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DOE Reviews Main Injector Project

by Leila Belkora, Office of Public Affairs

With the help of the Main Injector accelerator, due to come on line in 1999, protons and antiprotons will swarm more thickly than ever before into the interaction areas at Fermilab's Tevatron. Top quarks and other rare particles will appear a hundred times more frequently than they did in the 1991-95 run, enabling experimenters to do more physics in less time. Scientists at Fermilab's two collider detectors are scrambling to upgrade their detectors to take advantage of the faster pace. For the moment, however, those quarks are just a gleam in their eyes; first, the Lab must finish building the Main Injector and connect it to the Tevatron.

More than 40 people crowded into the Comitium meeting room on September 17, eager to hear the deliberations as DOE began its twelfth semi-annual review of Fermilab's Main Injector Project. The charge to the DOE committee, headed by DOE engineer Dan Lehman, was to scrutinize the cost estimate and schedule for completing the $230 million project. Fermilab project managers and the director prepared to review progress and to answer tough questions about the schedule and plan for completion.

The Main Injector, the largest civil construction project at the Lab since its inception, will increase the collision rate of protons and antiprotons in the Tevatron by a factor of at least five. The new machine, which will replace the Main Ring as the fourth stage of acceleration, consists of a 2-mile circumference oval ring and another 2000 feet or so of structures connecting with the Booster and Tevatron. The project is now almost 60 percent complete.

continued on page 8

Photo by Reidar Hahn

Steve Holmes, Fermilab project manager for the Main Injector, checks his voluminous stack of viewgraphs one more time before heading into the DOE review meeting.

Profiles
PARTICLE PHYSICS

Mike Becker

ervices Group Leader,
oads and Grounds

mployee I.D. #2538

Bob Lootens

ervices Group Leader,
oads and Grounds

mployee I.D. #1245

Photos by Reidar Hahn

Bob Lootens (left) and Mike Becker lead Fermilab's environmental team.

by Donald Sena, Office of Public Affairs

Whether it's lazily walking amidst Fermilab's woods, enjoying the serenity after a long day, or coordinating a furious prairie burn, Mike Becker and Bob Lootens are at home in Fermilab's environment, having served as key members of the Lab's nature team for over 20 years.

Becker and Lootens, members of the Roads and Grounds Department, have had a profound influence on Fermilab's environmental evolution, helping to bring back a slice of the past with the prairie restoration project and caring for the savannahs, woodlands and wetlands on the Laboratory campus. Along with their attention to the environment, Becker and Lootens are also responsible for maintaining much of the Lab's infrastructure, including ensuring roads are passable and responding to emergencies, such as the recent flood.

David Nevin, head of the Facilities Engineering Services Section, said Lootens and Becker are dedicated employees with a tremendous workload, which the roads and environment of Fermilab require. He said the most visible reflection of their work can be seen each day as employees and visitors drive into and out of the Lab.

"They provide us with this beautiful picture every morning and every afternoon when we come to and leave work," said Nevin. "They also make Fermilab a place that our neighbors in the surrounding communities can enjoy."

Rich History

Becker first worked at Fermilab in 1973 as a contractor maintaining the Lab's trees and grounds; a year later he joined the Laboratory staff. During his time here, Becker said he has undertaken just about every outdoor task the grounds demand, from tree maintenance to landscaping to habitat restoration. He was drawn to Fermilab by the dynamics of the nascent Laboratory and its open spaces. Becker now does more job coordination instead of field work, meeting with Laboratory employees and setting work schedules for tasks that range from the creation of a new hardstand to pruning bushes. However, when the department is shorthanded, he also grabs the controls of an earth mover or picks up a rake, to share the workload.

Becker said his favorite season at the Lab is the spring and the emergence of the wildflowers after their winter hibernation; the environmental specialist said he wishes *he* could hibernate during the big snows of winter, as they usually translate into long hours and many phone calls for him and his crew.

Becker feels he and Lootens contribute in various ways to the Lab's mission, from keeping the roads clear to having an effect on employees' morale.

"I like the effect that we have on Fermilab as a green space," said Becker. "As people drive in the morning, they can feel good about being in a wide-open, green area that is maintained in an environmentally sound fashion, due in part to our activities in maintenance and restoration."

Mike Becker, of Roads and Grounds, helps a volunteer at one of Fermilab's annual prairie harvests.

" Lootens and Becker provide us with this beautiful picture every morning and every afternoon when we come to and leave work. They also make Fermilab a place that our neighbors in the surrounding communities can enjoy."

~ David Nevin, head of FESS

Becker's partner in the field has an even deeper history with Fermilab. Lootens grew up on a farm at the corner of Kirk and Wilson Roads and fondly remembers playing as a child in the woods that are now part of the Lab. Hired in 1971 to work in the old Roads Department, he helped plant Kentucky bluegrass across the entire site. Lootens says that he and Becker complement each other in many ways and are constantly working as a team.

The Team Approach

To illustrate the teamwork they rely on, Lootens recounted a story of one of his rare days off. While fishing in a Batavia pond, he noticed a plume of smoke rising into the air from Fermilab's direction. He quickly surmised that the grounds crew, led by Becker, was doing a controlled prairie burn. As Lootens watched the smoke, he pictured the rush of flames over the grasslands and the tight coordination necessary to control the fire—confident the entire time that his colleague had things under control.

