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Hard mobile launcher test vehicle rolled out and demonstrated



The 91-foot-long mobility test vehicle for SICBM consists of a missile module and a crew module. Martin Marietta is responsible for the overall hard mobile basing program, and built

the missile module. Caterpillar built the crew module and provided hydraulics, belted treads, and the suspension system for the missile module.

A hard mobile launcher test vehicle for the small intercontinental ballistic missile (SICBM) was rolled out in Peoria, IL on Sept 9 by Martin Marietta and Caterpillar Tractor Co. and demonstrated to senior U.S. Air Force personnel.

The two companies designed and built the 91-foot-long mobility test vehicle (MTV) for the Air Force as part of a competitive \$46.9 million contract, under which Denver Aerospace is responsible for the overall hard mobile basing program. Caterpillar, headquartered in Peoria, is joint contractor for the vehicle.

The hard mobile launcher will protect, transport, and launch the SICBM, a new single-warhead missile currently under development by the Air Force.

A key feature in the Martin Marietta/Caterpillar design is a unique, rubber

belted tread that enables the MTV to operate in dirt, mud, and snow much better than any tire or steel tread. It will be capable of both on- and off-road operation, traveling at speeds of up to 50 miles per hour.

The full-scale test vehicle demonstrated is representative in weight and size of the proposed hard mobile launcher. In October 1986, following performance tests of competing vehicles, the Air Force is expected to select a final design for development. The other contract teams in the competition include Boeing Aerospace Co. and Goodyear.

The missile module was fabricated at Martin Marietta's Baltimore Aerospace Co., then assembled at Caterpillar, where hydraulics, belted treads, and the suspension system were added. The crew module was built entirely by

Caterpillar. The two modules were mated in a tractor-trailer arrangement.

Air Force Major General Aloysius G. Casey, commander of the Ballistic Missile Office (BMO) at Norton Air Force Base, CA drove the mobility test vehicle during the rollout ceremonies. BMO is developing the SICBM and hard mobile launcher.

Other members of the group present for the rollout included senior Air Force personnel; congressional representatives; Peoria business, civic, and government leaders; members of the news media; senior Martin Marietta and Caterpillar personnel; and Caterpillar employees who are working on the hard mobile launcher.

The vehicle will be tested in Peoria and Arizona before it is turned over to the Air Force in January 1986 for competitive testing. ■



The recent Minority High Technology Trade Fair sponsored by Martin Marietta attracted 40 minority firms from throughout the country and many employees of Denver Aerospace involved with subcontractors and suppliers. Charles E. Carnahan, vice president of operations, welcomed participants with an overview of Denver Aerospace, long-term business opportunities, and the company's commitment to the minority business community.

Denver Aerospace wins space transportation study contract

Martin Marietta Denver Aerospace has been awarded a \$5 million contract by the National Aeronautics and Space Administration (NASA) to study the nation's future space transportation needs.

The 26-month space transportation architecture study will determine the nation's overall space transportation system architectures, identify the technologies required for those architectures, and refine the resulting transportation and support system concepts for the mid-1990s if firm requirements are identified.

Space transportation architecture consists of a total transportation system including flight elements, ground

and orbital support systems, and their operational interactions.

In addition to Martin Marietta, Boeing, General Dynamics, and Rockwell were selected to perform similar studies. NASA's Marshall Space Flight Center in Huntsville, AL, is awarding and managing the contracts with Martin Marietta and General Dynamics, while the Air Force Space Division in Los Angeles is awarding and managing the Boeing and Rockwell contracts.

Each agency is analyzing and providing projected mission/payload/operational requirements from the mid-1990s to 2010. ■

United Way drive begins Monday

The initial phase of the Mile High United Way Campaign—the leadership campaign—begins Sept 23. Campaign coordinators have been identified from each department. Richard E. Weber, vice president, personnel and facilities, is this year's United Way chairman.

