

Dispose of Hazardous Wastes with Care

Here at PPPL, we must use certain materials that are considered hazardous to the environment. (See the sidebar for a list of hazardous materials.) We can all do our parts to protect the environment by following a few simple steps to dispose of such materials properly. All that is required is to fill out a Hazardous Waste Identification Card and send it to the Hazmat Branch of ER/WM, or call 3385 for removal of the materials.

Remember, hazardous waste includes not only the material itself, but also cloths, wipes, parts or other materials which have been contaminated by the hazardous material—whether it is still in evidence or not. For example, once you use a rag with alcohol to wipe down a part, that rag is considered to be hazardous waste and must be disposed of as such.

You need not worry about being charged to have hazardous wastes removed, because Hazmat services are free—at PPPL, all the expense of removing such materials are considered Laboratory costs.

However, removal of hazardous material is very costly, and prices continue to rise. Therefore, please minimize your use of such materials—both to cut costs and to reduce environmental impact. In addition, *be careful not to mix hazardous and non-hazardous wastes*, since the entire volume of waste becomes hazardous once it is mixed which can significantly increase disposal costs.

Avoiding the Problem

In three recent incidents at PPPL, hazardous wastes have been dis-

Hazardous Waste

Hazardous waste is defined as a solid, liquid, or gas which, because of its physical, chemical, or infections characteristics, may pose an environment, safety, health, and/or fire hazard when improperly disposed. Examples of hazardous wastes include the following:

- Acetone • Alcohol • Antifreeze
- Asbestos and asbestos-containing material
- Batteries, including all dry cell and storage batteries
- Corrosives • Disinfectants • Ether • Flammable cements and adhesives
- Flammable liquids • Gas cylinders
- Heavy metals and heavy metal containing materials
- Lead • Liquid petroleum gas • Medical wastes • Medicines
- Mercury and mercury containing materials • Methylene chloride
- Oil • Oil-contaminated cloths, wipes, and/or parts
- Paint • Pesticides
- Printed circuit boards and other electronic parts with lead solder
- Solvent-contaminated cloths, wipes, and/or parts, e.g., acetone, alcohol, and inhibisol
- Solvents • Uncured epoxies

posed of improperly. Rectifying the situations required considerable effort and money in addition to requiring an Occurrence Report to DOE for each event. In the first instance, chemicals and PC boards containing lead were placed in a normal trash dumpster. In the second, paint was put into a scrap dumpster. In the third, mercury switches were put in a dumpster.

In all three cases, DOE had to be informed of the violation of procedures, the dumpsters had to be emptied, and all of the hazardous wastes had to be collected and disposed of properly. All of this could have been avoided by simply filling out the Hazardous Waste Identification

Card and contacting the Hazmat group for pick up.

Remember, never dispose of hazardous waste via the normal trash, on the ground, or into the storm or sanitary sewers. If you notice such an event, report it immediately to your supervisor.

Home Waste Disposal

Hazardous wastes are not limited to the Laboratory. Many hazardous wastes come from ordinary products right in your home. If you look around your house, you may see mothballs, paint thinner, detergents, pesticides, drain cleaners, oven and window cleaners, polishes,

Hazardous Wastes

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used oil, toilet bowl cleaners, and medicines which may be hazardous to the environment. Auto waste such as used car batteries and oil also needs careful disposal.

So what do you do as a homeowner to properly dispose of these

materials? Each county in the state periodically collects these hazardous wastes. (Never bring such materials to the Lab for disposal.) Current schedules for county collection are shown in the table. *Mark your calendar!* In addition, homeowners may get more information by contacting their county health officers.

Don't forget, however, that the real key to reducing environmental

risk is in reducing *amounts* to be disposed of. You can contribute to the solution through buying smaller quantities of hazardous products and using them up completely and by finding less toxic alternatives.

Remember, proper disposal of hazardous wastes is essential to environmental preservation. Please do your part not only at the Laboratory, but at home as well.

Finding Faults and Fixing Them

Question: What group of engineers and technicians spend their days *and nights* finding faults and correcting them very quickly? (Hint: they won a 1990 award for providing 96 percent power source availability to TFTR.)

