

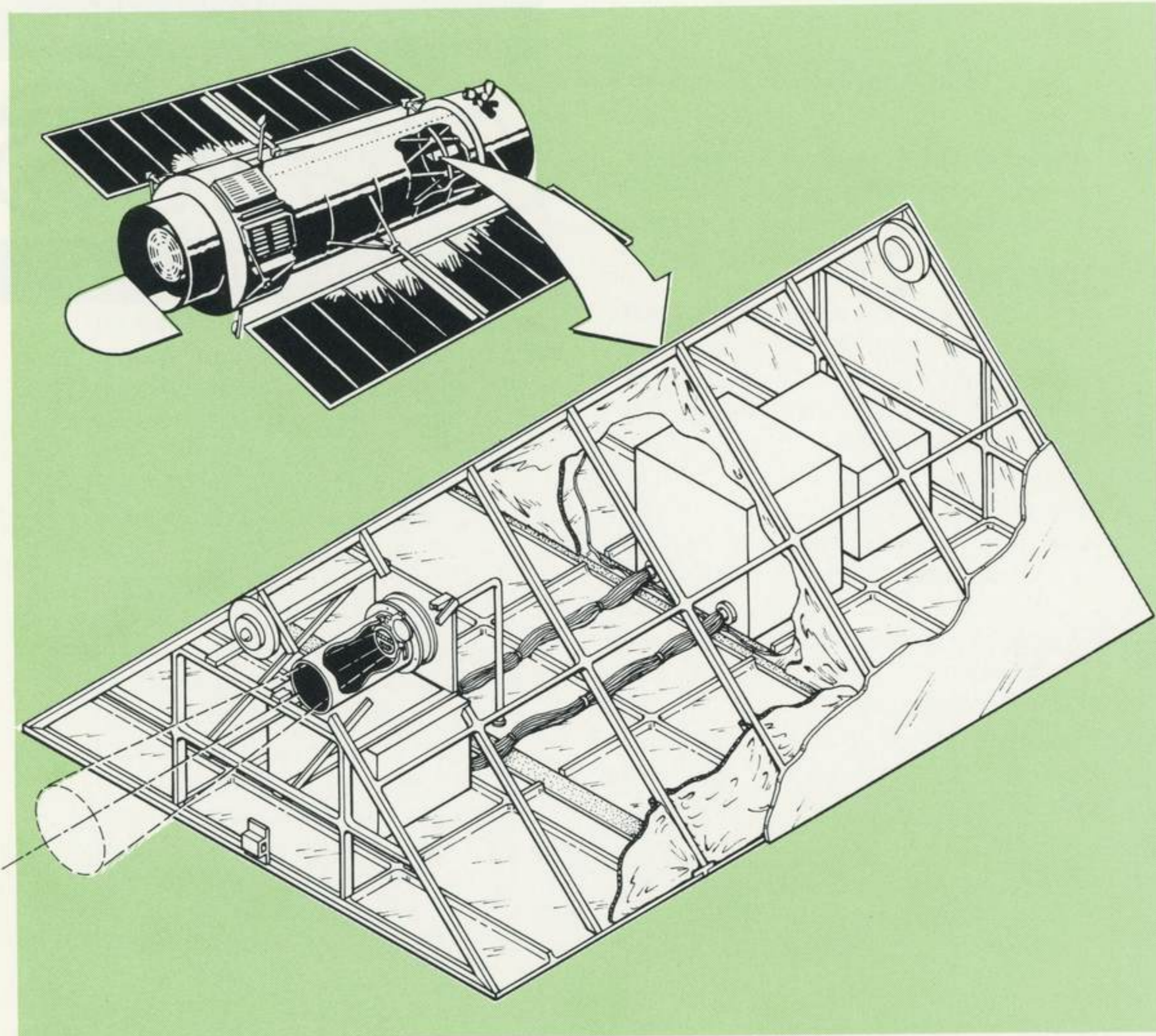
November 7, 1986

Number 22

## Emplacer readied

The fifth of eight Peacekeeper Emplacers being built for the USAF, undergoes final testing at the Denver Aerospace Vertical Test Facility (VTF). The fifth emplacer will be placed into service at Francis Warren Air Force Base later this month.





