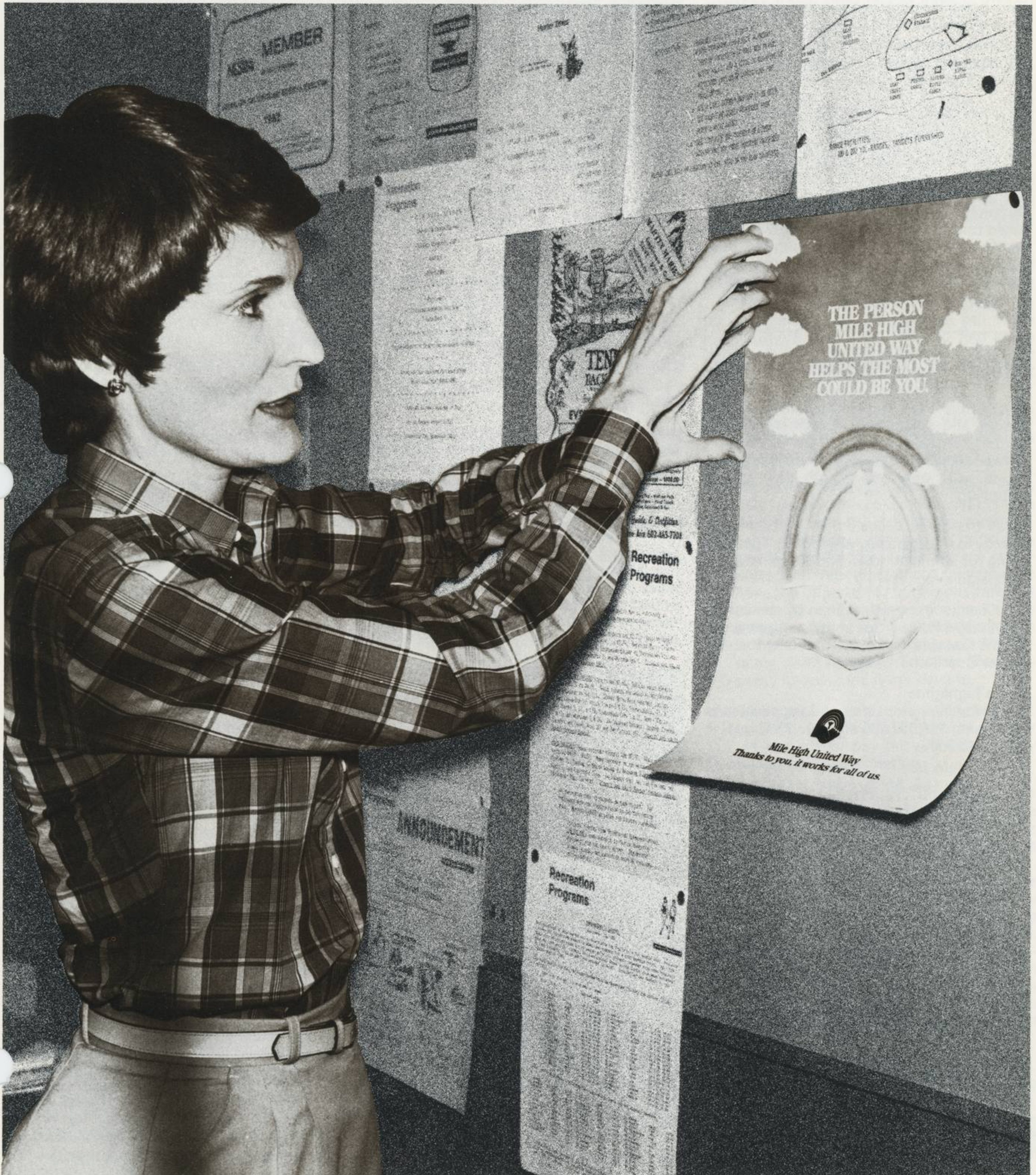


MARTIN MARIETTA

news

DENVER AEROSPACE

NUMBER 20/1982



United Way campaign starts today

Beginning today, and running for one month, through November 11, Denver Aerospace will be participating in the Mile High United Way campaign. This is the one time each year when the company supports an employee fund raising drive.

