

Safety-wise employee diverts tragedy

Quick thinking and persistence on the part of **Ed Cullen** (TS/Quality Assurance) ended what could have been a fatal incident.

On December 5, **Jo Ann Larson** (TS/Quality Assurance) and her nine-year-old son, Jason, were hospitalized with carbon monoxide poisoning caused by two furnace gas leaks in her home. "If it wasn't for Ed, my son and I wouldn't be alive," said Jo Ann.

The events that lead up to this near tragic occurrence took place over a period of about a week.

After returning from the Thanksgiving holiday, Jo Ann's co-workers noticed that she was not feeling well. She mentioned that she felt tired, dizzy, nauseated, had a severe headache and a burning sensation in her eyes. She had been painting in her house and equated the symptoms to smelling the paint fumes, perhaps the flu or fatigue. Ed however wasn't convinced and suggested that Jo Ann call the gas company and have her furnace checked.

"Annual furnace maintenance is something I always do," said Jo Ann. But this year the death of her twin sister threw off her normal maintenance schedule. "I just kept putting it off this year," said Jo Ann. (See Furnace safety tips, page 2 of this issue of *FermiNews*.)

By Wednesday, Jo Ann's symptoms worsened and she was becoming somewhat disoriented. On Thursday, she called in sick.

When Ed learned that Jo Ann had not reported to work that morning, he became very suspicious and called her home. When he reached her, she was very disoriented. "When I talked with her she couldn't communicate well, she couldn't get moving," said Ed.

She said that she had been vomiting all evening and was extremely tired. She said her son was also sick. Ed urged her to call the gas company immediately. She sounded so lethargic during the conversation that Ed was concerned that she would not follow through with the call. He called back several minutes later. After a long period of time, Jo Ann finally answered the phone. "I hadn't called the gas



Jo Ann Larson, who is now back to work and feeling fine, is pictured with her "guardian angel" Ed Cullen.

company. I was so groggy and out of it that I just went back to sleep," said Jo Ann.

This time Ed was more persistent. "He kept telling me to get up," said Jo Ann. Ed asked for her address and said he would make the call, but Jo Ann promised she would do it.

A few minutes later, Ed called back again and this time she had made the call. "I really don't know how I got up to call. I just willed myself to do it," said Jo Ann.

In a short period of time the gas company arrived and found two gas leaks, one of which was quite large.

"Two things saved us," said Jo Ann. "The fact that I had been painting and had the windows open a crack helped, but mostly it was Ed calling and getting me to act."

"I'm really grateful to Ed. My son and I wouldn't be here if it wasn't for him."

Furnace safety tips

Ed Cullen's safety sense prevented a tragedy. Although most of us, like Jo Ann, know that furnace checks need to be done annually, sometimes events in our lives cause us to procrastinate.

The following information was provided as a service by Northern Illinois Gas Company. Please read it carefully and if you haven't checked your gas furnace this year, DO IT TODAY!

Consumer news

Our customers are asking, "How can I make sure my gas furnace is operating safely and effectively this winter?"

Even if your heating system appears to be in good working order, it is important to have it inspected and serviced by a qualified heating contractor each year. Annual checkups, along with your own periodic inspections, will help keep your furnace and venting system operating safely and efficiently all winter.

Check the flame characteristics

A gas flame should be mostly blue in color. Yellow, distorted flames are signs of improper furnace operation.

Discoloration around the burner access door and carbon soot buildup around

vents indicate a problem.

Check your venting system

Checking for proper venting of furnace flue gases is an important part of your own periodic furnace inspection. Improper venting is often caused by either a blocked chimney or by what is known as "flue reversal."

Chimney blockage

Most furnaces are vented through a metal flue pipe connected to a masonry chimney or a metal vent. Chimneys and vents can become clogged by birds' nests, small animals, leaves and other objects. Corrosion of the metal flue pipe or deterioration of a masonry chimney can also prevent proper venting.

If you have an older chimney with a clean-out opening at the base, you can check for blockage by inserting a small mirror into the clean-out opening.

If your furnace vents through an outside wall, you can check for blockage from outside the house by shining a flashlight into the flue pipe.

