

NUMBER 10/1983



MMU  
Briefing



# Business is on course, Augustine reports

"We're on course, and making good time."

That's the way Norman R. Augustine, Denver Aerospace president, described operations during the first four months of 1983.

"In addition to successful flights of shuttle and Titan—and top performances by our other products—we have been dramatically successful in adding to our backlog of ongoing programs."

Those include negotiations of follow-on

contracts for the Space Shuttle ground support services contract at Vandenberg Air Force Base and program growth in defense systems product areas.

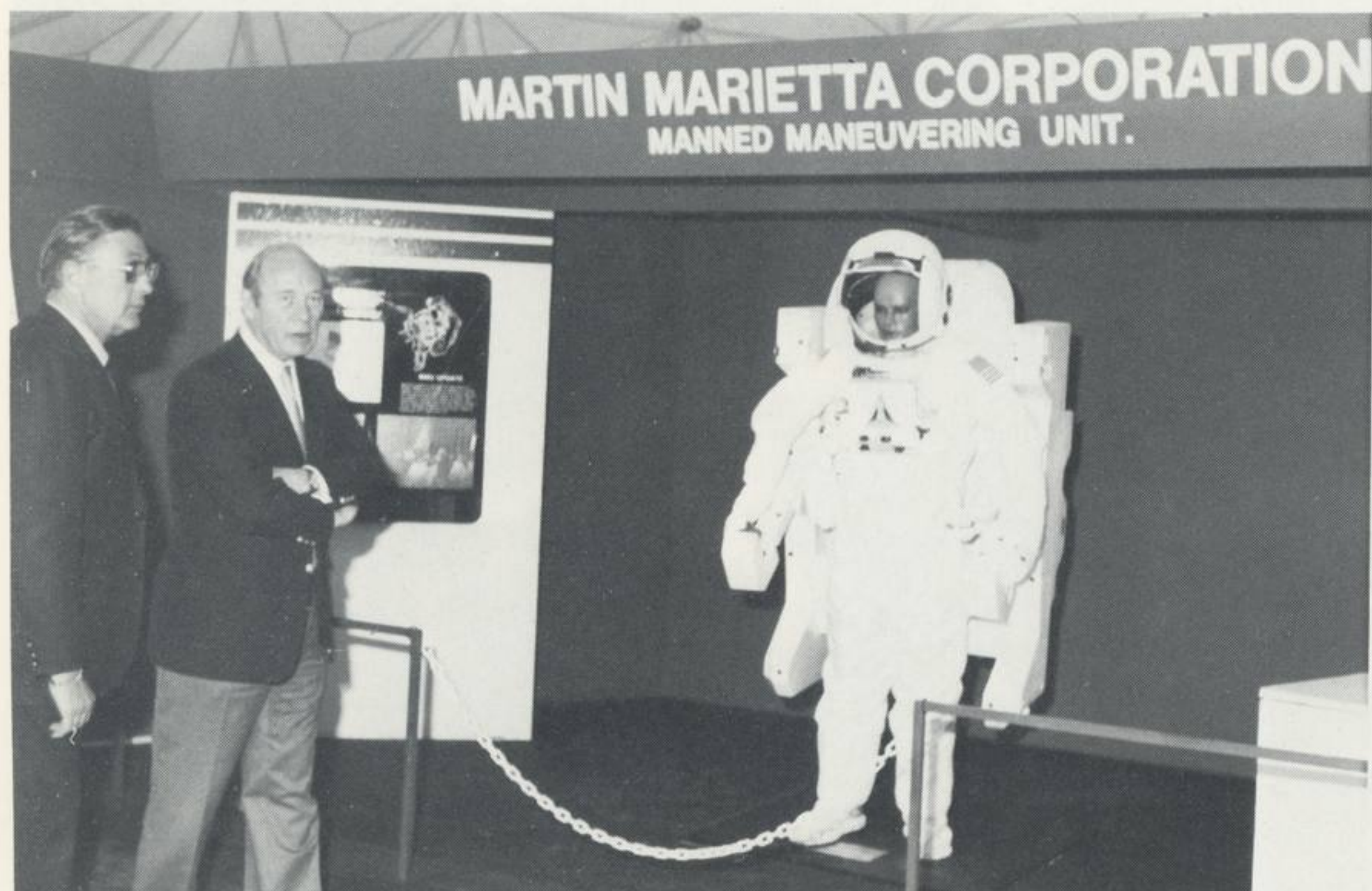
"Although we have not been as successful as we want in winning new business, we are still ahead of our 1983 orders forecast—with three or more major bids yet to be made this year," Augustine added.

