

Energy Update:

ENERGY CONSERVATION WORKS AT PPPL

According to the PPPL Energy Management Team and the Department of Energy (DOE), the Laboratory continues to be a winner in its battle to conserve energy and reduce energy-related costs. This was officially recognized earlier this year by Herb Mix, Chief of the Engineering and Safety Facilities Branch in DOE's Princeton Area Office, in a letter to Bob Smart, PPPL's General Manager of Facilities.

In his letter, Herb noted that "as compared with all other sites under Chicago Operations Office management, Princeton Plasma Physics Laboratory's efforts toward energy conservation have been exemplary. The resulting 50% reduction in building energy use for the FY1975-FY1985 comparison period is to be commended."

Bob said, "It is very gratifying to receive this praise for the Laboratory. These results are direct evidence that our In-House Energy Management Plan is a good one, it's on track, and it's working! The plan's success reflects the full commitment and support received from all levels of management and the cooperation and hard work of the Laboratory staff."

Until recently, all government agencies measured energy consumption against a 1975 "Base Year." Under this DOE-wide energy conservation program, PPPL was required to reduce the average building energy consumption per unit of space (BTU/FT²) in existing buildings by 20% and reduce petroleum-based fuels consumption (fuel oil) by 30%. PPPL did very well. The Laboratory not only met, but exceeded DOE directives shown in Table I.

However, in 1985, a new 10-year energy conservation program with a new base year (FY85) was initiated by DOE. PPPL is currently in the second year of this program, which calls for an energy reduction of 10% in three areas: buildings, experimental operations, and vehicle and transportation. "PPPL can no longer rest on its outstanding accomplishments of the 1975-85 decade. The clock has been reset. However, I fully (continued)



PPPL's Energy Management Team: Standing are (left to right) Bob Smart, Jim Clark, Rich Pfeifer. Sitting are (left to right) Bob Gulay and Connie Stout. Dick Rossi was not available at the time of the photo.

(continued)

expect the Laboratory will meet and exceed these new goals, just as it did in the past," Bob said.

According to Connie Stout, Head of Plant Maintenance and Engineering, "We're off to a good start. Several major accomplishments were realized in FY86. When converted into BTU/FT², all buildings energy usage showed a 4.9% reduction. This 4.9% reduction means that PPPL is well on its way toward achieving the buildings energy reduction goal of 10% by 1995."

Rich Pfeifer and Bob Gulay echoed Connie's feelings saying, "considering that experimental operations' electric consumption increased by 37% in FY86 (due to increased machine operations) and that buildings' energy consumption tends to 'typically' parallel experimental operations, the 4.9% reduction in buildings' energy usage was most rewarding."

While PPPL's total experimental operations' energy usage increased by 37%, this number is a bit misleading considering the increased level of experimental activity. Without the major continuing efforts by personnel in operation areas, the increase would have been much greater.

Another area to see a major decrease in energy consumption in FY86 was the vehicle and transportation area. Prudent assignment, control, and management resulted in a 19.8% decrease in gasoline fuel consumption.

Translated into dollars and coupled with a PSE&G Interruptible Electric Service contract credit, these statistics represent a FY86 savings to the Laboratory as shown in Table II.

According to Bob Smart, "these realized energy savings help the Laboratory maintain its momentum in achieving its scientific mission by making these dollars available to Laboratory experimental and research activities, rather than have them lost to utility bills."

"As you can see," commented Jim Clark, PPPL's Deputy Director of Administration Operations, "employee support of energy conservation pro-

jects is having a very significant impact in redirecting funds from utility bills to other programmatic use. This strong support assures that these energy savings are not lost and that they will continue to increase in the future. As we succeed, our research and experimental programs reap the benefits."

Energy Awareness Month will be observed at PPPL during October. The "official" Energy Awareness Month was established by the Department of Energy to encourage the development of America's energy resources, technologies, and conservation habits. In keeping with this spirit, all employees are urged to continue their "extra effort" in making energy conservation work at PPPL.

Table I. Energy Reduction Goals and Results for FY75-FY85.

