



# HOTLINE

PRINCETON PLASMA PHYSICS LABORATORY

Vol. 7, No. 2

September 16, 1985

## TRITIUM ASSAY LABORATORY

One of the major goals of the Lithium Blanket Module (LBM) experiment is to determine the quantity of tritium bred after the LBM's lithium oxide pellets are irradiated by neutrons produced by TFTR. The task of measuring that tritium has been simplified by the work of Princeton University Chemical Engineering graduate student Pete Bertone. Pete has designed, assembled, and tested equipment in PPL's tritium assay lab that accurately reports how much tritium is bred in an LBM pellet.

The LBM experiment, funded by the Electric Power Research Institute (EPRI), is expected to be installed in TFTR Bay D in late 1986.

The LBM was fabricated by GA Technologies, Inc. (GA) in San Diego. The unit contains over 900 stainless steel tubes filled with cylindrical pellets of lithium oxide. A number of these tubes, located in the center of the array, contain pellets clad with aluminum. It is from these pellets that tritium bred by neutron irradiation will be extracted.

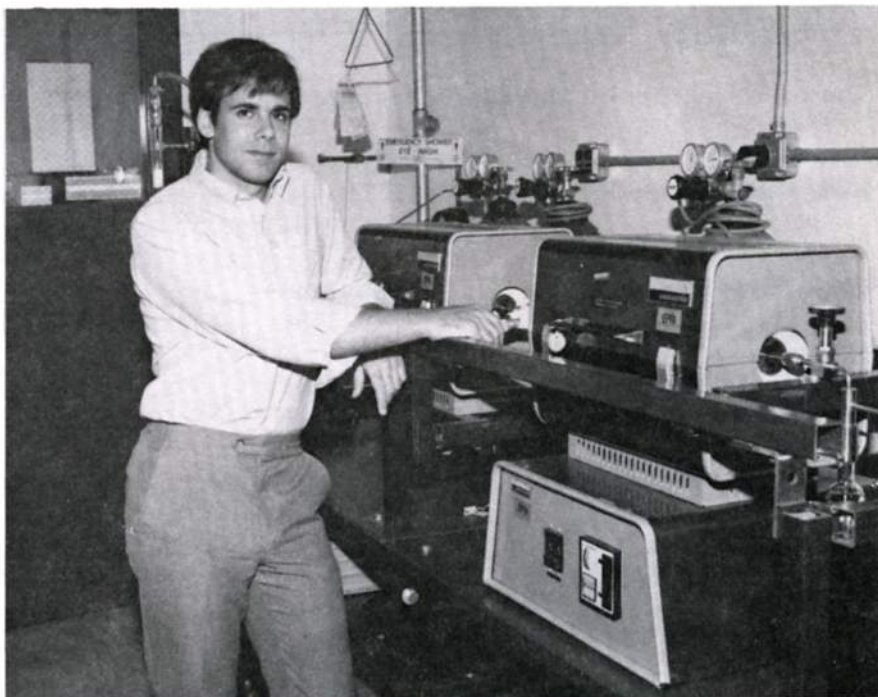
The LBM project first piqued Pete's interest in 1980, when LBM principal investigator Dr. Dan Jassby gave a seminar at the Department of Chemical Engineering con-

cerning the LBM program. At that time, planning was underway to have GA design and construct the equipment needed to conduct LBM tritium assay work. Pete contacted his advisors (Professor Robert Mills, Dr. Jassby, and Dr. Joe File), suggesting that he would be able to develop the required assay equipment at a lower cost. His proposal to use the project as the basis of his thesis was accepted.