"After the fine job done last year by Jim McAnally and the Denver employees, I consider this role to be a real honor and challenge," Weber said in a recent memo to department heads. "This year's Mile High United Way goal is \$27,500,000, an 18 percent increase over 1984," he added.

Beginning Oct 7, department coordinators will begin the employee campaign. "Our company is committed to the cause of helping those less fortunate than ourselves through this United Way community effort and the nearly 100

agencies it serves. Your full cooperation and support will be greatly appreciated," Weber said. ■



Richard E. Weber

News briefs

Completed building part of long-range upgrade

With the completion of SSB-N, a 182,000 square-foot office building located next to SSB, the company makes "another significant step toward a more professional, pleasant and productive working environment for employees," reports Robert H. Snodgrass, director of facilities.

The building's design used the latest data on office accommodations for a high-tech industry, and "provides the best affordable facilities available to allow us to compete technically and productively in this high-tech market," Snodgrass said. The company will continue its long-range plan to modernize existing facilities, he added.

Software display set for Sept

Sun Microsystems, Inc., will visit the Software Center of Excellence Sept 27-28 in Engineering room 230 at the Waterton facility. The company will display several products including the new Sun-3 68020-based workstation. Employees can test benchmarks in FORTRAN 77, C, and Common USP.

Also on display will be Numerix finite element analysis, Ceracor VLSI design, Prescience documentation preparation, IDE's rapid software prototyping and PAFEC CAD drafting software.

For more information or to schedule a benchmark, contact Darrell Waters at Sun Microsystems, 450-2324.

Logistics director to give workshop in Europe

William E. Rogers, logistics director, will present an "Introduction to Logistics Modeling" in Paris, France, Sept 23-25. The workshop is sponsored by the French District of the Society of Logistics Engineers (SOLE). Rogers teaches similar workshops for SOLE in the U.S. and teaches logistics courses for Denver Aerospace educational services. He has taught in Europe three times previously.

Consultant to speak at career meeting

Dr. Ana Peontek, president of Comunitel Resources, will discuss presentation and communication skills at the next Career Women's Association (CWA) meeting Sept 26. The meeting begins at 6 p.m. (cocktails at 5 p.m.) at the Littleton Town Hall Arts Center, and reservations must be made by 3:30 p.m. Tuesday, Sept 24, by calling any building's CWA booster representative. ■



Winner announced in Titan 34D7 logo contest

Donald M. Waterbury, left, a graphics illustrator for manufacturing engineering, displays his winning entry in the recent Titan 34D7 logo contest. Alan L. Schaeffle, right, vice president and Titan 34D7 program director, presented Waterbury with a \$500 U.S. Savings Bond and framed final artwork. The 56 entries received were submitted by employees from Aerojet TechSystems Co., Chemical Systems Division (UTC), Delco Systems, General Dynamics Space Systems Division and Denver Aerospace, including offsites at Vandenberg Air Force Base and Cape Canaveral. Senior program staff judged the entries. Runners-up were Marty Robins, Aerojet Tech Systems Co. and Noval H. Casteel, Jr., VAFB Operations.

New incentive program rewards safe moves

A new program will recognize employees who have made "safe moves," —moves that have helped to reduce material handling incidents.

Each month one individual who has made a major contribution to improved material handling will be selected to receive four tickets to the Country Dinner Playhouse. In addition, the area supervisor will receive two tickets.

The Move Safe Awareness program was designed to "acquaint all employees with our company commitment to continue to improve our material handling at Denver Aerospace," explained Rex D. Engel, chairman of the Move Safe ad-hoc committee and chief of material handling for the precision development center.

"The awards will go to those individuals directly involved in packaging, handling or transportation of material, parts and equipment," Engel said.

Supervisors who want to recommend employees should contact Rex Engel, mail stop 9930, ext 7-3530. ■

Environmental Action Update

- A system designed to intercept and clean contaminated ground water between Denver Aerospace and the Kassler water treatment facility is nearly complete and should begin operation later this month, company environmental officials report. That's several months ahead of a schedule agreed to by the U.S. Environmental Protection Agency (EPA) and the Colorado Department of Health.