Arrow indicates location of imaging spectrometer within Advanced X-ray Astrophysical Facility.

## Martin Marietta to build device for NASA astrophysical satellite

Martin Marietta has been selected as the system contractor and integrator for a key instrument aboard the Advanced X-ray Astrophysical Facility (AXAF) satellite, planned for launch by the National Aeronautics and Space Administration (NASA) in 1995.

Work on the instrument, the Charge Coupled Device Imaging Spectrometer, will be performed by Denver Aerospace as prime contractor to the Center for Space Research of the Massachusetts Institute of Technology (MIT). The MIT center, teamed with the Pennsylvania State University and the Jet Propulsion Laboratory, is one of the principal investigative organizations assigned by NASA to develop instruments for AXAF.

A large, free-flying X-ray telescope, AXAF will be similar in scale and operation to the Hubble Space Telescope, but will be capable of detecting astrophysical sources and phenomena at much shorter wavelengths. While the Hubble Space Telescope will detect and analyze emissions from infrared, ultraviolet, and faint visible light sources, AXAF will detect and analyze cosmic emissions at X-ray wavelengths, indicative of much higher-energy astrophysical phenomena.

The imaging spectrometer, in conjunction with the great power of the AXAF optical system, will be able to detect extremely faint cos-

mic X-ray sources. It will be capable of determining the emission mechanisms in quasars and active galaxies; analyzing the composition of supernovae and presupernova stars; and measuring and determining elements in interstellar bodies and dust.

Two arrays of six charge-coupled devices will form the spectrometer's focal plane. One array will be used as an imaging spectrometer to resolve X-ray sources with an angular resolution of half an arc-second, while simultaneously providing energy resolution of 150 electron volts. The other detector array will be used in conjunction with transmission gratings located behind AXAF's mirror assembly to obtain wavelength resolution of better than 0.1 percent.

Martin Marietta will design, build, and integrate major portions of the imaging spectrometer, using charge-coupled detector assemblies provided by MIT. The charge-coupled detectors are semiconductor devices which take the place of X-ray film. Each detector comprises many thousands of pixels (picture elements) which may be thought of as the grains of a film, with each pixel capable of resolving a portion of the X-ray image. The whole image is then read out electronically and transmitted to Earth. Unlike film, the detector is not expended after one exposure, but can be reused repeatedly. ■

## IIVV project earns 'excellent' rating

The inertial upper stage (IUS) Independent Verification and Validation (IIVV) project was recently given an "excellent performance rating" (95.4 percent) by the Air Force for the period from March through July of this year.

Col. Dennis Beebe, the Air Force manager for the IUS program, stated that "the Martin Marietta IIVV team has made important corrections to the IUS flight software and has been a prime factor in the flawless performance of that software to date."

The IIVV project has performed an independent evaluation of IUS software since 1978 and has earned six consecutive "excellent" ratings since 1983. Test activities include analytical studies performed using CYBER scientific computing facilities at the Greenwood Commons facility and a real-time IUS avionics hardware testbed housed in the GPL building at the Waterton facility.

Winston Sparks is program manager. The IIVV project joined Denver Aerospace's Military Space Systems operations at the end of July 1986. ■

## Smokeout slated for November 20

The employee services department encourages all employees who smoke to participate in the 10th annual Great American Smokeout on Thursday, Nov. 20.