Both Becker and Lootens are quick to mention that they are part of a larger team supporting the science of the Laboratory. Nearly 20 people strong, Lootens said the Roads and Grounds crew, led by Bob Hall, have specialists in mechanics, plants, farming, bison care, asphalt, pesticides, signs, animal control, as well as other areas that make up the spectrum of the department's duties. Becker and Lootens stress that Roads and Grounds activities would not be possible without the skilled teamwork of many talented individuals.

Both men said that trust is the cornerstone of their management philosophy, something they learned from their first few years here. Lootens and Becker remember being part of the early prairie team, working on the burns; they said the person coordinating the burns during that time discouraged employees from speaking up when they thought something was wrong. Now that Becker and Lootens coordinate the burns, they encourage members of the team to speak their minds freely, and point out potential problems, making for a more confident environmental team and more efficient and safer prairie burns.

Native Grasslands

Through all of the seasons and all of their years at Fermilab, both Becker and Lootens agree that the most enjoyable part of the job is the prairie.

However, Becker and Lootens didn't always feel so positive about the grasslands. With backgrounds in horticulture and agriculture, both admitted they were skeptical when Bob Wilson, Fermilab's first director, brought in Bob Betz, a prairie consultant, to recreate and restore some of the native grasslands at Fermilab in 1975.

"In fact, the attitude of most of the crew was 'Why does this guy want to plant weeds in good corn ground?'" said Becker. "But he quickly won us over."

Through Betz's influence, Becker and Lootens are now Fermilab's resident prairie specialists and most ardent supporters—still referring to the restored acres as "Betz's prairie." Their dedication to the restored grasslands, and to the environment in general, is summed up with a recent exchange during an interview about the grasslands.

"We feel like we're healing the ground," said Lootens of the prairie project. "It's going back to where it once was. It's a slow process, but it's going in the right direction."

Becker nodded and added, "Fermilab, as the steward, has a moral responsibility to maintain the ground in as good an ecological shape as it practically can..."

Finishing Becker's thought, Lootens said, "We're a local watershed. So the ground, as it heals and absorbs more water, is going to build up aquifers. So, we feel that everything we've done is to the benefit of the community, as well as the Laboratory."

Their work for the prairie doesn't stop at the Lab's borders. Becker and Lootens are active in prairie restoration and in promoting environmental awareness all over the Fox Valley.

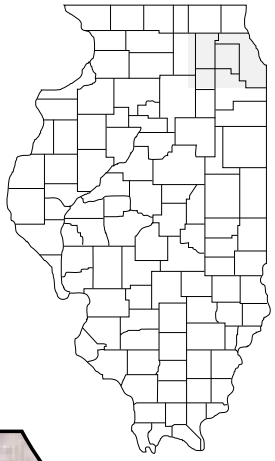
And as the years move on, the connection between Fermilab's grasslands and Becker and Lootens strengthens.

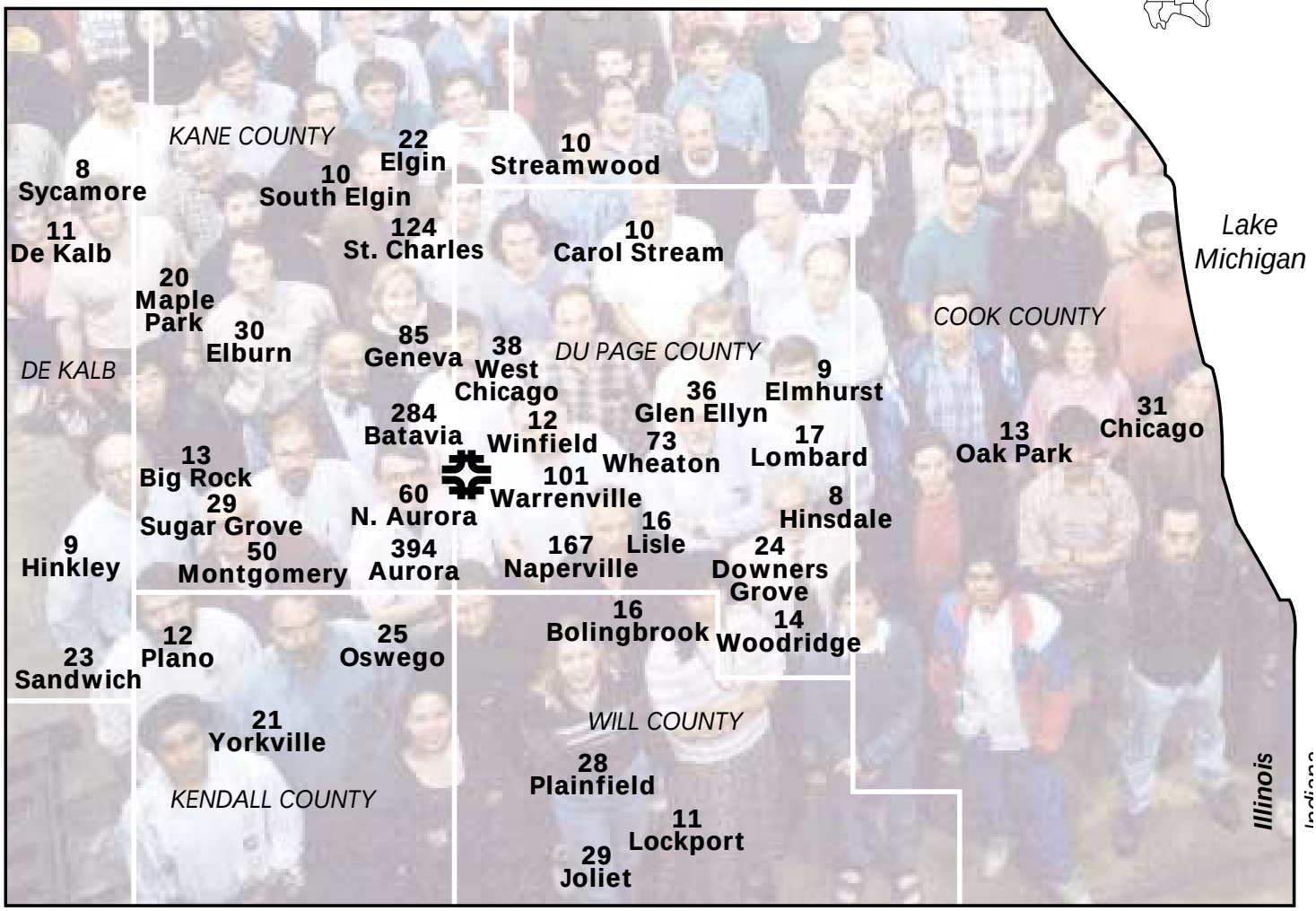
"I am connected to it in several ways, as is Bob," said Becker. "There is a lot more work to do as it progresses and becomes more like what it originally was. It seems like the more you learn [about the prairie], the more you realize you don't know, which is probably the way it is with physics, I imagine." ■

