Princeton Plasma Physics Laboratory

Vol. 17, No. 7 • May 28, 1996

Hotline

The Princeton Plasma Physics Laboratory is a United States Department of Energy Facility

Davies Outlines OFES Program

Until recently, the fusion research road had been narrow — focused on one objective by a specific deadline. In short, it led to the operation of a demonstration fusion power plant by about 2025.

Now, because the money required to meet such a deadline is "quite different" from the budget reality, the path has been widened to accommodate a broader fusion program, according to N. Anne Davies, the Associate Director for the Office of Fusion Energy Sciences (OFES), U.S. Department of Energy.

"This broader program is aimed at science and innovation, and tied to energy and international work, especially ITER (the International Thermonuclear Experimental Reactor)," said Davies, who briefed PPPL staff about "The Restructured Fusion Energy Sciences Program" during a May 14 visit.

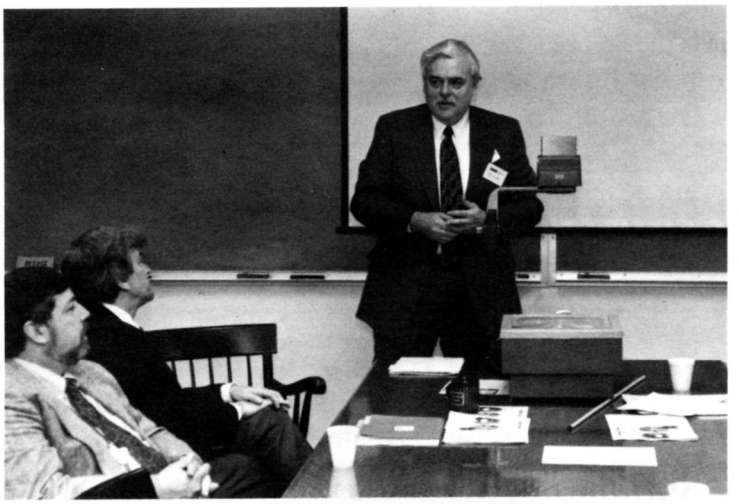
Davies said the restructuring retains a prominent place for PPPL as the national laboratory for fusion science. "They [the members of the Fusion Energy Advisory Committee] were clear it was this place — PPPL — because they recognize the tremendous value of the infrastructure here, both human and physical," she said.

The Associate Director said the new mission for the restructured program is three-fold, entailing the advancement of plasma science, the development of fusion science and technology and plasma confinement innovations, and the continuation of

N. Anne Davies addresses PPPL staff.

Continued on page 2

Local Politicians Visit Lab; Sign Letter of Support



Plainsboro Mayor Peter Cantu (standing) participates in the discussion among area government representatives and PPPL and DOE officials during the Breakfast Briefing at the Laboratory in April. At the far left is Jerry Faul, of the DOE Princeton Group, and in the middle is PPPL Director Ronald C. Davidson.

Area municipal and county officials visited the Laboratory on April 23 for a "Breakfast Briefing," which included a discussion about the present funding and staffing levels at PPPL and their impact on the local economy. This visit concluded with a tour of TFTR.

Plainsboro Mayor Peter Cantu, who attended the briefing, sponsored a letter from the local officials to the chairmen of the House Appropriations Committee and the House Science Committee in support of PPPL and fusion energy research. The letter stated, in part, "...We strongly endorse a fully funded U.S. program in fusion energy science and technology — specifically a $255.6 million appropriation for the Fiscal Year 1997 budget." In addition to Mayor Cantu, representatives from Mercer, Middlesex, and Somerset Counties, Princeton Borough, Princeton Township, West Windsor Township, and South Brunswick Township signed the letter. ●

Davies

Continued from page 1

the efforts toward developing fusion energy science and technology through international collaborations, in particular on ITER. "[We must] do it with an eye toward how this will ultimately provide and contribute to the knowledge base for fusion energy, recognizing its potential for the nation and the world," said Davies.

She also noted that since the U.S. — unlike Japan and Europe — does not have a driving need for new energy sources, America's development of fusion energy will not be on a time scale.

