

# The Village Courier



fermi national accelerator laboratory

Operated by Universities Research Association Inc.  
Under Contract with the United States Atomic Energy Commission

Vol. 7 No. 8

February 20, 1975

## NEW MAIN RING POWER SUPPLY PROGRAM



*...Fermilab Main Ring adopts new power supply program...*

This week has seen the successful culmination of a long effort to bring a new magnet power supply program for the Fermilab Main Ring into operation. Many months of work have gone into bringing the new program to completion. It is being used in the 380 BeV run now going on and for all future operation.

The new program was conceived by Dick Cassel and Howie Pfeffer. The programming work was done by Pat Dougherty, Bob Flora, Don Jong, Rod Smith and Mel Storm. Hardware parts of the effort were carried out by Ed Barsotti, Betty Conrin, Johnny Green, Al Jones, Rich Mahler, Jim Snow, Carl Swoboda, Tony Tummillo, Ted Ulijasz, Don Wendt, Harriet West and Rod Wischermann. Help on the computers was given by Norm Lau and Bob Marquardt.

The Fermilab Main Ring power supply system is unique among large synchrotrons. Instead of a large motor generator set, the main accelerator is powered by 60 solid-state power supplies, 48 for the bending magnets and 12 for the focusing magnets (quadrupoles). These supplies are switched on at pre-computed intervals during the rise of the magnetic field. The 60 power supplies are in essence very high power rectifiers and electronic switches using thyristors, popularly called silicon controlled rectifiers or SCR's for short.

The operation of the power supplies is controlled by an on-line computer. With the computer, it is possible to have the program learn from pulse to pulse. The magnetic field is measured continuously during each pulse. Any deviation from a smooth rise is found by the computer, which adjusts the next pulse to smooth out the problem. Learning a new ramp is a pleasure to watch. After 10 or 20 pulses the regulation becomes good enough to accelerate beam.

The old power supply program used separate regulating supplies located in the Main Ring service buildings A2, F3 and F4. One of the problems with the old program was that each of these regulating supplies had to work continuously. When one of them broke down, operation was stopped until it was repaired or replaced.

In the new program, each supply is its own regulator as it turns on. If any supply breaks down, a quick substitution of a reserve supply can be made from the control console and operation resumed in a few moments.

The new program generates new ramps much more quickly, enabling the running of combined ramps with extraction at different energies. The program has already been shown to be easy to use as demonstrated during the 300 BeV run over the last weekend.

\* \* \* \* \*

## HIGHER ENERGY RUN BEGINS FOR FERMILAB EXPERIMENTS

As the Village Crier goes to press this week, the accelerator has begun a limited run at 380 BeV, presently scheduled to last until March 17. The increased energy (300 BeV is the normal operating level) is expected to yield valuable operating data on the acceleration systems. Perhaps more significantly, it also brings an air of excitement and interest in the experiments that will utilize this higher energy. The Photoproduction Experiment 87A, and its counterpart, Di-Muon 358, in the Proton Area, will continue studies on the psi particle and related phenomena. The increased energy will result in nearly an order of magnitude increase in the event rate. In the Neutrino Area, Neutrino 370, the follow-on to Neutrino Experiment 1A, will pursue its earlier lead on di-muon triggers and will also measure total cross sections for high energy neutrino interactions. Particle Search 363 in the Internal Target Area will look for the production of new particles while E-317 will collect data on inelastic scattering of protons by nucleons.

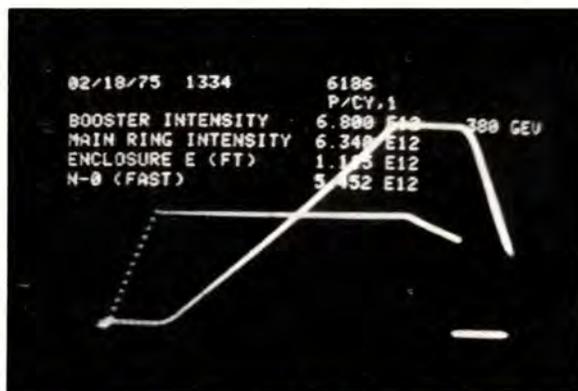
For this run, the accelerator has been set up to operate with a one-second flattop and a 15-second ramp cycle period. It is known commonly as "the 400 BeV run," but operation at 380 BeV leaves some extra Main Ring power supplies available in the circuit for back-up if faults occur.

\* \* \* \* \*

### SUMMER HOUSING NEEDED

Fermilab's Housing Office is making plans for accommodation of Fermilab experimenters and visitors during the coming summer months. If you know of someone who might have a furnished home or apartment available to rent during the summer months, ask them to get in touch with the Housing Office, Ext. 3560. Requests to rent such housing must be in the Housing Office by March 30th.

\* \* \* \* \*



...Beam intensity and ramp display at 380 BeV showing 13 Booster pulses (left) and (right) 15% slow extraction for Proton Area and 85% fast extraction for Neutrino Area...