The company performed field investigations earlier this year to identify the extent and concentration of ground water contamination in Filter Gulch, an area between the Denver Aerospace Waterton plant and Kassler. These studies identified a ground water contaminant "plume" in shallow sand and gravel deposits, with the organic solvent trichloroethylene (TCE) the major concern. The plume averages about 200 feet in width and appears to be confined to the immediate Filter Gulch vicinity.

The company developed a system for cleaning up the affected ground water. Detailed design of the system began about two months ago, and most of the system has been installed in the last month.

The system will withdraw water from the ground using a series of closely spaced wells that extend across the contaminant plume. Pumping of the wells not only collects the affected water so

that it can be treated, but also creates a hydraulic barrier to prevent contaminated water from moving past the well system.

Water from the well system will be piped to a new treatment plant dedicated to ground water cleanup activities. The water will be treated by an air stripping process in which the water is sprayed into the top of a tower while air is forced upward within the tower.

This contact between the air and water causes the TCE to evaporate and be carried away from the water by the airstream. The treatment process is permitted and will be in full compliance with Colorado air pollution control regulations.

Denver Aerospace will monitor the effluence from the strippers and will discharge the clean water through the company's permitted discharge point into Brush Creek. Under an agreement with the Denver Water Department, the company will purchase and replace the water lost through evaporation during the air stripping operation.

- Denver Aerospace has begun work leading to a cleanup of an inactive waste disposal site on the company's property.

Darrell Elliott, manager, environmental management, said company representatives met with the U.S. Environ-

mental Protection Agency (EPA) and the Health Department to discuss the company's proposal for conducting a remedial investigation/feasibility study at the site. The proposal was well received, according to Elliott, and the investigation phase was initiated on Sept 9.

The purpose of the remedial investigation/feasibility study is to investigate conditions at the site, which consists of a series of ponds used for disposal of liquid wastes until 1979, and formulate a plan for cleaning up the site.

"Initial phases of the program include development of several technical plans and procedures and an assessment of all available data," Elliott said. "We are in that phase now. Simultaneously, we are developing strategies to make our formal response to EPA regarding the proposed inclusion of this site on the 'Superfund' National Priorities List."

EPA has proposed adding the site to a national list of inactive or abandoned hazardous waste disposal sites given the highest priority for cleanup. The company feels the listing is unnecessary, since it already has been working with the EPA and the Health Department to clean up the site and is committed to using its own funds for the cleanup. ■



Perelman cited by Air Guard for support

Dennis A. Perelman, second from left, chief of financial planning and analysis, accepts congratulations from Brigadier General George Franzen, Jr., left, 140th Tactical Fighter Wing Commander of the Colorado Air National Guard, along with his wife, Marcee Perelman, and John D. Young. Young, senior finance specialist for Denver Aerospace and a member of the Air Guard at Buckley Air National Guard Base, CO nominated Perelman for the award, which recognizes employers who support the activities of those in the guard and reserves.

New health care option offered

Those salaried employees in the Denver area who are covered by the Martin Marietta group medical program may take advantage of a new health care option called a preferred provider option (PPO).