Flue reversal

If your home is very air tight, your fireplace, exhaust fans and appliances vented to the outside can pull more air out of your home than normally infiltrates in. When this happens, outside air can be drawn down the chimney

flue, forcing exhaust gases normally vented out the chimney back into the house. This problem is called flue reversal.

Watch for these signs

Any of these may be signs that your furnace or venting system is not operating properly:

- Rust on the flue pipe.
- Small amounts of water leaking from the base of the chimney, vent or flue pipe.
- Damaged or discolored bricks at the top of your chimney.
- Rust on the portion of the vent pipe visible from outside your home.

Flue reversal or a blocked chimney also can be detected using the match test described below.

The match test

If you have a furnace or boiler with a draft hood, you can check your venting system by following three easy steps:

1. Run your furnace or boiler at least five minutes until the combustion products heat the vent pipe. Then, close all windows, doors and fireplace dampers.
2. With the furnace operating, hold a lighted match just below the draft hood, moving it across the entire opening.
3. Keep an eye on the flame. It should be drawn upward.

If the flame is blown downward or goes out, have the venting system checked by a qualified heating contractor or gas company.

Periodic maintenance

To keep your furnace operating properly, be sure to replace your air filter monthly. A dirty filter causes the furnace to work harder than normal, resulting in higher energy bills.

Oil the motor, blower or water pump according to manufacturer's instructions.

Remember, if you suspect a problem with your heating system, call a qualified heating contractor or gas company as soon as possible. Check the yellow pages to find a heating contractor in your area. To reach the gas company, call the customer service number listed at the bottom of your bill and in the white pages of your local telephone directory.

Carbon monoxide

If your furnace or venting system is not operating properly, the furnace may produce carbon monoxide, an odorless toxic gas.

Exposure to carbon monoxide causes headaches, nausea, dizziness, ringing in the ears, drowsiness, vomiting or heart fluttering. If you feel these symptoms, open the windows or go outdoors immediately and call the gas company from a neighbor's phone. Get medical help if needed.

Timeline: A date to remember

This is the first in a series of articles celebrating the 25th anniversary of Fermilab (1967-1992).

Throughout 1992, FermiNews will feature Timeline: A date to remember as a regular column dedicated to milestones that occurred during the first twenty-five years of physics at the Laboratory.

The staff of FermiNews welcomes employee submissions, either in the form of written articles or story ideas, to the column.

When the Atomic Energy Commission (AEC) revealed on Friday, December 16, 1966 that it had picked Weston, Illinois as the site for its proposed 200 BeV (today, GeV) accelerator, it seemed as if a Christmas gift had been delivered early to western DuPage county.

The original 200 GeV accelerator developed into, over the course of 25 years, a nearly 1 TeV proton-antiproton collider that today spills over into neighboring Kane county. During that same time, the National Accelerator Laboratory, as it was first named, would evolve into the Fermi National Accelerator Laboratory and then Fermilab.

Twenty-five years of physics history-in-the-mak-

ing began on that cold December day when Glenn T. Seaborg, then-chairman of the AEC, made the announcement that "The Weston site...is the most suitable location for this large project." The story of Fermilab, however, actually predates December 16, 1966 and even the existence of Weston...

In the 1950s, high energy physics laboratories were a continent apart, located primarily on the East and West coasts. The Brookhaven Cosmotron and the Berkeley Bevatron stood at the forefront of high energy physics with their respective proton synchrotrons—which then were the two largest in the world. The exciting discoveries made by these machines in this era of high energies quickly compelled their designers to test the limits of accelerator building in order to push the frontiers of the field to high energies. By 1960, design studies were being carried out at a number of universities and laboratories to build a larger, more powerful accelerator in the range of 200 GeV. In Illinois, the area surrounding what was soon to be developed into the "suburb" of Weston was not much more than an unincorporated tract of largely agricultural land. Such a parcel was ideally suited for the envisioned accelerator. Unknown at the time to unwitting local families like that of Edwin Kammes who had farmed



Two aerial views of the Fermilab site: Above, 1968 with NAL buildings on the far right. Inset, Fermilab today.



here since 1920, the stage was being set at universities around the country for one of the largest scientific initiatives ever to be undertaken.

