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HEPAP MEETS, MULLS TOUGH CHOICES

by Judy Jackson, Office of Public Affairs

The buzz from the Hornet's Nest came not from the eponymous nests—long empty—adorning a corner of the conference room, but from members and guests of the Department of Energy's High Energy Physics Advisory Panel. At its 120th meeting, held at Fermilab on December 11 and 12, 1995, HEPAP heard presentations by DOE officials, Fermilab and Argonne scientists, and leaders of proposed projects to collaborate on the Large Hadron Collider at CERN, the European Laboratory for Particle Physics. Two panelists addressed their colleagues on the problems of the university particle physics community. Yale Professor Emeritus Robert Adair succinctly characterized the buzz that resonated in all the presentations: "The big problem is, there isn't enough money."

Photo by REIDAR HAHN

High Energy Physics Advisory Panel members Roberto Peccei (left), professor at UCLA, and Dave Cassell, professor at Cornell University, talk in the Hornet's Nest conference room, site of a recent HEPAP meeting.

THE MEANING OF FLAT-FLAT

Like the budget, the seating was tight in the Hornet's Nest conference room, where chairs for observers were scarce. The public meeting's proceedings were telecast in Conference Room One West for the benefit of interested observers who couldn't get ringside seats. After Chairman Stanley Wojcicki called the meeting to order, Dr. John O'Fallon, director of DOE's Office of High Energy Physics, led off by regretting the absence of Dr. Willy Chinowski of the National Science Foundation, who stayed home with the flu. "Usually," O'Fallon quipped, "I have the benefit of Willy to warm up the crowd." He then offered the cold comfort of the FY1996 DOE budget for High Energy Physics, noting the "slow, steady decrease in buying power" over recent years, and projected declines to come. At least, he noted, "we are one of the fortunate few with a signed appropriation."

O'Fallon next reported on negotiations between DOE and CERN on U.S. participation in the LHC. Energy Research Director Martha Krebs, he said, had asked him to address HEPAP on her behalf. He said that DOE "accepts Drell," referring to the 1994 report by a subpanel of HEPAP chaired by Professor Sydney Drell. The report recommended U.S. participation in the

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Inside

OPEN 24 HOURS: THE FERMILAB FIRE DEPARTMENT

by Donald Sena, Office of Public Affairs

A piercing tone sounded over the Fermilab Fire Department's pager alarm, followed by a dispatcher's squawky voice detailing a "code four" oxygen deficiency hazard alarm at Lab 2 in the Village.

At the firehouse, firefighters stopped cold to listen to the call. Minutes later, they were suited up and heading to the scene with lights flashing on the fire truck. At the scene, wearing air packs and carrying oxygen monitors, the firefighters made sure all workers were evacuated and swept through Lab 2, concluding the oxygen level was normal. (severe cold that morning may have played a role in setting off the alarm.)

The Dec. 11 call, recounted by Fire Chief Jack Steinhoff, was a false alarm, but the incident gives a glimpse into the workings of the Fermilab Fire Department. The firefighting crew, an institution at the Laboratory since 1970, responds to calls that range from people stuck in elevators to car accidents to fires.

The department employs 21 people, led by Chief Steinhoff. Eighteen firefighters, divided into three six-man shifts, provide round-the-clock service. Each shift works 24 hours (7 a.m. to 7 a.m.), then has two days off. All of the firefighters came to Fermilab via northern Illinois municipal fire departments, and many still volunteer or work on an on-call basis at area stations.

The Fermilab Fire Department's jurisdiction covers 2,100 Laboratory employees, users who live in the Village, contractors and visitors—all spread out across the 6,800-acre site.

Firefighter John Babinec, also a captain in the village of Stickney, said the Fermilab department performs most of the same tasks as a municipal department.

Photo by REIDAR HAHN

A Fermilab firefighter demonstrates his skills at a staged oxygen deficiency hazard incident. The Fermilab crew provides 24-hour protection for the Laboratory.

For the most part, "what we do here [on a daily basis] is no different from firemen all over the world," Babinec said.

However, the Fermilab crew responds to small-scale incidents that most firehouses do not cover, such as vehicle fluid leaks. And Babinec adds that the Laboratory presents some special circumstances that other departments don't usually encounter. For instance, experiment halls contain radiation areas and special instrumentation and engineering, such as vacuum pipes.

"The experimentation that goes on here is always a concern for us," said Babinec. "I think we tread a little more carefully here in certain areas than we would in a regular department."

Other differences include potential language barriers, due to the presence of scientists from around the world. The complicated and unique Laboratory layout and nomenclature make address recognition and getting around confusing at first.

"Everything out here is an acronym," said Babinec. "The nomenclature doesn't always lend itself to immediate recognition."

"TYPICAL DAY"

A "typical day" is an oxymoron for a fire house. Each 24-hour shift brings unpredictable calls for service—incidents that set into motion the orchestrated response described at this article's outset.

Steinhoff, who has been with the Fermilab department for 20 years and is a former chief in Montgomery, IL, said the department responds to an average of seven calls per week. Department officers categorize each call into one of five "codes," with each code requiring different personnel and equipment:

Photo by FRED ULLRICH

Firefighters roll up their hoses after the 1987 Wide Band fire.

■ **Code 1** reflects an alarm for a building fire.
■ **Code 2** is for an illness or injury, such as an auto accident.
■ **Code 3** means a vehicle, brush or dumpster fire.
■ **Code 4** indicates a strange-odor investigation; a hazardous material incident, such as an oil spill; oxygen deficiency hazards or people stuck in an elevator
■ **Code 5** is for a radiation incident.

The more common requests for service include responses to automatic fire alarms installed throughout the laboratory. Some are actual fires, but many are false alarms set off by cement dust, lights, cigarette smoke or other triggers. The department also deals with car, bicycle and pedestrian accidents. Chief Steinhoff said his crew responds to about six such incidents a year—one of the most recent being a cyclist struck by a car at night. In this case, the Fermilab crew attended to the patient at the scene and in the ambulance and transported him to a local hospital for further treatment.