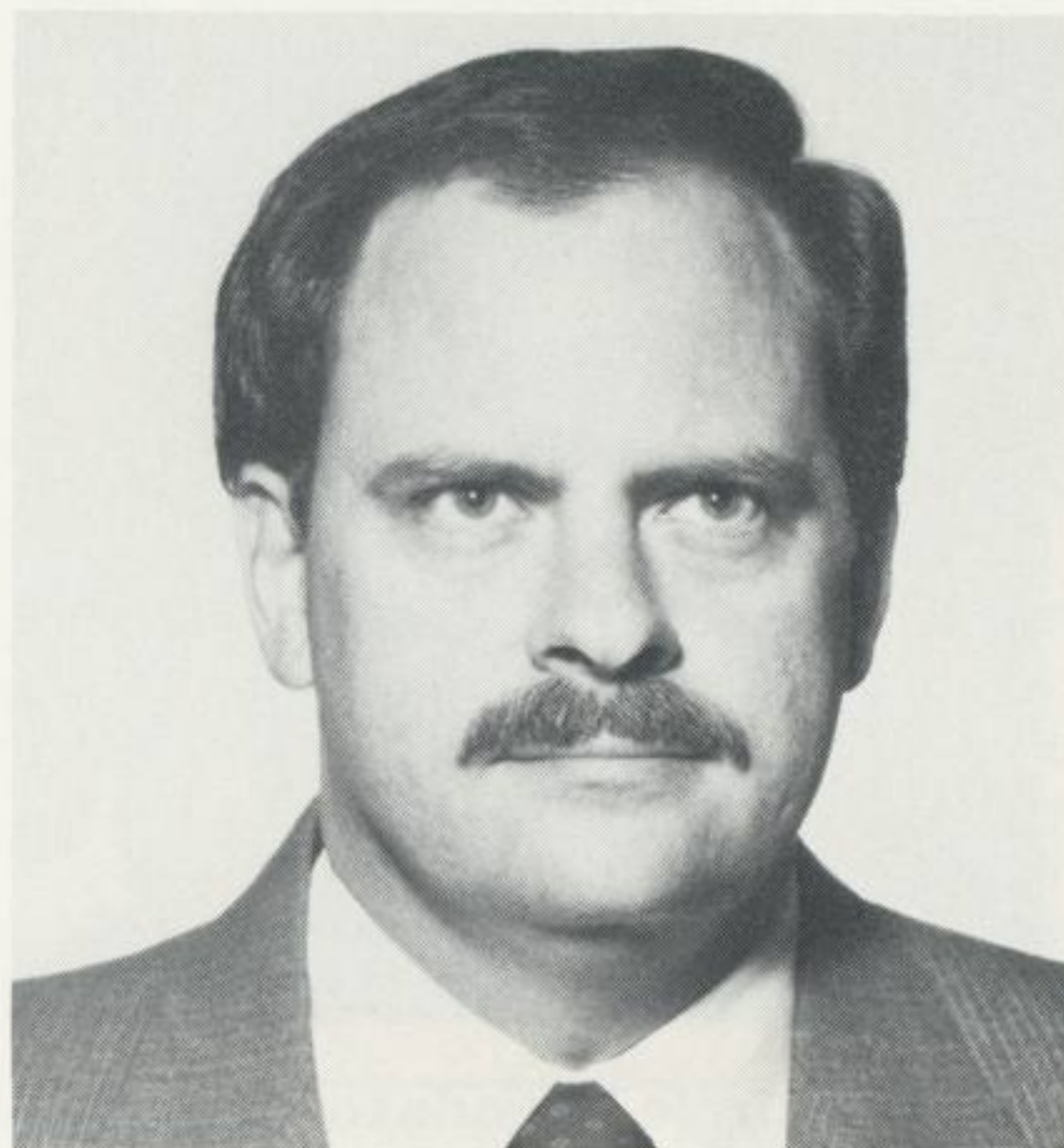
Beginning Oct 1, 1985, employees may select providers (over 450 doctors and four hospitals—St Anthony, Central and North, Swedish, and Porter) which have agreed to provide comprehensive quality medical services at group cost. Employees will receive comprehensive benefits without the normal deductibles or copayments for most services.

Employees pay a \$5 fee for each visit to a doctor's office. The fee does not apply to the standard deductible of the plan. The plan covers work performed directly by the PPO doctor or participating hospital 100 percent. Services not billed directly by the physician or hospital, such as diagnostic tests and x-rays, medical equipment or prescription drugs, are subject to the standard deductible.

If an employee chooses not to use a PPO physician or hospital, the plan pays the standard benefit—90 percent of most reasonable and customary charges after the employee pays the annual deductible.