Those include the Space Shuttle launch processing contract; the national air traf-

fic control system for the Federal Aviation Administration; the small missile recommended by the Reagan commission on strategic forces; and the Army message processing system (AMPS).

"Add to that the bright prospects for commercial sales of Titan, and we could very well exceed our present forecast."

"However," Augustine warned, "to maintain our competitive posture, it is incumbent that we apply strong and innovative methods to control our operating costs."



U.S. Ambassador to Egypt Alfred L. Atherton and U.S. Pavilion Director Carl Hahn view the manned maneuvering unit during the 1983 Cairo International Fair last month.

## MMU a hit at Cairo International Fair

The manned maneuvering unit (MMU) was the featured attraction for some half a million Egyptians at the U.S. Pavilion during the April 1983 Cairo International Fair.

That was the report in a recent letter from U.S. Ambassador to Egypt Alfred L. Atherton to Denver Aerospace in which he expressed his personal thanks.

"The MMU contributed significantly to promoting U.S. technology and our commercial image in general. Almost half a million Egyptians of all ages passed by the Martin Marietta exhibit," he said. "It was quite a thrill to see on Egyptian television this weekend (April 9 and 10) the MMU in use on the Challenger Space Shuttle flight."

Atherton added the total immediate sales at the U.S. Pavilion during that fair reached \$17.5 million, up slightly from last year.

### On the cover

Astronaut Bob Stewart shows "the right stuff" during manned maneuvering unit (MMU) demonstration given for visiting local and national media Tuesday, May 17 in the space operations simulation laboratory.

## Annual Awards Night is set for Saturday, May 21

Nearly 250 employees will be honored for their achievements at the Annual Awards Night, Saturday, May 21.

R. E. Brackeen, vice president for business development, will be master of ceremonies for the event in the Colorado Ballroom of the City Center Marriott Hotel.

The six awards categories are: technical

achievement, inventors, authors, operational performance, new technology, and independent research and development.

Also to be named are: author of the year, engineer of the year, operational performance employee of the year, and principal investigator of the year.

## Peacekeeper plan moves through House, Senate

President Reagan's Peacekeeper missile basing plan, continuing its successful course through Congress, is expected to face both House and Senate floors next week for final voting.

As of Wednesday, May 18, progress this month has been: a 30-26 vote in favor of the President's plan Tuesday, May 17, before the House Appropriations Committee; a 17-11 nod from the Senate Appropriations Committee Thursday, May 12; and a favorable 9-3 vote Wednesday, May 11, by the House defense appropriations subcommittee. The measure had also coursed through the Senate defense appropriations subcommittee late last month.

The House and Senate resolutions—if adopted by both houses of Congress—would lift a ban imposed by the two legislative branches in December on use of 1982-83 Defense Department funds to design a Peacekeeper basing plan for locating 100 of the 10-warhead intercontinental missiles in existing Minuteman silos in Wyoming and Nebraska. The measures could free approximately \$560 million for work on that basing plan and to begin missile flight testing.

In a related and rare development, Lane Kirkland, president of the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO), has endorsed key recommendations for development of the Peacekeeper by the President's Commission on Strategic Forces.

The labor organization specifically endorsed the "recommendations for limited deployment of the MX [sic] in Minuteman silos, combined with vigorous research on techniques for hardening silos and shelters" and called on the U.S. to begin designing a new, small, single-warhead missile.

Kirkland acted on the advice of the AFL-CIO's defense committee, which reiterated its recommendations that "increases in defense spending . . . can and should be held within the range of five to seven percent a year in real terms without being detrimental to national security" and that such increases "should be fully financed by a progressive surtax on income."