Energy Usage	PPPL Bldgs FY75	PPPL Bldgs FY85	Energy Reduction Goal	Energy Reduction Realized
Energy Consumption (10 ³)(BTU/FT ²)	1,232	620	-20%	-49.7%
Fuel Oil Consumption (kgal)	661	336	-30%	-49.1%

Table II. Energy Cost Savings in FY86.

Electric	\$ 105,000
Fuel Oil	\$ 16,000
PSE&G Interruptible Service Contract	\$1,007,400

(Note: These figures do not reflect a yearly savings of approximately \$1,000,000 due to energy conservation projects already in place prior to FY86.)

Employee Recognition Program Begins

"The Laboratory Council has given the go-ahead to Administrative Operations to test a Pilot Employee Recognition Program for one year," announced Jim Clark, Deputy Director for Administrative Operations. The program, which formally begins in September, will allow the Laboratory to recognize and reward employees or teams of employees who demonstrate a high level of contribution and achievement.

"Administrative Operations is very enthusiastic about being able to test this Program," Clark said. The idea was first proposed during R. Rossi's Administration Department dialogue meetings in October 1986, and was further supported by the ORC Attitude Survey results received in November. In fact, the ORC Task Force is addressing the issue of employee recognition as part of its agenda.

Who's Eligible

All full-time PPPL Administrative Operations employees below the position of Branch Head are eligible. Employees or teams of employees who have demonstrated a high level of achievement and contribution can be nominated by Branch or Division Heads. Nominees will be placed in one of three staff classifications (Lab and Shop, Office and Support Staff, and Ex-empt) and evaluated by a peer panel based on the following criteria: initiative, scope of accomplishment, merit, and application.

Laboratory Recognized for Laser Development Work



Szymon Suckewer, Head of PPPL's X-Ray Laser Project.

Selections

A "peer panel" composed of employees from a nominee's staff classification will evaluate the nominees using a point score evaluation system and select winners twice a year. Division Heads will appoint panel members once a year, with rotation among Divisions to insure all areas are equally represented.

Awards

All nominees will receive a memento in recognition of their nomination and contributions to Laboratory operations. The award winners will receive a plaque and certificate denoting their accomplishments. In addition, the Laboratory will also host an annual dinner in their honor and the winners' photographs and a story describing their achievements will appear in the HOTLINE.

If you would like any additional information regarding the Pilot Employee Recognition Program, call Barry Cohen at ext. 2037.

PPPL has been named a recipient of one of Research and Development Magazine's prestigious IR-100 Awards for 1987. Given annually, these awards recognize the laboratories responsible for developing what are considered the 100 most significant technical products of the year.

PPPL received the award this year for its efforts in development of an X-ray laser which operates at a wavelength of 18.2 nanometers in the soft X-ray region of the electromagnetic spectrum.

Development of the laser took nearly ten years: three years of intensive theoretical study by Szymon Suckewer and seven years of developmental and experimental work by a team of scientists and engineers under his direction. The team included Charles Skinner, Ernest Valeo, Alain Wouters, David Voorhees, Howard Milchberg, Chris Kean, and Dong Eon Kim.

Dr. Suckewer accepted the award for the Laboratory at a banquet hosted by Chicago's Museum of Science and Industry.

You Were Heard

One of the ORC Survey response items that was consistent from staff to staff related to the difficulty of employees having access to the Laboratory's Personnel Practices Manual. During the first week of September, over 100 additional Personnel Practices Manuals were distributed to all departments and divisions.

Please check with your supervisor or division secretary to locate the copy which is available for your use. Manuals are to be in open areas for easy access to all employees. Custodians of these manuals will be sent revisions as they occur.

Until Further Notice ...



New Jersey Bell is unable to fulfill their commitment to provide four-digit extension-to-extension dialing to 307 College Road. The engineers are working to resolve the problem.

Until further notice, in order to call a College Road number you must dial 9-243 and the four-digit extension. If you are using a restricted line, dial "O" for operator and she will connect you.

Call the Telecommunications Office, ext. 3435, if you have any problems.



University to Host Bi-weekly Employees' Staff Day

The 15th annual Staff Day will be hosted by Princeton University on October 10th at Jadwin Gym. Staff Day is the University's way of saying thank you for the many contributions of its bi-weekly staff members.