In 1963 the President's Science Advisory Panel on High Energy Physics, chaired by Norman F. Ramsey, recommended that the proposed accelerator indeed be built as the next major high energy physics facility. The AEC solicited site proposals from universities, AEC laboratories and states, stipulating that all interested parties conform to a set of specific geological, cultural, power, water, accessibility, academic, indus-

trial and staffing requirements. The AEC initially found itself sitting atop a pile of 126 proposals for over 200 sites. By September, 1965, the AEC had pared the list down to 85 sites, and March of 1966 saw the list shrink to six sites as the Commission applied the criteria it had set forth.

South Barrington, in Chicago's Northwest suburbs, removed itself from the list of finalists when community support for the accelerator waned. A petition circulated in Weston during May of that year to locate the project elsewhere, but support for the project was

Continued on page 4

Jeff Appel investigator for US-Israel BSF funded research

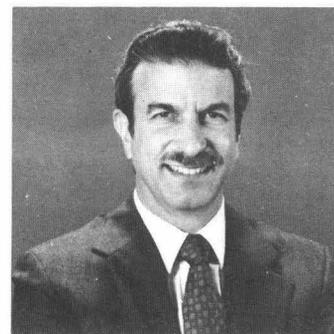
Jeff Appel, Head of the Physics Section and Daniel Ashery (Tel Aviv University) are co-principal investigators on a proposal to the US-Israel Binational Science Foundation (Jerusalem). They were recently awarded a three-year grant to be used to fund the experimental search for the pentaquark, a never seen form of matter. This search is part of E791—a continued study of heavy flavors at Fermilab's Tagged Photon Laboratory.

The Binational Science Foundation (BSF) is a grant awarding institution that promotes research cooperation between scientists from

the United States and Israel. It was established by the two governments in 1972 and began awarding grants in 1974. The BSF funds highly rated research projects in a wide range of sciences. Projects are funded on the strength of their scientific merit, collaborative arrangement and government interest. Grants are awarded to cover the costs of research performed substantially in Israel. The operations of the BSF are directed by a board of governors, consisting of five representatives from each government. Chairmanship of the board alternates annually between U.S. and Israeli members.

An Israeli executive director, American deputy and staff in Jerusalem administer the BSF in accordance with the board's directives.

Of the collaboration made possible through the support of BSF Jeff said, "The nuclear physics background and particular interests of Daniel Ashery have expanded the physics potential of E791 to include a search for five quark final states. This is not something that any of the preexisting collaboration members recognized." Jeff continued saying, "The involvement of the Israeli group has further expanded our collective aware-



Jeff Appel

ness from this starting point to include a wealth of molecular and nuclear type final states which could be produced and visible in our data set" thus providing "both a specific new focus and an expanded awareness of related research ideas."

Timeline continued

already too great. Opposition numbered in the hundreds while support for the project reached the thousands.

At the time, resident Floyd Ford, owner of 26 acres on the western edge of the site, was ready to sell out "if the price was right." Chicken farmer Peter Erdmann, owner of 130 acres also said he'd "like to get out of here. This is too small for us" a *Chicago Sun-Times* article recalls.

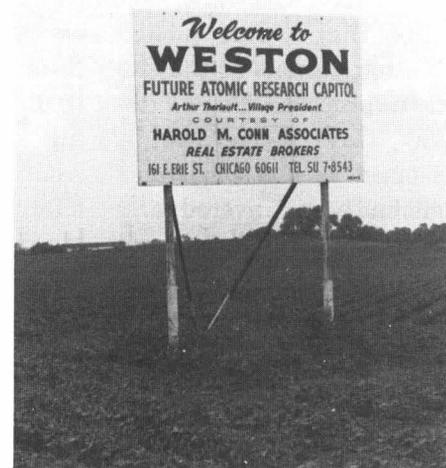
Neither family had very long to wait. An AEC summary presented in early November 1966 noted that the final six sites (Ann Arbor, MI; Brookhaven, NY; Weston, IL; Denver, CO; FermiNews page 4

Madison, WI and Sierra Nevada, CA) all met the prescribed requirements, but two—Madison and Weston—topped the list made by the AEC on November 29. The AEC selected the Weston site on December 7 and made its formal announcement on December 16. The AEC selected the Weston site on the basis that Weston "is the best location for construction [of] a national facility," the agency said in a statement immediately following the disclosure of the site selection. Support in Weston echoed the AEC assertion, the *Chicago Sun-Times* found. Congressman John Erlenborn of Elmhurst was certain that "we will like the scientists who will be attracted to our midst

and that they will like us."