Goal of this year's metropolitan campaign is \$18.6 million, a 16½ percent increase over 1981. Specific information on the United Way and services provided by the 85 participating agencies in the five county metropolitan area will be made available to employees from a variety of sources.

Each issue of the *News* through November 19 will carry articles on operation and programs of the United Way. In addition, employees will receive information in the mail and from United Way literature and posters.

During the campaign, employees will also be asked to sign a pledge card and indicate this year's contribution. The company is fully supportive of the mission and work of the United Way, and urges full consideration based on the increasing community need.

What is the United Way?

The United Way is the only effort which groups and helps fund a large number of human service agencies in the five-county Denver area. The work is accomplished year-round, with only one month-long annual campaign.

Of all the funds collected, 89 percent goes directly to the agencies, with only 5.1 percent going for administration, and 5.9 percent for campaign expenses.

All allocations are determined by the volunteer Budget Review Committees, Agency Relations Committee and approved by the volunteer Board of Trustees.

Some highlights:

- individuals, companies and organizations pledging \$16,032,000 in 1981. (1981 goal is \$18,640,000.)
- more than 889,000 people being served through the 85 funded human care agencies.
- the Information & Referral Service connecting 8,581 persons in need with agencies which can help.
- helping to place 21,117 children in child care facilities through the Child Care Referral service.
- meeting new and emerging community needs by awarding Venture Grants totaling \$149,430 to 13 new programs in non-United Way agencies.
- adding the American Cancer Society Colorado Division as a participant in the fund campaign.

On the cover

The United Way poster being put on the bulletin board by Lori Sharp reminds employees they could be the ones helped by one of the organization's 85 agencies.

President Augustine urges United Way support

Our company makes only a single community support appeal each year: that on behalf of the Mile High United Way.

We make this appeal because many of the human needs in our community, supported by the United Way, have no avenues of resources other than voluntary contributors like ourselves.

Your contribution, together with that from the Corporation, will reach 85 agencies in our five county metropolitan area. Importantly, 89 percent of these monies will go directly to services.

Employee payroll deduction accounts for 70 percent of all funds raised by the Mile High United Way. The Denver Aerospace per employee average of \$51.91 per year places us 15th in the list of Denver's largest companies, and below the \$61.59 average of all Denver companies. At the same time, we can take great pride in being number one in participation, with our 87 percent involvement.

The goal of the Mile High United Way this year is \$18.6 million, about a 16 percent increase over the \$16 million raised in 1981. Each year our corporate gift in Denver has grown, and this year will see a 16 percent increase. I hope that you will seriously consider increasing your individual participation in this important undertaking. At the same time, the extent of each of our participation is clearly a matter of personal preference. While strongly supporting this endeavor, I have asked that the company seek mainly to make available to you the information which you can use in making your own personal informed judgement.

Thank you for your consideration of the Mile High United Way.

Sincerely,

Norman R. Augustine
President, Denver Aerospace

For United Way Agencies

There is a greater need

The community served by the Mile High United Way is facing critical needs in human services.

A survey shows needs in emergency services, including food, clothing and shelter; health services; in alcohol and drug abuse services; in employment services; and in safety/justice services, such as battered women shelters.

Tax-supported services never adequately met all the human service needs. It has always taken both the governmental and voluntary system to guarantee the most for the money and provide an effective human service network.

United Way agencies have proved to be needed and cost-efficient contributors to the well-being of those in need.

The increased need in the Denver metropolitan area seems to stem from two sources:

One is the influx of people seeking employment here, but who do not have the skills needed for the jobs that are open, nor the funds to live on or to return home.

The second are those living on fixed incomes or those whose earnings have not kept pace with cost increases.

United Way agencies are trying to meet these critical needs from funds allocated from contributions and from Venture Grant cooperative funding programs.

Sixty-nine non-profit organizations are participating in the Venture Grant program. Charles Husted, volunteer chairman of the Mile High United Way board of trustees, called the effort "an exciting approach to help reduce the cost of providing human-care services."

Ten cooperative programs involving the 69 organizations have received \$126,794.

"The voluntary sector cannot be expected to pick up the funding of all deleted or reduced federal programs, but we can encourage agencies to work together, cut costs, and continue to deliver those human-care services which are most needed," Husted said.

"In this time of greater need, he said, "United Way is among the first organizations to respond with new volunteer initiatives. This is one example of the United Way's many benefits to our community.

