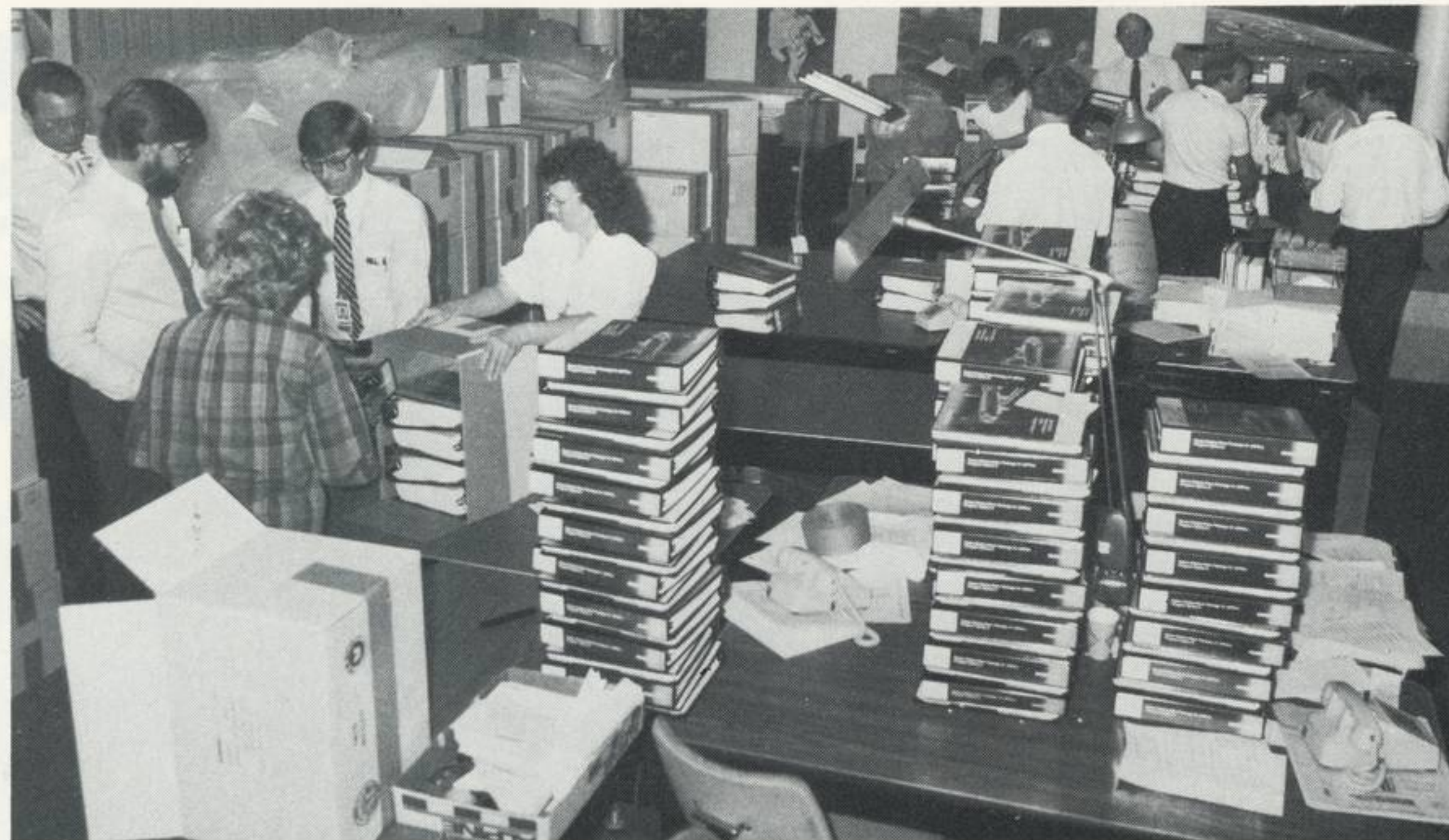


July 31, 1987 Number 15



Company delivers proposal for space station to NASA



Employees review final Space Station proposal before delivery to NASA's Marshall Space Flight Center, Huntsville, Ala.

