HOTLINE

PRINCETON PLASMA PHYSICS LABORATORY

Vol. 4, No. 1 July 22, 1982

TFTR Upgrade Unveiled

Plans for a future TFTR upgrade were unveiled to representatives of the Department of Energy, other research laboratories, and industry during the recent TFTR/TFET Information Meeting, held here June 24 and 25.

The Tokamak Fusion Engineering Test (TFET) upgrade would occur in the late 1980's and early 1990's. The upgrade, which will focus on supplying a long-pulse fusion research facility, will integrate nuclear testing, remote handling, radio-frequency (RF) heating, current drive, and heat and particle removal experimental objectives.

It is hoped that the TFET will serve as an interim step to the Fusion Engineering Device (FED) by providing a major reactor engineering test bed. The project would thus preserve both the spirit of the Magnetic Fusion Energy Engineering Act of 1980, and the United States' leadership in the worldwide magnetic fusion program.

The TFET will involve six second and 20-30 second pulses. The longer pulse lengths will allow for the study of high-power RF heating, RF and neutral beam current drive, and long pulse heat removal. The program will also demonstrate reliable high-level deuterium-tritium operation.

Much of the project will entail the upgrading of existing TFTR facilities. Additional TFET hardware would be designed and fabricated between 1983 and early 1988. After installation on TFTR, the TFET will begin operation in late 1989. The project has an estimated total cost of $294.4 million.

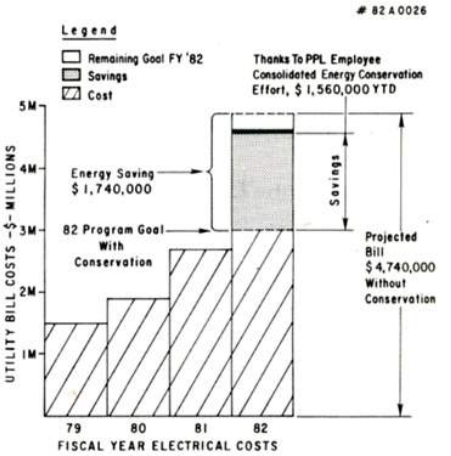
Christmas Closing

Although the laboratory closing during the December holidays last year was successful and well-received by the staff, the laboratory will not be closed this year. It is expected that the massive effort required to meet the TFTR first plasma schedule in December will require a sizeable segment of the laboratory's labor force. Therefore, it would be impractical to schedule a holiday closing this year.

Energy Update

The Energy Management Administrative Committee, working with the Electric Power and Employee Energy Awareness subcommittees, has devised a number of methods to reduce energy use throughout the laboratory. Significant progress has been made toward full implementation of the following measures:

- Delamping of electrical fixtures by removing 25 percent of the existing lighting in the laboratory. Security forces have also been shutting off and reporting unnecessary lighting use.
- Electrical demand control program, which allows PPL to redistribute energy use to hours of decreased electrical demand. A dedicated program of turning off unnecessary equipment throughout the facility is also underway.
- Enforcement of temperature rules and regulations, as mandated by University policy.
- Building/area monitors, to seek out and eliminate all forms of energy waste.
- Displays of energy awareness posters, as part of the employee energy awareness program. The program also includes talks on energy conservation, saving and a "library" of energy-saving tips for home and office. Materials can be borrowed by contacting Joe Wood, Bldg. 1-K, ext. 3061.
- Janitorial cleaning done during daylight hours.



These measures are being taken to achieve PPL's goal of energy reduction. Energy useage is reported to the PPL Council on a monthly basis, and comparisons are made to determine the rate of reduction.

TFTR Site Visitations

While we are all pleased with the progress being made on the assembly of TFTR, it must be remembered that construction is still underway.

PPL staff are reminded that access to the TFTR site is limited to employees having a need to visit that is directly related to the performance of their jobs.

All group tours of the site must be arranged through the Information Services Branch.

Employee tours are conducted on Wednesdays at 3:15 p.m. Any employee wishing to tour the facility should call Pat Stephens Information Services on ext. 2750.

A TV monitor has been placed permanently in the LOB lobby and provides visual access to the TFTR test cell. There is another monitor in the TFTR gallery.

Questions regarding PPL's visitors policies should be directed to A.R. DeMeo or D.L. Carroll of the Information Services Branch.

Patent Award

As part of the laboratory's Patent Awareness program, the first annual PPL Invention Awards Dinner was held at Prospect House June 2. Sponsored by the PPL Committee on Inventions, the dinner formally recognized the 32 inventors of the 1981 fiscal year.

Chairman of the Patent Awareness Committee John Johnson presented certificates to the inventors, adding that awards of $100 for each disclosure (to a maximum of $300 per disclosure) would be made to each inventor. When DOE applies for a patent on the disclosure, the inventor will receive an additional $200.

The objectives of the Patent Awareness program are to foster patent awareness in the laboratory staff; encourage filing of invention disclosures on innovative ideas or processes; and to provide appropriate recognition to the creative inventors. Twenty-four invention disclosures were filed during fiscal year 1981, the highest number of disclosures yet recorded.

Fifteen disclosures have been made thus far in fiscal year 1982. All disclosures have been listed in the HOTLINE -- an integral part of the recognition program.

Correction

In the June 1 issue of HOTLINE, the name Russel Kulsrud was inadvertently omitted as an inventor of "Enhancement of Thermonuclear Reactor by Polarizing the Plasma Ions." The HOTLINE staff regrets the omission.

Benefits Counseling

During July and August, Eleanor Schmitt will be available for benefits counseling every OTHER week. Eleanor will have office hours July 13 and 27, and August 10 and 24. Benefits counseling sessions are held in the LOB third floor Conference Room, Tuesdays from 9 a.m. until noon. For further information, call Eleanor on ext. 2046.

Major Medical Claims

To speed the payment of major medical claims and to help maintain the confidentiality of employees' medical records, a new procedure for submitting claims has been established, according to Manager of Human Resources Leonard S. Thomas.

As of August 1, employees will submit major medical claims directly to the Teachers Insurance and Annuity Association (TIAA) office. This procedure will cover both existing and new claims and will eliminate Personnel Services as middleman. Claims should therefore be processed more quickly, Thomas says.

Assistance will continue in the present mode for retirees, individuals with physical disabilities, language or any other restrictive barriers; special cases will be judged independently.

Personnel will continue to supply the major claim forms, along with detailed instructions for completing and submitting them to the insurance company. In addition, preaddressed, postage-paid envelopes will be provided. To obtain the proper forms, please call Eleanor Schmitt on ext. 2046.

Since the Personnel Office will no longer be involved in filing claims, it is important that employees retain copies of all information they submit to the insurance company. The laboratory no longer keeps records of major medical claims.

If there is a problem, the Benefits Section will be pleased to help resolve it. Employees should call Eleanor Schmitt, and be prepared to bring in the sheet they receive from TIAA explaining the reimbursement rate. Copies of all bills that had been submitted for the claim should also be included.

"TOKAMAK Power"

"Tokamak Power", an unpublished book written by former PPL Assistant Director Earl Tanner, is now available for consultation in the laboratory library. The volume presents an introductory overview of fusion concepts, examining the tokamak approach to fusion in detail. Industrial involvement in the fusion research and development process is also discussed.

"Run For Fun" Results

When Dennis Mueller crossed the finish line in May's "Run for Fun", he became the first repeat winner in the short history of the event. Mueller completed the two-and-a-half mile course in 13 minutes and 55 seconds, somewhat off his 13:09 pace in the 1980 edition of the race.

As in 1980, Dave Johnson of the Experimental Branch followed Mueller to second place. His time this year was 14:54.

Sue McMahon of Accounting led the women finishers, completing the circuit in 22:09. Barb Mollin of Ebasco placed

second, turning in a time of 23:13. Seven women were among the 46 runners participating in the event.

Manager of Human Resources Len Thomas presented trophies to Dennis and Sue for their winning efforts. Dennis and Beverly Laffin of Ebasco also received first place trophies to commemorate their victories in the original "Run for Fun".

Event organizer Barbara Sarfaty offered her thanks to all those who helped with the run, especially the Security staff. She added that the "Run for Fun" is slated to become an annual event, sponsored by Personnel.

Did You Know...

If you are a monthly employee and 55 years of age, you are eligible to elect a one-time transfer of all your accumulations from CREF to TIAA. The transfer can be made in either one lump sum or by partial withdrawals, minimum of $1,000 each and only once every six months.

Remember, once this transfer is made, it cannot be changed.

Did You Know...

If you terminate your employment with the laboratory, and then resume employment at a later time, your retirement benefits may still be in effect – provided that your length of time with the laboratory exceeds your time away from PPL.

Did You Know...

If you have a Supplemental Retirement Annuity (SRA) contract and find you cannot afford to continue with your current amount of reduction, you can either reduce that amount or discontinue the total reduction and resume contributions at a later date? You do not have to cancel your SRA contract in order to stop contributing to it. Remember, only one change per calendar year is allowed.

Singles Social

The Princeton University League's monthly singles wine and cheese social will be held July 15 at 5 p.m. in the Fine Tower faculty room on main campus. All single members of the University faculty and staff are invited to attend. For further information, contact Naoma Dorety at 272-4097.

The remains of Jerry Newton's iron reflects the intense heat buildup that resulted in the melting of the iron's aluminum components.

Iron Alert

Regardless of how many irons you may have in the fire, be sure you take the "fire" out of your iron!

That's the lesson PPL's Jerry Newton learned recently, when his iron abruptly melted. He had used it to iron some clothes, turned it off, and set it on his basement bar to cool.

Although the iron's heat control was turned off, it wasn't unplugged, and that apparently caused the problem. Jerry smelled "burning wood", returned to the basement, and found the iron's faceplate oozing liquified aluminum. "The iron was red and white hot," he recalled. "It was glowing just like a miniature sun."

Jerry disconnected the iron, which immediately began to cool. Rather than the fire that might have been, he now has two holes burned into the surface of his bar -- and a very damaged iron.

The incident emphasizes the necessity of being sure electrical appliances that generate heat (such as electric heaters, irons or hair care appliances) are unable to continue heating while unattended.

After pushing the "off" button, go one step further -- disconnect the appliance from the electrical socket. You may be pulling the plug on a potentially deadly fire.

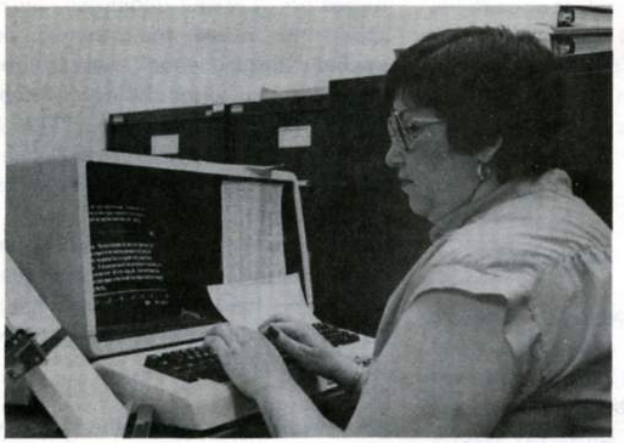
"Second Season" Softball

Teams are being sought to comprise a two-month "second season" for the PPL intramural softball league. In the recently completed "first season", the Theory Division team finished at the top of the four-team field.

Teams may be composed of any number of players, but only 10 members of each team will play per game. Teams will compete Wednesday and Thursday nights during August and September, with games played on the softball field adjacent to the laboratory airstrip.

All those interested in participating should contact Frank Wasiowicz Jr. on ext. 3572 NO LATER THAN JULY 23.

The PPL Hotline is issued by the Princeton University Plasma Physics Laboratory, a research facility supported by the U. S. Department of Energy. Correspondence should be directed to PPL Information Services, Module 2, C-Site, James Forrestal Campus, ext. 2754.

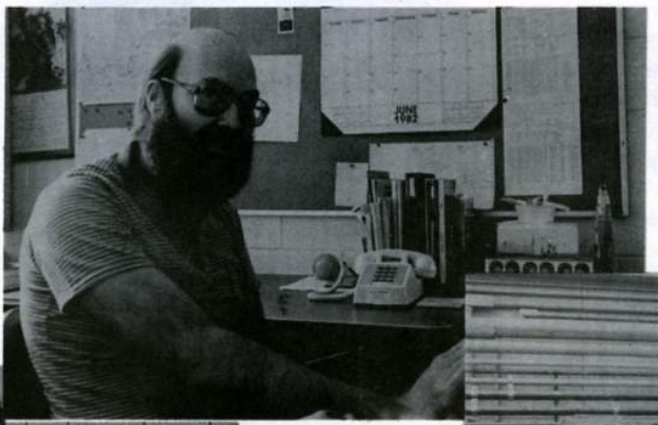


Faces and Places...

With this issue, the HOTLINE begins a campaign to help "recognize" employees who have recently earned promotions. Staff members promoted in May include (this page, clockwise from upper left) Barbara Sarfaty, secretary, Theoretical Division; Barbara Sobel, secretary, Research Department; Lawrence Owens, junior programmer, Management Information Services; Richard Gallagher, technical assistant, FOM-Materials Test Laboratory; and John Anderson, Director of Emergency Services, Emergency Services Unit. Promotees pictured on the next page include (clockwise from upper left) Nancy Jones, manager, Information Services-Word Processing; Dolores Bergmann, secretary, TFTR Operations; Ilse Gusciora, staff assistant, Travel Services; Frances Gantiosa, Elizabeth Manuel and Carol Goldenbaum, accounting assistants, Accounting and Finance; Jim Stefane, payroll supervisor, Accounting and Finance; and Frank Clark, senior buyer, Procurement. Not pictured is Michael Suydam, Maintenance technician, Plant Engineering.

Nine new employees joined the PPL staff in May. Among the new faces were John Bradish, electrical engineer, CICADA; John Bryer, scientific applications programmer, Computer Section; John Bartzak III, technician, FOM-Engineering; Edward Costello II, technician, Administrative Division; James DiPrato, janitor, Administrative Division; Fred Kelmer, technician, FOM-Rectifiers; Robert Mozak, janitor, Administrative Division; Martha Redi, applied physics, Transport; and Karen Tuttle, scientific applications programmer, PLT/PDX Applied Programming.

Congratulations to those receiving promotions, and welcome to the new members of the laboratory community!




IN


ILSE GUSCIORA

Tours

We are popular! During the months of February, March & April, 1251 people were escorted through the lab on guided tours. The public's awareness of fusion research seems to be "blossoming".

Information Services would like to thank the 84 people who served as guides during the last three (3) months for their cooperation and willingness to help.

April was a record-breaking month with 811 "tourist" and 58 PPL guides.

FEBRUARY

Peter Bonanos
Charlie Bushnell
Henry Chandler
Fred Dylla
Don Hay
George Martin
Bob Mika
Dick Palladino
Felix Ullrich
S. Yoshikawa
Howard Zuvers

MARCH

Suzen Bayer
Bill Blanchard
Sal Cavalluzzo
Diane L. Carroll
Henry Chandler
Pat Colestock
Fred Dylla
Bob Fleming
Ray Grim
Ed Lawson
George Martin
Gary Oliaro
Dick Palladino
Greg Rewoldt
Fred Tenney
Marilee Thompson
Philip Thompson
Al von Halle

APRIL

Hasley Allen
Dale Ashcroft
Suzen Bayer
Bill Blanchard
Peter Bonanos
Nelson Bowen
Gram Brown
Charlie Bushnell
Diane L. Carroll
Joseph Cecchi
Sam Cohen
Douglas Collins
John Coonrod
Steve Davis
Ernst de Haas
John Doane
Lawrence Dudek
Fred Dylla
Howard Eisenberg
Robert Fleming
Stu Foote
Don Grove
Donald Hay
Ken Hill
Harold Johnson
John Johnson
Fred Kloiber
Ed Lawson
George Levitsky
Ron Lusen
George Martin
Dale Meade
Sid Medley
David O'Neill
Gram O'Connor
Bill Osborne
Paul Reardon
Greg Rewoldt
Paul Snook
Al Swain
Hironori Takahashi
Fred Tenney
Philip Thompson
Marilee Thompson
Harry Towner
Felix Ullrich
Ben Velivis
S. Von Goeler
Al von Halle
Roscoe White
S. Yoshikawa
Ken Young
Neil Young
Richard Cassel
Charles Clifford

ERC Notes

The ERC met on June 9. The benefits subcommittee reported that they will soon have a written summary of their findings with regard to dental plans and being self insured vs. subscribing to Blue Cross/Blue Shield. A lack of concern for safety procedures among the general employee population was discussed. The safety subcommittee will try to initiate a plan for "safety awareness" by all employees. A committee member inquired as to why the lab purchased a new shuttle van of the same type as the others, when these vans are difficult to enter and exit. Last year the ERC had been informed that mini-busses would be taking the place of the vans. Len Thomas was asked to look into this, as well as why more shuttle shelters have not yet been erected.

Len Thomas reported that mandatory training for supervisors will begin in the fall.

Several questions were raised; the subcommittee will look into each and submit a final report this month to both the ERC and Laboratory administration.

Pam Johnson, Don Hay, Nelson Rainier, Don Muschal, Chris Ritter and Greg Schmitt were elected to serve on the grievance panel.

Plans for the annual picnic were discussed.

Picnic '82

Over 1,100 people partook of the hayrides, the hot air balloon, the food and the fun at the annual PPL Picnic June 19.

Clowns helped entertain the youngsters during the afternoon. The kids also enjoyed the sandpile, space walk and pony rides. Their parents danced to music played by a deejay, tossed horseshoes and helped themselves to the picnic fare provided. According to picnic committee chairman Len Thomas, 17 half-kegs of beer and 24 gallons of wine were consumed during the afternoon, along with nine barrels of birch beer.

In addition to Len, the picnic committee was composed of John Anastasio, Sheryl Cargill, Anne Golden, Mary Alice Eubank, Flo Short, Bob Malinowski, Kris Mann and Ed Gilsenan.

On the committee's behalf, Len offered special thanks to Arlene White in Procurement and to Jerry Hart and members of the maintenance staff for their help with the event.

Travel Tips

A new Travel Approval Form, designed to more closely estimate traveling expenses, is now being used by Travel Services. Although it will not provide a committed figure, the form should help supply more accurate budgeting information to each cost center supervisor.

Since more than 100 people will be traveling to New Orleans for the American Physical Society conference in the fall of this year, that trip will serve an example of how the form works.

The traveler will need transportation to the airport. There might be buses available for such a large group, but plan for missing the bus and driving your own car. That's $20 in mileage round trip to Newark Airport, and an additional $24 charge for long-term parking for seven days.

Air fare is the largest cost on this trip. Although special discount fares might have been used, in estimating you should use the standard economy air fare to cover contingencies (e.g., a change of flight, which can cause a discount fare to revert to a standard fare). For New Orleans, round trip air fare is $490 at present.

When you arrive, the limousine fare to the major hotels is $12 round trip. A group might take a taxi to reduce per person costs, but can you count on that?

The hotel rate is usually known in advance. The conference hotel in this instance is $80 per night; a six night stay will cost $480, plus tax. Round off the hotel bill to $500.

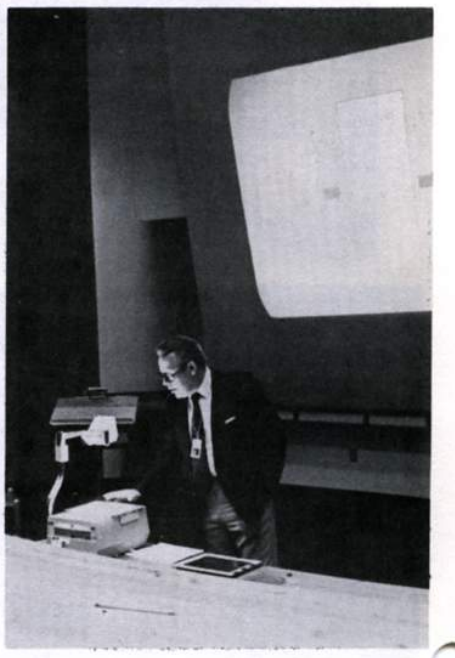
The standard amount for meals in a moderate restaurant is $24 per day; for six days, this cost is $144.

There should be no car rentals, unless a group is not staying in the conference hotel because it is fully booked. Even so, in the New Orleans area (with all those Cajun taxi drivers), a rental car is usually more costly than taxis. A rental car also adds the inconvenience of parking costs, so the traveler should assume it will not be necessary. On the return trip, if you do not have transportation at the airport, a group might do best by renting a car -- IF the car is turned in as soon as possible on return to Princeton. In that case, half the mileage costs cited above should be deducted from your calculations.

Miscellaneous costs include tips to hotel staff, limousine drivers, baggage handlers, and so on. Room service is the standard 10 to 15 percent of the bill, with a 50 cent minimum. Baggage is 35 cents per bag, or 50 cents minimum. Estimate $10 for the week. Adding five dollars per day for possible unforseen costs brings the total miscellaneous costs estimate to $35.

Our total APS trip at this point costs $1,235. To be on the safe side, round this off to $1,250 for the trip, plus registration (which is not a travel expense).

Obviously, if you have a discounted air fare, a less expensive hotel confirmation, or use buses provided by the laboratory, expenses can be reduced considerably.



PPL employees got the opportunity to learn more about PPL when two of the laboratory's senior administrators spoke at May seminars. Laboratory Director Dr. Harold Furth detailed "the state of the laboratory" (above), while Assistant Director Robert Sheldon explained PPL's financial management and budget process.

ppl people

Handball Champ Courts Success

Many city kids have taken a small ball and bounced it against a storefront, repeatedly hitting it against the wall. Howie Eisenberg took that childhood pastime one step further, becoming a national handball champion. His exploits on the handball courts recently merited his induction into the Athletic Hall of Fame at Brooklyn College, City University of New York (CUNY).

Howie reaffirmed his championship status Saturday, defeating nemesis Steve Sandler for the United States Handball Association national masters' singles crown in one-wall handball. The match, played at the Castle Hill Beach Club in the Bronx, pitted Howie against the 14-time national singles handball titleholder.

Howie lost the first game of the match 11-21, but came back strong, stopping Sandler 21-14 and 21-17 in the final two games. In true championship style, he won the final point with an ace.

"This was a really significant win to me," Howie said later, "because Steve is the current national open champion. It's also a big win because the last time I beat him was in 1960 in the USHA national semi-finals!"

Howie, who has worked for the laboratory since 1976, is a member of PPL's professional technical staff. He's currently involved with systems analysis and applications software instrumentation for TFTR command and control with the CICADA group.

Howie's childhood was spent far from Princeton's green hills. "I grew up in the Brighton Beach section of Brooklyn," he explained. "At the time, handball was the sport most adults in the New York metropolitan area played. There were approximately 5,000 one-wall handball courts in New York city parks, so handball was accessible to everyone. The Brighton Beach Baths, a 15-acre beach club, had 60 handball courts. The best players in the country played weekend exhibitions there. So, along with Joe DiMaggio, my childhood hero was Vic Hershkowitz, the best handball player of all time."

After winning the New York City junior handball championship, Howie got the opportunity to play with his idol in 1957 at age 18. They lost in the finals of the national Amateur Athletic Union (AAU) doubles championships.

Howie began playing handball when he was six, developing the skills necessary to play competitively. "There's a lot of athletic ability required," he says. "It's a two-handed game, with a ball traveling at speeds of up to 100 miles an hour. Therefore, the response time in reacting to a shot is minimal, and reflexes are at a premium. Good hand-eye coordination is also essential."

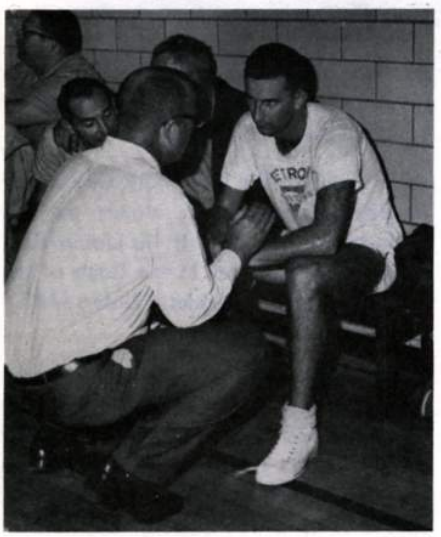
"Speed and stamina are the other important abilities in handball. There is more running to get positioned for effective shots than in racquetball. The extra foot and a half reach that a racquetball racquet provides is not there. In handball, you need to get your arm and body behind a stroke, as opposed to the wrist or the elbow with a racquet."

"I'd say that handball is at least 50 percent more exerting than racquetball, and results in proportionally greater cardiovascular benefits," Howie continued. "It's also a great release; you can hit the ball as hard as you like!"

Howie's career began with one-wall handball, since outdoor facilities were plentiful in the city. The game is played similarly to racquetball, except that the ball does not return toward the court's interior after rebounding off side and back walls. Thus, more speed and quickness are necessary to keep the ball in play, and power is more important.

Howie never chose to set specific practice times for himself as he learned the game. "I played because I liked playing," he recalls, "and when I was a kid I'd play all

day long. As I got older, I knew I had potential, and I exploited that potential. I've always had that competitive fierceness, that will to win."



Although he never had 'professional' coaching, Howie learned much from the pros who played at the Baths. Another early teacher was his brother-in-law, Arthur Neiderhoffer, a New York City police lieutenant "who was a top player and keen strategist. Arty taught me everything there was to know about the game, from the form to the mechanics to detailed strategies of play."

Handball strategy stems from the serve, which Howie deems "a very potent weapon. " A strong serve wins the point, or results in a weak return which can be killed on the fly or after bouncing. A 'kill' shot is one that hits the bottom of the wall and bounces twice before it can be returned. The serve (as most other shots) is more effective when a spin is imparted to the ball, causing it to curve off the wall or on the floor in either direction—preferably at your opponent's feet.

According to Howie, the ultimate "strategy" reduces to brute strength. "The harder you hit the ball, the harder it is to return."

The expert tutelage paid off, as Howie went on to win an intercollegiate championship while at Brooklyn College, CUNY. He followed that with national AAU doubles championships in 1962, 1965 and 1971. In 1979, he became the U.S. Handball Association doubles champion, successfully defending his title and adding the masters singles crown in 1980. He is also a six-time U.S. Paddle Ball Association champion, having won national titles in both the singles and doubles divisions.

In recent years, Howie has been playing in the masters class (those over 40), as well as in open (any age) competitions. "Over the years, I hadn't done any conditioning exercise," he recalls, "and I wound up coming in second in 22 national tournaments. Frequently I was winning the first game but losing the next two, often reaching a point of utter exhaustion. I felt that if I wanted to continue to play competitively, I had to do something."

So Howie began running, with dramatic results -- his two 1980 titles. Shortly thereafter, however, he developed knee problems. "After getting into the best condition of my life, I damaged ligaments and cartilage in my left knee," he explained. Microsurgery and a knee brace have allowed him to return to the handball courts. He hopes to regain the peak he achieved before his injury by aerobic workouts on an exercycle and other conditioning exercies.

Howie and partner Mort Katz reached the final round of this year's national USHA masters championship, eventually losing to Joe Danielczyk and Artie Reyer.

Howie's ultimate objective is to gradually regain top condition through a series of invitational tournaments during the summer, culminating in the national open one-wall singles and doubles championships. He also expects to play in the national three-wall doubles championship, to be held in Toledo, Ohio in early September.

HOTLINE

PRINCETON PLASMA PHYSICS LABORATORY

Vol. 4, No. 2 July 27, 1982

Governor Visits PPL

Laboratory Director Dr. Harold Furth (left) listens while Associate Director and Head, Technology Department Paul Reardon (right) explains a "point" of interest to Governor Thomas Kean (center). The governor toured the TFTR complex during a visit to PPL July 19.

University Adds Another Dimension

As of 5 p.m. August 13, the University will be converting its telephone system to the Dimension system.

Although the change will not affect PPL telephones, new procedures for dialing the University will be required. In order to place a call to any University location, dial "7" and the four-digit extension number. The "7-2" prefix formerly required when dialing a main campus number has been discontinued.

For transmission of data to the University computer system, callers should dial "5-2" and the appropriate four-digit computer number.

All other PPL telephone procedures will remain the same.

Courses Planned

Four accredited evening courses, sponsored by Middlesex County College, are scheduled to begin September 7 at the Princeton Forrestal Center.

The courses, which are part of Middlesex County's "Corporate College" program, include "Principles of Accounting 1", "Business Organizationa and Management", "Business Communication" and "Personnel Management". Full course descriptions are posted on official bulletin boards throughout the laboratory.

Courses cost $30 per credit, and registration must be made before August 12. For further information, contact Meg Gilbert at the Personnel Office, Sayre Hall, Room 212, ext. 2036.

Volunteers Sought

The Princeton Unit of Recording for the Blind, Inc., located at 100 Stockton Street, needs qualified volunteers to produce free textbooks for blind or otherwise print-handicapped students.

Readers proficient in physics, math and computer science are needed to make tape recordings of books. Some recent titles recorded include "Electromagnetic Vibrations, Waves and Radiation," "Prentice-Hall Physical Science, "The Effects of Nuclear Weapons," "The Calculus with Analytic Geometry," "IBM Virtual Machine User's Manual," and "Some Common BASIC Programs."

The program is also in need of volunteers as monitors and duplicators. Monitors edit and produce the recordings, while duplicators produce cassettes, sent directly to the students, from the open reel tapes.

If you can volunteer one and a half hours per week, or would like more information on the program, contact Anne Young at 921-6534.

Bowling Banquet

On June 25, the PPL Womens' Bowling League toasted their third year of existence at a season-closing banquet, held at Good Time Charlie's.

This year's first place trophy went to the Strike-4 team, paced by captain Sue Wilkinson and members Laura Steer, Anne Golden and Beth Crosby. Beth also won high score honors, posting a 218 and a 222 performance. Ann helped her team by rolling a 201 during the season.

Placing second in the final standings were the Bouncers, led by captain Bobbie Cruser and members Dolores Mazalewski, Dottie Kerr and Kim Prutky, who set the high average mark for the league. The Alleycats, composed of captain Christine Ritter and members Terry Temkin, Valerie Vaneski and Sharon Hughes, came in third in season play. The Guttersnipes, with captain Marie Maruso and most improved bowler Grace White, rounded out the field in fourth place.

The officers of the league included president Kim Prutky, secretary Bobbie Cruser, and treasurer Terry Temkin.

Next year, the mens' and womens' groups will merge into a PPL mixed league. Anyone interested in signing up for a team should contact Kim Prutky on ext. 2559, Bobbie Cruser on ext. 2101, or Dave Maruso on ext. 3068.

Tennis Results

The second annual PPL team tennis tournament, held on June 12, was once again the scene of fine weather, enthusiastic participants, and good tennis matches at all levels of ability. And once again, the Administration team squeaked out a victory with a total of seven wins and five losses for the day.

The Administration team was spearheaded by Chris Gillars and Nancy Bradish (daughter of John Bradish), who both won twice. Dianne Carroll, Bob Middlebrook and Bob Eisenhut each added a victory, while John Edwards, Barb (Titus) Eisenhut and Rick Hill were vanquished.

Finishing second was Theory, with Frank Cheng, Wonchull Park and J. Lee (imported from General Atomic) all double winners. Dave Ignat added a victory but Arnold Kritz and Ray Grimm were defeated twice.

Third place went to the Experimental team, with Szymon Suckewer and Jim Stevens registering double triumphs, and Joe Winston and Ann Stevens winning one match each. Chris Keane, Doug McCune, and Candy Taylor were the remainder of the team.

Jim Bialek was the only double winner for Engineering, with Rudi Prechter, Art Martin, and Sue Martin each contributing one victory. Marilee Thompson and Tom Carroll were unsuccessful in their court contests.

A picnic lunch in the pagoda allowed everyone to meet other tennis players. The event was organized by Marilee Thompson and John Edwards.

Members of the PPL Women's Bowling League include (front, left to right) Chris Ritter, Sue Wilkinson, Beth Crosby, Valerie Vanesko, (rear, left to right) Grace White, Sharon Hughes, Terry Temkin, Laura Steer, Dolores Mazalewski, Dottie Kerr, Kim Prutky and Bobbie Cruser.

Maternity Benefits

The University offers maternity benefits based on guidelines provided by the State of New Jersey.

By state law, pregnancy is considered a temporary disability--a time when you are physically unable to do your job--and is treated the same as any other temporary disability. Therefore, your benefits will be calculated accordingly.

Under normal circumstances, an employee would stop working four weeks prior to the due date and return to work four to six weeks after the delivery date. If complications should arise as a result of the pregnancy, your temporary disability may begin sooner than four weeks before or extend later than four to six weeks after. However, your physician must provide a written statement explaining the problem *very specifically.*

It is advisable for you to contact Eleanor Schmitt at ext. 2046 at least one month prior to your last working day.

Singles Social

The Princeton University League's monthly singles wine and cheese social will be held August 12 at 5 p.m. in the Fine Tower faculty room on main campus. All single members of the University faculty and staff are invited to a attend. For further information, contact Naoma Dorety at 272-4097.

Car Pool Sought

Mr. Robert Gunther of the United Jersey Bank, located in the Forrestal Center complex, is seeking a car pool or rider to share daily commutation from the Mainline area of Philadelphia. Although he would like to leave Philadelphia at 7 a.m. and leave Princeton at 5:30 p. m. , his hours are somewhat flexible. Anyone interested should contact Mr. Gunther at 924-8000, ext. 222.

HOTLINE

PRINCETON PLASMA PHYSICS LABORATORY

Vol. 4, No. 3 August 23, 1982

IAEA Meeting Preview

The Department of Energy and PPL are co-hosting the Ninth International Conference on Plasma Physics and Controlled Nuclear Fusion Research, sponsored by the International Atomic Energy Agency (IAEA) and scheduled for September 1-8 in Baltimore, Maryland.

Widely acknowledged as one of the most prestigious fusion research meetings, the conference attracts scientists from around the nation and the world. Conferences are held every two years; the last U.S. - based session was held in Madison, Wisconsin in 1970. More than 50 PPL staff members will be attending the conference.

According to organizing committee member Dr. John Johnson, invited papers will be presented in a continuous plenary session throughout the conference. An optional discussion period will follow each paper, and informal sessions have been scheduled for further discussion of specific topics. Proceedings of the conference will be published at its conclusion.

Following the conference, PPL will hold an open house for conference participants Sept. 9. Tours of the facility have been scheduled throughout the day, and laboratory employees are asked to use the C-Site cafeteria only between 11 a.m. and 12:30 p.m. on that day.

The IAEA was established by the United Nations in 1957. Headquartered in Vienna, its goal is to promote the peaceful uses of atomic energy.

Now Available

"The First Princeton Tokamaks," written by former PPL assistant director Dr. Earl Tanner, is now available from Information Services. The book, which details the laboratory's history from 1970 through 1980, is the companion volume to Dr. Tanner's two other books, "The Model C Decade" and "Project Matterhorn."

Anyone interested in obtaining a copy of "The First Princeton Tokamaks" should contact Pat Stephens, Information Services at ext. 2750. Limited quantities of both "The Model C Decade" and "Project Matterhorn" are also available from Pat on a first come, first served basis.

Workers Compensation Reminder

Prompt submission of accident reports is an essential and necessary part of filing Workers' Compensation claims with our insurance carrier. Any questions or correspondence relating to a workers' compensation claim (or even a possible claim) should be directed to Mary Bersch, Personnel Office, Sayre Hall, ext. 2043.

Please do your part so we can do ours!

Bloodmobile

The Bloodmobile will again visit the laboratory on September 8 from 10 a.m. to 3 p.m. at the Sayre Hall auditorium. Those wishing to donate blood should contact Meg Gilbert at ext. 2036 to set up an appointment. Donors will be scheduled every 15 minutes, and refreshments will be served.

Although employees are covered for blood needs under a group plan, the university must meet its yearly quota of blood donations to continue to offer this benefit.

Patent Program

PPL now has a Patent Awareness Program, as well as a Committee on Inventions, to increase the patent awareness of laboratory staff. Six invention disclosures have been filed with the committee since April:

- Converging Collimated Fast Neutron Beams, By D. Jassby
- Tunable Energy Intense Fast Neutron Beams, By D. Jassby
- Use of He_3^{++} ICRF Minority Heating to Simulate Alpha Particle Heating, by D. Post, D. Hwang and J. Hovey
- Neutron Flux Control in Fusion Reactors by Variable Albedo, by D. Jassby and B. Micklich
- Optimized Fueling Method for Transient Tokamak Discharges, by C. Singer, D. Post and D. Heifetz
- E B Change Exchanger Analyzer, by S. Medley, R. Kaita and A. Roquemore

For further information about the committee or the program, contact committee secretary Nancy Jones on ext. 2659.

Faces and Places ...