Davies summarized the ten principles for the restructured program that were developed by FEAC. These include (1) focus on science, (2) keeping the energy goal, (3) being reliable as an international partner, (4) being complementary to the international effort, (5) having leadership in selected areas, (6) striving for scientific excellence, (7) maintaining a balance of facilities (small, medium, and large-scale), (8) recognizing the importance of a national laboratory for fusion science, (9) recognizing the need for education and human resources, and (10) having a diversity of participation.

The response to the FEAC recommendations is to first focus on innovations and science, said Davies, who addressed a full auditorium at PPPL. "We are already working with other areas of the government and the department to develop a university-based plasma science initiative."

For the tokamak experiments, OFES is setting priorities among tokamak physics issues and using those facilities accordingly, said Davies. In addition, the Office is enhancing existing and beginning new small- and medium-scale alternative concepts experiments to complement tokamak physics, as well as enhancing theory and modeling research.

Plans further call for allowing the highest-priority scientific opportunities on TFTR to be exploited before terminating its operation during FY 1998 to free up funds for other science issues.

But while the TFTR program is concluding, $5 million for fiscal year 1997 has been requested to begin building the National Spherical Tokamak Experiment (NSTX) at PPPL using the PLT base and space and various hardware from other experiments here at the Lab. The NSTX will be built as a national experiment in collaboration with various universities across the nation.

Davies, noting that her lunch meeting at PPPL revolved around plans for NSTX and the accomplishments on TFTR, thanked the staff for its dedication and professionalism during what she described as "turbulent times." "This is the bedrock science that we do in the fusion program. Without it there is no fusion program," she said. ●

DOE Princeton "ReGroup"

Taking part in a larger Department of Energy (DOE) effort to downsize, the DOE's Princeton Group has trimmed its staff from 19 to 15.

"We made a conscious decision not to replace anybody who left," said Milton Johnson, the most recent to transfer out of the Princeton Group. This month, Johnson, who had been Manager of the Princeton Group, becomes the Deputy Associate Director of the DOE's Office of Fusion Energy Sciences (OFES) in Germantown, Maryland, as well as the Director of OFES's Technology Division.

Down to 15

"The Princeton Group peaked at 19 employees during the period of most intense activity, the TFTR deuterium-tritium preparation period and TPX. With me leaving, the group goes down to 15," said Johnson. Jerry Faul is presently the Acting Manager of the Princeton Group.

Johnson said any vacated positions will not be filled as employees leave until the Department knows where the fusion program is headed and what role PPPL will have in the restructured Fusion Energy Sciences Program and the required needs of

Continued on page 3

HOTLINE

Editor:	**Carol Phillips**	**Graphic Artist:**	**Greg Czechowicz**
Writer:	**Patti Wieser**	**Layout:**	**Greg Czechowicz**
Photography:	**Dietmar Krause**		**Patti Wieser**

The HOTLINE is issued by the Princeton Plasma Physics Laboratory, a research facility supported by the United States Department of Energy. It is primarily an internal publication. Correspondence and requests to reprint material should be directed to the Editor, PPPL HOTLINE, P.O. Box 451, Princeton, NJ 08543; Interoffice correspondence should be addressed to Room B378, LOB Bldg., C-Site; fax 609-243-2751; telephone 609-243-2754; e-mail caphilli@pppl.gov

DOE

Continued from page 2

the on-site staff. "We may shrink more, depending on the goals of the Lab in the future," he added.

Johnson said the DOE, as part of a Strategic Alignment Initiative, established a goal to reduce its staff by one-third. This shrinkage is expected to occur predominantly in the DOE Headquarters rather than in field personnel numbers. He noted that the Chicago Office has already met its goals through 1998 through attrition and retirements.

The OFES, which had been called the Office of Fusion Energy, is being restructured following the Fusion Energy Advisory Committee Review. It has already dropped in number from 43 to 39. "Our hope is to go down to 29 by the end of the next fiscal year," said Johnson.

Despite the downsizing, Johnson said one of his goals as Deputy Associate Director for OFES is to foster a stronger working relationship between the Princeton Group and the fusion group in Washington, D.C. "I intend to encourage the two groups to interact more with one another," he said. ●

Occupancy Sensors Move Into the Laboratory

Motion Detectors' Magic Saves Money ... Conserves Energy

Enter a room. Voila! It brightens. Exit. Eight minutes pass and presto! Lights out.

