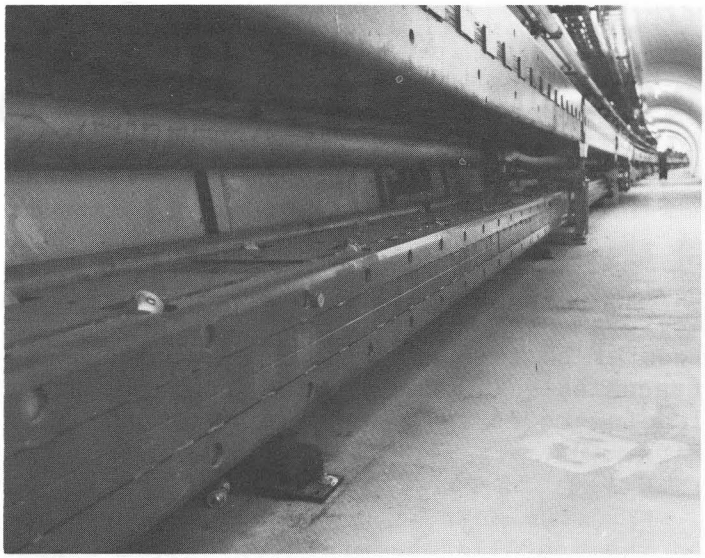
FermiNews

FERMI NATIONAL ACCELERATOR LABORATORY
January 7, 1982

"WELL DONE!"

...was the accolade with which Accelerator Division Head Rich Orr and Deputy Head Helen Edwards greeted the troops emerging from the Main-Ring tunnel as the six-month shutdown of the accelerator came to an end. Some of the "tunnel rats" had not seen daylight for weeks, coming in early and leaving late with the entire day spent in the tunnel.



Energy Saver magnets and helium line installed under conventional magnets in Main-Ring tunnel.

There was much to show for their efforts. Linac Group Head Cy Curtis could point to a new, sophisticated microprocessor-based control system designed by the group led by Mike Shea.

Booster Group Head Curt Owen had stolen a march on the main accelerator by doing early testing of improvements in the Booster systems and was gratified to see a new record

