

FERMINEWS

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SWITCHYARD SUPERCONDUCTING MAGNET TEST SUCCESSFUL

On January 11, with the Fermilab experimental program running simultaneously and undisturbed, the Switchyard Group successfully tested two superconducting magnets in the Switchyard beam line.

The results of the test add important understanding to the future plans for transporting 1,000 BeV protons to the experimental areas. The switchyard test is a separate but parallel project of the sector test going on in the Main Ring tunnel, described in last week's FERMINEWS.

In the operation of the Energy Doubler, planned for mid-1981, the main accelerator will accelerate protons to 1,000 BeV energy. To be scientifically useful, they must be transported to experimenters' equipment located in the experimental areas. One of the long-range plans is to convert the beam lines connecting the main accelerator to the experimental areas, now limited to receiving particles up to 400 BeV energy, so that the higher energy protons can be delivered.

In the Meson line, 56 of the present conventional magnets in the Meson "left bend" area will be replaced with 22 superconducting magnets like those being built for the Energy Doubler project. This would permit experimenters in the Meson area to utilize the greater energy protons.

The system under test consists of the satellite refrigerator in the ground level service building above the Switchyard, a sub-cooler, 200 ft. of superconducting transmission line carrying liquid helium to the magnets, two superconducting Energy Doubler magnets and four conventional dipoles, and the turn around box.

Roger Dixon, head of the Switchyard Group, reports on the test:

(Continued on Page 2)



... (L-R) J. McCarthy, R. Kolar, J. King
man switchyard service building...



... (L-R) W. Martin, J. Laskot, D. Maxwell
prepare Switchyard equipment...

SWITCHYARD SUPERCONDUCTING MAGNET TEST
SUCCESSFUL, Cont'd.

"On January 11, beam intensities $>10^{12}$ were transported through the two magnets which were running at their 400 GeV fields."

He said, "Even with beam losses much higher than usual for normal tuning and operating, the magnets did not quench. Several quenches were induced by the beam during tuning but the system always recovered immediately so that little time was lost."

Dixon also reports, "We've been able to recover quickly from each setback during our tests in the last few months. The Switchyard test system is running unattended and monitored from the Main Control Room."

"We now know that we can continue to run the superconducting system without interfering with the experimental program. If we can keep this up for several weeks we will have, for the first time, an understanding of how superconducting magnets function in a beam line. Further tests are planned at higher fields and higher beam intensities."

"This is not only valuable for Switchyard studies, but should be a good guide for the operation of the Main Ring Energy Doubler as well," he said.

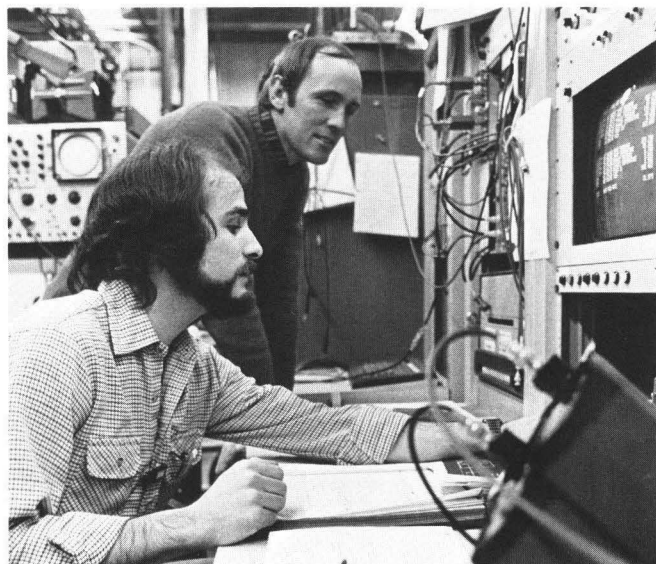
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The Switchyard tests have been directed by physicist Roger Dixon; Rich Andrews, Mechanical Engineer, and Jack McCarthy, Electrical Engineer. Also participating were: Bob Kolar, Bob Oberholtzer, Sharon Lackey, Pat Gorak, Dave Hoffman and Johnny Geraldts of the Switchyard Group; Bob Mau of the Operations Group; Jerry King, Bill Martin, Doug Maxwell, Jim Laskot, Bob Haring of the Mechanical Support Group; The Accelerator Division's Controls Group; Research Services' Hydrogen Target Group; Purchasing Department's Fabrication Procurement Group; Welding Shop; Machine Shop; the Meson Area staff; and Cryogenic Consultants, Inc.

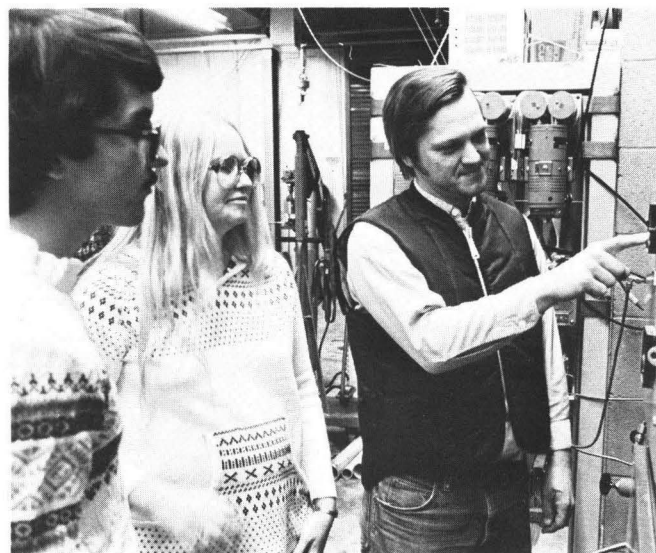
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...Bob "Obie" Oberholtzer at Switchyard controls...