Key to United Way success is individual giving

Seventy percent of all the funds raised by the Mile High United Way last year came through payroll deduction from company employee campaigns.

An employee participation level of 86.6 percent put Denver Aerospace employees number one among Denver area large companies in that category.

But, although most Denver Aerospace employees participate in the payroll deduction program, it is to a relatively low level per employee compared with the others. Employee per capita giving of \$51.91 places Denver Aerospace employees 15th on the list of Denver's large companies.

For a comparison, Western Electric regional headquarters in Denver is number one in per employee giving, at \$85.25 per capita. They are followed by Gates Rubber Company, at \$82.45. Following thereafter are Sundstrand Fluid Handling, Mountain Bell and Samsonite in the \$70's, four companies in the \$60's, and five in the \$50's ahead of Martin Marietta.

As calculated by the Mile High United Way, a contribution level of \$70.00 per employee this year will provide "basic" assistance in meeting human needs in the Denver metropolitan area.

Closely spaced basing roles set by Air Force

Four significant and challenging jobs have been given Denver Aerospace for development in the proposed closely spaced basing concept for MX.

Roles set by the U.S. Air Force are development and manufacture of unique vehicles for placement and maintenance of MX; derivation of facilities requirements for the launch control center; design and integration of all non-launch control equipment of the facility and all non-launch control equipment in the facility; and overall arrangement and mechanical integration of all equipment in the facility.

Non-launch control equipment includes environmental conditioning, electrical power, life-support, and shock isolation for equipment and personnel.

Three vehicle types will be developed. They are a transporter and placer vehicle, 200 feet

long with a gross weight of about two million pounds to be used to move and place the MX missiles in their superhardened concrete silos; a closure removal and placement vehicle to handle the 400,000-pound vertical capsule doors; and an operational support equipment maintenance vehicle.

In addition to the above effort our current assembly, test, and support system activities will be expanded to support the new basing decisions. Facilities will be added at Vandenberg Air Force Base to conduct a test program on the new basing mode.

"This is a very significant piece of business," said H.F. Keyser, vice president and general manager of the strategic systems division. "We are very pleased to be working on it. It presents us with a number of exciting challenges."

The Secretary of Defense is expected to seek the approval of President Reagan for closely spaced basing within a few weeks.

Solar Max satellite repair contract won

Denver Aerospace will be part of the first attempt to repair a malfunctioning orbiting satellite.

The company will assist in the recovery, repair, and redeployment of the Solar Maximum Mission satellite under the contract awarded by NASA's Goddard Space Flight Center.

The Solar Max satellite was launched into Earth orbit in 1980 to study violent eruptions on the surface of the Sun. Seven on-board instruments were to give scientists a better understanding of the Sun's explosive nature and its effects on Earth.

Less than a year after launch, the mission was curtailed when a failure in the craft's attitude control system degraded the ability of Solar Max to meet fine pointing requirements necessary to collect data.

The Solar Max was the first satellite designed to be repaired.