The day begins early, 9:30 a.m., with an exhibition of crafts by University employees and ice and food sculptures by the Food Services Chefs.

At 11:00 a.m., the all-you-can-eat picnic buffet lunch begins. The University Marching band with the Tiger and Tigress mascots, the cheerleaders, a disc jockey, and a square-dance caller will be on hand to entertain till 1:00 when its on to Palmer Stadium for football! This year's contest is between Princeton and Columbia.

It's not over yet! Winners of the five door prizes will be announced at half time. You need not be present to win, but you must have completed your ticket stub correctly. This means filling in all the blanks and using the employee's name on each stub, including those used by the family members and guests.

Tickets for this gala event will be available October 6th thru October 9th. Employees at 307 College Road can pick up their tickets from Sonja Patterson, Room 41A. Those at C-Site can get theirs at the Receptionist's Desk in the LOB Lobby.

Come and enjoy. Good food. Good friends. Great hospitality. What better way to spend a fall day?

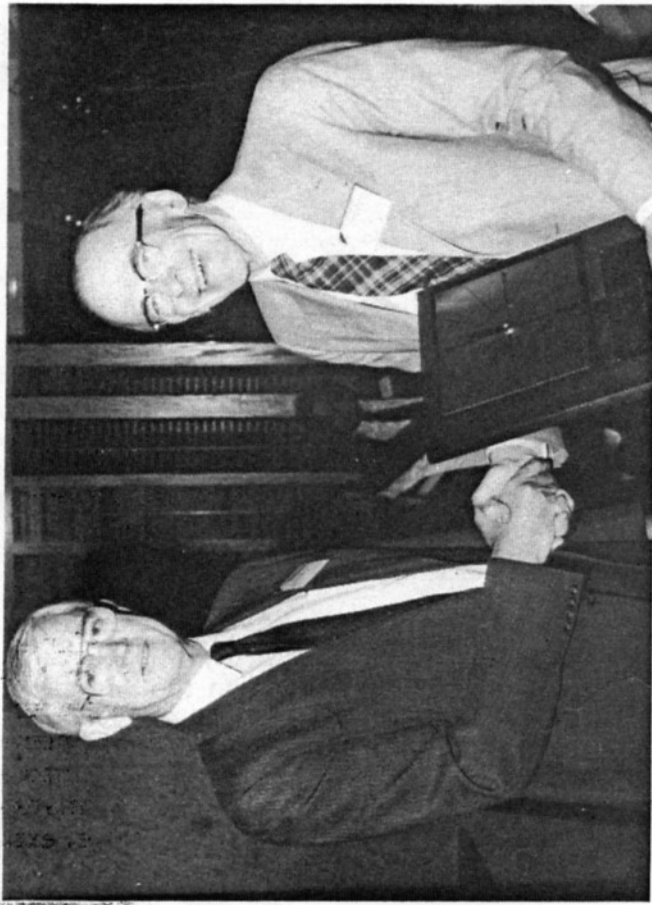
NEW LOCATION



The Print Shop has moved to C-Site. It is located directly across from the Photo Lab -- A105. Telephone extensions remain the same.

ANS Accepting Applications

The Northern New Jersey Section of the American Nuclear Society is presently accepting applications for membership. For additional information and application materials call Charles Gentile, ext. 2139.



Dr. Trivelpiece (left) and Dr. Spitzer (right).

Fusion Power Associates (FPA) presented Distinguished Career Awards to Melvin B. Gottlieb and Lyman Spitzer, Jr. Dr. Spitzer was director of the Laboratory from its inception in 1951 (when it was called Project Matterhorn) until 1961. Dr. Gottlieb was director from 1961 to 1980.

Dr. Alvin W. Trivelpiece, former director of the Office of Energy Research, received a Special Award recognizing his many accomplishments and in appreciation for his role as a founder of FPA.

Fusion Power Associates sponsored the symposium "Fusion Energy and Development: Breakeven and Beyond" at the Laboratory in August.



Dr. Trivelpiece (left) and Dr. Gottlieb (right).



Dr. Stephen Dean (left), President of FPA, and Dr. Trivelpiece (right).