Bob Lootens, one of Fermilab's environmental specialists.

Where Fermilab's Employees Live

Ninety-eight percent of Fermilab's 2000+ employees live in northeastern Illinois.





1 — 7 EMPLOYEES

Algonquin
Antioch
Arlington
Arlington Hts
Ashton
Bartlett
Bellwood
Bensenville
Berwyn
Bloomingdale
Bridgeview
Bristol
Broadview
Brookfield
Burr Ridge
Carlyle
Channahon
Chicago Ridge
Cicero
Clarendon Hills
Coal City
Compton
Cortland
Crest Hill
Crestwood
Crystal Lake
Darien
Des Plaines
Earlville
Elk Grove
Elk Grove Village
Elwood
Esmond
Evanston
Evergreen Park
Fox Lake
Frankfort
Gardner
Genoa
Glendale Hts
Glenview
Hampshire
Hanover Park
Hillside
Hoffman Est
Island Lake
Justice
Kaneville
LaGrange Pk
Lake Zurich
Lake-in-hills
Lansing
Lee
Leland
Lemont
Lily Lake
Malta
Markham
Maywood
McHenry
Melrose Park
Millbrook
Minooka
Mokena
Morton Grove
Mt. Prospect
Mundelein
New Lenox
Newark
Norridge
Northbrook
Oakbrook
Oregon
Orland Park
Ottawa
Palos Heights
Palos Hills
Palos Park
Park Ridge
Paw Paw
Prospect Hts
Richton Park
Rollg Meadows
Romeoville
Schaumburg
Shabbona
Sheridan
Shorewood
Skokie
Sleepy Hollow
Somonauk
Stickney
University Park
Urbana
Villa Park
Wasco
Waterman
Westchester
Western Spngs
Westmont
Wilmington
Worth

Gate System Tests Patience

The Laboratory tries a pilot program to test the impending automatic gate entry and exit system.

by Donald Sena, Office of Public Affairs

For the past two weeks, Fermilab has been conducting a pilot program to test the new automatic gates that the Laboratory plans to install at the Batavia Road and Pine Street entrances and exits. The new gates will allow the Emergency Management Department to station the security force more efficiently and reduce the cost of site access control.

The pilot program, which began on September 23 at only the Pine Street exit, involves 350–400 employees, with each using a small radio frequency (rf) tag attached to the car windshield. However, all vehicles exiting the Lab at Pine Street, including those with drivers not in the pilot program, also passed through the new gate using a different method.

On the first day of the test, it quickly became evident that pilot organizers would have to address traffic congestion problems caused by technical difficulties with the new system. As employees headed for home on the afternoon of Sept. 23, some workers encountered a long line of cars exiting Pine Street—some backed up as far as the Lederman Science Center. To avoid any more major traffic backups, pilot organizers suspended the test for a short period to address the congestion problems, according to Romesh Sood, head of the Emergency Management Department. When the pilot project resumed a few days after the suspension, guards at the gate were instructed to keep the gate arm in the raised position during any major backups, equipment failures and in severe weather, letting cars drive out freely. The test has run only during off-peak hours to eliminate backups at the evening rush.