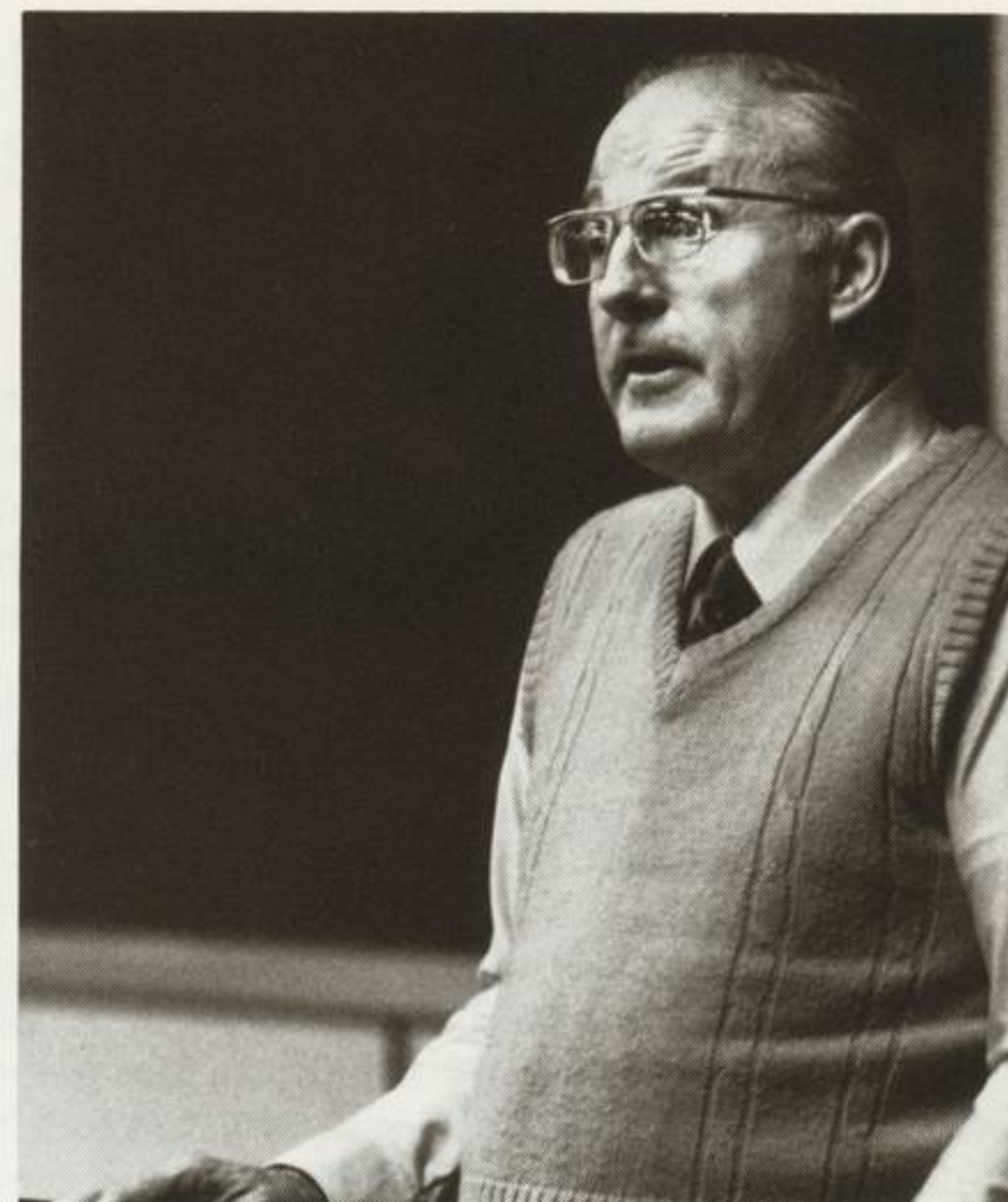
Using the manned maneuvering unit developed here, an astronaut will rendezvous with, capture, and stabilize the satellite for retrieval using the Shuttle's remote manipulator arm.

After the damaged craft is in the Shuttle's cargo bay, the attitude control system module will be replaced and its functioning verified. Before the satellite is returned to orbit, adjustments may be made in the experiments to improve the ability to gather information.

The repair mission is slated for Shuttle mission 13 currently set for April 1984. The MMU will be first tested on the 11th flight, set for 1983.



Denver Aerospace has received the U.S. Treasury Department Savings Bond award as the Colorado company with the highest participation percentage in the 1982 campaign. At the award presentation were, left to right, Michael Fugee, regional manager of the Treasury Department's Savings Bonds division; Leroy Hollins, Savings Bond campaign chairman; Daniel Shipper, director of the Savings Bonds division; Norman R. Augustine, president, Denver Aerospace; and Dominic N. Verrastro, manager of employee relations.



James R. Ambrose

Army undersecretary stresses system needs

James R. Ambrose, undersecretary of the Army, said that "readiness, sustainability, and modernization" are the Army's systems bywords.

Speaking before a Denver management staff meeting, Ambrose said he sees no profound change in the Army's acquisition process. But, he urged development contractors to pay close attention to the "people cost" of systems. He called for "the use of modern technology and automation to reduce reliance on people—to maintain, to operate, and to train."

"The Army also has to work harder on what it wants to purchase in the first place," he said. "And, we have to use less time to develop projects. Taking too long is catastrophic."