This improved feature offers flexibility in choosing medical care providers and the ability to avoid most out-of-pocket expenses to satisfy a deductible and copayment.

PPO booklets describing the plan were mailed recently to the homes of all Denver-area salaried employees. PPO physician lists are available in the employee benefits office or through department administrators.



W. Neal Forehand

Forehand wins referral drawing

W. Neal Forehand, manager of information systems for technical operations, referred several qualified people to the company, and won the Project Referral drawing in August. Forehand can attend a space shuttle launch this year as a guest of Martin Marietta.

New auto emission testing begins

Starting Oct 7, employees may have their autos tested and receive emission test stickers the first week of each month at the Waterton facility, DSC, LSC, and Greenwood.

Sponsored by recreation/employee services as a convenience to employees, the program will use the Mobile Emission Testing Service (METS), which also services other major corporations.

METS will conduct onsite testing for a \$10 fee and make any necessary minor adjustments. Each test location will have a designated key drop and pickup point, as well as a roped-off section of each parking lot. Key deposit envelopes will be available in the recreation information racks and at designated points.

After parking cars at designated test sites, employees should take their keys to drop/pickup points; complete all information on key deposit envelopes; place keys and \$10 cash or checks payable to METS into deposit envelopes; and place the envelopes into the locked box. Employees may pick up their keys at the end of the day.

Waterton cafeteria begins dinner service

Dinner service began Sept 16 in the second-floor cafeteria of the Engineering Building at the Waterton facility. Dinner is being served between 6 and 7:45 p.m.

The menu includes soup, one entree, three vegetables, bread, salads, sandwiches, beverages, and desserts, served a la carte. A "meal deal" is also offered.

The new service results from interest expressed by employees in the recent hourly employee survey.

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Peacekeeper silo launch

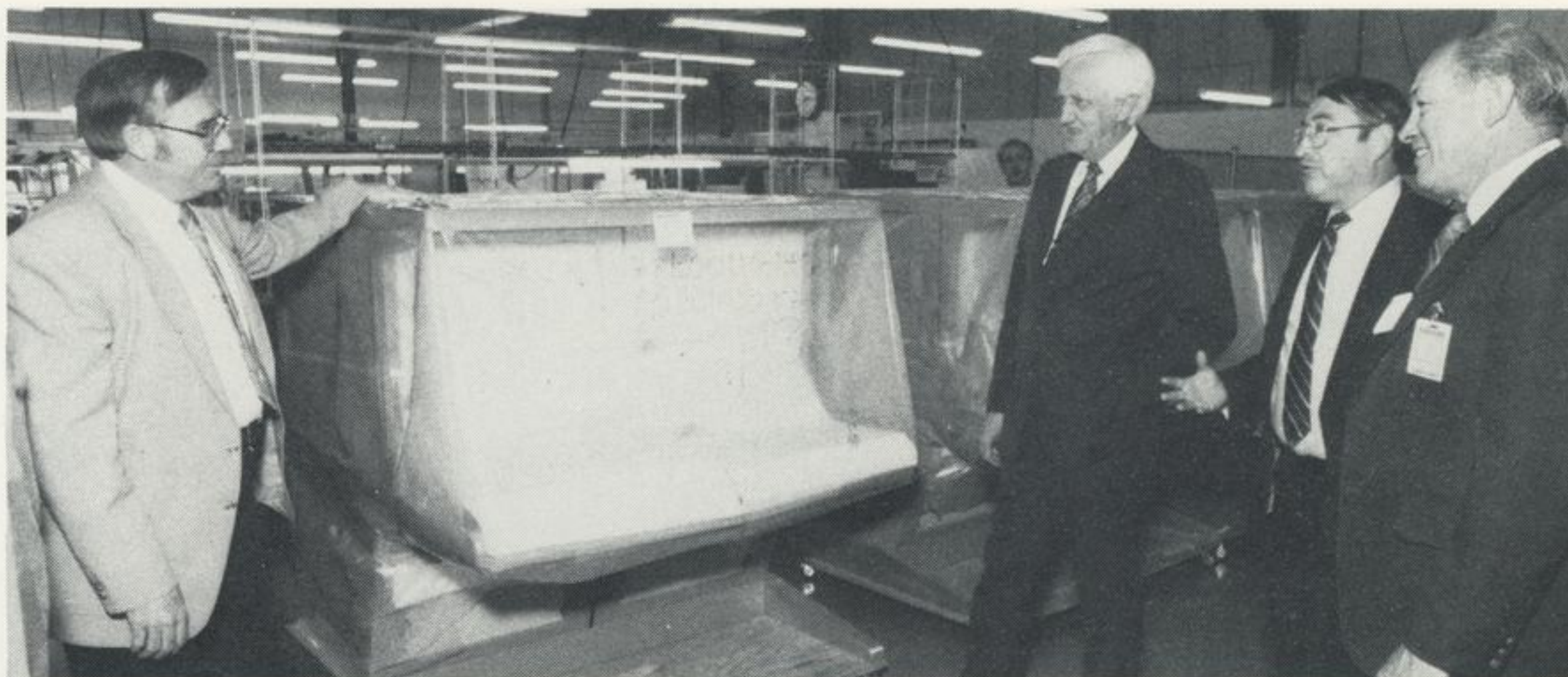
This recently released photo shows the first silo launch of the Peacekeeper ICBM Aug 23. The launch marks the beginning of a new phase in the program. The first eight test flights were from an above-ground canister.