Answer: The Field Coil Power Conversion (FCPC) Group.

When TFTR is running, at least two FCPC technicians are on duty in two shifts, 16 hours a day, monitoring the power conversion equipment from "the box"—the monitoring station located in the D-Site MG room. An FCPC engineer is also on duty during both shifts to back up the technicians in their work. When a major problem occurs, everyone available cooperates to solve it.

These men work under pressure equal to that of a fire fighter. When a fault occurs that could affect the power supply of TFTR, time is of the essence because another plasma shot may not be fired until the situation is corrected. Therefore, when a fault warning appears on the computer monitor, a "downtime clock" starts ticking, and the FCPC staff swing into action, literally working against the clock.

And, they must be prepared to handle many possible problems re-



The Field Coil Power Conversion group with some of the 39 rectifiers that challenge their fault-finding expertise. In the front, left to right are: Al Malone, Hal Anderson, and Charlie Ancher; second row, Jim Corl and Don McBride; and back row, Norman

Photo: Denise Applewhite

quiring expertise ranging from electronics, to mechanics, to plumbing. Perhaps this is why Charlie Ancher calls the FCPC group "multi-talented fusionauts." If a large circuit breaker needs repair, they're on the spot to do it. If one of 45,552 water connections in the 39 rectifiers springs a leak, they find it and fix it. If an electronic repair of a circuit board must be made, they can take care of it—and fast! The computer interface controls all equipment, and they can even diagnose minor computer problems. Repairs can take from two minutes to a few hours, but many are done within 15 minutes.

What boggles the mind is the size and number of pieces of equipment in which a given fault may have occurred. For example, the fault may be in any of 100 locations within a bank of 39 rectifiers stretching 100 yards on the first floor of D-Site.

Or the fault may occur in one of the six interrupters, 16 disconnect switches, or 8 capacitor charge/discharge units. Typical faults may range from a loose fuse, loose relay contact, or loose transistor to the failure of an integrated circuit chip.

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Schedules for Toxic Waste Collection*

Completeness of information varies. To verify times, dates, and sites, please call the County Board of Freeholders and ask for the Solid Waste Department.

| County | Date | Time† | Disposal Sites |
|-------------------|---|------------------------|---|
| Atlantic | April 25; October TBD** May 9; October TBD | 9 a.m. to 4 p.m. | Egg Harbor Township Environmental Park Hammonton Public Works Garage |
| Bergen | April 25 September 13 | 9 a.m. to 3 p.m. | Giants Stadium Parking Lot Bergen County Community College, Paramus |
| Burlington | May Date TBD Autumn, each Saturday | 7 a.m. to 2 p.m. | County Health Department, Westhampton Once Hazardous Waste Facility Opens |
| Camden | May 9, Autumn Date TBD May 9, Autumn Date TBD | 8:30 a.m. to 3:30 p.m. | Lindenwald, Site TBD Public Works Garage, Collingswood |
| Cape May | May 9 September 19 | Noon to 4 p.m. | County Transfer Station, Middle Township County Landfill, Woodbine |
| Cumberland | April 18 | 8 a.m. to 2 p.m. | County Administration Parking Lot, Bridgeton |
| Essex | None | | |
| Gloucester | April 11, October 17 | 10 a.m. to 4 p.m. | Highway Department Complex, Clayton |
| Hudson | Two Sites in Planning Stages | | |
| Hunterdon | April, June, September, November | 9 a.m. to 1 p.m. | County Garage Complex, Raritan Township |
| Mercer | May 2, October 31 | 8 a.m. to 2 p.m. | County Fire Training School, Lawrence Township |
| Middlesex | May 30 September 19 November 7 | 8 a.m. to 2 p.m. | Ft. Grumpy, Sayreville Public Works Garage, Edison Public Works Garage, East Brunswick |
| Monmouth | April 4 May 2 June 6 September 12 October 3 October 24 | 8 a.m. to 4 p.m. | Tinton Falls Landfill County Garage, Hazlet County Garage, Wall Township Tinton Falls Landfill County Social Services Building, Freehold County Garage, Upper Freehold |
| Morris | June 13, October 10 | 9 a.m. to 2 p.m. | County Garage, Hanover Township |
| Ocean | May, September (two days per month TBD) | 9 a.m. to 2 p.m. | Drop-off Centers in Lakewood and Stafford |
| Passaic | Spring (TBD) Autumn (TBD) | 8 a.m. to 2 p.m. | Off Route 23 in Wayne Site TBD |
| Salem | Spring or Autumn (Dates TBD) | | Fire Training Center, Mannington |
| Somerset | April 4, June 6 August 16, October 17 | 9 a.m. to 2 p.m. | Hillsborough (Site TBD) and County Garage, Bridgewater |
| Sussex | June, November (TBD) | 8 a.m. to noon | County Solid Waste Complex, Lafayette |
| Union | September October | 9 a.m. to 2 p.m. | Ciba-Geigy, Summit Site TBD |
| Warren | May 2, October 25 | 9 a.m. to 2 p.m. | Belvidere Road Department Parking Lot; Hackettstown (Site TBD); Phillipsburg (Site TBD) |