Smokers are asked to give up cigarettes for 24 hours. The American Cancer Society points out the following:

- A smoker's body will start the healing process within hours after he or she quits. Two years after quitting, the risk of heart attack is about the same as a non-smoker's.
- Quitting smoking has more beneficial effects on ulcers than does the leading ulcer drug.
- Eighty-five percent of American smokers want to quit. The society suggests that smokers:
  - Throw out all cigarettes by breaking them in half and wetting them down. Clean out all ashtrays in your home, office, or car and put them away. Discard matches, hide lighters, or give them away.
  - When the urge to smoke hits, take a deep breath. Hold it a second, then release it very, very slowly. Taking deep, rhythmic breaths is similar to smoking, only you'll inhale clean air, not poisonous gases.
  - Exercise to help relieve tension.
  - Eat three or more small meals. This maintains constant blood sugar levels, thus helping to prevent urges to smoke.
  - Cleanse your body of nicotine. Drink plenty of liquids, such as water (6-8 glasses a day), herbal teas, fruit juices, and caffeine-free soft drinks. Pass up coffee, caffeinated soft drinks and alcohol, since they can increase the urge to smoke. ■



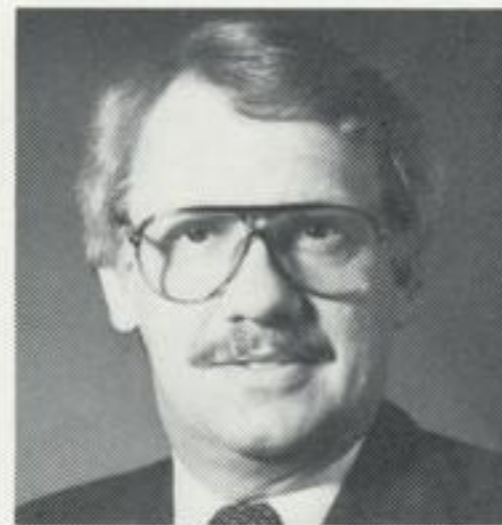
Williams



Rodriguez



McGann



Seefeldt

## Employees' final help sought to achieve United Way goal

As the Martin Marietta United Way campaign nears completion, employees are asked to help meet 100 percent company participation.

"I am impressed with the generosity of Martin Marietta employees," said Karen Cutler, senior vice president and campaign director of the Mile High United Way. "I urge everyone who has not yet attended a United Way meeting, or signed up to contribute, to do so now."

The meetings feature a video that includes Martin Marietta employees who are among the community volunteers deciding where funds raised will be invested. Other employees share their experiences as recipients of United Way agency services. Those in the video include Denver Aerospace employees Olivia Williams, tool management specialist; Liz Rodriguez, personnel clerk; Mike McGann, employee relations specialist; and Bill Seefeldt, manager of communications and administrative support for Data Systems. ■



Robert Clady, seated, holds commendation award, presented by, left to right, Bill Bicknell, manager of materiel control; Chuck Wood, director of materiel; and Ken Betz, chief, materiel handling;

## Clady's honesty earns praise

When Robert Clady found \$103,000 in the Waterton facility parking lot on Sept. 15, he immediately returned the money to his supervision. Clady's prompt action won him an immediate spot award.

Clady, a vehicle operator in materiel control, discovered envelopes containing numerous checks west of the Engineering Building. Returning the checks, made out to Martin Marietta vendors, contributed directly to maintaining the good reputation of payment

the company enjoys, said Chuck Wood, director of materiel.

"We avoided late charges and many man-hours of research by both the finance and traffic departments," Wood said. Clady's commendation read, in part, "Clady has consistently demonstrated a great concern for the expeditious and secure movement of documentation through the procurement system. He demonstrated prompt response and personal integrity." ■

## News briefs

### Col. Schichtle named new BMO commander

The Air Force has announced the assignment of Col. C. J. (Cass) Schichtle Jr as the new vice commander of the Ballistic Missile Office, Norton Air Force Base, Calif. In addition, on Oct. 1, Col. Schichtle became the program manager of the U.S. Air Force's Peacekeeper Intercontinental Ballistic Missile (ICBM) development, production and deployment program. He replaces Brig. Gen Edward P. Barry Jr, who became commander of BMO Sept. 30. The colonel was initially assigned to BMO in June 1982 as the director of engineering and has been the deputy Peacekeeper ICBM program director since April 1984.