For the next three years, Pete investigated the most effi-

cient way to measure the minute amount of tritium produced in the LBM's lithium oxide pellets with an uncertainty of less than 5%. His solution to the problem involves heating irradiated LBM pellets to approximately 500 degrees Centigrade in a small oven, whereupon the pellets release their tritium as tritiated water. This water is collected and assayed using a calibrated liquid scintillation counter. The equipment can process up to three LBM pellets per day, and has an uncertainty level of less than five percent. The assay lab equipment was assembled at a

(continued)



*Peter Bertone and the sampling equipment he designed and assembled for PPL's tritium assay lab.*

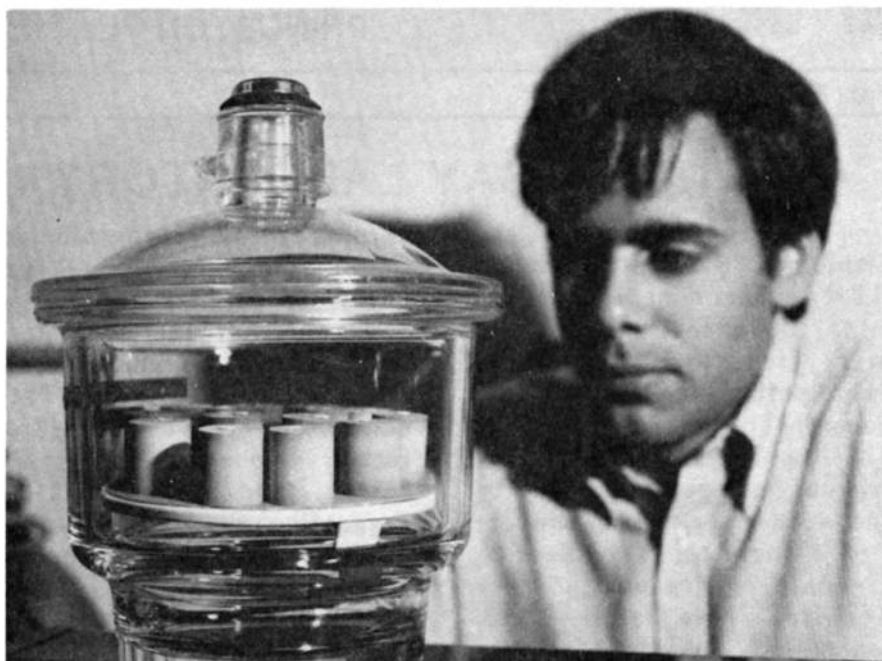
considerable cost savings, compared to initial quotes received from an industrial vendor.

During the past two years, Pete has also been investigating the fundamental kinetics that govern the release of tritium from lithium oxide pellets. Although the assay apparatus was designed to measure the total amount of tritium produced in an LBM pellet, it can also take multiple measurements over a specified time. In this manner, the rate at which tritium is released can also be determined.

The major focus of the tritium assay program remains unchanged, however. Specifically, the tritium measurements will be compared to predictions made by

advanced neutronics codes in an effort to test the ability of such codes to model the neutron transport characteristics of complex fusion systems.

The apparatus will also be used to assay tritium in LBM pellets irradiated in the point-neutron source experiment in Lausanne, Switzerland.



*These lithium oxide pellets will be removed from the Lithium Blanket Module (LBM) and assayed to determine the amount of tritium each produces.*

## Safety Training

The following Health and Safety training courses are scheduled for September:

Fire Extinguisher Training	S. Larson Ext. 3166	September 10 and 24 2-3:30 p.m.
Basic First Aid	S. Larson Ext. 3166	September 16, 18, and 20 1-3 p.m.
Self-Contained Breathing Apparatus	S. Larson Ext. 3166	September 18 9:30-11:30 a.m.
Back Injury Prevention	M.A. McBride Ext. 3468	September 19 8 a.m.-noon
Cardiopulmonary Resuscitation (CPR)	S. Larson Ext. 3166	September 23, 25, and 27 9 a.m.-noon OR 1-4 p.m.

Employees must obtain permission from their immediate supervisor to attend these classes. Supervisors must call the responsible instructor to enroll their employees.



