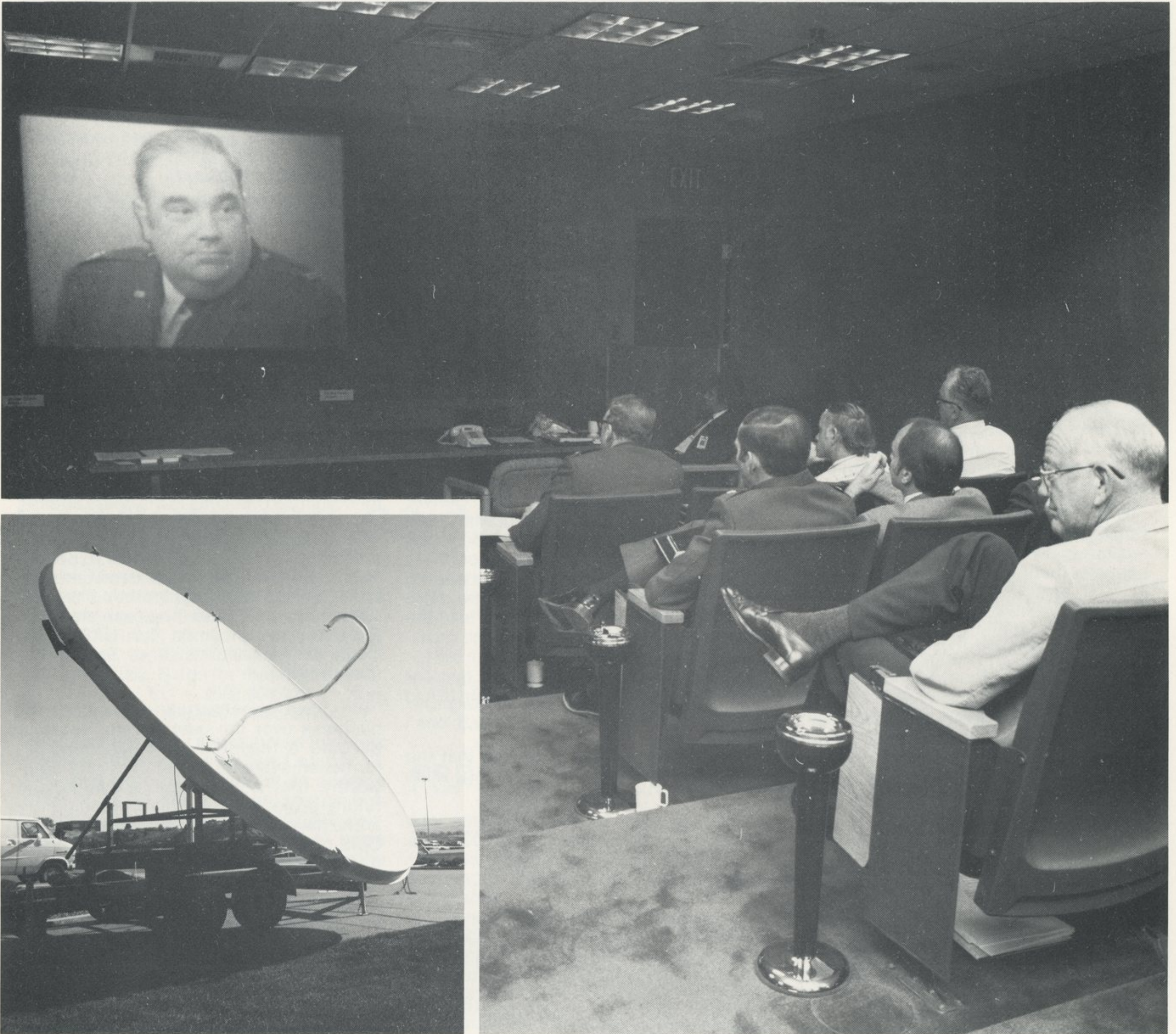


NUMBER 22/1983



Ada[®] to become familiar name

Computers are beginning to speak a new language—one that soon will be required by many Denver Aerospace customers.

“Ada[®],” as it is called, has been chosen as the computer language of the Department of Defense for all mission-critical applications and for all embedded computer systems (embedded computer systems are systems in which the computer provides exclusive support for the overall

system in which it operates). Other government and commercial customers also are expected to specify the new language in the future.

Ada[®] was developed to serve as a single, effective language to replace the hundreds of computer programming languages presently in use.