## Recipients named for IR&D awards

Wallace S. Paulson, chairman of the independent research and development (IR&D) structures and materials panel has been chosen outstanding panel chairman along with 11 principal investigators who have been recognized for their performance on IR&D programs.

Those honored were chosen on the basis of government IR&D scores, evaluation comments, and the value of the work done for Denver Aerospace.

Principal investigators honored April 22 were: Fred E. Bikle, advanced-design spacecraft; Allan L. Brook, large space-systems analysis; Stewart G. Chapin, high-energy space system conceptual design; Thomas W. Connolly, data base system definition; John V. Coyner Jr., large space-systems analysis; William G. Duke, a classified project; Elwood S. Ewing, Shuttle-derived vehicle system; John H. Grueser, control and display requirements simulation; James R. Tegart, low-g fluid behavior and control; James W. Tyndall, a classified project; and Raymond G. Ziehm.

Award selections were made by Robert G. Morra, vice president for Technical Operations; James L. Burrige, vice president and chief engineer; and Ronald A. Bena, IR&D program manager.

## Employee to run in marathon relay

Robotics engineer Cynthia Pickering will run a New York City-to-Colorado Springs womens' marathon relay to promote support for the 1984 U.S. Olympic team and womens' distance running.

She will cover 10 to 12 miles a day as part of a ten-woman team whose collective efforts will span three-quarters of the United States. All proven distance runners and Olympic hopefuls will leave New York May 26. One member will run while the others travel in vehicles. As each runner completes her relay segment, another runner will take over until all reach Colorado Springs June 23 for the opening of the National Sports Festival.

A second marathon will begin in Colorado in late June 1984 and will end in Los Angeles for the start of the 1984 Summer Olympic Games.

Pickering and her teammates will share training and racing programs with running clubs along their route, helping in benefit races, conducting running clinics, and making local and network television appearances.

Pickering will appear with Olympic gold medalist John Naber at fundraising efforts for the 1984 Olympic team.



A community leadership award from the Rocky Mountain Bighorn Sheep Society is accepted for Denver Aerospace by Arthur L. Arndt, right. The certificate was presented for the Society by Dr. James Huckabay, left, in recognition of work on the Bighorn habitat.

## Bighorn habitat work earns wildlife award

A summer-long effort to improve the natural habitat of Bighorn sheep has earned an award from the Rocky Mountain Bighorn Sheep Society.

The award was presented to Denver Aerospace at the eighth annual meeting of the Society's Colorado order, May 14. The company's commitment to wildlife preservation and the improvement of Bighorn grazing conditions on company property were recognized by the group.

"We have a lot of high ground with good escape cover," said Thomas E. Nelson, defense systems, an officer of the Bighorn Society who has worked on the reclamation project since its beginning.

"When the Strontia Springs dam was built, the Bighorn herd in Waterton Canyon lost much of its favored terrain. Under stress from man's expansion, nearly 80 percent of the herd died two years ago. The survivors use some of our property part of the year.

"It made sense to improve their habitat on company land by thinning brush that fire would normally keep down. Bighorns prefer open spaces with clear views so they can spot predators at a distance."

Company facilities employees and the Bighorn Sheep Society worked together on the reclamation project. Todd Kisling, environmental compliance, wrote the proposal for the environmental improvement project; Nelson coordinated Society support; and facilities provided equipment and manpower to supplement volunteer time given by the 10 to 15 employees of the Society. Skyline Hunting and Fishing Club members also worked cutting brush.

About 30 acres of land were cleared by hand and machine. Tons of oak brush were removed and a firebreak for access by company equipment was cut.

The project has laid the groundwork for long-term habitat improvement efforts involving Denver Aerospace, the Denver Water Board, the U.S. Forest Service, the

Division of Wildlife, and other organizations concerned with the preservation of Bighorn sheep in Waterton Canyon.

## Snake hazard is high

On warm days, the rattlesnake hazard becomes high at the main plant.

Warning signs are posted in the areas where snakes are most often present.