The Laboratory has had two major fires in its lifetime, according to Captain Ron Grosklaus, the department's second in command and a 25-year veteran of the crew. The first occurred in 1973 when a contractor ignited insulation as he installed a steel door frame in the Meson Area. In 1987, an improperly installed wire cable overheated in the Wide Band Lab, causing a blaze that burned up experimental equipment. No injuries occurred in either blaze.

Firefighters begin each shift with a meeting with Chief Steinhoff to discuss safety precautions or special circumstances of the day, such as a building under construction. The on-duty firefighters perform specialized training for a minimum of one hour per day. Training includes work with ropes and knots, oxygen deficiency hazards, pump and hose drills and confined space techniques. All Fermilab firefighters are also trained as emergency medical technicians. Captain Steve Lusted said constant training keeps the crew's skills sharp and firefighters familiarized with modern methods, equipment and innovations of the trade.

The department is also responsible for the fire safety and prevention equipment throughout the Laboratory. Once a month, the firefighters inspect and maintain more than 300 valves, 100 fire hydrants and 2,200 extinguishers. The inspections also help the crew stay familiar with the layout of each building.

"The inspections make us better firemen. Not only does the lab get a good service performed, but it also makes us sharper," said Babinec.

Fermilab firefighter Greg Hansen helps a child from the daycare center spray a hose during fire prevention week.

MUTUAL AID

The reach of Fermilab firefighters extends beyond the Laboratory's campus. The department is part of a mutual response system that brings backup crews to Fermilab and sends Laboratory firefighters to area incidents. In 1995, outside departments requested Fermilab assistance about a half-dozen times, and Fermilab required backup for about the same number of incidents. Most call-ins only require an area department, such as Batavia or Warrenville, to cover the Fermilab station in case a second call comes in while Fermilab personnel are out at a scene.

EQUIPMENT

The Fermilab Department operates two "pumpers" or engines. Both the red E–One (702) and yellow Seagrave (703) engines, known around the station as "two" and "three," can pump 1,500 gallons of water per minute. Both have the requisite fire fighting material on board; the E–One pumper also has confined-space rescue equipment and some specialized instrumentation. Truck 701 is the Rescue/Incident Command vehicle, which acts as a command center. The department also houses a Spill Control trailer for hazardous materials, a grass-fire vehicle and a basic life support ambulance.

HISTORY

Before the Fermilab Fire Department, a volunteer brigade, made up of Laboratory employees, would leave their regular jobs and respond to incidents during normal work hours. After hours, the Batavia, Warrenville and West Chicago fire departments covered the Laboratory. As Fermilab's population grew, the Atomic Energy Commission created the department. ❑

JOURNAL OF A MAGNET WINDING

By Jeff Brandt, Technical Support. Edited by Leila Belkora, Office of Public Affairs.

For 20 years Fermilab led the world in superconducting magnet technology–the technology that built the Tevatron. Then, in the early '90s, Fermilab passed the superconducting torch to the Superconducting Supercollider. When the SSC failed, superconducting magnet technology in the U.S. was in danger of dying too. Now, Fermilab physicists, engineers, and technicians are making a strong effort to bring the Laboratory back to the leading edge of superconducting magnet technology. Part of that effort involves magnet research and development that may benefit both the Tevatron and the Large Hadron Collider, the accelerator that CERN, the European Laboratory for Particle Physics, plans to build in the coming decade. U.S. expertise in superconducting magnets may play a role in building the LHC.

A few weeks before the holidays, magnet design specialist Jeff Brandt returned from a trip to CERN, where he and his European counterparts compared strategies for the design of coil end pieces for LHC dipole magnets. The ends of the 30-foot long magnets require special attention: the goal is to avoid kinks in the field produced by the magnets, which would disrupt the path of the particles in the accelerator. The purpose of Brandt's trip was to wind ribbons of superconducting cable into loops that match the computer-generated design for the magnet end. Brandt used Fermilab methods to wind one end of a coil; CERN technicians used their methods for the other end. Reports that Brandt sent by email to his colleagues at Fermilab tell what happened.

Photo courtesy CERN

Diego Perini, Michel Bouvier, and Sebastien Luzieux of CERN and Jeff Brandt behind the coil wound during Brandt's visit. The coil shows the CERN-wound end on the left and the Fermilab-wound end on the right.