Crime Story

Would you believe a plastic dog dish can help to protect you? It can, according to Vonnie Weiner, a representative of Citizens Against Crime, a group "dedicated to saving lives through self education."

Ms. Weiner's presentation, organized by Dolores Bergmann as part of the Secretarial and Office Support Staff Organization (SOSSO) seminar series, educated, shocked and delighted the 35 participants.

Ms. Weiner reported rape is a violent crime that has reached epidemic proportions and that men are twice as likely as women to be victims of street robbery. She said 90 percent of all shopping center crimes occur in cars, and she



The audience listens intently to Ms. Weiner as she explains crime prevention techniques that can be used effectively by everyone.

urged all to look underneath their cars since criminals appear to lurk there according to recent reports from a nearby mall.

She urged participants to create an illusion. "Buy a

large dog dish, put a menacing name on it and keep it outside," she said. A criminal might think you have a dog. She claimed this has proven effective as have "Beware of Dog" signs.

Another effective crime prevention idea is to leave outside lights on all night. Using multiple setting timers to turn the lights off and on is also recommended.

Ms. Weiner emphasized, "Be a risk to criminals. Be prepared. Have a plan. Think ahead to protect yourself."

Seminar organizer Dolores Bergmann felt, "it was a very effective presentation. I know I'm aware of crime prevention techniques I hadn't thought of before."



Ms. Vonnie Weiner (left), a volunteer speaker with Citizens Against Crime, is introduced by Dolores Bergmann (right), at a recent SOSSO seminar.

The Constitution of the United States celebrated its 200th birthday on September 17th. The Preamble to this great document tells of the hopes and dreams for the new nation. The eloquence and clarity of these words have remained undiminished through the years. For those who care to reflect, the Preamble is given below:

We, the people of the United States, in order to form a more perfect Union, establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity do ordain and establish this Constitution for the United States of America.



Introducing ...



Kim Warnick recently joined Graphic Services where she is involved with the preparation of material used in Laboratory publications, oral presentations, and poster board layouts.

Kimberly Warnick "officially" joined Graphic Services July 1, but actually she's been "on board" since March when she started as an hourly employee while finishing her last semester at Mercer County Community College. Kim graduated in May with an Associate's Degree in Applied Science in Advertising Design.

I have always known I wanted a career in art," Kim said. "I

enjoy working with all types of art mediums including air-brush, water colors, colored pencils, pastels, ink, and oils. I especially like to mix the mediums I work with."

A sports enthusiast, Kim has made half of her art studio a home gym so she can "work out." Weather and time permitting she also runs, bicycles, and participates in team sports.

TRANSITIONS

Births

The HOTLINE offers its congratulations to the following employees, who recently became proud parents:

Fred Dylla of TFTR Operations and his wife, Lillyan, whose daughter, Sarah Lynn, was born August 11.

Jeff Gettelfinger of Tokamak Operations and his wife, Laurie of Security, whose daughter, Amanda, was born August 12.

Stephen Paul of the Experimental Division and his wife, Gilda, whose daughter, Jody, was born August 13.

Tom Kozub of PBX and his wife, Janice, whose son, Eric, was born August 29.

Computer Corner



Did you know that most purchased software and even some free software is copyrighted?

Under the copyright laws, such software cannot be copied, in whole or in part, without the written consent of the author or licensing company, unless such copying is deemed to be in the "normal use" of the software or is to make a backup copy.