IR&D projects score high in evaluations

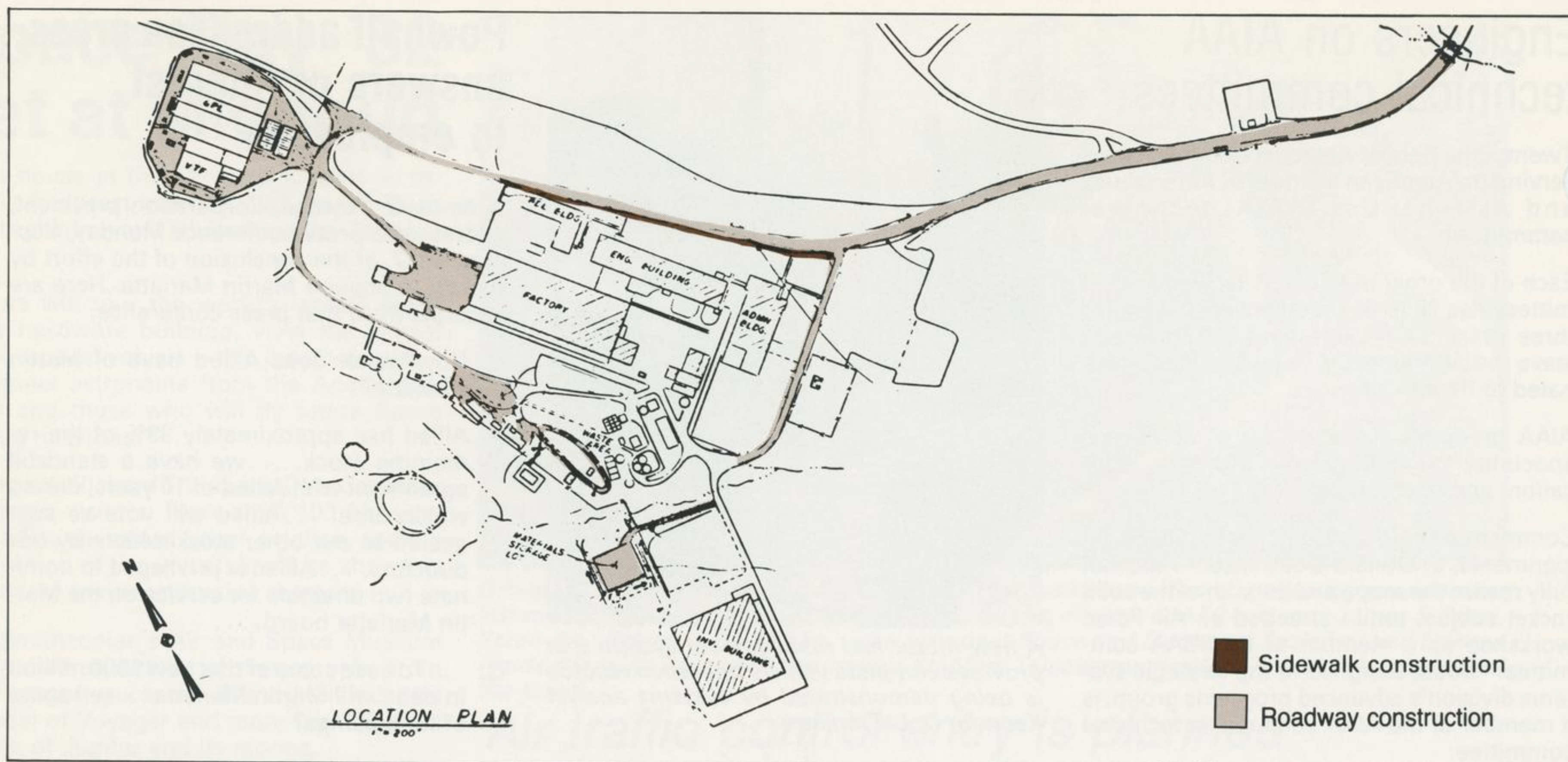
"A significant increase over the 1981 score," was the way Ronald A. Bena described the 1982 independent research and development (IR&D) evaluation.

Bena, who is IR&D program manager, said the 1982 score was 8.09 out of a possible 10. "Our 1981 score was 7.54," he said.

The 1982 evaluation covered 155 IR&D projects. The projects are carried on to broaden the company's technology base and to improve the ability to compete on major programs.

