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LEFT BEND IMPORTANT MILESTONE FOR FERMILAB

The superconducting left bend project in the switchyard is now an operational part of Fermilab. Its commissioning is an historic and impressive achievement that moves the Laboratory another giant step toward being able to use increased proton energies (up to 1000 GeV) that will become available for experiments following completion of the Energy Saver and Tevatron I and II projects.

The Laboratory now has the longest, and only, chain of production superconducting magnets in the world that transports a primary proton beam, explained Don Ljung, one of the physicists on the left bend project. The entire Meson experimental area is fed beam through the left bend. Several experiments already are running and others are preparing to run at a later time. As Meson experimenter and physicist Winslow Baker enthusiastically put it: "What it (the left bend project) means for us is unbelievable." Winslow's experiment, E-577 in the M6 line, now receives beam through the 21 superconducting magnets in the left bend plus three in the Meson Area's M6 line.

The resounding success of the left bend project went through several milestones along the way. About the middle of the afternoon on Dec. 16, beam was guided through the superconducting magnets and for the first time struck the two meson targets in Meshall, about 2,000 feet downstream from the left bend. Then early in the morning on Dec. 21, "we actually did good target sweeps," said Ljung. By that he meant the scientists were able to properly position the beam on the targets.

Those two achievements came quickly on the heels of the historic moment on Dec. 12 when at 2:39 a.m. beam was transported for the first time through the left bend to the F1 manhole in the Switchyard. (See page 1 article in Dec. 16 issue of FERMINEWS for a report of this accomplishment.)

Work continues on the left bend project to improve its reliability and the intensity of the beam. At the time this article went to press, an additional compressor and a larger wet engine were being installed in the Switchyard Service Building to increase the reliability and to give more cooling power.

In the Main Control Room, from left, Jack McCarthy, Roger Dixon, Jim Smedinghoff (a crew chief, just behind Dixon), Robert Oberholtzer, Don Ljung and Jim Walton.

To have come this far meant that "practically the entire Laboratory helped," as Ljung so aptly put it.

For their contributions, Roger Dixon and Jack McCarthy had considerable praise and thanks. The Mechanical Support Group and the Operations Group of the Accelerator Division worked inseparably with the Switchyard people during this long and at times trying transition, Dixon noted. He also mentioned that the Proton, Meson and Neutrino Departments of the Research Division had important missions. Other outstanding contributions came from Research Services, Machine Shop, Architectural Services, Alignment Group, Internal Target Group, Cryogenics Group, Energy Saver, Fabrication and Procurement Office, Accelerator Safety Group, Refrigerator Group, Technical Services, T & M Office, Purchasing, Accelerator Controls Group and Weld Shop.

(Continued on page 2)

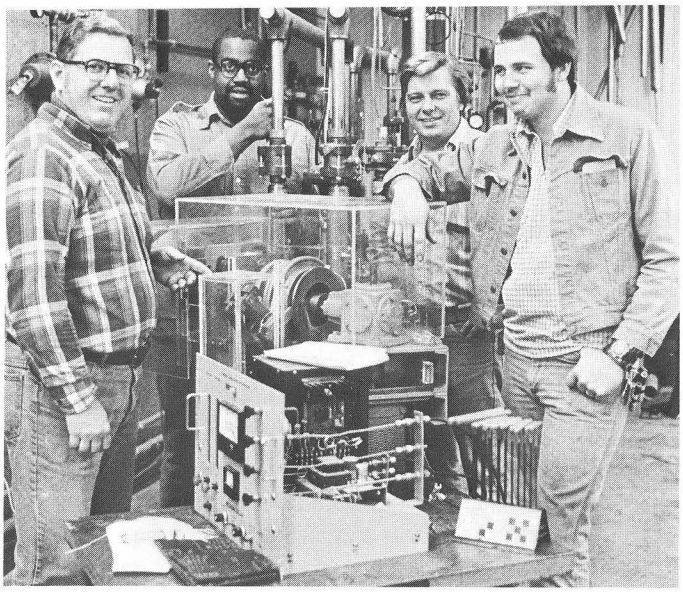
Sitting, from left, Sharon Lackey, Rich Klecka and Robert Oberholtzer. Standing, from left, Doris Burdette, Kathy Voit, Dave Kindelberger, Theo Gordon, Jim Hanson, Jack Smith, Roger Thomas, Johnny Geralds, Rich James and Mike Ziomek. They are some of the members of the Switchyard and Mechanical Support Group who worked extensively on the left bend project. The photograph was taken in the transfer gallery.

(Continued from page 1.)

"It just isn't possible to list all of the names of the people, which, of course, I would like to do--who contributed to the outstanding success of this project," said Dixon. "They were an admirable team that responded well to the daily challenges and overcame them. Certainly all of us in the Switchyard appreciate the tremendous cooperation and teamwork."

