The Village Crier

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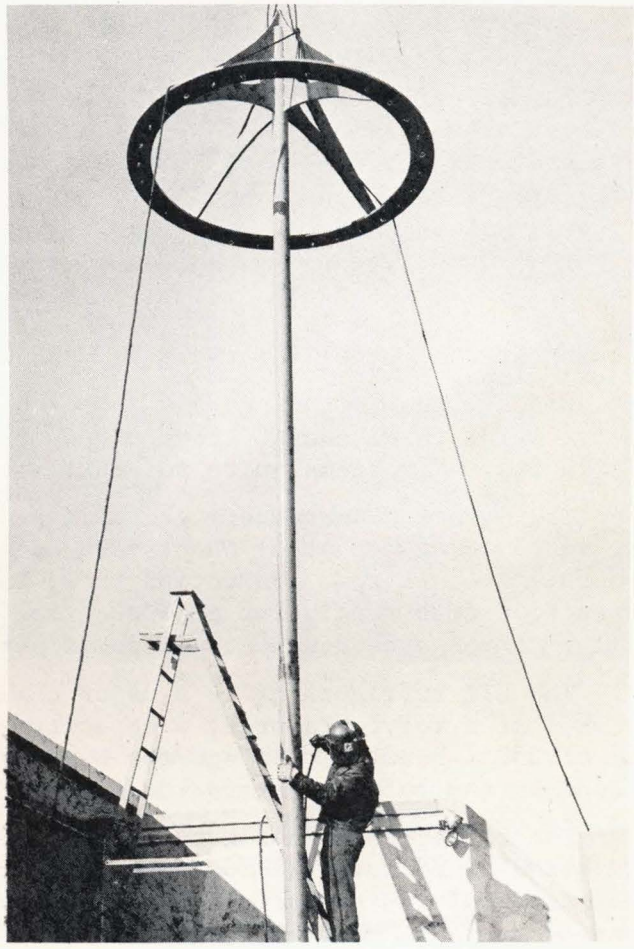
A NEW KIND OF FOUNTAIN

Fermilab's fountains atop the auditorium and at the booster area are familiar landmarks. Joining the water-spouting varieties Friday was a new sister: an "energy fountain."

Rae Stiening, in charge of converting Main Ring power supplies for Energy Doubler operation, said the energy fountain is actually a giant resistor . . . an iron sponge designed to absorb thousands of volts of electricity in an emergency.

The Energy Doubler/Saver is a project to install 1,000 superconducting magnets in a ring under the existing Main Ring to double the Fermilab accelerator's energy and reduce electrical power consumption.

The first of six energy fountains, Stiening said, was set in place by crane Friday at B-1 service building. As they are constructed, the 2,000 pound structures standing about 30 feet high will be painted a bright orange and set in concrete at A-1, C-1, D-1, E-1 and F-1 service buildings.



...Welder secures energy fountain in place at B-1 service building...

Resembling a mammoth metal arrow, the fountain's mission is to absorb dynamite-force electrical energy that could be released in a malfunction of the doubler. An iron halo 9 feet in circumference and about 7 in diameter encircles the fountain's shaft about 6 feet below the point. Sixty stainless steel rods, each 12 feet long and one inch square will hang from the halo.

In a quench, or failure, energy released from Energy Doubler magnets will flow from the MR tunnel to the fountain, there to be dissipated into the air. Cool-off time would be about 10 minutes. No. 2 energy fountain will be installed at the A-1 service building Stiening said.

He added that the fountains will also serve as huge lightning rods, grounding bolts that otherwise would travel to the superconducting magnets in the MR tunnel.

Stiening noted that the fountain installation marks a milestone in the multi-year Energy Doubler project. The fountains represent the first step in converting power supplies from the MR to the doubler. The project head said 12 power supplies--two from each of six service buildings--will be converted for doubler use. The conversion will not interfere with normal 400 GeV operation of the accelerator Stiening said.

John O'Meara and Norm Engler (Technical Services) designed the fountain. Wally Habrylewicz and Harry Warren (Energy Doubler/Saver) handled assembly and Gerry Tool (Accelerator Electrical Engineering) supervised erection.

INSTRUMENT PASSES TEST

History was made by the Magnet Measurements group at 6:07 p.m., Saturday, Oct. 15.