## On the cover

Martin Marietta delivered its proposal for a \$2 billion space station contract to NASA's Marshall Space Flight Center in Huntsville, Ala., on July 21—one day ahead of competitor Boeing Corp.

The proposal weighed 8,780 pounds and filled 186 cartons on seven pallets, said J. Richard Cook, Space Station vice president. "It came in right at 2 million pages," Cook said.

NASA will make a contract decision Nov. 13.

"It's a tough competition," Cook said. "But we feel good. We think we turned in an excellent proposal."

Shown in the cover photo delivering the proposal are, clockwise from the left, David Hughes, Hal Harvey, Cook, Doug Hart, Robert Lopez, former astronaut Robert F. Overmyer who was hired by Martin Marietta, and, in the front, Ralph Littlefield Jr.

## Overmyer joins space station team

Martin Marietta Corporation has announced that former astronaut Robert F. Overmyer has joined the corporation's Manned Space Systems company as director of Mission Success for the space station program.

Overmyer will be responsible for crew safety and mission objectives, and for conducting independent oversight activities to ensure that crew safety is given the highest priority in all Martin Marietta space station activities. He will report to J. Richard Cook, vice president for the space station project.

"Overmyer's appointment responds to the recommendation by the Presidential Commission on the Space Shuttle Challenger accident that former astronauts be placed in management positions to help ensure that crew safety is given the highest priority. I am confident that this important appointment will ensure the highest standards both of crew safety and mission success in all Martin Marietta space station activities," Cook said.

Martin Marietta is competing for a NASA contract to design and build the laboratory and living space modules for the space station.

Since Overmyer's retirement from NASA and the U.S. Marine Corps in May 1986, he has been president of his own consulting company. In this capacity, he has worked extensively with Martin Marietta on preparing its space station proposal to NASA. ■

## Sloans Lake Medical Group adds services

The Sloans Lake Medical Group has added more anesthesiologists to the physician membership roster of the Martin Marietta Group Medical Plan Preferred Provider Organization (PPO), which is administered by Connecticut General.

Before negotiations with Sloans Lake, 10 anesthesiologists were in the PPO and most of them were affiliated with St. Anthony Hospital, said Carolyn Aldorfer, chief of Employee Benefits. The expanded services provide 17 anesthesiologists who work at St. Anthony Hospital, 12 at Rose Medical Center, 24 at Porter Memorial Hospital and 23 at Swedish Medical Center.

"What this means to the patient is a greater likelihood of comprehensive services provided through the PPO arrangement," Aldorfer said. "This ultimately results in fewer out-of-pocket expenses for the patient without sacrificing quality."

The Employee Benefits office reminds employees that it is the employee's responsibility to ensure that referrals are made to PPO providers (such as an anesthesiologist, radiologist or pathologist.) Services not provided by a PPO facility are applied as usual under the medical plan.

PPO physician directories were mailed to each employee's home last December. Additional copies are available in the Employee Benefits office. ■

## Aerojet successfully tests Titan IV first stage engine

Aerojet TechSystems Company successfully tested a first stage Titan IV liquid rocket engine on July 20. The test marked the inaugural firing of the core propulsion element for the new expendable satellite launch vehicle.

The test lasted 200 seconds, generating more than 500,000 pounds of thrust and a roar heard far beyond Aerojet's rocket production and test facility.

Aerojet's Titan IV work is done under a contract with Martin Marietta Space Launch Systems. Aerojet is building 23 first-stage and 23

second-stage liquid propellant rocket engines.

Titan IV is the Air Force's largest expendable satellite launch vehicle. It will launch five tons of payload into geosynchronous Earth orbit.

