

Division of

MARTIN MARIETTA

news

DENVER DIVISION

NUMBER 2/1978

MIOC
Proposal
Planned



MIOC proposal planning is underway

Winning the mission integration and operations contract (MIOC), for which a proposal is being planned, would make Denver division one of the foremost experiment integration contractors in the United States.

"MIOC coupled with our current Space Shuttle payload integration contract (PIC) for the Air Force and our past roles on Skylab and Viking certainly would put us high on the list of science experiment integrators," says Robert B. Demoret, director of advance NASA programs for the division and manager of the MIOC proposal.

Demoret and the proposal team have moved into the recently reopened division building on Wadsworth near Hampden, now called the Denver Systems Center.

MIOC was formerly called labcraft. The name was changed because "labcraft" did not describe accurately the functions to be performed.

As Demoret said, "The contract does not involve the designing or building of any kind of lab nor any kind of spacecraft. Rather, it is to integrate payloads with the Space Shuttle orbiter and the European Spacelab."

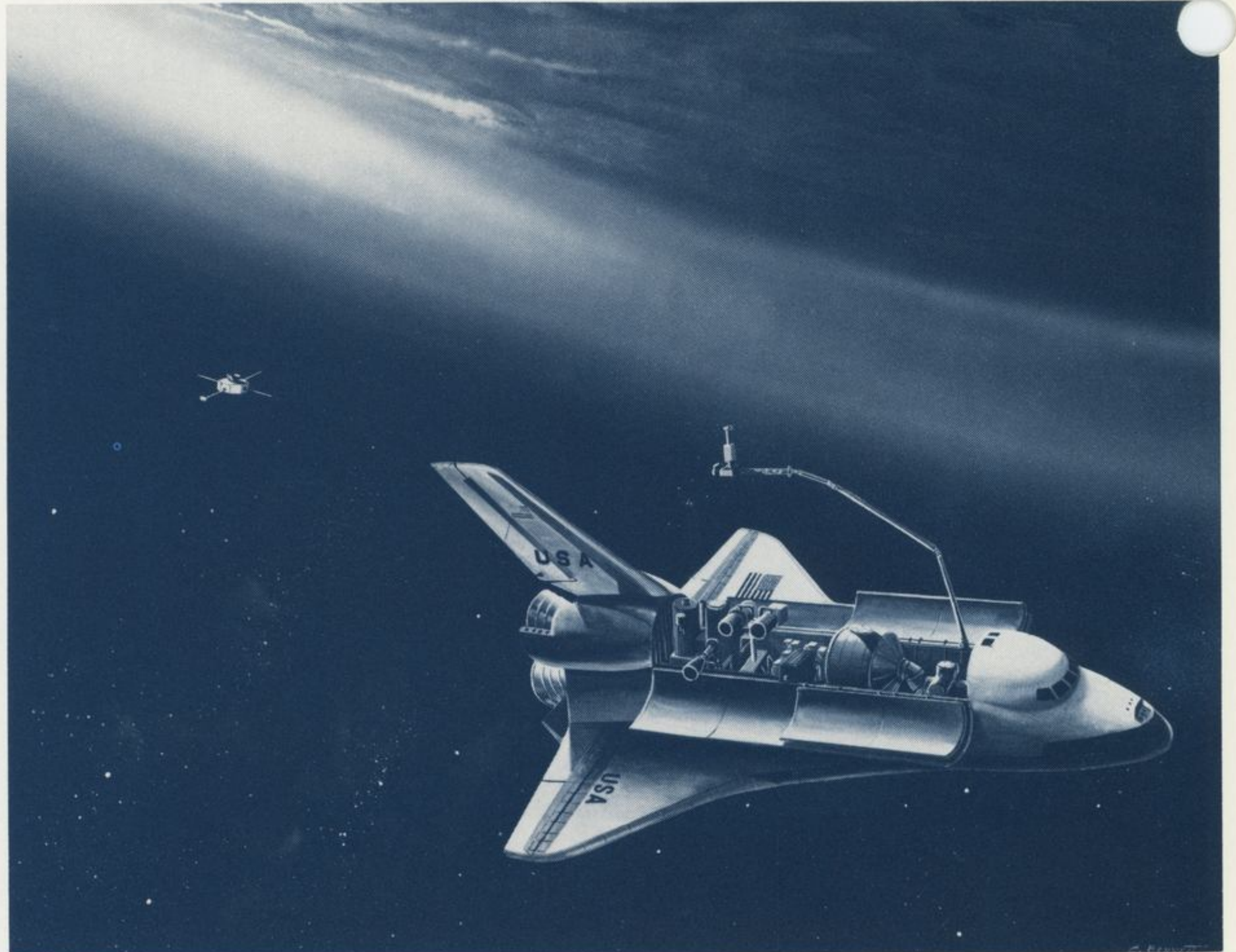
The experiments to be integrated are those that will go up with Space Shuttle, stay aboard the orbiter as it orbits the Earth, and return as the orbiter makes its airplane-like landing.

