

# The Energy Courier



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## NEW PLANS TO SAVE ENERGY AT FERMILAB

Over the last several years the Laboratory has been deep in a concerted program to save energy. The Energy Conservation Committee, appointed by the Director, has combined a broad understanding of the operations and goals of the Laboratory to advance some innovative proposals for energy saving at Fermilab.

Members of the Energy Conservation Committee are Hank Hinterberger, Associate Director for Technical Services; Phil Livdahl, head of the Accelerator Division; Rich Orr, Assistant Director, and Dave Sauer, head of Site Services.

The Energy Conservation Committee has taken a three-fold approach in its proposals. Priorities are given to new ways to do routine functions, like heating and cooling; revising operation methods and schedules; designing new systems.

As additional possibilities the Committee is proposing:

In the Meson Detector Building, enough heat is generated by the magnets used in the beam lines and in the experiments to provide comfort heat for the building. The Committee suggests that the water used to cool the magnets, which comes out of the magnets at about 130°, could be circulated through the fin-tube heaters of the building's heating system. (At present, electricity is used to heat this water.) The potential saving could be as much as a megawatt.

Or, consider another system for heating the Central Laboratory. Since the Central Laboratory is heated by natural gas, in decreasing supply, future heating of the building could be achieved in the following way. When the capacitor system at the Master Substation is put into operation soon, it will be necessary to insert a certain amount of resistance into the system to stabilize it. This energy could be utilized in the Central Laboratory on one of the existing cables, diverted for this purpose. Resistance heaters in the water heating system would provide heat that would substitute for some of the natural gas being used.

One of the most obvious changes has come in the Central Laboratory lighting system. After a study of lighting levels in the building, one-half of the lights in the Central Laboratory have been turned off. Lighting is at a 50 foot candle level in working areas; 30 foot candles in walking areas and 10 foot candles in non-working areas. These levels conform to revised Federal lighting standards. Cleaning of the building has been changed from a night to a daytime service to eliminate the need for using lights at night. This has made it possible to turn off the lights in the building at an earlier time. Next comes



*...Hank Hinterberger with model of funnels and absorbers for his new solar energy system...*

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## NEW PLANS TO SAVE (Continued)

adjusting of temperature thermostats to comply with the new Federal regulations on building temperature. Temperature levels in the summer are held at 78-80°; and in the winter, 65-68°.

Main Ring operations, where one-half of Fermilab's power is consumed, is also undergoing changes for conservation. The magnet cooling water temperature has been adjusted to a lower level during fall, winter, and spring when air cooling the water is possible with less power consumption, about 6.75% less.

The Main Ring may also seek to increase the rate of ramp to achieve as much as a 33% reduction in power consumption during the ramp of each cycle.

