The Village Crier

fermi national accelerator laboratory

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FERMILAB'S ANSWER TO AMTRAK

Mention railroading to the average man and he will probably think of Amtrak; mention trains at Fermilab, some will think of converted mine locomotives that move target systems in and out of the Neutrino and Meson target halls.

For the nuclear chemists of Experiment 81, research-related railroading means a tiny model train . . . a remote-controlled robot that enters the proton beam in the Meson Target Hall exposes the metallic foils which are the object of their studies, and returns with them to the M1 Service Building.

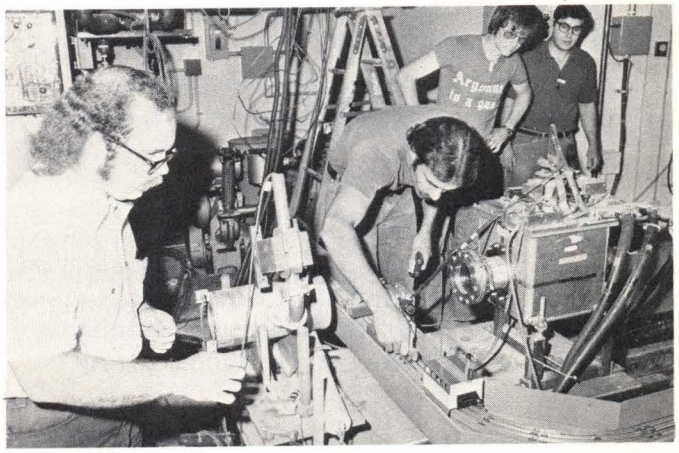
In 1972, the first irradiations of metal foil targets were done parasitically in Nu-Hall by simply taping the foil stack to the exit window of the beam pipe during a shutdown, and retrieving it at the next shutdown.

In 1973, a "store-bought" model railroad was installed from the M1 Service Building to the extracted proton beam line in the Meson Target Hall (Meshall) to allow irradiations to be made without shutting down the Meson Area for personnel to enter the Hall. With a safety record Amtrak would envy, the entire system, except for the O-27 gauge track,was honorably retired and a specialized robot system built up including a locomotive chassis made of phosphor-bronze. After extensive research and development the latest version of the radiation chemistry "rabbit" was installed in Meshall in 1976. The layout follows a tortuous route down an access tunnel, up and over a bridge across the proton beam magnets, and down into the beam itself. It's a delight to the railroad buff's heart - and a serious research tool. (Who said physics isn't phun?)

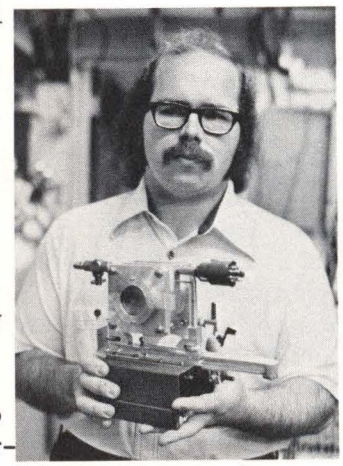
The current rabbit carries on its back (flatcar) an evacuated vacuum chamber containing the foils to be irradiated. Total weight of flatcar and vacuum chamber is approximately two pounds.

These days the Robot Research Railroad is involved in experiments to measure cross sections, recoil properties of fragments, high Z-fission and spallation products, and a search

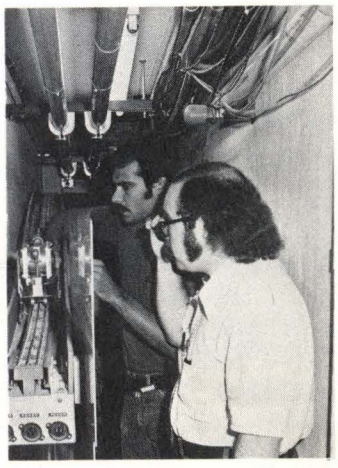
(Continued on Page 2)



