

# FERMILAB NEWS

 Fermi National Accelerator Laboratory

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## 3131 CAN SAVE A LIFE

"Get the habit," said Charlie Bonham of the Safety Section. And what an important habit it is.

In any emergency situation, learn to dial 3131, he said. That's the emergency number and it ties directly to the Fermilab operator, who then will simultaneously contact the key people within the Medical Department, Security Office, Fire Department, Safety Section and Plant Services using the emergency paging system.

They will respond immediately as a team to any emergency, said Rudy Dorner, head of Emergency Services. Do not try to make decisions at the scene of an emergency, let the experts do it, Dorner urged. "Don't try to decide whether to call the Fire Department or the Medical Department or someone else, just dial 3131," Dorner emphasized, because this one number alerts the Laboratory's complete response team, even during off hours.

When making an emergency call, "give your name, the location of the emergency and the nature of the problem," said Bonham. "And above all, don't hang up until you are told to. This way the operator can stay in touch with you and can relay important instructions or ask additional questions."

Dorner added that while waiting for help to come:

---Make sure someone is around to lead the emergency team to the injured worker, site of the fire, or whatever, particularly if it will be hard to find.

--Get things moved out of the way, especially if equipment must be brought into the area or the worker must be removed on a stretcher.

--If there is a continuing danger, do something to reduce it. For example, move an injured worker out of a fire.

Dorner also said that while waiting, do not attempt emergency first aid on an injured worker "unless you are well trained."

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## THE BEST ADVICE ABOUT TORNADOES

Follow instructions precisely, said Rudy Dorner, head of Emergency Services at Fermilab.

That's probably the best advice anyone could follow if Fermilab comes under a tornado warning and the sirens sound sending people into shelter areas. Wardens will point the way to safety.

Fermilab has a pre-planned response for severe and tornado weather, explained Dorner. This response is spelled out in detail in the Fermilab Emergency Plan.

Emergency Services continually monitors weather conditions with personnel who are trained for this job, said Dorner. "We utilize several information sources. They include the Emergency Services and Disaster Agency (formerly Civil Defense), National Weather Service and the professional services of a private meteorological consultant located in Northbrook.

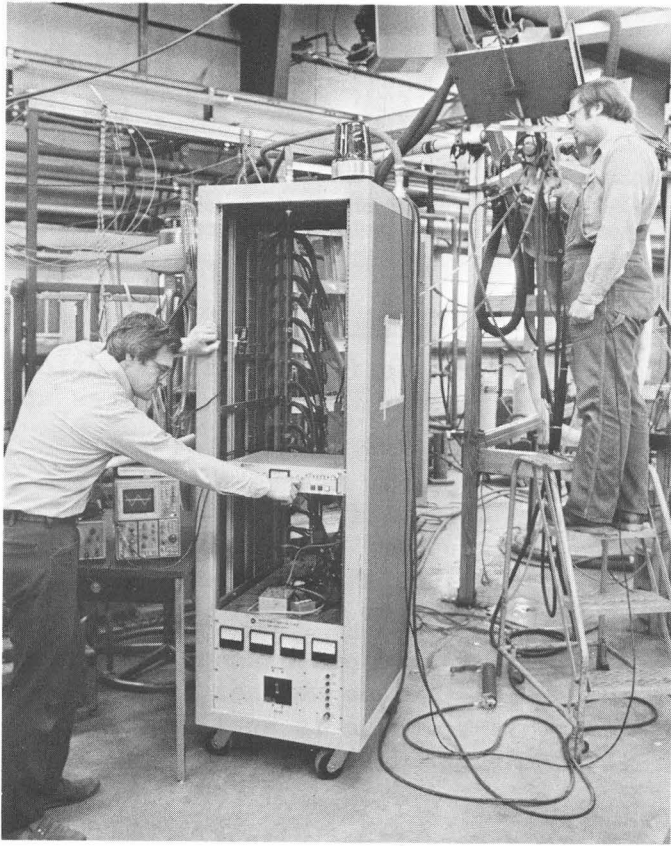
"This information is reviewed, evaluated and related to our on-site weather conditions as observed by our trained spotters. In the event local conditions and weather forecasts indicate we can expect problems, the Emergency Coordinator may issue a tornado warning."