Ryuji Yamada, group leader, reports that Fermilab's "1500" liquid helium refrigerator was successfully operated, reaching liquid helium temperature of -452F. A second milestone was attained when the refrigerator's load capacity peaked 1600 watts at 2:06 a.m. Sunday, surpassing specification of 1500 watts. It was kept running at that level for two hours and 20 minutes.

...L-R (seated are: R. Yamada, H. Barton, J. Pachnik; Standing (L-R) are: A. Tanner, M. Wake, E. Schmidt, R. Barger, P. Price, K. Kaczar, B. Pighetti, D. Gross and D. Osborne...

Monday, the following day, the machine resumed operation within a few hours. It was operated for three hours, then pushed up to and kept at the load level of 1960 watts for 25 minutes. "It seems quite powerful, reliable and a beautiful machine," Yamada said.

The Magnet Measurements group is responsible for production testing of Energy Doubler superconducting magnets. About 1000 magnets will be built over two years for the project. To achieve the target production rate, Yamada's group is presently developing and building production test facilities in Industrial Building #1. The facility's test capacity goal will be three superconducting magnets per day.

The CTI refrigerator is a major component for the production test facility. It can be used as a refrigerator at a capacity of over 1500 watts, or as a liquefier with capacity of 350 ℓ/hour. It is now the biggest helium refrigerator at Fermilab, but will be second in the future next to the central liquefier for the Energy Doubler.

The refrigerator has three major components: cold box, compressor and control console, and all of them have the most advanced technology in cryogenics. The cold box utilizes two-stage Sultzer turbo-expansion engines. The compressor is a two-stage Sullair screw compressor. The control console is fully automated and utilizes Texas Instruments 5 TI programmable controller. The whole machine operation can be done at the console, starting and operating compressors and cold box and opening and closing valves. Once the parameters are set, the machine seeks the specified operation point and can be operated automatically.

"It seems we can bring the cold box down to liquid helium temperature from the room temperature within two hours. The whole system seems quite stable and may need minimum attendance of people," Yamada said.

The whole system of the refrigerator was installed and put into operation within a relatively short period of two and one-half months. During that period, the control room was built, the components of the refrigerator were installed, a platform built around the cold box, all piping and electrical wiring was done and the system was tested. "The whole operation was carried out successfully and very expeditiously," he said. "We owe this success to many people, inside Fermilab and outside contractors, who helped us in various ways. Especially, the extremely hardworking and creative people of the Magnet Measurement group made this possible."

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...EMPLOYEE-PRIORITY ticket distribution opens at 8:30 a.m. Monday, Nov. 7, for a Dec. 2 Fermilab Science and Humanities Lecture Series program: "Domination Through Media." Dr. H.L. Molotch, U. of C.-Santa Barbara, will speak. Contact the Guest Office, CL-1W/Ext.3440.

CLASSIFIED ADS - For distribution with THE VILLAGE CRIER of November 3, 1977

FOR SALE: Fender "Bassman 50" amplifier & speaker cabinet w/2 - 15" woofers, 50 watts rms. w/covers, $350. Call Lyle, Ext. 4081 or 584-7998.

FOR SALE: Fender "Custom telecaster" guitar - Circa 1967 (Ala Jimi Hendrix), Rosewood Gibson Fretboard, customized pickup, finish, $300. Call Lyle, Ext. 4081.

FOR SALE: Montgomery Ward humidifier; high chair; vacuum cleaner; baby changer; playpen; jumper chair; walker; baby clothes; small table. Call after 5 p.m., 879-5499.

FOR SALE: Wards 12 ga. bolt action shotgun with adjustable choke, $45; 820 kva. XFMR. PRI 115V SEC 3400 VCT, $25; Sears 3x rifle scope, $20; AM clock radio, $5. Call Ted at Ext. 4072.

FOR SALE: Aluminum storm door, 33x84, with 2 windows/screens. Call Bob Ducar at Ext. 4040, 879-8333. Offer.

FOR SALE: 1975 Ford Supercab F250 XLT pickup w/cap; 460 engine, power steering & brakes; speed control, air, stereo, trailer special, loaded, excellent condition, $4900. Call Bill Riches, Ext. 3779.

FOR SALE: 1959 19' Thompson Cabin Cruiser with 1959 Evinrude 50 h.p. outboard engine, completely rebuilt w/less than 20 hrs. 1972 Sportsman Tandem trailer. $1500, or best offer. Call Ext. 3788, or 357-7270 before 6 p.m.

FOR SALE: Snare drum, "TORODOR," blue sparkle w/chrome trim, complete w/sticks, stand, learning pad, blue vinyl carrying case. Mint condition. $50, firm. Call Ext. 3492 or 896-2439.