In a prior report from a National Academy of Sciences (NAS) committee to the AEC, the committee predicted that "the full-time resident staff will number about 2,400 and will include many physicists, engineers, mathematicians and skilled technicians. Each year, hundreds of scientists from universities and research institutions across the country will be regular visitors or temporary residents."

Twenty-five years later, their prediction still holds



One year after the Atomic Energy Commission selected Weston as the site for the new accelerator, developers welcomed the NAL to the area.

true at a place called Fermilab. —Brian Dick

Fermilab-developed software licensed

Universities Research Association, Inc. (URA) recently executed a nonexclusive software site license agreement with Structural Dynamics Research Corporation (SDRC) Software Products Marketing Division, Incorporated for software developed by **Frank Koenen** (CD Assess/System Integration Group).

Frank's software, which took three months to develop, is called CADUSAGE. It is a utility that monitors concurrent SDRC module usage in a heterogeneous environment.

Frank developed the software after Fermilab worked out an agreement with SDRC to purchase 100 licenses for various CAD/CAM programs. The licenses allowed us to install the modules on different types

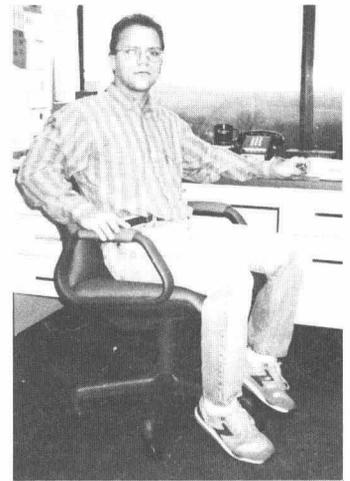
of systems and have up to 100 users at one time. This agreement was satisfactory to the Lab, but was impossible for SDRC to monitor.

"What presented the problem is that the modules were installed on different systems," said developer Frank Koenen. "If all the SDRC's CAD/CAM modules were installed on the same type of system, they would have been able to monitor usage, but that is not the Fermilab environment. We are a unique organization," said Frank. Frank's newly copyrighted and licensed program solves this problem by allowing SDRC to successfully monitor Lab-wide usage of the modules.

Although the recent license grant is a very limited one—the licensee (SDRC) can only use the software at

Fermilab, it is nonexclusive. This means that URA is free to license to others should it prove advantageous to do so in the future. "This license represents an acknowledgement by a respected commercial software developer that Fermilab-developed software may have applications outside the world of high energy physics," said **John Venard**, Fermilab Licensing Officer.

Along with the recent software development, Frank is now working to heighten license accessibility by installing the modules at fewer sites. "If we pile all our apples in fewer places, our buffering is better," said Frank. It is now the plan to install the modules at only three sites Lab wide. Currently there are 20 individual SDRC licensed sites with users from the



Frank Koenen developed recently licensed software that monitors SDRC module usage.

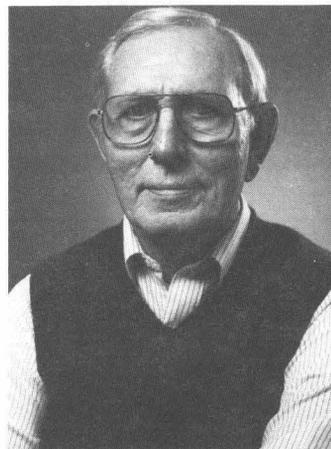
Accelerator Division, Research Division, Physics Section, Technical Support Section, DØ and CDF. "By depositing all SDRC licenses centrally, we should have greater user access," said Frank.

Milestones

Richard Fricke to retire

Richard Fricke (TS/Engineering) will retire from the Laboratory February 1, 1992 after more than 7 years of service.