TUESDAY, NOVEMBER 28, 1995

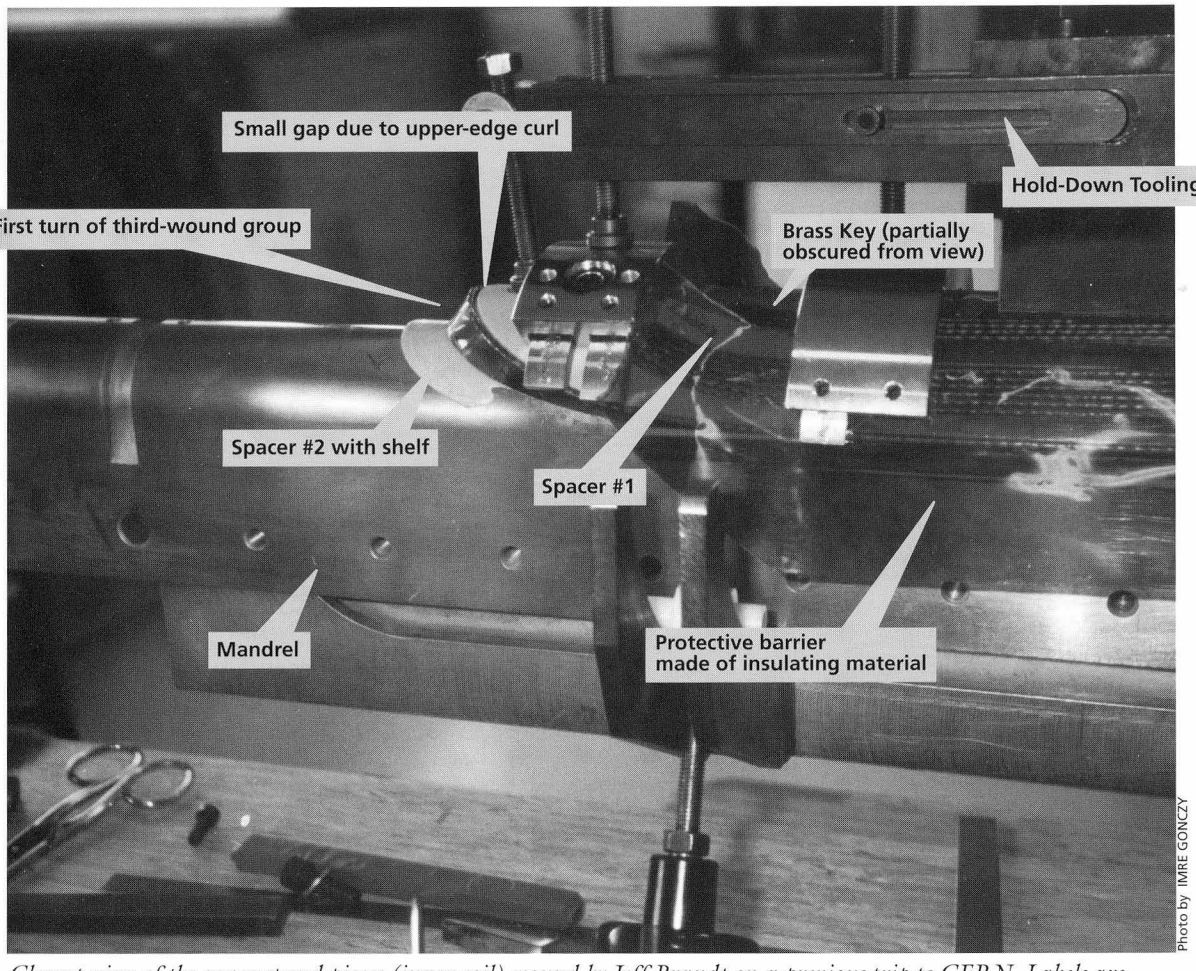
It's Tuesday afternoon and we're waiting for the insulation wrapping machine to decide to start working again. We started Monday after lunch, with a winding tension set to around 45 kilograms. The first turn around the key looked pretty good. The key has a software-produced final edge angle, and we saw some evidence of upper edge curl. Diego[1] had a used set of his parts for the lead end, and we wound around his brass key. His first turn looked just as good. This is an excellent chance to compare the two end designs on a real gut level. Not only us esoteric end guys will see the differences, the winders and physicists will as well.

upper edge curl: *the curved displacement at the top edge of the conductor cable, which is supposed to lie flat when the cable is wound around the coil end part.*

As an experiment, Diego has decided to wind around his parts without using the fanouts between each turn. Based on our end design and what he's seen of the "grouped end" approach, he's already begun a redesign of his end with a much smaller number of parts, and a fair amount of dekeystoning.

We finished 8 turns by 4 p.m. So far things look okay. Our end doesn't look any better than Diego's, the cable doesn't want to sit on the mandrel at the mid-group point on either end. When Michel[2] taps the lower edge, the cable rides up off the mandrel. We just tap it down and hope curing forces improve the fit.

We started again Tuesday morning on the 9th turn, and finished the 15th turn around 10:30. The first-wound outer coil group looks good, and so does Diego's. Both ends have some gap between the mandrel and coil. On our end, the cable appears to be lined up at the outer radius



Closeup view of the magnet end pieces (inner coil) wound by Jeff Brandt on a previous trip to CERN. Labels are attached to parts or features mentioned in the journal.

pretty well, and the shelf extension still shows around 3mm uncovered. This appears to mean that for the first time in my career, I've come pretty close to guessing the correct cable shape changes in the part design. Sectioning will tell.

We installed the spacer, and the fit at the top was real good. This inspired a talk [with the CERN collaborators] about part shape. We design the part to fit the cured conductor package and let the wound shapes come as they may, [whereas] a lot of CERN effort goes into measuring these wound shapes and angles for integration into the part design.

The spacer has a final edge angle that I steepened by about 5 degrees. Every turn in this second group wound well and no upper edge curl was evident! We quit around 4 p.m. without packaging the coil so the photographer can get some pre-curing pictures of it. Grouped ends with shelves went a long way today.

WEDNESDAY, NOVEMBER 29, 1995

It's around 4 p.m. on Wednesday and the coil is in the press curing. The photographer came at 9 this morning to take pictures.

When the photographer arrived we removed the holddown tooling from our end to get a better shot...and fortunately the coil end did not pop up. There was the one bolt in the key holding it down, but the only thing holding the conductors down was the wonderful shape produced by the program BEND, in which any string on any path stretched along the surface should have no tendency to slide up the final edge angle. Joe Cook[3], did I ever mention that you were a genius?

When [the coil is] installed in the press, they put line pressure on the coil package and start the heaters. Incidentally, the center mandrel heater is working now, and maximum temperature will be 190° C. At 130° C, they start the pressure cycle at 100 bar, and check the gaps. Then they increase the press pressure in 20 bar increments until the gaps are closed. Our end closed first at 140 bar, CERN's end closed at 180 bar.