## Procurement Program

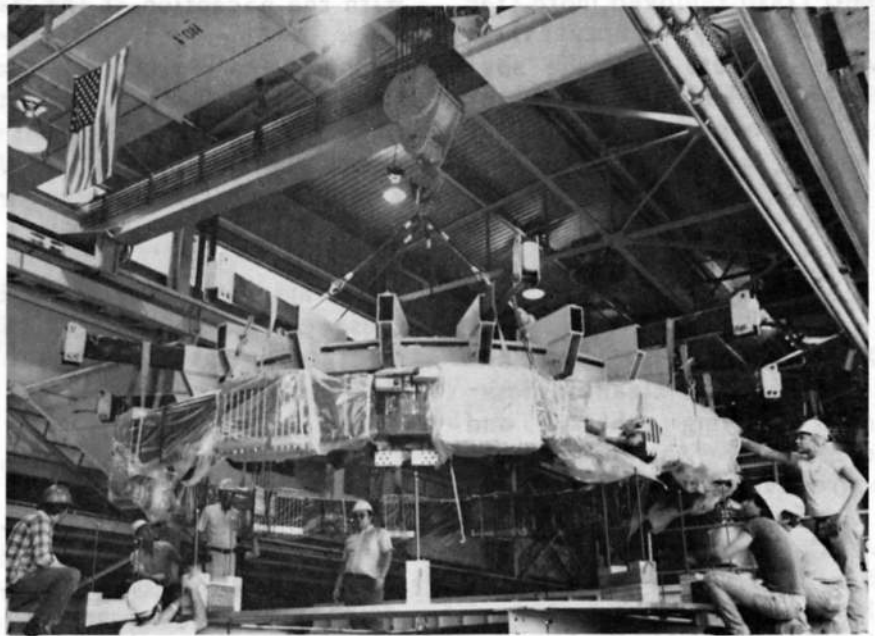
With the approval of the Department of Energy, PPL's Procurement Division is launching a new effort to increase the proportion of the laboratory's contracting business which goes to socioeconomically-disadvantaged firms (commonly called "minority businesses").

Under this initiative, entitled the "Socioeconomic Preference Program," PPL is actively seeking qualified businesses to supply its needs while reducing the traditionally heavy paperwork burden required to comply with government regulations. The PPL program is an outgrowth of successful pilot programs conducted by DOE in cooperation with Argonne National Laboratory and the Solar Energy Research Institute.

As part of this effort, Procurement is requesting any HOTLINE readers who know of qualified firms to contact Tom Browning, the PPL Small/Disadvantaged Business Liaison, at ext. 2962 to have these firms added to the laboratory's bidder lists. If you can help, please do -- your cooperation will make this program work.

## Janitorial Schedule Change

As part of the recent labwide reduction in force, the Janitorial Services Section has also been cut back. The janitorial staff now maintains more C- and D-Site space than ever before, with approximately 36% less staff. It has therefore become necessary to perform many cleaning services less often.



*The first of the vertical field coils PPL's Coil Shop wound for the Advanced Toroidal Facility (ATF) at Oak Ridge National Laboratory hit the road September 5. Traveling by truck to Oak Ridge were two outer coil assemblies, an inner coil assembly and its support structure, and a lifting fixture, constituting 63,000 pounds of coil and structure. The coils will be stored at Oak Ridge until ATF assembly begins this fall.*



Services that affect health and sanitation, such as rest room cleaning, will not be reduced. However, trash removal, general cleaning, and floor maintenance (stripping of floors or shampooing of rugs) will all occur less frequently.

Trash pickup will be reduced from its current daily level to approximately two to three times per week throughout most of the laboratory. Trash in lower use and visibility areas may only be emptied weekly. Employees who must have

(continued)

their trash removed more frequently may empty their waste baskets into the specially marked containers located throughout the lab.



Office cleaning, which includes dusting, cleaning desktops, cleaning ashtrays and telephones, washing blackboards, vacuuming carpet, and cleaning tile, will now be done weekly in all locations, rather than daily. The frequency of shampooing and stripping of floors in office areas has also been reduced to twice per year. Because of this reduction, employees should notify the Maintenance Control Center (ext. 3092) immediately if spills or other problems occur that cannot wait for scheduled cleaning.

Janitorial Services schedules will be posted on bulletin boards. For further information about Janitorial Services, contact Jerry Williams at ext. 3595.

## Nursery Openings

The University-NOW Day Nursery, located at 171 Broadmead Street in Princeton, currently has openings in the five-year-old classes for the 1985-86 school year.

The school is dedicated to providing a lively learning experience for its students, in which all aspects of a child's growth are equally important. The Nursery is also committed to providing children with an environment free of sex-role stereotyping, prejudice, and authoritarianism.