The MIOC is concerned with the identification, design, and development of hardware necessary to attach experiments to support services — like power supply, data acquisition, command, and control — that are part of the orbiter or spacelab.

The division would build structural supports to position experiments in the orbiter cargo bay and fabricate the electrical wiring connecting experiments to the orbiter's support services. Display panels for the aft flight deck of orbiter and some data processing equipment may be provided under the contract.

"This is a program that can provide continuing, long-term business for the division," Demoret said. "The initial contract will cover about six missions to be flown in 1981 through 1983. After that, NASA plans about nine missions a year."

The request for proposal is due in April with the contract award expected in December.



Space Shuttle orbiter and Spacelab experiments similar to those shown here would be covered by MIOC proposal.

Division products at AIAA exhibit

Denver division products were featured in the Martin Marietta exhibit at the annual American Institute of Aeronautics and Astronautics exhibition in Washington, D.C. February 6, 7, and 8.

With wall-size reproductions of Martin Marietta Aerospace advertisements as backdrops, models of division products on display were SCATHA and Missile X components, including the missile, the shock isolation system, the blast plug, and the breakout device.

Also featured was the new movie on Missile X.

The magazine advertisements on the backdrops explained the Martin Marietta Aerospace capabilities in planetary, strategic, and tactical systems and in developing large systems.

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Lowrie to speak at AIAA banquet

W. O. Lowrie, division vice president in charge of the Missile X project, will speak at the February 22 banquet of the American Institute of Aeronautics and Astronautics in the Marriott hotel. Members of the Air Force Association and the American Astronautical Society will attend.

Lowrie will speak on the Missile X project.

Martin Marietta employees and the general public are invited to attend. Information on the event may be obtained from Bill Congdon, ext. 5007, in the Administration building.

On the cover

Space Shuttle orbiter is shown in flight with its cargo bay open for experiment operation. The division's planned MIOC proposal (see story) will be aimed at securing the experiment integration contract for flights like that shown here.

Wanted! New employees \$200 reward

With 125 highly skilled technical positions to fill each month for four months and with anticipated continued growth for most of this year, the division's staffing department is calling on employees to help in the search for these hard-to-find new employees.

A \$200 reward is being offered for each referral that results in a new hire.

"The technical talent for which we are looking is not only hard to find, but also is the talent being sought by other companies," R.E. Weber, director of professional and industrial relations, said. "The competition for these employees is stiff.

"We have highly qualified employees who we believe know other highly qualified people," he added. "We solicit their help in filling the critical skills positions we have open."

All open jobs are in salary grade 43 and above.

All division employees, except vice presidents, directors, and professional and industrial relations personnel, are eligible for the referral rewards. Supervisory personnel are not eligible when recommending a candidate for a job in their own organization.

Weber suggested employees who believe they can help first check with the staffing department to review the division's needs.

If the employee believes his candidate can fill an opening, he obtains an application form from the staffing department. Before sending the application to



Howard K. Schue, right, recently received the National Intelligence Medal of Achievement in ceremonies in Washington, D.C. Presenting the medal was, at left, Adm. Stansfield Turner, director of Central Intelligence. Schue, who is deputy program

manager in the division's defense systems organization, was cited for his technical and managerial skills, his exceptional diplomacy, experience, and technical expertise during his assignment to the intelligence community staff.

a job candidate, the employee signs his own name and department number on the back of the application in the section, "What prompted your application to Martin Marietta?" When signed, the application is given to the candidate with instructions to send the completed application back to the employee.

The employee submits the completed application to the staffing department for evaluation and will be notified of the outcome.

The nominating employee will receive the \$200 reward if the job candidate is hired and begins work within 60 days. Exceptions may be made where the hiring process takes longer.

The staffing department may discontinue the reward program anytime.

"Employees should use care in sending applications to friends and acquaintances," Weber cautioned. "Suggesting a friend submit an application when there is no requirement for his or her skills could lead to disappointment."

Joggers cited at Vandenberg

Everett Melancon and John Coffey, assigned to the ground support system project at the division's Vandenberg flight operations, have been awarded Strategic Air Command jogging achievement award certificates.

Melancon, senior logistics engineer, was credited with 700 of his more than 850 jogging miles in 1977. Coffey, also a logistics engineer, established a 2,700 mile track record in 1977, with 1000 miles recognized in the SAC program.

Withholding forms may need updating

Are you up-to-date on your federal withholding allowances? If not, too much or too little is being withheld from your pay.

Examples of situations that could change the number of allowances you claim on a W-4 form are marital status change; a dependent is born or dies; you begin or stop supporting a dependent; or the eligibility for additional withholding allowances changes.

You should claim all the allowances to which you are entitled, but you may not claim the same allowances with more than one employer. If you and your spouse are both employed, you can divide your allowances between you, but you cannot claim the same ones.