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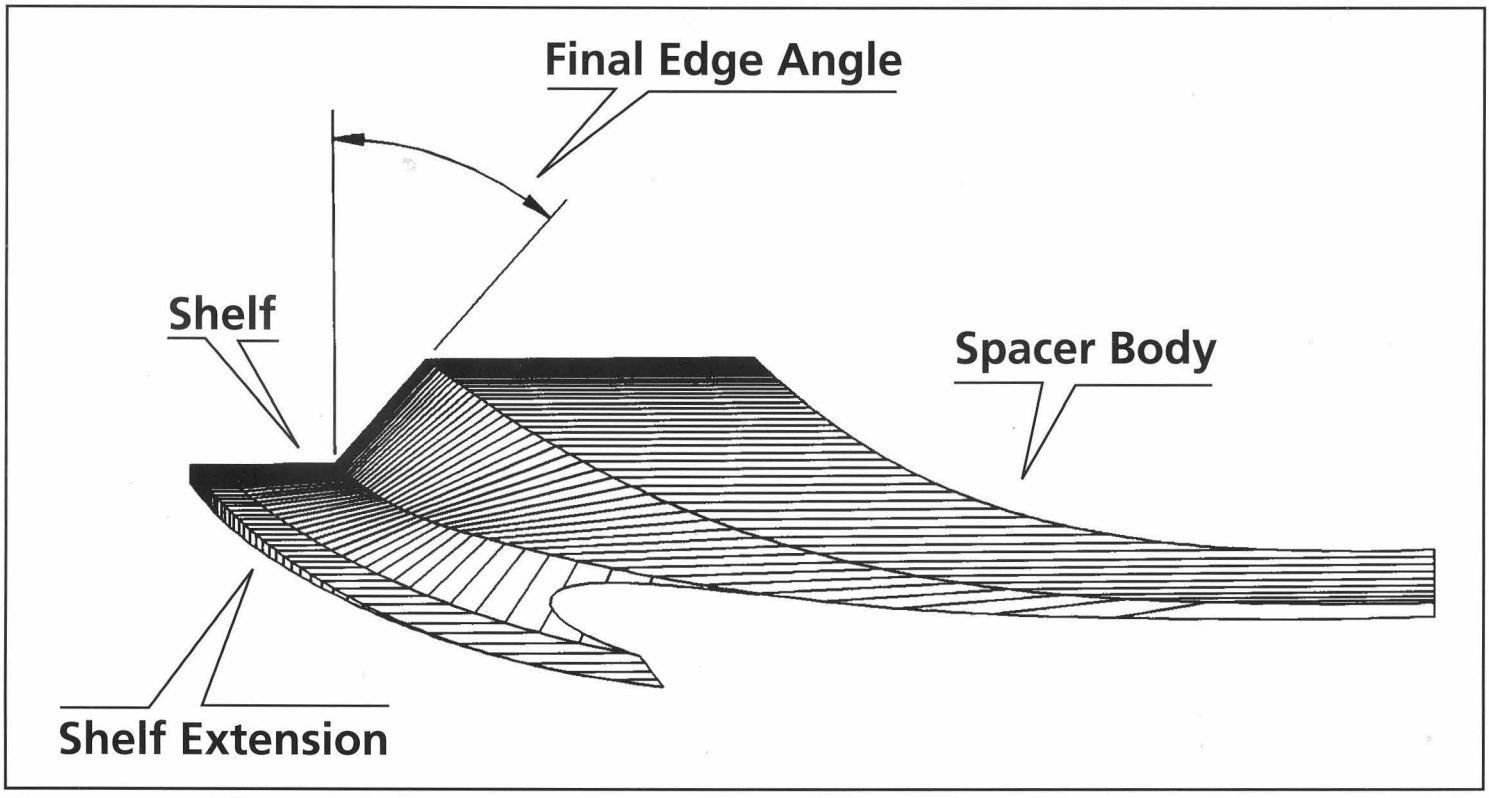
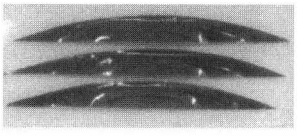
keystoning: *the process of mechanically forming the superconducting cable, during manufacturing, into a trapezoid shape. The cable is wider at the top edge than at the bottom edge.*

curing forces: *the action of heat and pressure from the curing press on the superconducting cable, the end parts, and the epoxy material that binds the coil package.*

sectioning: *slicing through the finished magnet after it has been encased in epoxy, to get a look at how closely and uniformly the cable windings conform to the parts.*



Computer-generated illustration of a spacer, showing the final edge angle, the shelf, and the shelf extension mentioned in the text.



Samples of fanout pieces used by the CERN group between turns to seperate the superconducting cable as it is wound around the coil end pieces.

developable surface: ***a surface such that if it were folded out flat (developed), it would lie with all points in a two-dimensional plane. The design of the end pieces is based on this least-strain surface.***

FRIDAY, DECEMBER 1 1995

It's Friday morning and I'm all finished, so this will be my last report from here. Thursday morning we removed the coil from the mold and popped it off the mandrel. It looks very good. A slight gap shows between the first and second turn of the first group on top. It wasn't there when we packaged it so I'm not sure where it came from or how deep it is. We'll see it in the sections.

Many people have looked at this coil and I can tell that the differences between the two ends are very much a matter of discussion here. The talk [given on Thursday] went very well; I used it as an opportunity to discuss end theory and Fermilab's evolution into the developable surface, grouped-end approach. Stephan[4] was interested in our manufacturing techniques. It was a good chance to show that the same geometry produced by BEND is used to make the object, make the drawing, toolpath the part, and inspect it. We have a very complete coil end design system and it marketed quite well.

Diego brought up the cost of our parts, particularly those with shelves. I promised to find out, but did say that the elimination of many fanouts, the elimination of the added filler material and associated labor, and the time required to recure the coil would possibly offset the cost. Jim[5] said this morning that the easier a coil is to wind and complete, the easier it will be for technicians to consistently produce good coils.

We discussed the schedule. They could probably use our parts on their model magnet #5 or #6 in March or April. If we miss these two models we'll have to wait until June, after a twin aperture model. ❑

1. Diego Perini, project engineer at CERN
2. Michel Bouvier, technician at CERN
3. Joe Cook, applied mathematician at Argonne National Lab and consultant to the Fermilab magnet group.
4. Stephan Russenschuck, physicist at CERN
5. Jim Strait, Fermilab physicist, currently working at CERN

FERMILAB UNVEILS NEW SITE MODEL

By Donald Sena, Office of Public Affairs

On November 22, Fermilab unveiled its renovated site model with new explanatory photographs—part of the Laboratory's effort to refurbish public exhibits on the 15th floor of Wilson Hall.