Some 60 government agencies reviewed the report on the projects. The comments and evaluations were later reviewed by the Air Force which assigned the score.

"The high score is the result of the dedication and professionalism of the teams working on the projects," Bena said. "We are assessing the evaluation of each project and will recognize the outstanding work at the annual awards banquet next spring."



Sidewalk and roadway repair are shown on this map of the main plant.

Technical operations wins three contracts

Three new contracts, valued near \$900,000, are adding to the Denver technology base.

Joseph P. Martin will develop a remote nuclear biological and chemical detector using ultraviolet technology. The instrument will be used in helicopters, tanks, and other military equipment to detect and measure amounts of airborne and ground contamination.

A study contract from NASA on advanced power subsystems for large space structures will be managed by Matthew S. Imamura.

The study will assess and trade-off the automation technology requirements to support multi-hundred kilowatt power subsystems in space.

A ten-month Army contract, managed by Louis A. Morine, will explore robotic requirements for a number of possible applications, such as cargo container handling, unmanned refueling of combat vehicles, and robotic conveying.

Wanted: Matador, Mace stories

Author C. Jackson Libby is compiling an anecdotal history of the Matador and the Mace programs (1945-1971) and is seeking help from Martin Marietta employees.

Employees who have anecdotes or suggestions for events that should be included in the history of the pioneering cruise missile program may send them to Libby at 820 Pinetree Road, Winter Park, FL 32789.

Work begins on sidewalks, roads

Educational counseling planned for October 19

Representatives from Denver area colleges and universities will be at Denver Aerospace Tuesday, October 19.

They will advise prospective students on eligibility, admissions requirements, curricula, and policies for undergraduate and graduate study at the institutions. They also will be available to advise and answer questions of those already enrolled.

The counseling session will be held in the lunchroom at DSC-1, which is located on the second floor, from 3:00 to 5:00 p.m. No appointment is necessary.

Represented will be the University of Colorado (Denver and Boulder campuses), University of Denver, Colorado State University (SURGE Program), Community College of Denver, Metropolitan State College, Arapahoe Community College, Regis College, Loretto Heights College, Colorado School of Mines, and the State of Colorado Professional Engineers Board.

New service awards brochure prepared

New jewelry items and commemorative gifts have been added to the service awards program and are shown in the new brochure going to eligible employees.

The brochure has been sent to employees eligible for awards in the first quarter of 1983. Others will receive it before their service anniversaries.

The service awards program will be administered through employee services and recreation beginning January 1, 1983. For information about the 1983 program, call Leroy Hollins or Lori Sharp, Ext. 6605.

Extensive work has begun to replace some of the original sidewalk, curb, and gutter at the main plant and to repair and resurface some of the original roadways.

"Deteriorating concrete along curbs and gutters could cause severe damage to the adjacent roadway if not repaired," said Ralph L. Stewart, manager of the facilities engineering department.

While the work is being done in front of the RDL, engineering, and administration buildings, pedestrians are using a temporary walkway on the east side of the roadway. Wooden bridges have been built at crosswalks.

Some roads will be closed for repair, with alternate routes designated for vehicle traffic.

The work is scheduled to be finished by November 1—weather permitting.

Emergency notices on radio stations

When bad weather this winter causes the facilities to be closed, employees will be notified by emergency announcements on six local radio stations.

Stations that will broadcast the notices are:

KLZ 560 AM
KOA 850 AM
KIMN 950 AM
KYGO 98 FM
KOAQ 103 FM
KAZY 106.7 FM

Employees are encouraged to listen to these stations when there is a threat of hazardous weather conditions.

Engineers on AIAA technical committees

Twenty-one Denver Aerospace engineers are serving on American Institute of Aeronautics and Astronautics (AIAA) technical committees.

Each of the organization's 51 technical committees has 25 to 30 members appointed for three years. Each year about 500 members leave the committees with nearly 2000 nominated to fill the vacancies.

AIAA promotes development of aerospace speciality technologies in industry, education, and government.

Commenting on the value of committee assignments, J. Donald Doub said, "I did not fully realize the scope and breadth of the solid rocket subject until I attended an Air Force workshop as a member of the AIAA committee." Doub, assigned to the strategic systems division's advanced programs group, is a member of the AIAA solid rocket technical committee.