...Fermilab and the International Association of Machinists and Aerospace Workers signed a contract recently renewing a relationship that has existed since 1969. The agreement covers 63 employees in the Fermilab machine shops. Present at the signing were (L-R, seated) Richard Gorski, Fermilab machinist; Victor Horvath, IAM representative; John McCook, Fermilab Associate Director for Administration; H. Hinterberger, Head of Fermilab Technical Services; (standing) Larry Chiplis, Fermilab machinist; C. Marofske, Fermilab Personnel Manager, and W. Jones, Head of Fermilab Machine shops...

A self-guided tour plan is popular with weekend visitors to Fermilab. The tour guide is distributed by a receptionist on duty in the Central Laboratory under the supervision of the Public Information Office. During the month of January almost 400 people visited the fifteenth floor on weekends by themselves and an equal number were escorted by employees of the Laboratory. Laboratory employees are encouraged to bring their guests to the Laboratory. Employees may find the new guide helpful in escorting their guests.

The self-guided plan suggests that visitors first circle the Atrium floor of the Central Laboratory. The Operations Center, the bubble chamber photos, and the Wilson sculpture, as well as the greenery of the Atrium, are among the points of interest worth noting in this area.

The elevator on the east side of the Central Laboratory is programmed to give express service to the 15th floor on weekends, for the use of weekend visitors. The three viewing areas on the 15th floor enable visitors to see the entire ten square miles of the Laboratory site from this vantage point.

Just outside the elevator on the 15th floor, the northeast window looks out over the three external experimental areas. Moving to the southeast window, the giant ring of the main accelerator is visible. On clear days the Chicago skyline can also be seen here.

Continuing to the south viewing area, visitors can trace here the path of the Fermilab beam from the injection point of the Linac to the Booster Accelerator and then to the Main Ring. A button-operated slide show is also located in this area of the 15th floor for use by visitors.

Leaving the Central Laboratory, the tour guide suggests that visitors drive on Road A past the Meson and Muon areas to the Neutrino Area. Coming down Road K to Batavia Road and turning right, the Scottish Highland cattle and the Proton pagoda become another stop. The Fermilab Village and the buffalo are other optional stops on the driving tour.

Visitors are welcome to visit the public areas of the Central Laboratory and of the Fermilab site. The building is open from 8:00 a.m. Saturday to 10:00 p.m. Sunday. Children must be accompanied by responsible adults. Pets must be on a leash.

The public is free to drive around the Laboratory site on the paved roads, remaining in cars except in the viewing turn-offs by the buffalo and the Scottish Highland cattle. All visitors are asked not to go unaccompanied into other than specified areas when on the self-guided tours.

Group tours of the Laboratory may be arranged through the Fermilab Public Information Office. Tours must be accompanied by a Laboratory staff member assigned by the Public Information Office. For further information call Cheryl Stadtfeld, Ext. 3341.



## FERMILAB EMPLOYEES' INSURANCE ASSIGNMENTS

Fermilab employees can assign their life insurance and travel accident insurance to designated beneficiaries. The beneficiary becomes the owner of all benefits of the insurance policies.

The advantage of an assignment is that if the assignment is deemed valid the proceeds of the insurances are not included in the estate of the deceased insured person. Therefore, estate and inheritance taxes are not applicable on the proceeds of these insurance policies.

There are some disadvantages to this type of assignment. Once the assignment is executed, the assignee is the only person with any rights under the policy and the employee can no longer change the beneficiary. This right is reserved solely to the assignee. Upon the death of any assignee, the interest of such assignee passes to his estate, unless otherwise provided.

Neither the insurance company nor any employer can guarantee the validity or sufficiency of any assignment. If you have questions or if you would like more information on these assignments, please contact the Employee Benefits Office, Ext. 3395.

\* \* \* \* \*

### CLASSIFIED ADS

FREE - McDonald's \$25.00 gift certificate on a 1975 Chicago Dodge dealer purchase. Contact H. L. Hart, Ext. 3381.

FOR SALE - 1974 Vega, A/C, 4 on the floor, white, excellent gas mileage. Bob Dawes, 355-2223.

FOR SALE - 1970 Olds 4 dr. ht., P/B/S, A/C, cruise control, 2 extra wheels w/snow tires. \$55,000 mi. \$1600. Call Earl Nordmeyer, Ext. 3712 or 741-0972.

FOR SALE - 1963 Ford Galaxie 500, new tires, battery & generator. \$150 or best offer. Call Roger after 5:30, 665-0958.

FOR SALE - 1969 Opel Kadett Rallye, gold & black \$300, contact Chief Monningh, Site Patrol, Ext. 3414 (days) or 898-4913 (nights).

FOR SALE - 1967 Dodge Van, good cond., \$800. Call M. Kastner, 355-6174, after 5 p.m.