### Operation Santa Claus needs old papers

Operation Santa Claus asks employees to help recycle newspapers and collect funds for the coming volunteer activities.

"We are expanding our holiday activities and adding other events throughout the year," said George McCone, chairman of this year's Operation Santa Claus board. "We hope to raise the additional funds needed for these activities through our newspaper recycling system."

Operation Santa Claus is a volunteer organization of Martin Marietta employees dedicated to helping needy children and families in the Denver metro area, McCone said. Large red collection bins for used newspapers are now at the Waterton facility, and will soon be added at other locations.

### Open enrollment begins for accident insurance

Employees not yet enrolled in the Special Accident Insurance plan, or those who wish to increase their coverage, may do so now. Changes made now become effective December 1, while changes made after Dec. 1 go into effect June 1, 1987.

The plan provides benefits in case of death, dismemberment or total disability caused by an accident on or off the job. All active full-time employees are eligible to participate.

Employees may select coverage from \$20,000 to \$250,000 (or to a maximum of \$500,000 if it does not exceed 10 times the employee's annual earnings). By selecting family coverage, employees insure the lives of their spouse and dependent children. Employee insurance costs \$.09 per week per \$10,000 of coverage. Coverage for an employee and dependents is \$.14 per week per \$10,000.

For additional information, refer to the Special Accident Insurance booklet, or contact the benefits office. ■



### 1985—86 Jr. Achievement volunteers honored

Employees who volunteered for the Junior Achievement (JA) Program during the 1985-86 school year were honored recently at a recognition breakfast. Seated, left to right, are Tom Elbring and Carol Romero, advisers for the evening high school program; Grant Stailey, project business instructor, spring 1986. Standing, left to right, are Lori Sharp, JA coordinator; Terry Makdad, Tom Elbring's group leader; Stanley F. Albrecht, vice president of Production Operations and a member of the JA Board of Directors; and Wes Jorgensen, administrator, program planner, and Stailey's supervisor. Not pictured are John Dominguez, project business instructor, fall 1985; Jim Libhart, adviser; and John Lincoln and Cathy Bliven, center managers for the Evening High School Program.

## Corporate news

### Bracken named I&CS vice president

Peter A. Bracken has joined Martin Marietta Information & Communications Systems as vice president, Technical Operations. The appointment was effective Sept. 29. Bracken will be responsible for providing technical leadership and maintaining technical excellence in engineering, research, product support, quality assurance, production operations, facilities, and management information systems for the company. Bracken will report to Robert J. Polutchko, president, I&CS.

Bracken held a number of executive positions with NASA, most recently as director of mission operations and data systems at Goddard Space Flight Center. ■

### Martin Marietta announces third quarter earnings

Martin Marietta Corporation net earnings for the third quarter were \$51,008,000, or 92 cents per share, compared with \$49,674,000, or 84 cents per share, in the same quarter last year. Sales for the quarter increased to \$1,173,389,000 from \$1,086,352,000 in the third quarter of 1985.

Nine-month net earnings were \$152,326,000, or \$2.76 per share, compared with nine-month earnings a year ago of \$199,465,000, or \$3.47 per share. Nine-month 1985 earnings included a one-time gain of \$1.29 from the 1985 sale of the Master Builders division. Gains from asset sales in the first nine months of this year were approximately 32 cents per share. Sales for the nine months were \$3,484,059,000 compared with \$3,201,478,000 in the same 1985 period.

Thomas G. Pownall, chairman and chief executive officer, attributed the third quarter results to "improved earnings in aerospace and materials which more than offset continuing substantial investment in new business development.

"We continue to believe full year 1986 results will surpass comparable 1985 figures," Pownall said. ■

### MCI joins company team as long-distance carrier

Martin Marietta Corporation has signed an exclusive agreement with MCI Communications Corporation that makes MCI the long-distance interexchange carrier on the Martin Marietta team bidding for the federal government's FTS 2000 telecommunications system.