Calling Ada[®] the “wave of the future,”

Continued next page

A special dish beamed a live-via-satellite program on Ada[®] from Washington, DC, to Denver Aerospace recently. Top company management, members of the armed services, and college and university representatives attended the briefing.



Robert J. Polutchko, vice president and general manager of the Space and Electronics Systems division, has been with Martin Marietta since 1965.

He received the 1977 NASA Public Service Medal for implementation of entry vehicle subsystems required for the successful Mars landings. He was associated with the Viking project for nine years, filling a number of key technical management positions. These included all Denver Aerospace activities for the NASA Viking flight team to support launch, cruise, onorbit, entry, and landing operations.

He was 1972 Denver Aerospace and 1972 Martin Marietta Corporation engineer of the year, and he received the 1977 Denver Aerospace technical achievement award for his contributions to Viking.

Polutchko received his undergraduate and graduate degrees from the Massachusetts Institute of Technology (MIT) in 1959 and 1960, respectively, and spent six years as a staff member of MIT's aeronautics/astronautics department and of the MIT astrophysics laboratory before joining Martin Marietta.

He was vice president for Technical Operations before assuming his present position and had been director of special programs.

Fundamental decisions lead to growth: Polutchko

The decision to pursue the air traffic control (ATC) contract may be as fundamentally important to the future of Martin Marietta as was the decision years ago to stop building airplanes and get into the space business.

That's the view of Robert J. Polutchko, who, as vice president and general manager of the Space and Electronics Systems (S&ES) division, headed the ATC proposal effort.

"Winning the systems engineering and integration (SE&I) contract for the proposed \$13 billion upgrade of the nation's air traffic control system will provide another foundation business for Martin Marietta Aerospace—a foundation on which to build a long and successful future."

Competition for the national airspace system (NAS) modernization program is from a team composed of Boeing and Lockheed, who build aircraft for the airline industry.

Polutchko's confidence that the team he headed submitted the winning proposal he attributes to:

"First, we have done our homework on this program—nearly three years of company-funded studies. Second, the reputation Martin Marietta and Denver Aerospace have as the integrating contractor for large systems. Third, our competition's strength—building aircraft—is somewhat removed from understanding and providing air traffic control services to the commercial and private users of the nation's airspace."

The decision on who will do that task for the Federal Aviation Administration (FAA) is expected in February 1984.

Meanwhile, Polutchko is seeing that the long-tested systems engineering skills

are applied to a wide range of programs in the Space and Electronics Systems division.

"Today, we are not doing things fundamentally different than 10 years ago," he said.

"There have been many changes in our business, but they are in the size and volume of the work and the new tools we use, not in the disciplined technical and management approaches we associate with our business 'culture.' That 'culture' calls for us to achieve 100% mission success on all our jobs, and that we are doing."

He noted his division had many opportunities (unclassified and classified) to succeed or fail this year.

"I'm happy to report that we succeeded with a 100% mission success.

"Among the notable successes was work associated with Space Shuttle, the caution and warning system, the reaction control system tanks, the pyrotechnic initiators, the solid rocket decelerator system, and the checkout, control, and monitoring subsystem. All worked as planned.

"We will soon fly the manned maneuvering unit (MMU) and then use this system to retrieve the Solar Maximum Satellite."

Polutchko also sees many opportunities for continued success in the years ahead.

"The request for proposal for the orbiting maneuvering vehicle (OMV) is expected this year. The initiative has been taken on space-based lasers and other directed-energy systems. And the space station is the next major thrust for NASA (the National Aeronautics and Space Administration).

"We have successfully expanded our business over the past several years to become a leader in command and information systems (C&IS). It is very noteworthy that our current activities and future projections in this contemporary arena have allowed the formation of a new C&IS product area reporting to the president of Denver Aerospace.

"Looking at these new opportunities and the large and aggressive menu we have for ongoing new business leads me to think of people," Polutchko said.

"With the diversity and with the opportunities we have, I believe our company offers to employees as much if not more opportunity for professional satisfaction and growth than almost any other in the aerospace industry.

"Couple this bright and diverse business future with living and raising our families in Colorado, and I believe you have an unbeatable prescription for long-term success for each of us.

"We have good places to work and good places to live—so why think about working for another company and living someplace else?" he asked.

Ada[®]—continued from cover

Denver Aerospace President Norman R. Augustine told participants in a live video conference via satellite that 200 employees will be trained to use the language in the next year. Training for like numbers is expected for several years to come.

Top company management, members of the armed services, and representatives from Front Range colleges and universities attended the nearly day-long Ada[®] update session originating from Washington, DC.

