# Ferminews

### FERMI NATIONAL ACCELERATOR LABORATORY

### Self-assessment status report

Two years ago, Secretary of Energy James D. Watkins announced a 10 point initiative designed to "chart a new course for the Department toward full accountability in the areas of environment, safety and health." One of the 10 initiatives is to conduct extensive assessments of all DOE facilities in a program known as Tiger Team Assessments. Fermilab's Tiger Team Assessment is scheduled to begin May 11.

In preparation for our Tiger Team Assessment, the Lab decided to conduct an internal assessment which took place during August and September 1990. This assessment was conducted under the leadership of Deputy Director Ken Stanfield. He was assisted by several Lab employees who served on a committee known as the Internal Assessment Group (IAG), and also by independent consultants. The outcome of this appraisal was a report submitted to Director John Peoples regarding the status of the Laboratory's management and ES&H program.

Since this initial internal assessment, the Lab has institutionalized internal assessments by formulating a self-assessment program plan and creating within the Directorate the Office of Self-Assessment headed by Lincoln Read. This office was created to oversee the implementation of the self-assessment program plan.

The purpose of the ES&H Self-Assessment Program (SAP) is to evaluate objectively the environment, safety and health (ES&H) program at Fermilab, its policies and procedures, and the effectiveness of their implementation. The program is intended to build on existing Fermilab ES&H self-assessment activities and the results of the Fermilab Internal Assessment Group's self-assessment to create a comprehensive self-assessment program for programmatic activities at Fermilab. The program is intended to enhance employee awareness of and compliance with ES&H responsibilities at all facilities operated by Fermilab. The ultimate goal is a continuous safe, healthful, and environmentally responsible operation of Fermilab which demonstrates excellence in the area of ES&H.

One of the components of the institutional selfassessment program is that the divisions and sections now conduct on a quarterly basis an ES&H and management audit and report the result to the Director. The first quarterly report was due April 15. All of the divisions and sections have completed this audit. One very important element of this quarterly audit was that each division and section conducted a very extensive Occupational Safety & Health Administration (OSHA) inspection of every facility on the Fermilab site. According to Romesh Sood, Response Team member charged with assisting the site-wide inspection, "This OSHA inspection was the most thorough in our history. Every building and area of the Laboratory was simultaneously combed," said Romesh. "It was a tremendous amount of work and many, many Laboratory employees helped." The result of this audit was that Lab-wide, we discovered 19,141 OSHA violations—999 of which have already been abated. "This is a very large number, but it is not unusually high for a Laboratory of this size and scope," said Romesh.

Along with our own internal OSHA audit, the Laboratory also enlisted the assistance of the Safety and Health Management Services of the National Safety Council for the evaluation of selected areas. Their inspection resulted in 184 findings, of which 148 were new. Our own teams had already identified 1212 problems in the same selective areas. "This shows what a good job our employees did. They were very thorough and did an exceptional job in evaluating our status," said Romesh. "I think this shows that the OSHA training and lead auditor training our employees have received is paying off," said Ken.

In addition to this recent quarterly assessment, the Laboratory has undertaken an additional assessment. Since we did our original Internal Assessment, the Department of Energy Self-Assessment Program has been evolving. "Because we thought Continued on page 7

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The deadline for the Friday, May 15 issue of Ferminews is Wednesday, May 6. Please send your article submissions or ideas to the Publications Office.

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# Events cements

### Visits with an international flavor

Fermilab has always prided itself on the international character of its research activities. Recently, there were visits to the Laboratory by senior officials of two foreign countries whose scientists are active here in our research program.

On March 26, the French Ambassador of the U.S., Jacques Andréani, visited the Laboratory, accompanied by the French Chicago Consul General Yves Gaudeul and the French Chicago Scientific Attache, Dr. Francis Guastavino.

On April 6, a Peoples' Republic of China Education Commission visited Fermilab. This was a six-person group, led by Deputy Education Minister Zhu Kaixuan, and accompanied to the Laboratory by five officials from the Consulate General of the Peoples' Republic of China in Chicago.



Ambassador Andréani with Director John Peoples.



Deputy Minister Zhu is next to the handrail, third from the bottom; also in the group are the other members of the visiting group together with several Chinese scientists working at Fermilab and Assistant Director Roy Rubinstein.

