FermiNews

Fermi National Accelerator Laboratory
October 1, 1981

Those Remarkable Cryostats

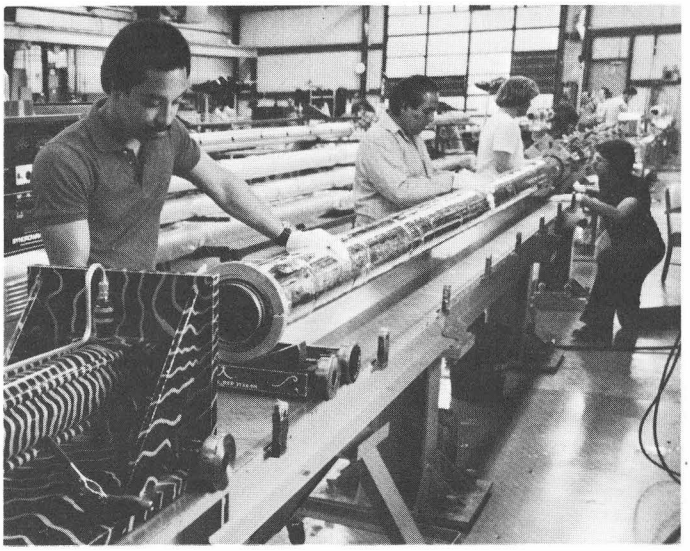
The photographs on these pages highlight some of the production steps and people dedicated to the manufacture of superconducting dipole magnet cryostats. These are the new magnets being installed in the Main Ring as part of the Energy Saver.

A cryostat consists of five concentric tubes, each one about 22 feet long. Ultra cold liquid nitrogen and even colder liquid helium flow through these layers and the magnet windings to keep the magnet at superconducting temperature (around 5° above absolute zero).

"We are proud of what the people here are doing," said Tom Lincicome, head of cryostat production. "The cryostat tubes require special set-ups to ensure that each unit produced is built to tight tolerances."

Machine Shop personnel under the leadership of Bill Jones must receive considerable credit for developing and building the tooling to fabricate these cryostat tubes, Lincicome added. He also said that "machinists often are the unsung heros in many major projects and frequently have successfully completed important missions. They certainly deserve credit for much of what is being accomplished here."

The new superconducting ring will have nearly 800 dipole magnets. This means that nearly 4,000 individual cryostat tubes will have to be fabricated and assembled into cryostats.



Preparing to insert the helium tube into the nitrogen shield are (from left) Chris Kelly, Greg Gonzales, Chris Dahl and Greg Olthoff.

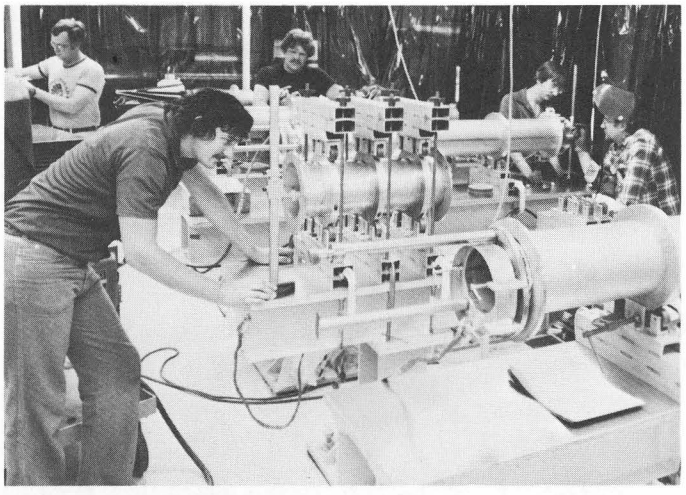
(From left) Barry Priest, Luis Torres and Violet Ball are installing suspension brackets into the cryostat to keep the tubes concentric.

Working on the final assembly at the downstream end of a cryostat are (from left) Bill Gatfield, Dale Durham and Wayne Eckert.