The *magic* that is being installed throughout most of the Laboratory beginning this month consists of occupancy sensors, also called motion detectors. The sensors turn off the lights anytime a room is unoccupied for approximately eight minutes.

"We're installing the sensors in all areas that are offices, cubicles, copier rooms and conference rooms," said Tom McGeachen, PPPL Project Engineer. Excluded areas include labs and shops. If funds remain when the first targeted areas at PPPL receive sensors, the units will be added to Module VI and to Facilities and Environmental Management (F&EM).

"This will save the Lab approximately $14,000 a year in electricity costs."
—Tom McGeachen

"This will save the Lab approximately $14,000 a year in electricity costs. That's 169,160 kilowatt hours a year in lighting savings, with an additional 30,754 kilowatt hours saved by reduced cooling loads," said McGeachen. The estimated average reduction in the electrical site demand is 200 kilowatts, which is approximately 2.5 percent of the non-experimental site electrical demand.

Holding occupancy sensors are, from left, Tom McGeachen, J.W. Anderson, and Carl Potensky.

Installation of 464 Units

The project, which is funded by In-House Energy Management, a division of the Department of Energy (DOE), entails the installation of 464 units that are ultrasonic motion detectors. DOE facilities already using these sensors include DOE Headquarters (350 units), Lawrence Livermore National Laboratory (1,500 units), Oak Ridge National Laboratory (400 units), Lawrence Berkeley National Laboratory (3,000 units), and Pantex (300).

The project at PPPL is expected to take seven weeks to complete, with individual office installations taking just 30 minutes apiece. In each office, installers will do the following: isolate the power to the lights; lock out the circuit breaker; install the sensor motion; restore the power; and check the operation of the unit. The benefits of the reduced cooling load is expected to be accrued this summer.

Previously, 20 units were installed on a trial basis for one year. During a period of adjustment, employees familiarized themselves with the operation of the units. The units continue to work well and save PPPL electrical costs.

McGeachen noted that following the addition of an occupancy sensor, two-circuit offices will continue to have two circuits, an energy saving option already in place in many offices. "If you have two light switches, you will still have two levels of lighting after the installation. There will be a selector for one row of lights, as well as one for all the rows," he explained. ●

[For more information, please call Tom McGeachen at ext. 2948.]

PPPL's Towner ... to the Rescue

When PPPL's Harry Towner gets a beeper call, it can land him on the roof of a multi-story building, in the middle of a car crash scene, or at the home of an injured or ill area resident.

Towner finds himself in the middle of such scenes as a volunteer on the Plainsboro Rescue Squad.

"This is a way of serving the community. It is neighbor helping neighbor," said Towner, who responds to about 200 emergency calls annually.

Towner, Head of General Purpose Operations and User Support Branch in the Computer Systems Division, is presently serving his third year as the captain of the rescue squad. He has also been its president, lieutenant, and trustee.

Inspired by Wife

The 14-year volunteer said he was inspired to join by his wife, Linda, now a former squad member. And the couple is passing the tradition on to their children.

"All three kids grew up with the rescue squad," said Towner. Presently, the couple's 18-year-old son is an Emergency Medical Technician (EMT) and their 16-year-old daughter just became a cadet, accompanying a three-member rescue team on calls. "We ride together on Friday nights," said Towner of his two children on the squad and himself.

The volunteer members cover the nighttime and weekend hours, which are not covered by the paid daytime crew. Each volunteer is "on call" four weekend days every three months in addition to being assigned weekly nighttime on-call shifts.

Calls to the volunteers, who all wear pagers, can come at any time. "You just put your fork down at the dinner table, throw on a jacket, and go," said Towner, describing his actions if he gets beeped at dinner time. "Thank goodness I have an understanding wife."

Typical emergencies include pedestrians struck by a car when crossing a street, heart attack victims, or people who have cut themselves. Sometimes emergency responses involve additional efforts to reach accident victims, such as the time a man fell off a ladder while on the roof of a multi-story building.

"We had to climb up a ladder to get to him, pull up the equipment, and then splint his legs and lower him down in a basket," recalled Towner.

While squad members can give basic life support at the scene, they leave the dispensing of medications to a paramedic.