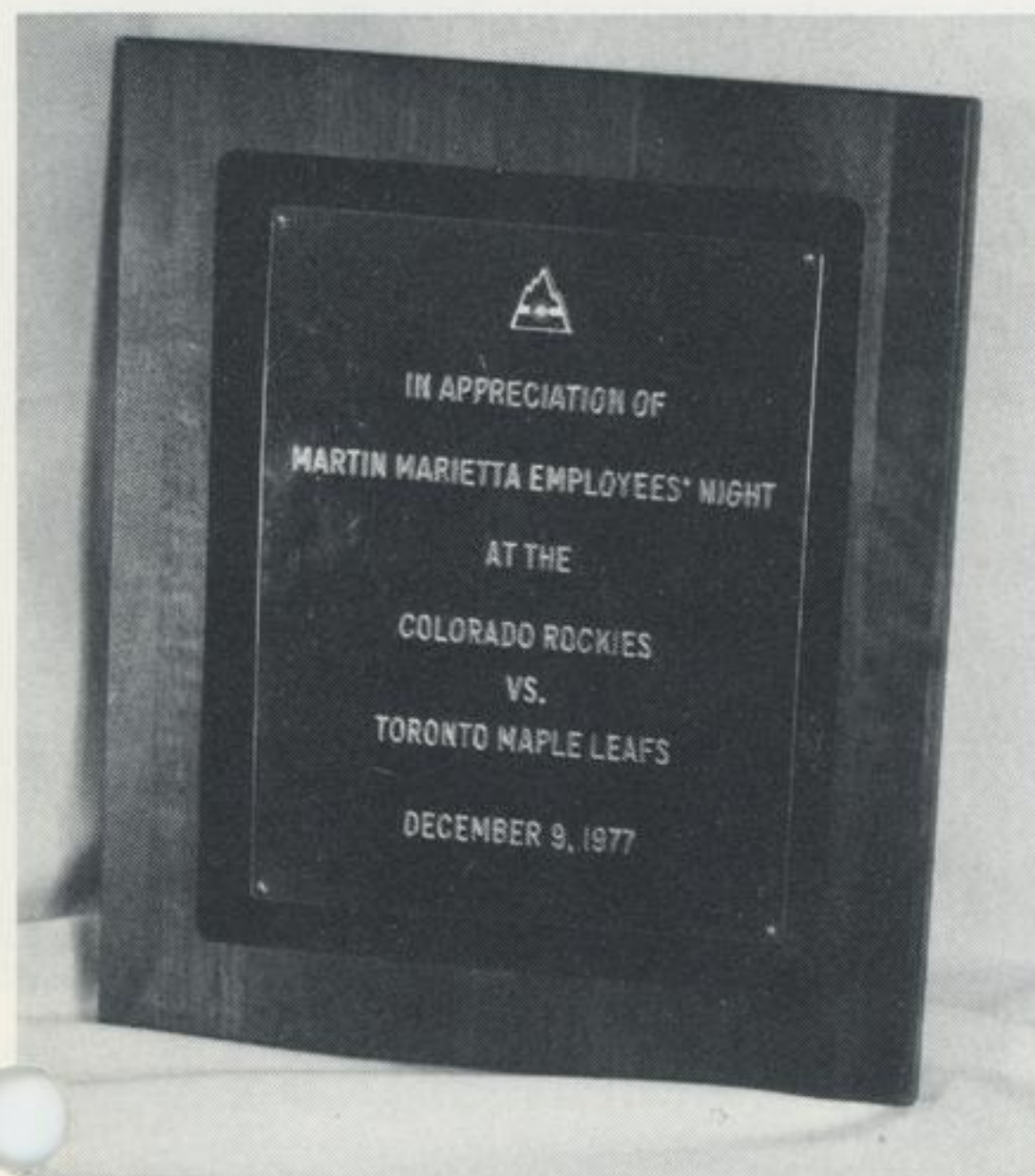
The Internal Revenue Service requires each employee to file a new W-4 within ten days when the number of allowances he is entitled to decreases.

Employees who need to change W-4 claims should contact departmental secretaries for information.

Reports due for former officers

Former employees of the Department of Defense, NASA, and former military officers required to report NASA and defense-related employment must do so by February 15. The report covers the federal fiscal year October 1, 1976 to September 30, 1977.

Forms and information on filing them are available from R. E. Burnett, module 125 in the Engineering building at Denver and from Ray LaCombe, column EC40 on the first floor of building 101, at Michoud.



The Colorado Rockies recently presented this plaque of appreciation to the division for sponsoring the Martin Marietta employees' night at the Rockies National Hockey League match with the Toronto Maple Leafs.

Know your Congress

This is another in a series of articles to acquaint employees with members of Congress who represent them and to let legislators express their views on key issues.

Representative Timothy E. Wirth

Timothy E. Wirth was first elected to the U.S. House of Representatives in 1974 from Colorado's second congressional district which includes West Denver, Jefferson and Boulder counties. He serves on the Committee on Interstate and Foreign Commerce and on the Committee on Science and Technology. He is on the subcommittees of energy and power, and communications of the Commerce committee.