A team of Laboratory employees, volunteers and users, led by Ernie Malamud, of the Directorate, and Ray Hall, a DZero collaborator, renovated the model to reflect changes at the Laboratory that have occurred since the Fermilab Model Shop built the original exhibit in the late 1960s.

Malamud, chairman of the 15th Floor Subcommittee, says the success of any display rests with the public. Nancy Lanning, tour guide for the Lederman Education Center, says the exhibit now lets the public see the inner workings of various parts of the Laboratory.

"I'm very impressed" with the model, said Lanning. "It allows more parts of the Lab to be emphasized."

Tim Burke, of FESS, and Dave Burk, of Technical Support, sandblasted the old model, stripped off the paint and removed the existing buildings, which were made of wood. Burke and Burk then built the new buildings out of Plexiglas, added new roads and the Main Injector berm and had the model painted at an automobile body shop.

The 15th floor renovation team decided that photographs and captions would further educate people by bringing them "inside" the buildings they see on the model and view out the window.

"...you've got the windows... you've got the three dimensional model; we want you to look inside [the various buildings]," said Fred Ullrich, head of Visual Media Services. "That's what those photos give you—that microview."

For example, one print shows the inside of the Antiproton Source tunnel, a place the public never gets to visit; the accompanying caption reads in part: "Protons extracted from the Main Ring hit a metal target and produce antiprotons..."

Of the 24 photographs taken mostly by Reidar Hahn, Visual Media Services photographer, about one-quarter were taken specifically for the model. Hall and Nancy Peoples, a Fermilab volunteer, helped select the photos, and Leila Belkora, an editor in the Office of Public Affairs, wrote the captions.

The site model project is part of a larger effort to reshape the entire 15th floor. A study by Carol Naughton + Associates detailed a general plan for the public areas. Along with the site model, the visitor theater will get a new Fermilab video, a history wall will inform visitors of events of the Laboratory's past, and the renovation team will improve the Tevatron model along the 15th floor's east wall. A recently-installed display updates visitors on Fermilab's scientific, cultural and educational events. ❑

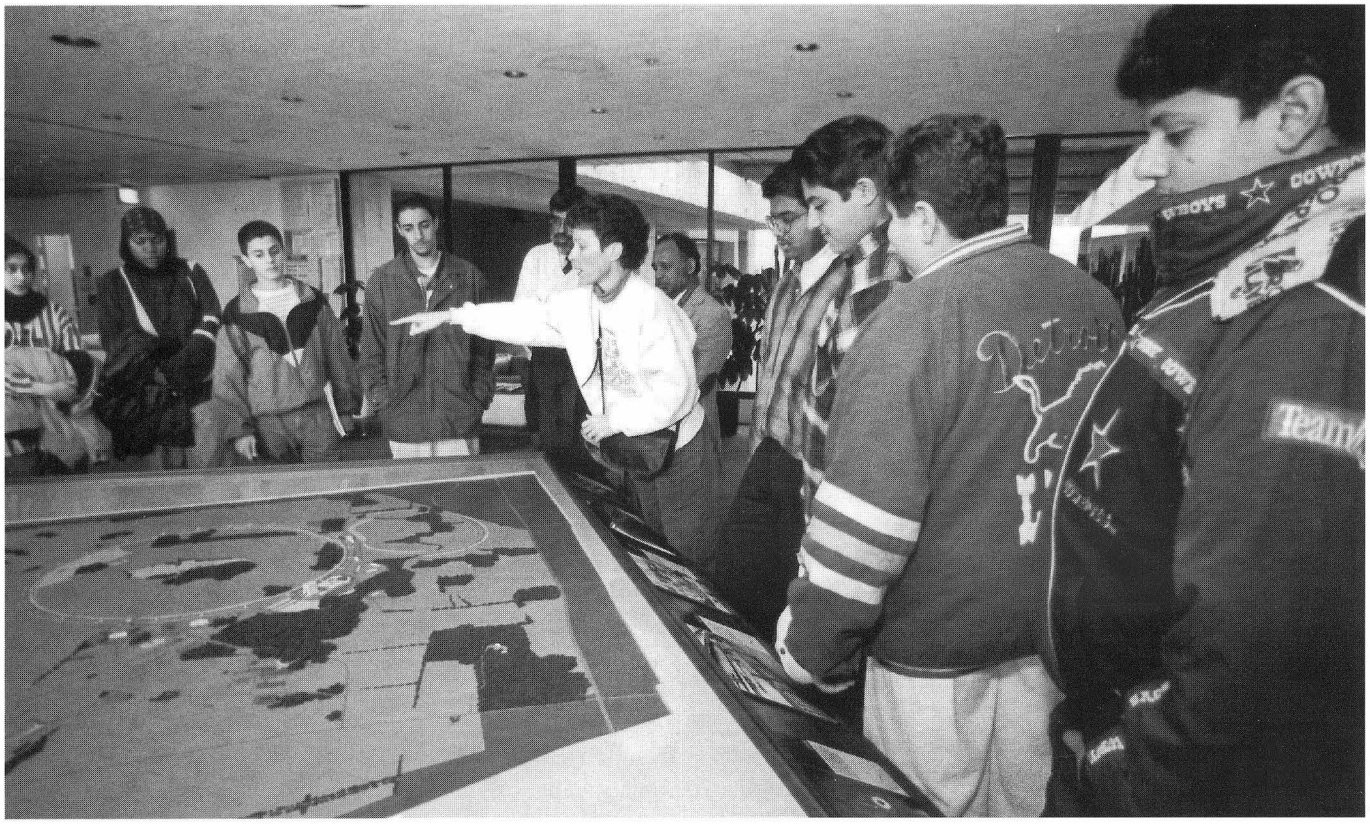


Photo by REIDAR HAHN

Students crowd around the new site model with explanatory photographs during a recent tour of the Laboratory.

HEPAP Mulls Tough Choices

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LHC and suggested a possible funding scenario for such participation. O'Fallon pointed out that budget legislation now before Congress shows funds for high-energy physics research in coming years declining at a rate not foreseen in the Drell Report. "Funding," he said, "is *the* issue." Nevertheless, he added, LHC participation could fit comfortably within the likely funding level.

