

## SHUTDOWN BRINGS ACCELERATOR IMPROVEMENTS

A major shutdown for maintenance and modifications in the Fermilab accelerator system turned the Laboratory into a giant workshop recently. Every available pair of hands has been taking part in projects planned to improve the operation of the accelerator and experimental area components. In the halls above ground and throughout the four-mile tunnel of the Main Ring, the silent corridors came alive with technicians and crews for most of two busy weeks.

Among the achievements of the Accelerator Division's shutdown work was the movement of tank #5 of the linear accelerator to provide additional space between tank #4 and #5 where a pulsed extraction magnet could be installed. A careful, painstaking 10-hour project moved tank #5 seven inches. Beam extracted here could provide a source of neutrons for the cancer treatment facility proposed for the linac basement.

This Accelerator Division crew also carried out a precise alignment of the pre-accelerator with the linac in their shutdown project. It was not unusual to see legs protruding from the stainless steel encasements of the pre-accelerator system as the people, communicating by inter-com inside two pieces of equipment thirty feet apart, carefully aligned the pre-accelerator with the linac.

In the Booster accelerator, the installation of a new power supply for the pulsed magnet will allow injecting several turns of beam into the Booster. Two new RF systems in the Booster will capture more of the beam. Shutdown work in the Booster included checking and making alignment of the various devices that have limited Booster aperture -- the RF stations, the injector kicker, and the extraction kicker.

In the Main Ring, about 300 of the old-style insulators on the magnet manifolds were replaced during this time, promising improvement in the water leak problems. Between 6 and 10 magnets will be replaced, eliminating those with low resistance to ground or with water leaks. Another group of Accelerator Division personnel refurbished RF cavities,



*...Glen Lee (L), John Robb  
at linac tank #5...*



*...J. Wildenradt, (L), Tom Larson  
measure linac move...*



*...Bill Testin aligning  
pre-accelerator...*



*...RF crew installs bus bar  
in Booster Accelerator...*

## SHUTDOWN (Continued)

putting in new high purity ceramic insulators. Nine cavities will be completed during the shutdown; 14 will be operating in the Main Ring when operation resumes.

In the Switchyard, installation of the triple-splitting station for the Proton Area was started during this period.

Other Fermilab plant crews have taken advantage of the shutdown time to repair major LCW water lines. Paralleling equipment now permits falling back on the Giese Road station in case of an electrical emergency.

Don Young, who headed the Accelerator Division shutdown work, told a recent Director's meeting that the Accelerator Division is expecting considerable improvement as a result of the shutdown work, particularly an increase in beam intensity. Paul Reardon reported to the meeting that just before shutdown  $1.4 \times 10^{13}$  protons were extracted, reflecting the continuing progress toward the Laboratory's  $5 \times 10^{13}$  goal.

The shutdown followed the nearly continuous running period that began in June. The experimental milestones of that period included the 173,566 pictures recorded by the Fermilab 15-foot Bubble Chamber. Five experimental groups are now analyzing the first major set of filmed events in the 15-foot Chamber. These experiments were: 56,634 pictures with 250 GeV/c negative pions for E-234; 67,040 pictures with neutrinos for E-45; 6,776 pictures with 300 GeV/c protons for E-343; 13,999 pictures with neutrinos including external muon identification for E-155; 26,117 pictures with anti-neutrinos for E-31; and 3,000 test pictures.

Experimenters await the new improvements as Fermilab moves to meet the challenges of the exciting new developments in high energy physics.

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...INTERNATIONAL FILM SOCIETY -- Friday, December 13, 1974 -- LA POUPEE (The Doll)...



...Sheila McKenzie...

### INTERNATIONAL MUSIC HERE

Folk singer Sheila McKenzie crossed cultures and spanned centuries for her Fermilab audience Friday, December 6. Whether Macedonian, Russian, or Scotch, "it is all folks singing and making sounds and rhythms to link ourselves with each other, with nature or the beyond," she explained the theme of her program. Miss McKenzie ended her evening in the audience leading a three-part harmony of the African folk song, "The Lion Sleeps Tonight." The program was another in the continuing series sponsored by the Fermilab Auditorium Arts Series.

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...W. Zimmerman (L), R. Applegate check water leaks...



...D. Maxwell works on Or-bump magnets...



...Ed Podschweit aligning equipment in C-zero...



...Buzz Rodewalt, Don Poll, at C-zero...

(Photos T. Fielding, G. Urban)



...A recent meeting of The Committee: (L-R, front row) Joyce Sobinsky, Director R. Wilson, Ruth Hutchison, Associate Director J. McCook, Mae Riggs. (L-R, back row) Tom Schmitz, Don Olson, Joel Friedl, Don Breyne. Missing from photo: Fred Browning, Howard Fulton...

In organizing a staff for the Laboratory in 1969, Director Robert R. Wilson sensed that while it seems easy for scientists and engineers to present problems to him, other employees of the Laboratory hesitate to do so. "I worry that I may never hear of a problem at all or that it may get so watered down that I will not even understand what the initial difficulty was," Dr. Wilson noted in 1969.