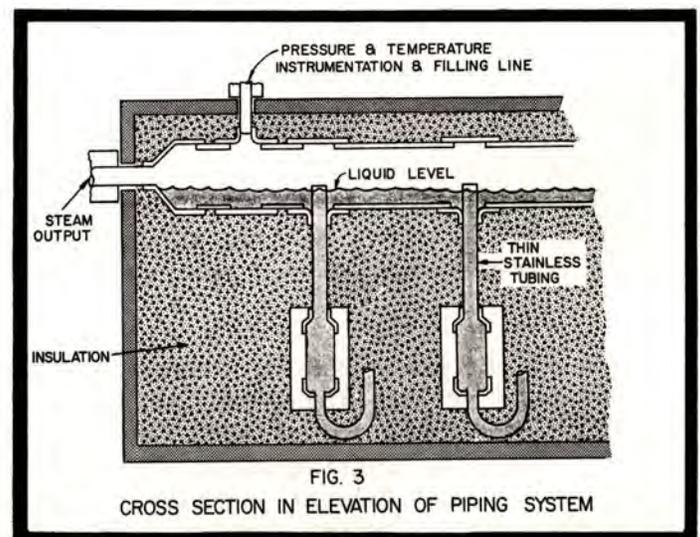
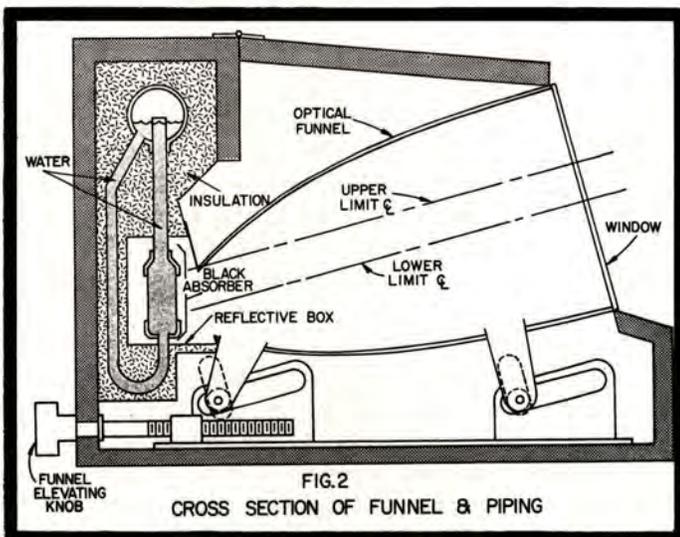
Superconducting systems continue to have high priority in Fermilab's energy savings plans. Superconducting magnets for the experimental areas are being installed wherever possible such as in the 15-foot Bubble Chamber and the new multi-particle spectrometer (MPS). The energy saver/doubler design for the Main Ring is an obvious power saver.

In designing new systems to do routine functions at Fermilab, the Energy Conservation Committee looks toward solar energy applications. The Solar Energy club (a volunteer group of Fermilab people) continues its work on a heating-cooling system for a house in the Fermilab Village. (See Village Crier of January 23, 1975.) The system will go into operation in the coming heating season.

Hank Hinterberger, who heads the Fermilab Technical Services as well as the Energy Conservation Committee, has filed a patent application on a solar device with industrial applications. By the use of a parabolic mirror focusing the sun on an array of optical funnels, Hinterberger's system would generate temperatures of 240-300°, transmitted to a hot water system. At Fermilab, an application might be at the Magnet Facility where curing of epoxy on the magnets requires these temperatures. An array of Hinterberger's funnels and mirror outside the present buildings, could convert the operation to solar power.

"We need more money and more manpower to do these things," according to Hank, "but these are realistic plans with genuine power savings in mind. If we do these things we perhaps provide some experience for others to follow."

Hinterberger and John O'Meara, also of Technical Services, will appear on the program of the 1975 International Solar Energy Congress and Exposition in Los Angeles, California, July 28, presenting papers on the solar systems they have developed.



*...Hinterberger design for industrial solar energy system...*

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...Three calves have been born in the Fermilab buffalo herd since April. They are especially welcome this year because they indicate the herd's recovery from the outbreak of salmonellosis which plagued the herd during the past winter and caused the death of eight animals. The latest calf seems to be the liveliest, cavorting in great spirits in recent rain showers, only a few days after birth. The buffalo pasture, on Road D, is being fenced into two halves, to permit rotation and bringing improved disease control...

...Pamela Cooper, 21-year-old daughter of Kathy Cooper, Personnel Services, won the title of "Miss Black Aurora," in the pageant held recently at The Alamo in Aurora. Pam, a junior at Illinois State University majoring in architectural engineering, will move up to the next phase of the competition -- Miss Black Illinois -- in Chicago on July 10...



#### IN MEMORIAM

#### GEORGE L. ZAKHAR



George L. Zakhar

George L. Zakhar of 6408 Dean Drive, Woodridge, who had worked as a senior design draftsman in several Fermilab sections, passed away on June 27, 1975. He had been on disability leave from Fermilab since February, 1973, a victim of multiple sclerosis.

Mr. Zakhar was born in Racine, Wisconsin. He graduated from the Milwaukee School of Engineering. He had worked in several industrial positions and at the Argonne National Laboratory before coming to Fermilab in January, 1970.

George worked as a draftsman for Larry Sobocki in the Accelerator Division. Larry recalls, "George's cheerful attitude during his illness was an inspiration to those of us who worked with him. He was always on top of his physical condition even though we could see the change in him. He was a likeable person with never a bad word for anyone."