Wirth, who grew up in the area he now represents, received his BA from Harvard College in 1961, his MEd at the Harvard Graduate School of Education in 1964, and earned his PhD in 1973 from Stanford University.

He was named a White House Fellow in 1967 and served as special assistant to John Gardner, the Secretary of Health, Education, and Welfare (HEW), in 1967-68.

After working briefly with Gardner at the Urban Coalition in 1968, Wirth in early 1969 assisted the new HEW secretary, Robert H. Finch, in coordination of policy review during the change of administrations and subsequently was appointed deputy assistant secretary for education.

He served in that post until early fall of 1970 and received the Distinguished Service Award from HEW.

Wirth returned to Colorado in 1970 and entered private business, first with Great Western United Corporation and then as manager of the Rocky Mountain office of Arthur D. Little, Inc., a consulting firm.

He is in his second term as a U.S. Congressman.

Here is the statement prepared for Martin Marietta News by Congressman Wirth:

Congressmen are faced with a variety of apparently unrelated problems in their daily task of representing their districts. However, I believe in a set of basic principles concerning the government's role in our lives. Among these principles are:

- Our government is too big and unwieldy. We must make it responsive and accountable to the people.
- The federal government should do



Congressman Timothy E. Wirth

only what our local governments can't do efficiently well.

- The federal government can be called on for help when local governments don't have sufficient resources to deal with sudden and real necessity.

I make an effort to stop government from doing what it isn't supposed to do, and to make it do what it is supposed to do. Essential to my job and the process of policy making is what I hear from those people I represent — and that includes a good many Martin Marietta employees.

I have received a good many questions concerning the comments Secretary of Energy James Schlesinger made about the Solar Energy Research Institute (SERI).

There has been some apprehension that SERI would no longer operate out of Golden. Quoting from the transcript of the press conference, I would like to clarify the issue.

First, examine the Secretary's personal view closely.

"The facility at Golden was established as an R&D facility and quite obviously is related to the technology program. The regional facilities are associated principally with the commercialization, the diffusion of solar energy technology. We have divided those responsibilities within the department for appropriate reasons. There is some question in our minds about whether they should be coagulated under one institution. As I say, we are studying these problems. We will have an answer in some 90 days."

As this indicates, there is no question that the research function of the Solar Energy Research Institute will operate at the Golden site. I confirmed this fact with

Secretary Schlesinger's office after the press conference.

The issue causing the storm is: What will regional centers do and to whom will they report?

The Colorado delegation has consistently stated that there is no way to separate research and commercialization. They are on the same continuum and must stay together. After many discussions, Undersecretary Dale D. Myers agreed that all research will be done through Golden and the research component of the New England application was withdrawn. The delegation also has agreed to the establishment of a regional network even though no such idea was raised in the legislative development of the institute concept.

The regional network was political compromise, reflecting in particular the pressures from the late Senator Hubert Humphrey and Speaker Thomas P. "Tip" O'Neill.

Consequently, the delegation has maintained that all of the solar energy efforts should report through Golden. This will avoid overlap and duplication and will allow for better directed research efforts. However, some of the regional centers view reporting through Golden as potentially inhibiting their authority. They want separate lines of authority directly to the Department of Energy, arguing that commercialization is a regional need, that there is more to be done than any single institute can manage, and that regional differences must be recognized.

It is to these two questions — separation of research and commercialization and reporting — that the Secretary's study is addressed.

Aerojet forms service company

I. (Jake) Jacobs has been named director of Denver operations for the newly formed Aerojet Services Company. Jacobs has been with Aerojet in Denver for nearly 19 years.

The new company is an outgrowth of Aerojet Liquid Rocket Company's technical services organization and is an associate contractor of the division on the Titan programs.

Titan engines are produced by Aerojet Liquid Rocket and serviced by the new services company. The service company prepares the engines for mating to the vehicle, performs engine modifications, and completes engine checkout.

Division awarded NASA experiment contract

A contract to build a feature identification and location experiment (FILE) for use on Space Shuttle orbital flight test number two has been awarded to the division by NASA.

Program manager and principal investigator is Roger Schappell. John Tietz is co-principal investigator.

The experiment, one of six chosen from 443 candidates, is an adaptive and autonomous Earth observation instrument. It determines in real time and on-board what is being observed and records the data.

Schappell said, "The experiment, which we are building for delivery December 1, 1978, will include two solid state imaging devices, one to sense the visual red spectrum and another to sense the near infrared spectrum. Based on the outputs of the devices and the ratio of the outputs, the instrument will classify each frame in the field of view as either bare ground, clouds or snow, water, or vegetation."