155 lbs.

155 lbs./106.2%

### **Notice for Brazilian users & visitors**

Presently a good number of Brazilian people are working at Fermilab. The number has increased significantly over the last year. Maybe because of this, the Brazilian Consulate in Chicago is moving to a larger office. The new address (after April 27) is 401 North Michigan Avenue, Suite 3050, Chicago, Illinois 60611. The phone number is 312-464-0244 and the FAX is 312-464-0299. The Consulate is open Monday -Friday, from 9 a.m. until 1 p.m.—*Mario Vaz*.

### **Press your best**

The 4th Annual Press Your Best contest was held Wednesday, April 8 at the Recreation facility. Twelve people participated in the event and trophies were awarded to the following:

### Women's Division

Best Pressed Weight Angie Prosapio (PS)
Best Percentage Body Weight Pressed Angie Prosapio

Men's Division I

Best Pressed Weight Mark Diaz (BS) 255 lbs.

Best Percentage Body Weight Pressed Dale Knapp (ES&H) 210 lbs./162.8% Men's Division II

Best Pressed Weight Chris Jones (BS) 365 lbs.
Best Percentage Body Weight Pressed Rudy Keller (Contractor) 360 lbs./204%

### **Benefits notes**

### New medical claims processing procedures

Claim kits with information about the new medical claims processing procedures were mailed the week of April 27 to employees and retirees enrolled in the Connecticut General Medical Plan. To help you with the transition to the new system, a representative from Connecticut General's Claims Office will be here to tell you about the procedures and answer any questions that you may have. Meetings will be held on Friday, May 8 at 10:00 a.m., 11:00 a.m., 1:30 a.m. and 2:30 p.m. in Curia II, WH2SW.

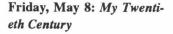
If you did not receive a claim kit or need assistance, please call the Benefits Office at x3395, 4362 or 4361.

### Alert: Parents of 1992 college graduates

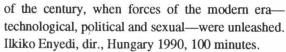
College graduation is around the corner for some employees' children. If your children are enrolled in the Lab's medical and dental plans, their coverages terminate on graduation day, unless they are enrolled in graduate school and under the age of 23. If your children do not have group and dental coverages elsewhere, they can elect to continue on the Lab's plans. Please call the Benefits Office at x4362 or 4361 for details and election forms.

### International Film Society

May's screenings will be shown in Ramsey Auditorium at 8 p.m. Admission is \$2.



A magical and comic meditation on civilization at the turn



### Friday, May 22: The Icicle Thief

Neorealism meets neocapitalism in this ingenious Italian comedy, a playful denunciation of the couchpotato culture. Maurizio Nichetti, dir., Italy 1989, 90 minutes.

## White paper recycling—what's happening?

Two years ago the Business Services Section headed by Jim Finks initiated a white paper recycling pilot program on the fourth and fifth floors of Wilson Hall. After a successful three month run, the program was expanded to all occupants of Wilson Hall and later to the Linac Cross Gallery and Feynman Computing Center.

### So how are we doing?

According to Dick Auskalnis (BS), co-coordinator of the recycling program, the program is running smoothly and we have recycled 119,480 pounds of white office paper in the last twelve months! "The current cost of paper is such that we are not realizing any income, however, the paper is being recycled and we are saving trees and our landfills," said Dick.

### Is there a problem?

Yes, according to the *Economist* there is a problem. "America has for a long time taken the cheapest option in waste disposal: 90% of its rubbish is simply dumped in landfill sites and buried. But landfill sites are filling up; a third have closed since 1980. More than half the cities on the east coast will run out of room in the 1990s. In New York, 14 sites have closed in the past ten years." Our national waste profile, prepared by the U.S. Environmental Protection Agency, shows that 42.1% of the waste produced in this country is paper and paperboard.

### How can I help?

The percentage of paper waste produced can be reduced through consistent, conscientious recycling. If you are not involved in the Fermilab recycling program, talk to your floor coordinator to find out how to participate. It is very simple and easy. Instead of tossing paper in the trash, place it in the recycling box that your floor coordinator can provide. When the container is full, transfer the paper to the larger intermediate container which is probably located near the copying machine or the elevator banks on your floor. That is all there is to it. The custodial staff does the rest.