When the warning sounds, the "take shelter" portion of both the sitewide and local emergency plans become relevant.

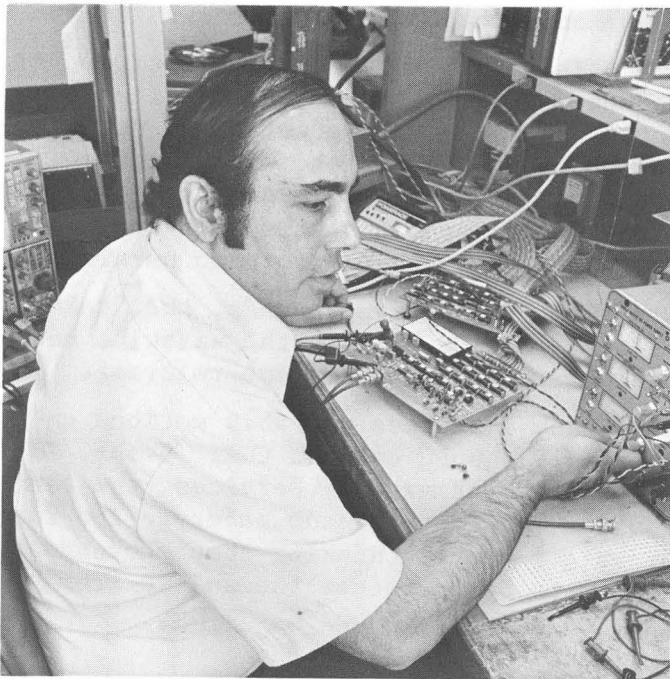
Many employees probably noticed an inverted V-shaped card on their desks. Distributed by Emergency Services, the card provides tips for tornado safety. The idea was to get people thinking about tornadoes and how to best protect themselves from them, said Dorner.

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*Every telephone on site should have a sticker on it saying, "24 hours, 365 days, in any emergency, dial 3131." If a phone does not have a sticker, give the operator a call and it'll be put on the phone within a day or so.*



*Ray Yarema (left) and Dave Sekol run a correction element regulator with a superconducting magnet load in Lab 5. Yarema's hand is on the regulator. The magnet is inside a vertical dewar just in back of Sekol.*



*Carmen Rotolo tests a prototype precision waveform generator mounted on circuit boards by his left hand.*

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## ELITE RESEARCH SERVICES TEAM TAKES ON TOUGH ASSIGNMENTS

A small team of experts in Research Services is carrying out an important mission for the Energy Saver.

They are designing and working on the power supplies and associated instrumentation for the Energy Saver correction element system. Ray J. Yarema, project leader with the Electronics Support Group; Carmen J. Rotolo, engineer; John Green, senior technician; and Dave Sekol, technician, have proved their creative capabilities by handling some tough jobs in the past. Consequently, they were asked to design from scratch the dipole correction element power supplies and instrumentation.

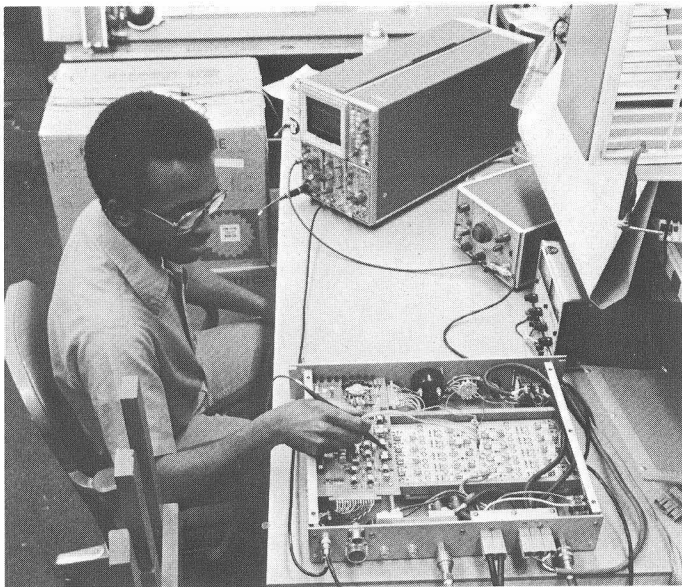
The superconducting accelerator, when it is finished, will have about 1,000 superconducting magnets and about 700 correction elements. Powering these correction elements--a vital part of the Energy Saver--will be about 220 power supplies with associated electronics distributed around the Main Ring and located in the service buildings.