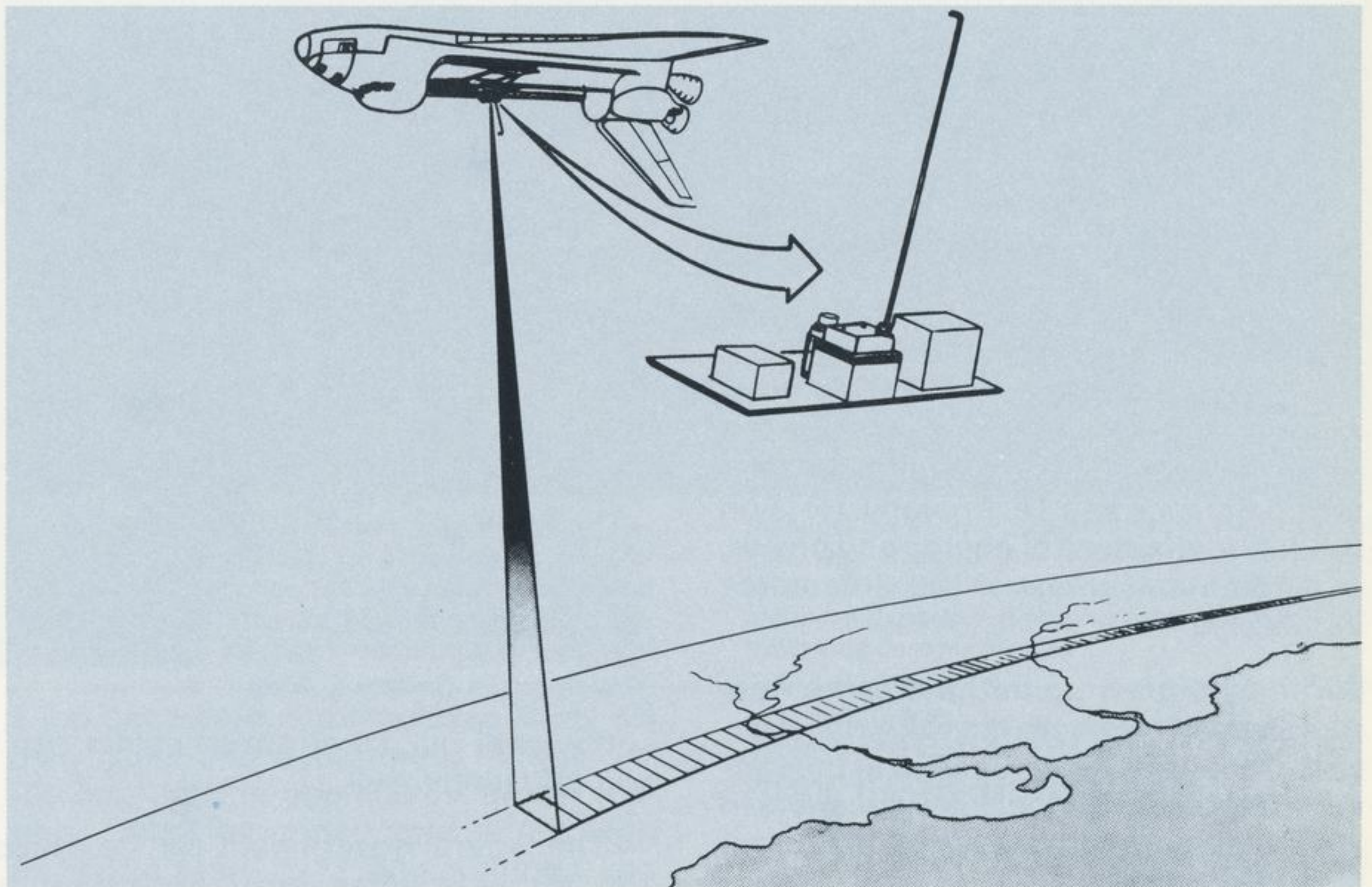
The experiment includes a sunrise sensor that tells the experiment devices when to begin recording data. The instrument also decides when to take photographs in a given category, based on how many have been taken in the category.

A 70 millimeter still camera, loaded with color infrared film, is included to compare experiment results with what was actually seen.

The experiment, according to Schappell, is the forerunner of a series of experiments that will acquire and track various surface features, like water pollution, and point other instruments having different spectral characteristics at those features.

FILE has three components, the one that contains the two solid state imaging devices, the sun sensor and the 70 millimeter film camera; another that is a tape recorder; and a third that contains a high speed buffer.

Shuttle's orbital flight test number two is scheduled for July 5, 1979.



The three components of the feature identification and location experiment, at arrow, will be housed in orbiter's cargo bay and pointed at Earth.

Corporation reports record sales, earnings

Martin Marietta Corporation has reported it achieved record high sales and earnings for both the fourth quarter and the full year 1977.

The report said the Corporation recorded \$1,439,761,000 in sales and had net earnings of \$102,110,000 or \$4.29 per share for the year. The corresponding 1976 results were \$1,213,124,000 of sales, with net earnings of \$78,503,000, or \$3.32 per share. All of Martin Marietta's multi-industry operations — Aerospace, Aluminum, Cement, Aggregates, and Chemicals — contributed to the improvement in both sales and earnings.

The fourth quarter results reflected a continuation of the overall performance trend that had characterized the entire year. Sales in the final period of 1977 were \$391,771,000, and net earnings were \$21,483,000, or 90 cents per share. In the corresponding three-month period a year earlier, sales of \$313,902,000 produced net earnings of \$18,292,000, or 77 cents a share.