Ray Stefanski, associate director, said his team implemented the pilot program to address just these problems before they install the gates at both entrances later this year.

"We are indeed sorry that people had to wait to leave the Lab, and we thank everyone for their patience," said Stefanski. "When we realized the extent of the problem, we suspended the test and implemented new procedures. This pilot will help ensure that the process runs smoothly at full implementation."

At the end of the pilot project, the gate team will evaluate the system. If it works to their expectation, they will order more equipment for the other gates. If they find major flaws with the gates, they said they will evaluate other systems and equipment.

The goal is to evaluate the new gates quickly and install them at the entrances and exits on both Pine Street and Batavia Road by the end of December.

How the Test Works

Each pilot program volunteer received a 3.5–inch x 2.25–inch rf tag that attaches to a car's windshield. As a tester approaches the Pine Street exit, he or she stops at a stop sign just before the gate. Sensors under the pavement recognize that there is a vehicle present and activate a receiver / transmitter on a 10–foot pole near the gate. This receiver / transmitter reads the rf tag on the car and automatically opens the gate, with no need to open the vehicle's window. Although it does slow traffic down a bit, the stop sign is a safety feature that prevents people from trying to ride out behind someone before the gate comes down. Motorcycles are also being tested to see if they can activate the sensors.

Employees not in the pilot program who exit Pine Street have had to stop at the gate and push a button to raise the arm.

The Future

After the Laboratory finishes the gate installation, there will be three different ways to enter the Laboratory by car depending on whether the driver is an employee / long-term user, summer / temporary worker or visitor. Lab employees and long-term users—the exact definition is not yet known—will use the rf tags. Summer help and short-term workers will use an insertion card at the same gate used by the full-time employees. Visitors will use a separate entrance road and grab a temporary paper ticket from a machine, similar to a pay parking garage. Visitors must exit the Lab via the same gate they entered, inserting their temporary tickets back into the exit gate apparatus to make the arm rise. All vehicles will use the same lane for exiting Fermilab. ■

Photos by Reidar Hahn

A Fermilab employee hits the button to get through the new prototype gate at the Pine Street exit during the pilot program.

Prototype gate equipment at the Pine Street exit.

Fall Comes to Fermilab

Photos by Reidar Hahn, Visual Media Services
Edited by Leila Belkora, Office of Public Affairs

"I was just looking for art," says Fermilab photographer Reidar Hahn, who took these photographs near the center of the accelerator ring early in the morning of September 7. At least once a week, Hahn gets up early or stays after work to photograph the Lab or nearby areas in unusual light. On this date he arrived before dawn to capture the beauty of Fermilab's prairie and oak savannah.

"At 6 a.m. in the fog it was still dark out, really. The street lights around Wilson Hall were still on, but about a half-hour later you couldn't even see the High Rise again.... It's a beautiful site, especially if you get away from the High Rise. I do it for therapy," says Hahn. He adds, "The mosquitoes were really bad. I really got torn up. They were terrible out there." ■

► **Two bur oaks,** right, and a black cherry tree, left. Oak savannahs such as Fermilab's, which were known as "oak barrens" to early settlers, consist of groves of trees in open grasslands with a canopy cover usually shading less than fifty percent of the ground.

Hahn took advantage of a special feature of a view camera to take this picture, rotating the film plane relative to the lens. "I was able to focus on the oak trees at the same time, where with a regular camera you couldn't do that.... I focused here [on the foreground oak], swung the film plane to get that [distant tree] sharp, so these three trees are basically in a line with each other. That kept the detail in the leaves real sharp. This [cherry tree] is about 40 feet from this near tree, I never would have had the depth of field....that's the nice thing about a view camera."

◄ **Prairie forbs** growing along Lake Logo near the center of the accelerator ring. The three tall clusters of stems topped with white flowers are False Boneset; to the right is Blue Vervain. Says Hahn, "There was a little window between dawn and when the sun got strong that we had this nice misty effect....It was quiet. There were birds, but not much street noise, especially with the fog."

▼ **Spider web** wrapped around Curly Dock, a broadleaf weed, and anchored on a stem of prairie grass. The photographer's secret for bringing the dewy web into sharp relief? "If you haven't noticed already, there's a piece of black velvet behind it. There's too much clutter otherwise; there's thousands of stems of grass back there, and you wouldn't be able to distinguish the web.... Actually I got a little too much depth of field so it shows too much detail of the cloth."

Main Injector

continued from page 1

In his opening remarks, Fermilab Director John Peoples drew attention to the success of project leaders in meeting the demands of civil construction and operating the existing accelerator complex for the fixed-target run. "We keep balancing ourselves.... One person's disaster is another person's opportunity. We've made good use of accelerator 'down time' to proceed with construction," he said.

Peoples then introduced a proposal, still under discussion, to advance the scheduled shutdown of accelerator operations to allow for construction of the Main Injector-Tevatron connection. The proposal comes in response to a $7 million shortfall in Fiscal Year 1997 operating funds. The original schedule called for a shutdown starting February 1998; the proposed plan (one of several alternatives the Lab is considering) would turn off the accelerator around September 1997. In late 1998 or early 1999, the Lab would either resume fixed-target operations or begin collider commissioning. MI project managers welcome the proposal, which would give them more time to complete critical tasks.