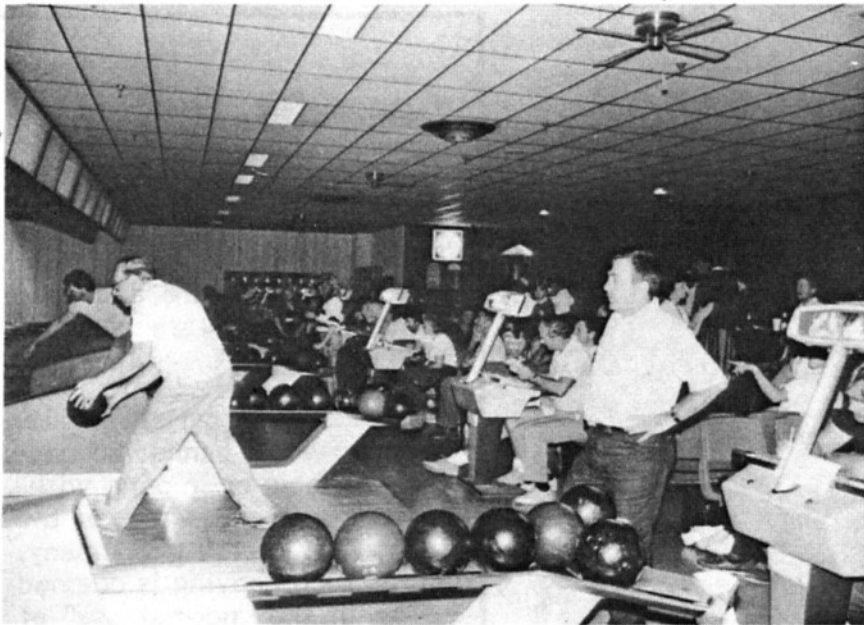
This exception does not allow copies to be made to be given to others. However, the original material may be given, loaned, or even sold to others. If you own more than one computer, you may run your software on any of your computers, but you may not copy the software for the purpose of running it simultaneously on more than one of your machines at a time.

Fines for violations of the copyright laws for software are reported to be running from \$5,000 to \$50,000 per offense.

Janet Roberts in the TFTR Diagnostics Fusion Products Group and her husband, Michael, whose son, Michael Albert, was born August 29.

Retirees

Francis Dodd after twenty-four years of service. Fran was a Technical Assistant in the MG Section.



Bowling balls began rolling down the alleys as the 1987-88 bowling season got underway September 9 at Colonial Lanes in Lawrenceville. Eight teams of five players each will vie for League championship over the next few months. To find out how you can be a substitute, contact League President Elmer Fredd, ext. 2120, or League Secretary Sarah Thomas, ext. 3711.



PPPL farmers grew a variety of crops this summer. Linda Fahner (from the Photo Lab) spent many relaxing lunch hours working in her plot. She recommends planting marigolds around the garden's perimeter to keep the rabbits out.



TOUR GUIDES



The second quarter of the calendar year saw a significant increase in the number of visitors to PPPL. Sixty-three guides showed 1,577 visitors around the Laboratory. The month of May led the period with 687. We'd like to thank the many volunteer guides who contribute so much to our visitor program.

April

C. Ancher
W. Blanchard
S. Bosch
D. Ciotti
A. Ehrhardt
R. Ellis, Jr.
J. Faunce
H. Feng
G. Gammel
C. Gentile
R. Goldston
R. Hulse
J. Johnson
R. Kaita
M. Kijek
N. Kokatnur
B. LeBlanc

G. Levitsky
T. Luce
G. Martin
T. McGeachen
E. Nieschmidt
M. Norris
E. Perry
S. Schweitzer
I. Zatz

May

C. Ancher
W. Blanchard
N. Bretz
D. Ciotti
A. DeMeo, Jr.
J. Doane

F. Dylla
J. Faunce
H. Feng
R. Gammel
C. Gentile
D. Ignat
G. Levitsky
T. Luce
M. Machalek
G. Martin
D. Meade
E. Nieschmidt
G. Oliaro
L. Ratzan
T. Saito
D. Shoe
J. Sinnis
M. Ulrickson
I. Zatz

June

H. Feng
R. Fleming
G. Gammel
C. Gentile
A. Ilic
N. Kokatnur
G. Levitsky
M. Machalek
G. Martin
E. Nieschmidt
J. Quanci
A. Ramsey
L. Ratzan