"Comfortably?" interjected Fermilab Deputy Director Kenneth Stanfield. "Did you say comfortably?" He followed up with pointed questions for O'Fallon on the feasibility of LHC participation in the face of the so-called "flat-flat" budget projected by DOE. (A flat-flat budget is one that stays constant, or flat, not in spending power but in numbers of dollars, thus in fact losing ground to inflation.)

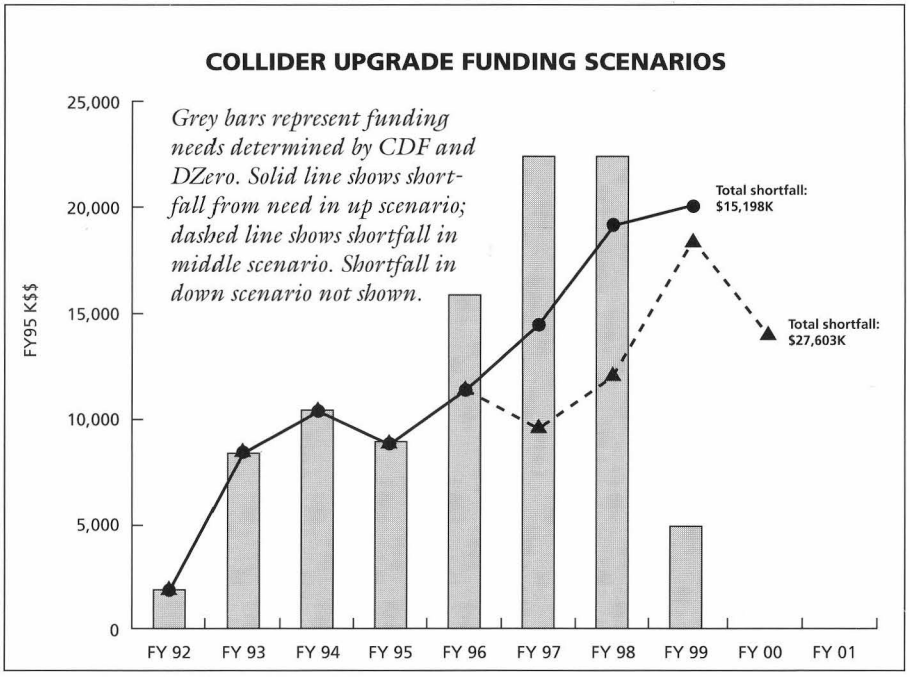
"I retract 'comfortably,'" O'Fallon said. "But it can be done."

"Is it fair to say," Stanfield asked moments later, "that the flat-flat budget would be a disaster for the field?"

"Yes," O'Fallon replied. "If we continue to have constant declines, eventually we will fall below a viable threshold." He then described the history and schedule of negotiations with CERN officials, reporting that DOE and CERN officials plan to meet in Washington in January to discuss the nature and level of U.S. participation in the project.

Following O'Fallon's overview, leaders of the three proposed U.S. LHC projects—the accelerator and the CMS and ATLAS detectors—reported on organizational and R&D progress. The reports made clear both the high level of interest in LHC participation by U.S. physicists and the problems of adequately funding the projects.

After lunch, Fermilab Director John Peoples gave an overview of Fermilab discoveries, achievements, and goals. Fermilab physicists next discussed, the upcoming fixed-target run and the physics opportunities of Collider Run II.



Deputy Director Stanfield made clear the dilemma posed by Fermilab's great scientific opportunities, on the one hand, and severe financial constraints on the other, urging HEPAP to consider especially the plight of upgrades of the two collider detectors. He showed how projected funding levels would prevent Fermilab from completing the detector upgrades in time to use the new Main Injector. "It is not out of the question that we could lose one or two years of experimentation with the Main Injector before the LHC turns on," he said. "Or that both detectors are compromised in a major way. Or, that we are forced to start the run with only one detector. Any of these possibilities should be a major concern to DOE and HEPAP, its advisory panel; you are considering no issue of greater weight. This issue is worthy of your attention, wisdom and comment at this meeting!"

Fermilab theorist Chris Hill ended the day's meeting with a discussion of the future physics at the Tevatron at a luminosity of 10^{33} in the context of worldwide capabilities.

PRAISE AND CONCERN

Next day, after a presentation on high-energy physics at Argonne National Laboratory by physicist Lawrence Price, and a discussion of the work of the National Research Council Committee on elementary particle physics by University of Chicago Professor Bruce Winstein, HEPAP members discussed the previous day's Fermilab presentations. Nearly all praised a year of scientific discovery and outstanding accelerator performance, as well as the quality and depth of the scientific program. However, many followed the praise with concern about funding for the detector upgrades to keep up with the enhanced luminosity the Main Injector will provide.

University of Maryland theorist James Gates expressed the prevailing view, saying, "I have some grave concerns with the detectors coming online in a [proper] time scale." He added that the problem should be addressed by the broader physics community and not only by Fermilab.

While most echoed these sentiments, Professor Melissa Franklin of Harvard University asked whether Fermilab is "doing things that are not the main purpose" of the Laboratory. She cited astrophysics, the long-baseline neutrino experiment, and work on research for the Next Linear Collider as examples of activities that might be jettisoned to save the collider detector upgrades. The phrase "tough choices" enjoyed much currency at this stage of the proceedings.

To sum up, Wojcicki expressed the "strong consensus" that HEPAP was impressed with Fermilab's achievements and shared the conviction that both the fixed-target and collider programs have great potential for physics. He then praised Fermilab's director for making tough choices, and suggested that more tough choices lay ahead.

NOTHING SIMPLE

HEPAP devoted the final hours of the meeting to consideration of the university-laboratory balance-or imbalance-in DOE's high-energy physics program. UCLA Professor Roberto Peccei and Harvard's Franklin presented a four-point proposal in response to what they called a crisis in the ability of university groups to contribute to high-energy physics experiments. "People in the universities know we need to do something soon," Franklin said. "Soon the labs won't be able to ask the universities to build anything [for experiments]."