Current Status

Project manager Steve Holmes and members of MI project groups reviewed progress in the last year. They said magnet production is going full blast, following earlier research and development phases and prototype production. The Lab now has approximately 239 (out of 344) dipole magnets, the most numerous of several kinds of magnets required for the Main Injector. Quadrupoles, sextupoles, Lambertsons, trim, and permanent magnets are rolling off the production lines as well, and technicians are busy testing them. "We're awash in data at this point," said Dave Harding, a member of the Accelerator Systems group.

Tom Pawlak, associate project manager for civil construction, reported on the trials and triumphs of construction by the project's seven major contractors. "None of the utility pipes or services were where we thought they were. One of the major advantages of this job is, we now know," he noted, displaying a photograph of a carefully-excavated jungle of pipes near the 8 GeV Booster connection enclosure. Heavy rains in July set one contractor back. Procurement went ahead, however, for such items as circuit breakers, switches, transformers, and transmission towers. Pawlak is now turning his attention to electrical work and construction of the Kautz Road Substation, which will help meet the Lab's increased power requirement.

The agenda also included overviews of accelerator physics issues, vacuum systems, power supplies, RF systems, instrumentation, kickers and slow extraction systems, controls, safety, and utilities. DOE panel members raised questions ranging from broad concerns about project management and funding profiles to probes of magnet test procedures. On a lighter note, Dixon Bogert, head of the Main Injector Department, told how work on pond construction started early: the contractor working on the 8 GeV line needed dirt, so Bogert suggested they dig at the planned excavation sites for MI cooling ponds.

In summarizing the status of the MI project, Holmes recalled major achievements over the past year, including completion of the tunnel. He pointed out that service building construction is behind schedule and that the project would need about a dozen more people to handle the advanced shutdown scenario. However, he said, whether one lives with the project every day or steps back to take a look at it, the Main Injector is coming along well. "We are starting to see a glimmer of light at the end of the tunnel...and I know the story about trains, so don't tell me," he said.

Critical Work Remains

When the DOE review committee returns in March 1997, Holmes said, Fermilab will have checked several major items off the to-do list. Magnets for the

Photo by Reidar Hahn

8 GeV line leading from the Booster to the Main Injector should be complete. All service buildings around the MI ring, housing power supplies, will be finished. A new contractor will be at work on the ponds, and another on the Kautz Road Substation and transmission lines.

One of the Lab's main concerns is the so-called North Addition to the FZero building. The original FZero building, which dates to the early 1970s, houses RF equipment for the Main Ring. There is also a later component to FZero, for Tevatron RF equipment. During the long shutdown this later component of FZero will come down; the Lab must build the North Addition to shelter the equipment that currently resides there.

Deputy Head of Accelerator Systems Phil Martin says the four "big packages" of civil construction that remain are the construction of the FZero North Addition and Kicker buildings, the Kautz Road Substation, the 13.8 keV feeder system to carry high-current AC power to the Service Buildings, and the cooling ponds.

A key question raised by the review panel is the project's estimated cost at completion, based on current obligations and trends in use of contingency funds. Through July 1996, the MI project had obligated $143.150 million of its $229.6 million allocation.

Holmes reported that magnets are coming in under budget, as are a number of technical and civil components. On the other hand, the Lab had unforeseen expenses, such as installing magnets with conventional rigging techniques when the first magnet installer device failed.

" The end is in sight, and the physics community is looking forward to it."

~ Project Manager Steve Holmes

Holmes' presentation stimulated a discussion of the definition of "completion." "Complete means the Tevatron runs; it doesn't include, for example, NuMI," said DOE panelist Pat Rapp. The NuMI Project involves using a beam extracted from the Tevatron to study neutrino oscillations with a near detector at Fermilab and a far detector in Minnesota. Although the definition of the basic MI Project does not call for construction related specifically to NuMI or any other project, Fermilab physicists pointed out that current plans do not prohibit future extensions to the MI Project.

Getting There From Here

Martin presented the Commissioning Plan, to which Fermilab project leaders have already given detailed thought. In early 1999 Fermilab will link all the parts of the Main Injector into a whole. Martin described the kind of tests needed; for example, someone in the accelerator tunnel, linked to the control room by cell phone, will have to check that vacuum valve positions match those displayed on the consoles.

Holmes concluded Fermilab's presentation by saying he was generally happy with progress on the project, and that an advanced shutdown period would not pose a problem. "We can get there from here. Resources, not money, is the issue," he said. He added, "The end is in sight, and the physics community is looking forward to it."

In the DOE closeout session, Lehman praised the MI Project as "well-managed." He said the panel does have questions about the installation schedule, and asked for a revised schedule and contingency analysis by November 4. He said he would ask Fermilab to hold an additional $2 million in contingency.

Just before Holmes bade the panel goodbye and wished them a safe trip home, DOE panelist Ron Lutha, DOE's representative for the Main Injector, thanked members and the chairman for their work during the exceptionally long review. Lehman quipped, "It's been an interesting three days. You notice I didn't say fun! We've seen a lot of progress. Things seem to be going well. We have a long way to go." ■

At left: A pre-meeting briefing: Fermilab Director John Peoples, left, consults with Deputy Head of Accelerator Systems Phil Martin; Linc Read, MI administrator; and Project Manager Steve Holmes.

