

School Time at Quality Assurance and Reliability

For Quality Assurance and Reliability (QA/R) employees, school never seems to end.

Recently Jeff Bennett graduated first (both academically and as a trouble-shooter) in his class in Training in Air Conditioning, Heating and Refrigeration Technology. Using his newly gained knowledge, Jeff will be even more effective in the inspection of the installation, testing, and balancing of Heating, Air Conditioning, and Ventilation (HVAC) equipment here at PPPL.

Last spring three QA/R employees, Ray Camp, Jim Graham, and Judy Malsbury, became American Society of Quality Control (ASQC) Certified Reliability Engineers (CRE). This peer-recognition program is based on a combination of experience, education, and a five-hour examination. According to ASQC, these awards are given to professionals "who can understand and apply the principles of

performance evaluation and prediction to improve product systems' safety, reliability, and maintainability."

Last spring Judy Malsbury became the 684th (worldwide) ASQC Certified Quality Auditor. Similar to CRE, this is a peer recognition based on a combination of education, experience, and an examination that demonstrates an understanding of the standards and principles of auditing and the ability to use these standards and principles effectively.

PPPL maintains an active role in the development of quality professionals. Since 1988 the Laboratory has frequently hosted evening courses offered by the Princeton Section of the ASQC. Via a variety of nationally recognized certification programs, Quality Assurance and Reliability employees continue to take courses to increase their contributions to the Laboratory and to their professions.



Photo: John Peoples

QA&R staffers who recently completed advanced education in their areas are: (front) Jim Graham and Jeff Bennett, (back) Ray Camp and Judy Malsbury.

United Way Incentives Announced

PPPL's United Way Committee today announced that nearly 100 donated prizes will be given away to employees during the Laboratory's United Way campaign.



According to Mary Ann Brown, this year's United Way Coordinator, the grand prize is airfare for two to London on the British carrier Virgin Atlantic. The drawing will be on December 5, and *anyone* who makes a donation to this year's campaign is eligible to win. This prize was arranged for the Laboratory by DeLuxe Travel.

Steve Iverson, Director of Personnel, says that at each of the nine United Way meetings, the Laboratory will be donating its own door prize — an extra vacation day.

continued on page 2

November 27 & 28 United Way Campaign Gearing Up

This year's two-day United Way Campaign will be held November 27 & 28. All employees will be assigned to one of nine meetings which will be held in Gottlieb Auditorium (schedules to follow).

Dori Barnes, this year's Chairman, says that while inspiring charitable donations is the main purpose of the campaign, she thinks that employees may be also interested in the refreshments and door prizes that will be offered at each of the meetings. "We aren't trying to hide the fact that our goal is to raise money during this time, but

continued on page 2

United Way Q&A — Employees Respond with Questions

In the last issue of HOTLINE, employees were asked to supply us with more questions to pose to United Way. We have received two which are answered below. Other questions sent to HOTLINE by November 23 will be addressed during the United Way Campaign meetings.

Why has the Princeton United Way chosen to have the American Red Cross be its "partner" instead of allocating funds to it as a "member organization?"

UW: The reason that they are partners is because of something that happened in 1950. At that time the Red Cross was the largest service organization within the area and they had the most name recognition. Therefore, to help the United Way campaign, the arrangement was negotiated. They are the only agency today that provides special assistance during the campaign, but they still have to go before the Needs Assessment committee when their funds are being negotiated.

Does the United Way contribute to any counseling agencies (such as Planned Parenthood), which consider abortion an acceptable option?

UW: No. We do not provide funds for abortion counseling.



Present at PPPL's November 5 United Way kick-off for the General Council were: (l to r) Mark La Mar, Executive Director of Guidance of Mercer County; Janice Carson, United Way Princeton Area Communities Campaign/Communications Director; and Wendy Crook, Executive Director of United Cerebral Palsy. Photo: John Peoples

continued from page 1 **Incentives**

Other prizes include brunch packages at Forsgate Country Club, Casa Lupita, Alchemist and Barrister; lunches at the Ramada Sandlewood, House of Shih; and dinners at the Coach and Four Restaurant and the Nassau Inn.

Gift certificates are being offered by Good Time Charlies, Encore, the Lu Ann Shop, the Annex Restaurant, Deck the Walls, Arties Parties, and Alpen Pantry.

Packages are also being offered by Holiday Spa, Jazzercise, American Cinema, MAB, Regis Hair Stylists, Lena Scemica, Mary Kay Cosmetics, Treasure Island, Crown Jewel, Wicks and Sticks, Pet Kingdom, the Cupboard, Inc., Hickory Farms, and Silver Visions.

continued from page 1 **Gearing Up**

we'd also like employees to come out and enjoy the presentations. Who wouldn't like an extra vacation day or a trip to Europe?"