While the proposal called for improved and coordinated university presentations to HEPAP and for gathering more data on university funding, by far the most provocative point was the last, a call to "set aside one to two percent of the funds in [DOE's] overall high-energy physics program" to restore "buying power" to university groups. Ten million dollars was the sum bandied about as an approximate annual increase to the universities, with the understanding, as Peccei's transparency put it, "that this, most probably, would be a tax on the whole system."

The proposal, especially its bottom line, engendered much debate, as well as calls for more study, better data, and a united effort by the universities.

Yale's Adair put an emphatic cap on the discussion. "I don't see anything simple about this," he said, adding his view that funding might or might not be properly balanced, and that the imbalance might be in either direction. "But the fact that there's not enough money is a certainty." On that point, at least, there was no dispute. ❑

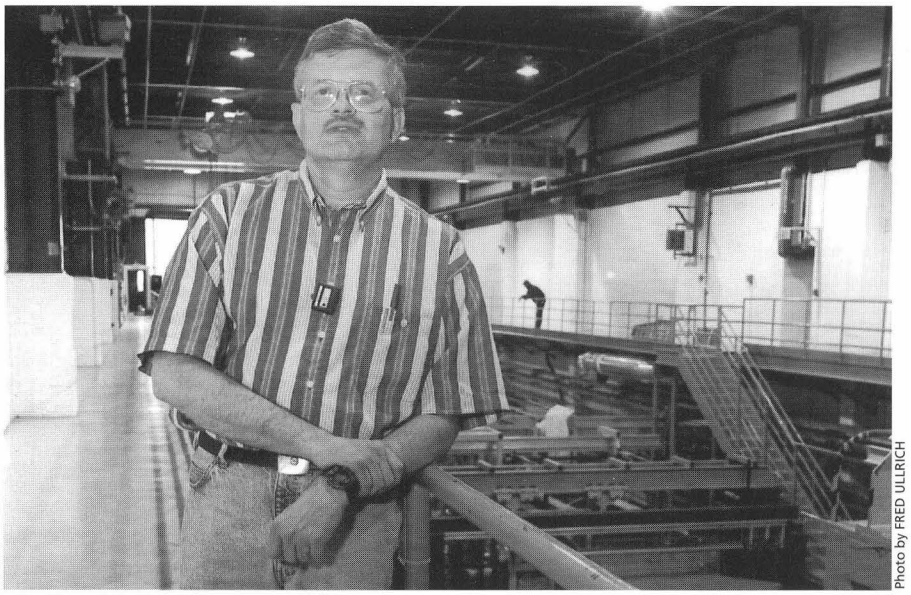


Photo by FRED ULLRICH

On Jan. 15, Don Cossairt will become a member of the NuMI project management team. For the past six years, he has served as the head of Fermilab's ES&H Section.

COSSAIRT JOINS NUMI PROJECT MANAGEMENT

On January 15, J. Donald Cossairt, who has served as head of Fermilab's Environment, Safety and Health Section for the past six years, will begin an assignment as a member of the project management team for the NuMI project, Fermilab's long-baseline neutrino experiment. Cossairt will continue to spend part of his time as associate head of the ES&H Section for radiation protection. Cossairt has also received a promotion to Applied Scientist III. "I am delighted to have the opportunity to work on this new experiment," he said of his NuMI assignment.

"Fermilab is fortunate to have scientists like Don Cossairt who are willing to take on major administrative assignments for as long as six years," Director John Peoples commented in announcing the change. "Now an interesting opportunity has arisen for Don to devote half time to particle physics research, while allowing Fermilab to continue to call on his high level of expertise in radiation protection and shielding design."

Assistant director Larry Coulson will serve as acting head of the ES&H Section until the Laboratory idenitifies a replacement for Cossairt. Coulson will also continue his duties as assistant laboratory director. He previously served as head of ES&H from 1983 to 1989, when he left Fermilab to join the Directorate at the Superconducting Super Collider, returning to Fermilab in 1994.

Coulson recently led the DOE pilot project at Fermilab to identify "Necessary and Sufficient" standards to replace the cumbersome DOE order system, and begin a transition to external regulation. Coulson said he is pleased that serving as acting ES&H head will give him a good vantage point to help implement the new Necessary and Sufficient standards.

As part of the reorganization, the Quality Assurance Office and QA Manager Kathy Williams will move from the Directorate to the ES&H Section. "The move will make the QA Office more accessible to line organizations while maintaining its strong ties to the Directorate," said Associate Director Ray Stefanski in announcing the change. ❑

FERMILAB CALENDAR

JAN. 9

Ein Gutes Neues Jahr! German classes will resume on January 9. Beginners meet on Tuesday at 4:30 p.m. and intermediate/advanced classes start on Tuesday at 5:45 p.m. We meet in the conference room at 20 Neuqua, just outside Lab 67, across from the Gym. Classes will be taught by Angela Jöstlein. New students are welcome. If you have questions, please call Angela at (708) 355-8279.

JAN. 15

Now is the time to get your team together for a Thursday night golf League at Phillips Park in Aurora. Teams will consist of 4 players per team plus a substitute, and the league will be limited to a maximum of 10 teams. Entries will be handled on a first-come, first-served basis. A meeting will be scheduled in mid-January, so please reply as soon as possible. The league will start around April or May. For further information, or to be placed on a makeup list, please contact Steve Baginski at x3632 or on email gandalf@fnalv.fnal.gov, Joe O'Malley x2504 or Jack Mateski x2812.

JAN. 19

The Heartland Blood Center blood drive is scheduled for Friday, January 19, from 9 a.m. to 2 p.m. in the ES&H Training Center located on the Ground Floor of Wilson Hall.

JAN. 20

Fermilab Arts Series presents the Palladian Ensemble, playing music of Vivaldi, Gabrielli, Cavalli, Uccellini and others. Tickets $15. 8 p.m., Ramsey Auditorium. Call (708) 840-ARTS for information and reservations.