Ferminews is recyclable, but remember to remove the mailing label first!



Americans use
50 million tons
of paper
annually—which
means the
average
American
consumes more
than 580 pounds
of paper each
year and as a
nation we
consume more
than 850 million
trees.

Making new
paper from
"old" paper
uses 30% to
55% less energy
than making
paper from
trees; and it
reduces related
air pollution by
95%. —Paper
Recycling
Committee,
American Paper
Institute

# njury preventior

### The mechanics of lifting

### How your back works

You may know that back injuries are the most common type of industrial accident and the most common at Fermilab. That's because no matter what our jobs, we are constantly using our backs—to support our bodies, to bend, sit, twist, stand, even to lie down. All of these activities put stress on our backs, but at no time are our backs more vulnerable to injury than when lifting. Understanding how your back works while lifting can help you avoid unnecessary strain and potential injury.

### **Back basics**

Your back is made up of moveable bones (called vertebrae) and shock-absorbers (called disks) between each vertebrae. These structures are supported by ligaments and muscles that help keep the back aligned in three balanced curves. (You know your back is aligned correctly when your ears, shoulders, and hips are in a straight line.) When your back's three curves are not in balance, there is a greater likelihood of both back pain and injury.

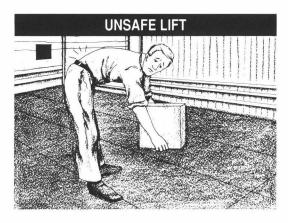
### Lifting mechanics

When you lift, it's important to keep your back in balance. If you bend at your waist and extend your

upper body to lift an object, you upset your back's alignment and your center of balance. You force your spine to support the weight of your body and the weight of the object you're lifting. This situation is called "overload." You can avoid overloading your back by using good lifting techniques. For example, when you bend at the knees and hug the object close to you as you lift, you keep your back in alignment and let the stronger muscles in your thighs do the actual "lifting." You do not have to extend your upper body and are able to maintain your center of balance.

### Safe lifting

Safe lifting means protecting your back (and your-self!) while you lift. Before you lift anything, think about the lift—Can you lift it alone? Do you need help? Is the load too big or too awkward? When you do lift, be sure to bend at your knees, hug the load close to your body, and raise yourself up with the strong muscles in your thighs. Remember never to twist while lifting—instead, move one foot at a time in the direction where you want to go and then turn with your leg muscles. Above all, safe lifting means keeping your back in balance and avoiding overload. When you know how your back works, it's easier to understand how you can protect it.—Parlay International



If you bend at your waist and extend your upper body to lift an object, you upset your back's alignment and your center of balance.



If you bend at the knees and hug the object close to you, your back stays balanced and the muscles in your legs do the lifting.

# tiger team REPORT

May 1, 1992 Vol. 1, No. 5

### Tiger library established

A Tiger Library has been established on the ninth floor of Wilson Hall to serve the information needs of the Tiger Team, the Fermilab Escorts and Mentors and the Response Team. It is a repository for documents gathered prior to and during the Tiger Team's visit to Fermilab. The Tiger Library will be staffed by two librarians with assistance from members of the Fermilab Library staff. The Library is a Response Team activity under the direction of Fermilab Librarian Paula Garrett.

### The collection

The Tiger Library is collecting two distinct types of materials. One is a selection of codes, regulations, standards, Fermilab reports, etc., which should be useful to both Fermilab employees and the Tigers for background and details relating to the purposes of the Tiger Team Assessment. The second component consists of those Fermilab documents collected in response to the specific information requests of the Tigers. Joe Kenny (ES&H) is coordinating the collection of the requested documents. The Library expects that this latter collection will be about 500 items when the Tigers arrive. The acquisition of documents will continue as the Tigers carry out their visits and interviews. Both types of documents will be cataloged in the online system and many of these materials will be available for loan.

### **Document requests**

During the Tiger Team Assessment, any Fermilab document a Tiger requests will be incorporated into the Tiger Library. When a document is requested or collected from a field contact, the escort will take possession of it, identify the performance objective to which the document relates, arrange for copies for the Tiger and the library and promptly return the document to the provider.