FTS 2000 will replace the current telecommunications system operated for federal agencies by the General Services Administration (GSA) and is designed to provide a state-of-the-art network for voice, data transmission, video conferencing, and other services. ■

## Viking analyzer set for EPA use

A portable instrument developed by Martin Marietta's Planetary Sciences Laboratory will be delivered to the Environmental Protection Agency (EPA). The instrument will detect hazardous materials at waste sites located throughout the country.

Headed by project manager Dr. Ben Clark through the joint sponsorship of NASA and EPA, the instrument uses technology derived from the soil analyzer flown on the Viking Mars mission.

The device uses a technique called X-ray fluorescence spectrometry, Clark said, which enables it to detect selenium, mercury, lead, arsenic and other toxic inorganic components in soil and waste chemicals.

With special chemical concentration techniques, the system can also analyze elements in drainage waters at concentrations of less than one part per million.

The battery-powered instrument and data analysis system were recently tested at a hazardous waste site near Aspen. More than 100 analyses were performed there to find "hot spots" of toxic material and to systematically map waste product over a defined grid of test locations.

The instrument will be delivered to the EPA in several months. ■

## Blood unit to visit Waterton

The Belle Bonfils Mobile Blood Unit will be at the Waterton facility, SSB sixth floor Presentation Room, on Nov. 12 and 13.

Donation hours are from 9—11:45 a.m., and 1—3 p.m. each day. To schedule an appointment, contact the department representative, or call the employee services office, Ext. 7-6605 or 7-6750. ■

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DENVER AEROSPACE

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### NASA associate administrator visits Denver Aerospace

Andrew J. Stofan, at the console, is the NASA associate administrator for space station. After addressing the large staff meeting Oct. 28, Stofan toured the Space Operations Simulator and is shown viewing a graphic display of the space station and remote manipulator system, using voice recognition and voice synthesis, and the programmable touch screen. Chuck Dallas, a software engineer, offers guidance.

## Peacekeeper program records two major equipment milestones

The Peacekeeper program recently recorded two major milestones with the delivery of 11 pieces of instrumentation and flight safety system (IFSS) support equipment to Vandenberg Air Force Base, Calif., and an identical set of equipment declared operational in Denver. The equipment is used during the operational test and evaluation (OT&E) phase of the Peacekeeper flight test program.

Both events met the date established by the Air Force Ballistic Missile Office (BMO) more than three years ago.

At ceremonies marking the milestones, John Parker, IFSS OT&E project manager, thanked those involved for exceptional efforts. "We are delivering a quality product of which we can all be proud," Parker said. ■



At the ribbon-cutting ceremony marking the operational status of the Denver Systems Test Facility Sept. 30 are, left to right, Jim Ritz, manager, Electronic Manufacturing (EMF); John Parker, IFSS OT&E project manager; Stacy Saavedra, IFSS program planner; Stanley F. Albrecht, vice president, Production Operations; and Gene Bond, IFSS project director.

## GSS earns AF excellent rating

The Air Force has given the Ground Support Systems program at Vandenberg Operations a 91 percent or "excellent" rating in its award fee for Period 7, that covers April 1, 1986 to Sept. 30, 1986.

"This is an excellent rating—keep up the good work," said Maj. Gen. Donald L. Cromer, Space and Missile Test Organization (SAMTO) commander.

Award fee reviews are conducted by the Air Force every six months to measure the overall job performance and schedule requirements of the contract. Martin Marietta has earned approximately 87 percent of the overall available GSS award fee money.

"Our excellent rating is a reflection of the continued outstanding performance our employees provide," said GSS Program Director Bill Sparkman. "It is important that we maintain our performance at the highest levels and improve wherever possible." ■

## Marketing center sets open house

The marketing information center (MIC) will hold an open house on Nov. 14 to acquaint employees with resources available for research and analysis.