Augustine also announced plans to develop a "software center of excellence" at Denver Aerospace, not only to support the implementation of Ada[®], but also to make the company preeminent in the software field.

Denver Aerospace participated in many of

the associated Ada[®] development activities and has been training employees to use the new computer language. The company also is taking the lead in establishing a Front Range Ada[®] users group and will host the organization's first meeting in December.

Evening courses on Ada[®] will continue, and a videotape self-study program is available from the software department for use in-plant.

The stepped-up training program includes plans for an 8-hour-a-day, 13-week course and a 2-hour-a-day, 30-week course in the new computer language. Eligibility requirements for each course, along with the schedule, will be announced soon. Ada[®] orientation briefings are being prepared for other organizations.

Integrity is business standard—'nothing less is acceptable'

Martin Marietta does not authorize, condone, or tolerate business activities that are not within the letter—and the spirit—of laws regulating government procurement.

That message was delivered recently at a large staff meeting here by Jacques Croom, Martin Marietta Aerospace general counsel. He spoke on behalf of Aerospace President C. B. Hurtt.

Croom emphasized the message was not new Martin Marietta policy, "Rather, it has been our standard for many years. But Mr. Hurtt feels it needs to be continually brought to our employees' attention—and particularly now, when government investigators are probing even the

smallest actual or suspected infractions throughout industry.

"Individuals as well as companies can be prosecuted for illegal acts, and a company can be put out of business by such action."

Croom cited several areas of particular emphasis in the government's stepped-up campaign against fraud, waste, and abuse in government procurement. Those include such acts as mischarging, or transfer of costs from one contract to another; illegal payments—such as gratuities or kickbacks; or any other improper contractual relationship.

Employees who have concerns or suspect any illegal activity at any supervisory

or management level are encouraged to contact the legal department. All reports will be treated with the highest degree of confidence.

"Employees have no need to fear retribution or punishment for making such a report," said Michael E. Steuer, Denver Aerospace counsel. "However, any employee participating in such illegal activity—even at the direction of a supervisor—could be subject to prosecution."

"Denver Aerospace will continue to conduct its business with the high integrity for which it has been noted," said Norman R. Augustine, Denver Aerospace president. "Each employee has the responsibility to see that every action relating to company business meets this high standard. Nothing less is acceptable."

Corporation acquires stock held by Allied

Calling it a watershed in the life of Martin Marietta, Thomas G. Pownall, chairman of the board, announced that on October 31, 1983, the Corporation formally acquired all remaining shares of its common stock held by Allied Corporation.

In a special message, Pownall thanked all employees who endured the takeover fight and the year's events that followed.

"It was a trial by fire—a long and difficult, but immensely successful, time of testing," said Pownall in his message. "I believe that each of us can view the results proudly."

Corporation president elected to board

Laurence J. Adams, president and chief operating officer of Martin Marietta, has been elected to the Corporation's board of directors.

Adams, who was elected president of the Corporation in September, has been chief operating officer since 1982. An aeronautical engineer, he joined Martin Marietta in 1948 as a stress analyst at Baltimore Division. He held increasingly responsible positions, serving as director of engineering, deputy general manager, and vice president and general manager of Denver Aerospace before his 1979 promotion to president of Martin Marietta Aerospace. He was elected a corporate vice president the same year.

A native of Minnesota, Adams served as a pilot in the U.S. Navy in World War II. Later he graduated from the University of Minnesota with a bachelor's degree in aeronautical engineering.

Bonuses, trip byproducts of 'Project Referral'

Employees at all Denver Aerospace locations have a chance to earn a \$2000 bonus and a trip for two to a future Space Shuttle launch through "Project Referral," which opens November 7.

As announced in *Martin Marietta News* 21/1983, employment needs at Denver Aerospace have led to reestablishing an employee referral program to assist in meeting critical skill position needs.