J. Donald Rauth, chairman and chief executive officer, said three of the five companies — Aerospace, Chemicals, and Aggregates — achieved record contributions to earnings in 1977.

"Percentage comparisons often can be misleading, but in this case they do accurately depict progress since the Corporation's 1976 base was reasonably strong and a meaningful one," Rauth said.

"We are particularly gratified by the fact that our 1977 net earnings increased 30 percent over the prior year while our sales volume rose by 19 percent."

Martin Marietta Aerospace benefitted from receipt of a \$14.8 million performance award fee, received in the first quarter of 1977, for excellent contributions in prior years to the Viking Mars exploration. "Excluding considerations of this fee," Rauth said, "our Aerospace company showed improvement over 1976 in all respects. Its employment rolls increased about 20 percent, to more than 12,000, during the year, and they are anticipated to expand further in 1978 — real evidence of the rising level of its current activities and of its prospects.

"We are not given to public predictions on future year results, and this will be no exception," Rauth said, "but it does not seem imprudent to say we believe that, given a healthy economy, further improvement in Martin Marietta results will be possible for 1978."

From Michoud

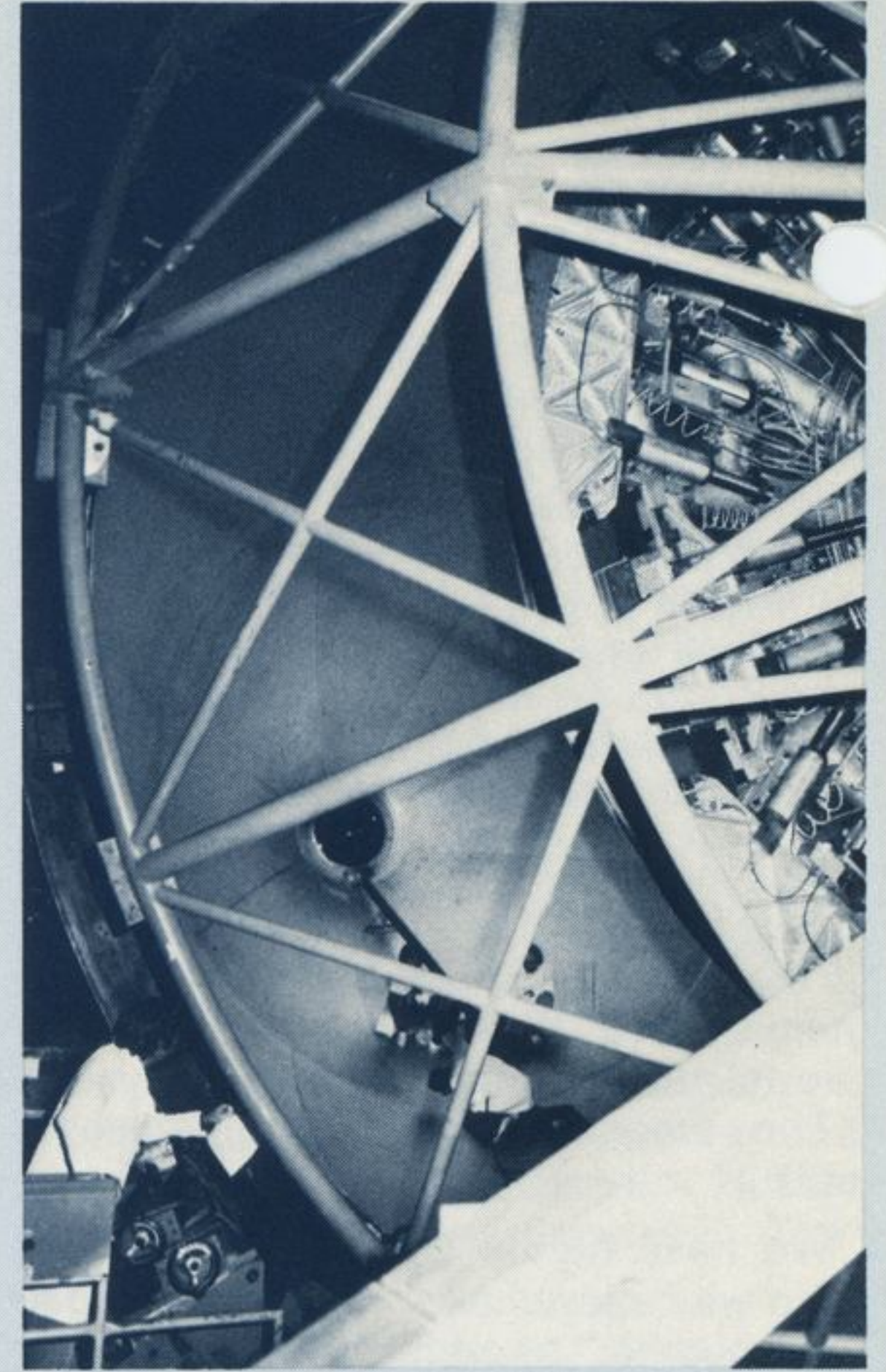


Construction specialist Jo Ann Kelly walked a beam in the Michoud vertical assembly building during recent completion and final walk-through activities for the new cell "D". The new cell was built for the application of thermal protection system material to the exterior of the external tank.