PPPL Conference Rooms

<u>Room</u>	<u>Capacity</u>	<u>Contact</u>	<u>Ext.</u>
<u>C-Site</u>			
LOB Auditorium	284	P. Stephens	2750
LOB, 3rd Floor (TFTR) (B318)	40	K. Collins	2202
Director's Conf Rm (B331)*	30	G. Pokrywka	2103
DOE Conf Rm (B252)	30	S. Thomas	3711
PBX Conf Rm (S213)	30	M. Mitas	3100
The Commons (LOB, 2nd Floor)	20	P. Stephens	2750
Theory Conf Rm (A168A)	20	B. Sarfaty	2440
Theory Conf Rm (A168B)	20	B. Sarfaty	2440
Procurement Conf Rm (Mod I, Rm 111)	20	E. Holland	2428
RF Conf Rm (Rm 245)	15	R. Fuchs	3334
Theory Lounge Area (Rm 150)	12	B. Sarfaty	2440

Building 307

Main Conf Rm (Rm 03)	60	A. McKenzie	3517
Mech Eng Conf Rm (Rm 31)	12	(Temp)	3003

*Subject to Director's need.

Safety Training Courses

The Occupational Safety Branch has scheduled the following safety training courses for October:

<u>Course</u>	<u>Date/Time/Location</u>
Asbestos Handling	06 October, 9:00-11:00 a.m. Safety Training Trailer
Respiratory Protection	07 October, 9:00-11:00 a.m. Safety Training Trailer
Forklift Training	08 October, 8:45 a.m.-12:00 noon Safety Training Trailer
PCB Handling	22 October, 9:00-11:00 a.m. Safety Training Trailer

Employees must obtain permission from their immediate supervisor to attend these classes. Supervisors should call Mary Ann McBride at ext. 3468 to enroll their employees.

Basic Safety Orientation for new employees is offered every Monday afternoon at 1:00 p.m.* in the Safety Training Trailer.

*Note change in time beginning this month.

Blawenburg Band Needs New Members

The oldest band in New Jersey is seeking new members. Established in 1890, the Blawenburg band of New Jersey is looking for people who enjoy playing a musical instrument and would like to be part of a musical group.

The band, which performs at local nursing homes, community events, and other benefits from May to December, rehearses Monday nights from 8:00-9:30. It has a special need for anyone who can play the following instruments: clarinet or bass clarinet; flute; oboe; bassoon; french horn; alto, baritone, or tenor sax; trumpet; trombone. No audition is required to become a member.

So, dust off that musical instrument that has been hiding in the back closet since high school or college. Become part of a group that gives personal enjoyment and brings happiness to others as well. For additional information please call Frank Homan ext. 3087 or (201)-359-5043.



Meeting Calendar

October

- 04-08 **3rd International Conference on Fusion Reactor Materials**, Karlsruhe, Federal Republic of Germany. Contact: Dr. Karl Ehrlich, Kernforschungszentrum Karlsruhe GmbH, Institute für Material und Festkörperforschung, Postfach 3640, D-7500 Karlsruhe 1, Federal Republic of Germany.
- 12-16 **12th Symposium on Fusion Engineering**, Monterey, CA. Contact: Mr. Carl D. Henning, Lawrence Livermore National Laboratory, P.O. Box 551, L-644, Livermore, CA 94550.
- 12-16 **Chapman Conference on Plasma Waves and Instabilities**, Sendai, Japan. Contact: Mr. B. Weaver, AGU, 2 Florida Avenue, N.W., Washington, D.C. 20009.
- 25-29 **ACM-IEEE Computer Society 1987 Fall Joint Computer Conference**, Dallas, TX. Contact: Cindy Cegelski, Infomart 1950 Stemmons Freeway, Dallas, TX 75207.
- 26-30 **8th International Workshop on Laser Interaction and Related Plasma Phenomena**, Monterey, CA. Contact: Professor George H. Miley, Fusion Studies Laboratory, University of Illinois, 103 South Goodwin Avenue, Urbana, IL 61801.
- 27-29 **IAEA Technical Committee Meeting on Research using Small Tokamaks**, Madrid, Spain. Contact: Mr. M. Leiser, Head, Physics Section, Division of Physical and Chemical Sciences, International Atomic Energy Agency, P.O. Box 100, A-1400 Vienna, Austria.
- 27-30 **34th National Vacuum Symposium**, San Diego, CA. Contact: N. Hammond, American Vacuum Society, 335 East 45th Street, New York, NY 10017.

More comprehensive meeting listings may be found in Nuclear Fusion, Physics Today, IEEE Spectrum, and Communications of the ACM.

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