At right: A September, 1996 view of civil construction on the 8 GeV line connecting the Booster to the Main Injector. The 8 GeV line is one of the largest remaining pieces of civil construction to be completed; civil construction of the Main Injector ring itself is complete.

Photo by Al Johnson

Updates

September 13 — September 27

ACCELERATOR

Fixed-target experiments received a very reliable proton beam from Sept. 18 through Friday September 27. During that period, the beam was steadily delivered to fixed-target experiments. Beam intensity reached a high of 2.02 x 10^{13} on Sept. 27, beating the all–time record of 1.801 x 10^{13}, according to Bob Mau, head of accelerator operations. Accelerator Division personnel said they will continue to push the intensity of the beam higher.

As *FermiNews* went to press, the AD planned for a three-day maintenance period scheduled to begin Oct. 7. During this shutdown, Fermilab employees and users at DZero plan to put up shielding, as losses from the beam are "activating" the concrete in the collision hall. FESS will also take advantage of the shutdown to repair some water leaks.

FIXED-TARGET

E799 / E832 KTeV After taking data for about a week, KTeV shut down to replace DBC chips—data buffers. It took about two weeks to replace 3,100 channels, and they began receiving beam again on Sept. 28, according to Fermilab physicist Yee "Bob" Hsiung.

E871 HyperCP Sharon White, a postdoc from the Illinois Institute of Technology, said the collaboration is still setting up. They have all four of the front chambers installed and three of the five downstream chambers ready. "We are working really hard and getting everything 'cabled up' and getting ready to go," said White.

E835 Charmonium "E835 has run twice with proton-antiproton interactions at the injection energy and most of the experiment is now debugged and working, including the brand new scintillating fiber tracker readout with VLPCs," said Stephen Pordes, Fermilab physicist and E835 collaborator.

E831 FOCUS Fermilab physicist Peter Garbincius said the experiment "is running at higher rates and getting a good charm sample to understand all of the subtle effects of the detector." The collaboration is trying to cope with the higher beam intensity from the accelerator.

E781 SELEX Mark Mattson, a graduate student from Carnegie Mellon, said the collaboration is taking data and starting to do some analysis, working to get their software analysis tools integrated.

E815 NuTeV "We've brought up our new test beam, which we use to continuously calibrate the apparatus. We are now getting our first useful data. We're up to 1.8x10^{17} protons on target and the accelerator is doing so well that we're asking for twice our previous request, or 2x10^{13} per spill," according to Bob Bernstein.

E872 Donut "Last week the activity at PWest was at the maximum. You had to get there pretty early to get a parking spot. We are still on target for having all major systems ready by mid-October. I'd like to compliment the Mechanical Support Department on their hard work, good ideas and stamina ... we're almost there," said Byron Lundberg, cospokesman for E872.

E862 Antihydrogen On Sept. 19, the antiproton beam from the accumulator was directed through the experiment's apparatus instead of circulating around the ring, according to Dave Christian, E862 spokesman. The experimenters used this opportunity to confirm that their equipment was properly aligned and working to their satisfaction. They hope to be creating antihydrogen very soon.

E866 NuSea "E866 continues to take data with 800 GeV protons incident on liquid hydrogen and liquid deuterium targets. A preliminary analysis of a few percent of the data looks encouraging. Steady data-taking is our goal as we push for one percent statistical precision," said Chuck Brown, for spokesman Pat McGaughey. ■

13 Across

What's a five-letter word for a national accelerator laboratory, starting with "F" and ending with "I"? The New York Times Crossword Puzzle for Thursday, September 19, gave "_____ National Accelerator Laboratory" as a clue. Does this mean we have finally arrived?


Crossword | Edited by Will Shortz

ACROSS
1 Soup order
4 Is afflicted with
7 Long-range weapons
13 ___ National Accelerator Laboratory
15 Ultimate object
18 Popular Handel composition
19 Whence the phrase "God save the King"
20 Conductor Anderson et al.
22 Start of a Caesar quote
23 More: Prefix
24 Scottish
27 Bosnian ___
28 Scottish explorer John
29 Pennsylvania's ___ Mountains
31 Dress
34 Ultraviolet ray absorber
35 L[illegible]enting one
37 C[illegible]n oil brand
Man of La Mancha
40 Beer mug with a hinged lid
42 Mitigate
44 Soph., jr. and sr.
45 Back talk
49 Chatter
50 Parts of a Road & Track course
52 Dead duck
53 Poise
56 A Curie
58 Phone a rock group?
60 "Island of the Blue Dolphins" author Scott
61 La Scala production
62 Literary compilation
63 Portends
64 Proteus's domain
65 Prefix with fuel

DOWN
1 N.A.A.C.P. magazine, with "The"

Chez Léon

MENU

Lunch served from
11:30 a.m. to 1 p.m.
$8 / person
Dinner served at 7 p.m.
$20 / person