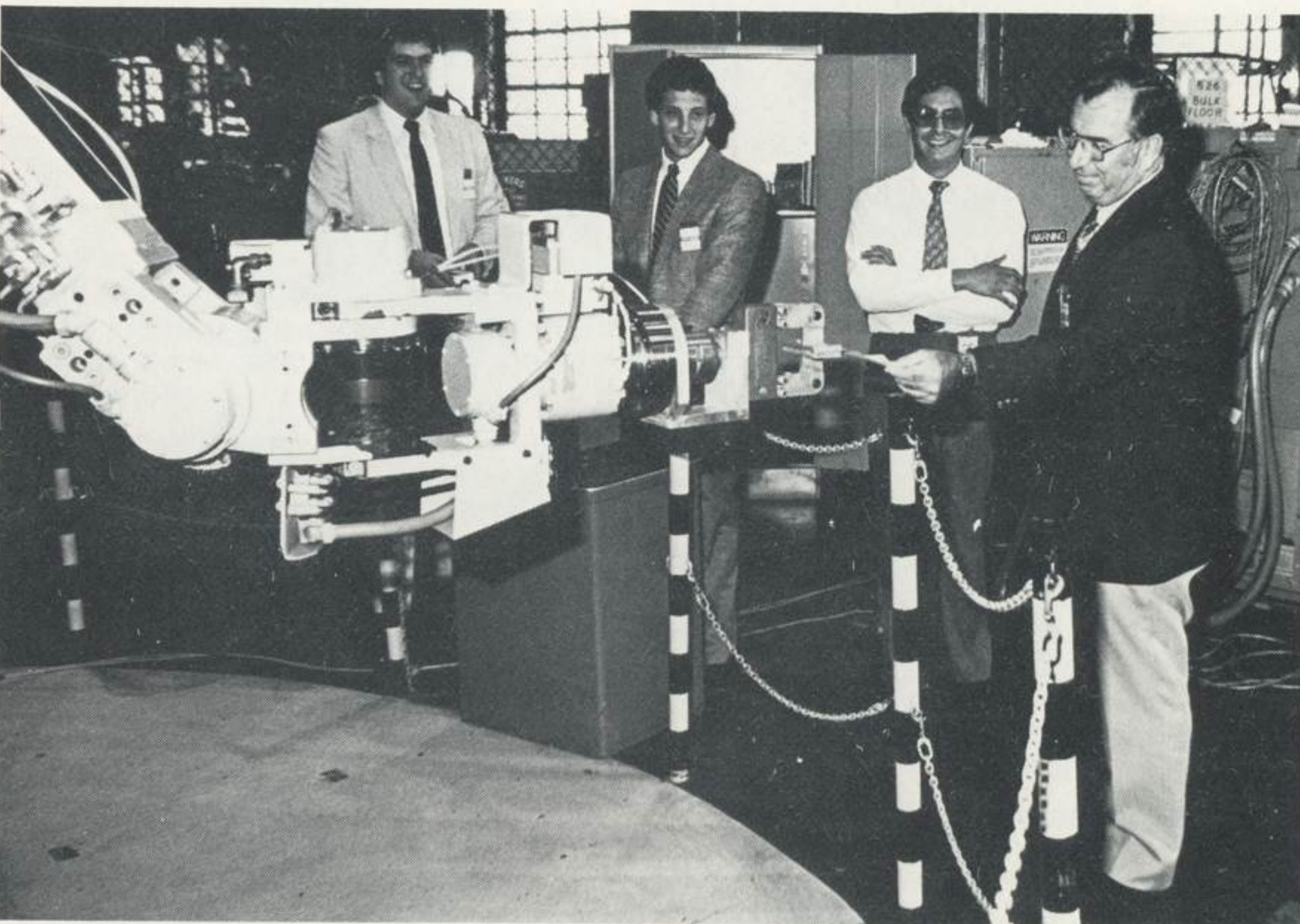
Employees can get the \$2000 check for each referral they submit that results in a hire. Referrals resulting in a hire also qualify the employee for a drawing on a trip for two to a Space Shuttle launch.

Employees submitting a qualified referral—defined as an applicant that is interviewed for a specific critical skill posi-

tion—earn a "Project Referral" notebook.

Detailed information on "Project Referral" is available from personnel staffing, ext 2731. Employees should:

- Check the critical skills list available from department or personnel administrators. Referrals must match a listed skill to qualify.
- Obtain "Project Referral" applications from department or personnel administrators.
- Submit the completed application to personnel staffing, Mail No. L1311, Littleton Systems Center. Employees will be contacted only if referrals qualify.



In a demonstration appropriate to the occasion, Eamon Kelly, right, president of Tulane University, accepts a check for \$45,000 from a Cincinnati Milacron robot at the Michoud division. Kelly is flanked by Tulane engineering students Stuart Lob, far left, and Randy Cohen, center, and Michoud division robotics engineer Carlos Ramirez. Donated by Martin Marietta, the money will help establish a robotics laboratory at Tulane.

Flexible intraconnect paper presented; version tested at NORAD

Martin Marietta recently developed, to a government specification, the advanced development model (ADM) for the flexible intraconnect local area network (FILAN) for the Rome Air Development Center (RADC).

The current contract value is \$13.1 million.