Thomasina Abrams (foreground) and Sue Wilkinson

Job movement continued at PPL during June and July, as four employees received promotions and three obtained transfers.

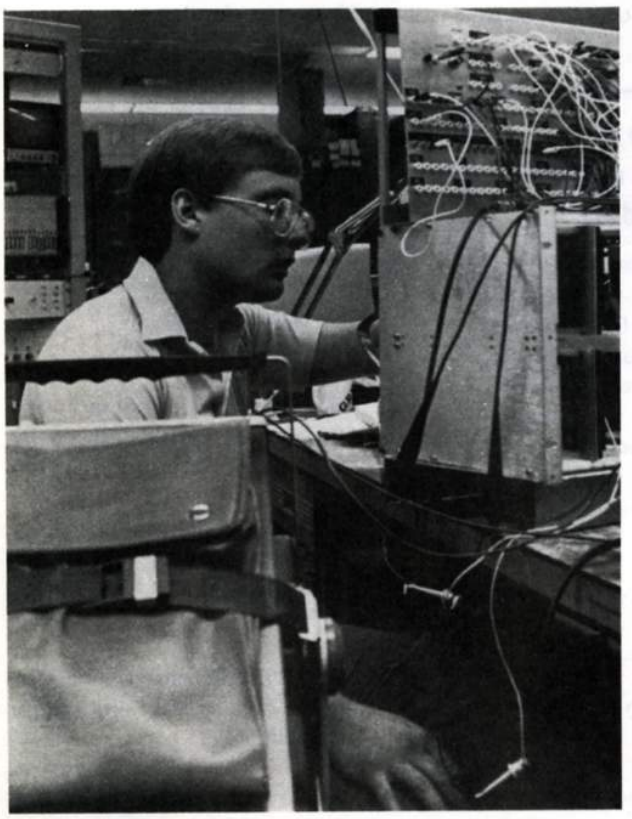
Among those promoted were Thomasina Abrams, now staff assistant with Purchasing; Eugene Hrycak, now DAS operator with M.I.S.; L. Sue Wilkinson, now data processing assistant in Procurement; and Gregory Lemunyan, now technician with Technical Electro-Optics, Engineering.

All three transfers took place in June. Carol Sherbert transferred from APDAD to administrator, TFTR Operations; Elsie Ferraras transferred from the Theoretical Division to staff assistant with TFTR/CICADA; and Ernst deHaas transferred from AC Power to the engineering and scientific staff of TFTR Operations.

Twelve new employees have joined the PPL ranks so far this summer. New faces in July included Jean Coutant, staff assistant, FOM Division office, David Miller, technician, Engineering (FOM Branch); Doris Thomas, technical secretary, Theoretical Division, George Peterson, technical assistant, Engineering Services, John Wertenbaker, technician, Computer Section; and Frank Polom, janitor, PM&O.

New to the lab in June were Gary Giblisco, technician, Experimental Division; J.L. Schwob, research visitor, Experimental Division; Stefan Weicberger, administrator, Administrative Division; Shawn McFadden, graphic artist, Administrative Division; and Carol Strohl, engineer, TFTR.

Congratulations to all!



Gregory Lemunyan

Eugene Hrycak

Cooling It

When the mercury climbs under the sun's burning rays, you may be burning extra energy dollars by inefficient use of available cooling power. As the summer continues to sizzle, keep the following cooling credos in mind:

- Use your air conditioner only when you really need it. In many cases, a window fan can provide all the cooling you need.

- Keep your cooling system cleaned and properly tuned. Filters should be changed or cleaned every other month or as often as necessary. Condensers, evaporator coils and fans should be cleaned before storing the unit at the beginning of the cooling season.

- When buying a new air conditioner, compare energy efficiency ratios (EER's). The higher the rating, the more efficient the unit -- and the less it costs to run.

- Place your air conditioner condenser on the north or shady side of the house, or in an area where it will be shaded by a tree or a fence. Avoid using bushes to shade the condenser, since they may block the flow of air around the cooling unit. When your house is completely shaded by trees, you can save 50 percent on your air conditioning bills.

- Keep your thermostat set at 78^{o} or higher; when outside temperatures drop below 78^{o}, turn your air conditioner off. Each degree you raise the thermostat above 75^{o} saves three percent in cooling costs. If you raise your thermostat and are extremely uncomfortable, you may need to weatherize your home. Hints on weatherizing and insulating are available from the Energy Library at the Transportation Office, C-Site.

Use natural ventilation and wear light clothing to minimize the need for air conditioning, expecially at night.

Keep draperies closed during hot, sunny days. Solar heat is great in the winter, but who needs it in August?

Turn off all lights not in use. Burning lights unnecessarily wastes electricity and forces your air conditioner to remove the heat produced by the lighting.

If you're using your oven, open the door to peek only when you must. Every time you open the oven door, you lose a great deal of heat. Not only are you using more energy to heat the oven back to the proper temperature, but you've also got to cool the hot air you've released into the room. Heat producing units (such as ovens, dryers, ect.) should be used during cooler hours of the day whenever possible.

Use bath and kitchen fans sparingly; they can blow away an entire houseful of cooled air in an hour.

Consider having an "energy audit" done on your home. They are available through most electric companies, and can provide suggestions for energy savings projects.

Fighting Fatigue

Many doctors now feel that fatigue has a psychological origin, rather than a purely physical cause. Frustration, tension and depression can team up to create feelings of exhaustion.

Several simple solutions can get your "get up and go" back again. They include:

- Thinking only positive thoughts when you wake up each morning.

- Doing simple breathing exercises. Deep breathing supplies fresh oxygen to the body, stimulating energy and relaxation.

- Eating a good breakfast. Skipping breakfast can lead to a mid-morning slump.

- Taking short exercise breaks during the day. Breaks as brief as three minutes each will give your mind a chance to shut off its stress cycle.

- Setting priorities for your tasks. Don't think about the entire job; take each piece one at a time.

- Avoiding drinks containing large amounts of caffeine, and eat sugars and carbohydrates sparingly. These substances can cause the blood sugar levels to drop, sapping your energy.

New Address ?

All changes of address or name are now being processed through the Employment Section of the PPL Personnel office. If you need the proper form, please call Glenda Fendrick at ext. 2039, or stop by the Personnel office.

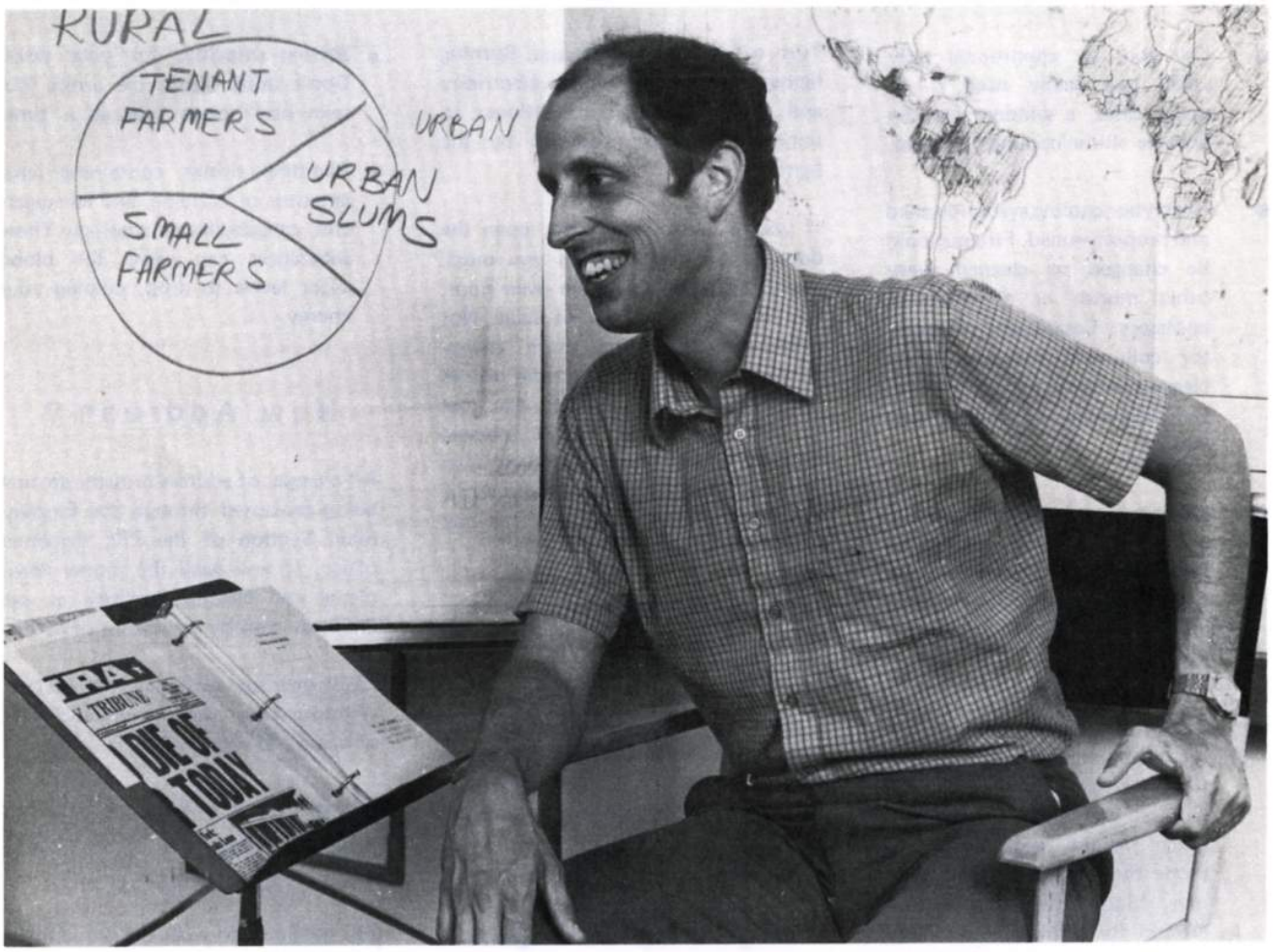
Employees are reminded that a revised W-4 form must accompany all changes of name and address.

Cafeteria Hours Changed

In conjunction with the September 9 open house planned for participants in the IAEA meeting, the C-Site cafeteria will be open to PPL staff from 11 a.m. to 12:30 p.m. on that day. Laboratory employees are asked to arrange earlier lunch hours in accordance with this change.

The PPL Hotline is issued by the Princeton University Plasma Physics Laboratory, a research facility supported by the U. S. Department of Energy. Correspondence should be directed to PPL Information Services, Module 2, C-Site, James Forrestal Campus, ext. 2754.

ppl people



Spreading Hope for a Hungry World

What snuffs out as many lives as the entire Holocaust in a mere six months? What causes more deaths each five years than 150 years of wars, murders and violence have? It's not cancer or heart disease; it's the worldwide blight of hunger.

John Coonrod is striving to change those grim statistics. John, a physicist involved in the TFTR diagnostic program, belongs to The Hunger Project. The international group has dedicated itself to the eradication of world hunger by the turn of the century.

John, who joined the laboratory staff three and a half years ago, has had a longstanding involvement with world hunger. "It's a subject we've all been bombarded with," he maintains. "World hunger and its victims are always presented as a hopeless, sad or pitiful situation; as if we can do our parts, but solving the hunger problem itself is basically hopeless. And that image is constantly reinforced, until everyone believes it."

The image wavered for the first time at the New York World's Fair, when John visited the General Electric pavillion. "At the end of their presentation," he recalled, "they had a little thing about fusion. They said it was an energy source that could be easily distributed, and that could be used to desalinate water. The display said the Sahara Desert could be irrigated, and could become a fertile valley."

That revelation was stunning to John. "That was the first time I had a vision of the world actually working," he remembered. "Instead of making gestures at a hopeless situation, we could actually do something about it. That's basically why I decided to work on fusion research -- at the age of 13!"

From that point through his mid-graduate school years, however, John "became caught in the turbulence of the Vietnam Era. I completely lost touch with my optimistic vision, " he said. "Then I heard the announcement about the formation of The Hunger Project, whose goal was to eliminate death by starvation throughout the world by the year 1997. That hit me like a ton of bricks; suddenly everything came together, and the reasons I was working on fusion all made sense."

He contacted the project leaders, asking what he could do in New Jersey. "I was told I could be in charge of the New Jersey branch," he laughed, "so I accepted. " He is also chairman of the state advisory board for CROP/ Church World Service.

John explained that there are 700 private volunteer organizations in the United States devoted to combatting hunger, each with its own specialty. "CROP is excellent at dealing with people-to-people problems," he said, "such as village development. They're up on the front lines of relief and development services. The Hunger Project feeds no one."

What, then does the organization do? "None of the other groups were doing anything wrong, "John emphasized, "but we looked around, and saw that there seemed to be no global commitment to eliminate hunger. We felt it would be ended if there was the political will to do so, and that became the Hunger Project's specific 'thing': to mobilize the will and the commitment to get the job done."

The first step, according to John, is to start with each individual taking a stand on ending world hunger. We have enrollments, where people learn that hunger persists, but it doesn't have to; they can make the difference. People sign up as an expression of their personal commitment." John has personally enrolled 10,000 individuals.

Enrollment doesn't obligate anyone to specific actions. John emphasized that the Hunger Project is "a non-pressure pressure group. We provide information on world hunger, but we don't tell you what to do. Each person can do what he or she is best at. "For some people, that's donating to a hunger organization; for others, collecting food, working directly with the hungry, or spreading the word to others might be their contribution. The project enrolled over two million people in its first three years of existence.

The group has had some notable successes working with other groups. "We gathered world hunger leaders together for a planning symposium," John said,"the first time something like that was done. Then, when the Cambodian famine occurred, we advertised it in the media, asking people to contribute to the relief agency of their choice. We did that, working with all the hunger groups in a coordinated fashion through the U.N., each doing what it is best at." The world successfully met the challenge of that famine, as well as the Somalian famine following it.

The Hunger Project takes a larger view of its mission, however. "Famines account for only 10 percent of hunger deaths," John pointed out. "They're the stuff that gets into the news, but they're just the tip of the iceberg. The rest of the hunger problem is simply business as usual: the grinding poverty that exists throughout the world. The long-term cure for hunger is developing self-sufficiency. You can't end hunger with handouts."

The Project is attempting to stop hunger with education. "In 1981, the project shifted from strictly enrollment drives to a commitment to educating North America about the world hunger situation," John explained. "We as a nation are really illiterate about the conditions of much of the rest of the world, and what solutions are avaible."

The education effort centers around 'briefings', six-hour sessions designed as a concentrated crash course in population, food production, inter—national finance, foreign aid, and other factors with a direct bearing on world hunger."Literacy is a catalyst to ending hunger,"John asserts."We have to educate North America, turn people on to their own ability to make a difference. Since 1979." he continued," famine can never be viewed or treated in quite the same way. We know now that we can handle it; we have the machinery in place. All over the world, successful solutions to the hunger problem have been developed. Hunger is ending, but slowly; we need an intense, grass-roots push to end it now."

Approximately 116 Hunger Project volunteers (including John) received six weeks of training in leading briefings. The Project's goal is to brief 25,000 people this year.

Working for an end to world hunger demands much of John's time, and yet he sees definite compensations for the long hours he devotes to the Project.

"There are a lot of people out there," he contends, "who are cynical about the world. But under that cynicism, they're really much more commited than they look. Working with the Project has shown me the compassion that's in people, ready to be mobilized to change life. I get to deal with exciting epople, meeting real challenges. Some people waterski, others climb rocks --why not work for an end to world hunger?I find it an ongoing, extremely satisfying challenge."

John transmits his sense of excitement about the Project to others by pointing up the worldwide benefits of ending hunger once and for all. "It would be an economic boost for the world," he maintains. "Most violence-prone, unstable areas of the world have severe problems with hunger. Eliminating hunger helps ensure our mutual survival. And when we look at the world we want to leave for our children, hunger is inappropriate and inconsistent in that world."

"Morally, spiritually, economically and from a purely survivalist point of view," John concluded, "ending hunger is simply the thing we MUST do."

Princeton University: Department

To Benefits Section, Personnel Office

Date

Subject ☐ Leave of Absence

☐ Termination ☐ Retirement

From

INTER-OFFICE CORRESPONDENCE

PLEASE PLACE THE FOLLOWING EMPLOYEE ON LEAVE OF ABSENCE:

Name: First Day Out: Return Date (if known):

Comments (if applicable): _____.

Reason:

☐ Temporary Disability: ☐ Medical
☐ Maternity

☐ Leave Without Pay (5 or more days/30 day max. for bi-weekly employees)

☐ Childrearing (1 year max.)

☐ Leave for Research

☐ Temporary Military Leave (15 calender days/year) ☐ Long-term Military Leave

☐ Jury Duty

APPROVED _____ _____
supervisor's signature date

TERMINATION/RETIREMENT

The following employee(s) will be ☐ terminating
☐ retiring

on _____, 19___.

_____ _____
supervisor's signature date

New Proceedure

Leave of Absence and Termination Policy/Procedure --

The present procedure for initiating the processing of leaves of absence and terminations is a phone call to Eleanor Schmitt in the Benefits Section. This process is no longer effective or accurate.

The PPL Personnel Policy Manual (Section 20.3.8: Temporary Disability Leave) states:

> "Employees must notify their supervisor as soon as they know that the illness or disability will cause them to be absent. If the illness will cause the employee to be absent for more than eight calendar days, *the supervisor must notify their Division Head and Personnel in writing."*

A form will be sent to all supervisors, and should be used in compliance with the stated policy. Please feel free to Xerox this form, or, if you misplace it, call the Benefits Section at ext. 2046.

Please use the form for any employee planning to retire, to terminate, or to be placed on leave for reasons other than disability *as far in advance as possible.* Completed forms should be sent to the Benefits Section.

Tennis Tourney

The sixth annual Melvin B. Gottlieb tennis tournament has been scheduled for September 11 beginning at 10 a.m. The rain date is September 12.

The tournament is open to all PPL employees and members of their families. A single draw will determine pairings, with first round matches starting at 10 a.m. and noon. Second round play has been scheduled at 2 and 4 p.m., and will run parallel to the first consolation round matches.

Each match will consist of three sets with a 12-point tiebreaker to decide even matches. The tournament winner will have his name entered on the tennis winners' plaque, to be displayed at C-Site.

To enter the tournament, contact Marilee Thompson at ext. 3422 or John Edwards at ext. 3305 by Sept. 8. Each entrant must bring a can of new yellow tennis balls and four dollars on tournament day.

Spectators are welcome to come cheer their favorites on. A sumptuous picnic lunch will also be available between rounds Saturday.

Car Pool Sought

Leon Suster of the Electronic Diagnostics Branch is seeking a car pool in the Englishtown, Marlboro, Freehold or Manalapan areas. He would like to arrive at PPL at approximately 8 a.m. and leave at about 4:30 p.m. daily. Anyone interested should contact Leon at ext. 3373.

HOTLINE

PRINCETON PLASMA PHYSICS LABORATORY

ELECTION EDITION • ELECTION EDITION • ELECTION EDITION

ERC elections will be held Tuesday, September 21, 1982

Polling locations and times will be:

C-Site LOB Lobby	6:00 am to 4:30 pm
B-Site Cafeteria	7:00 am to 2:30 pm
Sayre Hall Auditorium	2:30 pm to 4:30 pm

The purpose of this election is to select representatives from each classification group to serve on the Employee Representatives Committee (ERC). The committee serves to channel concerns and suggestions from laboratory employees to PPPL management, as well as relay information from management to employees. The committee meets once a month to discuss issues that have a bearing on employee safety, morale, and benefits.

The ERC was first formed five years ago. Since that time, the committee has dealt with a wide variety of issues. The ERC has been involved in securing an effective public address system; investigating the possibility of employees forming their own group dental plan; examining the benefits of self-insurance versus carrying Blue Cross/Blue Shield; delving into the problems that would be involved in establishing an on-site day care facility for employees' children; and much, much more.

All of the nominees running for office have indicated that they are able and willing to serve their classification group to the best of their ability.

Be sure to bring your identification card when you vote; ID's will be checked at the polls. Show your support for the ERC by voting in the election September 21.

ELECTION EDITION • ELECTION EDITION • ELECTION EDITION

ADMINISTRATIVE – ERC

Pam Johnson
C-Site

Frank Clark
Bldg. 1-A

Larry Owen
Bldg. 1-E

Gil Graydon
Bldg. 1-A

John Hart
Bldg. 1-A

Chris Gillars
Bldg. 1-E

Nick Stecky
Maintenance Bldg., C-Site

Nominated, but not pictured:
Kathy Lane, Bldg. 1-A
Pat Murray, C-Site
Dick Terhune, Maintenance Bldg., C-Site

ADMINISTRATIVE – GRIEVANCE PANEL

Bobbie Cruser
C-Site

Alan Upperco
C-Site

Henry Miller
Bldg. 1-T2

John Murphy
Bldg. 1-E

J. Barbour, Sr.
Warehouse, C-Site

Arlene White
Bldg. 1-A

Deborah Stanz
C-Site

Judy Duffy
C-Site

Nominated, but not pictured:
Frank Clark, Bldg. 1-A
Arthur Chaykowski, Maintenance Bldg., C-Site
Pam Johnson, C-Site
Kathy Lane, Bldg. 1-A
Mark Smith, C-Site
Dick Terhune, Maintenance Bldg., C-Site
Doug Steacy, Bldg. 1-E

LAB & SHOP/DRAFTING/MAINTENANCE - ERC

Mike Brooks
Tech Bldg., C-Site

Bill Pointon
Power Engineering

John Anastasio
PLT

Lee Ellingham
Machine Shop, C-Site

Frank DiBella
Matterhorn Bldg.

Leon Jackson
Tech Shop, C-Site

Nelson Rainier
Tech Shop, C-Site

Steve Ragolia
Maintenance Bldg., C-Site

Nominated, but not pictured:

Roy Whitley
Maintenance Bldg., C-Site

John Byaesko
Tech Bldg., C-Site

Bob Popp
Tech Bldg., C-Site

Bill Brinkworth
Bldg. 1-E

Bruce Berlinger
PLT

Ed Gilsenan
Maintenance Bldg., C-Site

Danny Crook
Bldg. 1-F

John Jones
Machine Shop, C-Site

Dan Bollenbacher
PDX

Tom Hurley
Bldg. 1-HA

LAB & SHOP/DRAFTING/MAINTENANCE - GRIEVANCE PANEL

John Jones
Machine Shop, C-Site

Nominated, but not pictured:

John Byaesko
Tech Bldg., C-Site

Mary Ann McBride
Bldg. 1-0

Tom Hurley
Bldg. 1-HA

Leon Jackson
Tech Shop, C-Site

Bill Pointon
Power Engineering

OFFICE / SECRETARIAL / CLERICAL - ERC

Meryl Finkelstein
C-Site

Elizabeth Klank
Maintenance Bldg., C-Site

Laura Steer
Sayre Hall

Joanne Savino
Sayre Hall

Eileen Rabiger
Bldg. 1-E

Chris Ritter
C-Site

Nominated, but not pictured:

Joyce Lawton
Bldg. 1-A

Kay Finch
C-Site

Eloise Racine
Bldg. 1-E

Kathy Lewis
Bldg. 1-E

OFFICE / SECRETARIAL / CLERICAL - GRIEVANCE PANEL

Joyce Lawton
Bldg. 1-A

Joyce Bitzer
Bldg. 1-E

Nominated, but not pictured:

Suzen Bayer
C-Site

Dale Hollendonner
Bldg. 1-E

Eloise Racine
Bldg. 1-E

Chris Ritter
C-Site

RESEARCH - ERC

Bob Budny
C-Site

Nominated, but not pictured:

Randy Wilson
RF Balcony

Greg Schmidt
C-Site

Fred Tenney
C-Site

Alan Janos
C-Site

Kingston Owens
C-Site

RESEARCH - GRIEVANCE PANEL

Nominated, but not pictured:

Ned Sauthoff
C-Site

Joel Hosea
RF Balcony

ENGINEERING & SCIENTIFIC STAFF - ERC

Nelson Bowen
Matterhorn Bldg.

Ted Terpstra
C-Site

Henry Fallon
Bldg. 1-P

Holt Murray
Bldg. 1-P

Al von Halle
Bldg. 1-N

Marilee Thompson
C-Site

Don Hay
Bldg. 8-I

Myron Norris
Matterhorn Bldg.

John Gyorfy
C-Site

Harold Anderson
Matterhorn Bldg.

Glenn Pearson
Aero Lab

Nominated, but not pictured:

George Martin, Sayre Hall
Uffe Christensen, C-Site
Jane Montague, C-Site
Richard Neindorff, C-Site
Paul Snook, Bldg. 1-K
Pete Mathe', C-Site
Tom O'Conner, Bldg. 1-P
Joanne Matone, C-Site
Norm Fromm, Bldg. 1-N
Graham Brown, Sayre Hall
Dave O'Neill, Bldg. 1-N
J. Dale Herron, Aero Lab

ENGINEERING & SCIENTIFIC STAFF - GRIEVANCE PANEL

Joe Csenteri
Tech Bldg., C-Site

Nominated, but not pictured:

Al von Halle, Bldg. 1-N
Larry Michaels, C-Site
Don Hay, Bldg. 8-I
Charlie Staloff, C-Site
Ernst de Haas, TFTR-MG Bldg.
Russ Winje, Bldg. 1-P
Graham Brown, Sayre Hall
Dave O'Neill, Bldg. 1-N
Myron Norris, Matterhorn Bldg.

TECHNICAL ASSOCIATE / UNIT SUPERVISOR / SPECIALIST ERC

Matt Edgar
Bldg. 1-R

Jerry Spielberg
Bldg. 1-R

Richard Frankenfield
Matterhorn Bldg.

Larry Corl
Experimental Systems Test Bldg.

George Beauregard
Bldg. 1-K

Kris Mann
PLT

Jim Cook
Bldg. 1-R

Tom Carr
Maintenance Bldg., C-Site

John Vallance
Maintenance Bldg., C-Site

Nominated, but not pictured:

Mel Gensamer, Aero Lab
David Colburn, Bldg. 1-N
William Mycock, RF Balcony
Richard Gallagher, FOM, B-Site
Don Muschal, FCPC Bldg., D-Site
Frank Bernath, Aero Lab
Charles Beach, Aero Lab
Alfred Cargill, Matterhorn Bldg.
Sam Hand, C-Site
Mike Capone, Bldg. 8-I

TECHNICAL ASSOCIATE / UNIT SUPERVISOR / SPECIALIST – GRIEVANCE PANEL

Robert Hoch
Peyton Hall, Main Campus

Mike Scott
C-Site

Nominated, but not pictured:

Jim Cook, Bldg. 1-R
Mel Gensamer, Aero Lab
David Colburn, Bldg. 1-N
William Mycock, RF Balcony
Richard Gallagher, FOM, B-Site
Don Muschal, FCPC Bldg., C-Site
Frank Bernath, Aero Lab
Charles Beach, Aero Lab
Alfred Cargill, Matterhorn Bldg.
Kris Mann, PLT
Frank Anderson, Tech. Bldg., C-Site
Sam Hand, C-Site
Michael Capone, Bldg. 8-I

HOTLINE

PRINCETON PLASMA PHYSICS LABORATORY

Vol. 4, No. 5 September 30, 1982

TFTR Update

Like the pieces of an intricate jigsaw puzzle, TFTR components are continually coming together at the D-Site test cell as the project moves closer to its December startup date.

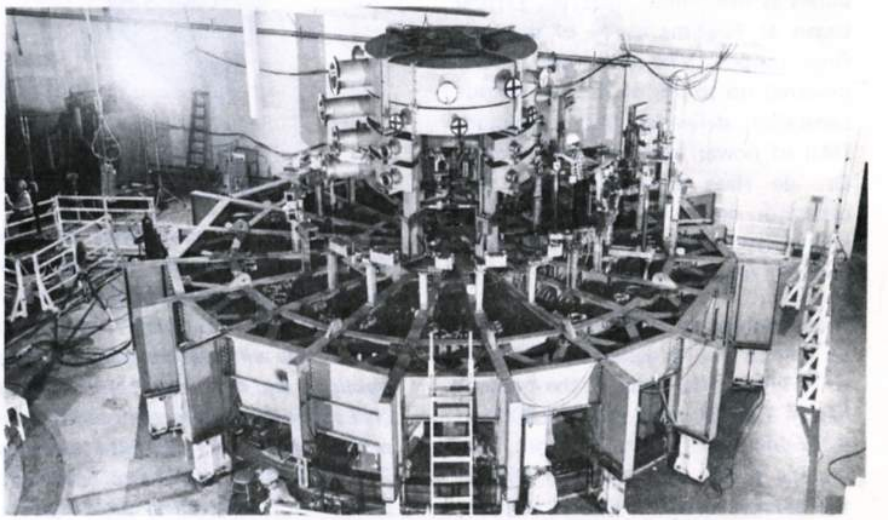
As of early September, nine of the 10 vacuum vessel sector modules had been placed on the TFTR baseplate. Each 78-ton module consists of a vacuum vessel segment, two 28-ton toroidal field coils, and an interconnecting support structure. Module components are placed in a specialized frame and assembled prior to installation on the machine.

The tenth sector module is currently being prepared by PPL for placement on the machine this month. The final vacuum vessel segment has been shipped from Chicago Bridge and Iron, vendor of the segments, and is in final preparation prior to fit-up.

The umbrella structure, which will support the upper portion of TFTR, is now being mated to the upper PF coils. The assembly will be installed on TFTR as a unit. Dr. Milton Machalek, Facilities Operations head, called the procedure "the most critical lift" on TFTR, since the weight of the assembly will near the test cell bridge crane's 110-ton lift capacity. The lift is expected to occur near the end of September.

"We're doing a lot of work in parallel in order to meet our schedule," Dr. Machalek explained. "An important milestone will be to pull our first vacuum on the vacuum vessel. Preoperational integrated systems testing will begin then, as we start fitting subsystems together into a working facility."

Balancing efforts continue for the first MG set, which is being turned over to PPL for pre-operational testing. Engineers from General Electric will continue to work toward achieving stabilized balance as the startup date approaches; in any case, MG No. 1 has been certified for the requirements of first plasma operation. Six of the 39 TFTR power systems will also be operational well before startup time.



Work continues on the TFTR umbrella structure.

A replacement unit for MG No. 2 is being fabricated by GE while the pit for that unit is being cleared out.

Work is also continuing on transforming a first floor room near the CICADA complex into the TFTR Operation/Information Center. The center will house the entire set of TFTR drawings, as well as over 12,000 blueprints and schematics of various TFTR components and systems, on 35 mm photographic film "aperture cards". Prints from these cards are instantly available, as is other filed test data and information. The immediacy of such information could help avert costly delays should any TFTR component malfunction during operation. Daily status reports and a 'hotline' to TFTR control will also originate at the center.

Carol Sherbet has been appointed manager of the TFTR Operation/Information Center, which Dr. Machalek characterized as "a nerve center for the project."

PPL Family Day

Employees will get the chance to show their families where they work during PPL Family Day, set for October 9 from 10 a.m. to 2 p.m.

The PLT, PDX, and S-1 areas will be open, and TFTR tours will be run throughout the day. Employees are reminded that the TFTR site is still a construction area; visitors should be appropriately dressed to avoid any hazards. Certain areas will be cordoned off, and visitors will be expected to obey all safety directives given during the day.

Tee-shirts and balloons will be given to all children attending the event. Movies and exhibits have been scheduled, and refreshments will be served.

This event is open to all PPL, Ebasco, DOE and Grumman employees. For further information, contact Information Services at ext. 2750.

MG Set Achieves Goal

The first motor generator set for TFTR successfully produced power for the first time during testing September 7.

Dr. Ernst de Haas, lead engineer for the TFTR MG sets, said the generator was run with a dummy load for 20 pulses at five minute intervals. Testing began at 10 a.m., at 1% of the set's final output. The unit was finally powered up to 7% of its final output capability, delivering 150 megajoules (MJ) of power into the dummy load. Dr. de Haas emphasized that the generator could have been tested at higher levels, "but the dummy load couldn't take any more."

When running at full capacity, the MG set will be able to deliver 2,250 MJ into TFTR rectifier coils. At the moment before a TFTR pulse, the set's 600-ton rotor will be turning at 375 rpm. During the pulse, approximately 50% of the energy stored in the set is transferred to tokamak systems. The speed of the rotor drops to 257 rpm, and requires five minutes to regain pulse speed.

Thanks to the efforts of PPL's testing crew and the help of General Electric representatives, the unit has been balance checked to 300 rpm. Dr. de Haas said current tests indicate the set will be available in support of first plasma in December.

Recycling Update

Thanks to the efforts of PPL's "conservatives", the lab's recycling program has collected 22,305 pounds of paper since its inception six months ago. However, the Maintenance Department has found an increasing amount of garbage being placed in recycling bins located throughout the facility.

All employees are reminded to place only recyclable materials (copier and typing paper, letterhead, white notepad paper, carbonless computer stock, or white tissue copies) in the green recycling bins. And keep filling those bins up -- your cooperation has made the program a success!

Director of PPL Emergency Services Unit Jack Anderson was recently elected to the Board of Directors of the Industrial Fire Chiefs' Association (IFCA). He will head the organization's publicity and newsletter committee, as well as the education and training committee. Anderson, who also serves as PPL's fire chief, said it was "quite and honor" to be elected to such a group. I'm very, very appreciative." The IFCA brings together industrial fire chiefs from across the state, to exchange firefighting information and strategies.

Benefits News

Mailing of medical bills can be costly. To further help our employees, the PPL Personnel Office has printed envelopes available for employees mailing medical bills to Blue Shield of NJ and/or TIAA-CREF. The envelopes may be sent via the laboratory's mail system and postage will be paid by PPL. Please be sure to put your *home* return address in the upper left hand corner.

Envelopes can be obtained by contacting Eleanor Schmitt at ext. 2046.

House For Sale

Three bedroom home in Belle Meade. Living room, very large kitchen, recreation room, 1½ baths, basement, double garage, air conditioned. Located on 1¼ acres. Seven (7) miles from Nassau Street; Call ext. 2290.

Loan Rates Drop

The Princeton University Employees' Federal Credit Union has recently altered its requirements for unsecured personal loans, and for new and used car loans.

The maximum loan limit for an unsecured personal loan has been raised from $3,000 to $4,000, and the stable income limit has been lowered to four years. Under the revised policy, employees with one year of stable income are eligible to borrow $1,000. Employees with two years of stable income may borrow $2,000; those with three years, $3,000; and those with four years, $4,000. Stable income is defined as employment with no break in service.

The interest rates on new and used car loans have also been lowered, but for a limited time only. New car loans financed for three years will be charged 15% interest, while loans secured for four years will be charged at 16%. Used car loans, which may be financed for up to three years, will be subject to a 16½% interest rate.

Three full months of Credit Union membership are required before a member's loan application will be considered by the Credit Committee.

Author Visits Lab

The quest for fusion energy -- and PPL's role in that search -- will be featured in a forthcoming book, "The Man-Made Sun", by T.A. Heppenheimer. Heppenheimer recently concluded a visit to the laboratory as part of his research for the volume.

Heppenheimer, a Ph.D in aerospace engineering, is the Alexander von Humboldt Fellow at the Max Planck Institut fur Kernsphysik in Heidelberg, Germany. He has written numerous articles about planetary science, space science and celestial mechanics, and has authored the books "Colonies in Space" and "Toward Distant Suns."

(continued)

When asked what attracted him to writing a book about fusion energy, Heppenheimer explained that "fusion has been a personal fascination of mine for close to 20 years." While writing "The Real Future" for Doubleday Books last year, he included a chapter on fusion. Since his research on fusion revealed "just so much" information, he submitted a proposal to do a separate book on the subject. Publishers Little, Brown granted the go-ahead to the tome in December.

Heppenheimer's research trail has thus far brought him to Los Alamos and PPL. After attending the Baltimore IAEA meeting, his next stop was MIT. Also scheduled are visits to Lawrence Livermore, General Atomic, Inesco and KMS Fusion.

Heppenheimer said his book will highlight "the people doing fusion, from those in the lab battling with nature to those in Washington battling with legislation." He expects the book to be published in the spring of 1984.

While here, the author spoke with members of the laboratory's management and technical staffs. He said his research here had gone "very well. People here have been very helpful to me; I've gotten some wonderful stuff. I think I can tell a good story about TFTR, as well as about the temperature advance that occurred here in 1978. I also have Washington sources who have told me what was going on there while the temperature was climbing here."

"I feel the people here were very kind," Heppenheimer concluded, "and I think they'll enjoy what they see when 'The Man-Made Sun' is published."

Faces & Places

Joining the PPL "family" in August were Susan Thelle, staff assistant in Accounts Payable; Keith Sapp, assistant engineer, FOM/AC Power; Laurence Guttadora, technical assistant, Experimental Diagnostics; Anne Palladino, secretary, Director's Office, Program Management and Budget; Natalia Bayes, staff assistant, Operations Division; and Raymond Whitley, technician, and J. Faunce, junior project engineer, Plant Maintenance and Operations.