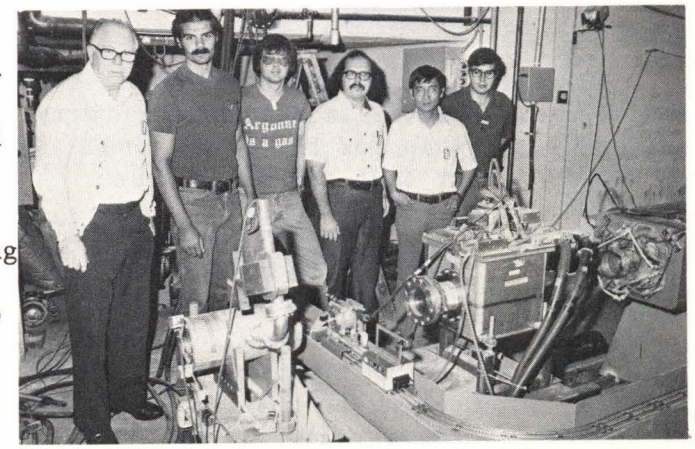
...L-R, J. Cadieux, R. Johns, D. Boyce and J. LaRosa set up E-81's robot train...



... J. Cadieux holds flatcar-mounted vacuum chamber...



... Train in access tunnel with R. Johns (L), J. Cadieux...



...E-81's train crew L-R: E. Blume, R. Johns, D. Boyce, J. Cadieux, S. K. Chang and J. LaRosa...

FERMILAB'S ANSWER TO AMTRAK (Continued)

for bound polyneutron states. New experiments involve detailed range-energy distributions from uranium, cross-section measurements of high neutron-excess products, and secondary-fragment induced reactions in high-Z targets.

E-81 spokesman, Sheldon Kaufman, Chemistry Division, Argonne National Laboratory, said collaborators are members of nuclear chemistry groups at ANL, Brookhaven, Carnegie-Mellon, University of Chicago, University of Illinois (Chicago Circle) and Purdue.

B. J. Holt, Meson Department RSO, who oversees the irradiations, looks forward to the day when "old 99" gives way to a Meshall version of the space shuttle enterprise.

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FAST CLASS ANNOUNCED . . .

Vacuum Technology I -- Jim Humbert will teach a course covering vacuum gauging, use of mechanical, diffusion and ion pumps, gasketing and use, and maintenance of leak detectors. The class will meet Mondays and Wednesdays from 4 to 6 p.m. Oct. 31 through Dec. 21. Applications available in Personnel, 6E.

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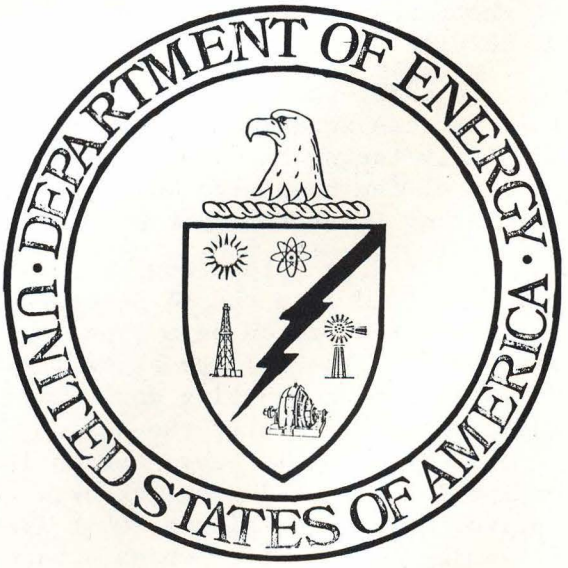
DEPARTMENT OF ENERGY INCLUDES FERMILAB

On Saturday, October 1, 1977, Fermilab became part of the new United States Department of Energy (DOE). DOE succeeds the Energy Research and Development Administration (ERDA), Federal Energy Agency, Federal Power Commission and other units joining forces as DOE.



...Seal of Department of Energy...

Fermilab is among seven laboratories and facilities under the Office of Energy Research. Other facilities are: Ames (Iowa) Laboratory; Bates Linear Accelerator Facility, Cambridge, Mass.; Brookhaven National Laboratory, Upton, Long Island, N.Y.; Lawrence Berkeley Laboratory, Berkeley, Calif.; Notre Dame (Ind.) Radiation Laboratory; and Stanford (Calif.) Linear Accelerator Center.