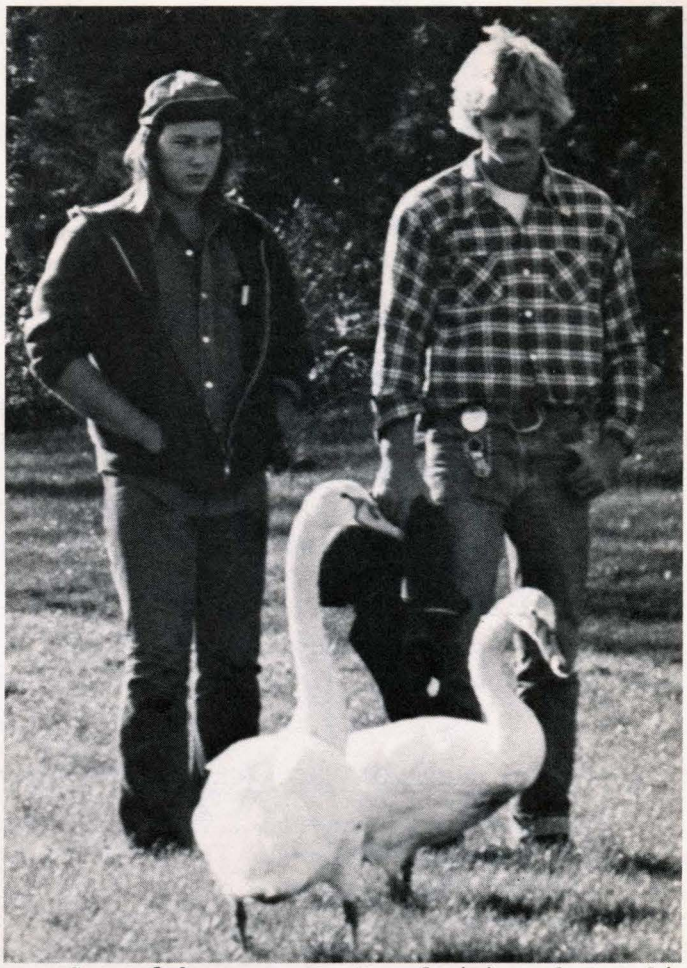
FOR SALE: NATIONAL GEOGRAPHICS 1953-1971 - 50¢ each - $5/year - or complete with bound cross-index, $75. Call Al Linder, Ext. 3585.

HATE TO PAINT? Let us do it for you. Free estimates. Evenings and Weekends. Call 896-1605.

FOR SALE: German Shorthaired Pointers - Pups A.K.C. Reg., tails and dew claw clipped. Color, liver and white, Price $100. Call Nancy, Ext. 4015, after 4 p.m. call 815-436-3468.

FOR SALE: '73 Olds Cutlass, 4-dr sedan, ps/pb/ac/am/vinyl, 77K miles, very clean, best offer. Bob Ducar at Ext. 4040, 879-8333.

..."Downies" and parents at ORNL...



...Groundskeepers R. Morel (L) and J.Kalina release Tennessee swans at Swan Lake...

FROM ORNL TO FNAL: A REGAL GIFT

Fermilab's swan flock expanded from two to four recently, thanks to employees at Oak Ridge (Tenn.) National Laboratory. ORNL employees donated two white mutes to the Laboratory and its employees as a gesture of good will.

Fermilab's newest feathered beauties join a mated pair acquired in 1972, also from the Oak Ridge facility. Dave Sauer, Site Services, arranged the transaction. Vivian Jacobs, ORNL Chemical Technology Division and their "swan keeper," said the newcomers were among five cygnets--four females and a male--born in May.

The brood, to 13-year-old parents, was the largest number in several years Jacobs said. She explained that ORNL had to find new homes for the cygnets since swan parents eventually turn away their offspring. Sisters of Fermilab's latest regal birds were relocated to a private zoo in Auburn, Ala.

A commercial jet out of Knoxville delivered the Tennessee emigrants to O'Hare Airport. Receiving department personnel chauffeured the birds to their new home on Fermilab's Swan Lake. Bob Kraft, their new guardian, said the swans' wings were clipped to prevent them from flying off and getting lost . . . or falling prey to hunters or animal predators.

If the pond freezes this winter, indoor shelter will be provided, Kraft said. Corn, duck feed, and cafeteria leftovers such as lettuce comprise their diet. The birds feed by dropping food in water and then quickly sucking it down.