The left bend project paves the way for the time when the Switchyard will further be upgraded to handle beam energies as high as 1,000 GeV (1 TeV), split the beam and guide portions of it to sophisticated experiments in the three beam lines. For the moment, the superconducting left bend project can handle beam energies up to 450 GeV, the level that the Switchyard had been transporting before the conversion. But this time, there is an energy savings, because the superconducting magnets can create the needed magnetic fields with less energy consumption.

The new configuration contains five Lambertson magnets and 21 Energy Saver superconducting dipole magnets. The



From left, Bob Kolar, Hal Landers, Al Buetler and Chuck White. They are standing around a wet engine. It is part of the helium refrigeration system. The photograph was taken in the Switchyard Service Building, a blue structure just northeast of Wilson Hall.

Lambertson magnets are conventional and were part of the original configuration as are the quadrupoles, trim magnets and vertical bending magnets that make up the rest of the left bend.

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NEXT COLLOQUIUM SPEAKER

Dr. T. O. Diener of the Department of Agriculture's Plant Virology Laboratory, Beltsville, MD., will be the next physics colloquium speaker.

His talk on "Viroids--The Smallest Known Agents of Infectious Disease" will begin at 4 p.m. on Jan. 21 in Wilson Hall auditorium. Viroids are small, circular RNA molecules that cause several serious diseases in cultivated plants. They may have originated from intervening sequences of host genes. Similar molecules may be responsible for certain human diseases of unknown causes.

Marshall J. Mugge will be Diener's host while he's here. Mugge described Diener's work as "an outstanding piece of research." It was Diener who uncovered viroids and their far-reaching effects.

The colloquium series is presented by the Fermilab Physics Colloquium Committee.

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CLOSING THE RECORD

The week of Dec. 28 through Jan.3, the accelerator recorded 149.2 hours of actual high energy physics in one week, reported the Operations Group.

The accelerator was running at 400 GeV. (For those who like to split hairs, the 149.2 hours is the record for 400 GeV.) The all-time high, according to the records, is 150 hours that came at 350 GeV during June 16-22, 1980.

Ranking third is the week of May 15-21, 1978, with 147.5 hours at 400 GeV.

The reason the accelerator was able to log such an outstanding performance the week of Dec. 28 is that study time and maintenance were given up because of New Year's holiday, which enabled the accelerator to schedule 166.9 hours.

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TIME TO SUBMIT SCHOLARSHIP APPLICATIONS

Universities Research Association scholarship applications are now available in the Training Office, WH15SE. They are due March 2.

Each year, URA sponsors a minimum of 15 scholarships for children of full-time employees. A single scholarship can be for as much as $2,000 a year. It covers tuition and fees and is renewable for up to four years as long as the student remains in good standing at the school.

The students who receive the scholarships are selected on the basis of their American College Testing (ACT) scores. To be eligible for a scholarship, a student must be a high school senior who plans to pursue a four-year college curriculum leading to a degree.

Those students who are awarded scholarships will be notified around April 1. The extension of the Training Office is 4367.

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BIRTH

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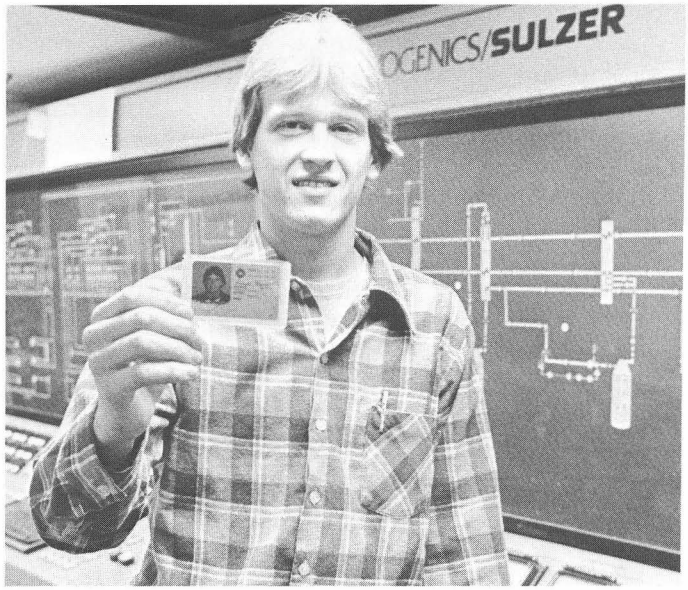

Ron Glavan on the job at Central Helium Liquefier Facility. Behind him is the facility's master control panel.

5000

Ron Glavan most likely will never have trouble remembering his employee number. It's 5000.

He joined the Central Helium Liquefier Facility Jan. 5 as a technician. Ron came here from Bradley University, where he was studying mechanical engineering.

For those of you who wonder who the other three-zero numbers were assigned to, they are William Daniels, 1000; Richard Divelbiss, 2000; Alan Jonckheere, 3000; and Debra Mills, 4000. Divelbiss and Jonckheere are still with Fermilab.