A technical paper on the product by coauthors L. J. Horkan, Martin Marietta flexible intraconnect project technical director, and Capt. E. A. Garrison of RADC was presented this past week to the Institute of Electrical and Electronics Engineers' Military Communications (IEEE MILCOM) 1983 Conference at Washington, DC. The paper was entitled, "FILAN—A Military LAN (local area network) Designed to Meet C³ System Requirements."

FILAN is a high-capacity, processor-controlled, network-oriented wideband communications system that integrates control and distribution of digital and analog data among the various nodes of the LAN.

The design presently supports transmission of data to 256 logical network interfaces on one local network at 180 million bits a second. The design also permits transmission by fiber-optic cable.

The flexible intraconnect program was established because of the number of military command, control, and communication (C³) systems and the rising

costs associated with their continued evolution.

Those systems typically have evolved one-of-a-kind systems that often are resistant to changes in requirements or advances in state-of-the-art technologies.

Studies have shown that by applying LAN technology to C³ systems, significant cost reductions and system complexity can be realized while flexibility and adaptability are enhanced. This is accomplished through regulation and standardization of system interfaces—in other words, through a flexible intraconnect.

FILAN is "intended to provide reliable general-purpose information transfer and high-integrity connectivity among the various devices that form a command, communication, and control (C³)."

In another development, Martin Marietta recently deployed a version of the FILAN configuration at the NORAD offsite test facility at Colorado Springs.

That version interconnects the H66/60 NORAD computer system, the H66/60 communications system segment (CSS) common front-end computer system, a VAX 11/750 computer system, various communication circuits, and a system manager terminal.

The system presently is undergoing final integration and test before a planned formal demonstration at Colorado Springs in early December.

SRB decelerator contract expanded

The scope of Denver Aerospace's responsibilities for the solid rocket booster (SRB) decelerator subsystem have been increased to include support of flight operations through Space Shuttle flight 13.

It is anticipated that the contract could be extended through flight 38, scheduled for early 1986.

The number of employees on the project consequently has increased from eight to 18, with a possible growth to 40 as the number of Shuttle launches increases.

The company also will assume overall operation and maintenance responsibility for the parachute refurbishment facility. The contract with the Marshall Space

Flight Center also includes parachute defoul, and wash and dry operations, all previously performed by the booster assembly contractor.

Denver Aerospace's initial contract included only packing, assembly, postflight evaluation, and refurbishment through the first six flights, including design, development, test, and evaluation. Work was then to be transferred to the booster assembly contractors.

The contract work is performed at the National Aeronautics and Space Administration's Kennedy Space Center under Robert O. Ewart, manager of the SRB decelerator subsystem.

Employee among first graduates in new executive MBA program

Donald A. Ruscio was among 31 executives in the first graduating class of the new University of Colorado master of business administration (MBA) program.

Ruscio, program manager for L-SAT Intel-sat 5/spacecraft systems, has been with

Martin Marietta since 1958.

Most of the graduates have five to seven years' experience in high management positions. Admitted two years ago, the company-sponsored students were able to pursue graduate education while continuing their careers.

Recreation

Ski Club—Meeting Wednesday, November 9, at 7 p.m., Millbrook Townhome Clubhouse located at Depew and Platte Canyon. Ski movie by Copper Mountain. Sign up for trips. Call 977-3477 or see recreation racks. Discount ski cards—"Copper Cards," available for only \$5—fifty percent discount off regular \$10 price. Good at Copper Mountain: discounts on lift tickets, one free day of skiing in April, benefit book. Details in recreation racks.

Alpine Club—Cross-country ski trips announced. Beginners' trip to Montezuma, November 13. Contact Joe Mensch, ext 6248 or 979-0426. Intermediates' trip to Berthoud Pass, November 24, call Gordon Voss, ext 8109 or 973-6512. Third annual telemarking lessons at Loveland Pass, December 4. Contact Marc Brideau, ext 8346 or 697-1175. Details in recreation racks.

Turkey shoot—Skyline Hunting and Fishing Club invites Martin Marietta employees and their families to participate in a "turkey shoot" Saturday, November 12, starting at 1 p.m. at the club's trap range. There will be a mix of "skill" shoots and "luck" shoots. Certificates redeemable for a turkey will be awarded. Details in recreation racks.

Hunter education—Skyline Hunting and Fishing Club announces Ray Mueller will offer hunter education classes November 8, 10, 15, 17, 22, and 24 from 7 p.m. to 9:30 p.m. at DSC. Range practice will be from 8 a.m. to 12 noon, November 19. Cost is \$5. Contact Ray Mueller at 674-5175 (home) or recreation, ext 6605 or 6750.