Director Speaks at SOSS Seminar

Laboratory Director Dr. Harold Furth brought PPL employees up to date on "What's Happening with TFTR -- First Plasma?" during the annual luncheon and seminar for the Secretarial and Office Support Staff (SOSS), September 21. The new SOSS committee was also introduced during the meeting.

Training will be the topic of the next SOSS seminar, slated for October 19 in the Sayre Hall auditorium. Guest speakers Leonard Thomas, Manager of Human Relations for PPL, and Stanley Adelson, Assistant Director of Training and Communication for Princeton University, will discuss the various training options open to SOSS members.

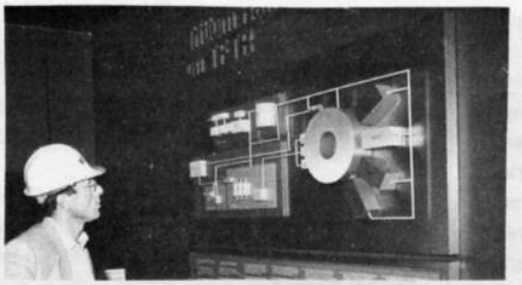
The PPL Hotline is issued by the Princeton University Plasma Physics Laboratory, a research facility supported by the U. S. Department of Energy. Correspondence should be directed to PPL Information Services, Module 2, C-Site, James Forrestal Campus, ext. 2754.

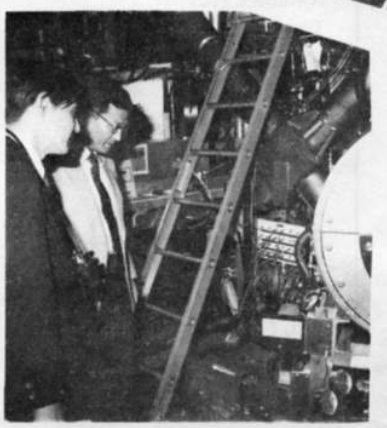
Bloodmobile Results

The Bloodmobile visit on September 8 was a success; the Red Cross staff was pleased with PPL's contribution to the blood drive this year. We would like to thank the following people for their participation in this year's program:

Bob Fleming
Art Kolupanowich
Ray Pressburger
Sherry Berson
Kathy Dunn
David Miller
Paul Sichta
Stephan Jurczynski
Sam Pellitteri
John Gumbas
Alan Upperco
Dick Palladino
Dan Olivieri
Sally Connell
George Martin
David Ruzic
Sharon Owens
George Rose
Frank Clark
Natalia Bayes
Tony Bleach
George Hill
Julius Krawiec
Joe Davenport
Sharon Hughes
Larry Owen
Gene Hrycak
Ray Jeanes
Jerry Neale
Jeff Barnard
Bob Ernst
James Faunce
Bob Kaita
Gil Graydon
Matthew Edgar
Tom Czeizinger
Gene Colborn
Meryl Finkelstein
John Murray
Sylvia Farley
Dick Carlese
Mary Ann McBride
Frank Bozarth
Halsey Allen
Rick Bodinizzo
Scott Larson
Jacob George
Susan Thelle
Bob Malinowski
Jack Abraitis
Adrian Cini
Rick Hill
Roger Gould
Boris Grek
Bill Pointon
Dietmar Kraus
Harry Towner
Carolyn Springer
Rich Henne
Reginald Ware
John Citrolo
Don Lang
Bill Orlando
Charles Karney
Joe Malinowski
Ken Le Bon
Greg Tompkins
Mark Cropper
Gary Pereira
Anne Romano
George Kolinchak
James Nelson
Fred Kelmer
Walter Tudor
Angelo Candelori
Leon Jackson
James Byrne
Alice Rozenbrock
Gretchen Shelly
George Levitsky
Donald McNeill
Bob Smart
Frank Pecht
Nadirah Shakir
Marie Iseicz
Nelson Rainier
Tina Whitley
Denis Lehane
Joe Csenteri
Bob Reed
Jo Ann Matone
Howard Richter
Brad Micklich
Howard Zuvers
Terry Greenberg

PPL Hosts IAEA Open House





HOTLINE

PRINCETON PLASMA PHYSICS LABORATORY

Vol. 4, No. 6 Oct. 28, 1982

Family Day Finale

Approximately 1500 people availed themselves of an opportunity to see PPL from the inside during recent Family Day festivities. Adults learned about fusion from volunteers stationed along the self-guided tour route through the facility; youngsters seemed more impressed with their tee-shirts and balloons. Dozens of donuts and myriad cups of coffee were consumed, and a good time was had by all.

Tee-shirts with the Family Day logo (a rainbow and the words "Fusion Energy for My Generation") are on sale through the Information Services Branch. Shirts are available in small, medium and large children's sizes, as well as in medium, large and extra large adults sizes.

Anyone interested in ordering a shirt should complete and return the form printed below. Shirts are being sold on a first come, first served basis, and are expected to be available by the end of the month.

A photo montage of Family Day activities is printed on page 10 of this HOTLINE.

United Way

Although the NFL remains on strike, a kickoff of another kind is fast approaching -- the November kickoff of the University's United Way fund drive. In order to meet this year's goal, however, volunteer workers are needed now. Volunteering isn't difficult; volunteers will be asked to devote only a few hours to organizing the donation drive in their area of the laboratory.

Anyone interested in volunteering for the coming campaign should contact PPL United Way coordinator Len Thomas at ext. 2036 BY OCTOBER 31.

Run For Fun

Running enthusiasts will get the chance to challenge the clock November 12, during the fall edition of the PPL Run for Fun. The 2¾ mile event is slated to get underway at 12:30 p.m.

While runners can still register as individuals, this is the first time teams will be accepted in the race. Each six-person team must have at least one woman on its roster; runners may form their own teams, or request to be placed on a team by run organizer Barbara Sarfaty.

The course for the race is similar to the May run. Maps of the run route will be posted throughout the laboratory. Juice will be available for parched participants, and trophies will be awarded to first place finishers in the male, female and team categories.

To register for the Run for Fun, contact Barbara at ext. 2440.

FAMILY DAY TEE-SHIRT ORDER FORM

Please send me tee-shirts in the following sizes:

ADULT SIZE: Medium _____ Large _____ Extra Large _____

CHILD SIZE: Small _____ Medium _____ Large _____

A check for $4.10 per shirt is enclosed, made payable to Princeton University.

NAME: _____ Extension: _____

Campus Address: _____

SEND COMPLETED FORM AND CHECK TO MARY ALICE EUBANK, LOB RECEPTION AREA, C-SITE

ERC Election Results

The following individuals were elected to the Employee Representatives Committee (ERC) after voting held September 28:

ADMINISTRATIVE:	Chris Gillars	ext.	2853
	John Hart	ext.	2076
	Alternate: Jim Stefane	ext.	2505
RESEARCH:	Bob Budny	ext.	2730
	Kingston Owens	ext.	3181
	Alternate: Greg Schmidt	ext.	3167
OFFICE/SECRETARIAL/ CLERICAL:	Eileen Rabiger	ext.	2449
	Chris Ritter*	ext.	2660
	Laura Steer*	ext.	2685
ENGINEERING & SCIENTIFIC STAFF:	Marilee Thompson	ext.	3422
	John Gyorfy	ext.	2552
	Graham Brown	ext.	3008
	Jane Montague	ext.	3365
	Alternate: Ted Terpstra	ext.	2823
	Alternate: Tom O'Connor	ext.	3142
TECHNICAL ASSOCIATE/ UNIT SUPERVISOR/ SPECIALIST:	Jerry Spielberg	ext.	2093
	Don Muschal	ext.	3756
	Alternate: Mike Capone	ext.	2316
LAB & SHOP/DRAFTING/ MAINTENANCE:	John Anastasio	ext.	3179
	Tom Hurley	ext.	3107
	Mike Brooks	ext.	3068
	Leon Jackson	ext.	3068
	Bill Pointon	ext.	3263
	John Jones	ext.	3068
	Steve Ragolia	ext.	3098
	Alternate: John Byaesko	ext.	3067
	Alternate: Lee Ellingham	ext.	3145

*Chris Ritter and Laura Steer received the same number of votes, so the new ERC will vote to determine which will be the regular member and which the alternate.

In addition, the following people were elected to the ERC Grievance Panel:

ADMINISTRATION:	Kathy Lane	ext.	2 691
RESEARCH:	Joel Hosea	ext.	3206
OFFICE & SECRETARIAL:	Suzen Bayer	ext.	2751
ENGINEERING & SCIENTIFIC:	Larry Michaels	ext.	2323
TECHNICAL ASSOCIATES:	Don Muschal	ext.	3756
LAB & SHOP:	Mary Ann McBride	ext.	2590

Patent Awareness Program

The PPL Patent Awareness Program has completed its first year of operation. Twenty-nine invention disclosures were filed during FY83, and 47 individuals will receive cash awards during November. The total amount to be awarded is more than $5,000.

The Committee on Inventions makes awards of $100 to each inventor named on an invention disclosure up to a maximim of $300 per disclosure. In addition, if DOE files an application for a patent, each inventor receives $200 with no maximum.

Below are the invention disclosures filed since the last HOTLINE listing through the end of FY82:

- High Energy Tritium Neutral Beams, by L. Grisham, D. Mikkelsen & D. Post
- Continuous Tokamak Operation with an Internal Transformer Driven by High Energy Neutral Beams, by C. Singer & D. Mikkelsen
- X-Ray Diagnostic of Current Profile, by S. von Goeler, R. Motley, N. Sauthoff & J. Stevens
- Process for Enhancing Selective Hydrogen Isotope Desorption from Metals, by R. Knize & J. Cecchi
- Magnetic Socket, by H. Furth, M. Yamada & S. Jardin
- Short-Connected-Length Stellarators, by T. Stix
- Tritium Injection by Laser Blowoff, by S. Cohen, D. Manos & J. Timberlake
- Momentum Discriminating Probe, by D. Manos & S. Cohen
- Fusion Gamma Diagnostics For D-T and D-^3H_e Plasmas, by S. Medley & H. Hendel

SOSS Seminars

Muriel Strohl was installed for her second term as chairperson of the Secretarial and Office Support Staff (SOSS) seminar committee during the group's September 21 luncheon meeting. Other newly elected SOSS officers include vice chairperson/treasurer Ann O'Day recording secretary Dolores Mazalewski, and publicity secretary Dolores Bergmann.

Laboratory Director Dr. Harold Furth gave a most entertaining and informative lecture on "What's Happening with TFTR--First Plasma" during the seminar portion of the program. Dee Hurley entertained meeting attendees with yet another original song from her repertoire of tokamak-related tunes.

PPL Payroll supervisor Jim Stefane will be the speaker at the November 15 SOSS seminar, scheduled for the Sayre Hall auditorium from 11 a.m. to noon.

Volunteers: People People

With this issue, HOTLINE initiates a column outlining various volunteer opportunities throughout the state. Employees interested in offering their help can contact the Voluntary Action Center (VAC) of Middlesex County at 201-249-8910 for further information on any listing. In the future, this column will feature listings provided by the VACs of Mercer, Monmouth and Somerset counties. Employees who are aware of any non-profit organization in need of volunteers are also invited to submit items for this column.

Interested in promoting the arts among talented teens? Numerous opportunities cover a wide range of activities, including clerical work, administrative duties, funding, brochure design, management, planning and systems analysis.

Do you have an extra hour a week for making a new friend? Six out of ten of the elderly in nursing homes never have a visitor. A grateful resident eagerly waits all week for his volunteer visitor to arrive.

Enjoy making policy decisions? Some volunteer agencies have openings on their boards of directors. These boards are crucial to the effective functioning of these agencies.

Concerned about the problems facing women today? Help is needed by agencies providing support services for displaced homemakers, battered women, single parents, and women with drug and alcohol problems.

Enjoy talking about your work? Requests come in often for experts in various fields to make one-time speaking engagements.

Love animals? Volunteers are needed weekends to help place pets for adoption. Loving homes are also needed to board animals temporarily until they are placed.

Volunteer opportunities such as these are available after working hours, as well as during the day. For further information, contact the Middlesex County VAC.

Holiday Dinner Dance

Be sure to circle December 10 on your calendar. That's the date of the annual PPL Holiday Dinner – Dance, to be held at Cedar Gardens in Hamilton Square. Details on the event will be mailed to all personnel in November.

Ride Wanted

Shelia Henry of the Cogito Corporation, located in Forrestal Center, is seeking a ride to Trenton. She would like to arrive at work at 9:00 a.m. and leave for her Redwood Avenue home at 5:00 p.m. daily; however, her hours are flexible. Anyone interested should contact Shelia at 921-0850.

SRAs: A Brief Discussion

Supplemental Retirement Annuities (SRAs) are designed for use by employees who want to set aside tax-deferred funds over and above the benefits being accumulated in the Princeton

(continued)

University's retirement plans. SRAs have a number of advantages that make them especially attractive vehicles when saving for retirement on a tax-deferred basis.

For example:

- Part or all of the funds accumulated in SRAs can be withdrawn at any age without an income tax penalty. However, withdrawals from SRAs, like IRAs, are subject to ordinary Federal income taxes.
- Initiation of benefits from SRAs may be delayed while employment continues.
- SRAs provide many options for the receipt of lifetime retirement income benefits.
- Income benefits from an SRA can begin at any age without an income tax penalty.

In addition, Supplemental Retirement Annuities offer you the following features:

- TIAA's effective annual rate of interest is 14% for SRA contributions on or after January 1, 1982.
- SRAs offer you the convenience of having contributions made directly through your institution's payroll system.
- Contributions to an SRA will reduce the amount of your income tax withholding, so you immediately see the effect of your tax savings.
- Most individuals can contribute more to an SRA than an IRA.

For more information on TIAA-CREF Supplemental Retirement Annuities, please call Mary Bersch in Personnel at ext. 2043.

Ride Wanted

Rosemary Champ of the Gas Fluid Dynamics Laboratory is seeking a ride to Newtown, Pennsylvania. She would like to arrive at PPL at 8 a.m. and leave for her Garrison Place home at 4:30 p.m. daily; however, her work hours are flexible. Anyone interested should contact Rosemary at ext. 7-6502.

Dance Classes

Weekly dance classes, sponsored by the Princeton Get-Away Club, will again be offered in the Dorothy Brown Room of the Princeton University League, 171 Broadmead.

"Mr. Gary" will provide dance instruction on Wednesday evenings from 8 to 10 p.m. The second session of classes will run from October 20 through November 17, and will feature fox trot, rhumba and cha-cha lessons.

Those interested in joining the session should send a check for $20 to B.W. Jones, Princeton University Computer Center, 87 Prospect Ave., Princeton. The check should be made payable to the Princeton Get-Away Club.

For further information about the dance classes, contact "B" Jones at 771-0485 or Catherine Cramer at 452-8792 any evening.

Heart Attack Help

(The following is a letter to HOTLINE submitted by Dr. Ernst de Haas)

A movie shown recently at the Rutgers Medical School highlighted a medical procedure that could potentially save the lives of half of HOTLINE's readers. The film, presented by Dr. J. Kostis, professor of medicine and Hunterdon Somerset Heart Association trustee, lasted only two minutes. In that brief time, it showed an elegant, practical solution for humanity's scourge: heart attack.

For Lack of a Nail . . . .

It continually amazes me that an 80 kg man or woman can lose 10 (or 30, or 50) years of life due to a blood clot weighing less than 800 mg lodged in a coronary artery. That is a sad amplification factor of 100,000; in PPL's work, it would be the equivalent of a faulty component weighing only 100

The Theory Division team recently accepted the intramural softball league winner's trophy from Human Resources Manager Len Thomas. The team finished season play with a 7-1 record, taking first place over the Warehouse, Vacuum Shop and CICADA teams. Team members pictured include (left to right) Morrell Chance, Larry Stewart, Doug McCune, co-captain Ralph Izzo, KuoMee Ling, Len Thomas, co-captain Bill Delucia, Russ Kulsrud, Don Monticello, Janardhan Manickam, and Tony Bleech. Team members not pictured were John Edwards, Wonchull Park, Dave Johnson, Steve Cawley, Doug Post, Dennis Mansfield and Steve Jardin. The league was organized by Ed Bush.

pounds and costing $3,000 -- but which causes an irreparable breakdown in TFTR.

The small clot blocking the artery deprives a section of the heart muscle of blood, 'starving' part of the heart. Depending on the location of the clot, the resulting heart attack may be mild -- meaning that the patient survives -- or fatal.

Diagnostics

Diagnosis of a heart attack is not always straightforward. The EKG can provide very valuable, but often incomplete, clues. Chest pain can be caused by angina (the partial obstruction of a coronary artery), or by an upset stomach; X-rays do not distinguish between clots and other tissues.

A more reliable diagnosis is obtained by threading a catheter through an artery in the arm until the tip reaches the inside of the aorta, near the coronary arteries. Once in place, small amounts of an iodine dye are released through the catheter into the blood of the heart. Iodine intercepts X-rays, and the arteries become clearly visible as dark lines of uniform width. If there is an obstruction, the shadow of the artery will be noticeably thinner or non-existant at that point. The affected muscle, and the smaller arteries downstream from it, will show an absence of iodine.

Diagnostic Equipment Assists in Cure

The new idea shown in the film, which depicts the heart of one of Dr. Kostis' patients, is to use the same catheter to release streptokinase in front of the clot. This enzyme is a fibrinolysin -- it dissolves the fibers in a blood clot. After about 20 minutes, the clot had mostly disappeared and the blood was flowing almost normally through the affected artery. The patient had not only survived the heart attack, but the buildup of the obstruction had also been reversed.

This procedure has been under investigation in six hospitals in Germany and the U.S.A. for some time. Initial results show the method was effective on 75% of the first 250 patients. All patients were candidates for bypass surgery; the 25% who did not benefit from the new method were generally no worse off than they would have been without any intervention.

It is exciting to watch the scientific/engineering approach to heart trouble, and to speculate a bit on its significance at PPL and throughout the nation. Heart attacks claim about 650,000 lives per year nationwide; 15 PPL employees or members of their families will become part of these grim statistics this year. Between 80,000 and 100,000 bypass operations are performed per annum nationally; this new procedure may reduce that number significantly.

Golf Tourney Results

The Princeton Univeristy Golf League capped its 20th year of existence with a fall tournament September 21 at the Forsgate Country Club. John Jones took low gross honors with a 76, followed by Roland Snead with an 81. Low net winners were Elmer Perantoni with a 70, and Dan Kungl with a 71.

Putting awards went to Charlie Bushnell in the A Division; Roland Snead, B Division; Al Terry, C Division; and Marian Schupsky, D Division. The grand prize for putting went to Al Terry, who needed just 28 putts during the tourney.

The closest to the pin contest was won by Doug Steacy, who landed 7'1" from the flag. John Konopka placed second, with a 13'4" effort. Longest drive awards went to Bud Bosley and Roy Crosby, while Harold Johnson and Homer Hill received "special awards" for "perseverance and speed."

Playoffs were also held to determine the winning twosome in each flight. In the championship tier, Dan Oliveri and Chris Gillars edged out Jim Carter and Roland Snead. Other winners included John Wheeler and Paul Snook, first flight; Graham Cragg and Wes McCaughan, second flight; Charley Emerson and Bob Mosley, third flight; and Ed Hall and Hank Dymowski, fourth flight.

Treasurer Roger Gould, president Chris Gillars and secretary Dan Oliveri (foreground, left to right) have taken over the reins of the Princeton University Golf League from outgoing president Dick Shamon, treasurer Bud Bosley and secretary Bill Ernst (background, left to right). The league recently completed its 20th season of play.

(continued)

Regular season final results showed Dan Kungl and Dave Mullaney leading section A; Jim Carter and Roland Snead leading section B; Dan Oliveri and Chris Gillars on top of section C; and Harry Howe and John Clarke pacing section D. Al Terry had the low gross for the season (36), John Clark carded the low net (28), and Bill Snead had the low handicap (3).

P.U. League

HOTLINE readers may be unaware of the services offered by the Princeton University League. Open to anyone officially associated with the University, the league sponsors ballet, theatre and opera trips; monthly singles socials; museum talks for children and adults; English lessons; art exhibits; and a variety of daytime and evening Interest Groups.

The next singles wine and cheese social is scheduled for November 11 at 5 p.m. in the Fine Tower faculty room on main campus. All single members of the University faculty and staff are invited to attend.

Artworks by Enrico Bombieri will be on display in the Dorothy Brown Room at league offices, 171 Broadmead, through November 12.

Some openings are still available at the league's Nursery School for three and four year old children. A cooperative school, classes are available three, four or five days a week. For further information, call 924-3137 or 921-1129.

For information about any league activity, or to become a league member, call 7-3650.

Tour Thank Yous

While our spring and summer weather stayed relatively cool, the laboratory tour program heated up to a fever pitch. One hundred forty one guides escorted 1,587 visitors through laboratory halls between May and August. June seemed to be the apex of the summer "tourist" season, as 655 people got to see PPL's fusion work firsthand. A sincere thank you goes out to our tour guides for that period:

PPL TOUR GUIDES FOR MAY, JUNE, JULY & AUGUST

MAY

Halsey Allen
Dale Ashcroft
Suzen Bayer
Graham Brown
Charlie Bushnell
Diane Carroll
Joseph Cecchi
Sam Cohen
Fred Dylla
A.R. DeMeo
Ernst deHaas
Robert Fleming
John Frankenberg
Larry Grisham
Kenneth Hill
Harold Johnson
Mark Katz
Naren Kokatnur
Ed Lawson
George Levitski
George Martin
Sid Medley
Gary Oliaro
Richard Palladino
Edward Rogers
Hendrik Rosenbroek
Greg Rewoldt
Greg Schmidt
Al Swain
Harry Towner
Marilee Thompson
Fred Tenney
Felix Ullrich
Roscoe White
Al von Halle

JUNE

Halsey Allen
Mounir Awad
William Blanchard
Charlie Bushnell
James Bialek
Peter Bonanos
R. Brocker
John Coonrod
Sal Cavalluzo
Diane Carroll
Joseph Cecchi
Sam Cohen
Richard Cassel
John Doane
Fred Dylla
Richard Daniels
Larry Dudek
Ernst deHaas
A.R. DeMeo
Alicia Ehrhardt
Les Elbaum
Harold Eubank
Robert Fleming
James French
Sam Goldfarb
Don Grove
Donald Hay
Don Harnsberger
Jack Joyce
Naren Kokatnur
Robert Krawchuk
Donald Knutson
Daniel Kungl
George Levitski
Dale Meade
Dennis Manos
Milton Machalek
Sid Medley
David Mullaney
David O'Neill
William Osborne
Bob Papsco
Erik Perry
Greg Rewoldt
Gordon Rappe'
Maurice Sabado
Al Swain
Phil Thompson
S. Von Goeler
Al von Halle
Robert Woolley
Ken Young

JULY

Hasley Allen
Peter Bonanos
Dale Ashcroft
Suzen Bayer
William Blanchard
Michael Bell
Nelson Bowen
Charlie Bushnell
Diane Carroll
Sam Cohen
John Coonrod
John Doane
A.R. DeMeo
Jim French
Forrest Jobes
Jack Joyce
Naren Kokatnur
Fred Kloiber
Robert Krawchuk
Ed Lawson
George Martin
David Mullaney
Dennis Manos
Gary Oliaro
Richard Palladino
Mike Pereira
Carl Pierce
Al Swain
S. Von Goeler
Al von Halle
Hal Wexler

AUGUST

Michael Bell
Diane Carroll
Ernst Dehaas
Robert Fleming
Stuart Foote
Donald Hay
Harold Johnson
Naren Kokatnur
Robert Krawchuk
Douglas Loesser
Sid Medley
Larry Michaels
Robert Mills
Dennis Manos
Harold Murphy
Doug Post
Richard Palladino
Robert Papsco
Mike Pereira
Robert Pullen
Al Swain
Ted Terpstra
Fred Tenney

Spotlight On: Emergency Services Unit

Most of us can cope with the little 'disasters' in our lives. The big emergencies, however, often confound us. Fortunately, PPL employees can count on their co-workers on the Emergency Services Unit (ESU) to stand between them and the crises of fire or serious injury.

The ESU is much more than a group of well-intentioned volunteers. Rather, each segment of the organization is an efficient, highly trained unit in its own right.

The ESU is divided into the first aid squad, the fire department and the heavy rescue group. On the firefighting front, all ESU personnel participate in the New Jersey State Fire College training program. The program encompasses command school, search and rescue, arson investigation, hazardous materials training, salvage and overhaul, and other specialized instruction.

The unit has also trained on the Mount Holly firegrounds. That rigorous course requires firefighters to extinguish high-rise fires, flammable liquid blazes, and smoky fires. Search and rescue procedures during a fire emergency are also covered.

"We're obligated to offer training," ESU Director Jack Anderson said. "We're structural firefighters, and under Federal codes we have to have the highest level of training, to meet the highest criteria of hazards."

Among the pieces of equipment the squad possesses are two 1000 GPM fire pumpers, an ambulance, a heavy rescue vehicle, two chemical fire trucks, numerous self contained breathing apparatus, the "Jaws of Life" (for extricating crash victims from their vehicles), and just about every kind of rescue tool or fire apparatus made.

Many of the ESU's acquisitions are obtained as they are needed. For example, following the chemical spill cleanup at the Matterhorn Building last year, the unit purchased four chemical entry suits in case such an emergency occurs again.

The rescue squad has a memorandum of agreement with Plainsboro, each serving as backup squad to the other. "We respond when the emergency is in close proximity to the lab," Jack explained. "Often people on the highway will come into the lab, notify the guard at the booth of an accident, and we'll get called."

The ESU also provides coverage for functions such as Family Day, Staff Day, and the like.

When an emergency occurs on campus, the firehouse and ESU headquarters are usually alerted though their monitoring system. Tuned into the emergency telephone number (ext. 3333), such monitors allow the squad to 'get the jump' on emergency situations. On many calls, "time is of the essence," according to Jack. "You have less than two minutes to take action when you respond to a call. Two minutes can cost someone their life, or allow a fire to increase in intensity twice."

In fact, the immediacy of the squad's response has helped save a life in more than one instance. "Joe Perone of Maintenance had a heart attack," Jack recalled, " and we responded immediately. We got him stabilized, and

brought him to the hospital. The doctors there credited our guys with saving his life."

Most of that hazard lies in the "vast electric potential" that exists in many areas of the laboratory. "Any fire with electrical equipment requires us to have equipment in all surrounding areas deenergized," Jack said. "That must be done before we can attack the fire." So, the ESU must keep itself abreast of newly installed electrical equipment -- and know how to get it turned off quickly.

The squad has a mutual aid pact with Plainsboro, and can call in additional help through Plainsboro's mutual aid agreements. But, Jack emphasized, "our day shift has yet to call in Plainsboro, although they do respond to our off-hours calls." As of the new fiscal year, however, PPL's ESU is required to provide round-the-clock fire protection on a daily basis.

In facing medical emergencies, the ESU has 12 certified emergency medical technicians. Each technician receives 120 hours of training, including 10 hours spent volunteering in a hospital. Squad members become well-versed in cardiopulmonary resuscitation (CPR), and are recertified on a regular basis. PPL's squad frequently works with the Princeton Medical Center paramedics, providing coverage when the other unit is unavailable.

"We're of comparable quality with any of the squads in the area," Jack asserted, "and all of our equipment is the best available."

On any fire call, all 42 members of the ESU turn out; on a first aid call, one six-man duty crew will respond. Group membership runs the gamut from managers, engineers and DOE employees; four members of the ESU are women.

When any segment of the ESU responds to an emergency call, though, they usually have no more than a vague idea of what they'll be in for. Jack attributes that lack of information to poor employee reporting of emergencies. "When you call Security about an emergency," he pointed out, "stay calm, give your exact location, and give as much information about the problem as possible. Don't hang up on Security; let Security hang up on you when they have the full story."

Jack added that employees shouldn't be hesitant about calling the 3333 emergency number. "We'd rather roll on something that isn't an emergency," he said, "than not get called when an emergency actually exists."

Jack urged all PPL employees to cooperate with the ESU. "If you have a suspicion that there's an emergency; don't wait until you're sure, or it may be too late. Once you've called in, vacate the building and stay clear of the responding ESU members."

According to Jack, "We have gotten a vote of confidence from all levels of management. Most managers have been very cooperative in allowing their people to be on the ESU, and in allowing them to attend calls or scheduled drills. In some ways, their work on the ESU is as important as what they do throughout the day at PPL -- and sometimes more important, when it results in saving someone's life."

What makes someone run into a burning building when everyone else is running out? What allows someone to aid a maimed person without panicking into inaction? "It's the love of mankind," Jack feels, "the value you place on the life of another human being. Easily half our rescue squad and fire unit members are rescue squad or fire department volunteers outside of work. I have never met a group with the experience or the dedication our ESU members have; they put in a lot of hours, but they remain an dedicated bunch. Our officers have provided the highest caliber of devotion to duty. In all my years of experience, I have yet to meet individuals with such expertise when it comes to getting a job done. Whatever it takes, they just come through and do it. When I give an order on a fire scene, for example, there's no second guessing; the unit just performs excellently. And the leadership our officers have provided has been outstanding."

"They're a different group of people," Jack contends. "They don't have to volunteer their time, but they do.

They're every bit as professional as a paid service would be, and they should be recognized for their service."

Toward that end, Jack is planning an annual awards dinner for the ESU, to honor the "heroism and dedication above and beyond the call or duty" evinced by unit members. "They volunteer their lives for the lives of everyone else here," he contends, "and for that, I think there should be awards."

"This country was built on volunteers, he concluded. "Volunteers like ours see fire or injury as a catastrophe for someone, and they try to make the situation a little easier by helping out. They get personal satisfaction from helping someone else out; they're not looking for pats on the back, although they're nice when they come along. They quite regularly put their lives on the line for others --for free. And that makes them very special people, because it's in the giving that we receive."

Training Averts Tragedy

The incalculable benefit of having a capable on-site Emergency Services Unit was clearly demonstrated last month. The ESU played a major role in saving the life of laboratory employee Gloria Pokrywa when she was trapped in her car after a collision with two tractor trailers on Route 1.

ESU members, coordinated by First Aid/ Heavy Rescue Squad captain Greg Tompkins, administered first aid to Gloria during efforts to release her from her vehicle. A laboratory crane was used to lift one tractor trailer from atop her car; Greg and ESU member Joe Pownall operated the ESU equipment that finally released Gloria after her two-hour ordeal.

ESU Director Jack Anderson praised the group's effort, adding that "I've never seen such determined, well-coordinated work." West Windsor Township Public Safety Director Deyo Swartz agreed, and sent the following letter to the ESU:

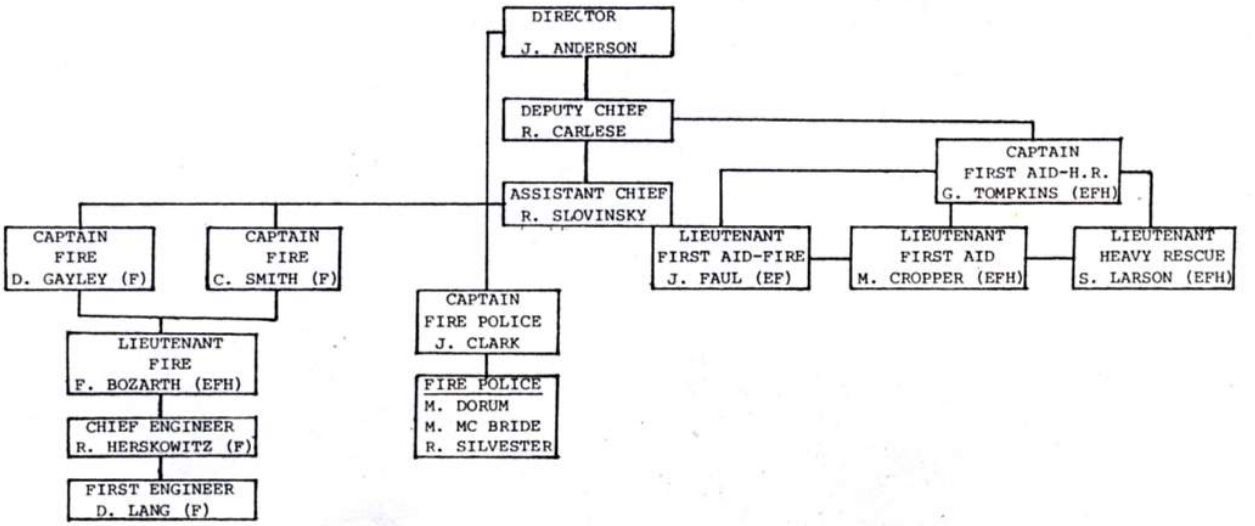
"On behalf of the Township Committee,I wish to convey the Township's sincere appreciation of the extraordinary and professional performance which members of the Princeton University Plasma Physics Lab put forth in responding to the grim accident that occurred (Sept. 12th) on Route One in our Township.

Needless to say, the devotion and training of your unit certainly was instrumental in dealing with a miraculous saving of life. The Township wholeheartedly commends your actions, as well as the knowledge and readiness that provided the essential elements in dealing with a near tragedy.

We salute and pay tribute to our dedicated volunteers. Our thanks."

ORGANIZATION CHART

PRINCETON PLASMA PHYSICS LABORATORY
EMERGENCY SERVICES UNIT

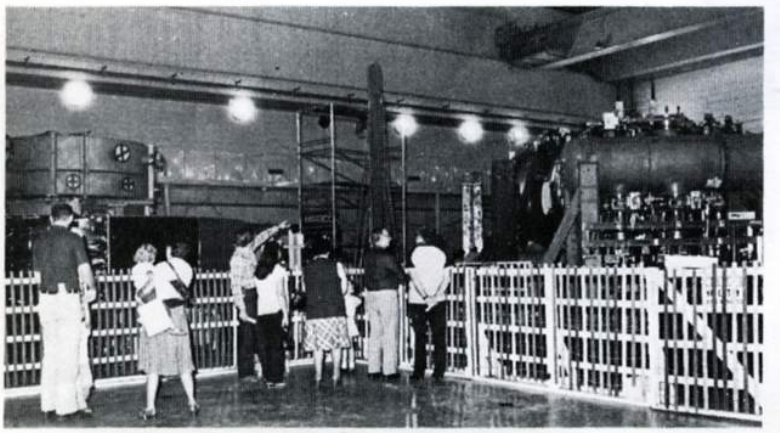


J. AQUINO (FH)
J. BALODIS (F)
J. BARTZAK (EH)
G. BONFRANCESCO (F)
C. BOSLEY
M. BROOKS (FH)
J. CHRZANOWSKI (EFH)
J. DUFFY
M. DYSON (EF)
G. ESTEPP (FH)
D. GUNN (FH)
J. HIRTHLER (F)
F. HOLLOWAY (F)
J. HYNES (EFH)
M. KIJEK (F)
R. KIMBLE (F)
J. LUCKIE (F)
S. OBST (FH)
J. OPPERMAN (FH)
J. POWNALL (EFH)
R. REED (FH)
M. SHERRICK (EFH)
S. STYNER (FH)
L. THOMAS
H. TOWNER
S. VINSON (EFH)
J. WILLETT (FH)
W. ZIMMER (F)

6A

PPL Family Day

6



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HOTLINE

PRINCETON PLASMA PHYSICS LABORATORY

Vol. 4, No. 7 *November 11, 1982*

UMBRELLA ASSEMBLY LIFT

The final major TFTR component was successfully installed on the machine October 26, when the umbrella structure was lowered onto its supporting columns.