In an actual flight, the Titan first-stage engine would ignite about 108 seconds after launch to take over from the vehicle's solid rocket boosters.

The first Titan IV launch is expected in October 1988. ■

## Romer names Beery to CATI commission



Beery

Gov. Roy Romer has named Warren G. Beery, vice president of Technical Operations for Martin Marietta Astronautics Group, to the Colorado Advanced Technology Institute (CATI) Commission.

CATI is a state

agency created to encourage the Colorado, the state's research universities and high-tech industry to work together to sponsor research that will open up new jobs by creating and attracting new industries, and expanding existing Colorado industries, an agency spokesman said.

Romer appointed two others to the commission: James W. Spensley of Boulder and Bud C. Wonsiewicz of Littleton. ■



Engineers Doug Krening, right, and Jim Roucis use the silicon cell compiler they developed to design the SP7910RHD microcode sequencer for Special Programs. This 30,000-transistor chip will be fabricated at the Orlando Microelectronics Center. A single contact from this device is shown in the photograph enlarged more than 1.25 million times.

## Inventors receive awards for ideas

Nine Astronautics Group employees have received cash awards for their creativity in documenting significant ideas that support new business endeavors, contribute to the company's technology base, and fulfill contractual obligations. The Astronautics Group Intellectual Property Review Board, staffed by appointees of Peter B. Teets, Astronautics Group president, evaluated each idea and made the award determinations.

Those receiving awards are: Dr. Harold A. Papazian, Electronics, "Method for Determining Air Quality on Space Station"; Papazian and Ludwig G. Wolfert, Electronics (now with Research and Technology [R&T]), "Window Material for Infrared Scene Genera-

tor"; Dr. Wayne E. Simon, Mechanical Engineering, "Tornado Temperature Gauge"; James M. Roucis and Douglas N. Krening, Electronics (now with R&T), "Silicon Cell Compiler"; Lyle E. Bergquist, Electronics, "Helium Leak Detector Calibrator" and "A Method to Enhance the Organics' Level in the Inlet of a Mass Spectrometer"; Philip Beck, Engineering Mechanics (now with SDI Experiments), "Remote Sensing of Titan Launches"; Thomas P. Sangston, Electronics (now with R&T), "Extrinsic Silicon Impurity Bank Infrared CTD"; and Edward J. Sedivy, Jr., Electronics (now with Project Challenge), "Optical Time Domain Reflectometer for Space Vehicle Hit Position Indicator." ■

## Fall briefing and registration set for continuing education classes

Briefing and registration for fall continuing education classes will be Aug. 11 and 12 and Sept. 8.

Briefing and registration for continuing and new students for SURGE classes through Colorado State University will be at 1 p.m., Tuesday, Aug. 11, in the Engineering Presentation Room.

Gayle Ganger, coordinator for the University of Southern California extension program, will brief anyone interested in the master of science in Systems Management program at 11 a.m., Tuesday, Aug. 11, in the Technical Support Building, Conference Room 502. USC students may register for Term II from noon until 1 p.m. The term begins Aug. 31.

Briefing and registration for continuing and new students for CATECS classes through the University of Colorado will be at 1 p.m. Wednesday, Aug. 12, in the Engineering Presentation Room. The briefing will explain several recent changes in classroom locations.

Steve Ellis from the Continuing Education Department of the University of Colorado at Colorado Springs will conduct a briefing and registration for the master of science electrical engineering degree in Systems Engineering from 4-5:30 p.m. Tuesday, Sept. 8, in the Presentation Room, Building 8100, at Greenwood Commons.

For additional information, contact Educational Services, Ext. 7-3736, 7-4050 or 7-5698. ■

## Design Center opens in Denver

A high-technology, Very Large Scale Integrated (VLSI) Circuit Design Laboratory has been established to supply custom-tailored radiation-hardened circuits to Martin Marietta programs and subcontractors.