Employees should walk only in parking lots and on sidewalks, keeping watch for rattlesnakes that might be sunning on the warmer asphalt and concrete.

## Pershing IIs, Copperhead score 10s in tests

Pershing II scored its eighth consecutive successful flight May 6 at White Sands, NM, and hit its target "with desired accuracy," an Army spokesman has reported.

Meanwhile, Copperhead scored a perfect ten hits in ten firings of the laser-guided projectile during its April lot acceptance tests.

The Pershing II reached an altitude of 197 miles in its nine-minute flight and landed 88 miles uprange at a fixed target area. It was the 10th flight in the engineering and development series for the missile, which is scheduled for operational deployment in Europe before the end of this year.

The Army, at the same time, canceled the remaining three rounds in the usual 13-shot Copperhead series and declared the tests a 100-percent success. The ten rounds fired were from distances of 6.5 and 12.2 kilometers in hot, cold, and normal temperatures. Since July 1982, 131 test projectiles have been fired in 107 direct hits for an 82-percent success rate.

Both missiles are produced by Orlando Aerospace.



# Corporate business changes

## Software firm bought

Martin Marietta Corporation is buying all the outstanding stock of a Princeton, NJ, computer software company for \$30.8 million in cash and securities.

Mathematica, Inc, developer and marketer of computer software, has as its principal product the RAMIS II family of database management products and decision-support software. It had fiscal 1982 sales of \$36 million.

Mathematica will be operated as a unit of Data Systems.

The transaction is subject to approval by the New Jersey corporation's shareholders in July.

"Mathematica," said Richard J. Walters, president of Data Systems, "is the industry's acknowledged leader in providing user-oriented software. And, this acquisition provides a fundamental component for Martin Marietta Data Systems's strategic development as a major supplier of fourth-generation software."

## Bowlers qualify for Corporate games

Several winners from the mixed doubles bowling tournament held April 23 will represent Denver Aerospace at the 1983 Corporate Games June 4.

Mens' high scratch series winners and their scores are Richard Watts, 1310; Daryl Wetzel, 1185; and Charles Haar, 1166. All three will bowl in the Corporate Games.

Women bowling in the Corporate Games for the company are Dianne Fultz, who scored 1053 in the womens' scratch series, and Letty Beckett, who scored 1324 in the high handicap series.

Alternate bowler for the Corporate Games is Hilbert Ford.

Womens' high scratch series winners were Lois Moore, 1190; Donna Wetzel, 1103; and Dianne Fultz, 1053.

High scratch game winners were Richard Watts, 258, and James Schreiner, 245, mens' division; and Lois Moore, 232, and Donna Wetzel, 220, for the women.

Mens' high handicap series winners were Richard Watts, 1382, and Ben Lopez, 1352. Womens' high handicap series Letty Beckett, 1324, and Joan Coan, 1273.

High handicap game winners were Richard Watts, 270, and Ron Higginson, 269, with Letty Beckett, 262, Lois Moore, 244, and Joanne Moore, 243, winning for the women.

High handicap team winners were Ben and Lena Lopez, 2589, and D. Watts and K. Kendall, 2573.

Scratch team winners were Tom and Donna Wetzel, 2218, and Charles Haar and Joanne Moore, 2168.

## Three businesses sold

The Martin Marietta Corporation has announced divestiture of three businesses—laser systems, real estate, and cement—for more than \$91 million.

International Laser Systems, Inc (ILS), a subsidiary in Orlando, was sold to Litton Industries for \$46 million in cash. ILS produces laser systems for target identification, designation, and acquisition. The systems are primarily for defense purposes.

The Corporation will receive another \$25 million in cash from Aldrich, Eastman & Waltch, Inc, Boston, for five office buildings in the Orlando Central Park, Martin Marietta's wholly owned Florida subsidiary.

A previously announced agreement in principle to sell the Martinsburg, West Virginia, cement plant to Riverton Corporation, Front Royal, Virginia, will bring more than \$20 million. That agreement includes the cement manufacturing plant at Martinsburg, two terminals at Baltimore and Washington, and inventories.