The MIC offers information on aerospace competitors, technologies, NASA, the Department of Defense, and the U.S. government, budgets, market studies, and contract awards. The center uses such sources as online data bases, market survey reports, organization charts, and annual reports.

The open house is scheduled to run from 9 a.m. to 3 p.m. The MIC is located on the second floor of the Engineering Building in the southeast corner, near column B-7. For more information, contact Vickie Gardner, Ext. 7-4467, or Susan Douglass, Ext. 7-6596.

## Mail service needs employees' help

The mail services department advises employees who have changed phone numbers, mail numbers, locations or last names to fill out Personnel Locator forms. Copies of the form are in the Denver Aerospace telephone directory.

"We've noticed an increase in misaddressed mail lately," said George E. Dickens, chief of mail services. "The mail either lacks a department address or is returned to us because the department or home address was incorrect."

An Employee Personal Change Notice form (a copy is in each employee's personnel file) should be submitted for any change in name, home address or emergency information, Dickens advised. ■

## Employee services/recreation

**Coupons**—Employees may obtain coupons for free miniature golf, valid Tuesday-Sunday, and free roller skating, valid Tuesday, Wednesday, and Friday, from the employee services and recreation office, or from volunteer recreation representatives. The coupons are redeemable at Fun Plex, Coal Mine Avenue and Kipling, and include admission. Coupons may be used by employees and their family members, and may not be used for large groups.

**Basketball**—The 1986-87 Winter Basketball Program is starting soon. Team rosters and an entry fee of \$5 per person are due Nov. 7. There will be Competitive, Recreation A and Recreation B Leagues, and a Men's-Over-40 and Women's League if there is enough interest. An organizational meeting will be held at 5 p.m. on Nov. 12 in the SSB cafeteria. Entry blanks are available in all display racks or at the recreation office, Engineering Bldg., Room 124.

**Alpine Club**—The Rocky Mountain Alpine Club's winter membership/activities meeting will be held at 7 p.m., Friday, Nov. 7, at the Westchester Condominium clubhouse, S. Lowell and Tufts Street. The meeting is open to all Martin Marietta employees and their families. To RSVP, contact Dan Hawkins, Ext. 7-0705.

**Singles**—Employees interested in helping to plan and organize a Singles Club are asked to call Shane Reynolds, Ext. 1-7443, 7-5066, or the recreation office, 7-6605.

**Copper Cards**—Because Copper Cards for discount ski tickets at Copper Mountain are available at all Vickers gasoline stations this year for \$5, the cards will not be sold at the recreation office.

**Runners**—The Martin Marietta Shepherders Running Team captured second place in the Corporate "A" Division of the Governor's Cup 10K Road Race on Oct. 5. Five thousand runners took part in the race. Employees in order of finish included: Keith Golding, Tim Williams, Dan Trujillo, and Dick Croteau (four of the top 5 scoring runners); Jeff Findle, Bo Rodriguez, J. Huleatt, Clare Bena (top scoring runner), and Diane Eckhoff.

**Hunting**—The Skyline Hunting and Fishing Club will meet at 5 p.m. Monday, Nov. 10, at the club meeting room in the recreation area.

**Archery**—The Red Rock Bowmen Club will meet at 4:45 p.m., Tuesday, Nov. 11, in the club meeting room at the recreation area.

**Hunter Education Classes**—The Skyline Hunting and Fishing Club will conduct the final hunter education classes Nov. 18, 19, 20, 21, and 24 at Denver Systems Center I (DSC), and Nov. 22 at the Club Shooting Range. The fee is \$7 and preregistration is not necessary, but 10 students are needed at the first class to enable the course to continue.

**Commodore Users Group**—The group will meet at 5 p.m. Tuesday, Nov. 18, in the recreation area clubhouse. Contact Joe Presta, Ext. 7-4220, or Chuck Barton, 7-7433.