### **Online catalog**

The same library automation system as used for the main Fermilab Library is used for the Tiger Library.

Access to the online catalog of the Tiger Library collection is available via terminals in the Tiger Library or remotely by logging in to username TIGER on FNLIB. For those wishing to use the system, user guides as well as staff assistance is available.

### **Getting to FNLIB**

From the FNAL cluster or other DECnet nodes on HEPNET type: SET HOST FNLIB.

From Internet type: TELNET FNLIB.FNAL.GOV.

From FERMILAB=Port selector type:LAN (press return several times) at Vista>prompt type: C FNLIB (press return several times). Username is TIGER.

After log-on a screen will appear which will allow you to search the database or connect to the RegScan database. (See RegScan story below).

### **Additional services**

In addition to documents and reports, the Tiger Library will provide a photocopier, a fax, several VT terminals for access to the online catalog of the Tiger documents and ESHTRK (the ES&H tracking system), a Mac for access to various Filemaker databases and a PC which will run RegScan.

### RegScan available

The Library now has a facility online that will let you look at various Codes of Federal Regulations (i.e. OSHA regulations) in full text mode. The facility has a search capability and several other interesting features. It is still in a Beta test stage, so please expect some rough edges, however, it has already proven useful with respect to an OSHA inspection in the Library.

It works in a single user mode at the present time. A user is limited to a "reasonable" amount of time using the facility. To access, all that is required a VT220/320/420 terminal or emulation. For further information

regarding RegScan contact John Isenhour at FNLIB::ISENHOUR. —Paula Garrett



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### team schedule

- May 11:
  Tiger Team
  Assessment begins
- June 8:
  Tiger Team
  Assessment
  Final Closeout

Tiger Team Report

# o n o

# Alaskan pioneers open new frontiers in science

High school teacher Paul Johnson probably never imagined he would be doing physics in Alaska. But then his stint in the Department of Energy Teacher Research Associates Program (TRAC) at Fermilab last summer made him a believer.

Paul was one of 27 outstanding teachers from across the country who came to Fermilab to participate in TRAC, the program that brings exceptional educators to Fermilab to join state-of-the-art research. For eight weeks he worked side by side with **Dave Eartly** (RD/SDC) on prototype work for the SDC detector. Because the project didn't end when the summer term did, Paul took his work home with him—to the land of the midnight sun.

The subject of Paul and Dave's joint study was a prototype remote positioning monitor system (RPMS) for the SDC muon detector capable of determining, down to four thousandths of an inch, if any detector elements had moved once in place. "Throughout the summer, we experienced a stimulating cycle of test and discovery," Dave said. "The rapid evolution of ideas and the constant need for new widgets led us to become the overnight order and delivery nags of purchasing and receiving."

But just as development of the RPM's ideas crested and long-term testing was to begin, it was time for Paul to return home. The 1991-1992 school year would soon be getting underway. Their collaboration, the one that had made giant strides in just a few month's time, was now at risk of losing one-half of its impetus.

Before leaving for Alaska, Paul hit on an idea. If he couldn't be at Fermilab to work on the RPMS, then why not bring a part of the RPMS with him to Alaska?

Dave liked the idea and shipped Paul a component of the RPMS called the wire current differential flux pickup transformer. Since he was devoting time to both the RPMS research and his classes, testing the prototype on anything other than a catch-as-catch-can basis was impossible. The transformer project had some difficulty getting off the ground until Paul's principal, Don Verstrate,



Ben Burton,
high school
student in
Alaska,
works on
long-run
testing for a
Fermilab
project.

allowed all of Paul's students to work on it together as a class.

At least three classes of boys and girls began taking measurements, analyzing results and errors, and looking at pickup and interference effects on the transformer prototypes from Dave. The endeavor flourished, and the amount of feedback from the students quickly made the project a success.

Aware of the success Paul's classes were having with prototypes, Dave wanted to run short tests on the units to verify system accuracy. On February 5, Dave, arms laden with a computer readout digital multimeter system, boarded a plane to Alaska. "The people of Delta were very understanding about my carry-on in all the planes," Dave said. Later that day, with a banked wing tip nearly touching the ice floes below, Dave's plane landed in Anchorage in the heart of a snow storm. "My thought at that point was: 'What am I doing here?'" Dave recalled as he pushed on to Fairbanks and twenty-five below zero temperatures. The next day his question would be answered.