The correction element power supplies, or regulators, as Yarema often calls them, generate currents that continually change in value and polarity. They cause the correction elements to produce magnetic fields that "shim" the magnetic field produced by the main dipole and quadrupole superconducting magnets to the correct instantaneous values. These fields steer the protons on a precise course around the four-mile circumference of the Main Ring. This correction element function also is essential during extraction of beam from the accelerator, Yarema added.

Achieving, in a dynamic operating environment, the specification of  $\pm 0.1\%$  accuracy over a  $\pm 50$  ampere range for the 200 regulators that power the dipole correction elements requires careful component and systems design.

To meet the operating specifications of  $\pm 0.005\%$  required for the remaining supplies is a very difficult assignment, even under laboratory-controlled conditions, said Rotolo. He is designing a precision function generator for them. It provides the reference wave form that is fed into the power supplies that control those correction elements requiring very high precision, Rotolo explained.

(Continued on Page 3)



*John Green tests a steering dipole element regulator. The photograph was taken in his laboratory on the 14th floor, Central Laboratory.*

(Continued from Page 2)

One could say the team has paid its dues by taking on difficult tasks over the past years. For example, its members designed the improved firing circuit for the Transrex (the manufacturer) power supply, the most widely-used high power supply in the Laboratory. A firing circuit controls the power elements in the supply. The result was improved power supply performance throughout the Laboratory.

They presently are designing and building the instrumentation and power supplies that go along with the Chicago cyclotron magnet. It is now being refurbished for the Neutrino area. The handiwork of Yarema's team also is found in the Proton and Meson areas. Helping with these multi-faceted projects have been many other people, including Bill Leiser, technician, and Nick Cadena, draftsman in Research Services.

What this all means to Yarema and the others is that they provide a service for the entire Laboratory. And they're proud of it. "We have the ability to work in a variety of areas for many groups at Fermilab," said Yarema.

Their assignments don't daunt them. The one for the Energy Saver is "delicate and we are working to difficult specifications, an order of magnitude better than what has been done here before," said Yarema. But historically, that's been their successful track record.

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#### TAXI SERVICE TRIMMED

*Taxi service on site is being cut back, John Colson, head of Support Services has announced.*

*Beginning Monday, April 21, taxi service will be available Monday through Friday from 8:30 a.m. to 4:45 p.m. Prior to that, the service could be used between 8:00 a.m. and 5:30 p.m.*

#### EMPLOYEES ASKED TO REVIEW THEIR DEDUCTIONS

The Payroll Department has announced that the Internal Revenue Service has revised its "Employee's Withholding Allowance Certificate," otherwise known as Form W-4.

The new form lowers the number of additional allowances, based upon itemized deductions, that an employee may claim, said Jim Schiltz, head of the department. This will affect essentially two categories of employees.

The first includes those employees who have claimed additional withholding allowances based upon the W-4 forms dated Oct. 1, 1979, and earlier. These employees should re-calculate their deductions using the latest W-4 work sheets in order to bring any allowances they are claiming up to date, Schiltz urged.

In the other category are those employees who expect a large amount of deductions during the year but are not claiming additional allowances. These employees quite possibly can claim more withholding allowances than they now are, but within the guidelines of the new Form W-4.

Since this subject can become quite complicated and technical, employees who have questions should contact the Payroll Department. They also can obtain the revised W-4 forms there.