With the exception of the last week in August, the Nursery is open from 8 a.m. to 6 p.m. on a yearly basis. Students range in age from 21 months to six years. Classes include a state-certified kindergarten.

Staff members interested in these current openings, or in future openings at the school, should call 924-4214.

## Bulletin Boards

All employees who maintain an official laboratory bulletin board should call Meg Gilbert in Personnel, ext. 2036, to verify their position on the official postings mailing list.



## Transit Routes

Shortly after its July 1984 takeover of Mercer Metro bus service, NJ TRANSIT reviewed routes operated in Mercer County in an effort to tailor the existing bus system to better meet demand.

Proposals for changes to many existing routes, as well as ideas for new routes, are ongoing. NJ TRANSIT is extremely interested in obtaining local input regarding these recommendations, and has reviewed them extensively with local officials and the general public.

Two NJ TRANSIT proposals specifically affect the greater

Princeton area. The only proposal regarding existing service concerns the discontinuance of the Princeton Loop. However, another local carrier (Princeton Area Transport) is expected to expand its current service to include those points no longer served by the Loop. Therefore, no substantive change in service should occur, although service frequency may be decreased.

The second NJ TRANSIT proposal calls for the development of a new route to serve the Route 1 corridor. The service will originate at the White Horse Circle in Hamilton Township, proceed to the Trenton central business district, and then out Route 1, serving Quakerbridge Mall, Carnegie Center, RCA Labs, and the Princeton Forrestal Center. During morning and evening peak travel periods, service frequency will be every 30 minutes, with 60 minute service in the off-peak.

Individuals who wish to comment on either proposal may direct their opinions directly to NJ TRANSIT for their consideration. If your comments are directed at service to the laboratory, advise Bob Smart, who has been working with NJ TRANSIT to establish bus service to this area.

## YMCA Child Care

Child care is available through the YMCA Children's Center at Johnson Park School, 285 Rosedale Road. The fall program began on September 3.

The Children's Center includes both a preschool and toddler program, which operate weekdays from 7:30 a.m. to 5:30 p.m. The programs

(continued)

have been specifically designed to meet the needs of the children of working parents. Parents are welcome to visit the Center.

For more information, call the Center at 924-9637 or 924-4497.

## It's Puzzling.....

We've all heard the slogan "Thanks to you, it works for all of us — the United Way." But did you ever stop to consider just how many programs and services the United Way offers its constituency? See how many you can find in the puzzle below (answers on pg.10). And when you've solved this small puzzle, become part of the solution to a much more vital one: how to provide a wide range of critically needed human services to Princeton area communities. Support the United Way during this year's fall campaign.

### SEEK-A-WORD

Alcohol Abuse  
Blood Programs  
Cancer Care  
Counseling  
Day-care  
Girl Scouts  
Help  
Hospitals  
Information  
Red Cross  
Referral  
Seniors  
Therapy  
United Way  
Visiting Nurses  
YMCA  
Youth

V	U	Z	A	S	R	N	E	T	R	A	P	Y	E	T
I	N	O	R	T	H	E	R	A	P	Y	L	C	N	O
S	I	B	L	O	O	D	P	R	O	G	R	A	M	S
I	Z	O	A	E	S	I	P	U	G	O	A	N	L	E
T	R	C	L	L	P	K	T	D	X	C	R	C	I	N
I	E	O	Z	D	I	H	E	R	A	P	E	E	X	I
N	F	U	N	I	T	E	D	W	A	Y	D	R	V	O
G	E	N	C	R	A	L	V	E	M	D	C	C	U	R
N	R	S	I	D	L	P	I	C	T	U	R	A	C	S
U	R	E	T	R	S	F	A	X	O	P	O	R	R	D
R	A	L	C	O	H	O	L	A	B	U	S	E	Y	E
S	L	I	V	K	I	C	Y	N	H	M	S	A	L	P
E	I	N	F	O	R	M	A	T	I	O	N	R	C	I
S	D	G	I	R	L	S	C	O	U	T	S	C	U	Y
O	R	E	F	U	N	R	A	R	Z	A	T	H	E	R

WORDS ARE PRINTED HORIZONTALLY, VERTICALLY, AND DIAGONALLY.