Jo Ann coordinates and supervises subcontract construction work at Michoud, including the preparation of bid packages, advertising bid solicitation, preparing construction activity progress reports and handling contract changes.

About her work she says, "I love this job, it gets me out among the people, to see what's being done and when."

Walking the beam with Jo Ann is Dwight S. Wilkes, an iron worker for Landis Construction Co., New Orleans, contractor for the new cell.

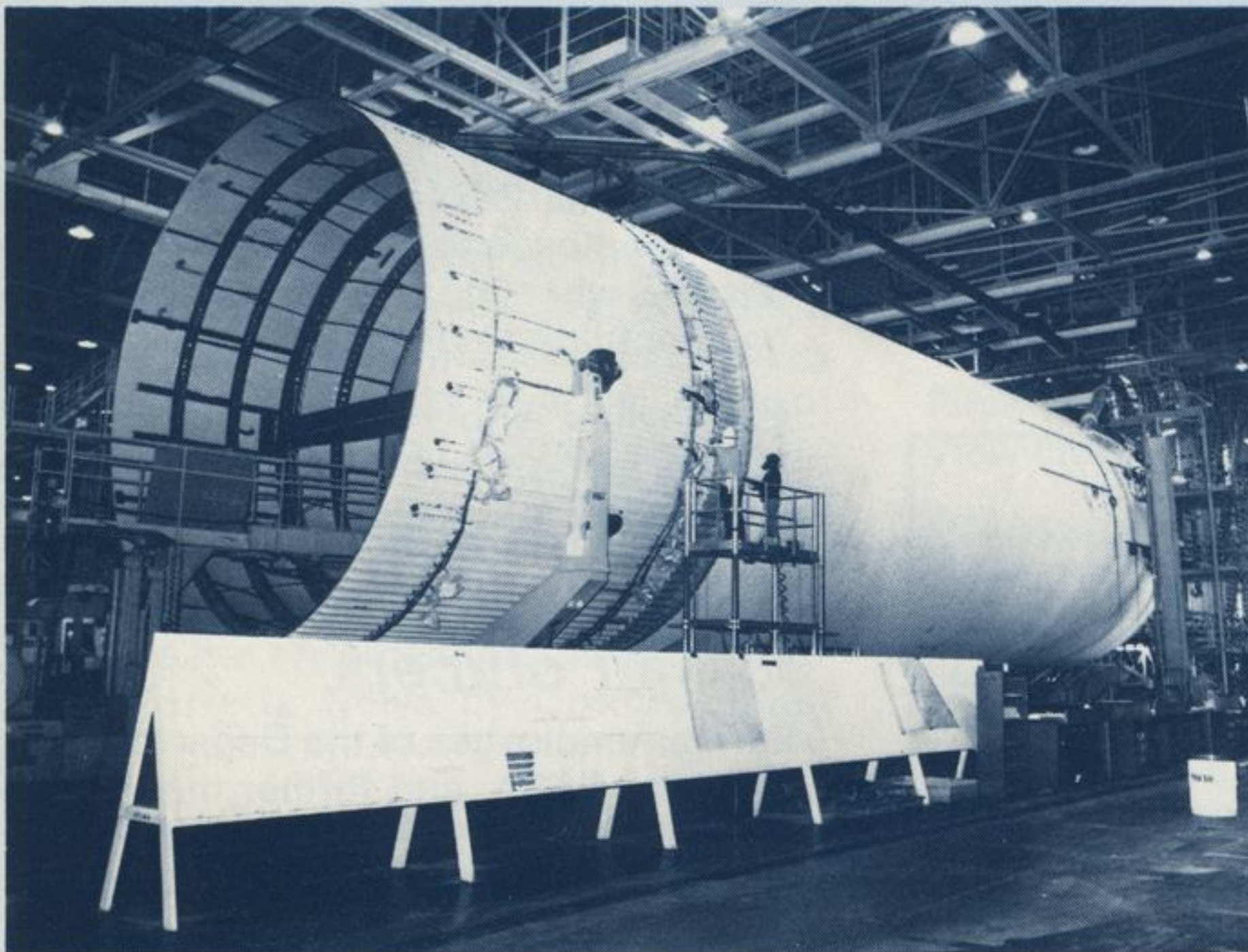


The first flight external tank is beginning to take shape at Michoud with this nose section of the oxygen tank now in its major weld fixture.