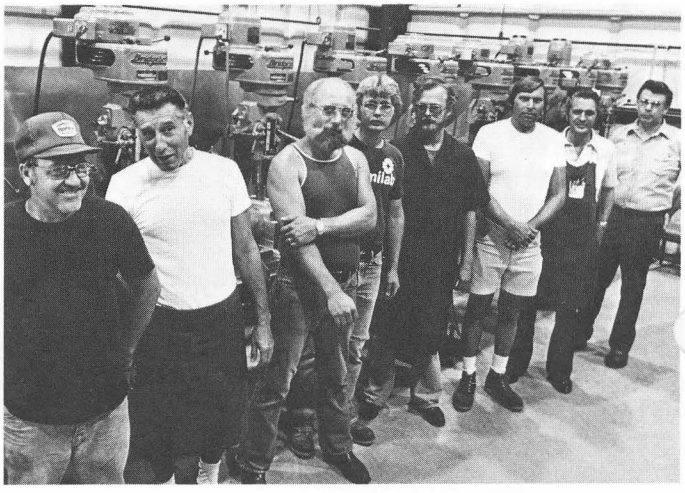
THOSE REMARKABLE CRYOSTATS *(Continued from page 1)*

The men in the foreground are giving a cryostat a final inspection and leak test. From the left they are Bruce Kling, Steve Klavinski, Dennis Ostrowski and Comilo Flores.

A nine-station drilling machine. It drills holes in the nitrogen shield tubes. From the left are Ed Simmons, Ray Green, Carl Penson, Charles Matthews and Mark Wegman.



(Clockwise) John Zielinga (foreground), Dennis McCormick, Bob Kubinski, Pete Simon and Bob Williams are assembling cryostats for quadrupoles.

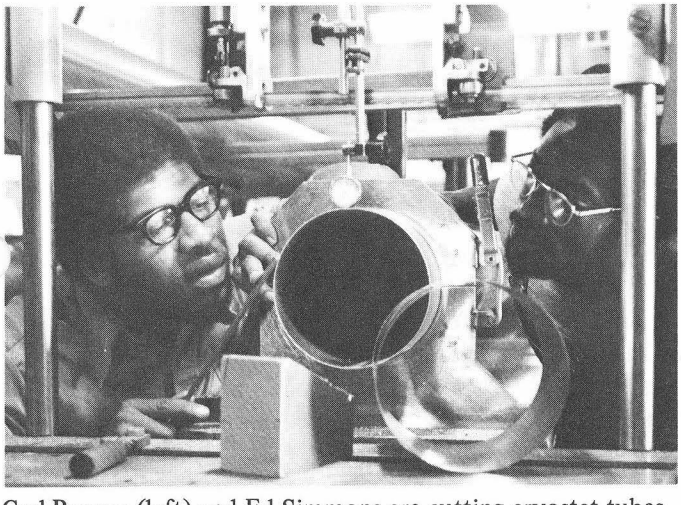


From left are Jerry Knauf, Rich Taccki, Stan Chaplis, Jim Wilson, Bobby Straud, Jack Layman, Rolf Joseph and Marvin Depew. They are standing in front of the inner shield hole drilling machine.

Meet some of the people who prepare small parts and subassemblies for the dipole cryostats. They are (from left) Dan Swanson, Mark Heisler, Jerry Testin, George Kirschbaum, Chris Miklaik, Terri Hodges and Darlene Groth.

Here are some of the men and women who work as inspectors and inventory control people. They are (from left) Buddy McCuan, Jeff Holmes, Jackie Wilson, Terry Buschman, Andy Lathrop, Mark Oropeza, Marsha Patterson and Bob Cassidy (behind Marsha).

From left are Leo Jackson, Bruce Scarth, Charles Legow, Tom Wilson, Ken Schultz, Chester Shaw and Ray Meisner. Behind them is the huge press that punches and coins (dimples) outer shield tubes. Stacks of these tubes are in the foreground and background.



Carl Penson (left) and Ed Simmons are cutting cryostat tubes to length. Five tubes of different diameters fit inside one another to make a cryostat.

Doug Porch (left) and Mike Johnson are washing cryostat tubes. In order to obtain a good vacuum, the tubes must be ultra clean.

FESTIVAL WINDS TO PERFORM AT FERMILAB

by Jane Green
Cultural Editor

Some of this country's finest woodwind players will perform here Oct. 10 as part of the Fermilab Arts Series.