He believes this kind of experience plus new industry contacts, additional sources of knowledge, and bank of knowledge, and the bank of common problems justifies the time and effort he expends without remuneration.

Other members of the technical committees share his enthusiasm and the honor that comes with the assignment.

Others serving and their committee assignments are:

Frederick E. Lukens, aerospace power systems; E. Doyle Vogt, astrodynamics; Joseph T. Omanski, atmospheric environment; Albert C. Brandts, atmospheric flight mechanics; Charles H. Green, communications systems; David A. Dieterich, CAD/CAM; Stephen L. Copps, computer systems; Jackie O. Bunting and L. Kevin Rudolph, electric propulsion;

J. Richard Cook, flight testing; Roger W. Gallington, ground testing; E. Edwin Dorroh, guidance and control; Ralph N. Eberhardt and Lawrence W. Norquist, liquid propulsion; James W. McAnally, management; Howard J. Brown, materials; Joseph P. Martin, sensor systems; Byron H. Fowler, society and aerospace technology; Benton C. Clark, space sciences and astronomy; Peter B. Teets, space systems; and David A. Mackey, support systems.

Employee is elected placement group head

Robert W. Gammill, chief of staffing support and college relations, has been elected vice president of the Rocky Mountain College Placement Association.

Affiliated with the national College Placement Council, the local association helps college and industry placement officers place new graduates in area industries.

Gammill joined Martin Marietta in 1960. He has worked in mechanics, engineering, administration, and personnel.



A new motor fuel management system that provides complete vehicle operation records is being demonstrated by systems analyst Kenneth D. LaFreniere.

Fuel management system in use

A system that dispenses measured amounts of fuel and records data for company vehicle management and fuel billing has begun operation.

Each vehicle authorized to use the company gas pumps has a plastic vehicle card. Each authorized driver has an operator card and a four-digit security code. When both cards and the correct security code are inserted, the computer records the type and amount of fuel pumped, mileage of the vehicle, cost per mile for operation, operator, and billing information.

Department managers will receive driver and vehicle authorization cards for the new fuel system by October 15.



The highest award of the National Safety Council is displayed by R. N. Holcomb, left, manager of personnel safety, and R. E. Burnett, director of personnel. The award is for safety performance in 1981.

Pownall addresses press, answers of interest to employees

Thomas G. Pownall, Corporation president, addressed a press conference Monday, September 27, at the conclusion of the effort by Bendix to acquire Martin Marietta. Here are excerpts from that press conference:

- Q. How much does Allied have of Martin Marietta?
- A. Allied has approximately 39% of the remaining stock. . . . we have a standstill agreement with Allied of 10 years, during which time, . . . Allied will vote as suggested to our other stockholders by our directors. . . . Allied is privileged to nominate two directors for service on the Martin Marietta board. . . .
- Q. . . . To ease some of that new \$900 million in debt, will Martin Marietta . . . sell some of its holdings?
- A. I can tell you that we will, in the course of the next six months to a year, do several things. We will do some debt restructuring, we will perhaps sell some equity, and we will have to find some mechanism, in all probability, to divest ourselves of some other assets. But it really is too early for us to tell.
- Q. . . . Analysts were saying . . . Martin Marietta is in a financially crippled position. Do you consider that . . . fair and accurate?
- A. No, I don't. Although we do have a heavy debt, we do believe that we can manage that debt with the cash flows we anticipate, from other earnings we anticipate, and the stockholder base that we anticipate. Even better than that, I think that we have the opportunity to demonstrate that we can bring this Corporation back to the same health and stature that it was known to have for many, many years. We certainly don't intend to liquidate the company, because we don't have to.
- Q. Given your current . . . situation, what can you offer (employees) in the way of either job security or pay raises they normally would have expected?
- A. In terms of job security, I don't think there is anyone who should be frightened. We are not short of working capital at the moment. . . . We fully expect to have a strong, positive cash flow next year. Insofar as salary is concerned, it would be a hopeless situation for all our employees were we to take it out on them. There is no way we could retain their confidence, their spirit, their morale, or their substance, if we would say, "Come along with us. We are going to have to bleed you for a few years, but you know it is all for Martin Marietta." . . . I promise you it will not occur.
- Q. What about the prospect of Martin Marietta being managed some day by Allied?
- A. We are not concerned about Allied owning 39% of our stock. In due course, if we choose, and I expect that we will, we will buy back that stock.