Richard joined the Fermilab staff in October 1984 after retiring from the Automotive Product Division of Universal Oil Products in Des Plaines, Illinois. During his career at the Laboratory, he has worked on the design of the CDF central tracking wire chamber, coil collaring and curing processes, various SSC designs, DØ central detector, antiproton source-debuncher momentum scraper and various magnet test facility probes. When asked if he had a favorite project, he replied, "I liked them all; they were all enjoyable." After retirement, Richard and his wife, Milly, look forward to enjoying life with their children, granddaughters and friends. They plan to pursue their interests in woodcrafts, traveling, hiking and biking.



Travel Office announces holiday schedule

The Travel Office will be closed all day December 23, 1991 - January 1, 1992. The office will reopen for business on January 2, 1992.

In the case of emergencies only, employees may call Travel and Transport, 708-377-4580 for travel arrangements.

Nalrec news

Nalrec's employee Christmas party is tonight at the barn. Festivities will begin at 5:15. The evening will include lots of raffles, music by *Cruisin the Loop*, Brown's chicken and pasta, plenty of fun and of course a lot of holiday spirit. Don't miss it.

The Christmas Dinner dance is tomorrow night, December 21. The Nalrec New Year's Eve Party will be December 31. Both events will be held at the Fox Valley Country Club. Hope you have reservations.

Thanks to all who sent recipes for the Fermilab Cookbook. We have quite a few, but of course we would like more. If you have a recipe to submit, send it to Nancy at MS 315 or Charlotte at MS 228. Spouses and family members are welcome to participate—so send them in now.

The Big Powderhorn ski trip will be February 21-February 23. The cost of the entire package is only \$165 and it includes 2 nights lodging (per person, double occupancy), bus transportation and sandwiches and refreshments during travel. It is a great price for a great trip. Put in your deposit now because reservations are filling fast and space is limited. Call Nancy Bartlett at x2902 if you have questions.

Did anyone notice the beautiful tree in the front foyer? This tree was purchased from Snow-Crest Christmas Trees in Montello, Wisconsin. Our thanks to: **Bob Hall** (BS/Rds & Grds.) for choosing such a shapely one; **Wayne Smith** (BS/Support Services) for its safe delivery; the **Roads and Grounds crew** for standing it; **Ray Foncesa** and **Bill Hickey** (BS/Bldgs. Mgt.) for adding the lights; **Maria Jaquez** (DO/Medical Accel.), **Joyce Randle** (CD/D A Support), **Sharon Rowland** (BS/Emergency. Srv.), **Mike Frett** (AD/Mech. Support), **Ellie Rodriguez** (Directorate/



Charlotte Smith (l) and Brenda Kirk (r) admire the Wilson Hall Christmas tree.

Budget Office), **Brian Dick** (LS/PIO), **Elizabeth Gonzalez** (LS/Pub. Off.), **Sylvia Trevino** (DO/Medical Accel.), **Margaret Pitz** (LS/Employment), **Gary Smith** (RD/Mech. Dept.), **Marilyn Rice** (Directorate), **Diana Topalski** (FES/Engineering and Planning), **Colleen Choy** (Directorate) and **Charlotte Smith** (BS/Comm.) for decorating it. The finishing touches were added by the NALWO members who made and placed red bow in the tree in memory of Roberta Myers and the tots from the Children's center who added their hand-made ornaments. No wonder it looks so nice. —*Charlotte Smith*

A letter of thanks

The family of Roberta Myers is most grateful to her friends and students at Fermilab for their cards and messages and especially their loving concerns during her illness and death.

Roberta's Fermilab teaching experience, which lasted more than ten years, was the climax of her career, not only because, as she often said, "physicists and techni-

cians and their spouses are so intelligent," but because her students were so eager to learn and so friendly. Roberta loved her students and her association with Fermilab.

It is a great comfort to her family that the love was reciprocated. —*Gerald Myers*

Logo now available as font

Through the efforts of **Matt MacPherson** (AD/EE Support) accurate Fermilab logos for use with Macintosh computers are now available.



The logos can be installed as a font using the Font/DA mover. The new font is compatible with System 7 and earlier system versions and most word processing, drawing and page layout programs.

The font can be printed at any point size and in drawing programs can be proportionally sized. It can be saved and imported as either text or a graphic.

Copies of the font along with instructions for installation and use can be obtained from Visual Media Services, WH catacombs or the Publications Office, WH6NW.