Chess tournament—Open to all employees and immediate family, age 16 and older. Tournament will be held Thursday, November 17, beginning at 6:30 p.m. in the DSC Snack-a-teria. Contact Dick Pickerell, ext 5891.

High-tech fair set for Northglenn

Martin Marietta, along with a number of other Front Range industries, will participate in "ET 83," a high-technology showcase fair sponsored by the City of Northglenn Chamber of Commerce.

Exhibits will give the public a rare chance to see the latest and most innovative developments in the rapidly and ever-changing industry.

ET 83 will be at the Northglenn Holiday Inn at I-25 and 120th Avenue from 9 a.m. to 6 p.m. Saturday, November 5, and from 12 noon to 5 p.m. Sunday, November 6. Admission is free and the fair is open to the public.

External tank tool contract awarded

Martin Marietta Aerospace has received a \$133 million NASA contract to design and build new tools to increase the production rate of Space Shuttle external fuel tanks to 24 a year by 1988.

Work for the Marshall Space Flight Center at Huntsville, AL, will be done at the company's Michoud division at New Orleans. Martin Marietta presently is producing the expendable external tanks for the first 39 Space Shuttle flights.

Tools to be built will vary in size from small drill fixtures to tools used to trim and weld 28-foot diameter sections of the huge tanks. Included in the contract are detail machine tools, welding and mechanical assembly tools, test equipment, transportation and handling tools, and sophisticated machinery used to apply insulation material to external tanks.

Work will include rearrangement of some existing tools in the 43-acre factory to expedite production flow and improve manufacturing efficiency. A modification center, where parts can be reworked or modified without interrupting the assembly line, also is planned.

Martin Marietta has delivered five external fuel tanks to NASA so far this year. Two

additional tanks, 154-feet long by 28-feet wide, are scheduled for delivery by the end of 1983. One tank is used for each

Shuttle flight, and NASA plans to increase the number of launches each year, to 24 missions in 1988.

'Scavenged' external tank propellants may provide multiple space uses

It is known that gallons of propellants remain inside the external fuel tank after a Space Shuttle flight.

That fact leads to several questions. How much propellant? Can those propellants be retrieved and stored? How can they be used on retrieval?

The Michoud division has just undertaken a 12-month study as part of a \$250,000 contract to get those answers for NASA's Marshall Space Flight Center.

With the external tank already in orbit, remaining propellants could be retrieved—theoretically—transferred to storage tanks, and the "scavenged" hydrogen and oxygen used to support a number of space tasks.

Cryogenic fuels, for example, could cool future space stations or boost upper-stage vehicles into high orbits. Or, they

could be used in materials processing tasks such as cooling down canisters during manufacturing processes.

In fact, liquid oxygen might be able to be returned to its gaseous state for astronauts to use in life-support systems.

Denver Management Association Meeting

The Denver Management Association will hold its annual "Meet the Candidates Night" during its next general meeting at 5 p.m., Tuesday, November 15 in the Littleton Elks Lodge at 5749 Curtice St.

A quorum is required to conduct the general meeting's business. Members are encouraged to attend and are reminded that the hard'oeuvres are free.

Corporation sales are up in third quarter

Martin Marietta Corporation had third-quarter net earnings of \$33,108,000, or 96 cents per common share (93 cents assuming full dilution), compared with 76 cents per share, or \$38,011,000, in the same quarter of 1982. Sales for the third quarter increased to \$983,906,000 from \$891,950,000 in the same 1982 quarter.

Per-share earnings are adjusted to reflect a 3-for-2 stock split, effective October 17, 1983, and were calculated on an average base of 31,531,824 common shares outstanding, compared with 50,177,607 average shares outstanding in the same period a year earlier (also adjusted for the split).

Nine-month net earnings were \$103,894,000, or \$3.23 per share (\$3.08 assuming full dilution), on sales of \$2,739,303,000, compared with net earnings of \$94,026,000, or \$1.81 per share, on sales of \$2,586,225,000 for the first nine months a year ago.

Pretax gains for the nine months include \$20 million, in the third quarter, from the sale of real estate and other assets and from previously announced pretax gains of \$95 million from earlier sales of assets.

"Three of Martin Marietta's four operating companies—Aerospace, Data Systems, and Basic Products—contributed to the

Corporation's profitability," said Thomas G. Pownall, chairman and chief executive. "And with continuation of greater demand and strengthening prices, the Aluminum company is expected to be profitable in the fourth quarter. We expect full-year results will meet, or quite possibly exceed, our earlier expectations."