The concert will begin at 8 p.m. in Wilson Hall auditorium. "The Festival Winds" program will be highlighted by selections from Mozart's "Divertimenti" and Haydn's "Partita," which were premiered in the United States by this ensemble. Works by Boismortier and Handel will complete the evening's program of Baroque chamber music.

"The Festival Winds" have been acclaimed by one reviewer as "virtuoso... sensitive musicians" who are noted for "...their enthusiasm for the repertoire and their eagerness to share it with the listeners." Members of this distinctive musical group include New York musicians Melvin Kaplan and Marc Schachman, oboe; Constance Wells and Bernardette Zirkuli, bassoon; and David Jolly and Julie Landsman, French horn.

All seats for the concert are reserved. Admission is $5. Tickets may be obtained at the information desk in the atrium of Wilson Hall, ext. 3353. Because of the great demand for tickets to concerts in the art series, any not paid for within five days will be released for sale.

AUDUBON BIRD HIKE PLANNED

The fall bird hike throughout some of Fermilab's eastern fields has been scheduled for Oct. 25.

Led by Dave Carey of Fermilab, the hike will begin at the Laboratory's east entrance at 9:30 a.m. and end around noon. Participants should come properly dressed and equipped, said Dave. They should have binoculars, a bird guide book and, quite important, waterproof shoes. Children should be accompanied by adults. For additional information, contact Dave at ext. 3639.

The hike, the second of the year, is sponsored by the DuPage Chapter of the National Audubon Society.

DON'T FORGET THOSE PERMITS

Fermilab Fire Department Capt. Fred Cload reminds that all welding, cutting and braizing on site requires a permit. These can be obtained from the Fire Department, ext. 3428.

BLACKHAWK BOULEVARD TO BE CLOSED

Blackhawk Boulevard (in the Village) between Batavia Road and Che-Che Pinqua will be closed beginning Oct. 2. The closing, which will last for about one month, is to accommodate repairs.

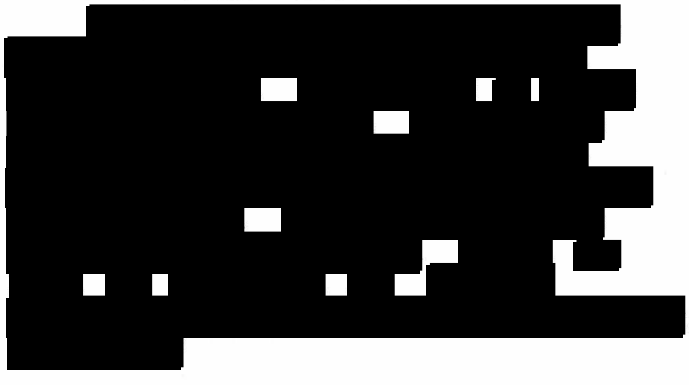
TENNIS CLINIC TO BE HELD AT FERMILAB

Bob Finder, a United States Lawn Tennis Association pro, will hold a tennis clinic for Fermilab employees and their families Oct. 3.

It will run from 10 a.m. to noon at the tennis courts in the Village. The fee for each player is $5. Finder plans to cover three basic serves: slice serve, flat serve and American twist serve. He also will demonstrate serve and volley and the volley.

Time will be devoted to answering questions and helping players with their individual problems. Anyone who is interested should contact Helen McCulloch, Fermilab recreation coordinator, ext. 3126.

FOURTH DAUGHTER FOR GONZALEZ FAMILY



CHEZ LEON MENUS

Wednesday, Oct. 7, 12:30 p.m., $6--Fresh Cream of Tomato Soup, Marinated Flank Steak, Cauliflower Gratin, Steamed Fresh Spinach, Pears in Red Wine.

Thursday, Oct. 8, 7 p.m., $11--Gruyere and Smoked Ham Souffle, Trout Cooked with Fresh Herbs, French Green Beans, Acorn Squash Gratin, Mixed Green Salad, Crepes Danoise.

Friday, Oct. 9, 7 p.m., $11--Potato Skins Newberg, Fermi Club Salad, Prime Rib of Beef, Asparagus Souffle, Dijon Rice Pilaf, Pate Choux Napoleon.