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TECHNICAL WRITING COURSE BEING OFFERED

Only a few openings remain in a technical writing course that begins tonight (Thursday) from 6 to 9 p.m. and will continue for nine more Thursday evenings.

It will be held in Curia II. Max Weber, a technical editor with the Argonne National Laboratory, will teach the course that is being offered by the Fermilab Training Office. The course costs $100 and the textbook $17.95, both reimbursable through the Fermilab education program.

The course's objective is to help enrollees prepare and write more understandable technical reports and other means of communication. For additional information, call Ext. 4367.

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ENERGY MONITORS CHOSEN

The Fermilab Employee Awareness Energy Conservation Committee has asked the Director's Office to appoint 36 Laboratory employees to serve as Energy Monitors.

"Their overall mission is to help the committee conserve energy throughout the Laboratory," said Hank Hinterberger, committee chairman. "They will be responsible for the areas in which they are employed. These people are far more likely to be aware of steps that can be taken to conserve energy, because they are on the scene every day and the employees they work with would more readily make suggestions to them."

The Energy Monitors are:

Accelerator Division--Bob Angstadt, Jim Crisp, Jeff Elseth, Bob Mau, Don Rohde and Jim Smedinghoff.

Business Services Section--Billy Arnold, Fred Assell, Dick Auskalnis, Michael Becker, Tom Blachford, Steve Boyd, Ron Grosklaus, Kurt Kasules, Bob Kraft and Ed Pietras.

Energy Saver Division--Rick Diehl, Joe Raczek, Al Tanner, Harry Warren and Del Wilslef.

Laboratory Services Section--Peggy McAuliff and Marilyn Sobota.

Research Division--Al Brenner, Marvin Johnson, Tom Kirk, Ernie Malamud, Chris Quigg, Ken Stanfield and Alvin Tollestrup.

Technical Services Section--Don Champion, Linda Finks, Tom Hickey, Jack Mills, Jerry Peterson and Danny Snee.

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FINAL CALL FOR BASKETBALL ENTHUSIASTS

Limited tickets are still available to the Chicago Bulls-Indiana Pacers basketball game Jan. 20 in Chicago Stadium. The $6 price per ticket includes transportation to and from the game (it begins at 7:30 p.m.).

The bus will leave from the front of Wilson Hall at 6:30 p.m. that day and return after the game ends. Sports fans should provide their own refreshments. To get tickets, contact Rose Muth, Ext. 4445, or Ed Justice, Ext. 4668.

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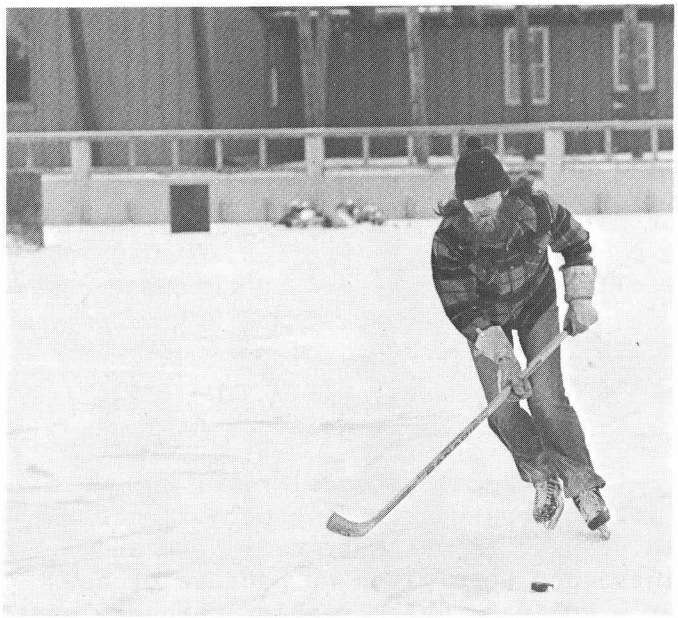

John Martin scores on the ice skating pond. In background is Users Center.

FOR ALL YOU ICE SKATING LOVERS

Something new has been added in the Village--an ice skating pond just north of the User's Center.

To provide a winter recreation attraction for the many Fermilab employees and users who enjoy ice skating, the Roads and Grounds crew prepared a shallow depression in the lawn and filled it with successive layers of freezing water. The objective is to make it as smooth and slick as possible.

"That's a bit ironic," said John Paulk, head of Site Services, "considering that the usual responsibility of our Roads and Grounds crew during winter is to get rid of icy spots for safety's sake." During warmer weather, the pond will be drained and grass will be allowed to grow.

Several amenities are available at the pond to make skating more enjoyable. These include tables, benches, floodlights for night skating, punctured oil drums for fires and a supply of firewood and kindling. And, of course, just a few steps away is the User's Center for additional conviviality.

"Skating, anyone?" encouraged Paulk.

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