For reservations call x4512
Cakes for Special Occasions
Dietary Restrictions
Contact Tita, x3524

Wednesday
Lunch
October 9

Chicken Marbella
Red Rice and Bean Salsa
Coconut Cake
with Caramel Rum Sauce

Thursday
Dinner
October 10

Smoked Salmon
Open-faced Sandwiches
Pork Loin Stuffed
with Apples and Prunes
Steamed New Potatoes
Braised Red Cabbage
Marzipan Cake
with Bitter Sweet
Chocolate Sauce

Wednesday
Lunch
October 16

Booked

Thursday
Dinner
October 17

Wild Mushroom
Tart with Herbs
Roast Leg of Lamb
with Garlic and Herbs
Pumpkin Saffron Risotto
Vegetable of the Season
Gingered Pear
and Raisin Strudel

LAB NOTES

The Demise of BITnet

Early this year, CREN and EARN, the US and European managing organizations of BITnet, announced the end of BITnet support at the end of this calendar year. Fermilab's upstream connection to this computer network, the University of Illinois at Chicago, announced they would drop their connection on October 1, 1996. Fermilab's Computing Division has taken steps to ensure a smooth departure of the service, contacting all Fermilab BITnet users transparently to Internet. Computing Division Assistant Head Al Thomas says very few people at the Lab are affected by the change. For more information, consult http://www.cren.net/www/bitnet/winding-down.html. For specific questions call the Computing Division's Mark Kaletka, x2345, or kaletka@fnal.gov.

STEP Aerobics Class / Fall Schedule

Monday & Wednesday, October 7 through December 11 from 5:30-6:30 p.m. at the recreation facility. Cost is $50. Registration and payment deadline, Friday, October 4. Registration can be made in the Recreation Office, WH15W or mail your name, class name & check payable to Bod Squad to MS 126. Must be a current facility member. Questions? Contact the Recreation Office, X2548, 5427 or e-mail, jeanm@fnal.gov.

Soccer League / Winter League

Wednesday and Friday, October 16 at 6 p.m. at the Recreation Facility gymnasium. Rosters are due on October 14. A current membership is required to participate. To join contact league representative, Sandor Feher, at feher@fnal.gov. For more information contact the Recreation Office, x2548 or x5427. Teams or individual players of all levels welcome.

FOUND

Three items in the Communication Center lost and found: a wedding band, a CD player and a tennis racket. To claim, please stop by or call the Communication Center, x4251.

WANTED: Winter Volleyball League Representative

The Winter Volleyball League is looking for a league representative for the 1997 season. Responsibilities include: assisting the Rec. Mgr. in scheduling & budgeting, organizing teams and players, arranging for a referee, collection of league fees and work as a liaison between the league and Rec. Mgr. The league begins around Mid-October and run until April. If you are interested in the position, please contact Jean Guyer, x2548.

Doubles Tennis League

Sundays, October 13 from 4-8 p.m. in the Recreation Facility gymnasium. Registration deadline is October 4. Partners are randomly chosen each week. For more information or to sign-up contact Steve Kuhlmann (Kuhlmann@fnal.gov) or the Recreation Office, x2548. You must be a current facility member.

1997 Recreation Facility Membership

Recreation Facility memberships for 1997 went on sale September 2 in the Recreation Office, WH15W. Sale hours are 8:30 a.m.-5 p.m., Monday through Friday. Regular memberships are $60 and student memberships are $25. Only renewal memberships may be purchased through Fermilab internal mail, MS 126. Please enclose completed application form and check. Applications are on the Web under the Benefits / Recreation page. All 1996 memberships expire October 1. For more information, call Jean, x2548.

Muscle Toning Class / Fall Schedule

Tuesday & Thursday, October 8 through December 12 from 5:30-6:30 p.m. at the Recreation Facility. Cost is $50. Registration and payment deadline, Friday, October 4. Registration can be made in the Recreation Office, WH15W or mail your name, class name & check payable to Bod Squad to MS 126. Must be a current facility member. Questions? Contact the Recreation Office, X2548, 5427 or e-mail, jeanm@fnal.gov.

Career Assessment Workshop for Graduate Students and Postdoctoral Research Associates

Fermilab and Universities Research Associations, Inc. will sponsor a two day Career Assessment Workshop for graduate students and postdocs who intend to make the transition into non-academic employment. The workshop will be held on Monday and Tuesday, October 28-29, 1996 from 9 a.m. - 4:30 p.m. in Wilson Hall 15SW conference room. The seminar will be run by Jarosz Associates, Career Continuation Consultants, and will cover topics such as networking, interviewing skills and résumé preparation. The course is open to all students and postdocs from the Fermilab community. Class size is limited to 10. The seminar is co-sponsored by Fermilab and URA and will be held free of charge.

URA Scholarships Require SAT Test

Candidates for Universities Research Association (URA) scholarships are reminded that the scholarships are awarded on the basis of SAT (Scholastic Aptitude Test) scores. Thus, high-school seniors are reminded to sign up for a fall resting date if they have not already taken the tests.

URA awards a number of scholarships to regular, full-time employees' children who are currently high school seniors and who will begin a four-year college degree program next fall. The maximum amount of the scholarship is $3,000 for tuition and fees and is renewable for four years if the student progresses in good academic standing.