Energy reminders for winter

The operations and maintenance department suggests that employees take the time now to check their homes for faulty furnaces or boilers.

The department recommends consulting a professional to verify proper pilot light and main burner adjustments as well as flue and heat exchanger safety checks. Inefficient operation and air infiltration or leakage can cost enough money to justify servicing the system.

Employees can avoid energy waste in their work areas by turning lights off when not needed, assuring proper closure of overhead and passenger doors, and informing the help desk of faulty or misused energy-consuming equipment. ■



In Denver to review the CCMS program are, left to right, Peter Norris, CCMS program manager; Peter Minderman, director of engineering development at KSC; William Queen, director of electronics at KSC; and Will Martinez, director of GEPS.

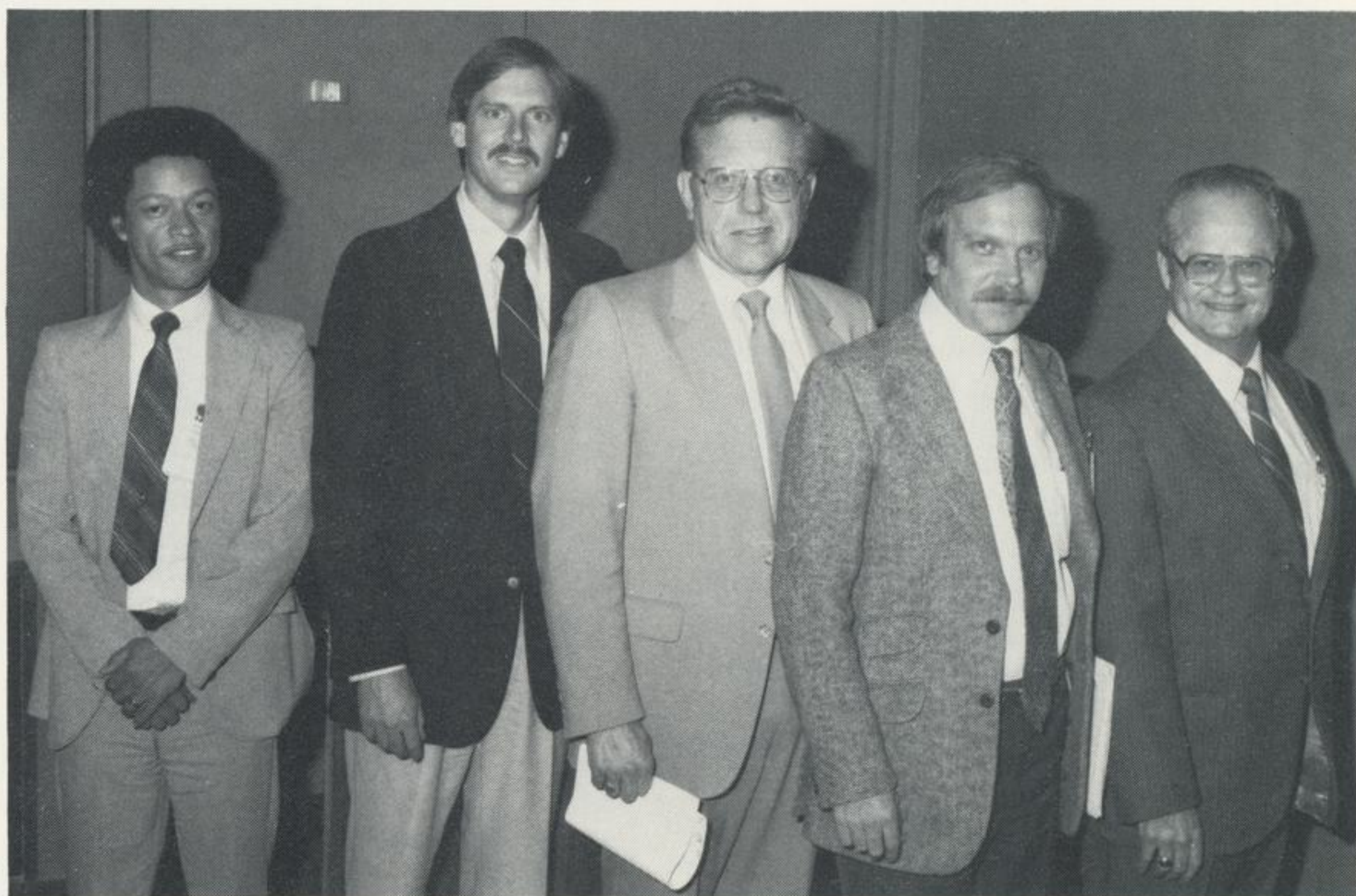
Final console shipped to KSC

The result of ten years of design, fabrication, test, and installation experience was shipped to Kennedy Space Center (KSC), FL on Aug 27.

The final console for the checkout, control, and monitoring subsystem (CCMS) program completed delivery of equipment needed for Firing Room 4 at KSC, part of a contract awarded to Martin Marietta in August 1975 for design and development of CCMS for the launch processing system. With this delivery, the equipment has been deliv-

ered and installed in four firing rooms at KSC and two at Vandenberg Air Force Base, CA.

More than 1800 racks of equipment have been fabricated, tested, and installed during the past ten years of the contract. During that time, the program received fifteen 100 percent and three 90 percent award fee ratings, and successfully supported 20 space shuttle launches at KSC. Peter Norris is program manager for CCMS programs. ■



Quality circle intends to improve productivity

Last year a number of technical writers in technical publications (Logistics) became concerned with low productivity and absenteeism. "We felt that we could improve our morale and absentee rate that resulted from sitting for hours at our terminals without moving and under poor light conditions, through new training, and began to investigate ways to achieve our goal," explained William D. Talcott during a recent presentation to management. The group formed the Wordsmiths Quality Circle last year with Talcott as team leader, to find the necessary people to help change their work area. Finance approved the estimated \$2 million potential savings, and management is reviewing the plan for implementation. Standing, left to right, are J. P. Armstrong, William D. Talcott, Robert J. Lawson, Joseph J. Filbert, and James H. Lowry.