## Road Construction

In response to many inquiries, the Greater Princeton Transportation Management Association (TMA) recently contacted the state Department of Transportation and obtained the following list of active Route 1 construction projects:

Route 1 and Quakerbridge Road: Work on a grade separated interchange will begin

in late 1985 and be completed in the fall of 1987.

North East Corridor (NEC) Rail Bridge over Route 1: Bridge reconstruction will begin in the spring of 1989.

Route 1 from the Route 130 Circle to the NEC Bridge: Work to create three lanes in both directions will begin in the summer of 1988.

Route 1 from Quakerbridge Road to Alexander Road: Work to create three lanes in both directions will begin in the spring of 1989.

The TMA was established earlier this year by the Middlesex-Somerset-Mercer Regional Study Council. The group, whose members include PPL's Associate Head of the Administration Department Robert Smart, is a voluntary organization formed by the private sector. The TMA's aim is to reduce traffic congestion in the greater Princeton area by improving local transportation services.



United Way

**AT WORK**

While all people have needs and problems, there is a growing recognition that women often have special needs. To meet them, the United Way-Princeton Area Communities currently funds seven agencies that are designed entirely or largely for women.

Some of these agencies, such as the Princeton YWCA, the Delaware-Raritan Girl Scouts, and the Rolling Hills Girl Scouts, might be familiar to many people. Although the names of some of the other agencies are less well known, they also offer crucial services to women. They include:

Crawford House: A temporary residential halfway house for women being treated for alcoholism. Crawford House provides personal and family counseling, as well as other



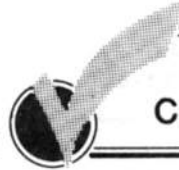
supportive services. The Crawford House can be reached by calling 201-874-5153.

Florence Crittenton Home: A maternity home for unwed mothers, the Home offers both prenatal and postnatal care. Residential care and supportive assistance, tutoring, recreational programs, and parenting classes are also provided. Contact the Crittenton Home by calling 609-695-8579.

Mercer County Women's Center of Womanspace: Womanspace operates a 24-hour emergency shelter for female victims of domestic violence and their dependent children. In addition to the shelter, the Center provides a broad range of services, such as counseling, information and referral, community outreach (via telephone crisis line), and assistance in finding housing and jobs. The Womanspace telephone number is 609-394-9000.

Another agency, Big Brothers/Big Sisters Association of Mercer County, operates a program in which volunteer adults are matched with youngsters who need stability and adult companionship.

Of course, all the United Way agencies serve women. If a woman needs agency services, she should contact the agency directly. If you're uncertain where to get help to meet a particular need, the First Call for Help of the Princeton Area Council of Community Services can be reached by calling 609-924-5865 or 609-799-6033. This United Way service will direct a caller to the appropriate agency for services or information.



## Security Checkpoints

The C-Site Security booth recently went into operation. However, some construction work at the booth remains to be completed. As a result of the unfinished work, some employees have experienced confusion concerning which traffic lane to use when entering C-Site, and where to register visitors.

The purpose of the Security booth is to provide controlled access to C- and D-Sites. In addition to being an employee entrance, the Security booth also serves as a visitor check-in point. Visitors are no longer required to report to the LOB receptionist's desk for visitor's badges. Therefore, all visitors must stop at the Security booth to obtain the required badges before proceeding. Employees bringing guests into the campus (including spouses, friends, etc.) must also stop at the booth to obtain the required badges. Visitors found on site without a visitor's badge will be told to obtain one from the Security booth officer.

Until construction work at the Security booth is completed, conditions in the booth area will continue to change. Employee compliance with the

following procedures will help to expedite safe and convenient access into C-Site.

- Employees should use the right hand entrance lane when entering C-Site. The left hand lane is reserved for visitors and vendors. Employees bringing visitors onto the campus should also use the left hand lane. Visitor badges may be obtained at the Security booth.
- Please reduce your speed when traveling towards the Security booth entrance. The curve in the roadway makes for dangerous driving conditions when speed limits are exceeded. The recommended speed limit for this area is 15 miles per hour.
- Use extreme caution after passing the Security booth. Since the roadway lanes have not yet been clearly defined, there is a great potential for motor vehicle accidents.