While attendance is encouraged, some employees may have extraordinary situations which prevent them from being present at their assigned time. To accommodate these situations, envelopes will be available from the receptionist in the LOB lobby, as well as from Dori Barnes and Mary Ann Brown. Any employee who anticipates being absent is asked to pick up an envelope and make a donation prior during the campaign so that they become eligible for the grand prize drawing.

November 27 & 28

APS Meeting Nov. 12-16

For the 32nd time, scientists from around the nation and all over the world will assemble for the annual meeting of the American Physical Society Division of Plasma Physics which is being held in Cincinnati, Ohio from November 12th to 16th.

This year nearly 90 staff members and graduate students will participate in the meeting. Papers will be presented by the following PPPLers:

D. Jassby — "High-Q Plasmas in TFTR"

P. Efthimion and The TFTR Group — "Comparison of Steady State and Perturbative Transport Coefficients in TFTR"

F. Perkins and The TFTR Group — "Test of Micro-Instabilities Theories on TFTR"

C. Skinner — "Soft X-Ray Lasers and Their Applications"

S. Suckewer — "Quenching of Einstein A-Coefficients in Plasmas and Lasers"

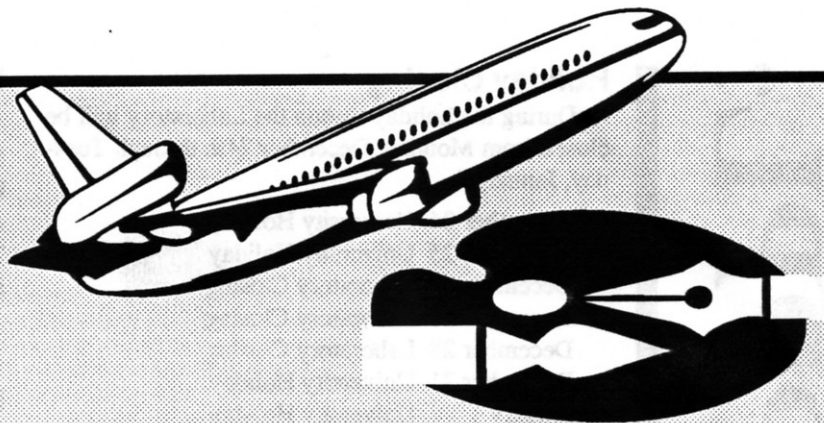
M. Yamada — "Initial Results from Investigation of 3-D Magnetic Reconnection in a Laboratory Plasma"

A. Reiman — "Error Fields and Locked Modes in Tokamaks"

S. Cowley — "Appropriate Mixing Length for the Ion Temperature Gradient Mode"

G. Neilson and The CIT Team — "Physics Design of the Compact Ignition Tokamak"

S. Cohen and The ITER Conceptual Design Activities Participants — "Power and Particle Control for ITER"



Travel & Graphic Services Pitch in for APS Meeting

As 90 staff members and graduate students make the annual pilgrimage to the American Physical Society (APS) meeting, this year in Cincinnati, at least two support departments within the Laboratory may use this time to catch their breath.

For the past three months Dawn Homer and Fran Gantiosa have put together mathematically improbable scenarios of itineraries and packages intended to satisfy individual participants' travel needs and work schedules, while upstairs in Graphic Services, Greg Czechowicz and Terry Birch prepared last-minute graphs and title and author poster strips.

Organization for this convention began in July when a Laboratory application for the Mid-west trek was submitted to the Department of Energy. In the next step individual applications were sent to Paul Rutherford for internal approval.

Then, according to Dawn, the fun began. She and Fran became involved in the process when individuals clutching travel approval forms presented themselves at her office to make arrangements. Registration forms, hotel deposits, cash advances, airline reservations as well as last minute amendments to

schedules, registration cancellations, and other changes of plans were handled with business-as-usual ease. Even the precautionary stipulation that no more than 20 PPPL employees fly on any one plane became part of the maze that Dawn and Fran successfully maneuvered their way in and out of.

And while the miles of details were being ironed out, cost-saving measures were put into place. All flights were booked on a carrier that offered a conference rate 40% lower than standard airfare. Fiscal conservation continues in Cincinnati where participants are booked in modestly-priced accommodations.

Up in Graphic Services the prep time may not have been as drawn out, but it was certainly no less involved. Greg estimates that during the three week period prior to the convention, he and Terry produced 300-400 graphics pieces, and many of these are done—or redone—in the final week.

So if the Lab's tempo seems less rushed and its personnel more sparse these days, at least two departments not attending the APS meeting may find that the quiet comes as a welcome, if temporary, change of pace.

—E. Webster

What's Happening at PPPL?

Holiday Closing

During the holiday season the Laboratory will be closed from Monday, December 24th through Tuesday, January 1.