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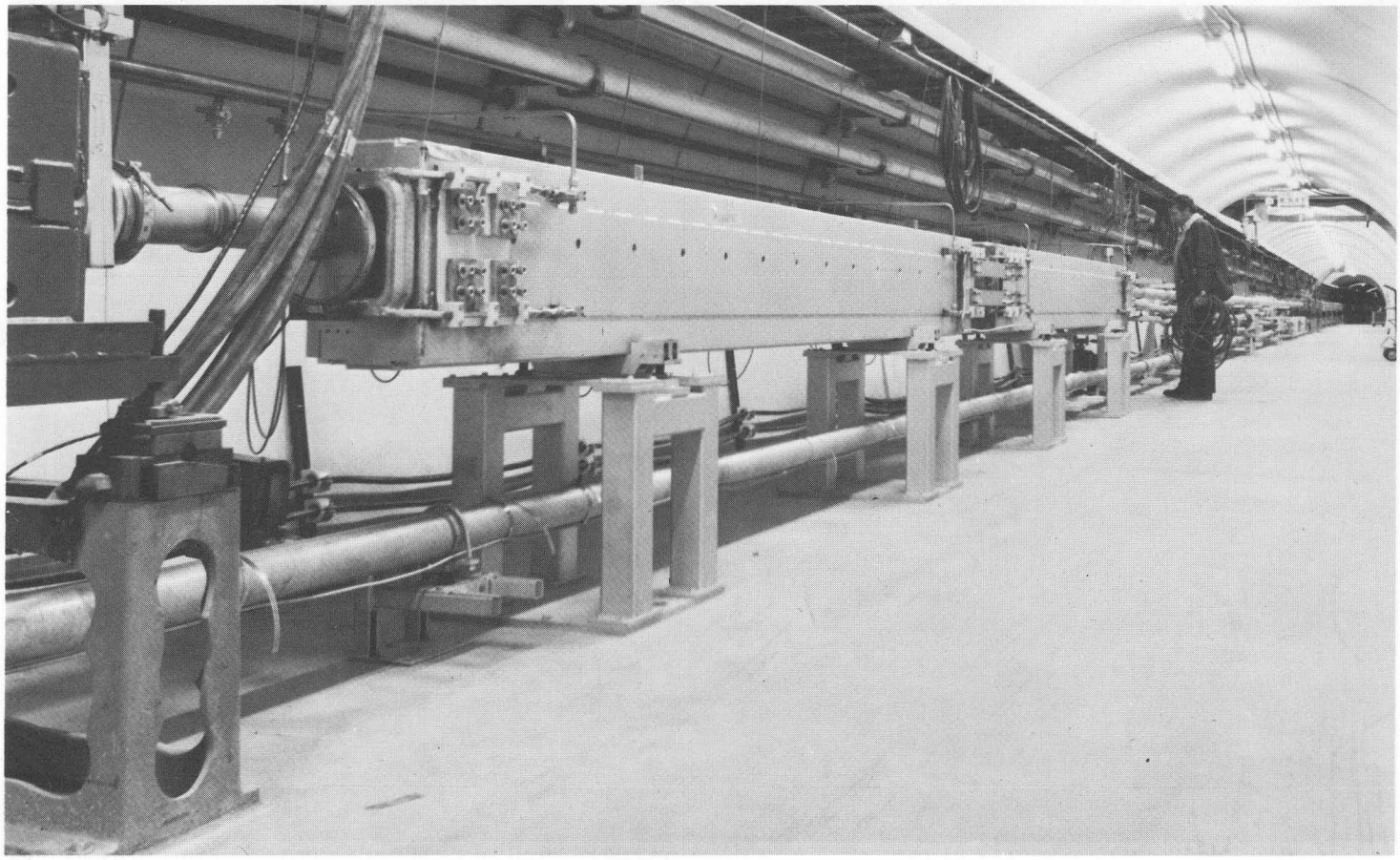

Magnets installed in tunnel at E0 used to extract the beam from the Main Ring and inject it into the Energy Saver.

Six Month Shutdown Ends

ACCELERATOR STARTUP SUCCESSFUL

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of 4.3×10^{13} protons from the Booster in the equivalent of one Main-Ring cycle. Improvements in the 8-GeV line from the Booster to the Main Ring should enhance the transmission between the two machines leading to improved perfomance of the Main Ring.

In the Main Ring, primary emphasis was on the installation of Energy Saver components under the direction of Accelerator Systems Group Head Peter Limon, ably supported by groups under Larry Sauer and Max Palmer. By the end of the shutdown they could "point with pride" to having the A1, A2, and A3 cryoloops installed, vacuum tight, and ready for cooldown. Coupled with the work of the Controls Group under Dixon Bogert, the two Refrigeration Groups under Claus Rode and Dick Andrews, the Central Helium Liquefier Group under Ron Walker, and the Power Supply Group under Gerry Tool, this installation is the final major test of the Energy Saver. It involves 118 superconducting magnets, three satellite refrigerators and the Central Helium Liquefier, the 5000 amp power supply, and the full control system.

While all this was going on in A-sector, preparatory work was being carried out in the rest of the ring. At the E0 straight section Mike Harrison and the

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Aerial view of the Main Ring near A0 showing completed section of transfer and high pressure helium line.

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Closeup of transfer and high pressure helium line on top of the Main-Ring berm (see aerial photograph on preceding page).