The laboratory has contracts to design complimentary metal-oxide semiconductor and gallium arsenide circuits. These technologies are available in gate array, standard cell and full-custom formats. The laboratory also maintains a rapid prototyping service to build quick turnaround, low-cost devices for research programs. The laboratory is located in the Technical Support Building, Room 114, Ext. 1-9276.

## Williams receives first certification

Martin Marietta's Mike B. Williams is the first waste water treatment operator in Colorado to be certified as a Class A (highest level) operator under the state's new industrial waste water treatment program.

Colorado's certification board established an industrial waste water treatment classification to certify operators and reclassify company facilities. The first eight-hour test in March covered a wide range of topics, including management questions, essays, math questions on hydraulics, and chemistry questions.

"I entered the field to help protect and maintain our environment," Williams said. "The industry bears the responsibility of discharging the effluent back into the environment cleanly. Consequently, we must be knowledgeable in chemistry and biology."

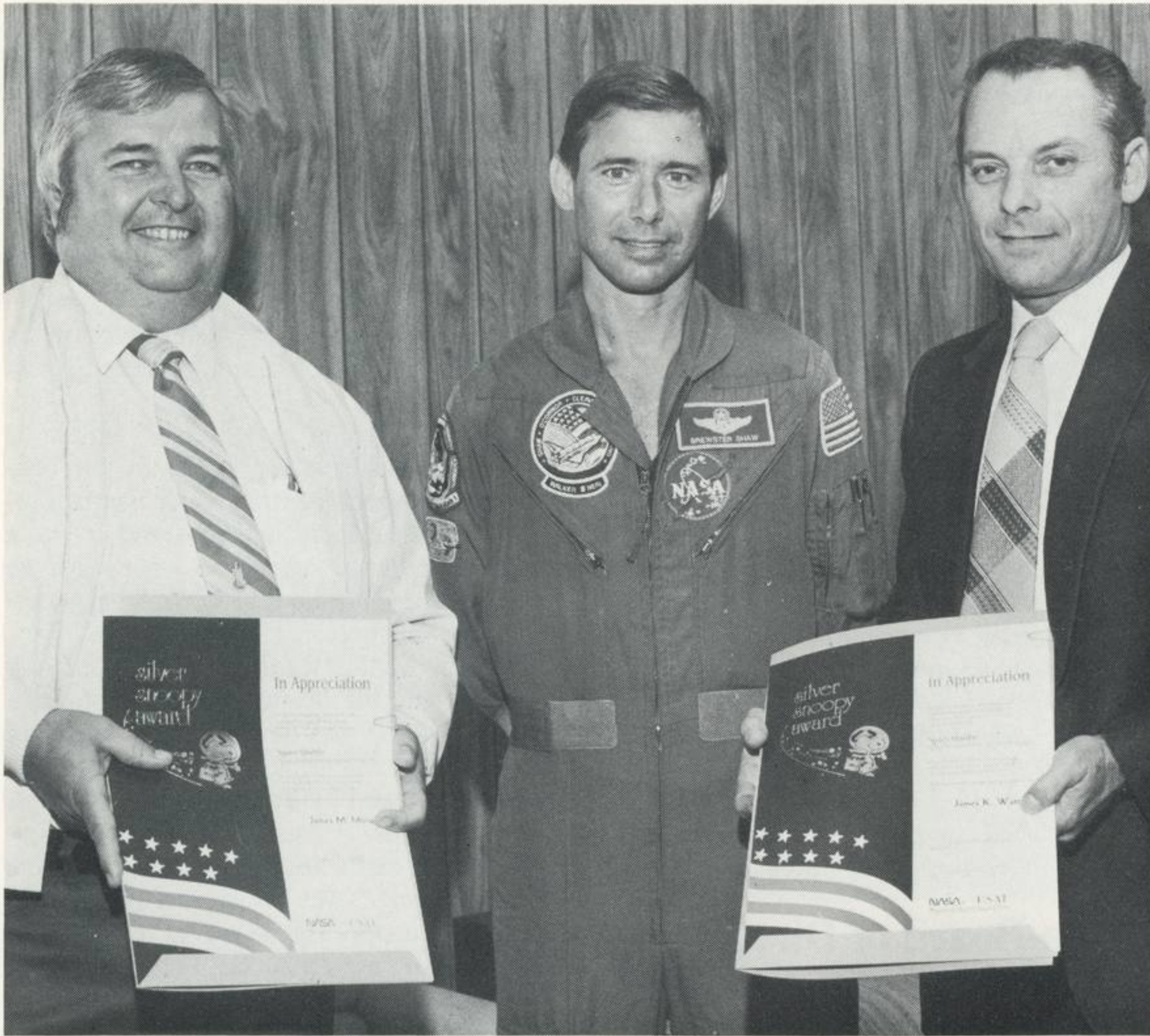
Williams also is nearing completion of an associate degree in water/waste water technology from Red Rocks Community College.