Space Day '82 set at Michoud

Open house at the Michoud division is expected to attract nearly 50,000 New Orleans school children and adults Saturday, October 16.

Visitors will tour the world's largest space flight hardware building, view the largest single space vehicle—the external tank—and meet astronauts from the Apollo program and those who will fly future Space Shuttle missions.

Astronauts Richard Truley and Dale Gardener will greet visitors. More than 100 films on Space Shuttle, space travel, aviation, and the exploration of the universe will be shown in temporary movie and video theaters.

The Smithsonian's Air and Space Museum has loaned an exhibit of photographs from the Voyager spacecraft. The exhibit includes a model of Voyager and more than 20 giant photos of Jupiter and its moons.



Recreation

Volleyball—Fall volleyball leagues are forming. Co-ed recreational leagues will play Monday and Thursday nights, Open league will play Tuesday nights, and Co-ed competitive league play will be Wednesday nights. Deadline for competitive league entry forms is October 11; for recreational leagues is October 15.

Hunting—Michael Rhew will begin a seven-session hunter ethics course October 12 from 7:00-9:30 p.m. at DSC. Cost is \$5. For information call Richard Bensen, Ext. 5241.

Scuba—The Fathom Dive Club will meet October 25 at 7:00 p.m., DSC 1 MIC room, for a presentation on underwater photography by Boyd Norton, professional photographer. For information call Mitch Boggan, Jr., Ext. 1016 or Ronald Blake, Ext. 3619.

Running—Sprinters are being sought by the Shepherders Running Club to compete in sprint events against other corporation teams. For information, call Anthony Robinett, Ext. 2876.



Group that hopes to win air traffic control system business confirmed a teaming arrangement last month. From the left, they are Stephen L. Copps, director of ATC systems; James S. Perry, Eaton-AIL; Robert J. Polutchko, vice president-Space and Electronic Systems; and Edward Fields, Planning Research Corporation. Stanford Telecommunications is the fourth member of the team.

Air traffic control entry is planned

Denver Aerospace has formed a team with Eaton-AIL, Planning Research Corporation, and Stanford Telecommunications to compete for new business in modernizing and automating this country's air traffic control system.

A request for proposal for the initial phase of the work, called the advanced computer system, is expected in February 1983.

The Federal Aviation Administration plans a complete upgrade of the air traffic control system over the next 20 years at a cost estimated at more than \$10 billion.

The plan envisions replacing the 1960s equipment now in use with current technology in an evolutionary way to minimize the impact on users of the system.

The Denver Aerospace team is headed by Stephen L. Copps, director of air traffic sys-

tems in the space and electronic systems division. Keith J. Frederick is the program development manager.

As a part of its marketing effort, the division has developed an exhibit to be show at the annual meeting of the Air Traffic Control Association in Atlantic City, October 18-22. The exhibit features a 15-foot artist's concept of the new air traffic control system, presented around the theme of systems integration.

Modifications continue at Littleton facility

Employees may begin occupying the new Littleton Systems Center as early as November.

Construction is nearing completion on a 60,000-square-foot mezzanine, with offices on the upper and lower level.

Other modifications include rest rooms, sprinkler system, and an expanded parking lot. Mineral Avenue, the main street in front of the building, has been paved. The commercial developer's work is progressing on the street's intersection with Santa Fe Drive.

Design for the second phase of construction includes a 45,000-square-foot mezzanine. Work could begin as early as November on offices on the lower level with an open, unfinished area on the upper level.

Copperhead still active program at Orlando Aerospace

Recent newspaper reports headlining the "cancellation" of the Copperhead program could be interpreted to mean an immediate effect on Orlando Aerospace production and employment. The action reported on, however, was the recent Congressional authorization conference decision not to fund the program in fiscal 1983.

Current Copperhead contracts run into 1984 and are not affected by the authorization bill now in the budget process. Program employment is expected to remain at near present levels through at least the next year or more.

Also, the Army has the option of picking up funding for the program in fiscal 1984 to continue production beyond that point.

Recent test firings of the laser-guided projectile have shown a marked improvement in the success rate—to more than 80 percent in both low-g and high-g tests.

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