Mute swans are considered the handsomest and easiest to domesticate, Jacobs said. The variety is misnamed, she said, because mutes have a voice, they hiss and even trumpet. Other North American varieties are the trumpeter and whistling swan.

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MAGAZINE FEATURES FERMILAB 'SUPER RING'

"The Tevatron," an article on Fermilab's Energy Saver/Doubler project, is the cover story in Physics Today magazine (October, 1977). Laboratory Director R. R. Wilson is the author. In the story, Dr. Wilson outlines plans to install a "Super Ring" of 1,000 superconducting magnets under existing magnets in the Main Ring. The Super Ring, Dr. Wilson writes, will double the Fermilab accelerator's proton energy and reduce electrical power consumption while offering opportunity for colliding beam experiments. For the complete essay, ask for the magazine copy available in the Fermilab library.

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FLU VACCINE AVAILABLE

Dr. Charles Lang, Fermilab physician, announces that the medical office will provide a flu booster for any employee who has received it in the past from the Laboratory. Other employees desiring to get the booster or flu vaccine must provide a written consent from their family doctor. Annual vaccination is strongly recommended for adults and children of all ages who have such chronic conditions as: heart disease; chronic bronchopulmonary diseases, such as chronic bronchitis, bronchiectasis, tuberculosis, emphysema, and cystic fibrosis; chronic renal disease; and diabetes mellitus and other chronic metabolic disorders. Annual vaccination is not recommended for healthy adults and children.

EMPLOYEE TOUR REMINDER

A few openings are available in a lunchtime tour for employees of Fermilab's Cancer Therapy Facility Wednesday, Nov. 16. The noon to 1 p.m. tour will visit the CTF treatment room, control room and reception area. Signup sheets are posted in the Public Information Office. The group will be limited to 25 persons.

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PROUD PARENTS

Pat (Theoretical Physics) and Andrew Oleck (Technical Services) welcomed Heather to their family on Oct. 26. The new arrival weighed in at 7 pounds, 14 oz.

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IT'S NICE TO HELP MOTHER NATURE: SEED-CLEANERS WANTED

No experience required . . . just willing hands. That's the call going out for volunteers to clean prairie seeds for Fermilab's Prairie Restoration project. The fourth annual seed-cleaning "bee" is set for 9 a.m. until completed at the Village Barn, Saturday, Nov. 5. Volunteers are needed to sift twigs, stones and other debris from seeds collected the last three weekends at Fermilab, Morton Arboretum and Gensberg-Markham Prairie. Cleaned seeds will be planted on site as prairie restoration buffs work toward a goal of 650 restored acres. For more information, contact Tony (Ext. 4056) or Rene Donaldson (Ext. 3278).

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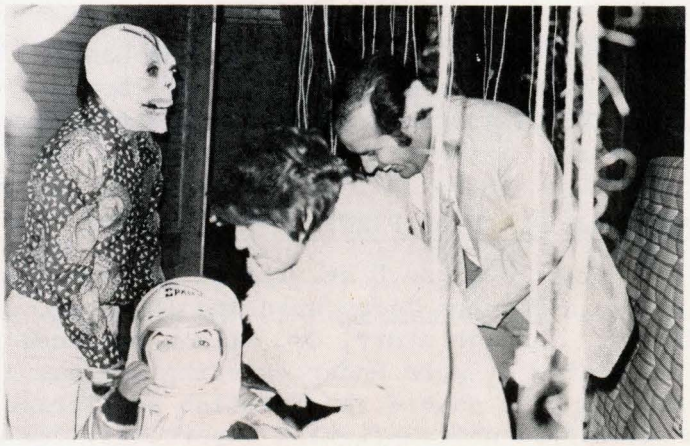
LABORATORY OFF-LIMITS TO HUNTERS

The opening of the Illinois upland game hunting season on Saturday, November 12, prompts Fermilab to remind its employees and the general public that the Fermilab site is closed to all forms of hunting. All boundaries and main entrances of the Laboratory have been posted "No Hunting." State law in Illinois provides that a person must have permission from the landowner to hunt anywhere in the state.

EMPLOYEE/USER CHILDREN CELEBRATE HALLOWEEN



...Cowgirls, astronauts, and other costumed kids gathered Sunday at the Village Barn for NALREC's children's Halloween party. The event featured a costume contest, haunted house and refreshments. A happily scary time was had by all!...