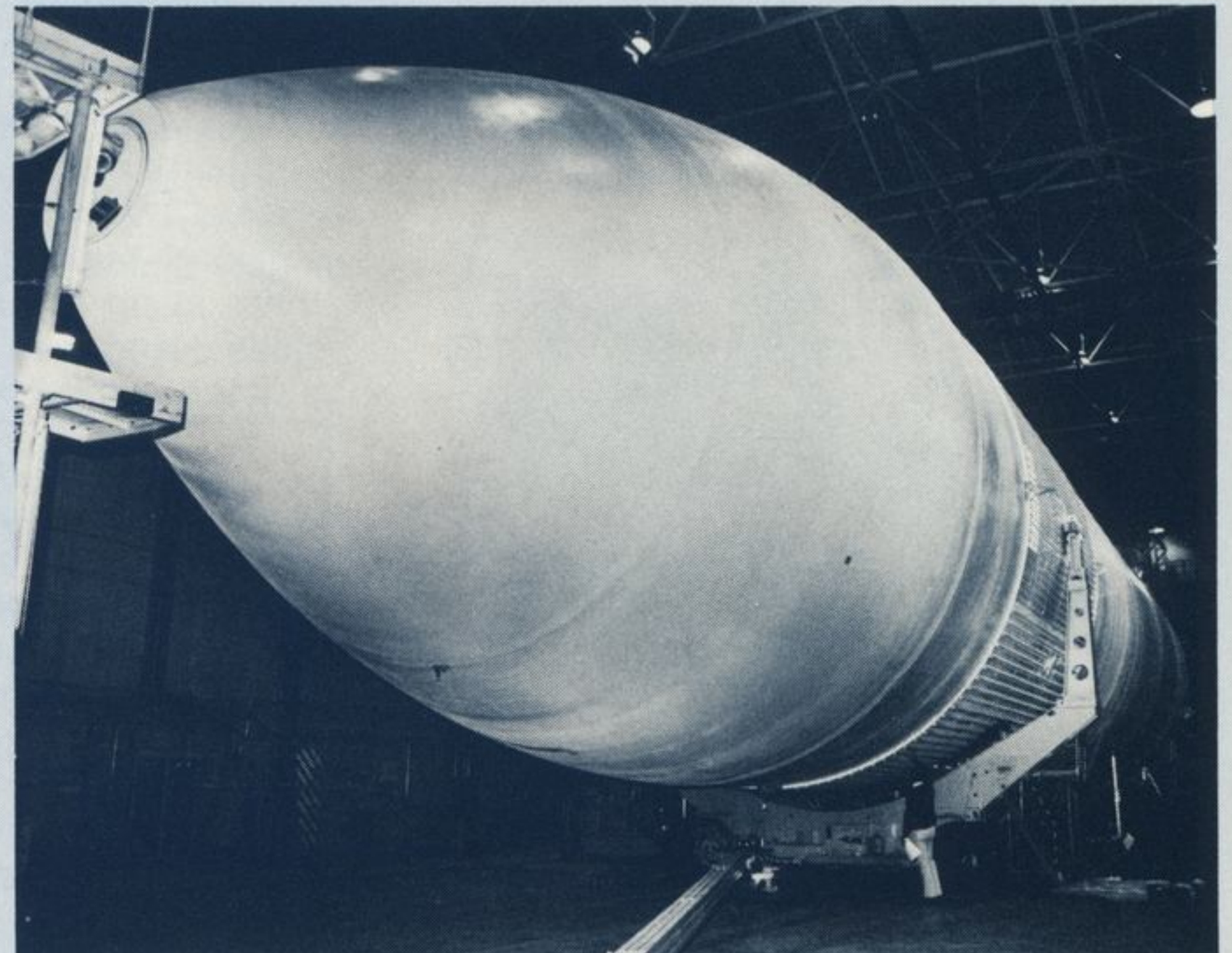
The major weld fixture is used to weld the tank sections together to make up the tank itself.

Workmen will begin welding sections of the first flight hydrogen tank in mid February. The intertank is already taking shape in its assembly fixture.

The completed first flight external tank is scheduled for shipment to Cape Canaveral late this year for the first Space Shuttle flight in 1979.



Workmen at Michoud put the finishing touches on the hydrogen tank and an intertank of the structural test article external tank in preparation for its shipment to Marshall Space Flight Center in late February. The forward oxygen tank portion of this external tank was shipped to Huntsville in November for structural testing which begins later this month. The structural tests will simulate loads and stresses which the tank will be subjected to during liftoff, maximum solid rocket booster acceleration and pre-solid rocket booster separation. The tank will be placed on a covered barge and shipped to Huntsville via the Mississippi, Ohio and Tennessee Rivers. A second covered barge, attached to the one carrying this tank, will carry the complete ground vibration test article external tank to Huntsville.



The ground vibration test article external tank undergoes final inspection in the Michoud acceptance and checkout building. From here the tank will be moved to a covered barge in late February for shipment to the Marshall Space Flight Center in Huntsville for vibration testing. The ground vibration tests will begin in April and be completed in November. The tests will simulate flight conditions which the tank will experience during launch with both the solid rocket boosters and orbiter attached at various stages of the testing. The Space Shuttle orbiter will be flown from California to Huntsville on the back of its mother ship 747 aircraft in early April.