Claude Dickens, assistant manager, Batavia Area DOE Office, said, "We do not anticipate significant change in the day-to-day technical and administrative relationships between the Laboratory and DOE in the short term. In the long term we anticipate that what changes do occur will be evolutionary in nature similar to changes in the past."

The 12th Cabinet agency--the first to be formed since the Department of Transportation was created in 1966--is designed to carry out elements of the nation's energy policy under unified leadership for the first time. Dr. James R. Schlesinger was sworn in as Secretary of DOE on August 5 at the White House.

The new department will have almost 20,000 employees. First-year budget is $10.4 billion. In terms of personnel, DOE will rank as the eighth largest Cabinet department; in budget, it will be 10th.

Director of Energy Research under DOE is Dr. John M. Deutch, on the faculty at MIT since 1970 and chemistry department chairman there since 1976. He received a B.S. in chemical engineering from MIT in 1961 and a Ph.D. in physical chemistry from MIT in 1965. He was postdoctoral fellow at the National Bureau of Standards.

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ARMSTRONG NAMED SECURITY CHIEF

Rudy Dorner (L), Manager-Emergency Services, welcomes Robert L. Armstrong as Fermilab Chief of Security. The appointment was effective Oct. 1. Armstrong, a security captain (shift supervisor) since joining the Laboratory in December, 1976, replaces Jane Waters Sixta. Mrs. Sixta will move to Kansas City with her husband. Armstrong has over 22 years' experience in law enforcement. A retired U.S. Air Force master sergeant, he served in Viet Nam and Korea. He graduated from the Air Force Police Academy, Army Investigation Academy and attended several field academies. The new chief also holds an Associate of Arts degree in business management. Before joining Fermilab, Armstrong was chief investigator and superintendent of police at the USAF Space and Missile Systems Organization at Los Angeles. He will administer a department comprising 30 persons and six vehicles. Self-defense, camping, fishing and boy scout activities are among Armstrong's hobbies. He resides in Bolingbrook with his wife Shirley and two sons, Stephen, 20 and Raymond, 17.

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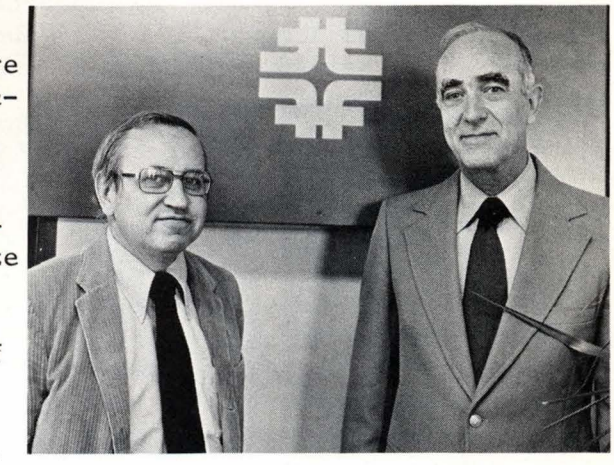
FORMER AURORA CHIEF HEADS FERMILAB FIREFIGHTERS



Ralph Kramp, (R), is introduced as Fermilab Fire Protection Coordinator (Chief) by David Sauer, Director of Site Services. Kramp, a 30-year veteran of the Aurora Fire Department, assumes command of the Laboratory firefighting force Wednesday, Oct. 12. "After my years of experience in municipal fire protection, I am pleased with the opportunity to utilize this knowledge at Fermilab," he said. Kramp joined the Aurora department in 1947. He was appointed lieutenant in 1954, captain in 1956, assistant chief in 1962 and chief in 1973. During his tenure as chief, the force grew from 80 to 125 persons as Fox Valley Center and other developments were initiated. Kramp attended Aurora College and was a bomber pilot during World War II. He will head the Fermilab department of 20 men and nine pieces of equipment. He is an Aurora resident.