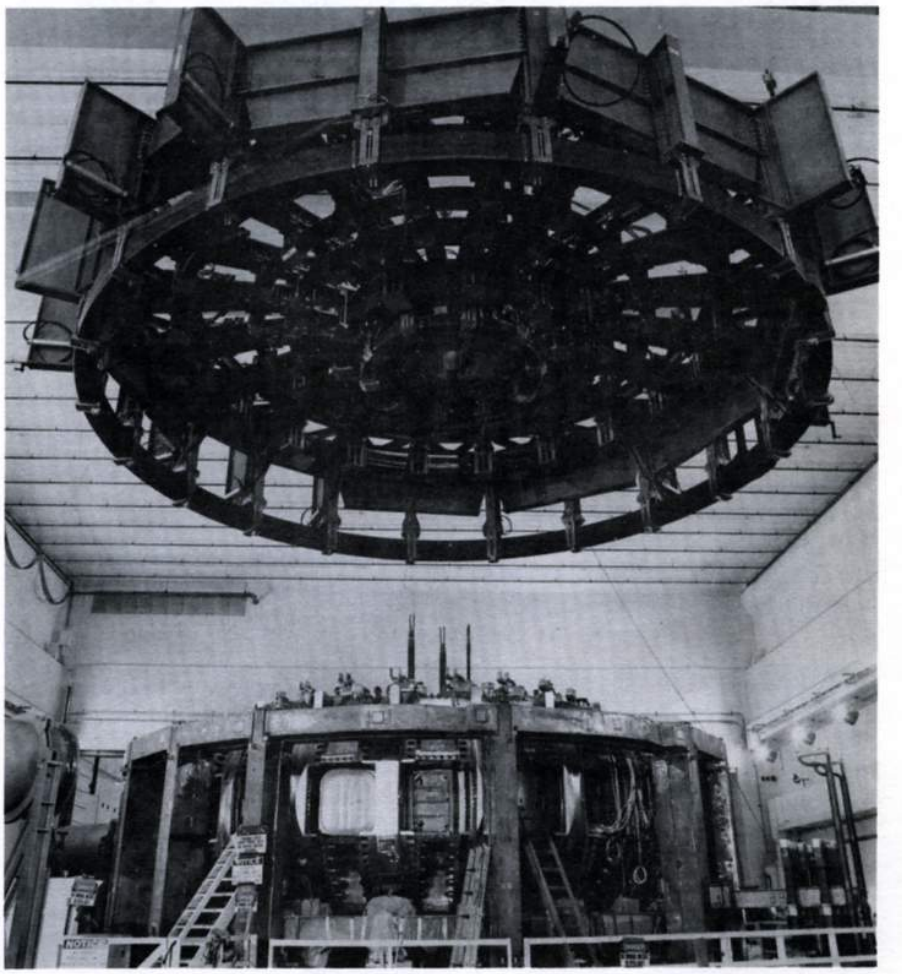
The 104-ton assembly is comprised of a stainless steel umbrella structure, supporting five poloidal field (PF) coils. The entire unit has a diameter of approximately 45 feet.

Although the lift itself began at 12:30 p.m., several hours had already been invested in prepartation for it. Preliminary rigging had to be adjusted to assure a level lift of the massive assembly. By the time the test cell crane began lifting its burden, the load had been balanced to within one-quarter inch on all sides.

Once the lift started, events moved quickly. The assembly was located atop TFTR, maneuvered to within one inch of its final location, within 15 minutes. The final settling of the assembly onto its supports took several hours, however, due to the care taken to resolve potential interference problems.

"This was a very, very important lift," said TFTR Program Head Dr. Don Grove. "This is the last major component. Now people will begin thinking of TFTR as nearly a working machine."

Final connections between the upper and lower portions of the machine remain to be finished, along with connecting buswork at the top of TFTR. Dr. Grove estimated completion of this work by the end of November, which would still allow TFTR to achieve first plasma before the end of the year.



Umbrella assembly being lowered onto TFTR (above).

FIRST VACUUM ACHIEVED

On November 3, the large toroidal vacuum chamber of TFTR was pumped down using only three of eight turbomolecular pumps. The pressure reached 2×10^{-5} torr despite the presence of several small and easily fixed leaks at small cover ports. TFTR Program Head Don Grove said that "considering the large volume ($7 \times 10^{7} cm^{3}$) and the large surface area ($2.5 \times 10^{6} cm^{2}$), this is a very respectable pressure for a first pumpdown. This result is a very important milestone on the way to a first plasma by year end."

Pete Haney (standing) and John Opperman guide another TFTR rectifier component into place. Seven rectifiers were recently run in series, with power provided by the TFTR MG set.

RECTIFIERS TESTED

Another milestone on the road toward first TFTR plasma was passed October 21, when four rectifiers powered by the TFTR motor generator set were successfully pulsed simultaneously.

With the MG set running at approximately 330 RPM, four toroidal field (TF) rectifiers were pulsed in series into two PLT TF coils. Pulse levels of five kilovolts at 21 kiloamps, producing over 200 megajoules of energy, were attained.

The successful test was also a milestone in another way. In order to run TFTR coil windings successfully, a smooth direct current pulse of 24 conductions per cycle is necessary. The TF rectifiers were combined to operate at 24 conductions per cycle, the first time that mode has ever been successfully operated at PPL.

Energy system test engineers have reported that four TF, two equilibrium field (EF) and one variable curvature (VC) power supplies have been run during the rectifier testing program.

First plasma for TFTR will require these seven rectifiers operating simultaneously.

The October 21 test was part of the coordinated system testing for rectifier and MG acceptance.

CONSERVATION CONGRATULATIONS

During the past fiscal year, PPL implemented a very stringent energy conservation program. Its goal was to reduce the FY82 electric bill from an estimated $4.7M to under $3.0M. As the result of the efforts of many people, this goal was met — our final bill was $2,968,080.

Our thanks are extended to everyone who supported the program. While the HOTLINE cannot acknowledge every person who helped, we do want to note the following:

- members of the Energy Management Committee, working with Frank Fumia and Dave O'Neill.
- members of the Electric Power Subcommittee, working with Bob Gulay.
- members of the Employee Awareness and Energy Monitoring Committees, working with Ray Pressburger and Steve Ragolia.
- Henry Chandler and the entire MG Control Room staff.
- Connie Stout and the PM&E staff.
- Jim Kopliner and the Security officers.

With the operation of TFTR and other experimental devices, the opportunities for energy savings are far greater this year than they have been in the past. The laboratory will extend last year's successful conservation program into FY83. Everyone's continued cooperation will be appreciated.

HEATING POLICY

In an effort to combat increasing energy costs and deal with bugetary restrictions, PPL is continuing the winter heating policy it has followed for the past several years. The policy has resulted in significant savings through conservation efforts by the laboratory community.

The policy requires thermostats to be set to maintain temperatures of 65 degrees Fahrenheit. Heat will also be turned off or cut back on weekends, weather permitting. Exceptions will be made for designated experimental areas, but unannounced inspections will be held throughout the heating season to insure compliance with temperature restrictions.

Space heaters, which can only be purchased with the approval of Plant Engineering, or individual room controls should be set to maintain the 65 degree level. Unneeded lights should be turned off.

If you have an office or space you feel requires supplemental heat, call Plant Engineering, ext. 3377. If you know of any energy wasting situations, call Plant Maintenance at ext. 3092.

BULLETIN BOARDS

A great deal of concern has been expressed about the ineffective flow of communications on the laboratory's bulletin boards. Part of this problem is the result of unauthorized individuals adding to or removing information from these boards.

The current bulletin board distribution list is printed below. If your name has been omitted, or if your name is listed and it should not be, please notify Meg Gilbert at ext. 2036.

Edna Willis - 1K
Deborah Carter - Mod 2
Virginia Arnesen - Aero Lab
Joseph Hengeli - 1F
Barbara Baker - 1N
Pat Pugliesi - Matterhorn
Dottie Pulyer - 1P
Trudie Greiner - 1E
George Beauregard - 1K
Pat Melsky - LOB E. 2nd Fl.
Letty Wohar - Guggenheim
Ann O'Day - Plant Engineering
Sharon Berson Sayre Hall
Mary Alice Eubank - C-Site
Athene Kan - Rec 3
Ben Velivis - MG Room
Kim Prutky - Experimental
Bob Majeski - Coil Shop
Meryl Finkelstein - C-Site B240
Verna Weyman - Chem Science
Roseanne Wurst - Data Aquisition
Joyce Bitzer - 1E
Muriel Strohl LOB East
Joe Malinowski - 1K
Jean Hurley - 10
Betty Klank - Maintenance
Lilly Olsen - Theory
Jo Ann Frazer - 1R
Joyce Lawton - 1A West
Helen Glover - Rec 4
John Pacuta Maint., Boiler Rm.
Clem Gardner - RF Balcony
Helen Livernoche - 1E
Ann McKee - 10
Pat Zeedyk - Motor Pool
B. Reavis - Hangar
Marie Maruso LOB 2nd floor
Carol Gill - 1P
Gloria Pokrywka - C-Site

NEW MANAGER

Richard Rioux has been selected as the new C-Site chef/cafeteria manager by Interstate United, the cafeteria food vendor. Dick, who managed the American Cyanamid cafeteria for three years, replaces Earl Thomas.

In addition to a new manager, the cafeteria also has new breakfast hours. Pancakes, French toast, eggs, meats and hot and cold cereals will now be served from 7 to 8:45 a.m.

A cafeteria preference survey designed by Administrative Services Manager Ruth Donald is printed below.

SOSS SEMINAR

Payroll Supervisor Jim Stefane will be the guest speaker at the next Secretarial and Office Support Staff (SOSS) seminar, scheduled for November 15 from 11 a.m. to noon in the Sayre Hall auditorium.

ADMINISTRATIVE SERVICES

CAFETERIA SERVICE SURVEY

Please complete and return to ADMINISTRATIVE SERVICES, MODULE II, C SITE by November 15.

1. I use the ___ B ___ C Site Cafeteria -

   ___ Regularly ___ Occasionally ___ Rarely ___ Never

   If never, why don't you use the service?

   ___ Too Expensive ___ Food Selection too limited

   ___ Takes too long ___ Inconvenient Time Schedule

   Other: _____

2. Do you have suggestions for food items not presently available?

   Breakfast: _____

   Lunch: _____

3. At "C" Site, do you prefer the coffee cart or would you prefer to have morning coffee in the cafeteria? _____

   If you are a supervisor, would you object to your staff going to the cafeteria for a.m. coffee break? _____

4. Do you have any MAJOR complaints about the present service/food?

   ___ No If yes, please note: _____

   _____

5. What service improvements do you suggest? Please indicate which Site — "B" or "C". _____

   _____

   _____

6. Do you have suggestions for improving the vending machine service?

   _____

   _____

7. Other comments: _____

   _____

   _____

   _____

RWD
11/1/82

BIKER TOURING FUSION FACILITIES

Mike Chase during his PPL stopover. His next destination was the Oak Ridge National Laboratory in Tennessee.

Michael Chase is chasing down a dream he's had since his teens: to visit all the fusion energy research laboratories in the United States. That may not be novel, but his way of pursuing his goal is -- he's riding his bike across America.

Michael, 40, was an instructor at Michigan Technological University from 1973 through 1980. He got his electrical engineering and data systems training in the Navy, and was using that knowlege in a simulation lab as a resident electrical engineer. "Any physics or technical problems that came up were usually sent to my lab for computer modeling of the situation," he reported. Mike had also worked on the Stanford Linear Accelerator from 1968 to 1973, where he did basic research in high-energy physics.

But after an 18-month stint in industry as a "computer bug-chaser", Mike decided to make his youthful idea a reality. "From the early '50's," he recalled, "fusion was an interest of mine, as a potential unlimited energy source. I'd been following the fusion program for 25 years, but this would be the first time I physically went to the laboratories. So I decided to stop traveling vicariously, to get into the saddle at age 40!"

Chase chose a bicycle for his trek; "it may be sacrilege for someone from Michigan to say, but I never liked automobiles. I had a bike that I never used, except to go on short trips of no more than seven or eight miles."

How, then did he condition himself for this endurance test? "There's a 1,200 foot hill on the peninsula I live on in Michigan," he explained. "It is a 125 mile round trip to the end of the peninsula and back, and I made sure I rode up and down that hill daily. During my daily rides, I checked out all the little back roads I'd seen, but never had the time to travel down."

Mike began his nationwide journey July 17. He started from Houghton, Michigan, camping at night or staying in motels in bad weather. By the time he reached PPL on October 15, he had clocked over 1,800 miles and had visited the Massachusettes Institute of Technology. MIT is the home of the Alcator-C fusion device.

Mike plans neither his visits to laboratories nor his days on the road, and his MIT stop was no exception. "I rode onto the campus," he remembered, "and saw two students leaving a building. I told them what I wanted, and they directed me. In fact, I wound up camping in the backyard of one of their homes!"

Mike was impressed with Princeton's fusion efforts, maintaining that "Princeton's the heart of the magnetic confinement program. I got a good feeling about the program after meeting and talking with the people here. If there's going to be a breakthrough, it's going to be made right here. It's been a real pleasure to visit!"

He contends that this nation should consider itself in "a war for energy. If breakthroughs will show the practicality of fusion energy, we should damn the torpedoes and go full steam ahead with one!"

As a teacher, Chase would like to see fusion integrated into school curricula. "Fusion isn't stressed in our physics programs," he believes. "We should take steps to integrate it into the engineering courses as well. Sparking and nurturing interest in fusion, for students who will be our future physicists, should be a national goal in our war on energy dependence. If I could influence just one young mind to come in this direction, that would be a very satisfying achievement!"

After visiting with friends in Philadelphia, Mike's next stop is scheduled to be the Oak Ridge National Laboratory in Tennessee. His itinerary will eventually lead him to both the Lawrence Berkeley and the Lawrence Livermore Laboratories in California.

REVISED APPLICATION FOR MAJOR MEDICAL BENEFITS

A new form for filing Major Medical claims has been established by TIAA. The changes outlined below are a result of legislation passed by several states:

- A Notice of Fraud is added. This notice (signed by you as the claimant) advises you that should you intentionally falsify or conceal information regarding an application for benefits, you are committing a fraudulent insurance act – which is a crime.

- An authorization to obtain medical information is included. This authorization, signed by you, will be used by TIAA to determine eligibility for benefits.

- The physician's statement, also included in the previous form, has been revised.

All of these changes will probably occur nationwide in the near future.

In addition to the revisions, TIAA has eliminated the use of separate forms for initial and supplementary claims. From now on, one form will be used for both; when filing a supplementary claim, just include your claim number in the space provided.

To obtain the new forms, please call Eleanor Schmitt, ext. 2046.

A reminder to C-Site employees: Eleanor is at C-Site every Tuesday morning in the LOB, Room 345.

BENEFITS NEWS

MAJOR MEDICAL ID CARDS

Identification cards for Major Medical benefits are now available at Eleanor Schmitt's office, 219 Sayre Hall or you can call her at ext. 2046.

WORKERS' COMPENSATION

Effective November 1, please refer all information or questions on "old" and "new" Workers' Compensation claims to Mary Bersch, 209 Sayre Hall, ext. 2043.

SINGLES SOCIAL

The next Princeton University League singles wine and cheese social is set for November 11 at 5 p.m. in the Fine Tower faculty room on main campus. All single members of the University faculty and staff are invited to attend.

FOR SALE

White & gold French Provincial dresser with mirror and chest of drawers. Ideal for young girl - $100.00.

Solid Cherry Traditional dining room set. Like new. Consists of oval table with 2 leaves, 2 arm chairs, 4 side chairs and a hutch with glass doors - $2200.00

Call Mary, ext. 2043 or at 259-3549 after 7 p.m.

The PPL Hotline is issued by the Princeton Plasma Physics Laboratory, a research facility supported by the Department of Energy. Correspondence should be directed to PPL Information Services, Module 2, C-Site, James Forrestal Campus, ext. 2754.

VOLUNTEERS: PEOPLE PEOPLE

The following listing of volunteering opportunities was supplied by the Voluntary Action Center (VAC) of Middlesex County. For further information, contact the center at (201) 249-8910.

- Do you have performing talents? Eager, appreciative audiences await at hospitals, nursing homes, nutrition sites and senior citizen centers. The times are varied, and include many lunchtime requests.

- Do you believe people deserve a second chance? Prison support groups are seeking volunteers to counsel prisoners in finding homes and jobs, provide tutoring in the 'basics' for Graduate Equivalency Diplomas, and help prepare inmates for parenting. This kind of aid can enable prisoners to make a fresh start.

- Do you have a good head for numbers? Several worthwhile agencies need volunteers to help with the complexities of bookkeeping.

- Like fun? So do handicapped kids. Volunteers are being sought to help with recreation programs designed for their special needs.

- Have a way with kids? You're just the person to help youngsters overcome their fear of water. Swimming ability is less important than understanding and kindness.

Two-thirds of the VAC volunteers have full-time jobs. A wide variety of volunteer opportunities are available to those who can spare time during normal working hours.

TFTR SHIRTS

Shirts featuring a four-color TFTR logo, designed by Don Weissenburger and Matt Edgar, are now available in a variety of styles. The logo incorporates a sunburst being powered by four neutral-beam-breathing dragons, and the words "Ignited by 35 megawatts of neutral firepower."

All shirts are 50 percent cotton and 50 percent polyester and are available in soccer jersey, crew neck or hooded sweatshirt, or two baseball tee-shirt styles. Most shirts have a white body, but may be ordered in a variety of striping or sleeve color combinations.

Shirts are available in mens' sizes small (34-36), medium (38-40), large (42-44) and extra large (46), as well as in boys' sizes medium (10-12) and large (14-16). Prices range from six dollars to $14.50, depending on the style of shirt ordered. The price covers the cost of producing the shirts; any profit realized from the sale will be donated to the United Way.

Order blanks for the shirts are available from the C-Site Reception desk in the LOB lobby, or from the TFTR Word Processing Center, Building 1-P, A-Site. Order blanks have also been posted on bulletin boards throughout the laboratory.

For further information about the shirts, contact Don Weissenburger, Building 1-P, ext. 2599.

TENNIS RESULTS

In a true battle of champions, Jim Bialek defeated Hiro Takahashi in the finals of the sixth annual PPL tennis tournament October 23. Jim, who bested Hiro 7 - 5, 7 - 6, has been tournament champion twice in the past. Hiro captured the victor's crown three times in previous competitions.

In other tournament results, Dan Kungl won the consolation round, with Lane Roquemore and Myron Norris also gaining the semi-finals. The first two rounds of the tournament were played Sept. 11, and were accompanied by a kick-off picnic.

A total of 27 employees and members of their families competed in this year's tournament. The next PPL tennis event will be the team tennis tournament, to be held next spring.

The top finishers in the PPL tennis tournament pose with event organizer Marilee Thompson. Pictured left to right are Marilee, tourney winner Jim Bialek, runner-up Hiro Takahashi, and consolation winner Dan Kungl.

WOOD STOVE SAFETY

As the heating season arrives each year, several families' homes are invariably destroyed by wood stove or chimney fires. Often these fires could have been prevented had the homeowner taken a few moments to perform a pre-sue check on his stove and flue.

Before and after each heating season, the chimney should be cleaned and checked for crumbling brick, loose mortar, obstructions, or creosote build-up. Creosote, an oily, flammable residue which coats chimney walls no matter what kind of wood is burned, accumulates faster when green wood is used. Therefore only dry, well-seasoned hardwoods such as maple, elm, oak or birch should be burned in a home wood stove. In addition to providing the most efficient burn and the most heat, these woods prevent the creosote buildup that can rapidly occur when softwoods such as pine or spruce are burned.

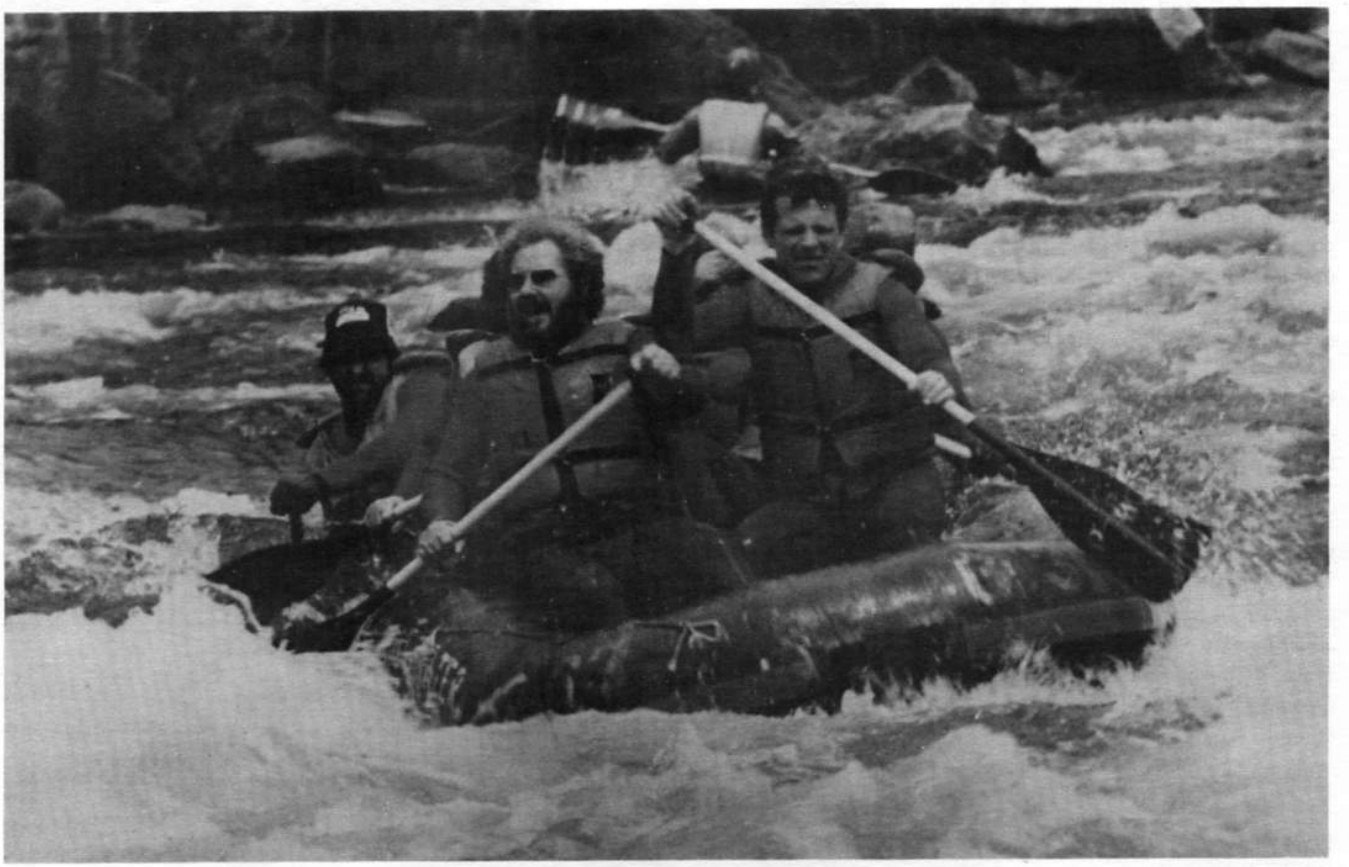
The safest fuel to use in a wood-burning stove is hardwood that has been seasoned for 12 months, with larger pieces split to promote drying. Trash should never be used as fuel, nor should charcoal be used in an indoor stove.

Stopping fire hazards before they start can be as simple as good wood stove housekeeping. Stoves should be kept free of excess ash buildup. Excess ash prevents the circulation of air vital for combustion, so manufacturer's instructions on stove maintenance should be heeded.

When disposing of ashes, never place the ash container on a combustible floor. Move hot or even warm ashes to an outside location to cool, keeping them well away from the house or other combustible materials.

And don't dump ashes into other containers until coals are completely extinguished. Many fires have been started when supposedly "cold" ashes rekindled.

RAFTERS REVEL ON RAPID RIVERS



Ever since the days of Huck Finn, "boys" of all ages have been pitting small rafts against rivers churned to rushing whitewater by submerged rocks. Four such rivermen work in PPL's Plant Maintenance department, and have jointly met the challenge of several Northeastern rivers.

Buzz Bauer was the first member of the quartet to get interested in whitewater rafting. After hearing about his exploits, co-workers John Sadovy, Walt Weyman and Ed Gilsenan decided to join him on a rafting expedition.

"We wanted a little adventure," Walt recalled. "We worked together, and we wanted to have a little fun together."

They originally began with short trips on the Lehigh River in Pennsylvania, 'tuning up' for the stronger rivers in West Virginia. That state is generally regarded as the hub of east coast whitewater rafting circles. They first challenged the New River there in 1978.

Although whitewater rafting may look dangerous, all four men feel most of the threat can be eliminated by taking proper precautions. Rafters wear wetsuits to protect against chill water, and lifejackets to keep them afloat if they're tossed overboard -- an experience that occurs somewhat more often than they would like. In some rivers, in fact, a 'hardhat' cap is required. Each trip participant is also required to sign a release form prior to starting a trek.

Rivers are usually run in the early spring, when they are swollen with winter runoff water. Rafting can be continued in the fall, even after a dry summer, on rivers situated near dams. A rafting group makes a reservation to use the river at a specific time, and water is released from the dam in advance to raise the river to rafting height.

All four men commended the guides they're had on their river treks. "About 15 to 20 rafts go down the river at once," Buzz explained," and there's a guide in each one. He'll explain a lot about the river, its history and what each rafter can expect. If you're coming up to a particularly difficult area of whitewater, for example, the guide will pull the raft over and describe exactly what you need to do to get through it."

The major instruction is in getting everyone on one side of the raft to paddle at the same time -- a "must" to steer a path through often treacherous currents. Rafters are also taught to point their feet downriver if they fall from the raft, allowing their legs to act as bumpers, keeping their bodies away from bruising rocks. In addition, kayakers follow the rafts as rescue craft, ready to grab a spilled rafter before he's in any danger.

Ed pointed out that at any time along the way, rafters have the option of getting out of the raft and portaging around a dangerous set of rapids. He sees no advantage in that, however. "You're there to push yourself to the limit," he contends, "to play the game 100 percent. You can't do that if you give up."

Placement when riding a raft is everything, all four agreed. It's important to place the raft on a 'line' when going downriver, an invisible course that allows for the fastest, smoothest ride through the rapids. Rafters depend on their guides -- or their own experience -- and their paddling skills to keep on track. "If everyone doesn't work as a team," Buzz cautioned, "you can easily lose the line, and possibly tip everyone out of the raft."

Posing in their wetsuits after a day on the river are (left to right) Buzz Bauer, Walt Weyman, Ed Gilsenan, Paul Brown and John Sadovy.

Placement is also important when finding a seat on the raft itself. "If you're in the back," Buzz explained, "it can get hairy, because you can get flipped out backwards. The front of the raft usually winds up airborne over some of the rocks, and it's always the first to hit the rapids; it's definitely fun being up there."

Whitewater rafting isn't solely six hours of rapids, however; there are periods when the raft floats calmly through a scenic gorge. Even then the rafters must do more than admire the view; "That's the time you bail the raft out!" Buzz laughed.

John contends that "each course is challenging. Each river looks beautiful, and the ride is usually thrilling. Even when you've gone down a river before, there's always something new there when you come back. Even on a nice day, the risk is still there. The water level can change, for example, and make the run completely different. No river is static; it's constantly changing."

After rafting in Pennsylvania and West Virginia, the four expect to raft on the Kennebec and Penobscot Rivers in Maine this spring.

HOTLINE

PRINCETON PLASMA PHYSICS LABORATORY

Vol. 4, No. 8 *November 25, 1982*

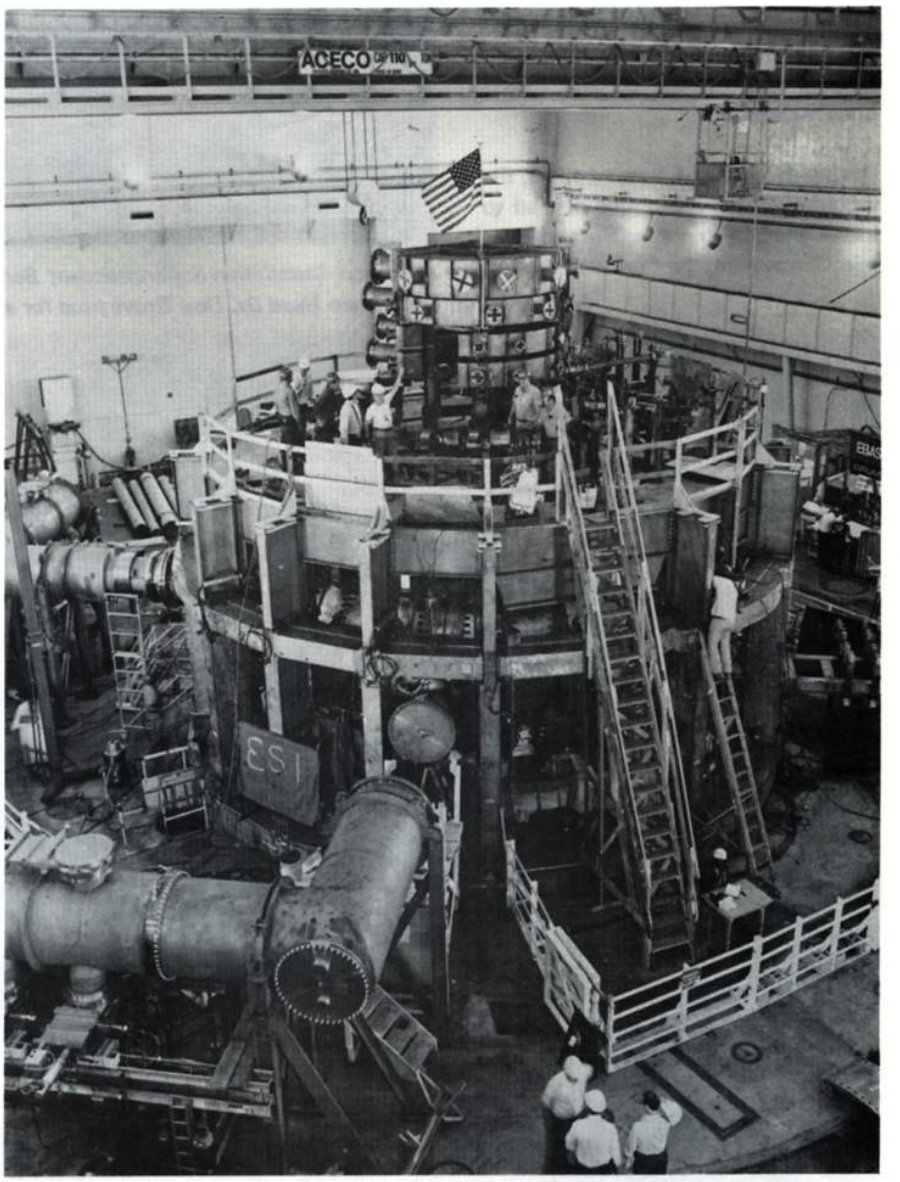
TFTR: The Road To First Plasma and Beyond

As the December date for TFTR's first plasma approaches, those involved with the project are becoming increasingly confident of successfully achieving the remaining milestones on time. According to TFTR Program Head, Don Grove, "Barring a serious problem no one is now saying it can't be done, a dramatic change from six months ago. The spirit, enthusiasm, and clear determination to meet our goals is really incredible."

A relatively modest first plasma is planned. Plasma current will be 100 kA for about 20 ms. The toroidal field will be 15 kG. The required base vacuum pressure is about 10^{-7} Torr for nitrogen and less than 3×10^{-7} Torr for water vapor. For startup, about 400 plasma discharges over a one-week period are planned. Special "startup" limiters will be used, since the regular limiters are not yet ready. The plasma will have a 65 to 68 cm minor radius. Twelve 1-MJ capacitor banks will be required for energy storage.

What needs to be done between now and December 15th to prepare for a first plasma? Early-morning coordination meetings of 30 to 40 people from all PPL divisions, Ebasco, and Grumman are held to plan each day's activities. Work is progressing on a three-shift-per-day, seven-day-a-week schedule.

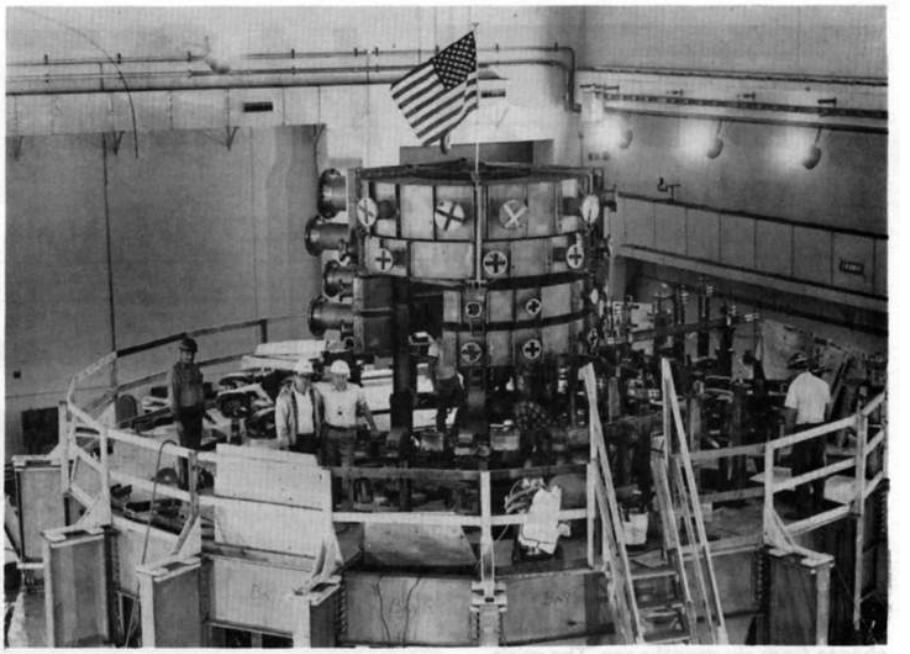
Motor generator set number 1 has already achieved the 325 rpm operating speed required for magnetic fields up to 2.5 Tesla. Of a total of 36 rectifiers needed for full power, seven are required for first plasma. There are 19 already on site, and the needed seven have been installed and tested.



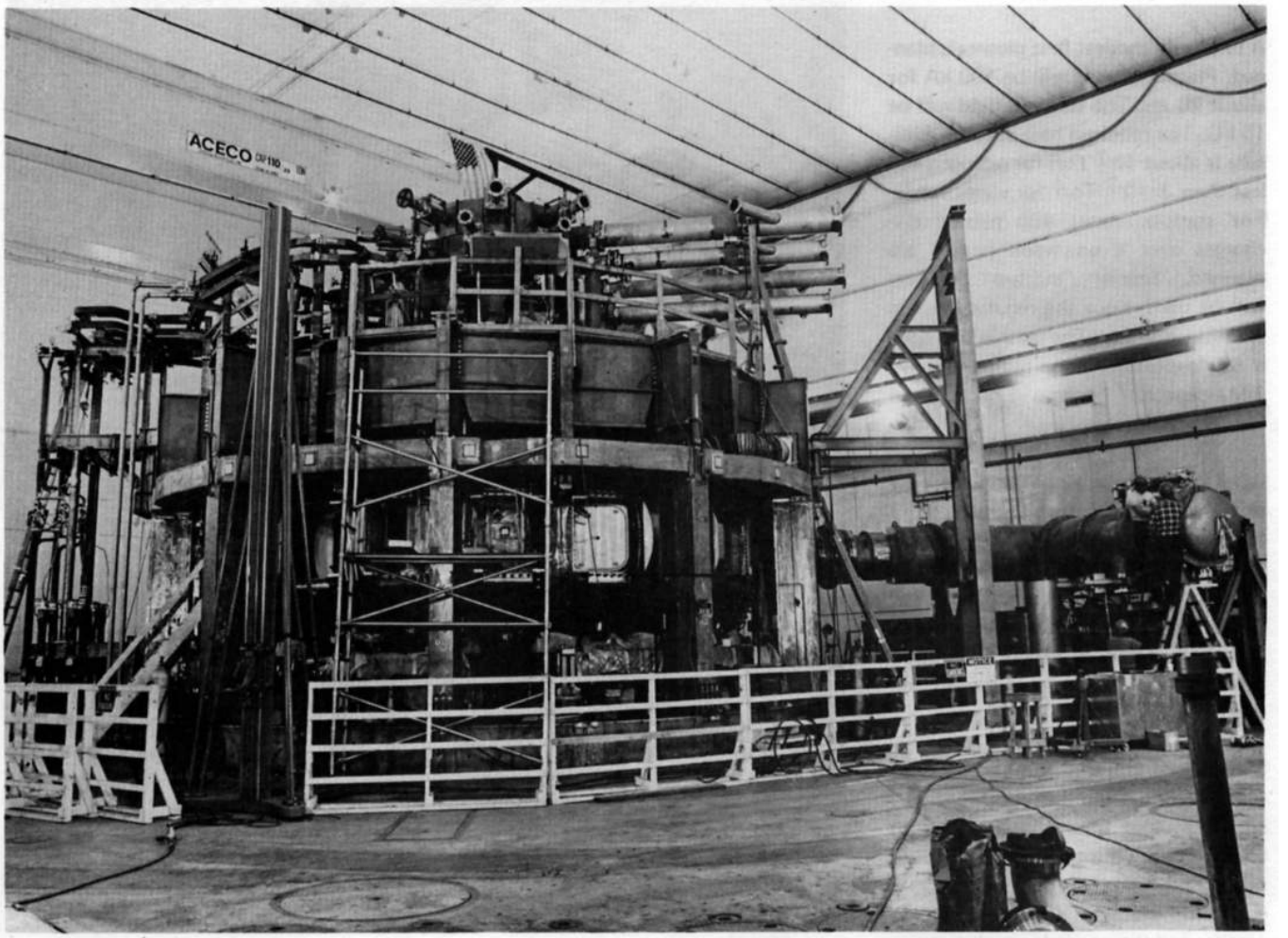
The American flag crowns TFTR's "crown" -- the manifold system installed atop the machine earlier this month. Piping for the manifold's heating and cooling systems is presently being connected. Work is also continuing on busbar assembly and coil lead connections.