Martin Marietta plans to train and certify other employees. John Turcheck and his training department will conduct classes to prepare more operators for certification. ■

## Safety Tip

Plant Protection and Safety departments ask all personnel operating vehicles on company-owned or -leased property to observe and comply with posted traffic signs and marking.

Plant Protection has purchased a road runner hand-held radar gun and has issued traffic violation notices to personnel who were on company property operating vehicles in excess of posted speed limits. This is aimed at ensuring the safety of employees, customers, and visitors.



James M. Money, left, and James K. Watts, right, display commendations presented by NASA astronaut Brewster H. Shaw, Jr.

## NASA astronaut honors GSS employees

Two longtime Martin Marietta employees assigned to the Space Shuttle Ground Support Systems (GSS) program at Vandenberg Air Force Base, Calif., were recognized recently for job excellence by NASA astronaut Brewster H. Shaw, Jr., Colonel, USAF.

James K. Watts was recognized for cost-effective, timely, and technically sound leadership of the GSS Systems Engineering section, which has supported the engineering transition, payload systems and minimum facility caretaker status descoping efforts.

James M. Money was commended for outstanding performance as chief of Cargo Operations and Maintenance and for his work in daily planning and operations leading to system placement in the operational standby mode.

Each received a certificate and a Silver Snoopy lapel pin from Shaw.

The silver pins, which have been presented to outstanding employees during the Space Shuttle program, have all been carried aboard shuttle missions in space. ■

## A Titan tradition lives on with Titan IV

*(Editor's note: This article by George Lawrence, manager, Titan programs manufacturing, is the fourth in a series of articles following a Titan IV through production.)*

Since 1964, Martin Marietta Aero & Naval Systems (formerly Baltimore Aerospace) has played a key role in fabrication activities of the Titan launch vehicles.

The same large riveting machines in Baltimore that performed the complex task of mechanical fastening so well on the famous Martin aircraft of World War II now drill and set thousands of rivets each day on Titan hardware.

This blend of old machinery, along with new and modern computer-controlled milling machines, processes more than 3,000 mechanical details for each Titan IV. All piece part and

assembly operations are governed by the same strict procedures used by Martin Marietta Astronautics Group.

The largest structures fabricated by Aero & Naval Systems for Titan IV are the 10-foot diameter skirt sections located on the front and back of each Titan tank. The large cylindrical objects are welded to the fuel and oxidizer barrel sections and fastened to the entire 143-foot tall Titan IV core vehicle.

Nine of these sections are required for each Titan, and it is the timely delivery of these preassembled components to Denver that allows the start of Titan IV tank welding.

Close coordination between Denver and Baltimore is constantly maintained by R. Watson, manager of Titan interdivisional activities, and A. Rosener, director of Baltimore's interdivisional operations. ■

## Savings bond winners named

After the successful 1987 U.S. Savings Bond drive, the names of fifty employees were drawn from those who participated in the drive for free \$100 savings bonds.