Arriving at Hutchison Career Center where Paul taught, Dave, Paul and his student researchers set up the readout system and reviewed the logbook on prototype work. Class by class, Dave critiqued the logbook and held discussions on lab work, particle physics, the SDC detector and RPMS schemes.

After his short run analysis indicated that the students were on the right track, it was time for Dave to return to Fermilab to begin another project while Paul and his classes finished the long run testing in Alaska. The first long run data disks are now at Fermilab, and by Dave's account say a great deal about the can-do spirit of teachers and students in our northernmost state. "These pioneers of the last frontier are very serious about education," Dave said. "That reflects why they were willing to try our experiment."

### Fermilab sponsors science bowl

Fermilab coordinated efforts with the Illinois Science Olympiad (ISO) by sponsoring the Science Bowl event at the state finals of the Illinois Science Olympiad held in Normal, Illinois on April 4. This year the ISO organized seven regional Science Olympiads throughout the state. The winning regional Science Olympiad teams were invited to compete at the Illinois State Science Olympiad. Both the Regional and State Olympiads involved teams of students from junior high and senior high competing in many science events.

As sponsor of the Science Bowl event, Fermilab provided personnel to run the event with the ISO officials. Volunteers from Fermilab included Ray Hall (DØ), Joel Fuerst (AD), Oscar Trevizo (CD), Craig Drennan (RD), Dave Abler (LS) and Robin Dombeck (LS). They served as moderators, judges/timekeepers, scorekeepers and award presenters. Fermilab also provided an exciting science show for the 1000 students and their sponsors, parents and friends present at the competition.

The Lyons Township High School team was the winner of the Illinois Science Bowl and Fermilab will now sponsor the team in the national competition. The National Science Bowl is a tournament-style academic competition focused on science and sponsored by the Department of Energy and the Cray Research Foundation. At the national level, held at DOE head-quarters, students are questioned by a moderator over many areas, including biology, chemistry, physics and astronomy.



The Lyons Township High School team captured first place at the Fermilab-sponsored Science Bowl event of the Illinois Science Olympiad held April 4 in Normal, Illinois. The team will now prepare for the National Science Bowl to be held in Washington D.C. on April 24-27. Members of the team include (back row, l to r) Heidi Mulderink, Coach Hal Mulderink, Beth Wagner, Cheeni Rao, Steve Tomljenovic and (front row) Coach David Zeich.

The National Science Bowl is part of a nationwide effort to increase public awareness of science, mathematics and technology. Teams from all fifty states took place in the regional science bowls and 30 winning teams will compete in the national finals. Participation in the National Science Bowl is one of the many ways Fermilab is working with DOE to promote greater interest in science among precollege students.

"Nothing is more vital to the future of this country's growth and prosperity than encouraging our youth to become a new generation of innovators and scientific pioneers. The National Science Bowl is a significant program that will provide students who excel in science a forum to demonstrate their knowledge and offer them national recognition for their talent and hard work." —Secretary of **Energy James** D. Watkins

### Self-assessment continued

it was an important exercise, we did our Internal Assessment early in the process, before DOE formally issued its guidance on self-assessment," said Ken. Since that time, changes have occurred in the DOE Tiger Team Assessment Program. The Department of Energy now does their evaluations according to performance objectives. "Basically what happened was, when we went back and compared our original Internal Assessment Group report to the current process involving performance objectives, we found that there were areas that we needed to look at that we hadn't looked at previously," said Ken. These areas are operations, media and outreach,

packaging and transportation, and human resources. Director John Peoples commissioned Ken Stanfield, Bruce Chrisman and Dennis Theriot to organize supplemental self-assessments in those areas. That appraisal is currently being conducted.

According to Ken, "The whole self-assessment process is aimed at finding out what our vulner-abilities are in the areas of safety, health, environment and management, so that the Lab director can determine what adjustments have to be made to bring us into full compliance with our own policies and DOE ES&H Orders."

### ads

### Miscellaneous

Camper - Cox Cadet, sleeps 4-6, ideal for towing by small car, curb weight 700 lbs., tongue weight 40 lbs., like new, \$1,500. Call A.T. Visser at x3273 or 708-232-4023.