Questions concerning these procedures or other Security matters should be directed to the Department of Public Safety, ext. 2894.

FOR SALE -- 1973 Vega, 85,000 miles.  
Automatic transmission, new tires.  
Good commuter car. \$300. If interested, call 609-426-0372 evenings.

FOR SALE -- Four P215, 75R tires, \$25.  
If you're interested, call 609-426-0372 evenings.



## Medical Dictionary Quiz

Any medication works best when it's taken according to directions. One way to ensure that you're getting the proper dosage is to double-check any prescriptions your doctor writes for you. Being able to understand your prescription slip allows you to compare it to the verbal instructions your physician provides. You will also be able to ask any questions you might have about taking the medication while you're still in the doctor's office.

Here's a matching quiz designed to test your medical vocabulary. Match the abbreviations, which are commonly used on prescriptions, with their meanings from the list below. When you've paired up the proper answers, post this page in an accessible spot (such as your medicine cabinet) for quick reference.

- |                           |                         |
|---------------------------|-------------------------|
| 1. a.c. _____             | a. capsule              |
| 2. ad. part. dolent _____ | b. for external use     |
| 3. alternis horis _____   | c. bedtime              |
| 4. aq. ferv. _____        | d. eye lotion           |
| 5. cap. _____             | e. give this number     |
| 6. collyr. _____          | f. to the painful parts |
| 7. dtd# _____             | g. four times a day     |
| 8. ext. _____             | h. by mouth             |
| 9. gtt. _____             | i. as directed          |
| 10. HOH _____             | j. every hour           |
| 11. HS _____              | k. right eye            |
| 12. in loco frig _____    | l. a drop               |
| 13. m.bene _____          | m. every other hour     |
| 14. O.D. _____            | n. water                |
| 15. O.L. (or O.S.) _____  | o. before meals         |
| 16. p.c. _____            | p. once a day           |
| 17. p.o. _____            | q. an ointment          |
| 18. p.r.n. _____          | r. left eye             |
| 19. q.d. _____            | s. label                |
| 20. q.h. _____            | t. warm water           |
| 21. q.i.d. _____          | u. three times a day    |
| 22. sig. _____            | v. as needed            |
| 23. stat _____            | w. at once              |
| 24. t.i.d. _____          | x. in a cold place      |
| 25. ung. _____            | y. after meals          |
| 26. ut dict. _____        | z. mix well             |

### Answers

- |       |       |       |      |
|-------|-------|-------|------|
| 22. s | 15. r | 8. b  | 7. e |
| 23. w | 16. y | 9. l  | 2. f |
| 24. u | 17. h | 10. n | 3. m |
| 25. b | 18. v | 11. c | 4. t |
| 26. i | 19. p | 12. x | 5. a |
|       | 20. j | 13. z | 6. d |
|       | 21. g | 14. k |      |

## Seatbelt Reminder

Despite the mandatory seat belt law that went into effect in New Jersey in March, a recent survey showed that only 50 to 60% of Garden State motorists are wearing their seat belts. The remaining scofflaws are taking a very serious gamble, both with their own lives and the lives of their passengers.

Surveys show that a fatal car accident occurs every 10 minutes throughout this nation, resulting in over 22,000 deaths annually. That number could be cut in half if more drivers and passengers took a moment to buckle up.

The major argument against using seat belts centers around the possibility of being trapped in a burning or sinking car by seat belts.

However, statistics compiled by the National Safety Council reveal that less than one-half of one percent of traffic accidents involve fire or submersion. And even in those extreme cases, safety belts can keep both drivers and passengers unhurt, alert, and able to escape quickly.

Wearing a seat belt will also keep you in your car in the event of an accident. According to statistics, you are 25 times more likely to be killed if you are thrown from your car in a crash. And making a quick trip to the market is no excuse for skipping seat belts, either. Approximately 75% of all accidents occur within 25 miles of home.

Even low speeds are no guarantee of safety. Eighty percent of all accidents happen at speeds of less than 25 miles

(continued)

per hour. During a collision at just 10 miles per hour, the stress exerted on your arms is equivalent to catching a 200 pound bag of cement dropped from a second story window.