The vacuum vessel was welded during the last weeks of October, and the first vessel pump-down occurred on November 3, using the first of 2 pumping ducts. A week of leak checking followed, and the base pressure requirements for first plasma were achieved.Connection of the poloidal field coils and final alignment of the toroidal field coils were performed in early November. The TF coil water system testing continued with deionized water run through the coils, pumps, and chillers, and into the storage tank. At the other end of the cycle, water has been running through the cooling towers since mid-summer.

During the week of November 15, the vacuum vessel will again be opened to install the "R" pumping duct, the gas injection system, the "startup" limiter,



Ebasco Installation Superintendent Bernie Fedor (second from left) and TFTR Program Head Dr. Don Grove pose for a picture at TFTR's "peak".



A back view of TFTR, showing buswork at left and a vacuum pumping system at right.

and about 11 diagnostic systems required for first plasma. Low-field magnetic testing will follow. Power testing into a dummy load in the test cell basement will also occur about this time.

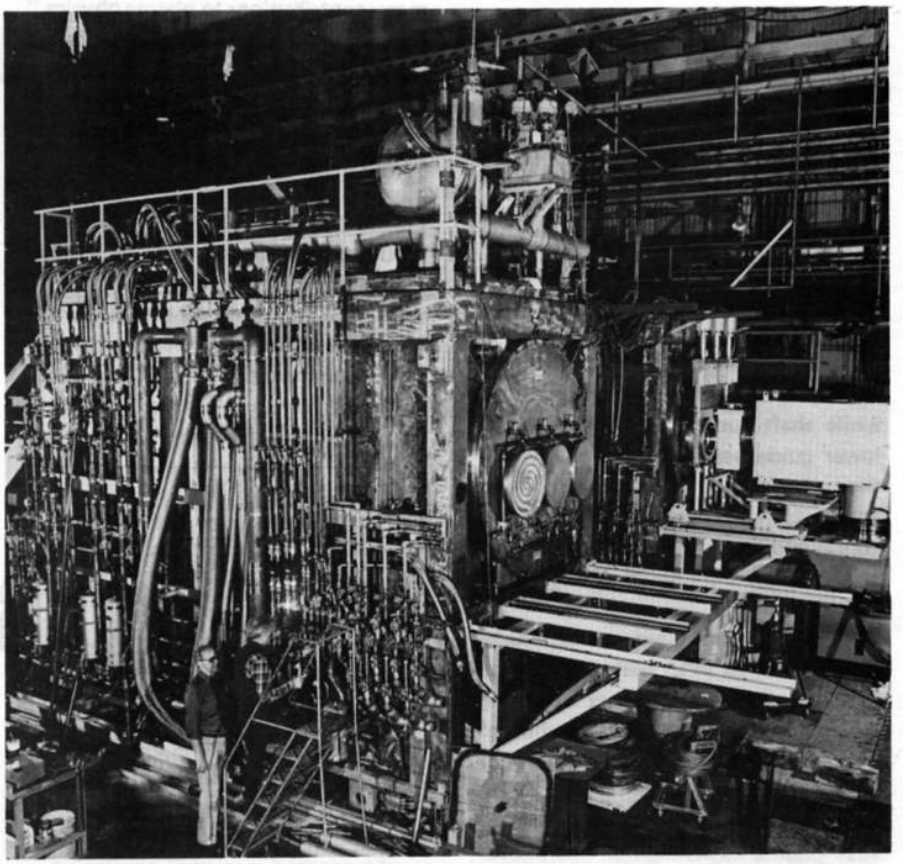
Around the week of November 22, machine assembly for first plasma will be essentially finished, and the contractor's craft laborers will be replaced in the test cell by PPL personnel. Actual preparation for the first plasma shots will then begin.

Starting about December 1, the vacuum vessel will again be pumped down and checked for leaks. Glow discharge cleaning can then be started. Integrated systems testing, whereby all systems are energized into the machine, will be the last hurdle before actual plasma shots are run.

The sigh of relief after reaching first plasma will be brief, if however heartfelt, because preparations for a one-year period of ohmic heating operation will start almost immediately. Following about 400 startup pulses, the vacuum vessel will again be opened toward the end of January. The large movable limiter and about one-quarter of the surface pumping system will be installed inside the vacuum vessel. The Inconel bellows cover plates will also be added. Should they not be ready in time, three or four graphite "slabs" similar to those used on PLT will be substituted until the Inconel ones are ready. Also at this time, about 20 more diagnostics will be added.

Before ohmic heating experiments begin, the motor/generator operation will be upgraded to 375 rpm. At least 20 rectifiers will be installed and tested for the energy conversion system.

In March, discharge cleaning will begin. This time, about one month of low-field pulses will be needed to sufficiently clean the vacuum vessel. A mild vessel bake out is also being considered for this period. Further integrated systems testing will be done during March in preparation for beginning high-power ohmic heating operation in April, 1983.



TFTR's neutral beams are being assembled in Building 1-H. The neutral beam target tank was recently transferred to the neutral beam test cell.

Several major experimental objectives have been set for this period of ohmic heating operation. Most importantly, sufficient experience will be gained to boost the plasma current to 1 MA and the toroidal field to about 40 kG by January 1984. Compression of a 600 kA plasma to 1 MA will be demonstrated. The plasma will be formed at a major radius of 305 to 310 cm and compressed to a major radius of 210 cm.

Another important objective will be to determine the disruption characteristics of TFTR plasmas. The decay rate of the plasma current will be of particular interest in designing limiters for later installation. The scaling of plasma parameters as a function of changes in plasma size (major and minor radius) and current will also be investigated. Impurity transport in the plasma will be another major item of investigation. Surface pumping for impurity control will be evaluated.

Following ohmic heating operation, TFTR will again be shut down for several months at the end of 1983 to add the first two neutral-beam lines, internal hardware, and more diagnostics in preparation for the first neutral-beam operation in 1984.

Accomplishing all of these goals in the available time will necessitate maximum use of TFTR. Plans are to run the machine for ten experimental shifts per week. Following a maintenance period during first shift on Monday, machine operation will begin on Monday's second shift and continue through the first shift on Saturday.

MG TESTING

The first phase of TFTR MG set testing was completed October 21, when the machine successfully powered four field coil energy conversion system rectifiers connected in parallel.

The testing, conducted by a combined PPL/General Electric Company team under the direction of GE test engineers, produced a 120 MW two second pulse. The MG output frequency dropped by about 5 Hz during the pulse, while shaft runout in the upper and lower guide bearings remained within design tolerances. The pulse was directed into the OH resistor yard, which was configured as a dummy load for the test.

The MG set has been conditionally turned over to PPL, with a limitation of 340 rpm placed on its operating speed. Operation and maintenance of the set is now the responsibility of TFTR operating crews, and will remain so through the continuing period of first plasma experimental operations. The speed restriction will fully meet first plasma operational requirements, according to TFTR Program Head Don Grove.

General Electric will complete the balancing of the MG set to 375 rpm and the remaining acceptance tests prior to OH experimental operations in April 1983.

DR. EUBANK RECEIVES AWARD

Dr. Harold P. Eubank received the Elliot Cresson Medal from the Franklin Institute at its Medal Day Awards ceremony November 10. According to Institute spokesmen, the Cresson Medal is awarded "for discovery or original research adding to the sum of human knowledge . . . and inventions, methods or products embodying substantial elements of leadership in their respective classes, or unusual skill in their workmanship."

Dr. Eubank's award recognized "his many contributions to plasma physics," and was presented "for his technical expertise and leadership in the achievement of new temperature levels in tokamak plasmas through the injection of neutral beams."

Founded in 1824, the Franklin Institure has always recognized and encouraged outstanding scientific work and new and important technological developments. Medal recipients are recommended to the Institute's Board of Managers by the Committee on Science and the Arts.

EMERGENCY TELEPHONE STICKERS

You're working late one evening. Suddenly a fire begins in the hallway, or someone tries to break into your office. Despite the panic these situations would produce, could you remember and call the laboratory's emergency telephone number?

Most employees couldn't; that's why the emergency number is printed on stickers that should be affixed to every telephone in the facility. But stickers get doodled on, or dirtied, or torn off. Telephones get moved from office to office as their owners relocate.

Don't wait until an emergency happens. It is the responsibility of each employee to make sure his telephone bears a sticker listing the emergency number. In addition, the current building and room number for each telephone should be filled in in the space provided on the sticker. Then if you're hurt and unable to place the call yourself, anyone entering your work area will have the emergency number and your location at his fingertips.

Stickers are available by calling the Telecommunications Department, ext. 2694.

P.U. DRAWING

In an attempt to continue moving forward in the face of budget cuts, Princeton University has decided to look backwards. University officials have revived a benefit drawing established in 1772, offering winners free use of University facilities as prizes.

Formerly called the "Delaware Lottery," the campaign serves as an affordable fundraiser for the Princeton University community. Tickets may be purchased for one dollar each, and are available through December 10. Six winners will be selected in a Dec. 14 drawing; each winner may pick his prize from a list of 12 options.

This season's prize list includes a weekend for four at Dunwalke, the University's country club; a dinner party for eight catered in your home by Food Services; season tickets for all Princeton home basketball and hockey games; dinner for two at the Princeton Club of New York City, complete with Broadway theatre tickets; one year paid memberships for two at the Dillon and Jadwin Gym facilities; private parties at the Dillon pool or the Baker skating rink; a one year all area parking permit; a limited edition Steuben vase bearing the Princeton seal; and several other special goods and services.

PPL ticket sellers are Roseann Wurst, Irene Long, Sonja Patterson, Pam Johnson, Sheryl Cargill, Debbie Anastasio, Jerry Gething, Gerry Hart, Terri Williamson, Bill Chester, Steve Ragolia, Suzen Bayer, John Hirthler, Ginny Zelenak, Pat Melsky, Marge Barnett, Leon Suster, Kay Finch and John Luckie. John Anastasio is area ticket coordinator for C-Site, while Frank Knorr is coordinating A and B-Site ticket distribution.

All monies raised by the drawing will be contributed to "A Campaign for Princeton" on behalf of Princeton University employees.

RUN FOR FUN RESULTS

Bill Heidbrink breaks the tape to win the fall edition of the PPL Run for Fun (above). As they finished, runners like Carol Phillips (right) checked their times with event organizer Barbara Sarfaty (left). Carol finished second in the women's division of the Run.

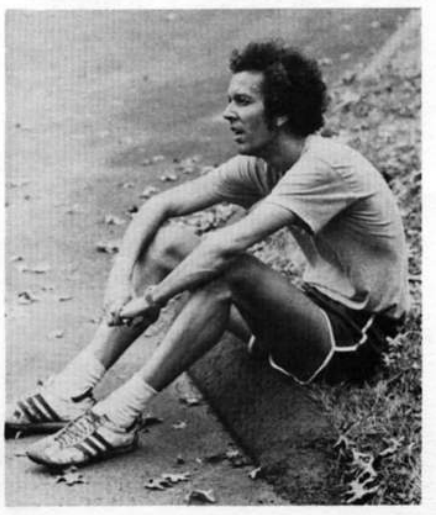
Bill Heidbrink outdistanced 59 other competitors -- and sprinkles of rain -- to win the fall edition of the PPL Run for Fun November 12. Bill completed the two and three-quarter mile circuit in 14 minutes and 22 seconds, while second place finisher Dennis Mueller turned in a 14:45 time. Dennis was the winner of the spring Run for Fun.

Ann Palladino was the first woman to cross the finish line, posting a time of 19:42. Carol Phillips placed second in the women's division with a time of 20:38.

The strong showings of Bill, Dennis and Carol boosted PLT into first place in the team division of the Run. Other members of the winning squad were Jim Strachan, Dave Cylinder, and David Hwang.

First place finishers in all three categories received trophies from Human Resources Manager Len Thomas at the conclusion of the race.

Event organizer Barbara Sarfaty expressed her thanks to Security, the Emergency Services Unit, Dolly Harris (who designed the Run posters), and all those who lent a helping hand during the Run. She offered special thanks to the PPL runners, who presented her with a bouquet of flowers in recognition of her work on the Run.



FIRST AID ALERT

Questions have recently been raised regarding response modes for the laboratory's Emergency Services Unit (ESU). This article is an attempt to clarify employee understanding of the dual first aid capabilities available to the squad.

When responding to a first aid call, ESU members initially determine the condition of the injured individual. A preliminary set of vital signs (which include blood pressure, pulse and respiration) are taken on the victim, who is conveyed to the squad's ambulance on a cot. Once in the ambulance, another set of vital signs is taken for comparison to the first readings.

Squad captain Greg Tompkins explained that the double set of vital signs is required by the hospitals working with the ESU. "A change in the vital signs can be very important in determining what's happening to the patient," he pointed out. "That's why we wait for several minutes after placing a victim in the ambulance; it's impossible to get an accurate blood pressure reading in a moving vehicle."

The procedures vary somewhat when the emergency requires the Princeton Lifemobile and its two paramedics to be called. Greg likened the Lifemobile's presence to "bringing the Emergency Room to the patient." The Lifemobile can establish telemetry with Princeton Medical Center, sending electrocardiogram and other vital information directly to the hospital. It also provides a voice channel to doctors and nurses at the medical center, who provide instructions on stabilizing the patient prior to transportation to the hospital. The stabilization process can take up to 15 or 20 minutes, according to Greg.

So when you see an ambulance stop after picking up a patient, don't assume it's just saving gas. For inside, the Emergency Services Unit may be saving a life.

VOLUNTEERS:PEOPLE PEOPLE

Often people forced to deal with a debilitating disease or the weaknesses accompanying old age aren't the only ones facing their infirmities. Caring for a family member handicapped by physical or emotional disorders can be an unremitting burden for a relative or spouse. Many of the caretakers' needs are ignored while providing for the striken family member.

The Respite Care program, offered through the Middlesex County Voluntary Action Center (VAC), seeks to share some of the burden with these families. Trained volunteers spend time with an individual needing care, freeing the family to take a walk, go to a movie, or visit friends.

Respite Care volunteers DO NOT take the place of doctors, nurses or housekeepers; they act as temporary substitutes for concerned family members. Volunteers may plump a pillow, keep a water glass filled, answer a telephone, read aloud, or just provide company for the handicapped individual.

The VAC has received a development grant for this vital program from the United Way of Central Jersey. Working in conjunction with five selected agencies, volunteers are recruited, interviewed and trained to work with either handicapped children or with the elderly. Some volunteers can be placed with families immediately, depending on their past training or experience.

All those interested in signing up for the Respite Care program should contact the VAC at (201) 249-8910 and ask for Bonnie or Harriet.

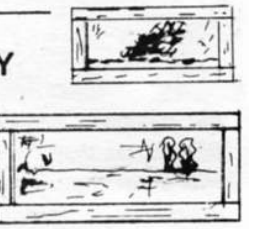
SINGLES SOCIAL

The Princeton University League's monthly singles wine and cheese social will be held December 9 at 5 p.m. in the Fine Tower faculty room on main campus. All single members of the University faculty and staff are invited to attend. For further information, contact Naoma Dorety at 272-4097.

MAJOR MEDICAL EXCLUSIONS

Teachers Insurance and Annuity Association (TIAA) is the University's/Laboratory's Major Medical insurance carrier. When submitting a claim for Major Medical benefits, please remember that Major Medical coverage is provided for *medical* expenses only. Items not covered by Major Medical include eye refractions; eye glasses; dental work; hearing aids; and preventative medicine, such as flu shots or yearly physical examinations.

LIBRARY ART EXHIBIT



A series of 10 paintings by Graphic Services artist Terry Birch is currently on display in the PPL library. The frames for the oil paintings, which feature Maine landscapes, were also made by Terry.

The exhibit is housed in the reference area of the library, and will remain there through Christmas.

The PPL Hotline is issued by the Princeton University Plasma Physics Laboratory, a research facility supported by the U. S. Department of Energy. Correspondence should be directed to PPL Information Services, Module 2, C-Site, James Forrestal Campus, ext. 2754.

HOTLINE

PRINCETON PLASMA PHYSICS LABORATORY

Vol. 4, No. 9 January 25, 1983

TFTR FIRST PLASMA ACHIEVED

Laboratory Director Dr. Harold Furth knew something special was in the air this Christmas Eve. "There was the general expectation that the spririt of Christmas would step in and do something," he reported.

Whether the result of friendly spirits or the round-the-clock dedication of PPL employees, TFTR achieved its first plasma at 3:06 a.m. December 24. The success capped an intensive effort by the laboratory community to reach the first plasma stage by the end of 1982.

At a December 28 press conference attended by representatives of the major broadcast and print media, Dr. Furth explained that the plasma formed was only maintained for approximately 50 milliseconds. "But the characteristics of this first plasma are not what's important," he emphasized. "It's like Columbus finding land: for a start, he didn't care how big it was. The important thing is that the machine is basically fine."

Reporters were shown a videotape made in the TFTR control room during those early morning hours on Christmas Eve. It depicts a tense crowd of physicists, listening to an Appollo-type countdown by TFTR Facility Operations Branch Head Milt Machalek. Anticipation is plainly visible as the button that will create first plasma is pushed. Milliseconds later, wild cheering and handshaking erupts as TFTR proves itself a success.

Dr. Furth recalled his reactions as the "magical event" grew nearer. "It started with me being extremely nervous, gloomy, concerned, and contemplating the possibilities for things to go wrong," he remembered. "(The night) ended with me feeling the way you just saw Don Grove act . . ."

"I'm extremely pleased and satisfied that we were able to do what we said we were going to do," he continued. "That gives us confidence, and it gives the government confidence that our predictions are realistic; that when we say in 1986 we will take ten (plasma) shots in deuterium-tritium, and the tenth one is going to be breakeven, that we will really do it."

In response to a question on funding, Dr. Furth contended that "In a sense, one could say that this administration supports fusion very strongly, because in this climate of retrenchment, they have maintained the budget (for fusion) . . .TFTR has not been cut; (its) budget has been slightly increased under the present administration. Our project has had good, steady support."

And what of TFTR's future? "Our problem is how to fill in, both scientifically and technically, the space between TFTR and . . .(the Engineering Test Reactor) so as to guarantee that that much larger step will indeed be successful."

"It is our hope that our experimental results will speak for themselves," he concluded. "If TFTR comes along as we expect and hope, then around 1985 we won't have to shout. We will just say 'look at this', and (the government) response will be 'how would you like to go on and do an ignition experiment?' That's our hope."

FIRST PLASMA REACTIONS

STATE OF NEW JERSEY
OFFICE OF THE GOVERNOR
TRENTON
08625

THOMAS H. KEAN
GOVERNOR

December 29, 1982

Dr. Harold Paul Furth
Director
Princeton University Plasma Physics Laboratory
Post Office Box 451
Princeton, New Jersey 08544

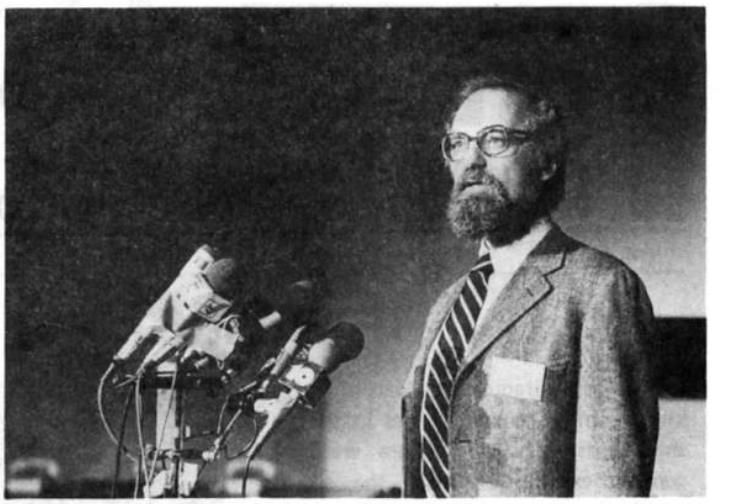
Dear Dr. Furth:

It gives me great pleasure to congratulate you, your associates and staff on your unrivaled achievement successfully generating plasma. While the world and the nation hail the achievement as a milestone, I am elated that New Jersey can look with pride as the state where a new source of energy is being researched and developed.

Princeton University maintains a rich history of excellence in physics. This effort deserves a note of praise and I trust that the University will continue to foster a community of gifted experts in technical research. Best wishes as you build on your success.

Sincerely,

Thomas H. Kean
Governor



FIRST PLASMA TELEVISION COVERAGE

Information Services is currently arranging to obtain copies of first plasma/fusion segments broadcast on several major New York, New Jersey and Philadelphia television stations earlier this month. The segments will be compiled into one tape, which will be available for viewing on Thursday and Friday, February 3rd and 4th, in the lobby of the LOB at 12 and 12:30 p.m. each day.

POETIC LICENSE

Not all preparations for first plasma were in deadly earnest, as this bit of whimsy submitted to HOTLINE reveals:

SANTA CLAUS COMES TO FUSION

'Twas the day before Christmas
And all through the cell
Not a creature was stirring
Just the warning bell

The diagnostics were hung
On the tokamak with care
In hopes that first plasma
Soon would be there

With Harold in his coat
And I in hard cap
We were looking around
For a place to nap

When out in the cell
There arose such a clatter
Don Grove rushed in
To see what was the matter

With ladder in hand
And quick as a flash
He jury-rigged a fix
To keep on with the bash

Minutes later, ahah
To our eyes did appear
Good vacuum, good control
Nothing to fear

On TF, on OH
With EF to steer
First plasma, for sure
Soon will be here

Now we'll puff in the gas
Does TFTR really have class?
Wait a moment, what's that glow
First plasma, of course, HO, HO, HO

Paul Reardon

MG COURSE COMPLETED

John Hirthler, Dave Armiger and Rich Myslinski are the first three "graduates" of a course on TFTR motor generator (MG) operations, held at the laboratory in November.

According to Dr. Ernst de Haas, organizer of the sessions, the training was aimed at operations and maintenance employees who will be working closely with the TFTR MG sets. "These people did most of their learning while they were doing pre-operational testing on the system," he added, "so this training just filled in the gaps."

The course was taught by General Electric engineer Gene Baker. PPL's Bob Bergman provided safety information, while Paul Sichta detailed CICADA's interface with the MG sets.

This was one of eight courses on TFTR systems operations taught at PPL. In addition to short courses for those who have been involved in TFTR testing, intensified two-week training courses for other employees are being planned for the near future. Courses will cover all TFTR subsystems.

The instruction is part of preparations now underway for a TFTR ohmically heated plasma, scheduled for this spring.

Employees can be assigned to courses by TFTR Facility Operations Branch Head Dr. Milton Machalek, or by their supervisors. Those employees interested in taking a TFTR-related course should have their supervisor contact Dr. de Haas at ext. 2290.

TFTR Project Head Dr. Don Grove presents TFTR MG operations certificates to (left to right) Dave Armiger, John Hirthler and Rich Myslinski. The trio successfully completed an in-house course on the MG systems.

SERVICE AWARDS

A service awards presentation will be held January 28 at 10 a.m. in the Gottlieb auditorium. Employees with five, 10, 15 and 20 years of service to PPL will receive awards from their department heads.

The Personnel Office will contact eligible employees with invitations to the ceremony.

PPL AT EPCOT CENTER

Recent visitors to the newly opened addition to Walt Disney World in Orlando, Florida report that a number of scenes from the laboratory are on view in the World of Energy pavillion. A film crew from Walt Disney Productions visited the lab last year to photograph for the large-screen "circlevision" film. Physicists Bob Budney, Stefano Bernabei, and Doug Post were among those spotted in the production.

TYPING COURSE

A four-week technical typing course, sponsored by the Secretarial and Office Support Staff (SOSS), will begin on February 28. Classes will be held from 11 a.m. to noon twice a week; students may enroll in either the Monday - Wednesday session, or in the Tuesday - Thursday group. All classes will be held at C-Site, and will be taught by Mary Dyson and Elsie Ferreras.

Anyone interested in taking the course can obtain more information from Mary Dyson at ext. 2489.

ART EXHIBIT

Weavings created by Anja Chance will be on display in the Dorothy Brown Room at the Princeton University League headquarters through February 11. The exhibit is open weekdays from 9 a.m. to 1 p.m.

MODEL A

A significant piece of PPL's history has joined the offical national archives of science and technology. The Model A stellarator, the machine that began the laboratory's experimental program, was given to the Smithsonian Institution during ceremonies held here January 7.

Constructed in 1952, the Model A machine was the first of PPL's experimental devices. Its unusual figure-eight design followed the concept of Professor Lyman Spitzer for a controlled fusion reactor based on closed-surface magnetic confinement. To test Spitzer's concept, Model A was built to permit experimental operation in either a racetrack or a figure-eight mode.

It was Professor Spitzer and his Astronomy Department colleague and close friend, Professor Martin Schwarzschild, who themselves wound the copper coils for the 1000-gauss field onto the 2"-diameter, 12' - long glass vacuum vessel. Other aspects of the engineering and fabrication were supervised by Professor Norman Mather and by the late Professor Clodius Willis.

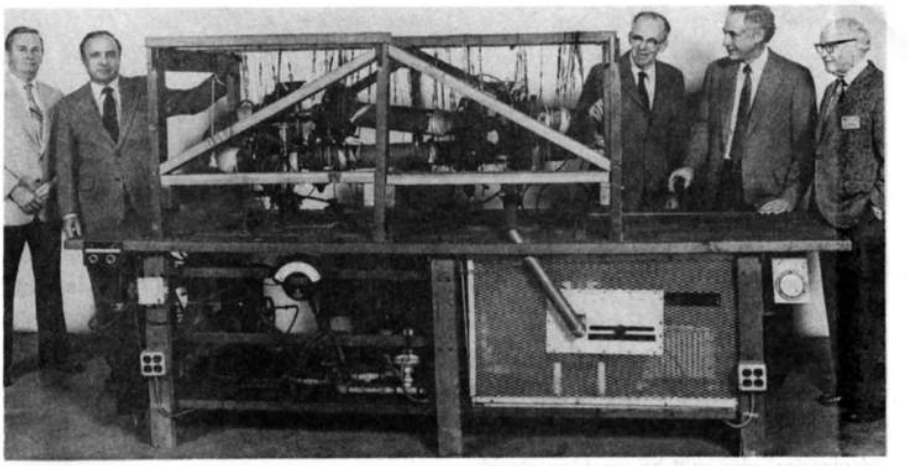
The first theorist for Project Matterhorn S (as PPL was then called) was Martin Kruskal, now chairman of the University's Applied Mathematics program. The first experimentalists were Leonard Goldman (now working in laser fusion at the University of Rochester) and PPL's Thomas Stix. The technicians were PPL's Hank Dymoski and Joe Csenteri.

The glass vacuum system and the magnet coils for Model A were all suspended by wires from a wooden frame, itself bolted to a wooden workbench. Plasma heating was provided by a 250 - kHz induction heater, coupled to drive an ohmic current in the stellarator plasma.

Dr. Stix feels that Model A's major accomplishment was "to show that it was significantly easier to establish a discharge in the machine's figure-eight configuration than it was with the device in a racetrack arrangement." This successful demonstration was followed by the construction of the more powerful B stellarators, which featured much stronger magnetic fields, much better vacuum systems, and were able to test unidirectional ohmic heating, magnetic pumping, ICRF, helical windings and divertors.

Plans are now being formulated that will allow Model A to be displayed during TFTR's dedication. The machine will then be turned over to the Smithsonian.

Accepting Model A at the ceremonies on behalf of the Smithsonian were Dr. Paul Forman and Roger Sherman. Also attending the ceremonies were Mel Gottlieb, Don Grove, Bob Ellis, Ken Wakefield, Mary Shoaf, Jack Joyce and Jim Clark.



Posing with the Model A stellarator at its unveiling were (left to right) Joe Csenteri, Hank Dymowski, Lyman Spitzer, Tom Stix and Norman Mather. All five men worked on the Model A project here in the early 1950's.

A number of PPL employees instrumental in the laboratory's energy conservation program were commended for their efforts by Director Dr. Harold Furth recently. Congratulated for a job well done were (front row, left to right) Ray Pressburger, Bob Longmuir, John Vallace, Dick Terhune, Carl Potenski, John Grabowski, (back row, left to right) Dick Farley, Ben Velivis, Mark Kijek, Steve Ragolia, Bob Gulay, Frank Fumia, Henry Chandler, Marvin Richey, John Pacuta, Ed Rogers, Conrad Stout, Dr. Ernst de Haas, Dr. Furth, and Head, Facilities and Support Bob Smart. Their work, coupled wit lab-wide conservation efforts, resulted in a savings of over $1.7M during the past year.

TFTR OPERATIONS/INFORMATION CENTER

It's 11 p.m. on a Thursday night. One of PPL's engineers, participating in the final testing for first plasma, detects a potential trouble spot in the energy storage capacitor bank and wants to examine the vendor's manual for that component. He needs the manual right away; he can't wait 'til morning. What does he do? Where can he go?

Although Carol Sherbet and her staff at the TFTR Operations/Information Center are likely to be at home watching the late news on that Thursday night, our engineer will find his manual thanks to their efforts over the past six months.

A first floor room near the CICADA complex has been transformed into the TFTR Operations/Information Center, whose purpose is to collect, catalogue, and make easily accessible and retrievable the critical documentation required to support the assembly, testing and operations of TFTR. The "Ops Center" is part of the TFTR Facility Operations Branch, headed by Milton D. Machalek and responsible for the operation of the TFTR facility. The Ops Center houses drawings, vendor manuals, operations and maintenance manuals, project specifications, test data, nonconformance reports, and other useful documents.

A manual can be located by examining computer printouts, which have been cross-referenced so that information on a major component can be found under various headings or sorts. For example, our engineer needs the vendor manual for the energy storage capacitor bank. He can look under that title on a printout, where it will be listed alphabetically with an identification number (e.g., M020K). This number will identify the physical location of the manual on the assigned shelves in the center.

The identification number for the energy storage capacitor manual can also be found by looking alphabetically on the printout under the system, *electrical;* the subsystem, *energy conversion;* or the vendor, *Westinghouse.* For some pieces of equipment of a more generic nature, such as a pump, the appropriate manual identification number can even be found by searching the printout under the building location.

If our engineer decides he also must see a particular drawing, he can use the vendor manual identification number to pinpoint the location of the drawing in the "aperture card" system. Approximately 15,000 drawings will eventually be stored on these 35 mm photographic film cards, and can be viewed using a special reader similar to a microfilm reader. If desired, an 18 x 24-inch print of the drawing can be made instantly from the aperture card.

Operations/Information Center staff view drawing on aperture card reader. From left Dick Whalen, Carol Sherbet, Terri Williamson, Milton D. Machalek, and Pat McMahan, seated. To their left is new, more advanced aperture card reader/printer.

One of the key functions of Operations/Information Center Manager Carol Sherbet has been to gather and correlate the various bits of information relating to a particular component or aspect of TFTR, and design the appropriate information retrieval systems. Richard Whalen, Drawings Coordinator, is responsible for collecting the drawings and schematics that will be kept in the center. They are assisted by Pat McMahan, Programmer, and Terri Williamson, Staff Assistant.

Once the elements of a complete information package are identified and assembled, they are catalogued on the computer. If any TFTR components malfunction, the almost instantaneous availability of such information in a central location will help to minimize or avoid costly delays in operation.

The Operations/Information Center has also served as a conference area to plan pre-operational testing, and for classes to train technicians. When TFTR is fully operational, the center is slated to serve as a "war room" when problems develop with the machine. Key operating decisions and procedures will be formulated there, with all of the necessary resources immediately available for consultation.

In addition, a terminal has been installed in the center so that the TFTR Daily Status Report can be entered into the CICADA video display system. The report is shown on television monitors throughout the TFTR area and in the lobby of the Laboratory Office Building.

In conjunction with its ongoing function, the TFTR Operations/Information Center has a long-term purpose. Its resources and those of the TFTR central file will be used as part of a longer-range effort to ensure that the data on the design, assembly, and operations of TFTR will be accessible to the developers of future, more advanced experimental machines.

HAZARDOUS WASTE PROGRAM

In a continuing effort to upgrade its services to the laboratory community, Health & Safety has made hazardous waste identification cards available at both stockrooms and from Material Control.

Virtually all chemicals used at PPL constitute hazardous wastes upon disposal. These include solvents (such as Philsolve, Inhibisol, J88, acetone, ethyl and methyl alcohol, and so on), uncured epoxies, varnishes, non-water base paints, alkali metals, and asbestos (transite). They CANNOT be disposed of down the drain, in sewers, or in dumpsters.

The identification cards are an integral part of PPL's hazardous waste program. Since the lab's hazardous waste contractor cannot dispose of an unknown substance, proper labeling of such wastes is essential.

When disposing of any substance, make sure you know what the waste is. It should be placed in a suitable container and properly labeled; unlabeled containers will not be disposed of.

If the waste is hazardous, fill out both halves of a hazardous waste identification card as completely as possible for each waste. Leave the space for the number blank, but be sure to include the location where the waste can be found. Attach the top half of the card to the container, using either the string for bottles or the adhesive back for cans and drums.

The bottom half of the ID card should be sent to Material Control, A-Site, Bldg. 1-E. Material Control will then contact you to arrange pickup of the waste material.

Section 8.3 of the Health & Safety manual contains more information about the ID cards, and the laboratory's policy on hazardous wastes. If you're not sure whether a substance is a hazardous waste, contact Health & Safety at ext. 2526.

The University has the responsibility of maintaining a safe atmosphere for its employees. Traffic regulations are a very important part of maintaining that safety.

Traffic signs have been posted in specific areas to inform you of potential problem areas. For example, stop signs have been posted in areas which could be potential accident zones. Yield signs are present to allow for smooth traffic flow. Handicapped parking signs have been placed in certain parking areas for those individuals who have mobility problems. Speed limit signs have been posted to ensure the safety of pedestrians as well as motorists.

The regulations these signs and markers indicate are not arbitrary. Handicapped zones should be used only by those who have special handicapped parking permits. New Jersey statutes regulate the handicapped zones, and require 24-hour-a-day enforcement. This is NOT a Univeristy policy; it is state law.

Speed limits should be obeyed to ensure everyone's safety, and stop signs require motorists to come to a complete stop.

The Security Department realizes that, at this particular point in the progress of TFTR, parking is a problem. We apologize for the problem, and are doing everything we can to accomodate our employees. Special areas have been set up for extra parking on designated roads.

We will accomodate our employees, but we must make sure that emergency areas are not blocked by employees' vehicles. We appreciate your cooperation, and anticipate that this problem will only last for a short period.

EMERGENCY CLOSINGS

While the U.S. Mail may continue to operate through snow and other inclement winter weather, will PPL? Perplexed employees can find out from their radios or telephones.

On those occasions when the laboratory will be closed for the day, or the normal starting time will be delayed, special announcements will be made over the following radio stations:

Princeton	WHWH	1350 kc
Trenton	WTTM	920 kc
Trenton	WPST (fm)	97.5 mhz
Levittown	WBCB	1490 kc
New Brunswick	WCTC	1450 kc

The laboratory has also arranged with the Answering Service of Princeton for an emergency telephone number, which is 609-924-1760. Callers should identify themselves as PPL employees, and should call ONLY when they are unable to obtain radio announcements. The service will only report whether the lab is open or closed; no other information will be available from it.

In the event the laboratory remains open, employees who find it impossible to report to work due to hazardous conditions should notify their immediate supervisors.

SPICE ALERT

A safety alert concerning Schilling spices has been received by the laboratory's Health and Safety Office.

The alert covers all sizes of Schilling spices, manufactured by McCormick & Company of Hunt Valley, Maryland, which are sold in glass bottles. Bottles bearing lot numbers 7257 through 7430 inclusive may have a chip or crack at the lip of the glass jar, under the threads of the plastic cap. This defect is not visible unless the plastic cap is removed.

Consumers should check their home spice racks for bottles bearing the lot numbers involved. If you find a questionable bottle, contact the Health and Safety Office at ext. 2531 for disposal instructions.

BENEFITS NEWS

All PPL employees' leaves of absence for temporary disability are now being handled by the PPL Benefits Section.

Please submit all leave of absence forms to Eleanor Schmitt. All questions should be directed to Ellie at ext. 2046, or to Mary Bersch at ext. 2043.