...Jerry King (L), Rich Andrews were part of Switchyard test...



... (L-R) D. Hoffman, S. Lackey, P. Gorak will monitor superconducting magnets in Switchyard tunnel...

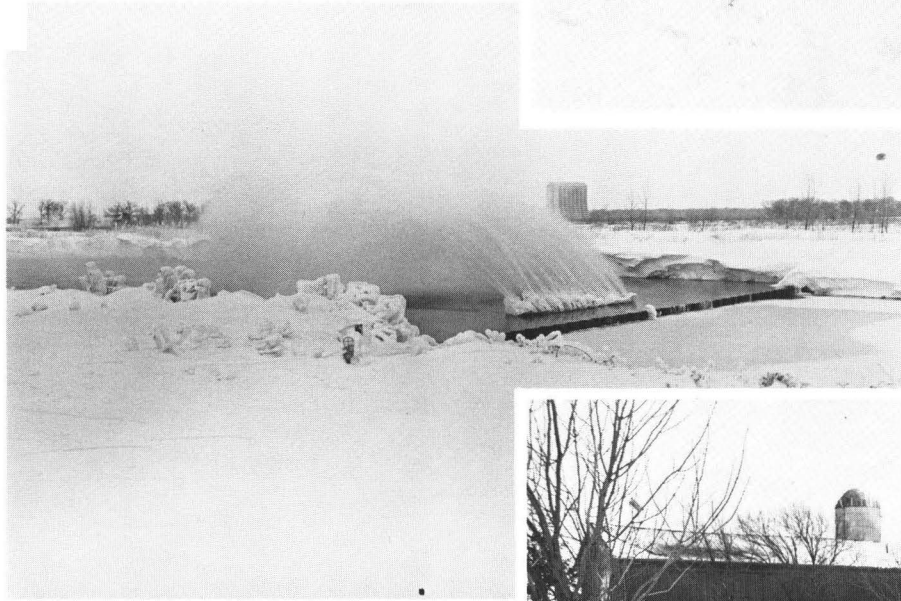


SNOW CAN BE BEAUTIFUL

Photographer Rick Fenner captured the beauty of the Fermilab site covered with a 25" blanket of snow on Monday, January 15th.

...The Aspen East complex at Sauk and Batavia in the Fermilab Village...

...The Booster cooling pond...



...Main Ring cooling sprays...

...Picnic area in the Fermilab Village...



JOFFREY II DANCERS HERE FEBRUARY 9

The Joffrey II Dancers will perform at Fermilab on Friday, February 9, at 8:30 p.m.

Considered one of the finest young professional groups in the world, Joffrey II is the apprentice group for the famed Joffrey Ballet.

Working with some of the best known choreographers in the world, Joffrey II has developed an eclectic repertoire, including fresh new works commissioned from aspiring choreographers. Joffrey II is the resident company of Brooklyn College. Sally Brayley Bliss is their Artistic Director and Maria Gandy, Associate Director.

Tickets are \$4.50 each, available now from the Guest Office, Ext. 3440, CL-1W.



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ANOTHER REMINDER,...

Directory assistance for local telephone calls is now available through the Fermilab operator (Dial 0). A new charge by Illinois Bell bills more than two directory assistance calls per month per terminal number at 20¢ each.

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CHILI BAKE-OFF JANUARY 27

Fermilab's third annual Chili Bake-Off will be held on Saturday, January 27, at 7 p.m. in the Users Center.

This year, chili bakers will be assisted by live entertainment from "Tom and Mindy."

Contestants should register by Wednesday, January 24 with Paul Brindza, Ext. 3354; Bob Mau, Ext. 3721, or Sharon Lackey, Ext. 4453.

There will be a \$2.00 cover charge with registrations submitted on or before January 24; the charge will be \$2.50 at the door. Cover charge will include beer, chili and munchies, the judges promise.

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NOON HOUR FILMS SCHEDULED

Beginning Wednesday, January 24, the Public Information Office will sponsor six weeks of Noon Hour Films on Wednesdays in the Curia II Conference Room for employees and lunch time guests.

The films will be about Fermilab and related laboratories, films which outside audiences see, but which are not often available to people inside the Laboratory. The schedule is as follows:

WED., JAN. 24 - A Two-projector slide show about construction of Energy Doubler superconducting magnets.

WED., JAN. 31 - "Fermilab," a 23-minute slide show sold to schools by the Hawhill Film Company.

WED., FEB. 6 - "Key to the Universe" - Part I of two parts - a television program made by the BBC.

WED., FEB. 13 - "Key to the Universe"-Part II.

WED., FEB. 20 - "Shadows of Bliss," a film made by the CERN Laboratory in 1974.

WED., FEB. 27 - "Continuing Creation," a video tape of a 1977 NBC production.

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