For reservations call extension 3082. The Chez Leon, located in the Users Center in the Village, offers a quaint dining setting and excellent food for its patrons.

URBAN HISTORIAN TO GIVE NEXT COLLOQUIUM

Dominick Pacyga of the Newberry Library in Chicago will speak Oct. 7 at the Physics Colloquium.

His lecture on "Technological Change and the Growth of Chicago" will begin at 4 p.m. in Wilson Hall auditorium. Jay Schmidt will serve as his host.

The lecture will explore changes in technology that have made the rapid growth of Chicago possible. Developments in transportation, public works and industry will be reviewed by Pacyga as he shows how technology has influenced urban life in the last 150 years.

A Ph.D. graduate from the University of Illinois, Circle Campus, Pacyga is the co-author of the book "Chicago: A Historical Guide to the Neighborhoods (Loop and South Side)."

NEXT MOVIE

"The Passenger" will be the next movie presented by the Fermilab International Film Society. It will be shown Oct. 9 at 8 p.m. in Wilson Hall auditorium.

Admission is $2 for adults and 50 cents for youths age 12 and younger. Tickets may be purchased at the door. The film is in color, runs for 119 minutes and is rated PG.

Released in 1975, "Passenger" is an Italian movie directed by Michelangelo Antonioni. It deals with a journalist whose deliverance is an identity exchange with a dead man. A suspenseful and haunting adventure, the film stars Jack Nicholson and Maria Schneider.

CREDIT UNION TO HOLD TAX PLANNING SEMINAR

The Argonne Credit Union will hold a tax planning seminar Oct. 12 at Fermilab.

It will begin at 7 p.m. in Wilson Hall auditorium. Among the topics discussed will be tax shelters, estate taxes and current changes in the personal income tax structure. The speaker will be Roger Anderson of Filbey, Summers, Abolt, Good and Kiddoo, a certified public accounting firm.

Everyone is invited to attend. However, if you do plan to come, tell the Fermilab branch of the credit union, WH1W, ext. 3293, so that sufficient literature and refreshments will be available.

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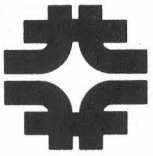

Fermilab

MESSAGE FROM THE DIRECTOR

The headlines these days must be alarming to many of the Fermilab staff. "DOE to be Abolished," "Budgets Cut 12%." I would like to clarify things for you as much as possible. I have recently spent several days in Washington and I have talked to many officials: The President's Science Advisor, the Head of Energy Research in the DOE, Office of Management and Budget science officials.

I believe that the DOE will be reorganized although this must be authorized by Congress passing an appropriate law and this will take a year or even two. What happens to the "basic research" activity? Our best guess is that we will come under a new agency, very much like the old ERDA (Energy Research and Development Agency). We have had to repaint our vehicles before and there may even be advantages to having our activity, research, in a separate Agency.

The other headline has to do with the 12% across the board reduction in non-defense spending: this is serious and does very much affect our activities. Coming just before the beginning of the fiscal year and in the midst of a construction program (SAVER) it is especially difficult to adjust to a sudden and substantial decrease in our FY 82 funding level. I do believe that the Administration is not deliberately inflicting these cuts on science. I suspect that there is not a sufficient awareness of the very large impact these cuts have on a laboratory with large fixed costs, and an ongoing construction program. I am optimistic in believing that, in time, the message will get through that if you want a strong nation with a strong economy ten years hence, the last thing you should do is to take apart the science capability now.

Nevertheless, we must be prepared for a period of several years of very austere times. At this time we do not know the FY 82 budget precisely, but obviously we will have less than we expected. We are evaluating the situation and reviewing our priorities. We must get our science into the best possible shape and minimize irreversible steps. We may have to reduce staff by somewhere between 5 and 10% in FY 82; some of this has already taken place as a result of the hiring freeze instituted last spring.

I set these items before you so that you can appreciate the seriousness of the situation but also that it not be exaggerated. We will continue to do high energy physics - we will finish the SAVER and proceed with Tevatron. Things may go more slowly and some of the activities which are peripheral to the main goals will have to be put aside. I will try to keep you informed.

LEON M. LEDERMAN
Director

9-30-81