Assistant Secretary of the Navy Melvyn R. Paisley makes a point in his address at a recent large staff meeting.

### MARTIN MARIETTA NEWS

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

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

May 20, 1983

## Martin Marietta files debt securities

Martin Marietta Corporation has filed a shelf registration with the Securities and Exchange Commission for as much as \$200 million in face-amount debt securities to be issued from time to time. Proceeds will be used, on issue, for general corporate purposes, including reduction of variable-rate bank debt.

## Coordinators set for bond drive

Department and area coordinators will assist employees in signing up in the 1983 U.S. Savings Bond campaign.

The goal of the campaign is increased participation of employees not on the Payroll Savings Plan, and increased allotments by current subscribers.

National savings bonds sales totaled \$350 million in April, the highest monthly figure in two years and a 37 percent increase from April last year.

The new variable interest rate lets purchasers share in rates offered by the securities market, with a guaranteed minimum yield of 7.5 percent.

Coordinators and the areas they cover are: Perry Bacalis, defense systems; Cheryl Howard, business operations; Donna Petersen, Shadine Manzer, John Dominguez, and Paul Flaherty, business management;

Dale Flood, Della Hemelstrand, Andrew Kancir, George McCone, Mary Lou Motsinger, Diane Snodgrass, Lucy Winka, and Norma Emerson, space and electronic systems;

Jeremiah Turco, technical operations; Geneva Purdy, software; Horace Clair, test; Roy Hall, electronics; Irene Woodzell, executive; and Steven Cohen, Beverly Thompson, John Leonard, Barbara Hoeft, and Betty Purkey, production operations; Rose Lyn Foran, engineering mechanics; Martha Reif, logistics. The campaign will run through June.

## Best Ball winners stroke low net 50

Alfred Taylor and Don R. Gallentine were mens' partner best ball winners with a combined net score of 50 at the Partner Best Ball Golf Tournament held May 7 and 8 at Aurora Hills. Ladies' winners were Shirley Hollingsworth and Jeannette Jones with net 57.

Mens' individual low gross was Bill McElroy with 73; womens' individual low gross was Gladys Patterson with 90.

## Assets announced

Three million dollars in assets were held by the Red Rocks Federal Credit Union as of April 30.

Assets were announced by Kenneth Byers, treasurer of the credit union, at the fourth annual meeting of the organization May 5.



# Space Shuttle is scheduled for seventh mission

The seventh flight of Space Shuttle is scheduled to begin from Kennedy Space Center (KSC) Saturday, June 18, at 5:33 a.m. (MDT), just ten weeks after the end of Challenger's nearly flawless voyage in April.

The flight is expected to include the first shuttle landing at KSC. After its six-day mission, Challenger is scheduled to touch down on the space center's three-mile-long concrete runway Friday, June 24, at 4:53 a.m. (MDT).

The five-member crew includes the nation's first woman astronaut, mission specialist Dr. Sally Ride, and is the largest crew yet for a shuttle mission. Also aboard will be commander Robert Crippen, who was pilot on the first shuttle mission; pilot Frederick Hauck; and mission specialist John Fabian. A physician, Dr. Norman Thagard, was added to the flightlist to study space sickness among crewmembers.

During the mission, Challenger will launch the Indonesian PALAPA-B and Canadian ANIK-C communications satellites. The mission specialists also will deploy a West German platform of space experiments, the SPAS 01, and retrieve it after ten hours using the Shuttle's remote manipulator arm.

In addition, Challenger will serve as a spaceborne laboratory for the OSTA-2 scientific pallet, and will carry seven Getaway Special experiment canisters.

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## Clerical support service to begin

An in-house temporary clerical help service will begin July 11.

"Clerks, secretaries, word-processor operators, typists, and other support personnel will be available from the newly formed clerical support service (CSS)," said Robert W. Gammill, chief, staffing support and college relations.

Many former employees will be in the support pool.