The winners are Philip M. Bastnagel, Denise D. Befus, Donald J. Bovinett, Barbara J. Carlson, Elaine C. Carlson, Diane L. Cloud, Jeffrey R. Cole, Gloria M. Cordova, Jan M. Coughenour, John F. Craig, Len C. Cresawn, William O. Crosby, Susan G. Cunningham, Patricia P. Dahl, Gregg R. Enders, Norman D. Eno, Edward C. Fox, Daniel E. Gutierrez, David V. Hampton, Arthur L. Harberg, Michael J. Herald, George C. Holsinger, Ivan J. Jensen, Russell C. Jones, Steven W. Kuethe, Kevin Landon, Marilyn S. Landon, Robert T. Lone, Catherine E. Madison, Tom S. Marshall, Patrick P. Mastaler, Donald L. Mlady, John H. Montgomery, Francis M. Moore, Matthew G. Nichols, R. William Noe, Harold W. Oxley, William H. Payne, Borislav Popovich, Thomas E. Richardson, Edward L. Rodriguez, Daniel L. Ruedy, Michael Ryer, John P. Sabo, David W. Schanding Jr., Richard K. Small, Randall K. Sprague, Laurel B. Stephenson, Sean P. Walsh, and Wendy R. Warren.

The bond drive reached 95.6 percent employee participation and exceeded the 95 percent goal set for the drive. ■

## PSP values

Unit values for the performance sharing plan (PSP) for salaried employees in June (May values in parentheses) are:

Fund A	(indexed equity)
4.9026069451	(4.6663548993)
Fund B	(fixed income)
2.7037231834	(2.6811834226)
Fund C	(company stock)
4.8404096104	(4.6230434008)

## SIP values

Unit values for the savings and investment plan (SIP) for United Aerospace Workers (UAW)- and United Plant Guard Workers of America (UPGWA)-represented employees in June (May values in parentheses) are:

Fund A	(indexed equity)
1.1226653758	(1.0706176913)
Fund B	(fixed income)
1.0411326052	(1.0343691905)
Fund C	(company stock)
.9958117373	(.9535124641)

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## PROJECT CHALLENGE

(Editor's note: The following article was submitted by Dave Brodie, manager of Integration and Command Media for Project Challenge, in coordination with Pete Schoonover's Mission Success department.)

Significant improvements are underway in the Martin Marietta Anomaly Report System (MARS) process.

A MARS form is a document written to identify any material or hardware not conforming to a specified drawing or contract requirement. The form indicates and tracks a problem, helps to determine what must be done, and precludes the problem from recurring. Any employee can write a MARS.

The new MARS form was introduced July 27 throughout the Martin Marietta Astronautics Group, and was developed by a team of Quality, Manufacturing, and Data Systems personnel headed by Pete Schoonover's Mission Success department. The new form consists of four carbonless copies instead of the previous form's seven copies and requires 20 fewer data entries. The new form is to be used for hardware discrepancies only—not as a Work Authorization form, which is used to authorize such work as special inspections or tests, nor is it to be used to obtain common use material from stock.

In addition, all hardware nonconformances will be reported on the new form. Use of the Discrepancy Report, which required separate procedures, but almost duplicated the MARS form, will be discontinued.

The new streamlined MARS will reduce processing time and cost. The new system is also completely responsive to the requirements of Military Standard (MIL STD) 1520, the corrective action and disposition system for nonconforming material, and NASA Handbook (NHB) 5300, the quality manual for NASA.

A Manufacturing In-Process Variance Report has been developed to record variations from a specification. These variations can be corrected by a Manufacturing employee before being submitted to Quality, saving time and cost.