Mr. Zakhar is survived by his widow, Eileen; a son, George Robert; a daughter, Patricia Lynn, both at home.

Funeral services were held Monday, June 30, at Beidelman Funeral Home, Naperville, with burial in Naperville Cemetery.

Contributions in Mr. Zakhar's memory may be sent to Larry Sobocki, Accelerator Division; the family has requested such contributions be made to the Multiple Sclerosis Foundation.

## ALL IN OUR TIME

*ALL IN OUR TIME*, a book containing the reminiscences of twelve nuclear pioneers who took part in one way or another in the scientific research which led to the nuclear reactor and culminated in the test of the world's first atomic bomb, was recently published by *The Bulletin of the Atomic Scientists*, Chicago. The twelve articles were published as a series in *The Bulletin*, now available in paperback form.

Many of these famous names are now closely associated with Fermilab and the peaceful research that goes on here. Authors of the historic accounts are Luis W. Alvarez, Philip Abelson, Martin D. Kamen, Otto R. Frisch, Herbert L. Anderson, Albert Wattenberg, J. H. Manley, R. R. Wilson, Frederic de Hoffmann, Boyce McDaniel, Val L. Fitch, and Kenneth T. Bainbridge.

Mrs. Jane Wilson, staff writer for *The Bulletin*, and special editor of *ALL IN OUR TIME*, has written an introduction to the book. She notes in her introduction, "Much has been written about the Manhattan Project, but little has been written by the scientists themselves. These recollections help to fill that gap with an extra dimension of immediacy. They have not been sifted through other minds or distorted by other hands. They are like snapshots from a personal memory album, a small slice of history."

The book gives a precious legacy otherwise lost to the generation of younger people, and to those not closely related to the Manhattan Project who have wondered "what it was really like."

Copies of *ALL IN OUR TIME* are available in the Fermilab Public Information Office at cost, \$3.45 each.

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.....RECRUITING continues for volunteers to work during the Fermilab Open House on Sunday, July 20. In addition to regular employees familiar with the Laboratory, an energetic group of teen-age or older children is needed to serve as elevator starters in the Central Laboratory. Contact the Director's Office, Ext. 3211, if you and members of your family can volunteer.

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CONGRATULATIONS...to David (Accelerator Division) and Leticia Chasco on the May 7 birth of their son, David, Jr....and to Ernest (Cryogenics) and Maria Salinas on the June 15 birth of their son, Ernest...

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PLEASE NOTE...Volleyball games are played at the Village Barn, Mondays at 5:15...Users Center is open 1-9 p.m. Saturdays and Sundays...

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## CLASSIFIED ADS

EDITOR'S NOTE - The Village Crier is unable to accommodate all of the requests for Classified Ad space, and a backlog of several weeks has developed. In order to give immediate attention to these ads, a typewritten copy of all ads is posted on the bulletin board in The Atrium of the Central Laboratory each Thursday and as space permits, these will be repeated in The Village Crier.

ATTENTION - The movie "Time and Eternity" will be shown Tuesday, July 8, at 12:00 noon in Curia II. Everyone is welcome to see science film on the fourth dimension.

NEEDED - Volunteers to help at the Family Picnic, August 17. Contact Helen Ecker, Ext. 3393, Liz Foster, Ext. 4203, or Mary Greenwood, Ext. 3201.

FOR SALE - 1974 Maverick. 4 dr., auto., P/S, low miles, exc. cond., \$2525. Call Murthy, Ext. 4153 or 665-9734.

FOR SALE - Refrigerator, \$70; child's record player, \$10; Black & white T.V., \$25; 1968 Ford Wagon, V-8, auto., P/B/S, Factory air, \$450. FREE Guinea Pigs. Call 420-7582.

FREE - German Shepherd, female spayed, 3½ yrs. old, friendly, good w/children. To good home w/room to run. Call Ext. 3463 or 665-1170 evenings.

FOR SALE - 1969 Mustang 3 spd., new engine, exhaust system & clutch, \$500. Kathie, Ext. 3222.