Dr. Wilson appointed "The Committee," a small group of employees who meet once a month to talk to him about anything they want to. Employees are asked to join The Committee on the basis of their seniority. They serve for six meetings of the committee; rotation of membership is therefore regular and variable. Each person is urged to present an individual point of view, not representing any particular group or section of the laboratory.

A typical meeting of The Committee might include questions about parking, problems with Central Laboratory elevators, or the status of funding for the Laboratory. Dr. Wilson explains the circumstances involved on his side of the problems in response to the questions raised by committee members. The hour-long meeting produces a valuable exchange of ideas.

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## HOLIDAY PARTIES

FOR THE CHILDREN  
2 - 10 years old

CHRISTMAS PARTY  
Sunday, December 15  
2:00 - 5:00 p.m.

VILLAGE BARN

...Pinatas  
...Magician  
...Christmas Carols  
...Ornament Booth  
...Cookies & Punch  
...Pics with Santa

Make reservations with Ellen  
Kukuk, Ext. 3701.

FOR ADULTS

CHRISTMAS DANCE- SNOWBALL '74  
Friday, December 20  
6:30 p.m. - 1:00 a.m.

ST. ANDREWS COUNTRY CLUB

Tickets: Employee and one  
guest, \$6.00 per ticket,  
after December 16,  
add'l. guest at \$10.00.

...Music for Dancing...  
...Door Prizes...

Buy tickets from NALREC represen-  
tative. After Dec. 16, from Liz  
Foster, Ext. 4203.

## NEW FACES AND NEW PROJECTS IN PUBLIC INFORMATION

The Public Information Office has two new faces. Cheryl Stadtfeld comes to the Public Information Office from the Photo Unit where she has worked since 1970. Cheryl replaces Helen Severance and will be in charge of tours and special visits and other Public Information functions. Nicky Smith is now the office secretary. Among her many duties, she is the person to contact about Classified Ads in the Crier.



Continuing a service started by the Public Information Office in November, a receptionist will be on duty in the Central Laboratory on weekends during December to greet friends and neighbors and visitors of the Fermilab. They will be escorted to the 15th floor if they wish to view the site from there. ...C. Stadtfeld...N. Smith...

The receptionist is on duty Saturday from 1:00 p.m. to 5:00 p.m. and Sunday from 10:00 a.m. to 5:00 p.m.

Employees are also welcome to bring families and friends to the Laboratory on weekends.

## CHRISTMAS TREE IN CENTRAL LABORATORY

The lights on a unique 50 foot tree in the Atrium of the Central Laboratory will be turned on at a brief ceremony on Monday, December 16, at 5:00 p.m. The "tree" will consist of 96 strands of thirty-five multi-colored Italian lights suspended from a center point under the seventh floor cross-over of the building arching outward and down to a base 14 feet above the first floor level, about 30 feet in diameter. In the center of the symbolic tree will be a gold reproduction of the Fermilab logo, ten feet square. The giant design will be clearly visible through the glass front of the building. The tree will be lit each evening until December 31.

## BASKETBALL TEAMS COMPETE

Fermilab basketball teams need a cheering section, especially the first-year Hustlers. The Protons are moving along well -- 2-0 thus far. The Proton-Hustler game on December 19 at 8:00 p.m. at Batavia Junior High, ought to be a dandy. Pick your favorite and be there to cheer them on.

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## CLASSIFIED ADS

RIDE WANTED - From the west side of Batavia to Lab., 8:30 to 5:00. Call Liz, ext. 3222.

FOUND - Men's 3 speed bike, green. Call 393-1922 to identify.

FOR SALE - Wonder horse, child's jumping horse, good cond., \$20. Small plastic indoor slide, \$5. Excellent Christmas gifts. Call G. Zielbauer, ext. 3861 or 897-4705.

FOR SALE - 3 yr. old Thomas Spinet Organ, excellent cond., \$800. A. Pirela, ext. 4066.

FOR SALE - Electric Typewriter, New Fully Automatic, many deluxe features, 5 yr. Mfg. Guar., \$150. Call Frank Mehring, ext. 4048 or 424-3429.

FOR SALE - White Formica Oval Dinette w/6 burnt orange vinyl Hi-back chairs. \$90. Call Joe Heim, ext. 3381 or 3382.

FOR SALE - 16" Zenith Port. T.V., \$30. And Flush Door w/Philippine Mahogany, 1-3/8 x 30 x 80, New. Call Milton Kampikas, ext. 3677.

FOR RENT - 2 br. home on waterfront Pine Island. Available Dec. & New Year's Holiday. Near Ft. Meyers. Call Art Streccius, ext. 3580 or 584-0712.

FOR SALE - 1974 Ford Pickup F250 camper special, A/C, power front disc brakes, many more extras, only 13,000 mi., \$4000. Call Bernard Lepacek at 815-436-6717.

FOR SALE - 1972 Mercury Montego stat. wagon, A/C, P/S/B, 21,000 mi., excellent cond., \$2100 or best offer. Call S. Mori, ext. 4003 or 375-3850.

PLEASE SAVE Foreign postage stamps. Graciela Finstrom, ext. 3286 or C1-6W.

FOR SALE - Artificial Christmas trees & Ornaments. R. Lauer, ext. 3529, 665-4846 or 653-1263.