Scholarship applications will be available after the first of the year and are due March 1, 1997.

CLASSIFIEDS

FOR SALE

■ Jarvinen, no-wax, cross-country skis, 195 cm, Nordic bindings and boots, men's size 9 1/2 and poles, exc. cond. $70. for package. Dynastar downhill skis, 185 cm, like new, Tyrollia 280 bindings, women's boots size 9, and poles, exc. cond. $75 for package. Call Pam at x3352 or (630) 896-7867.

■ 1987 Honda Accord LX, 5 spd, 4 cyl engine, blue, pwr: steering, brakes, windows and locks. Good cond., runs well, new: rebuilt trans., exhaust system, brakes, plus brand new AM/FM cassette stereo included. $3500 o.b.o. Contact Anne at 879-0995 or aheavey@fnal.gov.

■ 1984 Olds Delta 88 Royale, 120k miles, great car, mechanically perfect, 4dr, pwr, air. $1900 o.b.o. Call Ed at 466-1498 or x4191.

■ 91 Geo Storm, good condition, 5 speed trans., new exhaust, tires and brakes. Recent tune-up, 90k miles, $3,600 o.b.o. Call Edie at x3621 or (815) 496-9434.

■ Rattan/bamboo kitchen set, like new, circular table with glass top, approx. 36 in. diameter, 4 chairs with cushions, whitewash color. $450 when new, asking $150. Small baker's rack, 4 shelves, gray color, $80 when new, asking $20.

■ Chevy S-10 Blazer, exc. cond., runs well, one owner, $5000 o.b.o. call (630) 906-1390.

■ 1989 Ford Probe LXI, good car, asking $3000. o.b.o. Call x4191, or 630-466-1498.

■ 1985 Nissan Maxima, 118K miles, clean no rust, one owner, garage-kept, good maintenance, 3.0L V6, auto trans. and climate control, leather interior, sun roof, pwr: brakes, steering, windows, seats and mirrors, AM/FM cassette and cruise. $2900. Call Carmen at x3834 or (630) 529-0135.

■ Little Tykes art studio desk with overhead lamp and swivel chair. Two drawers, 26" x 40" and 30" high, for ages 4 - 8, new in box $90. Cosco metal toddler bed, white, head- and footboard are included, uses crib mattress (not included), like new $20. Canon Sure-Shot 200 M, S camera uses 35 mm film. 38-60 mm lens, self-timer, auto-flash, red-eye reduction, battery included, good cond. $100. Tamron camera lens, 70-210 mm, adaptall 2 lens, f/4-5.6 aperture range, new in box. $180. Men's Shearling wool coat, full length, size 38, great cond. $100. Call Terry, x3535.

■ Lovable and huggable, 5 Golden Retriever male puppies, ready to adopt some loving owners, $150. each. Call Kathy at (630) 466-7155 or x3232.

■ Two end-table lamps, $50, small desk chair, $20. Call Rich at x3880 or (630) 690-1691.

Deutsch-Klassen fangen wieder an !

Whether you are a beginner, speak a little German, or just want to come for conversation, you are welcome to come to classes this fall. Angela Jöstlein, a native of Germany, will teach. A nominal fee for materials will be charged. There will be two classes. Beginners meet at 5 p.m. on Tuesday, October 8. Intermediate/advanced speakers meet at 6 p.m. the same day. Both classes meet in the conference room at 20 Neuqua, just outside Lab 7, across from the Gym. Feel free to call Angela at (630) 355-8279 or e-mail Hans at JOSTLEIN@FNAL.gov. See you there!

CALENDAR

OCTOBER 11

Fermilab International Film Society presents *I Am Cuban*. Filmed right after the Cuban missile crisis, and never shown in the West until an acclaimed premiere at the Telluride Film Festival in 1992. Dir.: Francois Girad, Canada, 1993, 94 min. Ramsey Auditorium, 8 p.m., tickets available at the door, $4.

OCTOBER 15

Blood Pressure Screening, 11:30 a.m. to 1 p.m., Users Office, WH1E.

OCTOBER 19

Fermilab Art Series presents, Brentano String Quartet, performing music of Schubert, Berg and Brahms. Ramsey Auditorium, 8 p.m. $15. Call 840-ARTS for information and reservations.

NOVEMBER 1

NALWO potluck supper in the Village Barn, 5:30-8 p.m. Please bring a dish to serve 6 to 8 or contribute $3 to cover costs. We will also collect $1 from those adults drinking alcoholic beverages.

MILESTONES

RETIRED

Charles Andrle, on September 20, 1996. He started at Fermilab on September 8, 1969. Andrle worked for the CD-Equipment Support group as an Operations Specialist.

AWARD

Photo by Reidar Hahn

Chuck Marofske (left), head of Laboratory Services, presents Donald Poll, of the Antiproton Source, with an award for his blood donations to Heartland Blood Centers. Here, Poll feigns a faint in light of the fact he has donated a total of three gallons of blood over the years.

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Please send your article submissions, classified advertisements and ideas to the Public Affairs Office, MS 206 or E-mail: ferminews@fnal.gov

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

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