Bedroom set-Three pieces, contemporary walnut, good condition, asking \$100. Call Al or Sandy at 708-717-0289 after 7 p.m.

Tiffany-style hanging lamp - Handmade, approx. 30" diameter, leaded framing with milky-white streaked glass, \$75 firm. Call Tony at x3525.

Wall mirror - Approx. 30" x 40" with 2" black lacquer frame, beveled edge glass, asking \$40. Call Tony at x3525.

Portable Kenmore dishwasher, \$250. Iron bed, 3/4 size, antique white, \$80. Round brown/tan braided rug, 13' x 9', \$90. Call 708-552-1320.

Bogen 3055 heavy duty ball head (older style), \$20 with plate. Call Tom at x3145.

### Wanted

Good condition crib, cradle or bassinet. Please contact Lynette or Fritz at 708-879-3852 or FNALD::FRITZD.

### **Classified NALREC News**

### Upcoming events.

It's tonight! The May Day Cookout and Social Hour. Come and celebrate the arrival of spring. A DJ will be there for your entertainment. Of course, the food will be great. See you there.

White water rafting: There are two trips now! June 13-14 and July 18-19 are the dates set for the 2, two-day rafting trips at Wolf River, Wisconsin. Check your calendar and plan to go on one of these exciting trips. Just \$90 for one night motel/lounge, bus ride, plus snacks to and from, total of 10/12 hours rafting and \$10 for Indian Reservation gambling. See Dominick x3187 with a \$50 deposit to secure a seat. The trips are booking fast.

Attention all baseball fans: We will be going to see the Kane County Cougars in 1992. Fermilab Day will be Saturday, June 13 at 7 p.m. Cost is only \$3.50 and of course there will be door prizes. It's a Saturday night; mark your calendars.

Coming soon: A horseback riding trip and White Sox games in Milwaukee and Detroit. Stay tuned. —Charlotte Smith

### Harper's index

New tax revenue that will be generated this year as a result of ending the deduction for cosmetic surgery: \$60,000,000.

Percentage of Americans who think "espresso" is an "overnight delivery system": 7.

### Quality corner

The Quality Assurance and Conduct of Operations Office would like to receive suggestions from employees or users on how to improve the quality, efficiency, reliability or effectiveness of Laboratory services or operations. Please send your suggestions to Mark Bodnarczuk, MS 200 or FNAL::Bodnarczuk.

### A heart of gold

### Many thanks from Neutron Therapy



There are many generous people who work at Fermilab. We would like to tell you about one of them.

The Neutron Therapy Facility (NTF) had been treating cancer patients in the evening hours due to the accelerator shut-down which began in January and continued until mid-April. Our treatment schedule began at 6 p.m. and continued to as late as midnight three evenings a week. The darkness and late hours were difficult for patients and NTF staff members, but one patient was especially affected. This patient and his wife were elderly and had traveled from Ohio to receive treatment. They were staying at the Best Western motel in Aurora, and had no friends or family in the area. Neither the patient nor his wife could drive, so they had no means of transportation to Fermilab for treatment.

NTF staff has previously arranged transportation for patients through the American Cancer Society's volunteers or through Fermilab's HACK service. These alternatives were not available due to the lateness of the appointment times. NTF staff members were covering both usual daytime hours as well as the late \*evening hours, so could not be spared to transport the patient and his wife. Signs were posted around the Linac and Cross Gallery areas asking for help in providing transportation for these people in need. Marion Richardson said we could count on her.

Marion put in a full, busy day at her secretarial position in the Main Injector southeast annex. At about 10 p.m. on Tuesdays, Thursdays and Fridays, Marion left the comforts of her home to go to the motel, drive the couple to NTF, sit with the patient's wife while he had treatment and then return them safely to the motel sometime between 10:30 p.m. and midnight. She performed this service without fanfare and would not even accept gas money. Thanks from all of us, Marion!-JoAnne Mansell

Ocassionally the NTF has need for volunteers such as Marion. If you can help, call x3865.

The lastest issue of Fermilab Report is now available. It features articles on colliding beam physics, accelerator upgrades, magnet technology, computer networking and education. If you would like a copy, stop by the Publications Office or call x3278.