"If a person has chest pains or is in a serious motor vehicle accident, the dispatcher calls a county paramedic unit to meet the rescue squad at the scene," Towner noted.

Towner, who completed EMT and CPR training to become a member of the crew, keeps up-to-date with course training and certification. In addition, he has taken courses on extrication, on hazardous materials, and on multi-casualty situations. "Eight days a year I am out for training in addition to the regular squad and crew drills," said the volunteer.

Valuable Role in Community

He said the rescue squad plays a valuable role in the community, adding that many victims would not have survived if the squad had not responded.

Volunteers are equally rewarded. "The best way of ever getting thanks is being in the emergency room with a patient we have brought in and having him extend his hand to thank you," said Towner.

Harry Towner prepares for duty as a Rescue Squad volunteer.

Towner noted that the Plainsboro Rescue Squad and the PPPL Emergency Services Unit (ESU) — of which he is also a volunteer member — act as back-up for one another in what he describes as "mutual aid." In the early 1980s, PPPL would send some members to assist with Plainsboro's daytime calls. A special thanks goes to Jim Chrzanowski, Mark Cropper, Jerry Faul, Scott Larson, Gregg Tompkins, and Sylvester "Bubba" Vinson, for a job well done in assisting the Plainsboro Rescue Squad.

Among other calls, Towner remembered responding to a fire at PPPL's cooling tower on a hot, humid summer day. The Lab's ESU was busy fighting the fire and the Plainsboro Rescue Squad responded with ambulances and full crews. Fortunately, no one was seriously injured, but about five people who were suffering from mild heat exhaustion had to be transported to the hospital.

"We're all in this to help each other out," said Towner. ●

TRANSITIONS

Births

Congratulations to **Robert Sheneman,** of the Facilities and Environmental Management (F&EM) Division's ERWM Branch, and his wife, Margaret, on the February 24 birth of their son, Andrew John.

Retirements

Dominic Bisanzio, an Operations Supervisor in F&EM, retired on November 1. Bisanzio had been at the Lab for 23 years.

Peter J. DePeter, a Technical Associate for PBX-M, retired on April 1. He had been at PPPL for 21 years.

Mykola Nick Dereka, a Master Instrument Maker in the Engineering and Technology Development Department (ETDD), retired on November 1 after 16 years of service.

Alex DeSantis, a Facility Manager in F&EM, retired on April 1. He had been at PPPL for 10 years.

Hector Morales, a Tech Welder in ETDD, retired on October 1. Morales had been at PPPL for 25 years.

Patricia Newman, a Senior Secretary for the Occupational Medicine Department, retired on November 1. Newman had been at the Laboratory for 11 years.

Richard Newman, a Neutral Beam Operations Engineer for the TFTR Project, retired on March 31. He had been at the Laboratory for 23 years.

Ron Pullem, Planning and Control Officer for the TFTR Project, retired on April 1. He had been at the Lab for 13 years.

Kenneth Quadland, a General Mechanic for F&EM, retired on November 1 after 21 years of service.

William Rauch, an Electrical Engineer in the Computer Systems Division, retired on May 1 after 18 years of service.

Peter Rogoff, a Senior Engineer in ETDD, retired on November 1. Rogoff had been at PPPL for 19 years.

Steven Stjepko Sesnic, a Principal Research Physicist, retired on April 30. Sesnic had been at PPPL for 14 years.

Rosemary Shangle-Johnson, an Administrative Supervisor in the Emergency Preparedness Division, retired on October 1. She had been at the Lab for 20 years.

Silas Snead, Coordinator/Inspector for Transportation, retired on May 1. Snead had been at the Laboratory for 37 years.

PPPL Family Picnic Slated for June 15

Mark your calendars! The PPPL Family Picnic is scheduled for Saturday, June 15, from noon to 4 P.M. at the PPPL Grounds. To buy tickets ($5 for adults and $2 for children), contact Joanne Bianco, Mod VI, ext. 3380; Sallie Citrolo, LOB B-354, ext. 3379; or Dawn Horner, Mod II, ext. 2658.