SKI HOUSE

SKIERS -- Rent a three bedroom lakefront house, centrally located in New York State Adirondack State Park. The house is fully equipped, and includes a cosy fireplace. Gore Mountain (one of New York's largest ski centers) is only 15 miles away. Great for the Alpine or Nordic skiing enthusiast. For reservations or brochure, call Ed Moshey, ext. 2306 or ext. 2258.

The PPL Hotline is issued by the Princeton University Plasma Physics Laboratory, a research facility supported by the U. S. Department of Energy. Correspondence should be directed to PPL Information Services, Module 2, C-Site, James Forrestal Campus, ext. 2754.

FOR SALE

FOR SALE --A stamp collection of issues from the United States, East and West Germany. Recently appraised at $3,370, asking $2,000. Call (609) 393-0609 after 5 p.m.

YOGA GROUP

The Princeton University League has formed a Hatha Yoga group, which meets each Tuesday at 5:30 p.m. in the Dorothy Brown Room. Those interested in joining the group should call the league office for further information.

HOUSE FOR SALE

Three bedroom ranch in Montgomery. Living room, very large kitchen, recreation room, 1½ baths. Basement, double garage, air-conditioned. Located on 1¼ acres seven miles from Nassau Street; qualifies for University mortgage. Asking $105,000. Call ext. 2290.

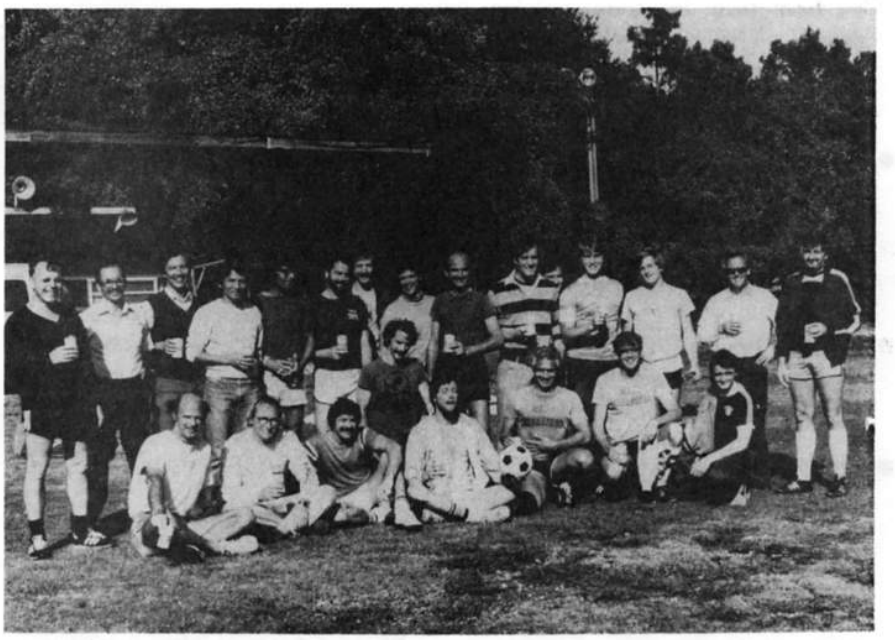
DANCE CLASSES

Dance classes, sponsored by the University League and the Princeton Getaway Club, have begun at the University League office, 171 Broadmead. Mr. Gary, a professional instructor, will teach class members swing (jitterbug) and waltz dance steps each Wednesday from 8 to 10 p.m. for the next five weeks.

This beginners series costs $20 per person for five lessons. For further information about the classes call "B" Jones at 452-6003 during the day or at 771-0485 during the evening. Information can also be obtained from Kathryn Cramer at 452-8792.

FREE

FREE TO GOOD HOME --Three adult guinea pigs, two females and one male. Healthy, friendly; make great pets. Call Meg Gilbert at ext. 2036.



Bill Heidbrink and Gary Hay each scored two goals to lead the PPL soccer team to a 4-1 victory over the General Atomic squad when the teams clashed at the APS meeting in New Orleans. The victory evened the record for the annual event at 3-3-1. In addition to Hay and Heidbrink, PPL team members included S. Von Goeler, Dennis Mueller, Lane Roquemore, Steve Davis, Dave Ruzik, Manfred Bitter, Ray Grimm, Jim Sinnis, Charlie Daughney and Fred Skiff.

VOLUNTEERS : PEOPLE PEOPLE

In response to contacts from the HOT-LINE, several Voluntary Action Centers (VACs) throughout New Jersey have provided a selection of volunteer opportunities. Since PPL draws employees from many areas of the state, these listings will enable interested individuals to volunteer their time in their own home areas.

The six volunteer opportunities that follow were supplied by the VAC of Mercer County, a member agency of the United Way. For further information about any listing, call the VAC at (609) 896-1912.

- The American Red Cross is seeking a disaster action team member. Training will be provided in first aid, CPR and other disaster procedures.
- JACS (Joint Action in Community Service) needs an advisor to provide local support for young men returning from their Job Corps training. Hours are flexible; training and orientation will be provided according to the volunteer's needs.
- CONTACT of Mercer County is looking for a telephone counseling trainee for its 24-hour Hotline. A 50-hour training course is needed to qualify for this poistion.
- Family Service of Princeton is seeking a writer for agency publicity work.
- The Historical Society of Princeton needs a museum guide to provide background on the Bainbridge House and general Princeton history. A volunteer should have a genuine interest in history, and be able to deal with the public effectively.
- The Association for the Advancement of the Mentally Handicapped needs people to assist in recreation and social programs, adult education programs, money management classes crafts education, and other ongoing activities.

The four volunteer opportunities listed below have been supplied by the Voluntary Action Center (VAC) of Middlesex County. For further information about any listing, call the contact person indicated below, or the VAC at (201) 249-8910.

- The Animal Rescue Force (ARF) needs people to interview prospective pet adopters at their Route 1 flea market booth on weekends. People willing to board animals during the week are also being sought, as are office workers. Contact Alicia Bottari at (201) 249-1975.
- The 4-H is seeking volunteers to teach children about pet care. If you're interested, contact county 4-H agent Tony Moskal at (201) 745-3446.
- The YWCA of New Brunswick is seeking academic tutors to help with their after-school program, run between 4 and 5 p.m. Other volunteers are required to supervise young swimmers in the Y's pool on Mondays and Wednesdays. Openings are always available for those interested in the after-school sports, recreation or crafts programs for children ages 5-12. Contact the YWCA at (201) 545-6622.
- Many agencies, such as the Family Services Association of Middlesex County, the New Jersey Home for Disabled Soldiers, Literacy Volunteers, Women Helping Women, and many more, need board members. Contact the VAC for more information.

The next six listings were provided by the VAC of Morris County. Positions are listed by general duty outlines; further information is available from the VAC at 201-538-7200.

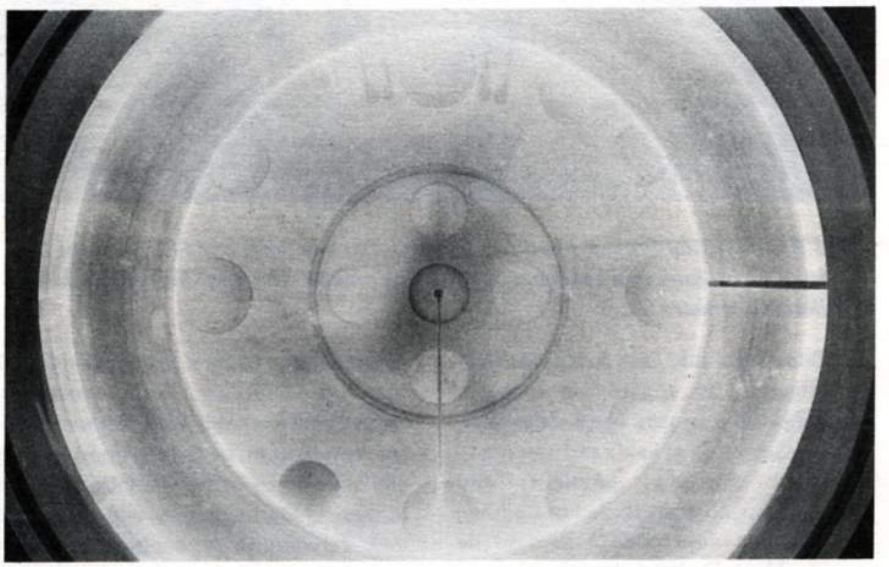
- A museum concerned with the past needs a retiree with financial expertise to serve as Chairman of the Finance Committee for the museum's Board of Trustees. Responsibilities would include preparing federal and state grant applications, as well as soliciting corporations and private sources for funds.
- An organization providing money management advice to consumers and corporations is starting a speakers training program. The program, which will teach volunteers to address groups of 25 to 100 people, begins this month and continues for six sessions.
- A nursing home needs volunteers to work with the elderly. Activities include reading aloud, playing tapes, or providing similar entertainments.
- An organization that provides food for the needy needs volunteers to contact the community in a food appeal, as well as to price and keep inventory of the food collected. An opening is also available for writing the group's newsletter.
- An ancillary-medical organization needs researchers to design and carry out projects concerning stress management. This position requires students who have had education in psychology, nursing or pre-med.
- A nursing home is seeking volunteers to accompany patients to the doctor's office or hospital during daytime hours. Training, a uniform and meals are all provided.

HOTLINE

PRINCETON PLASMA PHYSICS LABORATORY

Vol. 4, No. 10 March 4, 1983

SPHEROMAK FIRST PLASMA



This picture of a spheromak plasma was shot with a wide-angle lens, looking along the machine's major axis. A magnetic probe extends across the flux core "doughnut" to where the plasma (the darkened central area) is forming.

Achieving first plasma on TFTR isn't the only reason for celebration at PPL anymore. Another important "first" occurred at 11:17 p.m. January 31, when first plasma was created in the laboratory's S-1 spheromak.

"This success was the result of some very concerted work by some very dedicated individuals," enthused Engineering Program head Jack Joyce. "We planned our work and our resources in the face of TFTR priorities, and neither project suffered. They made their first plasma milestone, and so did we."

A plasma was formed for approximately 100 microseconds in the S-1 Jan. 31. A toroidal current of 60 kiloamps and a poloidal current of 150 kiloamps were generated during the event. The first plasma had the spheromak configuration.

According to experimental project head Dr. Masaaki Yamada, "The behavior of the initial plasma was better than we expected for stability. After 100 shots of operation by February 2, our further investigations produced a plasma of 0.3 milliseconds in the spheromak configuration. That plasma had a 100 kiloamp toroidal current, and a 250 kiloamp poloidal current. In general, its gross MHD stability behavior was very good." Thanks to these initial S-1 successes, Dr. Yamada feels that "in the next several years, we face a rather exciting period for this alternate fusion research concept."

Dr. Robert Ellis, project head of the S-1 fabrication program, said he was "very pleased" at the machine's success. "First plasma was a part of our systems performance testing program, in which we evaluate the adequacy of various systems during the test phase to determine whether any modifications need to be made before completion. So naturally we're delighted that the machine functioned as anticipated."

Pre-plasma power tests on the S-1 were conducted in three separate phases over a two-week period. The equilibrium field (EF) circuit was tested by directing the output of two motor generator (MG) sets into the EF coil system. The system was brought up to 20,000 amps, the upper limit the circuit is designed for.

Testing on the two remaining power systems was completed using dummy loads. The poloidal field (PF) coil system was tested in two modes: in the first, the capacitors were charged, then allowed to discharge slowly through resistors. In the second, the capacitor bank was charged; discharging was accomplished by firing the ignitrons into a short at the collector plates. The capacitor banks were gradually brought up to their full power of 20,000 volts during testing.

The toroidal field (TF) power system was tested similarly to the PF system, reaching the 20,000 volt level in 2,000 volt increments.

After each system was successfully tested individually, the TF and PF leads to the collector plates were connected. The systems were again tested singly and jointly.

(continued)

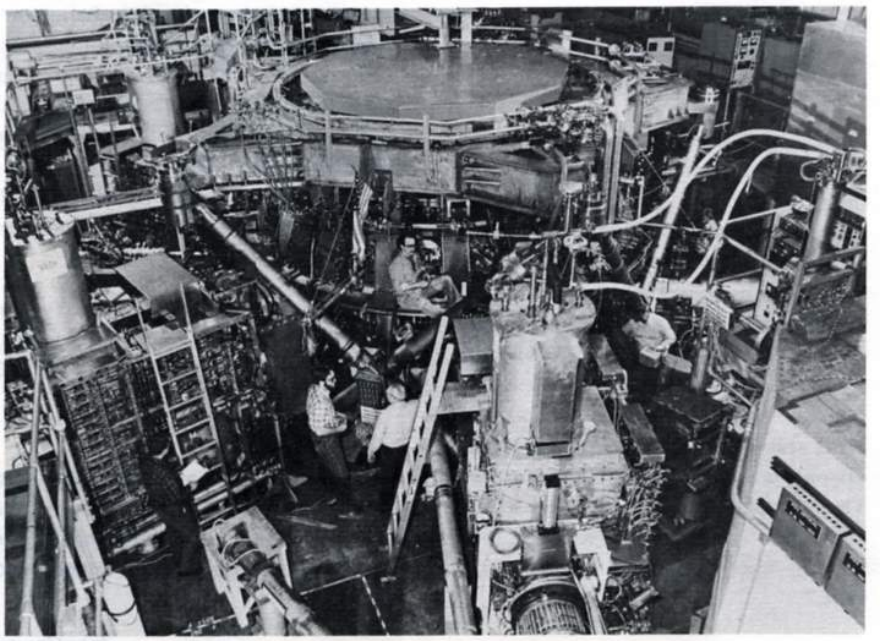
Jack pointed out that S-1's first plasma was not achieved at the machine's full power level. "The instrumentation installed on the flux core liner was not adequate to get the strain information we would need at full power, " he explained. "The liner is 0.01-inch thick Inconel, which is like foil and is very delicate. We didn't want to risk it by taking it to full specificiation without that strain information." The full-power test was scheduled to take place last month.

While first plasma has been achieved in the Mode D configuration, operation in Modes A, B and C have yet to be tried. Those tests await the completion of the spheromak control system, additional diagnostics, and installation of a coil filter circuit to protect the MG sets. Testing is expected to be completed in August, when Dr. Ellis will turn S-1 over to Dr. Yamada for inclusion in PPL's experimental physics program.

Laboratory Director Dr. Harold Furth lauded S-1's achievement in a congratulatory memo. "During the past three years," he wrote, "the S-1 project has demonstrated outstanding technical competence and a level of personal effort that has been a worthy match to TFTR final assembly. As first project manager of S-1 construction, Jim Sinnis got things off to a good start, and Bob Ellis finished a well-managed job. Jack Joyce was highly effective as engineering manager throughout the project. The S-1 designer, led by George Sheffield, and the many dedicated engineers, physicists and technicians who contributed to building the machine have good reason to be proud. Masaaki Yamada has been in charge of the successful physics planning, and will now head S -1 experimental research."

S-1 Experimental Project Head Dr. Masaaki Yamada (left) and PPL Director Dr. Harold Furth look over readouts of S-1's first plasma. The machine achieved that milestone January 31.

"First plasma came a little easier on S-1 than on TFTR,"Dr. Furth concluded, "and was remarkably well behaved. With the completion of S-1 full-power tests and start-up of experimental operations in March, the laboratory will be able to look forward to an exciting period of new achievements in basic plasma research."



PDX UPDATE

The FY83 PDX experimental program began in November 1982. It has been formulated to reflect some changes and additions to the internal hardware. These changes include: rebuilding of the neutralizers to eliminate problems with their original design; installation of new liners to separate the divertor domes from the main plasma volume, permitting faster and easier access to the domes; and removal of the outer divertors and closing of the associated divertor channels so that higher gas pressure can build up in the domes. A new pumped limiter (the "scoop") has also been installed, as have launchers for a 60 Ghz, 400 kW microwave heating system.

Diverted plasmas are being run using the new divertor configuration. If a high-re-

cycling divertor can be achieved, a cold, dense plasma will build up in front of the neutralizer plates instead of the usual rarefied, hot plasma. A cold plasma does not cause "sputtering"— the erosion that occurs when energetic ions collide with a metal surface. The eroded atoms may in turn enter the plasma, where they will enhance the loss of energy by radiation.

The PDX group will also attempt to verify the good confinement results for beam-heated plasmas reported by the ASDEX group in Garching, Federal Republic of Germany. The group hopes to learn enough about the conditions needed to achieve this confinement to determine if it can be obtained without a divertor. This information would be valuable for TFTR, which does not have divertors.

As in FY82, increasing beta values will also be emphasized during FY1983. Beta is the ratio of plasma pressure to the strength of the confining magnetic field. Plasma pressure is the product of temperature and density. As beta values increase above the minimum needed for fusion to occur, more fusion power is produced. Therefore, a higher beta value means that greater plasma pressure, and thus more fusion output, is achieved in a given magnetic field.

Last year at higher beta values, an instability occurred that "kicked out" the neutral beam ions before they could heat the plasma. The PDX group hopes to avoid this instability by increasing the plasma density, so that the beam ions slow down and release their energy to the plasma before they can be kicked out. The pellet injector, which has been rebuilt by Greg Schmidt so it can inject larger pellets, will be used to increase the plasma density. Larger pellets are better able to penetrate deep into the plasma.

It is anticipated that the high beta work will begin in the spring. A "well-conditioned, clean machine" is needed, and according to Kees Bol, Head of the PDX research group, the best way to get it is "by using the machine."

Finally, a series of microwave heating experiments will be conducted and the pumped limiter will be operated to determine if it will produce the same good confinement achieved with the high pressure divertor.

Stairwell Gates

Many people have questioned the purpose of the metal gates installed in some of the stairwells in TFTR buildings. Some employees apparently assumed they were installed to harass them, and have either damaged the gates or blocked them open.

The real purpose of these gates is to prevent people on the stairways from decending past the exit door during a fire or other emergency requiring building evacuation. Under fire conditions, the stairwell could be filled with smoke. People decending the stairs could fail to see the exit sign or door. There have been documented cases in which people have descended past the exit doors during fires, and have been overcome by smoke.

For these reasons, the Life Safety Code now requires a break in a stairwell that descends past the exit level. The gates that have been installed are the minimum acceptable means of providing that break.

While the gates will hopefully never be needed, they are an important part of the lab's building fire safety program. The protection they provide should not be negated by blocking them open or rendering them inoperable.

Safety Notice

The Health and Safety Branch has issued a warning about the Granville-Phillips Co. Model 216 automatic pressure controller. Under certain circumstances, electrical shock hazard can exist on the unit.

Laboratory owners or users of this controller should contact Health and Safety for information on eliminating the potential hazard.

Energy Conservation

Despite the recent spate of mild weather, energy conservation is still a very necessary part of daily laboratory operations. PPL's energy costs have now been projected in the multimillion dollar range, due to increases in energy rates and lab activities. The cooperation of every employee is needed to help curtail these increases by eliminating energy-wasting situations wherever they occur.

As part of PPL's continuing efforts to conserve energy, the activities of the Employee Energy Awareness Subcommittee and the Electric Power Subcommittee will be continued through FY83.

Medical Claims

To more effectively help PPL employees with their medical claim difficulties, Eleanor Schmitt will be available for consultation and assistance every Tuesday in C-Site conference room B345. Consultation hours will be from 9 a.m. to noon.

Eleanor will also be available each Thursday from 9 a.m. to noon and from 1 to 4:30 p.m. in Room 219, Sayre Hall.

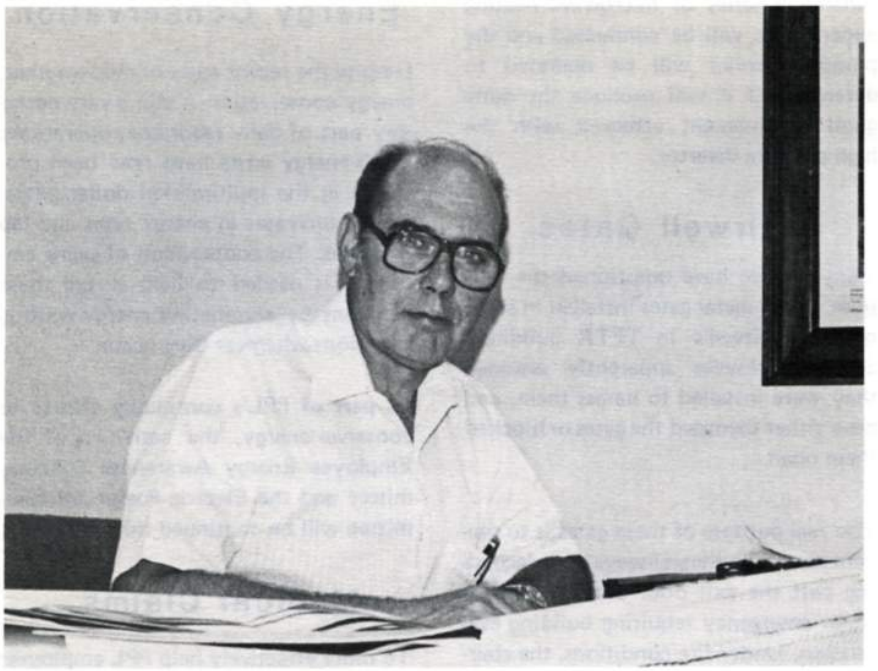
Any employee with questions or problems concerning Blue Cross/Blue Shield or Major Medical claims should speak with Eleanor during these scheduled hours. Contact her at ext. 2046 to request forms for direct filing of claims.

Vending Machines

Vending machines have recently been installed on the first floor of Sayre Hall. The machines include a soda machine, a sandwich machine, and two snack machines.

Condominium

FOR RENT A two bedroom, two bathroom condominium in Hilton Head, South Carolina. Golf, free tennis, pool. $319-$399 per week. For more information, call Bill Davall of Main Campus Security, 609-924-5560.



Donald J. Carden became the new Director of the Department of Energy's Princeton Fusion Project Office (PFPO) January 23, succeeding Dr. Nelson Grace. A 27-year employee of DOE and its predecessor agencies, ERDA and AEC, Don served as deputy director of PFPO under Nelson Grace. Mr. Carden was the former manager of the Princeton Area Office of DOE.

Siren Signals

When the PPL siren blows, do you recognize what it signifies?

Two cycles of the siren indicate a siren test, normally held each Wednesday at noon. Six cycles indicate a drill evacuation, usually publicized in advance. Six cycles of the siren repeated continuously indicate an emergency evacuation situation.

During an evacuation, employees should vacate their buildings immediately by the closest exit. Once outside, go to the closest parking lot well clear of the building and await further instructions. Elevators *should not* be used during an evacuation.

The only exception to this procedure is the TFTR complex; in an emergency evacuation, employees in the Mock-Up area, the Hot Cell, the Test Cell, and the Neutral Beam areas should report to the LOB east courtyard. Employees in the Field Coil Power Conversion building and the MG area should assemble in the TFTR cooling tower area.

Emergency Services Unit Director Jack Anderson is currently establishing specific employee assembly points should an emergency requiring evacuation occur. The finalized list will be published in a future edition of HOTLINE.

The A/B and C-Site sirens work independently of each other. For an evacuation of only one site, for example, only one siren will sound. Evacuation orders will also be announced over the public address system (where possible) to supplement the siren.

Weekly Time Record

Anyone who wishes a time record form to keep track of vacation, holiday or sick time, optional holiday and excused absence use should contact Eleanor Schmitt at ext. 2046. Forms may also be picked up at Sayre Hall, Room 219.

Patent Program

PPL now has a Patent Awareness Program, as well as a Committee on Inventions, to increase the patent awareness of laboratory staff. Nine invention disclosures were filed with the committee since the end of FY 82:

- Plasma Ion Temperature Diagnostic Using Ion Radiation Produced by Charge Exhange Collisions, by R. Fonck and R. Goldston
- Process of Creating a High-Beta Tokamak with a Second Stability Regime, by R. Kulsrud and S. Yoshikawa
- The EST (Elmo Snaky Torus), by H. Furth and A. Boozer
- Prompt Radial Profile Species Diagnostic for Intense Neutral Beams, by H. Kugel and R. Kaita
- Non-Interlocked Planar Coil Stellarators with a Magnetic Well, by A. Boozer
- A Nuclear Diagnostic for Fast Alpha Particles, by L. Grisham, D. Post and J. Dawson
- Resonant-Cavity Antenna for Plasma Heating, by F. Perkins, S-C Chiu, P. Parks and J. Rawls
- Getter and Limiter System for Controlling Hydrogenic Density and Impurities in a Magnetic Fusion Device, by J. Cecchi, R. Kinze, F. Dylla and J. Sredniawski
- The Quasi-Isobaric Reactor, by R. Mills

For further information about the committee or the program, contact Meg Harmsen at ext. 2659.

Medicine and Food

Medical experts have emphasized the dangers in eating certain foods while taking various kinds of medication. Certain combinations of foods and drugs can have hazardous -- even lethal -- effects. Combinations that should be avoided include:

- Eating dairy products while taking the antibiotic tetracycline; such foods impair the body's absorption of the drug.
- Eating foods containing natural licorice while on high blood pressure medication. An excess of natural licorice in the body tends to raise blood pressure.
- Eating any foods high in Vitamin K while taking anticoagulants containing indandione or coumarin. Vitamin K inhibits these drugs' effects.
- Eating aged or fermented foods while taking monotamin oxidase (MAO) inhibitors, often prescribed for high blood pressure or depression. When MAO inhibitors interact with tyramine (a substance found in these foods), the blood pressure is often forced to hazardous levels. Severe headaches and brain hemmorhages can result, with death possible in extreme cases.
- Eating a high-fat diet while taking fat-soluble drugs. The elevated dietary fat level will cause poor bodily absorption of such drugs.
- Drinking alcohol while taking antibiotics, anticoagulants, high blood pressure medication, MAO inhibitors, sedatives, antidiabetic drugs, or antihistamines. Alcohol doesn't mix well with any of these medications.
- Taking drugs with acidic fruit or vegetable juices, or with soda; these drinks can create excess acidity in the stomach, hindering the medications's absorption into the bloodstream. Check with your doctor before taking medicine with these liquids.

Each time you begin taking a new medication, ask your doctor about its impact on your body when combined with certain foods. Always be aware of the drugs you're taking and the foods you're eating; making the correct match-ups can be just the prescription to augment your doctor's diagnosis.

Tee-Shirt Deadline

February will be the last month that individual orders for TFTR tee-shirts and sweatshirts will be accepted. The shirts, which come in a variety of styles and colors, feature a TFTR logo being "heated" by four neutral beam "dragons". Each shirt is silk-screened in four colors.

After February, only team orders for three dozen or more shirts can be filled. For further ordering information or a price list, contact Don Weissenburger, Building 1-P, ext. 2599.

Over $100 in Medical Bills?

Did you or a member of your family spend over $100 in medical bills last year (including October, November and December of 1981)? If so, then you should contact Eleanor Schmitt and open a Major Medical claim.

After satisfying a $100 deductible, you will receive 80% reimbursement of your medical expenses. These charges can include office visits, prescriptions, chiropractor visits, podiatrist visits, allergy shots, rental of hospital beds, crutches, braces, registered nursing charges, and so on.

For additional information on Major Medical claim procedures, call Eleanor at ext. 2046.

Singles Social

The Princeton University League's monthly singles wine and cheese social will be held March 17 at 5 p.m. in the Fine Tower faculty room on main campus. All single members of the University faculty and staff are invited to attend. For further information, contact Naoma Dorety at 272-4097.

Manager of Human Resources Len Thomas has begun a series of walk-through dialogue sessions, randomly visiting different areas of the laboratory. These informal dialogues offer employees a chance to air their views, opinions and concerns on PPL or University-related issues. For further information, contact Len at Personnel, Sayre Hall, ext. 2052.

Information Services welcomed two new additions recently -- Information Officer Patricia A. Bergbauer (left) and Head of Technical Information Meg Harmsen (right). Pat, who is replacing Diane Carroll, received her bachelor's degree in English from St. Joseph's College in Philadelphia. She also earned a master's degree in English from Villanova, and worked for "Cancer Research" (an international scientific journal) for 10 years. Meg earned her bachelor's degree in anthropology from the University of Maryland, and did graduate work at The American University in Washington, D.C. She was formerly employed as a records management specialist by the TERA Corporation of Bethesda, Md. Meg replaces Nan Jones in the position.

Associate Director and Administration Department Head Richard Rossi accepts his 15-year service award from Director Dr. Harold Furth during January's service awards program. Mr. Rossi was among 176 PPL employees honored for laboratory services ranging from five to over 25 years. The awards presentation was organized by the Personnel Office.

History Program Planned

A slide tape on Princeton's past, prepared by the Historical Society of Princeton, will be presented at 8 p.m. March 22 in the Dorothy Brown Room of the Princeton University League headquarters, 171 Broadmead.

Art Exhibit

Paintings by Hiroko M. Yoshikawa and flower arrangements by Nobuko Manabe comprise a joint art display in the Dorothy Brown Room in the Princeton University League offices. The exhibit may be viewed daily through March 11.

P.U. League Notes

The Princeton University League will sponsor its annual International Festival on April 17. The day-long event, which will feature cultural exhibits, dances and music by visiting scholars and students, will be held in Dillon Gym.

The Professional Roster, which helps University-affiliated individuals seeking jobs, needs volunteers. If you can help, call the University League office or contact Nancy Seibert at 921-9561.

Volunteers: People People

The information on the Singles Volunteer Group was submitted to HOTLINE by the Voluntary Action Center of Middlesex County. For further information, contact the VAC at 201-249-8910.

Singles who enjoy helping others can now find a common meeting ground at the Voluntary Action Center (VAC) of Middlesex County.

The VAC, which serves as a clearinghouse for people who wish to volunteer and agencies that request help, is establishing an organization for single volunteers only. The group will provide an opportunity for singles of all ages to meet others like themselves -- people who share their motivations to help someone in need.

Since the VAC has a number of requests which require the cooperative effort of many people, an emphasis will be placed on large and small group activities. Some projects will be a one-time event, while others may be carried out on a regular basis. Possible activities range from running a fundraiser or working backstage in a theatre production to finding good homes for stray animals.

Volunteers interested in joining the group should call the VAC at 201-249-8910 and ask for Harriet Indik or Linda Hale. Group members will be notified of future meeting dates and sites by the VAC.

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The voluntary opportunities that follow were supplied by the VAC of Mercer County, a member agency of the United Way. For further information about any listing, call the VAC at 609-249-1912.

- Womanspace, a halfway house for abused women, is seeking a volunteer coordinator. The group is also in need of exercise instructors; child care assistants who can teach crafts and other activities; drivers; maintenance assistants; individuals bilingual in Spanish; babysitters; daytime advocacy volunteers; and legal and medical service. Specific information about each position is available from the VAC.

- The Carrier Foundation needs a patient librarian and a clerical aide. The Carrier Clinic is seeking volunteers who can serve as patient visitors; pharmacy, physical therapy, or arts and crafts therapy aides; and gym or recreation assistants.

- The Helene Fuld Medical Center needs individuals to act as emergency room, physical therapy or clinic aides; nursing station volunteers; and to assist with running the operating room information desk, the admitting office, and the front information desk.

- Teachers' assistants are needed by the New Jersey Association for Retarded Citizens. Teachers' aides are being sought by the Carolyn Stokes Day Nursery, the Trenton Educational Development Corporation, the Delaware Valley School for Exceptional Children, Parents for Action, and the Little People's College.

- Both the Mercer and Trenton Head Start programs need teachers' assistants. The Ewing Head Start program is seeking babysitters and bus rider aides; the state Head Start program is in need of a shopping aide and a volunteer to write reports for the program's social worker.

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The next six listings were provided by the VAC of Morris County. Positions are listed by general duty outlines; further information is available from the VAC at 201-538-7200.

- An organization concerned with the suffering of animals needs an editor to write a monthly newsletter for their members. The newsletter is two pages long and consists of eleven issues per year.

- A health organization needs a publicity chairperson to develop an advertising campaign. The volunteer should have professional knowledge in public relations; hours are very flexible.

- An ancillary-medical organization needs a person to type letters and envelopes, and do some filing; typing skills are required. This organization also needs volunteers in other areas.

- A hospital needs an adult to provide services, such as deliveries, errands and various tasks, for several departments. On-the-job training and public transportation are available.

- A youth program needs caring adults to be supervisors of sports activites one night a week in a gym. The adolescents involved are usually troubled; a caring heart and a helping hand are required.

- A nutrition program for the elderly needs volunteers to record both the number of meals served and program attendance. Volunteers are also needed to serve meals, clean up afterwards, and to deliver meals to housebound clients. Volunteers of all ages are welcome; on-the-job training will be provided.

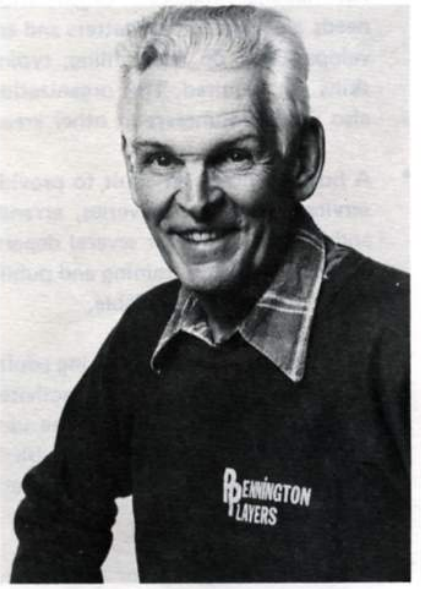
■

The following item was submitted to HOTLINE by the Voluntary Action Center for Somerset County, a division of the United Way of Somerset Valley:

Consider being a Blood Drive volunteer through the American Red Cross. A special training session for volunteers who are available weekdays will be held in March. For further information, contact the VAC for Somerset County at 201-560-9380.

Volunteer Viewpoint

Beginning in this issue, the HOTLINE will profile laboratory employees who volunteer their time to various community organizations. Our subject this time is Tom Deverell, who works with the Pennington Players. If you have any suggestions for future profiles, contact the HOTLINE at ext. 2754.



Tom Deverell is a man in love with "the roar of the greasepaint, the smell of the crowd." That affection for the theatre world has led to his involvement with many amateur theatre groups, most notably the Pennington Players.

Tom has been a laboratory employee since mid-1978. He operates "a one-man bolometer laboratory" in the LOB, designing and fabricating bolometers for PLT, PDX and TFTR.

His interest in the theatre began early in life, due in part to living in the neighborhood of the Papermill Playhouse. "I grew up in Millburn," Tom reminisced, "and I wound up painting dressing rooms and punching tickets at the theatre. It was an opportunity to see a performance without paying, and I became a jack of all trades there. It gave me an early and permanent love of Gilbert and Sullivan, and of Victor Herbert."

Tom's love affair with the theatre took a hiatus during World War II, and stayed on hold when he married and went to college. But he returned to "the boards" in 1958 when he became a member of the Westfield Players. He relocated to Pennington in 1963, joining the Pennington Players shortly thereafter.

Although he wore a kilt and carried a torch in "Brigadoon" once, Tom says he's "not much for being on stage; I perfer working on the scenery." His adeptness with scenery has won him the rank of master carpenter with the Players. In fact, the Deverell name appeared on the program three times for the group's last production, "A Very Special Person" -- Tom worked on the scenery, son Bob designed the set, and son Bruce handled the lighting. Tom also had more than a passing acquaintance with the show's star -- former PPL Business Manager Allen Rowe.

In his experience, Tom says, scenery is always constructed "in one hell of a hurry. Often you use a framework that's crude, but can be made to look right with a little paint and artistic talent."

Despite the fact that the audience is apparently seeing a sturdy farm house, for example, Tom knows how flimsy pieces of scenery can be. "Most scenery for our company is made of canvas stretched across a wooden frame, then painted."

Even that's not as easy as it sounds. "You have to be concerned with sight lines. You must make sure that no matter where playgoers sit, they won't be able to see through or behind the scenery unless you want them to. Perspective from various points also has to be considered; " a backdrop that may look fine to people sitting directly in front of it may appear out-of-kilter to those sitting at the side of the theatre.

Among the many items Tom has built for various plays was the computer for "Desk Set". "We set the lights on the display panel up so that, at a specific point in the play, the computer would spell out 'Oh Nuts!'," he recalled. Tom has also constructed half a sewer manhole for "Guys and Dolls", a working windmill for "South Pacific", and scenic creations for "The King and I", "Brigadoon", "West Side Story", "Oklahoma!", and many other musicals.

No pieces of Deverell-constructed scenery have ever fallen down at an inappropriate moment, Tom proudly reports. But there have been a few times when, as the curtain opened, the mountains appeared to be rising over the sun!

"Things can get positioned upside down," Tom admits, "because you're working in a very low light situation. Once the curtain goes down, you have anywhere from 30 seconds to three minutes (depending on the play) to get the scenery changed for the next act. And when you're working at top speed to make the switch, things sometimes can go wrong."