December 24 University Holiday
 December 25 University Holiday
 December 26 Laboratory Closing
 December 27 Laboratory Closing
 December 28 Laboratory Closing
 December 31 University Holiday
 January 1 University Holiday

Staff members may choose to take the three Laboratory Closing days as vacation or they may use their two Optional Holidays in conjunction with vacation.

Exempt staff members will receive their December paycheck on Thursday, December 20; Bi-weekly checks will be distributed on Friday, December 21; Hourly staff can pick up paychecks in the Payroll Office, Mod II, on Friday, December 28 from 10:00 a.m. until 2:00 p.m.

Weather Alerts

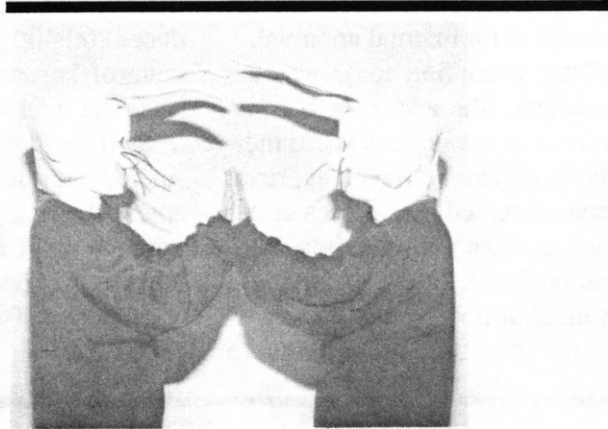
If, during inclement weather, the Laboratory will open late or remain closed for the day, announcements will be made on the following radio stations:

Princeton	WHWH	1350 kHz
Trenton	WTTM	920 kHz
Trenton	WPST (FM)	97.5 MHz
Levittown	WBCB	1490 KhZ
New Brunswick	WCTC	1450 kHz

In an emergency situation you may call (609) 243-2034 or (609) 243-2035 to find out if the Lab will be open or closed.

New Education Partnership

PPPL is just about to sign a formal partnership agreement with the Trenton School District, and we need your help. Volunteers are needed to visit classes, meet with students, and lend support and expertise to help reinforce education as a part of these students' futures. Call Diane Carroll at ext. 2107 for more information.



Fall Aerobics Schedule

The fall session of aerobic classes begins on Monday, November 12. New routines and music will be introduced. Aerobics is open to all PPPL employees. The class meets on Monday, Wednesday, and Thursday at 5:15 p.m. in the Cafeteria. For more information call Sally Connell, ext.2689

Health Fair Nov. 15

Find out everything you ever wanted to know about your HMO (Health Maintenance Organization). Come to the PPPL Health Fair in the LOB Lobby on Thursday, November 15 between 11:00 a.m. and 2:00 p.m. Representatives from the HMOs and the Princeton Health Care Plan (Aetna) will be on hand to answer your questions and exclaim the virtues of their programs.

And, remember November 12 through 30 is open enrollment — the time to make changes to your benefit packages. During this period, you can make changes to the Health Benefit Expense Account (HBEA), Dependent Care Expense Account (DCEA), and discuss life insurance options.

To help bring you up to date on benefits, *The Princeton Weekly Bulletin* will feature a special "Benefits Update" insert in its November 12th issue. Be sure and read it carefully.

Finally, Eleanor Schmitt will have special hours to assist you. Beginning Monday, November 12, and continuing through Friday, November 30, she will be available from 9:00 to 10:30 a.m. and 1:30 to 4:00 p.m. She is located on the first floor of the LOB in room B136. Her telephone extension is 2046.



Halloween characters in purchasing! Dressed for the occasion were JoAnn Palladino, JoAnne Bianco and Teresa Chapman . . . and looming in the background, an anonymous creature.

Photos: Dietmar Krause

Failure Reports have Positive Impact for PPPL

by James Graham

No one likes to admit a failure, but in August a special U.S. Department of Energy (DOE) review committee complemented the TFTR failure reporting system and the reliability data that it provides. This system, when implemented properly, has proven to be a very efficient way of finding, fixing, and sometimes preventing failures — all of which has lead to increased TFTR availability.

The System

The failure reporting system is not just useful, it is required — by PPPL, TFTR, and DOE. Failures or malfunctions of any equipment required to directly support or operate any experimental program or which is related to personnel or equipment safety must be reported. All PPPL employees are responsible for reporting failures, and employees repairing failed equipment must confirm that a failure report has been filed.

But, the system is more than just reporting. It provides an orderly, proven method for ensuring that problems are addressed promptly and given the attention they warrant. Failures are diagnosed, prioritized, and followed up by responsible individuals and tracked by Assurance Engineering. The system also provides for flexibility, such as modifying the failure report form (with Quality Assurance concurrence) to better suit the needs of a particular project. The TFTR project has customized the form for its use, for example.