PSP open enrollment takes place this month

Any employee with at least six months and 1000 hours of service as of January 1, 1984, is eligible to enroll in the Performance Sharing Plan (PSP) during November.

For those employees already enrolled, changes permitted during the open enrollment period include modification of percent of payroll deducted for PSP and changes in the tax mix (before- or after-tax contributions). Changes for investment

options only for future and past contributions are effective on the valuation date at the end of a given month following receipt of the proper form at the Employee Benefits office.

All forms must be received at mail No. 1323 by November 30, 1984, for an election to be effective January 1, 1984.

Any reduction of salary deferral deductions for PSP participants in the upper one-third salary ranges will be determined when the discrimination test is run in December. Affected employees will be notified of any reduction.

Employees in the lower two-thirds salary ranges will be eligible to contribute up to 14% of their salaries under the salary deferral program.

Employee Benefits office staff will be available to answer questions at ext 5609 or 4928 Mondays, Wednesdays, and Fridays from 10:30 a.m. to 12:30 p.m., and from 2 p.m. to 3 p.m. That office is located in module 125 of the engineering building.

Performance Sharing Plan September unit values set

Unit values for the Performance Sharing Plan as of September 30, 1983, were:

Fund A (Indexed Equity) 2.2930876621

Fund B (Fixed Income) 1.7687803975

Fund C (Martin Marietta Common Stock Fund) 2.5835243956

Corporation declares preferred dividend

Martin Marietta Corporation's board of directors has authorized a quarterly cash dividend of \$1.2188 per share on the \$4.875 Convertible Exchangeable Preferred Stock. This dividend is payable December 15 to holders of record at the close of business November 14.



Preparing themselves for their roles as loaned executives, R. F. Heman (left) of the Space and Electronics Systems division/finance and B. S. "Bill" Wheeler, manager of system effectiveness in the Strategic and Launch Systems division, peruse Mile High United Way information. They will speak at meetings, train volunteer workers, and support the campaign organization through December 8.

November blood drive scheduled

The Belle Bonfils Mobile Blood Unit will be at the main plant November 8 and 9 from 9 a.m. to 2:45 p.m. in the SSB presentation room.

Employees are encouraged to schedule appointments to donate blood by calling ext 6605 or ext 6750.

Donors must be 18 to 65 years old, weigh at least 110 pounds, be in good health, be free of cold symptoms, and not have given blood during the past eight weeks.

A special blue shuttle will operate at the main plant to transport employees to and from SSB. Department secretaries will have a schedule for that service.

More than 140 units of hospital blood used since January 1, 1983, by Martin Marietta employees and their families have been replaced through employee donations. The service is available to all Martin Marietta employees, whether they have donated personally or not.

1984 company activities announced

Special tickets for two company-sponsored family activities—Denver Nuggets basketball and a Denver Symphony pops concert—have been announced for 1984.

Signup "activity cards" for first-come, first-served tickets will be distributed with November 3 & 4 paychecks to Denver Aerospace and Data Systems employees.