FOR SALE - 1972 Gremlin, 258 cu. in. engine, P/S, auto., buckets, no body damage, 36,000 mi. \$1800 or best offer. Call Jim Krebs, 892-0522, after 5 p.m.

FOR SALE - 1972 Nova, 30,000 mi., 2 dr., auto., P/B/S, A/C, AM-FM tape in dash. Clean. \$1850. Call Art Streccius, Ext. 3580 or 584-0712.

WANTED - Any Holiday Rambler owner interested in joining "The Chief Shabbona Rambler" Camping Club can get further info. by calling G. D. Powell, Ext. 3366 or 312-323-5685.

FOR SALE - 3 br. brick raised ranch. Family room, bar & fireplace. 2 baths. North east Aurora. Mid forties. Call M. Kampikas, 892-3581, after 5 p.m.

FOR SALE - 1968 Ford Wagon, P/S/B, A/C, auto. \$600. A. J. Bianchi, Ext. 3701.

FOR SALE - Two 20 gal. Aquariums, complete w/stand, filters, heaters, gravel & extras. Also 1967 Toyota Corona, very good condition. 668-7282.

FERTILIZER SALE - Lawn "Greenpower" 30-4-4 10,000 sq. ft. \$14.00, 15,000 sq. ft. \$20.25. "Garden Prime" 5-20-20, 20# \$6.25, 40# \$9.50. Benefit Boy Scout Troop 106. Call John Grimson, Ext. 3698 or 357-1436.

FOR SALE - Sony 8-track Playback-recorder \$75., Carlson-Stomberg T.V. console, solid mahogany, Best offer. Gregory Lawrence, Ext. 3677.

ATT'N HORSE LOVERS - For sale: Hay, Straw. Call Bob Schlick evenings, 231-8127.

\* \* \* \* \*



## EMERGENCY WARDENS - Join "The Team"

What happens if you are an employee in the Central Laboratory Building and a fire develops on your floor? What happens if you are visiting the Central Laboratory Building and a tornado alert is declared for the Laboratory?

IN AN EMERGENCY --

LOOK FOR THE FLOOR WARDENS!

The Central Laboratory is the first area of the Laboratory to initiate the Floor Warden System to aid all Laboratory employees and visitors during any emergency.

A Floor Warden and an Alternate have been selected for each floor of the Central Laboratory Building. In any emergency, they will be readily identifiable to you by the bright orange and black colored armband they will wear.

In an emergency, the Floor Warden will be your guide to escape or to a place of safety. Floor Wardens will be trained in many aspects of emergency service; but, more importantly, they are the link between the people in the Central Laboratory and the Laboratory's emergency forces who will be called upon to handle the situation. Floor Wardens are



*Lt. Lill, Fermilab Fire Department welcomes John Robb (Machine Shop) and Barbara Schluchter (Research Div.) to the Fermilab "Emergency Response Team."*

an important part of that team.

One of the most important things a Floor Warden can ask you to do in an emergency is to Dial 3131 for help. Be sure you consult the Fermilab Safety Handbook if you have any questions about the 3131 Emergency Notification system.

Do you know who your Floor Warden and Alternate are? If not, it might be a good idea to find out. A list of the Floor Wardens and Alternates for each floor of the Central Laboratory is on the next page. If you have any questions, please call the Fermilab Fire Protection Department on x 3428 or the Fermilab Safety Office on x 3580. There is also a section dealing with Emergency Floor Wardens and their duties in the Safety Handbook.

<u>FLOOR</u>	<u>WARDEN</u>	<u>FLOOR</u>	<u>WARDEN</u>
1E	Dee Ray Cynthia Sazama	10E	Mary Toenies
1W	Margaret Pearson Cheryl Stadtfeld Nicki Smith	10W	Mary Greenwood
2E	Jackie Gifford Shirley Burton	11E	Alice Lengvenis Gerry Johnson
2W	Barb Schluchter Virginia Linqvist	11W	Cindy Cara Dean Lee
3E	Vicki Caffey Shirley Rittierodt	12E	Marion Richardson Homer Clover
3W	Roger Thompson May West	12W	Denise Augustine Joel Friedl
4E	Gloria Beck Gayle Mock	13E	Joyce Arado
4W	Joy Thomas Kathy Hess	13W	Bob Gorge Tom Schmitz
5E	Ernest Villegas Robin Perkins	14E	Kathy Desplinter Denise Blayney
5W	Linda Freund Russel Jones	14W	Jay Peterson Rupert Crouch
6E	Jim Thompson Pamela Perkins	15E	Marge Harvey
6W	David Warner Jim Ziober	15W	Liz Foster
7E	Craig Moore Dennis Riley	16	Bud Stanley Frank Werneske
7W	Computer Console Operator	Ground Floor	Earl Bowker John Robb
8E	Howard Watts Ron Martin	Proton - Ground Floor	Marty Solis Del Hoffman
8W	Computer Console Operator		
9E	Ken Fitzgerald Jim Fay		
9W	John Korienek Jim Fay		