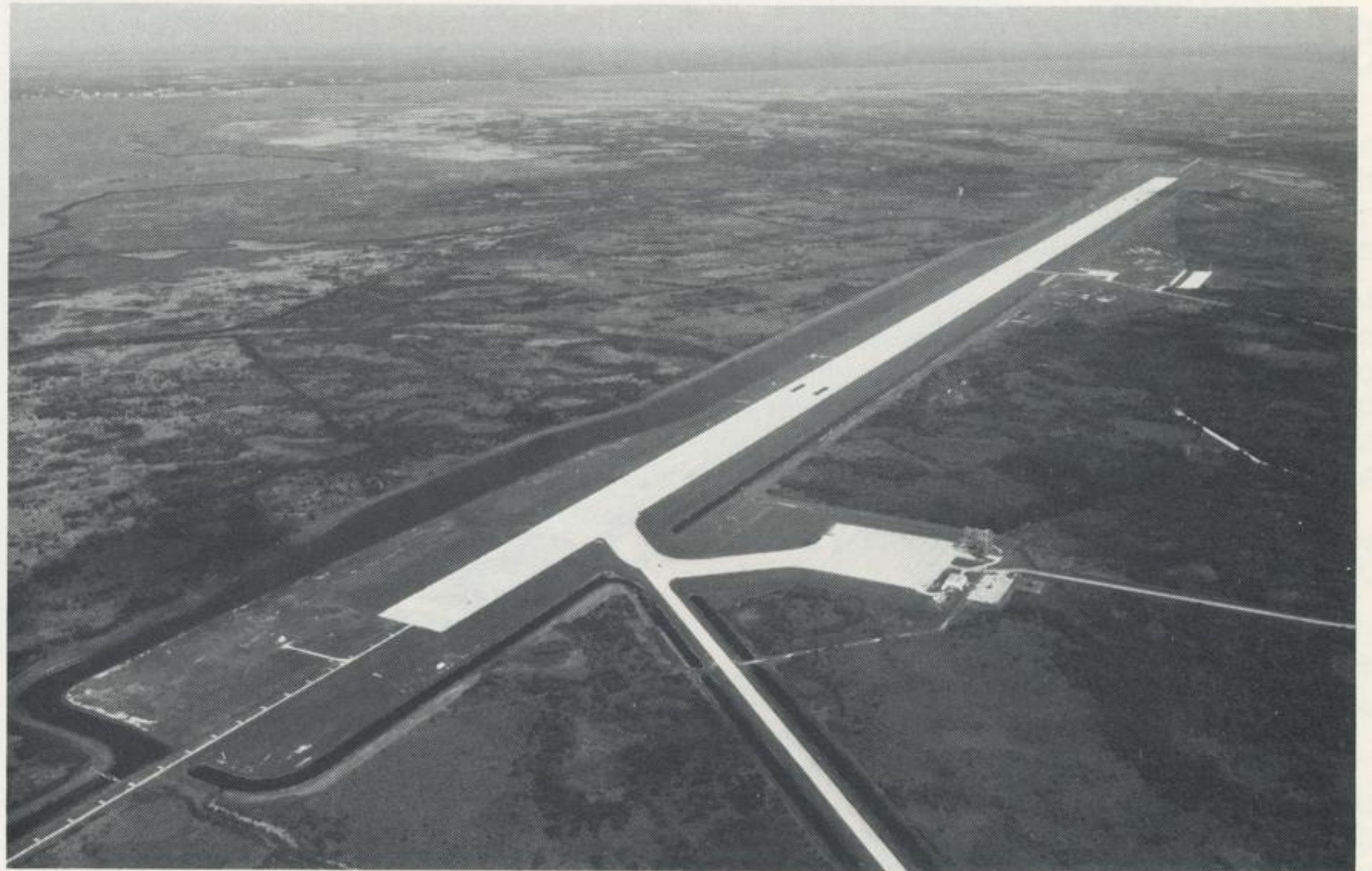
"This way, we have people who are familiar with facilities, procedures, policies, and the way we do business," Gammill said. "It also provides part-time work for good people who do not want to—or cannot—work full time."

During the six-month trial program, 50 to 100 clerical professionals will be on call.

"We think this service will benefit the company several ways," said Gammill. "The familiarity of the support service staff with the company, the company's ability to evaluate their performance, and the overhead savings all look good."