This improved MARS process is in a 90-day evaluation cycle that began June 1. We anticipate that changes in the MARS form will significantly reduce the number of MARS forms generated. The form requires only a fraction of the data entries on a MARS form and promises to provide significant savings. A Project Challenge team, headed by Rod Walter, is analyzing the entire MARS process to enhance further simplification, integration, and automation. Preliminary results of the analysis performed by this group will be presented Sept. 7. ■



### Denver and Baltimore work together on Titan

A Commercial Titan design team from Denver and production personnel from Martin Marietta Aero & Naval Systems (formerly Baltimore Aersospace) are joined by management in a table-top review of the Commercial Titan forward skirt. Table-top reviews are held to ensure that the designers and the production area responsible for producing the hardware have a clear line of communication, and that the hardware can be built to engineering requirements and be inspectable.

## Corporate news

### USAir's Edwin I. Colodny elected to Board of Directors

Martin Marietta Corporation has announced the election of Edwin I. Colodny, chairman and president of USAir Group, Inc., to the Martin Marietta Board of Directors.

Colodny, 61, has been president, chief executive, and a director of USAir since 1975 and the airline's chairman since 1978. He also serves as chairman and president of USAir Group, Inc., the holding company parent firm of USAir.

His election increases the membership of the Martin Marietta Board to 14.

### Corporation names Morra corporate vice president



Morra

The Board of Directors of Martin Marietta Corporation has elected Robert G. Morra, vice president of Technical Operations, to be a corporate vice president.

As Martin Marietta's chief technical officer, Morra, 52, is responsible for engineering, manufacturing, quality assurance, and research throughout the corporation.

Morra joined Martin Marietta as an engineer 31 years ago at Baltimore and transferred in 1958 to Denver, where he held technical management positions of increasing responsibility. He was named vice president for technical operations at Denver in 1983 and moved to his present position at corporate headquarters in 1985.

### Martin Marietta announces 2nd quarter earnings

Martin Marietta reported second quarter earnings of \$71,581,000, or \$1.31 per share, compared with \$57,325,000, or \$1.04 per share, during the same period in 1986. Sales increased to \$1,373,341,000 in the second quarter from \$1,226,472,000 a year ago.

First half net earnings were \$115,641,000, or \$2.11 per share, compared with \$105,737,000, or \$1.92 in the first six months of 1986. Sales for the half-year were \$2,511,993,000, compared with \$2,310,670,000 in the first six months of 1986.

Thomas G. Pownall, chairman and chief executive officer, said, "with strong contributions from all major business areas, earnings to date continue to track our expectations, and the growth in backlog to approximately \$8.8 billion bodes well for future years." ■

## Security notes

The Security department asks that employees remember several items concerning automatic data processing systems.

Only computer systems specifically approved by the Government Security department may be used to process Department of Defense classified informa-

tion. Employees who want to bring their own personal computers (PCs) onto company premises must comply with the requirements of Standard Procedure 6.2. The PC systems are not authorized to process classified data or company proprietary data.



Mile High  
United  
way

# Employee Services/Recreation



**Third Annual Health Awareness Week**—The Employee Services and Recreation department will conduct the third annual Health Awareness Week Aug. 10-14. Sessions will emphasize life styles and factors that contribute to mental, physical and emotional well being. Health screenings, available by appointment, include skin cancer screening (10 minutes, no charge), and a three-step blood pressure, cholesterol level and health appraisal test (15 minutes, \$5 charge). To schedule an appointment for these tests, call Ext. 7-6605 or 7-6750. Free tests available without an appointment include blood pressure tests (5 minutes), diabetes screening (2 minutes), and percentage of body fat composition test (10 minutes). The American Cancer Society will have three "Taking Control" seminars each day that provide lifestyle and nutrition tips. Employees can obtain health-related information from tables staffed by the American Cancer Society, United Way, Arthritis Foundation, Colorado Optometric Society, and Martin Marietta's Employee Assistance Program and Safety department.

At Viisha Sedlak's Racewalking Clinic, 5-6 p.m. Aug. 11 in the recreation area, employees can learn techniques of this noninjurious, aerobic exercise. Racewalking increases cardiovascular fitness, tones the body and is beneficial for all ages. The clinic is free, but preregistration is necessary. The registration form is in the Health Awareness Week schedule is in all recreation racks.