ACCELERATOR UPDATE

NOV. 27–DEC. 21

This period saw the accelerator involved in antiproton stacking and colliding physics, as well as maintenance. From 8 a.m. Dec. 1 to 8 a.m. Dec. 4, the Tevatron operated very reliably, colliding 900 GeV beams for 62 of the 72 hours. Highest initial luminosity achieved during this time was 1.45×10^{31} at 11 a.m. on Saturday. Accelerator staff later switched the Tevatron to a lower energy mode (315 GeV on 315 GeV instead of 900 GeV on 900 GeV) for proton–antiproton collisions, and remained at that energy until the holiday shutdown. Experimenters designed the low-energy run to compare certain physics measurements at 315 GeV with those at Fermilab's usual 900 GeV energy. Also, physicists wanted to compare Fermilab's 315 GeV data with data taken at CERN.

HOLIDAY SHUTDOWN

Over the holiday period, the accelerator operated in standby mode, with skeleton crews in the control room. The Tevatron stayed cold, and operators monitored the complex for potential problems. The collider experiments did not run shifts; a minimal staff made periodic walk-throughs. Main Injector construction continued.

■ SELECTED ACCESSES TO BEAM ENCLOSURES:

Nov. 30 day shift brought an access for maintenance in the Main Ring and Booster. At 1:49 p.m., accelerator staff completed the access, but a Booster power supply "tripped" off at 2 p.m., requiring considerable repairs. On Dec. 11, accelerator staff made another Booster access for Radio Frequency work and additional power supply maintenance. Also, the Accelerator staff made several PBar accesses.

MENU

Chez Léon

Lunch served from 11:30 a.m. to 1 p.m. - $8.00/person
Dinner served at 7 p.m. - $20.00/person

For reservations call x4512
Patrons with dietary restrictions call Tita at x3524

WEDNESDAY, JANUARY 10

Cioppino

Winter Salad with Toasted Walnuts and Cheese

Orange Cake with Creme Anglaise

THURSDAY, JANUARY 11

Seafood Fondue with Assortment of Sauces Garden Salad

Pineapple Cake with Rum

WEDNESDAY, JANUARY 17

Chicken Curry with Steamed Rice and Condiments

Creme Caramel Flan

THURSDAY, JANUARY 18

Booked

NANCY PEOPLES HOSTS ANNUAL CHRISTMAS COFFEE

Mizuho Mishina, on the far right, introduces Susan Mendelsohn, far left, to Akiko Nakaya (second from left) and Tomoko Hanagaki. Nakaya and Hanagaki are new members of the Fermilab community.

Members of the NALWO community: from left, Ludmilla Khazins (in back), Selitha Raja (NALWO President), Christiane Albrow, partially obscured person not identified, Charlotte Pruss, Rose Moore, Mady Newfield, Julia Snegireva, Nancy Peoples (host of the Christmas Coffee), and Susan Mendelsohn.

PHOTOS BY JENNY MULLINS

MILESTONES

APPOINTED: Elaine Jones, as acting Fermilab security chief, by J. Donald Cossairt, head of Fermilab's Environment, Safety and Health Section, on December 7. Jones replaces departing Security Chief Roger Clark.

"Elaine has served Fermilab as a security supervisor for the last fifteen years and is well acquainted with Fermilab security operations," Cossairt said. "She has willingly accepted this responsibility. We wish her well in this endeavor." In her new post, Jones supervises both Fermilab employees in the Security Department and 35 to 40 contract security guards, employees of Jenkins Security and Investigation, Inc.

RETIRED: Robert Vanecek, on December 29, 1995, after more than 25 years at Fermilab. Vanecek began his career at Fermilab overseeing the installation of electrical and piping systems for the Linac, became manager of Site Maintenance and Operations (now known as FESS Site Operations), and most recently acted as design review and construction coordinator for the Main Injector. His experiences included overseeing building design and construction for the Energy Saver Project and construction design of the Superconducting Supercollider project. Vanecek plans to spend time during his retirement in northern Wisconsin.

RETIRED: James Wolsfelt, on January 2, 1996. Wolsfelt started with Fermilab as one of nine contract firefighters, and was a member of the original crew hired in 1970 when Fermilab formed its own Fire Department. At the Fire Department Wolsfelt acted as Captain of a Shift Command. During his retirement, Wolsfelt plans to put his energies into his remodeling business, traveling, hunting and fishing.

O CHRISTMAS TREE,

O CHRISTMAS TREE,

YOU BLINK

TO SHOW

OUR LUMINOSITY...

Photo by FRED ULLRICH

The Accelerator Division's Christmas tree, seen here in the Main Control Room, is actually a festive Tevatron monitor. The higher the luminosity, the faster the tree's lights blink on and off.

CLASSIFIEDS

FOR SALE

■ 1990 Mitsubishi Eclipse GSX, all wheel drive, 16 valve dual overhead cam intercooled turbo, 5 speed, AC, cruise, am/fm cassette. 67,295 miles. New: 1KA battery, brakes, timing belt, Pirelli P7000 205/55ZR16. Must see (no rust) and test drive, $9493. Call x3769 or (708) 879-6355. Email FLORA@ADMAIL.FNAL.GOV.

■ OS/2 Warp, Version 3, plus "bonus pack" including Internet, fax, IBM Works and Multimedia.$40 O.B.O. Call Tom at x3003, or Email mooreland@adms21.fnal.gov.

AVAILABLE

■ Senior Handbooks for Kane County mentioned in the Senior Elder Care Brown Bag Lunch Seminar are now available in the EAP office. Call Bernie at x3591.

The deadline for the Friday, January 19 issue of FermiNews is Tuesday, January 9.

Please send your article submissions, classified advertisements and ideas to the Office of Public Affairs, MS 206 or Email: TOPQUARK@fnal.gov

FermiNews welcomes letters from readers. Please include your name and daytime phone number.

FermiNews

Fermi National Accelerator Laboratory

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