All departments will receive procedure guidelines. Request forms and evaluation forms are available from supplies.

For information, call Patricia A. Clark, administrator of the clerical support service, Ext 7953.



When Challenger returns from its seventh Space Shuttle mission it will land on the above runway at Kennedy Space Center. The mission is scheduled to begin June 18; landing is six days later.

## Martin Marietta to form shuttle service subsidiary

Martin Marietta Corporation has formed a subsidiary for launch services in the Space Shuttle program.

The new company, Martin Marietta Launch Services Corp., will operate Space Shuttle launchsites at Kennedy

Space Center (KSC) in Florida and at Vandenberg Air Force Base in California.

President of the new element will be Thomas C. Wirth, who heads Martin Marietta operations at KSC. He will report to Norman R. Augustine, Denver Aerospace president.

Approximately 1100 persons who have been performing similar work for the company at KSC and Vandenberg will become employees of the new corporation on notice of award of the shuttle processing contract.

Martin Marietta is a member of an aerospace industrial team bidding for a contract for processing and launching of the National Aeronautics and Space Administration (NASA) Space Shuttle.

The joint bid proposal was submitted April 29. NASA is expected to award a contract by October 1, 1983. Other members of the team are Rockwell International, Boeing Aerospace, United Airlines, and United Technologies.

The subsidiary company will place Martin Marietta in a more competitive position relative to NASA's personnel policies.



Thomas C. Wirth

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## Two are named vice presidents by Corporation

Martin Marietta Corporation has appointed K. K. Bigelow vice president for Washington affairs and Kenneth Jarmolow vice president for research and development.

The 61-year-old Bigelow is the Corporation's principal liaison among legislative and executive branches of federal and

state governments. He has been with Martin Marietta since 1964 and director of Washington relations since 1971.

Jarmolow, 58, has been director of corporate research and development since 1974. He joined the Corporation in 1948 and has been the executive overseer of its technology and associated efforts since 1963.



## Astronaut surprises employees with award

Astronaut Charles F. Bolden, Jr. visited the Michoud division recently to commend employee contributions to the Space Shuttle.

He presented the National Aeronautics and Space Administration (NASA) astronauts' personal award for professional excellence—the Silver Snoopy—to 22 surprised employees.

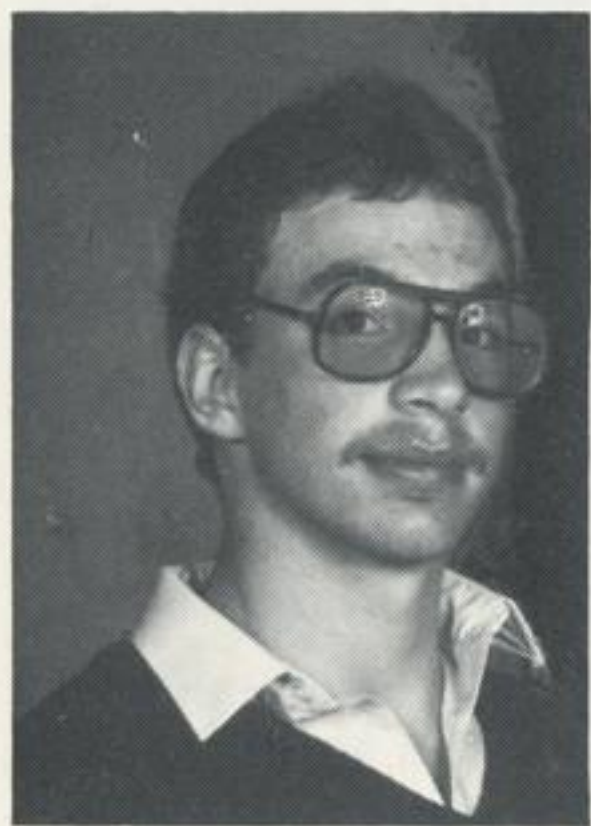
"This is a great opportunity for me. We rarely get the chance to pat those people on the back who work behind the scene," Bolden said, adding "All employees should be bursting with pride about the flight of the first lightweight external tank. It worked perfectly, even after undergoing two extra tankings."