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FERMILAB INTER/NATIONAL FILM SOCIETY

presents

"IMAGES"

directed by Robert Altman, U.S.A., 1972

8:00 p.m. October 14th Fermilab Auditorium

Get in the Halloween spirit at this psychological suspense thriller! Susannah York stars as a woman haunted by her past. Beautifully filmed scenes of Ireland are featured. (Color - 101 min.)

Admission: $1.50
NOT recommended for children

OLIVE THOMPSON RETIRES

Mrs. Keith (Olive) Thompson, R.N., medical office nurse, began setting up housekeeping near Bull Shoals, Ark., this week after retiring Sept. 30. Her first work day was Dec. 11, 1972 -- in a trailer behind the Accelerator booster during Central Laboratory construction. "It was a cold winter," Olive recalled. "Frequently I would arrive to find the water pipes frozen and would have to call maintenance and operations to get water flowing again." She remembered too how mice attracted by warm straw under the trailer would sometimes enter the office via plumbing to the sink.

"I feel privileged to have known and served so many fine people," she said in a farewell note. Olive earned her registered nurse's certificate at St. Luke's Training Hospital in St. Louis. She came to Fermilab after operating a stuffed toy animal shop. Previously she had practiced nursing as a member of the Wheaton Public Health Department and at Community Hospital, Geneva.

FIRST FERMILAB PRAIRIE SEED HARVEST OCT. 15

Volunteers wanted! Autumn means seed-collecting time for Fermilab's Prairie Restoration Project. For the first time seeds will be gleaned on the Fermilab site. Tony Donaldson, Fermilab Prairie Committee chairman, is calling for volunteers (age 10 minimum) to help hand collect seeds. He announced that gleaners are needed to work on-site, and also at the Morton Arboretum, Lisle, and Gensberg-Markham Prairie at Markham. "The volunteers who first helped us back in 1974 can experience the landscape that their efforts helped create," Donaldson said.

Harvest dates will be: Fermilab--Oct. 15 and Oct. 22, rain dates Oct. 16, Oct. 23; Morton Arboretum--Oct. 15, Oct. 22 and Oct. 29, rain dates Oct. 16, Oct. 23 and Oct. 30; and Gensberg-Markham Prairie--Oct. 29, rain date Oct. 30. Harvesting is set for 8 a.m. to 5 p.m. at Fermilab and the Arboretum; a bus will pick up workers at 8 a.m. from in front of the Central Laboratory for the Markham Prairie harvest. The first annual harvest was held in October, 1974, at the Arboretum and Markham Prairie. The eight-acre 1975 Fermilab planting has been chosen for harvesting because of a bumper crop of Indian rass and Big Bluestem, Donaldson says. Last year, volunteers collected about 400 pounds of seed that planted 50 acres here. Restoration plans call for planting another 50 acres in November, bringing prairie acreage to 120 of 650 set aside for the project. Seed harvesters will be invited to participate in the fourth annual seed cleaning, an all-day effort in the Village Barn Nov. 5. About 300 individuals have participated in three previous harvests. To sign up, or for more information, call Donaldson at Ext. 4056 or Rene Donaldson at Ext. 3278.

FALL CLEANUP DAYS NEXT WEEK

Reuseable, recycleable or waste materials will be removed Oct. 12-14 by Site Services. The semi-annual site-wide cleanup is designed to prepare for winter weather. Metal objects should be segregated. The following areas will be serviced: Central Laboratory -- Call Gene Plant, Ext. 3824, for assistance; Research/Accelerator -- Don Smith, Ext. 3492, will have details; and Village -- Call George Doyle, Ext. 3421, for arrangements.

A TASTE OF THE 20'S

Don't forget NALREC's "Speakeasy Night," an all-Laboratory party Saturday (Oct. 8). The roaring 20's-style event will be held from 8:30 p.m. to midnight in the Village barn. Highlights will be a dance marathon, mock funeral procession, kangaroo court, and refreshments. Beer will be 25¢; "bathtub gin" and other "hootch" 50¢. Admission: $1.

...Party prop builders (L-R): D. Carullo, E. LaVallie, J. Guerra...