Tom contends that most amateur theatres are full of people "with a genuine love of the theatre. There's some kind of magic that happens when you take a good play, mix in some good people, and do it in front of an audience."

The Pennington Players is a non-profit, all amateur acting group. The company has a board of directors, and group officers (Allen Rowe was the 1982 president). The Players mount an average of four productions yearly in the 110-seat Pennington Playbarn.

Tom noted that the group has "a chronic shortage of willing hands" in the craft areas of production (painters, carpenters, props, costumes and so on). Newcomers are always welcome, and can learn the skills necessary from other Players members.

Anyone interested in volunteering their talents to the Players can contact Tom at ext. 3746.

EMERGENCY PREPAREDNESS

PPL has established an Emergency Preparedness Plan, which outlines specific procedures to be followed in case of an emergency. The plan lists specific Building Emergency Supervisors (BES), who will be responsible for various areas of the laboratory should an emergency occur. The BES include:

A SITE

Bldgs. 1-A, 1-E, 1-N	Robert Middlebrook	Bldgs. 1-F, 1-L, 1-T2	Henry Miller
Bldgs. 1-B, 1-H, 1-HA, 1-K, 1-0, 1-P, 1-R	Thomas Hurley	Radiation Storage Area	William Rutkowski

B SITE

Forrestal Shops, Dispensary, Gas Dynamics, Receiving 1, 8-E, Old Guggenheim, New Guggenheim	Joseph Stencel	Cafeteria, Chem Science, Matterhorn Bldg., Guard Booth 5	James Kopliner
Sayre Hall, Aero Lab	Leonard Thomas	GFDL, Hangar, Library Annex	Lou Pizzarello

C SITE

Cafeteria, Courtyard, LOB	Robert Smart	MG, CS, COB, RF, PLT Power, System Test	Henry Chandler Ben Velivis
Modules, Theory Wing, Administration Bldg., Library, Computer Areas	Bernard Giehl	PM&O, Water Towers, Pumphouses, Cooling Towers, Trailers	Ray Pressburger
Shops, Laboratories, Tech Shop	Girard Boyd	Warehouses, Switchyards, Fire Station, Annex Warehouse	Harold Barbour

D-SITE

MG, FCPC Bldg., Cable Spreading Room, Yards	David O'Neill	Basement, Tritium, Gas Tank Farm, Data Aquisition, Radiation Waste Tanks	Don Harnsberger
NB Power, Cryogenics, NB Control Room, NB Test Cell	Ben Prichard	Access Tunnel, CICADA Junction Area	Joseph Bosco
	Test Cell, Hot Cell, Gallery, Mock-Up Area		Gordon Rappe'

Review copies of the entire Emergency Preparedness Plan are available in the library.

Security Checkpoints

In an effort to tighten security in the LOB after 5:30 p.m. on weekdays, weekends and holidays, entry into the building will be limited to employees whose job responsibilities require access during those times. This limited security access system will take effect March 11.

Supervisors whose employees need access to the LOB during these hours should submit written authorization to the Forrestal Security Department, Chem. Sciences, B-Site, NO LATER THAN MARCH 7. Employees who must enter critical security areas at C-Site during these hours should use the C-Site entrance; all other entrances will be locked and alarmed during non-working hours.

Employees requiring access to the TFTR facility, and who have access privileges during non-working hours, should use their card reader badges for entry.

Tour Guides

Employees are reminded that their guests MUST register with the LOB receptionsist (during normal working hours) or the C-Site Security desk (during non-working hours) when visiting any area of the Forrestal campus. Employees and their guests must display their identification badges or visitor passes at all times while on campus; personnel without badges will be required to leave the premises.

Employees who need access to PPL during non-working hours, but forget their permanent access badges, must obtain a temporary badge from the C-Site Security desk.

Parking

The regulation restricting parking in TFTR parking lot to construction personnel has been lifted. Parking privileges have been extended to any PPL employee whose vehicle bears the required Forrestal parking decal.

Parking in the area will be limited to those employees how require access into the TFTR facility. Personnel entering C-Site should park in either the upper or lower "N" lot.

Fire Permits

The PPL Health & Safety Manual requires a permit for all welding and cutting done in PPL facilities outside of designated shop areas. These permits are required regardless of whether PPL or subcontractor employees are doing the work.

In the past, permits have been issued by Health & Safety technicians. Now that the laboratory has full time coverage by the Emergency Services Unit (ESU), the issuance of permits is being turned over to that group. As in the past, advanced notification of your need for a permit will help speed the process.

Permits should be requested from the ESU on ext. 3166.

The PPL Hotline is issued by the Princeton University Plasma Physics Laboratory, a research facility supported by the U. S. Department of Energy. Correspondence should be directed to PPL Information Services, Module 2, C-Site, James Forrestal Campus, ext. 2754.

HOTLINE

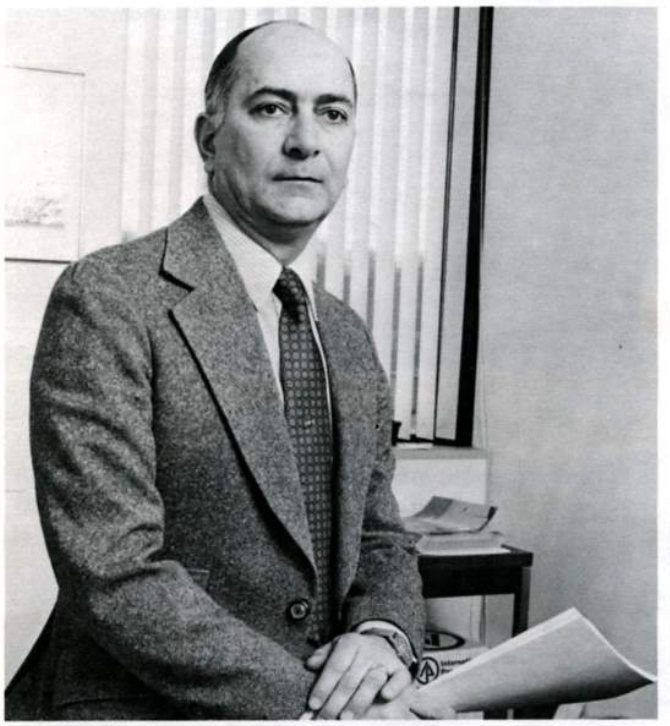
PRINCETON PLASMA PHYSICS LABORATORY

Vol. 4, No. 11 April 4, 1983

SPECIAL PERSONNEL ISSUE

This special issue of the HOTLINE is devoted entirely to those PPL employees who have been promoted since September of last year, or who have joined the laboratory staff since that time. To all staff members who've taken on new posts or new duties, congratulations; to all the "new" hires, welcome to the laboratory community!

ADMINISTRATIVE DEPARTMENT



ANGELO V. CANDELORI ——

Angelo, who has been promoted to Assistant Head of the Administrative Department, came to PPL almost 19 years ago. During that time, he has served as Head of Material and Supply, Assistant to the Business Manager, Personnel Director, and Manager of Compensation. He became Business Manager for the Administrative Department in 1980. In his present position, Angelo is responsible for the budget and personnel requirements of the Administrative Department, as well as for the administration of PPL's non-DOE outside contracts.

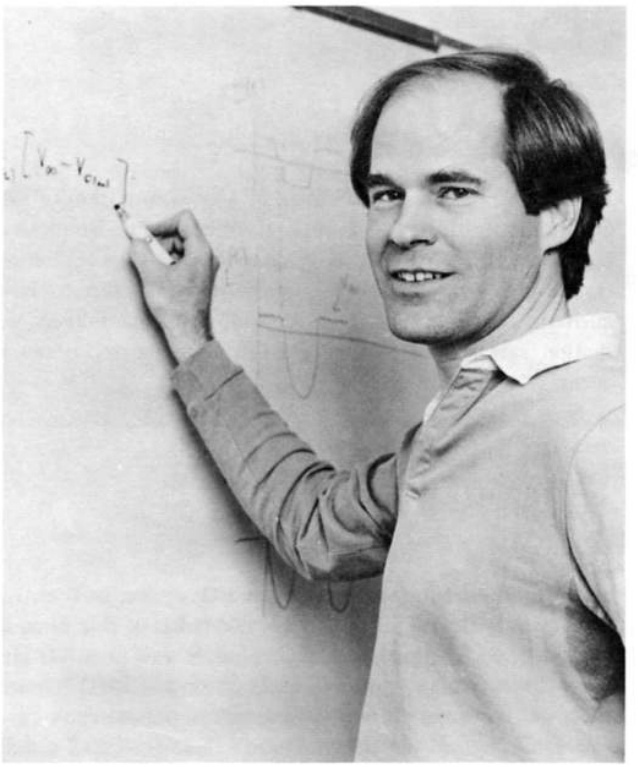
Administrative Department members promoted but not pictured include Jose Aquino , material handling supervisor, Warehouses; Alan Bara, technician, Mechanical Trades; Suzen Bayer, staff assistant, Information Services Branch; Jane Birtwistle, intermediate applications programmer, PM&B Data Management; Nick Csenteri Jr., assistant general supervisor, Warehouse; Frank Fumia, manager, Project Engineering; Chris Gillars, assistant manager, Material Control; Ed Gilsenan, technician, General Trades; Doug Gunn, lead technician, Mechanical Trades; June Hyman, staff assistant, Inventory Control; Frances Jenner, staff assistant, Material Control Branch (Stockrooms); Jo Lumberger, accounts payable supervisor, Accounting; Wanda Mizutowicz, assistant budget officer, TFTR/TFM Program Management; Bob Mozak, motor pool operator, Transportation Services; Spence Oakerson, technical assistant 1, Mechanical Trades; Wayne Robinson, technician, General Trades; Marie Steer, staff assistant, Inventory Control; Susan Thelle, accounting assistant, Payroll Department; Greg Tompkins, technician, Emergency Services Section; John Wheeler, scheduler, Director's Office; Tina Whitely, accounting assistant, Payroll Department; Jerry Williams, night shift supervisor, Janitorial; and Virginia Zelenak, staff assistant, PLT Branch.

ADMINISTRATIVE DEPARTMENT (Cont.)

Administrative Staff members promoted since September include (foreground, left to right) Eloise Racine, now a junior cost analyst in Accounting and Finance, Marie Iseicz, now a cost analyst in Cost Control; (background, left to right) Betty Ng, now a staff assistant in the Material Control Branch; and Bob Kress, now construction manager of general construction in the P&C Branch.

Administrative Staff promotions were also given to Oscar Rhodes (left), now building service foreman, Janitorial; and John Ewashko, now lead janitor, Janitorial.

RESEARCH DEPARTMENT



ROBERT BUDNY

Bob, who was promoted to Research Physicist in the Applied Materials Physics Section, has been a PPL staff member for four years. He did his post-doctoral work at Stanford University, then taught at Oxford University in England for two years. He was an instructor at Princeton University before joining the laboratory to study theoretical elemental particles. Bob has also been involved in the physics and design of limiters for TFTR, the PDX plasma "scoop" (a hybrid of limiters and divertors), and plasma edge experiments on PLT and PDX.

Research Staff members promoted since September include (foreground, left to right) Tom Holoman, now technician on S-1; Larry Grisham, research physicist, Neutral Beams; Stanley Kaye, staff research physicist, PDX Experimental Division; (background, left to right) Alan Janos, staff research physicist on S-1, Experimental Division; Charles Daughney, research physicist on lasers, Experimental Division; Randall Knize, staff research physicist, Applied Materials Physics; and John Schivell, lead engineer on diagnostics, Experimental Division.

Research Department members promoted but not pictured include Tim Bennett, now technician on Surface Diagnostics; Allen Boozer, principal research physicist, Theoretical Division; Liu Chen, principal research physicist, Theoretical Division; Sam Cohen, principal research physicist on surface diagnostics, Experimental Division; David Cylinder, technician, PLT and RF; Francis Egan, technician, Applied Data Analysis; Philip Efthimion , research physicist on PLT and PF, Experimental Division; Boris Grek, research physicist on lasers, Experimental Division; Daniel Heifetz, engineer, Applied Tokamak Modeling; Tom McBride, technician, PDX; Marijan Petravic, lead engineer, Applied Tokamak Modeling; Steven Styner, technician, PDX; and Randy Wilson, staff research physicist in ion cyclotron heating, Experimental Division.

TECHNOLOGY DEPARTMENT

CAROL SHERBET ——

Carol, who has been promoted to Manager of the TFTR Operations/Information Center, has been a PPL employee for nine years. Prior to this assignment, Carol was administrative assistant with several engineering design groups. Her current job requires that she develop and maintain information retrieval systems on TFTR components for rapid access when necessary.

Technology Department members promoted since September include (foreground, left to right) Joe Stevenson, now technician, Engineering Services-FOM; Gene Gassner, technician, Engineering Services; Charlie Beach, technical associate in electronics, Engineering Division; Bill Newman, lead engineer in high frequency RF, Engineering Division; (background, left to right) Jerome Siegel, technical associate in high frequency RF, Engineering Division; and Carl Szathmary, technical assistant in systems service, Engineering Division.

TECHNOLOGY DEPARTMENT (Cont.)

Also receiving Technology Department promotions were (foreground, left to right) Bill Pointon, technician, Motor Generator; Ray Pressburger Jr., technician, Motor Generator; Frank DiBella, technician, RF Services; Art Kolupanowich, technician, Systems Services; (background, left to right) Bob Groo, staff engineer, Mechanical Engineering Division; Janet Felt, DAS/CICADA operator, Operations Support; Harry Krotz, technician, Motor Generator; and Bill Zimmer, master machinist, Vacuum Section.

Other Technology Department promotions went to (foreground, left to right) Meryl Finkelstein, secretary, Engineering Dvision; Ray Helmich, staff engineer for coil development, FOM Division; (background, left to right)JohnDoane, lead engineer for analog engineering, Engineering Division; Irving Zatz, engineer, Thermomechanical Branch, Engineering Analysis Division; Jim Chu, associate engineer in user support, Computer Division; and Frank Dreher, associate engineer on rectifiers, FOM Division.

Also among the Technology Department employees promoted were (left) Walter Schwarz,technician on system engineering, Neutral Beam; and Nelson Bowen, lead engineer on high frequency RF, Engineering Division.

TECHNOLOGY DEPARTMENT (Cont.)

Technology Department members promoted but not pictured include Joe Bosco, senior engineer in hardware engineering, Computer Division; Graham Brown, senior engineer in materials testing, FOM Division; John Brown Jr., technician, Diagnostics Services; Dan Crook, technician, Vacuum Section; Mark Cropper, technician, Systems Engineering (Neutral Beam); Fred Dahlgren, lead engineer, Thermomechanical Branch, Engineering Division; Robert Daniels, managing engineer, Computer Division office; Bill Davis, engineer in TFTR diagnostics, Computer Division; Larry Dudek, engineer in cooling systems, FOM Division; Tim Ellis, technician, Vacuum Section; Hsi Feng, lead engineer in hardware engineering, Computer Division; Joe File, principal engineer on TFTR technical systems, FOM Division; David Gayley, technician, Vacuum Section; Tom Goodwin, layout draftsman, AC Power; Nevell Greenough, staff engineer in low frequency RF, Engineering Division; Aleksandar Ilic, project engineer for AC power, FOM Division; Paul Kan, layout draftsman, Energy Systems; Mike Kelly, technician, Neutral Beam Power; Frank Knorr, technician, Diagnostic Services; Joe Kolibal, engineer in radiation group, Engineering Analysis Division; Donald Lang, technician, Technical Support Group; John Lawson, principal engineer, Radio-Frequency Branch; Bob Majeski, technical associate in coil fabrication, FOM Division; Allen Martin, project engineer in low frequency RF, Engineering Division; Vince Mastrocola, technical associate in electro-optics, Engineering Division; Joann Matone, associate engineer in TFTR diagnostics, Computer Division; John McDade, project engineer on cooling systems, FOM Division; Graham O'Connor, project engineer in mechanical design, TFTR Technical Systems; John Opperman, technician, Rectifiers; Bill Orlando, draftsman, AC Power; Mike Pereira, staff engineer in coil development, FOM Division; Ben Prichard, principal engineer in beam division office, TFTR Technical Systems; Robert Raimond, technician, Technical Support Group; Paul Robertson Jr., technician in coil fabrication, FOM Division; George Sheffield, Head of Engineering Analysis Division; Engineering Div. Paul Sichta, associate engineer in hardware engineering, Computer Division; Charles Staloff, head of Engineering Division, Engineering Division; John Swatkowski, technician, Vacuum Section; Pasquale Terracciano , technician, Engineering Services; Stanley Troyano, mechanical engineer, Engineering Divsion; Andrew Vanisko, technician, Technology Department; Mike Viola, staff engineer in facility operations, TFTR Operations Division; Fred Wasylenko, technician, Motor Generator; and John Woolsey, technician, Coil Fabrication.

NEW HIRES

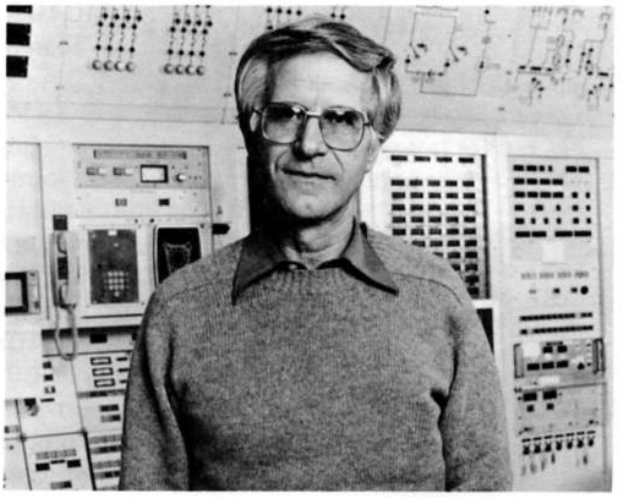
DON GROVE

Don was "loaned" to PPL from Westinghouse in 1954 to work with Lyman Spitzer for six months. His assignment was to design a fusion power plant, assuming all the problems in plasma physics were magically solved. He completed that study, but stayed to start an ultra-high vacuum laboratory here. Don then became physicist-in-charge of the C-Stellarator in late 1959, and supervised the machine's conversion to a tokamak in 1970. He served as manager of the design, fabrication, installation and initial operation of PLT, then was appointed Deputy Project Manager of the TFTR construction project.

Don officially joined PPL's ranks as Principal Research Physicist and TFTR Project Manager in November, making him a "new hire" after 29 years of service. Asked why it took so long to become a University employee, Don explained that "they gave me an (entrance) exam every year for 28 years, and I finally passed!"

STEVE SESNIC

Steve joined PPL in September as a principal research physicist in the diagnostics section of the Research/ Experimental Department .He had been at the laboratory since August 1981 as a visitor from the Max-Planck-Institut fur Plasmaphysik in Garching, West Germany, where he was involved with the ASDEX program. In his present post, Steve is working on the pulse height analysis diagnostic for PDX.



New Hires in the Administrative Department include William Allen, technician, Maintenance; Patricia Bergbauer, Information officer, Information Services; Robert Brown, technician, Emergency Services Unit; Thomas Clayton, technician, Emergency Services Unit; Wayne DeBlasio, technician, PM&O; Bruce Downs, technician, PM&O; John Glasson, technician, Emergency Services Unit; Dennis Graber, technician, PM&O; John Grabowski, technician, PM&O; Margaret Harmsen, head of Technical Information Section, Information Services; Connie Sue Kosakowski, accounting assistant, Accounting and Finance; Charles Kovach, technician, PM&O; Lee Lambert, technician, PM&O; Lance Meyers, technician, PM&O; Gregg Nielsen, senior programmer, MIS; Ronald Pullem, schedule planning analyst, Scheduling Group; Ange Raimo, senior reconciliation accountant, Accounting and Fiance; Darren Roslonski, material handler, Material Control; Jean Satkofsky, staff assistant, Material Control; Joseph Schoeneck Jr., technician, PM&O; and Joseph Varano, technician, PM&O.

New Hires in the Research Department include Emile DuBois, technician, PDX; and James Lehner, technician, PLT/PDX.

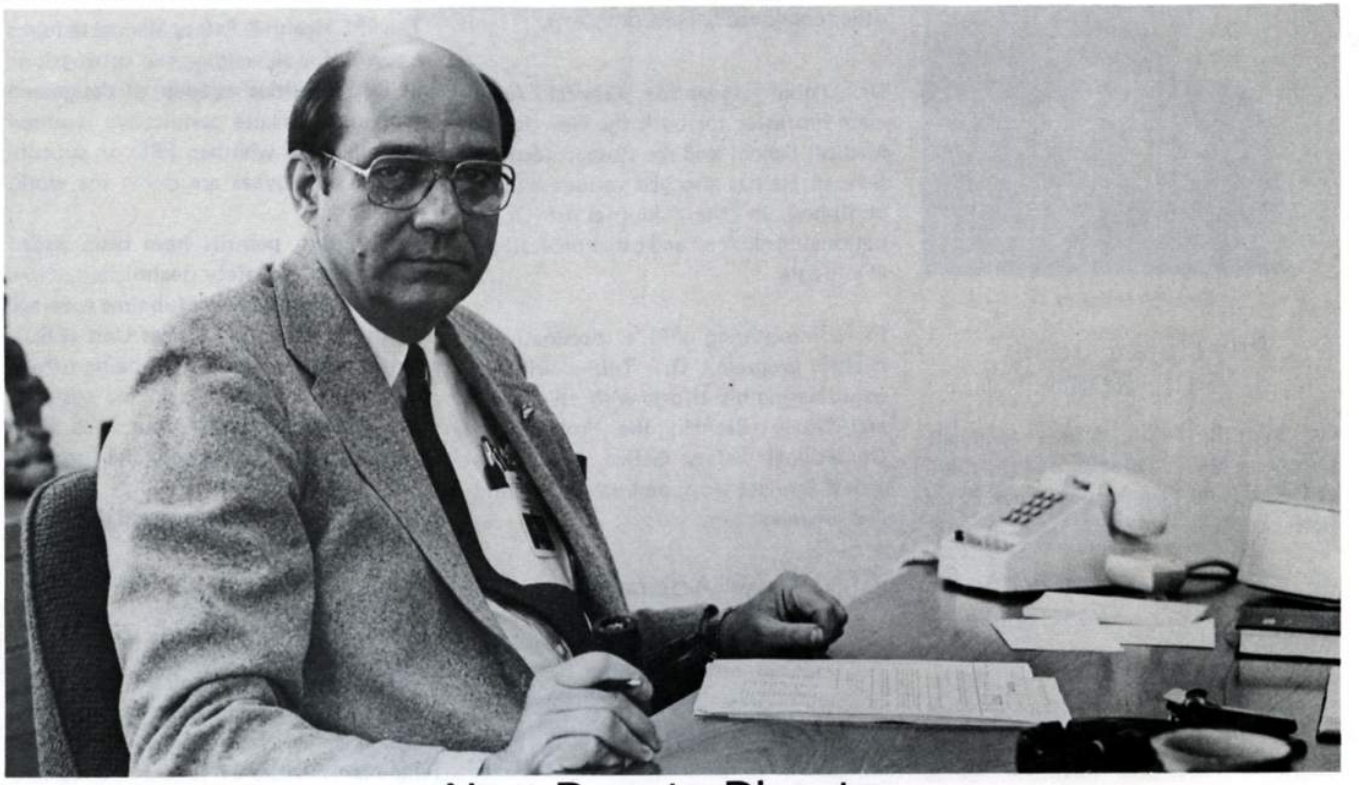
NEW HIRES (Cont.)

New Hires in the Technology Department include Thomas Albright, technician, Computer/CICADA; Ned Arnold, E&S staff, Computer/CICADA; Laurel Barnett, DAS operator, Computer/CICADA; John Belinski, technician, Vacuum Section; James Benchoff, technician, FOM/Engineering Services; Byron Benson, E&S staff, FOM/Vacuum; Joseph Bonfonti, technician, Engineering Services; Frank Bozoski, technician, Engineering Services; Kenneth Brink, technician, Vacuum Section; Lee Dalsgard, technician, Computer/CICADA; Mike Diesso, staff scientific applications programmer, Computer/CICADA; David Dunn, technician, Engineering Services; Steven Duritt, E&S staff, High Frequency RF; David Eder, staff research physicist, Theory; Daniel Eichhorn, technician, Diagnostic Services; Bill Edwards Jr., technician, Neutral Beam Power Engineering; Chris Fisher, technician, Diagnostics; Carolyn Foster, staff assistant, I&M Drafting; Richard Gargiulo, technician, Computer/CICADA; Jakov Gavruchenko, technician, Electronics/Engineering; Edward Gaydula, technician, Engineering Services; Thomas Gibney, associate scientific applications programmer, DAS-USC Applications; Stephen Habakus, assistant engineer, Neutral Beams; Gregor Havkin, staff engineer, Engineering Division; Paul Hurst, technician, Computer/CICADA; George Ioannid Ioannides, technical assistant, Mechanical Eng.; Walter Journey, scientific applications programmer, Computer/CICADA; David Kaufman, associate engineer, Analog Engineering; George Kovach, technician, Computer/CICADA; Thomas Locke, DAS operator, Computer/CICADA; Nancy Lee Muka, DAS operator, Computer/CICADA; Raj Mukherji, lead scientific applications programmer, Computer/CICADA; Susan Murphy, DAS operator, Computer/CICADA; Charles Neumeyer Jr., project engineer, Electrical Systems; Robert Parsells, project engineer, Mechanical Engineering; Lynn Quick, master instrument maker, Vacuum Section; Michael Reale, E&S staff, Electro-Optics; Sylvia Reissman, staff assistant, I&M Drafting; Delmar Reynolds, technician, MG Section; John Robinson, master instrument maker, Electro-Optics; Bonnie Lee Schwartz, staff assistant, Rectifier/Energy Systems; Lynne Shapiro, schedule budget administrator, FOM Division Office; Debra Simmonds, staff assistant, Energy Systems; Garry Stevens, technician, Engineering Services; Ronald Strykowsky, project engineer, Scheduling Group; John Swain, DAS operator, Computer/CICADA; Louise Tindall, staff assistant, AC Power Engineering; Brian VanLiew, technician, Computer/CICADA; Reginald Ware, associate engineer, AC Power; Jeffrey Wills, DAS operator, Computer/CICADA; Nicholas Womack, technician, Engineering Services; and Bill Reynolds, technician, MG Section.

HOTLINE

PRINCETON PLASMA PHYSICS LABORATORY

Vol. 4, No. 12 May 4, 1983



New Deputy Director

J. R. Thompson, former Associate Director for Engineering at NASA's Marshall Space Flight Center, became PPL's Deputy Director for Technical Operations on April 5.

Born in Greenville, South Carolina, Mr. Thompson received his B. S. in aerospace aeronautical engineering at Georgia Tech. He earned his M.S. in mechaniccal engineering at the University of Florida, and did advanced graduate work in fluid mechanics at the University of Alabama.

After his discharge from the Navy, Mr. Thompson worked on the development of the first liquid oxygen (LOX)/ hydrogen rocket engines for the Pratt-Whitney Aircraft Corporation. NASA "caught my eye" in 1963, and during the next 10 years he headed the engine system component design and performance analysis program for the Saturn 5 launch vehicle. He also managed astronaut interface activities for the Skylab space station, for which he received NASA's Medal for Exceptional Service in 1973.

In 1974, Mr. Thompson took over the management of the Space Shuttle main engine project. He was responsible for the design, development and production of the high-performance, reuseable LOX/ hydrogen rocket engines that powered Space Shuttle Columbia through five successful flights. His efforts earned him NASA's Medal for Distinguished Service.

While at NASA, Mr. Thompson also worked on the Space Telescope. He became Chief Engineer at Marshall Space Flight Center following Columbia's second launch.

He came to PPL because "fusion is something I have a lot of interest in. It's totally new, with high technology and big technical challenges. It may be a new field for me, but there are some principles...and engineering problems that are similar to those in aerospace. And I get the most fun out of solving difficult problems!"

Mr. Thompson's new responsibilities will include budget and schedule oversight on all present PPL projects, as well as concrete planning on future laboratory experimental projects.

Dr. John Tobin

Physician Joins PPL Staff

Dr. John S. Tobin, former Associate Corporate Medial Director of the American Cyanamid Company, became PPL's first medical director last month.

Dr. Tobin graduated from the Temple University School of Medicine and did his post-graduate work at the University of Michigan School of Public Health. He has been certified in occupational medicine by the American Board of Preventive Medicine. He is presently involved in organizing a draft medical program for laboratory employees, in accordance with a mandate from the Department of Energy.

"We'll be looking at whether people are physically able to do the work they were hired for," Dr. Tobin explained, "and ensure that they're not being adversely affected by their work. If there are adverse effects, we also want to discover them as soon as possible." He emphasized that he will not be replacing an employee's family physician.

Dr. Tobin is no stranger to company medical programs. In addition to his work with the General Motors Corporation and the International Harvester Company, he served as Health and Safety Director for the Agricultural Chemicals Group of the FMC Corporation from 1966 through 1975. He joined American Cyanamid in 1975, and was appointed Associate Corporate Medical Director there in 1977. He supervised the corporate headquarters medical clinics and plant medical programs for Cyanamid, and provided medical supervision to insurance and other employee benefit programs.

Dr. Tobin serves as Clinical Associate Professor for both the New Jersey Medical School and the Rutgers Medical School. He has also had various articles published in the "Journal of Occupational Medicine" and other professional journals.

In administering PPL's occupational health program, Dr. Tobin will be coordinating his efforts with the Health and Safety Branch, the Project and Operational Safety Office, the Emergency Services Unit, and other staff and line organizations.

New Address

Millie (Willerton) Lefler, a PPL employee who retired last year, now has a new mailing address. She asks all those who have been corresponding with her to send their letters to 13203 Prospect Drive, Sun City West, Arizona, 85375.

High-Powered Warning

Employees working around high voltage equipment may sometimes find a safety tag attached to the equipment, cages or bins. These tags are affixed for a purpose: to protect personnel involved with the equipment from any harm. When a tag is attached, the equipment becomes the responsibility of the person using the tag. Only that person may authorize the tag's removal and return to the Power Dispatcher.

Anyone finding a tag not attached to equipment should promptly inform either the Power Dispatcher at ext. 3080, or the person whose name appears on the tag.

Safety Note

PPL employees whose high voltage rubber insulating gloves have not been tested this year should contact the Health and Safety office to make arrangements for testing the gloves.

Fire Permits

The PPL Health & Safety Manual requires a permit for all welding and cutting done in PPL facilities outside of designated shop areas. These permits are required regardless of whether PPL or subcontractor employees are doing the work.

In the past, permits have been issued by Health & Safety technicians. Now that the laboratory has full time coverage by the Emergency Services Unit (ESU), the issuance of permits is being turned over to that group. As in the past, advanced notification of your need for a permit will help speed the process.

Permits should be requested from the ESU on ext. 3166.

Obituary

PPL employee John J. Hirthler, 43, died March 13 in Mercer Medical Center. John joined the laboratory as an electrical technician in November of 1965. During his 17 years of service, he worked his way up to the Senior Lab and Shop Staff. He handled a wide range of electrical work in the power and control areas of PPL's various projects. His leadership abilities were ably demonstrated by his supervision of the technicians who ultimately brought the first TFTR MG set into operation.

His concern for the welfare of his coworkers led to his involvement with PPL's fire brigade and heavy rescue squad. John was a former PPL fire chief, and was an asset in helping organize the brigade.

His value to the laboratory, both as an employee and as an individual, is well known to anyone who was associated with John. He will be missed.

Faces and Places

Helen Livernoche

The laboratory's work force swelled in March as six new employees joined PPL's ranks. Three employees received promotions and two more were transferred during the same period.

Helen Livernoche was promoted to staff assistant in Accounting; Marilyn Hondorp became head of NBI network operations, Facilities and Support; and Betty Cary was promoted to the administrative staff, PLT Experimental.

Mykola Dereka was transferred to master instrument maker, FOM Vacuum in March, and Harry Matousek was transferred to experimental machinist in the same department.

Among new hires in March were Nancy Atkins, technical secretary, Theory; Frank Beane, administrative staff, Technology; Elizabeth Hukill, E&S staff, CICADA Computer; Kurt Jaehnig, E&S staff, Spectroscopy; Tara Rogers, staff assistant, Director's Office; and John Tobin, occupational physician, Dispensary.

Congratulations to all!

"REAPS" Listing

The Department of Energy has instituted a new computerized system called REAPS (Reportable Excess Automated Property System). As a result, PPL now receives two large computer listings detailing excess property.

To ensure timely review by PPL personnel, one copy of the REAPS report will be available in the new book section of the C-Site library. The other will be kept in the Excess Property Office, Room 215, Building 1-E.

Copies of the Defense Property Disposal Listing will be distributed in the same manner.

Benefits Books Available

The Personnel Office has made the pamphlets "The Social Security Law -- More Money for You" and "What You Should Know About the New Tax-Saving IRA Accounts" available to laboratory employees. Anyone interested in either pamphlet should send their request to Mary Bersch, 209 Sayre Hall.

Locker Changes

Due to the sizeable increase in the use of limited locker facilities throughout the laboratory, it has become necessary to terminate all permanent locker assignments. All lockers, including those in Room S116 and A112 will now be available for daily use only; no overnight locks will be allowed.

The lockers and locker rooms will be cleaned each Friday afternoon. Any articles found in the rooms or lockers will be deposited in Module 1, Room M127.

At present, space limitations preclude adding additional lockers within the existing rooms. Employees with ideas on how to expand or improve C-Site locker and shower facilities are urged to contact Bob Smart with their suggestions.

Parking Warning

Please do not drive or park on the grass anywhere on the Forrestal campus unless authorized to do so by Security. The ground is too saturated with mositure to support a vehicle. Employee cooperation will be appreciated.

Holiday Calendar

Although the names have been changed, employees will have the same number of days off under the new University holiday calendar.

Since New Year's Day falls on a weekend in the 1983-84 fiscal year (which begins in October), one of the two designated holidays usually given at that time has been eliminated. An additional optional holiday has been substituted in its place, keeping the total number of holidays equal to this year's calendar.

Four-day weekends have been built around Thanksgiving and Christmas, with November 24 and 25, and December 23 and 26 scheduled as designated days off. The remainder of the holiday calendar includes laboratory closings on July 4, September 5, December 30 and May 28.

Personnel Notes

A co-ed aerobics class is being planned for PPL employees. Definite hours have not yet been established, but classes may be held during lunch hours. Those interested should contact Meg Gilbert at ext. 2036.

* *

Personnel Services is again offering discount tickets for Great Adventure's 1983 season. The tickets are available from Meg Gilbert Sayre Hall, B-Site.

PPL Open House

Do your neighbors or friends ever ask, "Tell me again -- what do they use those tomahawks . . . er . . . I mean tokamaks for?"

If the answer to this question is "yes," recommend that they attend one of PPL's newly instituted monthly Open Houses. The program includes a presentation, a question and answer period, and a tour of TFTR.

The next Open House will be held on Monday, May 23 at 7:30 p.m. Advance reservations are required, and may be made by calling Pat Stephens, ext. 2750. Pass the word along to your friends and neighbors.

TFTR Parking

Prior to first plasma, the construction parking lot at TFTR was restricted to construction personnel only. Since that time, the number of construction personnel has decreased, making it possible for PPL personnel to utilize the lot.

PPL employees may park in the construction lot if their vehicles bear a valid Forrestal parking decal. However, laboratory personnel are NOT permitted to park in the area between 6 and 9 a.m. daily. Regulatory parking signs have been posted at all entrances to the lot.

Jogger Safety

While their enthusiasm for health and fitness is commendable, joggers can present a safety problem on PPL roads. When joggers run down the center or the road, or jog in groups of two or three stretched across the roadway, it becomes difficult for vehicles to maintain a normal traffic flow. The danger increases when a large vehicle (like a PPL shuttle) is following a driver, unable to pass yet blocking the runner from the view of drivers attempting to pass the larger vehicle.

In order to prevent an accident, joggers are being asked to run in single file facing oncoming traffice. The security graurds have been asked to see that this request is followed.

The Health and Safety staff applauds your attempts at fitness -- and wants to see you stay healthy enough to run.

PPL Softball

It's not too late to join the PPL Intramural Softball League! Teams compete each Wednesday from 5 to 9 p.m. on the softball fields behind the C-Site parking lot.

At least 10 members are required for each team playing in the league. Team members should be from the same department or division; however, departments and divisions may be combined if a team is short a few players. A roster of team members, designating the team captain, should be sent to Ed Bush, Building 8-1, B-Site as soon as possible.

For more information about the league, call Ed at ext. 3309; Frank Wasiowicz at ext. 3572; or Ralph Izzo at ext. 2291.