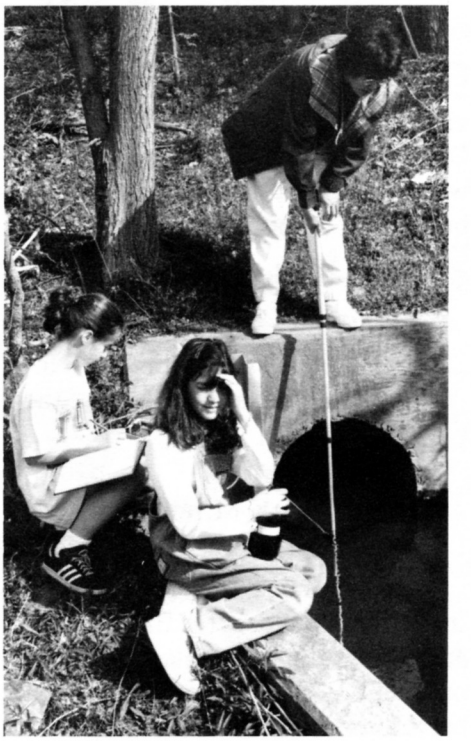
Margaret Young retired this month as Head of PPPL's Human Resources. Young, a member of PPPL Council, came to the Lab four years ago after serving as Director of Employment and then Director of Compensation at Princeton University. Her retirement plans include enjoying time on the water with her husband, who also recently retired. Happy sailing, Margaret!

Milton Johnson recently left his post as Manager of the Department of Energy's Princeton Group to become the Deputy Associate Director of the Office of Fusion Energy Sciences (OFES), as well as the Director of the OFES's Technology Division. Milt joined the OFES office, which is in Germantown, Maryland, on May 13. He had been at PPPL since 1980, first as Chief of the Engineering and Physics Branch of the DOE's Princeton Area Office (now the Princeton Group), and then as Assistant Manager of the Princeton Area Office before becoming Manager. Best of luck, Milt!

Send your HOTLINE suggestions to Carol Phillips in LOB B-378 or to Patti Wieser in LOB B-366.

Take Our Daughters to Work Day Draws Crowd

Sue Hill (far right), Chairperson of PPPL's Director's Advisory Committee on Women (DACW), welcomes the girls who came to the Laboratory for Take Our Daughters to Work Day on Thursday, April 25. More than 40 girls participated in the day, which was a DACW activity that included demonstrations, a tour of PPPL, and hands-on learning with mentors.



PPPL's Virginia Finley holds a flow meter probe in the basin discharge while Jill Mansfield (left), daughter of Dennis Mansfield, and Ashley Taylor (middle), daughter of Jim Taylor, read and record flow for how many gallons per minute were being discharged. Later, the three calculated that a total of 429,800 gallons would flow from the basin on that day and then saved this data on Finley's spreadsheet, which is used to report flow to the Department of Environmental Protection each month.

PPPL physicist Cynthia Phillips addresses a group of girls.

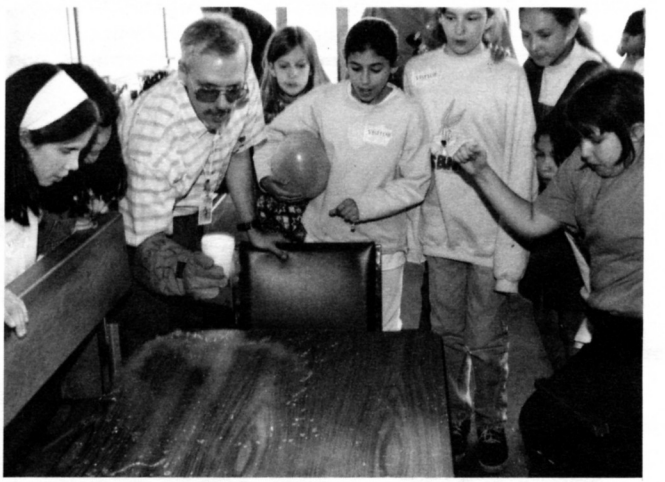
Sabrina Chrzanowski, daughter of Jim Chrzanowski, focuses an image on the enlarger in the Photo Lab. Sabrina and Heidi Fuchs accompanied mentor Dietmar Krause on his photo shoots at the Lab.