Bolden said many people involved with the Space Shuttle don't realize the tank bears the full load of the shuttle at liftoff. The lightweight tank increased payload capability by 10,000 pounds.

"So, for us, that's great; we've gone from getting the vehicle off the ground to carrying important experiments into space," the astronaut said.

Receiving the Silver Snoopy from Bolden were: Bill Bowen, Julian Quigley, Mabel Wickboldt, Wayne Day, Jesse Hardeman, Feltus Kennedy, Howard Tomchak, Cheryl Alexander, Tom Mobley, Jan Garrett, Ralph Tortorich, David Hartley, William Olsen, Cynthia Miller, Barbara Robinson, Leroy Divinity, Gerald Wesley, Bethel Pierce, Vince Clisham, Jane Ross, John Dolese, and Ray Guidry.

## High school senior earns scholarship



James R. Soss, whose father is an instrument repairman, has been awarded a Martin Marietta Foundation Scholarship. He is the son of Mr. and Mrs. Richard Soss.

The John F. Kennedy High School senior plans to at-

tend Princeton University and major in mathematics and statistics. He is senior class president and a student council representative. He has been active also in community food drives and visits-to-the-elderly programs. He played varsity football and was a delegate to Boy's State, a junior governmental organization.

## Performance Sharing Plan April unit values set

Unit values for the Performance Sharing Plan reported as of April 29, 1983, were:

Fund A (Indexed equity): 2.2180212433

Fund B (Fixed income): 1.6849410223

Fund C (Martin Marietta Stock Fund): 2.2058360462



Recipients of the Silver Snoopy award at Michoud included Leroy Divinity, left, a member of the transportation and handling crew. The award was presented by Astronaut Charles F. Bolden Jr., right.

## Redundancy is key to tank successes

The National Aeronautics and Space Administration's (NASA) space program successes are due to redundancy—repeat, redundancy—in safety efforts, analyses, and hardware.

That, according to Kenneth P. Timmons, addressing an assembly of safety engineers and specialists recently.

Speaking at the Tenth Annual Safety Congress and Exposition at Denver, Timmons, vice president and general manager of Martin Marietta's Michoud division, spoke of potential hazards at the huge 900-acre assembly facility and detailed steps the division takes to prevent accidents or incidents.

"We must protect our employees from injury, and we must guarantee safe handling and transport of each external tank."

With a workforce of more than 4500, the amount of time lost from injuries is still far below the industry average in Louisiana. The cost per claim has dropped well below the national average, and considerably below the state level, he said.

"This is a rewarding figure only because it indicates that even when we do injure an employee, the injury is not severe."

The safety effort involves a department of 50 people who prevent, monitor, and process claims for injuries. But safety also is an integral part of all activities involving the external tank project—from handling toxic chemicals to moving each component of the tank.

"We want to guarantee that our tank—during its eight minutes of operation on that dramatic liftoff—causes no concern to the crew and all those involved with Space Shuttle."

## Recreation

**Alpine**—The Rocky Mountain Alpine Club holds its spring bash May 21 beginning at 3:00 p.m. at Highlands Ranch. Beverages and charcoal are provided. See the recreation racks for information and maps to the picnic site.

**Skiing**—The Satellite Ski Club placed seventh among 39 teams for the second year in a row in the central division Grand Marnier Ski Club Challenge. Finalists in the slalom race held February 27 and 28 at Keystone were Kerry Gellert, Robin Bowden, Darrell Deering, Rennea Shifflet, and John McCoun.

**Swimming**—Final tryouts for the Corporate Games swim team will be Saturday, May 21, 7:30 a.m., at Southwest YMCA, Sheridan and Hampden. For information, call Terry Heggy, Ext 4735.

**Chess**—Entry forms for the 1983 summer chess championships, available in the recreation racks, are due to Demetrios Glinos, Mail Stop 0425, by June 13. Play begins June 20, with all employees and dependents eligible.

## Service award found

A 20-year service award has been found. Call Lori Sharp, recreation, Ext 6750 to identify and claim it.