Recreation/employee services

Basketball—This winter's basketball leagues need four volunteer commissioners to assist in coordinating play. The leagues include competitive; recreation—A and B levels; 40 years and over; and women. Interested employees should call recreation, ext 7-6605, by Sept 27. Information on team enrollment will be available late October, and play begins late November.

Chess—The Chess Club will meet from 6:30 to 9:30 p.m., Wednesday, Oct 2, at the DSC snack area.

Horseback riding—The Saddle Club will meet at 7:30 p.m., Tuesday, Oct 1, in the club room at the recreation area.

Hunting—The Skyline Hunting and Fishing Club skeet shooters boast some firsts in 1985: the first shooting team to enter the state shoot in Colorado Springs; first club member (Dave Baylog) to capture the high overall competition in the Colorado State Championship; first 100 straight in the 410-gauge (Baylog); and first year to throw registered targets at the club range. To join the club or for more information, contact Dave Baylog at home at 796-0775, or Raymond Ray at 798-2892.

Karate—The Karate Club will meet from 5 to 6 p.m. on Wednesday, Sept 25 and Oct 2; Friday, Sept 20, and 27; and Oct 4, at the Chatfield YMCA.

Photography—The Photography Club will meet at 7 p.m. on Thursday, Sept 26, in the 2nd floor lunchroom at DSC. Don Riplies, Kodak representative, will be the guest speaker.

Tennis—The fourth annual "Weekend Hackers" tennis tournament will be conducted Oct 5-6 and Oct 12-13 at Arapahoe Community College. Entry forms are available in recreation racks. A \$5 entry fee is required at registration time.

Radio—The Radio Club will meet at 5 p.m., Tuesday, Oct 1, at Hamshack, located west of the recreation area.

Gold C Books—Gold C coupon books for restaurants, entertainment, and merchandise are now available from any Ridge Rider Saddle Club member for \$8. Contact Bruce Torbeck, 7-1685, or Lori Gurr, 7-1142 (Greenwood); Olivia Martin, 7-7875 (West Point); Paul Turner, 7-9133 (DSC); D. Smith, 7-8066 (Adm); Joe Carroll, 7-0553 (LSC); Marilyn Smith, 7-4030, or Irene Woodzell, 7-5804 (Eng); and Mary Smith, 7-8155 (SSN/SSB).

Movies—Discount movie tickets for Mann, AMC, and Commonwealth theaters are available from Jerre Chapman, Greenwood Commons, Bldg 6130 (near the southeast corner), from 1-3 p.m., Tuesdays through Thursdays. Only checks will be accepted.

Skiing—The Satellite Ski Club begins its membership drive at a picnic at the recreation center on Wednesday, Sept 25, from 5 to 10 p.m. The picnic is free to club members, and \$3 for guests. Food, beverages, t-shirts, and Gold C books will be sold.

Riflery—A rifle sight-in for employees and their guests will be held from 8 a.m. to 1 p.m. on Saturday, Oct 5, and Sunday, Oct 6. Rules include: at least one employee per vehicle; a \$1 fee per rifle; no children under 16 unless they obtain a hunter safety card; travel limited exclusively to and from the range; time limited to 1/2 hour per rifle; no loaded rifles may be brought to the range; all vehicles must stop at the gate to indicate destination.



Chamber of Commerce group tours Gallery

Members of the Lakewood Chamber of Commerce Ambassador Club view exhibits at the Gallery at the Waterton facility. Ambassador Club members act as super-salespersons in selling the benefits and advantages of establishing new businesses in Jefferson County. Fitzroy Newsum, front row, far left, civic liaison, public relations; and Irma J. Guire, far right, front row, protocol, led the group's tour.

Access to first floor factory restricted

Entrances to the first floor factory now have large red and yellow warnings painted on the floor. The signs restrict unauthorized employees and visitors from entering the area.

Detail fabrication manager Craig Hansen cites personnel and

hardware safety and distraction of craftsmen as the key issues that prompted the action.

Those employees who need access to the area, or visitors requesting tours, should call ext 7-5552.