Conventional Devices Group under George Biallas installed the complicated system of magnets and kickers needed to inject the beam into the Saver from the Main Ring. The compressor stations at E0 and F0, with four helium compressors each, were commissioned under Dick Andrews. Ed Kessler of the Electrical Support Group directed the installation of hundreds of miles of cable around the ring. With the accelerator turned off, the Operations Group under Bob Mau turned to Saver installation. Bill Merz oversaw installation of many miles of copper control tubing needed for the full Saver. Duane Plant and Debra Baddorf saw to terminating the cabling for A, E, and F-sectors, involving 10,000 connections per sector.

By the end of the shutdown, besides having the Main Ring ready for 400-GeV operation, the Accelerator Division, with generous assistance from many elements of the Research Division and various Laboratory support groups had 3 (of 24 total) cryoloops of the Saver ready for operation; 15,000 out of 22,000 feet of transfer and high pressure helium lines were completed on top of the berm, thanks to Don Richied and the Paramount Park crew and the leak-checking crews under Mark Leininger; all of the 24 refrigeration buildings and Service Building Controls enclosures were complete; 18,000 of 22,000 feet of helium and nitrogen collection piping were installed in the tunnel; all of the cable trays and pneumatic tubing for the entire project were in place; the cabling for half of the Ring was complete; in addition to the A-sector magnet installation, 90 additional dipoles selected by Don Edwards and Leo Michelotti were installed in the E1, E2, and F4 cryoloops.

Back on the assembly front, Dick Lundy's people in Industrial Buildings 1 and 3 had reached an assembly rate of 12 dipoles per week; the Magnet Test Facility under Frank Turkot achieved a rate of 14 magnets/week; and at Lab 5 Del Miller's crew completed cryostat assembly and turned their attention to spool pieces, while the crew at Lab 2 under Al McInturff set up a spool-piece measuring facility.

Not to be outdone, Quentin Kerns' RF Group completed the first of the three radiofrequency cavities for the Saver.

-Tim Toohig

NOTE ON DOE REORGANIZATION

By Leon Lederman

By this time the news is out that the President will submit legislation to the Congress proposing the demise of the Department of Energy (DOE). Most of the activities, including high energy physics, will be transferred, **intact**, to the Department of Commerce. My sources of information indicate that the major change will be the replacement of "ENERGY" by "COMMERCE" on our vehicles. The important point is that a new agency-like structure would be formed, essentially the present DOE minus certain functions (e.g., Strategic Petroleum Reserve). This new agency would report to the President through the Secretary of Commerce, Malcolm Baldridge. This will maintain an Energy Research input to the White House via the Cabinet Secretary. I understand that the original hopes of large savings have already been effected in DOE, hence the significance of the word **intact**. Being a basic optimist, I can see some benefits of the change and on this note I would like to use this space to wish you all a safe and joyous New Year!

NIU JAZZ ENSEMBLE FEATURES DRUMMER ON JAN. 16

By Jane Green

Big band jazz sounds will fill the Fermilab Auditorium at 8 p.m. on Saturday, January 16, when the award winning Northern Illinois University Jazz Ensemble appears with one of music's most phenomenal drummers, Louie Bellson. Founded in 1969, the NIU Jazz Ensemble has played in clinics and concerts with many of the great names in jazz, including Stan Kenton, Dizzy Gillespie and Maynard Ferguson. In October, 1981, they joined Louie Bellson for an engagement at the Jazz Medium in Chicago, which Irv Kupcinet called "a booking without precedent."

Louie Bellson and Friends

Special guest Louie Bellson was recognized at age 17 when he won the Slingerland Gene Krupa Drum Contest. He went on to play with the bands of Benny Goodman, Harry James, Count Basie, and others before forming his own orchestra. His friends call him the "modern day Leonardo Da Vinci of the drums" as he invented the two-bass drums and metal drum sticks and pioneered a playing technique that most contemporary drummers are taught today. As one critic noted, "Musicians and public alike respect him as a drummer without peer in technique, taste, and originality."