Photos by Sabrina Chrzanowski, Heidi Fuchs, and Dietmar Krause

Bobbie Forcier, of Human Resources, works on the computer with Caroline Bernabei, daughter of Stefano Bernabei.

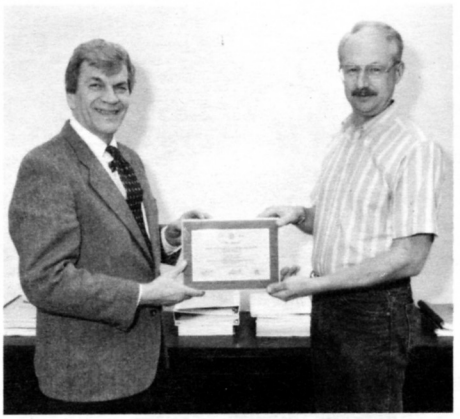
PPPL industrial hygienist Jill Kwiatkowski places a respirator on one of the girls during a demonstration of personal protective equipment. Respirators protect workers from inhaling hazardous gases, dusts, and vapors.

PPPL's Vic Garzotto pours liquid nitrogen on the top of a filled balloon, which liquefies the air inside and collapses the balloon into the Dewar. When the balloon is removed from the Dewar, the nitrogen in the balloon warms up and reinflates the balloon, returning it to a normal filled state.

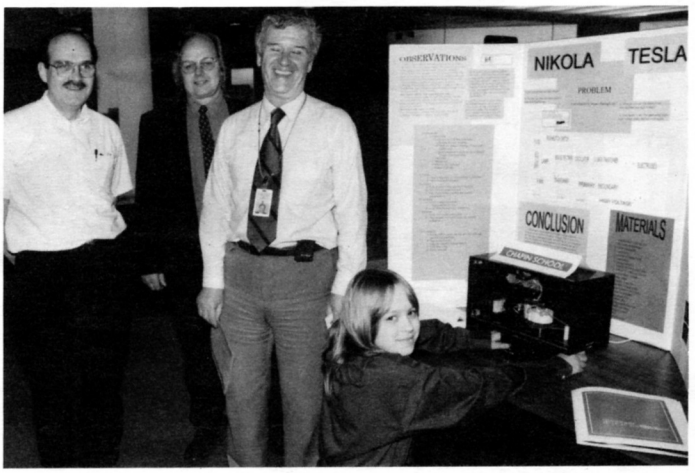


PPPL's Jim Kamperschroer pours liquid nitrogen onto a table as a group of girls watch the liquid turn into beads that boil on contact with the table and glide frictionless on a cushion of nitrogen gas. Behind and to the right of Kamperschroer is his daughter, Amy. Kamperschroer, Ray Camp, and Vic Garzotto gave demonstrations in the Commons during Take Our Daughters to Work Day.

What's Happening at PPPL?



PPPL staff and TFTR employees were each given Recognition Awards for their "outstanding performance" for safety in 1995 through the 68th Annual Governor's Occupational Safety and Health Awards Program. In photo at right, PPPL Director Ronald C. Davidson (right) shakes hands with TFTR Project Head Richard Hawryluk, who also heads the Tokamak Confinement Systems Department, and in photo at left, Davidson (left) presents the staff award plaque to Jack Mount.



PPPL's Science Fair winners displayed their award-winning projects on April 30 in the LOB Lobby. As part of a day-long visit, the winners, who are students who had participated in the Cranbury Science Fair, the Mercer Science and Engineering Fair, or the North Jersey Regional Science Fair, exhibited and discussed their projects with Lab staff. From left are PPPL'er Kevin McGuire, Ivan Sednef (father of a Science Fair winner), PPPL'er Aleksandar Ilic, and Science Fair winner Ffolks Sednef, who explained his project on the Nikola Tesla Coil. The Science Fair takes place annually at the Lab and is hosted by Mary Ann Brown.

Classified

For Sale: Organ manufactured by Hammond, model Cadette/V-322. Many features. Very good condition. $125 or best offer. Call M. Awad at ext. 2345.

For Sale: Macintosh IIsi computer with 9M RAM, 80MB hard drive, 330 MB external hard drive, 13" hi res monitor, extended keyboard, mouse, and 14,400 baud modem. $750 or best offer. Call Bill Slavin at ext. 2533.