No excuse is good enough for not protecting yourself, your family, and your friends. Buckle up!

## TRANSITIONS

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

Connie Cummings of Accounting and her husband, Dale, whose son, Matthew James, was born August 8.

## OSHA Violations

The following safety reminders are drawn from a list of common OSHA (Occupational Safety and Health Administration) violations:

- Each radial arm saw shall be provided with a hood that will completely enclose the upper half of the saw, the arbor end, and the point of operation at all positions of the saw. Its hood shall be so designed that it will automatically cover the lower portion of the blade, so that when the saw is returned to the back of the table, the hood will rise on top of the fence, and when the saw is moved forward, the hood will drop on top of and remain in contact with the table or material being cut.

- All portions of the radial arm saw blade shall be enclosed or guarded, except for the working portion of the blade between the bottom of the guide rolls and the table. An adjustable stop shall be provided to prevent the forward travel of the blade beyond the position necessary to complete the cut in repetitive operation.

- Radial arm saws shall be installed so that the front end of the unit will be slightly higher than the rear, causing the cutting head to return gently to the starting position when released by the operator.

## Volunteers: People People

The following volunteer opportunities were submitted to the HOTLINE by the Princeton Area Council of Community Services, a member agency of the United Way-Princeton Area Communities. For further information on any volunteer position, contact each agency directly.

help, call the Center at 609-443-4951.

- F.I.S.H. of Hopewell Valley provides a wide range of assistance to area residents. F.I.S.H. also runs the Hopewell Valley Meals on Wheels program, which brings food to needy area residents. Volunteers who could drive clients to doctor's appointments, do housework for temporarily ill individuals, or visit shut-ins would be welcomed. To lend a hand, call 609-466-1234.

- Jewish Family Service of the Delaware Valley offers confidential professional counseling service on family relationship and personal adjustment problems. The agency also provides group programs, family life education, refugee resettlement, contracted homemaker service, and psychiatric consultations. Volunteers are being sought for administrative and office duties, public relations, public speaking, typing and filing, collating, stuffing envelopes, and coordinating mailings. To help, interested volunteers may call the Trenton office (609-882-9317), the Hightstown office (609-443-6260), or the Newtown, PA office (215-968-6665).

- The Hightstown-East Windsor Community Action Service Center is a nonprofit community organization providing services to the poor and disadvantaged living in the Hightstown-East Windsor area. Volunteers willing to be chaperones on field trips or lecturers on career development are needed. To

The next listings were provided by the United Way of Somerset Valley. To learn more about any listing, contact each agency directly.

- The Management Assistance Program in West-

(continued)



field needs individuals willing to teach management, technical, and professional skills. Put yourself at the head of the class by calling the Program at 201-233-2888.

- The Mental Health Association in North Plainfield is seeking volunteer companions to mentally handicapped adults in transition. Although they participate in structured programs during the day, these adults need someone to visit them and help them through their adjustment period. To lend a hand, call the Association at 201-754-9078.
- The Raritan Valley Workshop in North Brunswick needs volunteer assistance with prevocational testing and job placement. To find out more, call 201-828-8080.

The next volunteer opportunities were supplied by the Voluntary Action Center (VAC) of Morris County. Additional information on any listing is available by calling the VAC at 201-538-7200.

- A male patient in a care center would like to play chess on a regular basis. Playing time can be arranged at your convenience. Call the VAC to get into the game.
- A beautiful county park needs the tender loving care of garden enthusiasts. Transplant flowers, cultivate, weed, and mulch as the season goes on. A call to the VAC can help your volunteer interest bloom.

- A young man working his way out of depression needs a companion to share his interest in photography. To get into the picture, call the VAC.

The following volunteer posts were supplied by the Voluntary Action Center of Middlesex County. For more details about any position, contact the VAC at 201-249-8910.

- Volunteers are needed to serve as mentors to a group of teenagers. Each mentor would work with the youngsters for a few hours each month over a two- to three-month period. People skilled in medicine, the law, computers, and communications who'd like to share their smarts should call the VAC.