All seats for the Fermilab concert are reserved; admission is $5. Ticket holders are extended a special invitation to a pre-performance conversation with Louie Bellson and NIU Jazz Ensemble director, Ron Modell at 7 p.m. on Saturday, January 16, in the atrium of Wilson Hall. There is no charge for this pre-concert "Green Room" session.

SPACE EXPERT SPEAKS JAN. 22

A new season of Fermilab lectures will begin with one of the nation's leading space experts, Dr. Harold Masursky's, "Exploration of Venus, Jupiter, and Saturn" on January 22 at 8 p.m. in Ramsey Auditorium. This lecture will include pictures from the latest deep space probes to the planets and promise a spectacular visual experience for all who attend.

Beginning with this lecture there will be a minimal admission charge of $2 and $1 for senior citizens. This charge reflects the loss of the Illinois Humanities Council grant due to federal funding cutbacks. Tickets are available by calling ext. 3353.

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FERMILAB ENTERS PARTNERSHIP

In an effort to promote communication, encourage more involvement between schools and business, encourage more career and business-related projects, and to help schools prepare students for a more realistic view of the world of work, a School/Business Partnership Program has been introduced in the Aurora area, co-ordinated through the Aurora Chamber of Commerce.

Fermilab has been matched with Jefferson Middle School, 1151 Plum St., Aurora. Goals, which vary from tours to special projects, have been set to benefit the students, educators, school, and Fermilab. The Laboratory coordinator is Janet Gregory, and anyone interested in contributing can contact her at ext. 4362.

Jefferson Middle School (opposite West High football field) has offered to make their gymnasium available for basketball and volleyball to Fermilab employees on Tuesday evenings in January from 7 to 9 p.m. Employees interested in participating should contact Helen McCulloch, ext. 3126.

CLASSIFIED ADS TO BE DISTRIBUTED WITH FERMINEWS JANUARY 7, 1982

FOR SALE:

HOUSES:

Three bedroom ranch-style on the east side of Aurora 4 miles from the Laboratory with a double lot (111 ft × 200 ft), 2 1/2 car garage, heated porch, central air conditioning, large kitchen, and cathedral ceilings in living room and bedrooms. Recent roof and paint job. 10% assumable mortgage with low down payment. Asking $52,000. Call Mark Eriks, ext. 3400 or 896-7963.

CARS:

1976 Plymouth Volare. Two-door, standard four-speed, Ziebarted, with good radial tires and good gas mileage. $1800 (negotiable). Call 896-6277 days or evenings.

1973 Lincoln Towne Coupe. New exhaust system, tires, brakes, ignition, alternator, starter, water pump, battery, tie rods, copper ignition wiring, and new shocks. Full power. Asking $1095. Call Virginia Egan, ext. 3467.

1973 Ford LTD. Runs well; asking $650. Call Steve Gourlay, ext. 3977.

MISC.:

Nikon 135 mm f3.5 telephoto lens, excellent condition, snap on lens shade, $105. Screw on lens shade $7. Call T. Nash, ext. 3203 or 665-6305.

Dungeons & Dragons Materials: Players manual, monster manual, DM guide, dice screens, 6 TSR Dungeons. Total value new $80, now $40. Call Brian, ext. 3927.

Sears AM/FM Stereo Receiver System with 8-track play/record and two speakers. Good condition. $30. Call Malhotra, ext. 4094 or 3549.

Sears Lady Kenmore Washer and Dryer (Gas). Like new, harvest gold color, $320 pair; General Electric Dryer (Gas), harvest gold, $75; Sears 50,000 BTU space heater, burns kerosene or No. 1 fuel oil, $115. Call Don Trentlage, ext. 4164 or 393-1386.

Maple-finish trundle bed complete with two mattresses; used very little, $130; Two 8-ft storage boxes for standard size pick-up truck, $50 Call Roger, ext. 3132 or 584-2154.

WANTED:

By college student with more time than money: 26 in. three or more speed bicycle in need of repair. Call George Mulholland, ext. 3287.