Health Awareness Week programs will be in the following locations (check recreation racks for specific room locations): Monday, Aug. 10, Engr. Bldg., Waterton; Tuesday, Aug. 11, SSB Bldg., Waterton; Wednesday, Aug. 12, DSC; Thursday, Aug. 13, Terrace Towers; and Friday, Aug. 14, LSC.

**Archery Club**—The Red Rock Bowmen Archery Club will meet at 4:45 p.m. Aug. 11 in the Recreation Area Clubhouse.

**LSC Toastmasters**—The group meets at 4:30 p.m. Wednesdays in the Training Room Mezzanine of SCOE at LSC. Contact Kathy DeWitt, Ext. 7-0397.

**Elitch Gardens Amusement Park**—Carousel Club cards are available from the Recreation office, Engr. Bldg., Waterton, and from volunteer recreation representatives. The card provides \$2 off on unlimited rides Monday-Friday. It can be used for a discount one weekend of your choice when the regular price is \$9.95 (\$7.95 with card).

**Flag Football**—An organization meeting will be at 5 p.m. Aug. 5 in the SSB Cafeteria. Topics for discussion will include rule changes, roster deadline, season schedule and team fees.

**Singles Together**—The Martin Marietta Singles Club plans the following events: Tuesday, Aug. 11, dinner at Mataam Fez at 7 p.m. Call Don Smith for reservations, Ext. 1-1115. The activity is for members only. The monthly meeting and program will be at 5 p.m.

Thursday, Aug. 20, at the clubhouse near SouthPark. For more information, contact Theresa Ford at Ext. 1-5883. Members and nonmembers are welcome.

**Martin Marietta Family Night with the Denver Zephyrs**—Tickets have been distributed for the company's family event at Mile High Stadium on Aug. 8 when the Denver Zephyrs meet the Nashville Sounds at 7:05 p.m. Stadium gates open at 4:30 p.m. Martin Marietta's all-star teams, the American and National Leagues, will play an exhibition game from 5-6 p.m. Team members were selected from the Wednesday night competitive league teams. Employees who requested baseball tickets and did not receive them should contact their department administrator.



## Family Day at Lakeside Amusement Park draws thousands

More than 18,000 employees and family members enjoyed the company-sponsored family day at Lakeside on July 18. In addition to juggler Russ Smith, shown here, and numerous rides, employees were entertained by pop star B. J. Thomas; The Nacho Men (a 50s and 60s rock and roll dance band); illusionist Gary Peterson; gymnast and hula-hoop champion Matt Plendl; and Fame, the talking robot.

## Workshops designed to emphasize ethics

A supervisor asks Jerry, one of his new electronics assemblers, to omit charge numbers and fill in only the total hours on his time card. Suspicious that his boss might be falsifying his time card, Jerry seeks advice from his father, who works at the same facility and is a longtime friend of Jerry's boss. The father learns that Jerry is producing the exact same wiring harness for the customer under two separate contracts, one of which is fixed-price, and the other which is cost plus.

When Jerry suggests that his supervisor is charging overtime worked on the fixed-price contract to the cost-plus contract, his father advises him to keep quiet, and reminds him that being a new employee with a large house payment, he should not make waves.

The situation described above, although fic-

tional, illustrates an ethical dilemma that could occur in the defense industry. Cases similar to this will provide the springboard for stimulating and sometimes controversial discussions in the Ethics Awareness Workshops scheduled for all management and supervisory personnel.

Directed by the Corporate Ethics Office, the one-hour workshops are designed to increase awareness of Martin Marietta's Code of Ethics and Standards of Conduct, and to illustrate the need for ethical behavior by all personnel in the defense industry. Participants in the workshop will also discuss their responsibility to provide a work environment that promotes ethical conduct. Managers and supervisors will be contacted soon for inclusion in a workshop. ■