To get a copy, bring a new diskette to one of the above locations. Please, no phone requests.

URA scholarship information

Candidates for Universities Research Association, Inc. (URA) scholarships are reminded that applications are due March 1, 1992. Applications are available from and should be returned to Personnel Services, MS 113, x4367.

Scholarships are awarded on the basis of SAT (Scholastic Aptitude Test) scores.

URA awards a number of scholarships to regular, full-time Fermilab and SSC 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.

Applicants will be notified regarding the scholarships in early April.

Harper's index

Ratio of the Barbie dolls sold in the United States since 1959 to the number of Americans born since then: 5:1

Price of a deluxe model Jog-A-Dog, a treadmill for pets: \$1,695

Attention Apple users

Apple Computer discovered a potential safety issue that we want to bring to your attention. During factory screening of the power adapter for the Macintosh® PowerBook™ family of computers, Apple found two instances in which the plastic case was not properly sealed. If a power adapter case is improperly sealed, the top and bottom plastics of the power adapter separate, exposing the internal electrical components of the power adapter.

We currently have *no indication* that any power adapter with this condition has entered our distribution channels. However, since there is a remote possibility of electrical shock, *any* loose cover in a power adapter should be considered a safety concern. We are, therefore, providing guidelines for you to follow in order to minimize the impact of an improperly sealed adapter.

Customer Guidelines

If you discover a separated power adapter unit already plugged into an outlet:

1. Turn off the power source to the outlet.
2. Remove the power adapter from the outlet. *The power adapter should only be held by the sides of the plastic case.*

Report any power adapter unit in the field that has a separated plastic case. Please call PC Carry-in Repair at x2719 and they will exchange the separated unit for a new one, using normal warranty procedures.

The manufacturing process that created the potential for unwelded units was revised early in production, so it is unnecessary to screen unopened inventory or stand-alone power adapters.

Thank you for your assistance in resolving this safety issue. For further information contact Dick Adamo, x3180.

Estimated number of cookies that will be left out for Santa Claus this Christmas Eve: 84,000,000

Ratio of the density of the average fruitcake to the density of mahogany: 1:1

Cla\$\$ified ad\$

Miscellaneous

Electric organ, Conn Rhapsody model 626 style 1. Approx. 28 years old, needs tuning, \$300 o.b.o. Call James at x4073.

Royal "Dirt Devil" upright vacuum cleaner, 7.0 amp motor, brand new, \$95. Call Glenna at 708-898-1408.

.45 carat marquis cut diamond ring with accompanying gold ring. Appraised at \$1,600. Will sell for \$850 or reasonable offer. Call Mike at x4518.

Canon AE1 program camera with lens, flash and bag for \$225 o.b.o.; **Soloflex**, \$500 o.b.o. Call Geoff after 6 p.m. weekdays at 708-527-8024 or weekends at 708-499-0241.

Leica M4 camera case, like new, \$65 o.b.o. Call Dick at x3180.

Pets

For sale **Rottweiler puppies**, 7 weeks old, AKC, males \$375, females \$400. Call 708-377-9085, leave a message.

Real estate

House to share, available Feb. 1, private bdrm, bath, livingrm with hrdwd flrs, built in book shelves and fireplace. Share kitchen, outdoor jacuzzi. Located in Warrenville, 5 mi. from Wilson Hall. Must be nonsmoker. \$500/month utilities included. Call Pierrick x3001 or 708-393-6989.

Wanted

Eight-foot slate pool table in good condition. Call Ron at x4663 or 708-466-1823.

Congratulations to:



Quality corner

Just as the folklore of family management states that if you don't spoil children, and are sure to raise them with loving discipline, they will turn out to be good, so the folklore of business management states that if you have good in your heart, you will produce quality.—Philip B. Crosby, Quality is Free

The Quality Assurance and Value Engineering Office appreciates contributions to the *Quality corner* column in *FermiNews*. If you have a suggestion on how to improve the quality, efficiency, reliability or effectiveness of a Laboratory service or operation, please send it to Mark Bodnarczuk, MS 200 or FNAL::Bodnarczuk.

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The deadline for the Friday, January 17 issue of *FermiNews* is Wednesday, January 8. Please send your article submissions or ideas to the Publications Office.



Happy Holidays