Schiltz noted that employers are required to submit to the IRS a copy of all W-4 forms claiming more than nine allowances.

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FERMILAB TO OBSERVE EARTH DAY

Fermilab will observe Earth Day '80 on April 22--the 10th anniversary of the original Earth Day.

The observation will run from 8:30 a.m. to 5:00 p.m. in the lobby of the Central Laboratory auditorium. It is being coordinated by Andy Mravca, area manager of the Batavia Area Office of the Department of Energy; Leon Lederman, Fermilab director; and Penny Horak, assistant head of Technical Services.

Visitors will have access to a variety of handouts about solar energy and energy conservation as well as a free showerhead adapter that reduces water flow. Also, they'll be able to view:

--A slide show about Fermilab's solar and energy conservation projects;

--An exhibit with photographs of many of these projects;

--Models of Fermilab's solar greenhouse; a passive solar wall; portion of a flat plate solar collector; and a mirror for collecting solar energy (similar to the one on the roof of Industrial 1).

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CHEZ LEON MENUS

Tuesday, April 22 - 7:00 p.m. - \$8.00

Antipasto  
Tschudi's scalloppine  
Spaghetti piemontese  
Pearl onions saute with cherry tomatoes  
Apricot mousse

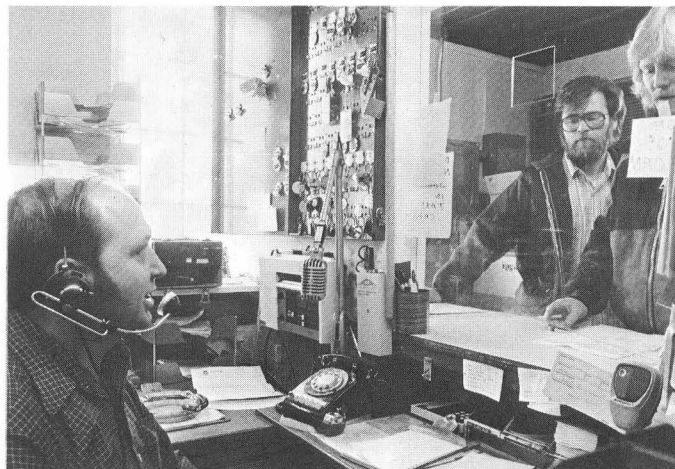
Wednesday, April 23 - 12:30 p.m. - \$4.50

Cream of asparagus soup  
Ham crepes with madeira and mushroom sauce  
Spinach salad with cherry tomatoes  
Flambe bananas

Thursday, April 24 - 7:00 p.m. - \$8.00

Gruyere souffle  
Marinated lamb chops-barbecued  
Tomatoes stuffed with rice pilaf  
Fresh pea pods  
Watercress salad  
Grapefruit martinique

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*When you dial H-A-C-K at Fermilab you're one of 300 callers each day who reach Dispatcher Roger Braun, shown here with Tom Baldrige of Receiving (center) and Dave Hornback, driver. Braun routes on-site taxis as well as off-site vehicles. In the photo he is surrounded by the array of new electronic communication gear which replaces similar equipment damaged by lightning last year.*

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BEAT INFLATION AT MONTE CARLO NIGHT

Here's an excellent opportunity to knock out inflation. Do it at Fermilab's Monte Carlo night April 26.

From 8 p.m. to 12:30 a.m. in the User's Center in the Village, players can start out with \$10,000 for only \$2. If they run out of money, then for only \$1, they'll be handed \$5,000.

Along with each admission charge (\$2) comes a ticket good for one of three door prizes: a 19-inch (diagonal measure) color television set, a clock radio and a set of steak knives. Gamblers can try their luck and skill at chuck wheel, color roulette, over-under, dice, beat the dealer, blackjack and (for the first time) bingo. Beverages will be available as well as free snacks. The games will end at midnight exactly. At that time, for every \$5,000 a player has, he can get another ticket for one of the door prizes. The drawing will come at 12:30 a.m.

For additional information, contact Pat Yost, Ext. 4365, or Nancy Shanahan, Ext. 3467.

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