### **Researchers Aiming Bismuth at Cancer Cell Bull's-eyes**

Like a team of sharpshooters on a rifle range, scientists at the Department of Energy's Argonne National Laboratory, the National Cancer Institute (NCI), and Johns Hopkins University are seeking to put "therapeutic bullets" squarely in "medical bull's-eyes."

The bullets of this analogy are powerful new radiopharmaceuticals that deliver radioactive bismuth-212 selectively to the bull's-eyes -- deep-seated cancer cells -- with little harm to healthy tissues.

Dr. Arnold Freidman, director of Argonne's Nuclear Medicine Program, explained that the collaborative research effort is seeking to "attach at-

oms of bismuth-212 to antibodies that go directly to the site of a malignant tumor and bind to the cancerous cell. Bismuth-212 -- which is highly radioactive -- literally "hitches a ride" on the antibody. Then, when it arrives at its destination, it delivers a killing dose of radiation to the malignant cell."

The dose that kills the cancer cell is 20 times more powerful than other radiopharmaceuticals now in use (such as radioactive iodine).

"With radioactive iodine, you get only one-twentieth of the dose," Friedman said. "But with our combination, you direct the lethal dosage to just a few cells at a time without harming surrounding healthy tissue."

Investigators from Argonne, NCI, and Johns Hopkins have been working with mouse cancer cells up to now. Parallel immunological studies are being conducted by Argonne and the University of Chicago.

The investigators first took cancerous cells from the spleens of mice that had tumors such as lymphomas. They then incubated these cells with antibodies tagged with bismuth-212. These antibodies were specific to the proteins on those malignant tumor cells.

"This is painstaking research," Friedman says. "The Johns Hopkins scientists have had to sort through 5,000 mouse cells to obtain antibodies that can be combined with bismuth-212 and go directly to the tumor site."

Argonne has set up a special facility to make radioactive

(continued)

generators of bismuth-212 for this cancer research. The generators are shipped in protective containers to NCI and Johns Hopkins for further testing.

NCI is working on the chemistry of attaching the radioisotopes to the antibodies and also engages in parallel efforts with Johns Hopkins to produce the antibodies.

If the investigators receive approval from the appropriate

human studies committees, they will proceed to clinical tests in a limited number of human patients. Further approval by the Food and Drug Administration will be required before they can go to full-scale clinical testing.

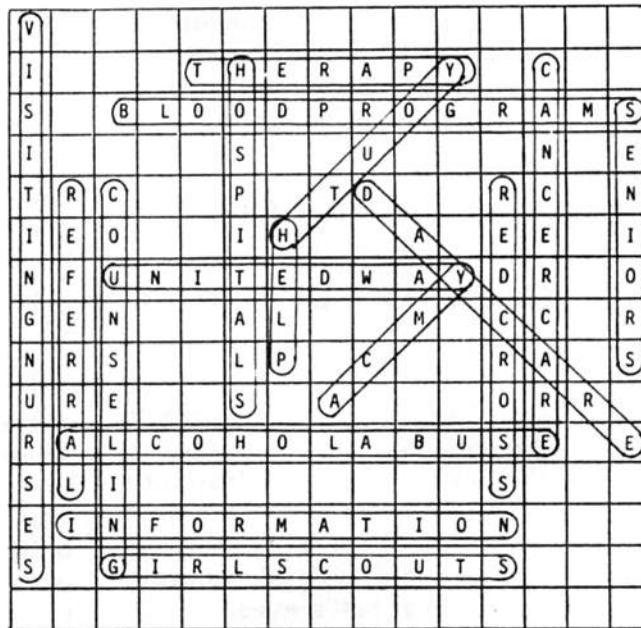
This project is another example of how Energy Department scientists are collaborating with others from government, private foundations, and educational institutions on medical research that can help all Americans.

## Obituary

PPL Motor Pool technician Michael E. Burgess, 38, died August 3. Born in New Brunswick, he had worked at the laboratory since 1979. He is survived by his wife, Carolyn, and his son, Allen.

Pat Zeedyk of Transportation Services thanked all those who have donated money to the Burgess family. Anyone wishing to contribute to the fund should contact Pat at ext. 3736.

## SOLUTION TO UNITED WAY SEEK-A-WORD



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