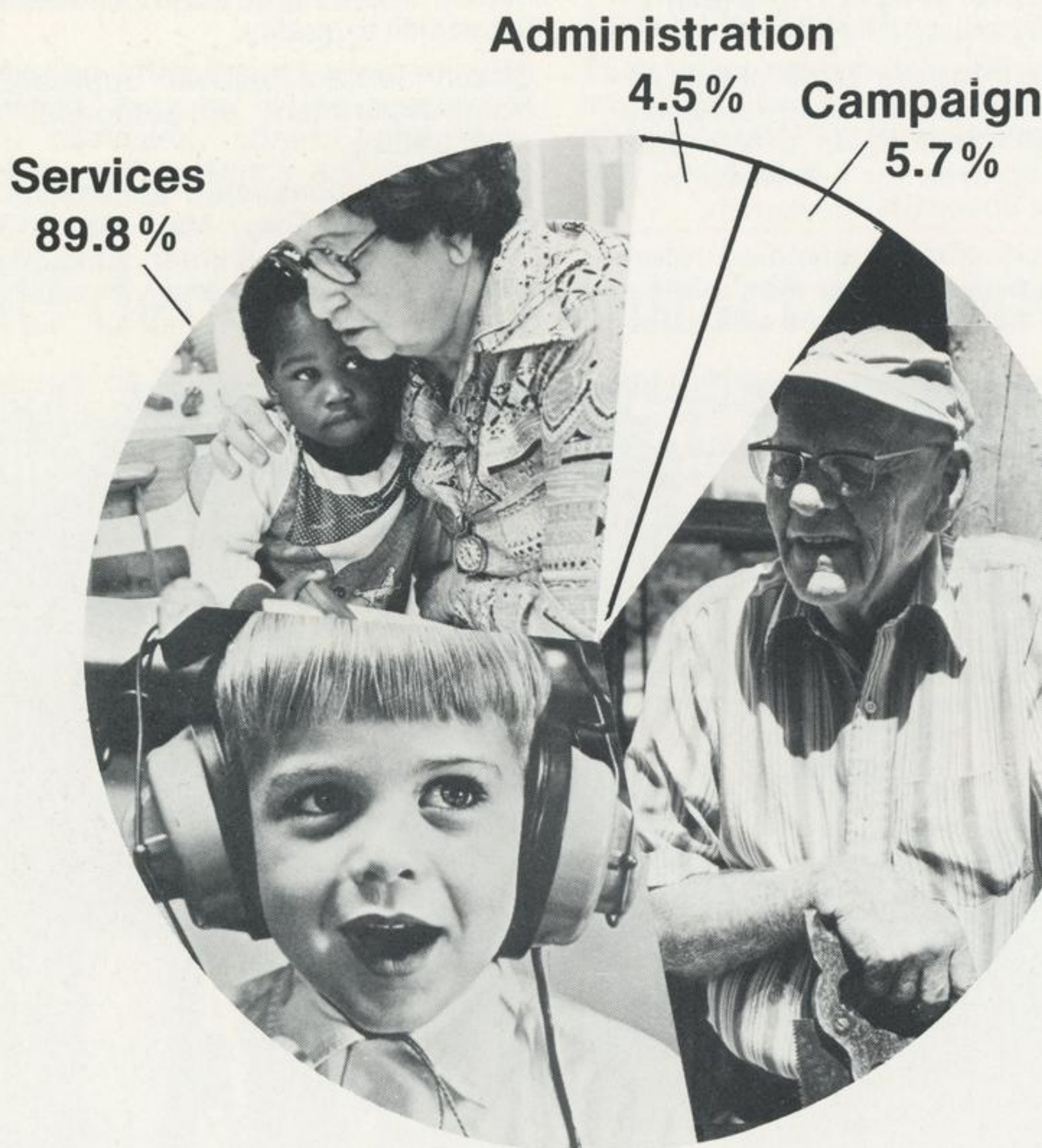
Only employees and immediate dependent, resident family members are eligible to receive tickets from department administrators, who will distribute them before each event.

Employees may sign up for only one of the four available Denver Nuggets games, because tickets are limited. Dates to choose from are: Saturday, February 11 (New York Knicks); Wednesday, February 22 (San Antonio Spurs); Saturday, February 25 (Kansas City Kings); and Tuesday, March 6 (Houston Rockets). Tickets will be distributed in late January.

Details on the Denver Symphony pops concert, scheduled for late August or early September at McNichols Arena, will be announced when finalized.

The activity card should be completed and returned to the appropriate office as soon as possible. Denver Aerospace employees may drop cards at ENG 124-G or mail them to Mail No. 1321. Data Systems employee cards should go to the personnel office at IPF-98.

Distribution of United Way funds—1982



The accompanying pie chart indicates 89.8 percent of funds raised during the 1982 Mile High United Way campaign went directly for agency services human care.

But only 4.5 percent was required to pay for administration costs and 5.7 percent went to conduct the single campaign to

benefit agencies in Adams, Arapahoe, Boulder, Denver, and Jefferson counties.

For more information on the 90 human-care agencies supported by Mile High United Way, and available to you, call (303) 773-1000.

Running club takes 3rd place

Martin Marietta's Shepherder Runnir Club garnered third place behind IBM and Hewlett Packard, respectively, in the five-mile annual Joe Mandel Corporate Team Race at City Park October 2.

Individual company placements: Luke Sanchez, 3rd; Jeff Findle, 5th; John Huleatt, 10th; Larry Young, 18th; Al Depatie, 25th; Clare Bena, 41st; Stan Barrett, 46th; and Susan Douglass, 48th.

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Call Ext. 5364 with information or suggestions for articles, or call one of the following coordinators.

Technical Operations:	Floyd R. Teiffel Jr. 6872
Production Operations:	Steven L. Cohen 3369
Business Development:	Leonard G. Taigman 4466
Space & Electronics Systems Division:	J. H. Guilfoyle 6944
Strategic & Launch Systems Division:	John H. Pond 9165
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	William Leary 2202

DENVER AEROSPACE
P.O. Box 179—Denver, CO 80201

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