Contact Caution

A shipyard worker was wearing safety glasses over his contact lenses when he opened a 440-volt box to connect a welding cable. When the circuit breaker was opened, the breaker arced and a flash occurred. When he later tried to take out his contact lenses, large areas of dried cornea came off his eyes with them. Doctors were unable to save his sight; the contact lenses had concentrated the heat of the arc flash onto the cornea of the eye.

Contact lenses should not be worn, even under safety spectacles, in areas where flashes could occur.

Safety News

Faulty telephone line transformers, installed by the telephone company to power dial lights on some phones, could become a fire hazard. The transformers are small, box-shaped units manufactured by AULT, Inc. for Western Electric.

Consumers should check all electrical outlets for the units, which can be identified by information printed on the transformer casing. If you discover a suspect unit, contact the telephone repair service immediately for free replacement of the transformer.

* *

A recall of 11,500 electric motors, housed in attic ventillators sold by Sears Roebuck & Co., is being conducted by the Consumer Product Safety Commission and Emerson Electric Co., the motors' manufacturer.

The motors on the $70 roof mounted ventillators may potentially set the roof on fire. The ventillators, which were sold through Sears stores and catalogues in 1980 and 1981, have a light gray molded polyvinyl hood and an identification plate on the motor. The model number for the units involved in the recall is 758.648360.

The Emerson Electric Co. is arranging for servicemen to replace the motor on recalled units free of charge. For more details on the recall, contact the Commission at 1-(800)-638-8326 or 1-(800)-325-4130.

Benefits Handbook

A new PPL Employee Benefits Handbook is available to all employees. If you would like a copy, please stop by the Personnel Office, Sayre Hall, Room 215 and pick one up.

ESU

What makes someone run into a burning building when everyone else is running out? What allows someone to aid a maimed person without panicking into inaction? It's a concern for others, a concern shared by every member of PPL's Emergency Services Unit (ESU).

The ESU provides fire protection and emergency medical care to the Forrestal campus. The unit is currently seeking volunteers to staff both the fire brigade and medical services unit.

If you have previous firefighting, first aid or rescue skills, or are willing to learn these skills, then the ESU needs you. Training in all aspects of firefighting, as well as first aid and rescue, is provided by the unit. As a member of the ESU, you can learn valuable skills while providing a meaningful service to the laboratory.

If you are willing to show your concern for others, please contact Jack Anderson at Emergency Services Headquarters, ext. 3166.

Liason Needed

The Princeton University League is seeking a person to act as liaison between the League and the Professional Job Roster. The job would require some participation at meetings. Those interested should contact Alessandra Mazzucato at 924-8275 for more information.

Social Relocates

The Wine and Cheese Social, which formerly met monthly in Fine Hall tower, is now meeting for happy hour at Prospect House on Wednesdays.

Prospect House features piano music, an inexpensive bar, complimentary hors d'oeuvers, and a beautiful setting for socializing. PPL employees attending the social should park in Area 5 on Washington Road, then follow the yellow flyers to Prospect House.

For further information about the Wine and Cheese Social, call ext. 4097.

Van Pool

Save money! Join PPL's only van pool, commuting from the Mount Holly area via Florence, Bordentown and points north. Contact Gene Colburn at ext. 3683 or Len Thomas at ext. 2052 for further information.

Thank-Yous

PPL United Way campaign coordinator Len Thomas expressed his thanks to the 45 employees who served as area organizers in this year's fund drive. "Because of special folks like these," he pointed out, "others can better help themselves. Without their help, it couldn't have worked; thanks to them, it does!"

Area organizers include John Anastasio, Suzen Bayer, Sherry Berson, Joyce Bitzer, Michael Brooks, Elizabeth Carey, Betty Cary, Larry Corl, Judy Duffy, Lee Ellingham, Leigh Ann Fares, Elsie Ferreras, Meryl Finkelstein, Mel Gensamer, Betty Graydon, Trudie Grenier, Kathy Haney, Linda Harmon, Jean Hurley, Steve Iverson, Leon Jackson, Betty Klank, Joyce Lawton, Joe Malinowski, Ann McKee, Pat Melsky, Hank Moreau, Barbara Nini, Ann O'Day, Mike Pereira, Helen Pesce, Bill Pointon, Helen Quinn, Ange Raimo, Barbara Sarfaty, Greg Schmidt, Carol Sherbert, Roland Snead, Grace Taliaferro, Gregg Tompkins, Marilee Thompson, Bill Walker, Jerry Williams, Roseann Wurst and Pat Zeedy.

Outdoor Volleyball

Volleyball started April 26 and will be played each Tuesday and Thursday until late fall. The action starts at 5 p.m. and continues until it gets dark. Both experienced players and beginners are welcome.

The volleyball nets are located in the large field by the air strip, where the annual picnic is held.

For additional information, call Tim Bennett at ext. 2574, Anne Golden on ext. 2444 or George Cutsogeorge at ext. 2119.

C.U. Share Drafts

Share draft accounts are now available through the Princeton University Employees' Federal Credit Union. Similar to checking accounts offered through banks, share drafts can be used as you would use checks. However, a share draft account also pays monthly dividends on the account balance.

A minimum balance of $400 is required for a share draft account. While the first ten checks written on the account each month are free, there is a 10 cent charge for each additional check each month. The current dividend rate on share draft accounts is 6%.

The credit union has also lowered the interest rate on all loan categories to levels equal or lower than those offered by other lenders. For more information on share draft accounts, or on the new loan rates, call the credit union at 452-5038.

Summer Sports Camps

If you're looking for a place to sharpen your youngster's sports skills, chances are the University has a summer sports camp for you.

Camps have been established for baseball, squash, swimming, lacrosse, tennis, women's field hockey and women's soccer. Adult 'camp' sessions have also been scheduled in tennis and squash.

For further information on any camp session, contact Cindy Horr at the University's Center for Visitors and Conference Services.

Relocated

Personnel benefit counselor Eleanor Schmitt's Tuesday morning 'office hours' have remained the same -- but her office hasn't. Eleanor, who is available from 9 a.m. to noon each Tuesday to answer benefits questions, can now be found in the computer conference room, Room A117, first floor of the Administration Wing in C-Site.

Volunteers: People People

The following volunteer listing was provided by the Voluntary Action Center for Somerset County. For further information, contact the VAC at (201) 560-9380.

Volunteer as a Pal-for-a-Day at the Special Olympics, to be held April 30 at Bridgewater-Raritan High School West's athletic field. This one-day event allows various handicapped individuals to come together for athletic competition.

Serve from 7:30 a.m. to 3 p.m. matched one-on-one with an athlete, helping him get to the right event at the right time. Volunteers should attend one of the orientation sessions, scheduled at 4 and 7 p.m. in the Bridgewater-Raritan High School West auditorium April 27. Join in the fun of this 'special' day!

ppl people

Tinkering for Fun and Profit

The beautiful result of Don's meticulous restoration.

Imagine working long tedious hours for days on end, concentrating on the complexities involved in building the world's most advanced fusion test reactor. When you finally have some free time, what would you do to relax? Well, three men from the laboratory go home and work on another "machine". In each case the "machine" is the engine of a classic older model car, each lovingly restored by men who just can't stop "tinkering".

●

Recently laboratory employees viewed the video film of first plasma. On it, they saw a jubilant Don Grove, jumping for joy and giving a great hurrah! If you think he was happy then, just ask him about his 1967 365 California Ferrari and you'll see real elation. The car, one of only 14 ever made, was bought initially for 10K. Thanks to a lot of tender loving care, it's now a mint condition collectors' item worth nearly ten times that amount.

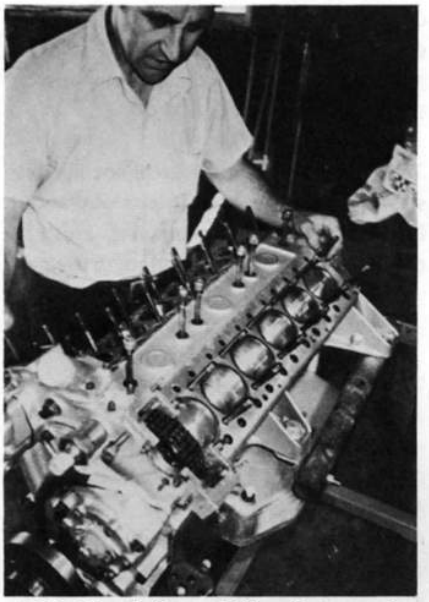
Don bought his Ferrari in 1971, using it for seven years as his everyday car. At that point, the car was beginning to show its age.

"I started out just intending to do a few necessary repairs," Don admits, "but I ended up making the decision to go for it and restore it totally. "With the help of a dedicated craftsman at Motor Car Company in Cranbury, Don worked for the next year and a half to produce the Ferrari racing red gem that is clearly his pride and joy. "The fellow at Motor Car did the cosmetics and I worked on the engine, " he points out.

He and his wife then began painstakingly refinishing the Ferrari's white leather interior in their basement. They used a process known as the Clauson technique, which is similar to the process used in refinishing furniture. Stripping it down to its bare finish, cracks in the leather are filled in by applying many thin layers of wax. The technique also restores the suppleness of the leather. "It's beautiful now, brand new, soft, not a crack in it," beams Don.

When asked if his wife gets to drive the Ferrari since she helped with the restoration, Don says slowly "Well . . . . she doesn't particularly like to drive it. It's not really easy to drive."

With the road conditions being what they are and the Ferrari being a substantial investment, Don no longer uses it for his everyday car. If you want to see the car in action, you'll have to catch it on its Sunday afternoon drive.



Milt's Classic Ferrari 12 cylinder engine is now in A-1 shape.

Milt Machalek is an old hand at car restoration. His first effort involved rebuilding the engine and automatic transmission of a 1957 Jaguar sedan. Next came the total restoration of a 1966 Volvo P-1800. "I did everything on that car," Milt recalled, "engine, paint job, interior, carpeting, upholstery — the works. When I had the car in absolute mint condition, I sold it for about a thousand dollars more than I orginally paid for it and put a down payment on a worn out, tired Ferrari."

After seeing a picture of a 1965 Ferrari 330GT 2+2, Milt bought the car from a man in Chicago. This car has the classic 12 cylinder (V12) Ferrari engine. "In 25 years only about 10,000 12 cylinder engines were ever made," Milt enthused. "This is the engine that won all the Grand Prix races back in the 50's and 60's. In fact, the engine design is what I really love most. It's simple, elegant and combines all the best features of engine design. There is nothing exotic about it, the engineering practices are simply very good. It's an exceptionally smooth and and exceptionally powerful engine. Even in street trim this car has a top speed of over 150 mph. The engine is 4 liters (242 cubic inches) and can deliver over 300 horsepower." Milt has been working on the engine for about two years. Although presently the engine is still on a stand in his garage, "it's now in A-1 shape, back up to all the original specifications, and ready to be put back into the car."

Finding parts for an older Ferrari can be an adventure unto itself. Milt belongs to both the Ferrari Owners Club and the Ferrari Club of America and subscribes to the bi-weekly Ferrari Market Letter. The network of Ferrari enthusiasts is helpful in providing leads on where a part can be found, since cars and some parts are becoming so rare you can't buy them anymore. It has become a trader's market, and unless you've got something that someone else wants, you can wait a long time for a part.

At times the search for parts can sound like a 'round the world trip. Milt has had to rely on a custom piston manufacturer in California to have 12 specially designed pistons made. A two year search for a bumper ended recently in Italy. Ferrari built only engine and chassis, which were then sent to a "Carrozerria" or coach works, where the bodies were contructed around them. Pinninfarina (the famous Italian coachworks that designed and built the body for Milt's car) had one copy of the exact bumper Milt was looking for. After a combination of international manuvers through banks, shipping lines and agents, the bumper recently arrived at the shipyards in Philadelphia.

When the car is finished Milt plans to drive it everyday. "This one I'm definitely going to keep and use."

Milt gets some expert help from his son Tom.

Charlie poses proudly with is 1957 T-Bird Classic.

Although he's always been a car buff, Charlie Ancher got into car restoration for a slightly different reason than Don and Milt. As he tells, it, his wife always admired those "cute little" Thunderbirds. As a result of a casual remark over lunch, Charlie learned such a car was available at McCafferty Ford in Trenton. It was love at first sight for Mrs. Ancher and after she got behind the wheel, Charlie never stood a chance. They have been the proud owners of a 1957 Ford T-Bird Classic ever since.

The car really was the "cat's meow" in its day, boasting power steering and brakes, electric windows and seats, and a signal-seeking AM radio as original features. Although the T-Bird has a hard top, it can be lifted off and switched to a soft convertible top. Under the hood is a 292 cubic inch engine with a 4-barrel holley carburetor.

For the past fourteen years, the sporty little auto has been driven to work by one Ancher or the other. On the weekends Charlie has tinkered and pampered with both the car's engine and the cosmetic body restoration.

Charlie belongs to the Classic Thunderbird Club International, and finds membership in the club a big help when working on engine problems. "There is a "car es Pondence Clinic" column in the club's bimonthly publication The Early Birds, that you can write to with any question," he says. "I've found that particularly helpful at times; I actually received a four page letter in answer to one of my question!"

There are also several excellent car restoration dealers he's found out about in California. "Via catalogues, you just call a toll free number, tell them the part you need, give them your Visa card number and it's in the mail," he explains.

When he first bought the car, it had so many layers of paint on it that Charlie had to have it stripped down to the bare metal. Over the past fourteen years, the car has been bronze, white, then bright red. It's currently soft yellow with a white top, and is destined to be persimmon in the future. Charlie smiles alot when he talks about that car.

The PPL Hotline is issued by the Princeton University Plasma Physics Laboratory, a research facility supported by the U. S. Department of Energy. Correspondence should be directed to PPL Information Services, Module 2, C-Site, James Forrestal Campus, ext. 2754.

HOTLINE

PRINCETON PLASMA PHYSICS LABORATORY

Vol. 4, No. 13 June 3, 1983

TFTR DEDICATION

May 5, 1983

The May 5 TFTR Dedication turned into a double-decker celebration, with festivities held throughout the day on laboratory grounds and at the University's main campus.

In the morning, approximately 400 guests representing government, industry, and national and foreign laboratories attended a ribbon-cutting in the TFTR Test Cell. Prior to the event, attendees heard several speakers laud the success of PPL's projects in general (and TFTR in specific) in ceremonies in the decorated Mock-Up Building.

Secretary of Energy Donald P. Hodel read a letter from President Reagan, in which the President cited the laboratory's "truely historic program" and its "pioneering work," conducted in the "spirit of inquiry" and farsighted planning that are "the hallmark of a society with vision." He added that TFTR's "notable achievement" was an important step toward "opening the door to a new world of progress for all mankind."

A congratulatory letter received from Governor Thomas Kean was read by Princeton University President William G. Bowen. Governor Kean applauded "this impressive scientific and technological achievement," adding that "New Jersey takes special pride in the laboratory's other continuing programs. To the staff of PPL, I want to convey my best wishes for success. I am confident that you will continue to provide the imaginative leadership so essential to the timely development of this important and tremendously exciting field.'

Secretary Hodel told the audience that "one doesn't have to be a scientist to appreciate the importance of this program or this project." He expressed his confidence that the nation "has the will to maintain the core commitment to maintaining basic research and development that is essential to keep us in the forefront of these kinds of activities."

Presidential Science Advisor George Keyworth noted that "TFTR began as part of another administration's science policy, but we too recognize a good thing when we see it, and we're making sure it doesn't falter." He concluded by saying, "I take comfort from this fusion program, which steadfastly maintains an eye on its ultimate objectives. I for one salute your enthusiasm to make science and technology work for the good of all."

President Bowen, DOE Office of Energy Research Director Alvin W. Trivelpiece and Keyworth then joined other guests in watching Secretary Hodel and laboratory Director Harold P. Furth cut a ribbon on TFTR. The ribbon-cutting marks the beginning of the first phase of TFTR experimentation.

During the celebration held later that afternoon in Jadwin Gym, Dr. Furth told his audience that "what (our guests) saw in the Test Cell was really not the important part. We all know that what is in the Test Cell is only the egg, and the chicken is right here." President Bowen praised "the capacity of so

many people, not only to work so hard, but to work so well together. It is a remarkable accomplishment...and it is to the members of the staff at PPL who have worked so hard that congratulations are really due."

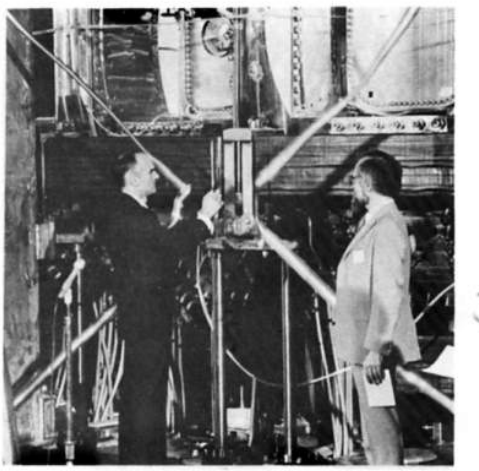
Dr. Bowen then told the assembled crowd that TFTR's success is due "especially to the determination, good spirit and dedication of all the individual people who have breathed life into this project. What has been done to date is simply prelude. We have to be able to continue to count on the kind of dedication, willingness to make the extra effort, skill and intelligence that have marked your contributions to this project from its inception."

The PPL staff received additional congratulations from John F. Clarke, DOE Associate Director for Fusion Energy, Office of Energy Research. Clarke told his listeners that "people who attempt to work on a project like TFTR are doing more than an ordinary job. They may work with ordinary things, but they have to put those things together in a way that has never before been attempted. It isn't ordinary people who can do this; it takes people with a very rare combination of faith, hope and dedication to do a project like this."

Kudos also came from DOE's Manager of Chicago Operations Robert H. Bauer. "The real pleasure today," he said, "is this opportunity to share the excitement and the fulfillment of this historic event with the people who actually made it happen: the dedicated men and women of PPL, their families, the cotractors and the subcontractors who shared in this task. In a very real sense, this is your day."

Then, in what Dr. Furth characterized as the "most formal and sacred" segment of the day-long celebration, the second eye of PPL's daruma doll was completed. Professor Taksuoki Miyajima, chairman of the Nuclear Fusion Council and president of the Institute of Physical and Chemical Research, inked in the eye as Dr. Furth looked on.

PPL received the daruma doll from the Japan Atomic Energy Research Institute (JAERI) during the 1977 groundbreaking for TFTR. The doll is traditionally presented with one eye left blank at the start of a great undertaking. The second eye is completed when the project reaches fruition.



NBI NETWORK

Operator Chris Ritter demonstarates the capabilities of the NBI network. The system has helped centralize PPL's word processing operation.

Prior to 1980, PPL's word processing capability was centered in a Xerox 850 system run by two operators. But PPL has now centralized its expanded word processing system via the NBI shared resource network, incorporating trained operators and satellite stations throughout the laboratory.

Marilyn Hondorp, Head of NBI Network Operations for PPL, explained that upgrading of the system has allowed installation of satellite stations in TFTR Operations, Applied Physics and the Theoretical Division. "The NBI OASys 64 uses a fixed disk with a memory capability of 60 megabytes (mb) and 16 ports. An additional 120 mb of memory and eight more ports were recently approved, which will allow the installation of satellite stations in the Director's Office, Plant Maintenance and the Experimental Division."

The satellite stations serve as an adjunct to the Word Processing Center, located in Module 2 at C-Site. The Center's two full-time operators regularly churn out thousands of pages of work monthly; in April the Center completed a record 3,066½ pages.

Most Center users submit articles destined for journals or PPL reports for composition, although the Center does create memos, charts and mailing lists for the Administrative Division, Plant Maintenance and Personnel. The system is also fully loaded with communications, records processing, equations, and system archiving software programs. Spelling verification and stat/math programs are being planned for the near future.

Ms. Hondorp emphasized that the Word Processing Center is an on-site service group. Any department can prepare material for submission to the Center on a first-come, first-served basis, although rush service is available in emergency situations. There is no charge-back for work done in the Center.

Word processing stations are established on the recommendation of the laboratory's Word Processing Committee. Departments interested in obtaining satellite stations must provide justification to the committee, which examines the compatibility of the desired system with existing equipment. Once a station is approved by the Committee and the DOE, prospective operators can be trained at NBI's facilities in Paramus, or in a one-week in-house training course conducted by Marilyn. At present, there are 10 satellite operators trained on NBI equipment.

Future plans for the NBI Network include increasing its current ability to send information to and from the PPL Computer Net, and from PPL's NBI equipment to NBI equipment at other facilities. Installation of stations in Buildings 1-0, 1-P, 1-A and 1-E are also in the offing, building toward total communication from one site to another.

Anyone interested in seeing the capabilities of the NBI system can attend a demonstration in the Word Processing Center, available by appointment only. Appointments can be scheduled by calling Ms. Hondorp at ext. 2662.

For more information about word processing, contact Marilyn Hondorp or Technical Information and Printing Services Head, Meg Harmsen.

ID BADGE RULES

Employees who forget or misplace their regular access/identification badges may obtain employee temporary badges at any time from the C-Site Security Desk. Temporary badges are issued to employees on a daily basis ONLY and must be returned daily. Individuals requiring badges for more than one day at a time should come to the Security Office at the Chemical Sciences Building, B-Site for a permanent badge.

ALL visitors must obtain a Visitors Pass from the C-Site receptionist during working hours, or from the C-Site Security Desk after working hours, on weekends and holidays.

Questions regarding the temporary badge policy should be directed to the Forrestal Security office, ext. 2894.

SUMMER JOBS LOTTERY

This year, PPL has resorted to the lottery system to fill approximately 100 summer jobs open throughout the laboratory.

According to Human Resources Manager Len Thomas, 157 applications were received by the summer youth employment program from individuals whose parents work at PPL. Princeton University students on financial aid received first preference for the available positions, followed by college students with technical abilities in fields such as computer science, physics or engineering. Non-technical college students and high school students rounded out the priority list.

Numbers were assigned to each eligible applicant prior to the lottery. John Anastasio, Leon Jackson and Marilee Thompson of the Employee Representatives Committee (ERC) selected names in consecutive order during the lottery. Positions will be offered to applicants based on the order in which their names were chosen.

A group of technical summer positions are available, but these jobs will be filled based on skill qualifications, not on the lottery system. Thomas added that a number of applications were received from individuals with no ties to PPL. These applications were not included in the job lottery selection process.

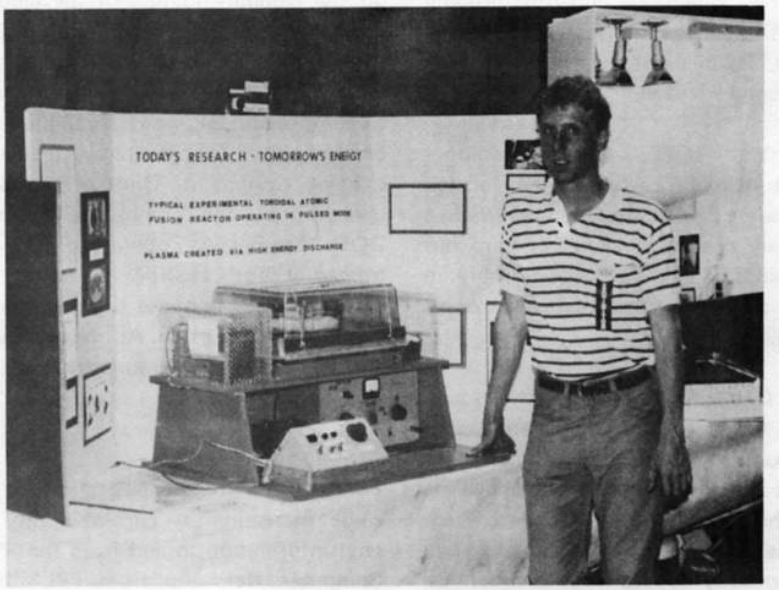
Thomas said he expected all positions to be filled by mid-May.

ERC members John Anastasio (left), Leon Jackson (center) and Marilee Thompson begin the selection process in PPL's summer hire lottery. The numbers they selected determined the order in which summer jobs were offered to applicants.

PRIZEWINNING PMT

The world's smallest magnetic fusion confinement experiment, the Princeton Micro-Torus, achieved 'first plasma' at the National Energy Foundation's recent Student Exposition and Energy Resources (SEER) fair in the Morristown Armory. It also achieved a plasma physics award for its builder, Delbarton High School senior John Bradish of Bernardsville.

John, the son of PPL Computer Division engineer John Bradish, constructed the microtorus with a major diameter of six inches and a minor diameter of 1.2 inches. The model employs a circular flourescent tube as a vacuum vessel, and can produce a .001 kiloamp current for 1.2 milliseconds in its low temperature mercury vapor 'plasma'. Activated by automatic firing controls and monitored by a LED countdown timer, it also boasts a 1,000 volt capacitor bank and 10 turns of eight-gauge wire to provide primary ohmic heating.



John Bradish poses with his creation, the Princeton Micro-Torus. The project won John an award at the recent SEER science fair in Morristown.

The SEER program provides secondary school students with the opportunity to construct projects demonstrating new energy sources, or new ways to obtain and use energy.

PATENTS

PPL now has a Patent Awareness Program as well as a Committee on Inventions, to increase the patent awareness of laboratory staff. Five invention disclosures have been filed with the committee since the beginning of FY83:

- Method of Winding High-Field Double-Pancake Superconducting Coils, by P. Materna
- Gaseous Divertor, by F. Tenney, W.L. Hsu and M. Yamada
- High Rejection-Ratio Differential Amplifier, by S. Yoshikawa
- Hexagon Tap Driver, by R. Silvester
- Neutron Band-Pass Filter for Fusion Diagnostics, by T. Elevant and L. Samuelson

For further information about the committee or the program, contact committee secretary Nancy Jones at ext. 2858.

CORRECTION

A story printed in the last issue of HOTLINE described the blinding of a shipyard worker wearing contact lenses. An electric arc flash supposedly bonded the lenses to the corneas of his eyes, costing him his sight.

Follow-up investigations of the reported incident revealed that the accident never happened. Officials of the National Society to Prevent Blindness have labeled the story "totally impossible".

Ray Jeanes of the Health and Safety Branch pointed out that while the accident report may have been false, contact lenses should not be worn while working in any PPL shop or laboratory.

TOUR THANK -YOUS

Neither the January blizzard, the February rains, nor the March winds kept visitors from PPL's door. One hundred thirty-three guides conducted 98 tours and a record total of 2,210 visitors through the laboratory during that period. March led the totals with 51 tours, 1,343 visitors, and 134 aching feet belonging to 67 tour guides! To all of our guides who almost never say "no," we extend a sincere thank you.

JANUARY

Halsey Allen
Suzen Bayer
Peter Beiersdorfer
Patricia Bergbauer
William Blanchard
Allen Boozer
Charlie Bushnell
J. W. Clark
James DeLucia
Anthony DeMeo
Ernst deHaas
Fred Dylla
Melvin Gottlieb
Naren Kokatnur
George Loesser
Dennis Manos
George Martin
Don Monticello
Richard Palladino
Mike Pereira
Gary Oliaro
Alan Ramsey
Phyllis Roney
H. Rosenbroek
Greg Schmidt
Marilee Thompson
Fred Tenney
Mike Ulrickson
Al von Halle
S. von Goeler
Masaaki Yamada

FEBRUARY

Suzen Bayer
Paul Bellomo
Patricia Bergbauer
James Bialek
Norton Bretz
Robert Budny
Sal Cavalluzo
Ernst deHaas
Fred Dylla
Robert Fleming
Stuart Foote
Larry Grisham
Gary Hay
Daniel Huttar
Richard Jensen
Harold Johnson
Naren Kokatnur
Robert Krawchuk
Robert Kress
John Lovberg
Milt Machalek
Dennis Manos
Lorand Meray
Don Monticello
Holt Murray
Robert Papsco
Mike Pereira
Frank Petree
John Schivell
Paul Snook
Fred Tenney
Felix Ullrich
Mike Viola
Al von Halle
Howard Zuvers

MARCH

Suzen Bayer
Michael Bell
Patricia Bergbauer
Jim Bialek
Fred Boody
John Bradish
Norton Bretz
Robert Budny
Charlie Bushnell
Sal Cavalluzo
Joe Cecchi
Sam Cohen
John Coonrod
Joe Csenteri
Ernst deHaas
Frank Dreher
Fred Dylla
John Edwards
Robert Fleming
Stuart Foote
Sam Goldfarb
Melvin Gottlieb
Boris Grek
Richard Hawryluk
Donald Hay
Phil Heitzenroeder
Ralph Izzo
Alan Janos
Harold Johnson
Fred Kloiber
Naren Kokatnur
Ed Lawson
Jerry Levine
Doug Loesser
J. Manickam
Dennis Manos
George Martin
Peter Materna
Robert Mills
Harold Murphy
Donald McNeill
Gary Oliaro
Richard Palladino
Mike Pereira
Robert Pinsker
Doug Post
Alan Ramsey
Phillis Roney
Greg Rewoldt
Eric Salberta
Greg Schmidt
Jim Sinnis
Ralph Smith
Larry Stewart
Wolfgang Stodiek
Conrad Stout
Szymon Suckewer
Fred Tenney
Marilee Thompson
Phil Thompson
Felix Ullrich
Mike Ulrickson
Al von Halle
Fred Wysocki
Ken Young
Irving Zatz
Howard Zuvers

JEAN HENDERSON

Jean was recently appointed Customer Service Representative for the Material Control Branch. Jean, who has been with PPL for 23 years, will assume her new duties on June 6.

According to Material Control Branch Assistant Manger Chris Gillars, Jean's responsibilities will fill the void left by the now-defunct Stockroom Users' Committee. "This will be a new way for us to get feedback," he explained. "Jean will basically be a problem-solver, providing one-on-one service to our customers and a channel for customer inquiries and problems."

As a first step in that direction, Jean will begin making visits to various areas throughout the laboratory in June. The visits are expected to highlight areas where Material Control can help improve its service level to the PPL community.

When material is needed on an emergency basis, Jean can help expedite the request. Jean will be able to make open orders for out-of-stock or emergency items, as well as responding to telephone inquiries and requests for aid. She will also be responsible for administering PPL's safety shoe program.

Jean can be reached at Building 1-E, Room 201, ext. 3576.

ABSENCE POLICY

Over the past several months, the Personnel Department has been continuously informing employees of the various components that make up the University's benefit program. The following outline describes the sporadic sick and absence for compelling reasons policy for non-exempt employees.

The Laboratory recognizes that employees may have urgent reasons for requiring short or long term absences from their jobs. When the circumstances are appropriate, employees can be authorized to have either an Excused Absence or a Leave of Absence, whichever is applicable to the situation. Employees will continue to accumulate service time for all authorized absences and leaves of absence, provided they return to work.

Non-exempt (bi-weekly) employees are permitted to receive pay for time lost due to sporadic personal illness ("sick days") not to exceed eight days for each fiscal year, October 1 to September 30. Employees hired between October 1 and March 30 will be allowed up to eight sporadic sick days; those hired between April 1 and September 30 will be allowed four days for the year. Probationary employees will be allowed up to two sporadic sick days during the probationary period.

Sporadic absence days may be taken by the employee for personal illness, injury, accidents, or for a personal doctor or dentist appointment only. Employees are responsible for notifying their supervisor, by telephone or other means, if prevented from reporting to work because of illness, injury, or other reasons.

If a scheduled holiday occurs during a day of sporadic absence, the day will be charged as a holiday. If an illness occurs during an employee's scheduled vacation, the absence will normally be charged to vacation and not to sporadic absence.

Unused sporadic absence days may not be compensated for nor carried over to the next year's allotment. Additional days beyond those defined within this section may not be granted with pay and will be charged to leave without pay. However, with supervisory approval, such time may be charged to vacation or optional holidays.

Absences which result in temporary disability or workers' compensation leaves of absence will not be charged as sporadic sick days.

The Laboratory also recognizes that non-exempt employees may need time off for reasons other than those provided for in leaves of absence and other specified excused absences. In order to provide time off with pay for compelling and essential reasons, supervisors may approve up to two days per year for full time regular employees.

Compelling and essential reasons are personal time off absences that cannot be scheduled outside of normal working hours. Absences beyond the two day limitation may be charged to vacation or optional holidays with supervisory approval. Unused days may not be compensated for nor carried over to next year's allotment.

If you have any questions about the policy, call Mary Bersch at ext. 2043.

"WINDS OF PPL"

Jane (Mary Ann McBride) works on her most important project -- her nails -- while Bobbie (Dee Hurley) bemoans her fate in this scene from "The Winds of PPL", left, a comedy skit presented during Secretaries' day festivities sponsored by the Secretarial and Office Support Staff program committee. Taking their bows at the finale, right, were (left to right) writer/director Bob Malinowski and actors Debbie Silvestri, Roger Gould, Lee Benson and Terry Greenberg. Not pictured are actor Leon Jackson and musical accompaniest Wayne Sloyer. The play was produced by Dee Hurley.

SECURITY GATE USE

The security booth at the main entrance to PPL is now equipped with a gate-arm controlled by a Rusco card reader. The gate has been programmed to remain opened from 7 a.m. to 7 p.m. Monday through Friday, allowing personnel to enter the campus during these times without challenge. The Security officer stationed in the booth during these hours is there for informational purposes only.

The gate-arm remains closed on weekends and holidays, as well as between 7 p.m. and 7 a.m. Monday through Friday. Personnel requiring entrance to the campus during these periods should insert their Rusco access card into the card reader to automatically activate the gate-arm. It should be noted that the gate-arm will remain open ONLY long enough to allow ONE vehicle at a time to pass through.

Employees who have either forgotten their card, or who have not been issued a card, must use the Security telephone (located next to the card reader) to call for aid. The telephone provides a direct line to the C-Site Security Office, and will be answered promptly by a Security officer. Individuals will be asked to give their names and other pertinent information to the Security officer, who will then activate the gate-arm to allow entrance to the campus.

Any questions or problems concerning the access gate should be directed to the Forrestal Security Department in the Chemical Sciences Building, ext. 2894.

VOLUNTEERS: PEOPLE PEOPLE

The following information pertains to the Voluntary Action Center of Middlesex County. For further information about the listing, call the VAC at (201) 249-8910.

High school teacher Linda Hale has organized a group called VAC-SAC (Voluntary Action Center-Singles Aiding the Community). VAC-SAC spans all age groups, and is designed for people who want to do community volunteer work. Volunteers may choose to participate in group projects, such as the Hand-in-Hand Festival, the Raritan Valley River Fest, or the State Teen Arts Festival. Individual opportunities are also available for workers at the Daisy Therapeutic Center fair, Clowns for Special Kids, and for Moot Court jurors. Contact the VAC to become an active part of VAC-SAC.

The next listing was supplied to HOTLINE by the Voluntary Action Center for Somerset County. Further information is available from the VAC at (201) 580-9380.

Volunteers are needed to help the handicapped learn to ride horses at the Somerset Hills Handicapped Riders Program. Evening or weekend volunteers will help riders mount, lead horses, and offer encouragement to program participants.

The next five opportunities were supplied by the VAC of Morris County. Positions are listed by responsibilities only; further information on any one is available from the VAC at (201) 538-7200.

Are you a plant lover? Then put your green thumb to good use helping with a greenhouse project. An organization needs plant lovers to start growing a vegetable garden for the needy and senior citizens.

An historical museum is seeking volunteers who sew to form a Textile Conservation Committee. Research on clothes, quilts and interior decorating would be involved. Workshops and seminars are also available to committee members.

An organization concerned with child welfare seeks board members to review children in out-of-home placements, such as foster homes. A psychology background would be welcome, but is not required.

An organization concerned with protecting the environment is seeking volunteers with science backgrounds to write book reviews. Other opportunities with this organization are also available.

An historical museum is running a training program for individuals interested in becoming guides for the site. The village also needs sales people for its gift shop, toll keepers at the gate, and volunteers for special events. If you're interested in history, here's a great way to learn more.

These final opportunities were provided by the Voluntary Action Center of Mercer County. For more information on any position, call the VAC at (609) 249-1912.

The Family Service Agency of Princeton needs volunteers to write publicity, do yard work, or perform clerk/typist duties.

Was "Radar" always your favorite M*A*S*H character? The Big Brothers/Big Sisters, Donnelly Memorial Hospital, Lutheran Social Services, the Little Peoples' College, Multiple Sclerosis, the state Department of Civil Service, and the N.J. Agent Orange Commission are all looking for clerical assistance.

Longing to be "on the road again"? Become a driver for the Ewing or the Lawrence Meals on Wheels program, or for the Americal Red Cross.

Do you have a pleasant voice? Put it to work by tending telephones for Mill Hill, Parents Anonymous CONTACT.

The PPL Hotline is issued by the Princeton University Plasma Physics Laboratory, a research facility supported by the U. S. Department of Energy. Correspondence should be directed to PPL Information Services, Module 2, C-Site, James Forrestal Campus, ext. 2754.