**Tennis**—Winners of the 1986 Martin Marietta Summer/Fall Tennis Tournament are: Men's B1 Singles—Mark Angelo; Men's B2 Singles—Rich Weber; Men's C Singles—Patrick Lim; Co-Ed Novice Singles—Jan Lyons; Men's B1 Doubles—Jack Ballard and John Waring; Men's B2 Doubles—Tony Peckman and Mark Opland; Men's C Doubles—Greg Hensohn and Newell Fuhrmann; Mixed B1 Doubles—John Waring & Nancy Waring; Mixed B2 Doubles—Mark Angelo and Mary Ann Angelo; Mixed C Doubles—James Bodin and Chris Abato; Women's B2 Singles—Bessie Cruz; Women's B2 Doubles—Bessie Cruz and Brenda Kellam.

Winners of the '86 Weekend Hackers Tennis Tournament, held at Arapahoe Community College, Oct. 4-5 are: Men's B Singles—Mike Kelly; Men's C Singles—Rick Callan; Men's B Doubles—Chuck Hudak and Mike Kelly; Men's C Doubles—Dan Hopper and John Martin; Women's B Singles—Doni Farnell; Women's C Singles—Kim Kimpton; Women's B Doubles—Carolyn Aldorfer and Doni Farnell.

**Weight Watchers**—The next session begins at 4:30 p.m. on Tuesday, Nov. 11, in the Executive Dining Room II of the Engineering Building. Employees must preregister and send their \$56 payment to the recreation office by Monday, Nov. 10.

**L5 Society**—Denver Aerospace L5, a Martin Marietta chapter of the L5 Society, will present a lecture on "Colonies in Space" at 7 p.m., Friday, Nov. 14, in the SouthPark West presentation room (Room 103A). For more information, call Barry Tuell, Ext. 7-4633, or, after work, Jeff Zerr, 322-8159, or Bob Terrell, 771-6731.

## Applications due for scholarships

The application deadline for Martin Marietta Foundation Scholarships for sons and daughters of employees for the 1986-87 academic year is Feb. 1, 1987.

To be eligible, the employee whose son or daughter is an applicant must have been employed by the Corporation for at least two years as of January 1 of the award year, and be on the active payroll at the time of the award.

Applicants must be secondary school graduating seniors in the year of the award and have academic records that unconditionally qualify them for admission to a regionally accredited college or university. Applications and supporting evidence should be sent directly to the Scholarship Selection Committee at Bethesda. Applications will be evaluated and winners selected by a committee of three people not associated with the Corporation. The committee is chosen by trustees of the Foundation from the academic and business communities.

The \$3,000 scholarships are renewable for three years, contingent upon the student maintaining a satisfactory level of academic achievement as required by the college or university.

Application forms and information about the scholarship program may be obtained from Bette Wooster, human resources development department, Room 209, Engineering Building, Ext. 7-6650. ■

## Employees win Symphony Run

The Martin Marietta Shepherders Running Team beat the competition again and took first place Sept. 14 at the Denver Symphony Orchestra 5K Run. The following athletes participated out of 4,000 runners in the open team competition:

Bill Irvine, 3rd-place overall, 3rd in age group; Keith Golding, 4th-place overall; Doug Haas, 10th-place overall, 1st in age group; Tim Williams, 16th-place overall, 2nd in age group; Dick Croteau, 23rd-place overall, 1st in age group; Bo Rodriguez, 28th-place overall, 3rd in age group; Jeff Findle, 51st-place overall, Sally Cuffin, 100th-place overall, 2nd in age group; Clare Bena, 161st-place overall; and Susan Douglass, 476th-place overall.

The first five names listed were the top 5 scoring participants, with a cumulative time of 1 hour, 23 minutes and 36 seconds. ■

## Self-improvement seminars offered

The effectiveness programs department has begun a series of noontime seminars, featuring the videotaped lectures of Louis Tice, founder and president of the Pacific Institute.

Those interested should call Ext. 7-6104 or send a note to mail stop 1005. Include name, location, mail stop and extension. ■