One thing the failure reporting system is not meant to be is a complaint system. Complaints or irritations can be better dealt with by direct communication with the appropriate individuals. However, if you have any doubts as to whether a problem should be reported, do report it — Assurance Engineering or project management will then make the determination.

How the System Works

Failure Report information is used to detect chronic and recurrent problems related to a certain type of failure, piece of

equipment, manufacturer, or design. This is called a trend analysis and is performed by Assurance Engineering. Trend analysis is used by project management to track the increase or decrease in failure rates of equipment and to determine whether the rates and equipment repairs are under control or in need of more attention.

Failure information also provides reliability and operating information for use in the design of future fusion devices, such as the Compact Ignition Tokamak. The data are valuable since most of the present reliability data are from non-fusion projects. Design engineers and physicists learn from the reports how to improve future designs, realize operating constraints, and document methods for fixing problems.

Information entered on Failure Reports must be as thorough and accurate as possible. Missing or incorrect information can delay diagnoses, repairs, or the detection of trends which, in turn, costs time and money. In the case of TFTR, the failed part number (obtained from the critical parts list) is of particular importance to the trend analysis process and should be entered on the report.

The cause of every failure may not be determined and fixed, but every failure must be documented along with rationale for corrective actions taken, or not taken, and be approved by project management. For a "mature" project such as TFTR, it becomes increasingly important to efficiently resolve failures following proven procedures, such as PPPL's Failure Reporting System.

Training

Over recent months, training sessions on the failure reporting system have been conducted with various TFTR support groups by Assurance Engineering personnel. The training was conducted as part of an ongoing effort to improve collection, analysis, and use of information related to failures. The classes covered the requirements of Technical Operations Procedure 20.014, "PPPL Failure Reporting" and included explanations of the uses of failure reporting.

The training is paying off, based on recent failure reports. In general, failures are being reported sooner, the number of unreported failures has decreased, and the reports themselves are more complete. Consequently, the Assurance Engineering trend analysis program used to detect adverse failure trends and to aid in their resolution has more complete input data.

While the failure reporting system has been very successful on the TFTR, other Laboratory projects still need to increase awareness and participation in the system. During fiscal year 1991, Assurance Engineering staff will be contacting the management and staff of other experimental projects and begin working with them to help improve the system on a Lab-wide basis.

If any group or individual would like more information, training, forms, critical parts lists, or failure report data, please contact Assurance Engineering or any member of the Quality Assurance and Reliability group. They can provide information for use in failure modes and effects analyses and other design activities. They can also help you or your project track failures and their corrective actions, perform trend analyses, or conduct reliability studies. Their offices are in the Quality Assurance trailers located next to the Firehouse, and they can be reached on extension 2415.



TRANSITIONS TRANSITIONS

Retired

Samuel Hand retired November 1 after 24 years of service. His most recent position was as a Technical Associate.

CLASSIFIEDS

FOR SALE

Bedroom Set — Triple dresser, chest of drawers, more. \$200. Call C. Ancher, ext. 3770.

Rowing Machine — Lifestyler 3000RX. Sears. \$80. Call Rich, ext. 2312.

Desk — Metal Desk with typewriter return. \$50. Call Ellen, ext. 2757.

Motorcycle — Yamaha 1100 XS. Special (Black). \$900. Call Thomas Sereni, ext. 3474.

Buy, Sell, Trade Give Away or Trade

Send your ad to **HOTLINE**

Name _____

Extension _____

Item _____

Price _____

November Safety Classes

Safe Handling of Cryogenic Liquids

Friday, November 16

2:30-3:30 p.m.

This course will train personnel in the characteristics, hazards, safe handling practices, and Lab policies associated with cryogenic liquids.

Confined Space

November 19

8:30-10:00 a.m.

This course will train employees regarding the hazards associated with confined spaces and the proper procedures for entering a confined space.

Vacuum Vessel Work Practices

November 19

10:00 a.m.-12 noon, LOB Auditorium

This course is required for all personnel entering the TFTR Vacuum Vessel.

Basic Safety

November 19

1:00-2:00 p.m.

This class is required for **new employees** within the first 30 days of employment and subsequently for all employees every two years. The class includes information on general safety items as well as occurrence reporting, environmental and radiation information, and the New Jersey Right-to-Know law.

Test Cell Work Practices

November 19

2:30-3:30 p.m.

This course is required for all personnel who work in the TFTR Test Cell or Test Cell Basement or require unescorted access into the Test Cell.

*Unless otherwise indicated, courses are held in the D-Site Safety Trailer.
Preregistration is necessary and can be made
by calling Sue Hill at ext. 2526.*