* Information based on the February 16, 1992 Star Ledger Schedules List.

† Where only one time is listed, it applies to all dates.

** TBD = To Be Determined.

Finding Faults

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Super Trouble Shooters

So how do they do it? According to FCPC Engineer Ancher, "These technicians are super trouble shooters. First, they check the console for clues. Then they use a whole tracking system to isolate the fault, make the necessary repair, and get equipment back on line again."

Steve Tureikas, an FCPC Technician, says, "It's sort of like playing the world's largest video game. From our vantage point at the console, we can monitor most subsystem deficiencies. When a fault warning appears, we first check the power conversion directory for clues as to the type and location of the fault. Then we log in the deficiency on the electronic log book. Then, if it's necessary to go out on the floor, we grab our volt meter, our oscilloscope, or other trouble-shooting equipment, and search out the site of the fault."

Explains Technician Jim Corl, "We are able to work efficiently because of a combination of much experience, in-house training, lots of notes, and good documentation manuals. Each guy has his own set of drawings and his own ideas as to how to solve a problem, so we rely on each other for help."

No Down Time

For the FCPC group, there's never really any down time. Every day an average of two or three reportable faults occur and there's routine equipment maintenance work to do. When TFTR isn't running, more extensive maintenance and calibration must be done. Technician Mike Quigley notes, "This equipment takes a lot of care and feeding, and we have to stick with it all the time. This is especially im-

portant since there's no backup equipment."

Don McBride handles the extensive documentation required by the FCPC group, and Carl Szathmery orders parts so that a complete spare parts inventory is always on hand.

In the FCPC group are: Branch Head Dale Ashcroft, Section Head Charlie Ancher, Engineers Hal Anderson and Norman Fromm, and Technicians Jim Corl, Al Malone, Mike Quigley, Westley Reese, and Steve Tureikas. Keep up the good work, fusionauts!

TRANSITIONS

Promotions

David Gayley has been promoted to Fire Captain in the Emergency Services Unit (ESU) from his former position as ESU Driver.

Sue Hill has been promoted to Certification and Training Coordinator from her previous position as secretary in Certification and Training.

Marie Iseicz has been promoted to Budget Director. Her previous position was as Assistant Budget Director in the Office of Resource Management.

Paul LaMarche has been promoted to Head of the TFTR Engineering Operations Branch. He was previously Section Head.

Ann Lengyel has been promoted to Human Resources Assistant from her previous position as Secretary in the same department.

Tim Stevenson has been promoted to Head of the TFTR Neutral Beam Operations Branch, where he had previously been Lead Engineer.

New Hires

We welcome these recently hired PPPL employees in the following areas:

Administration

Jill Berger, Secretary

Facilities Engineering

Richard Allen, Plant Operations Technician

Scott Linton, Steam Plant Operator

Tom Mershon, Janitor

Juliann Ruppert, Janitor

John Welling, Fire Protection Engineer

Human Resources

Scott Sweeney, Human Resources Generalist

Procurement

Michael Karl, Subcontract Administrator

Research

C-Y Fu, Physicist

Births

Best wishes to **Ron Strykowski**, Office of Resource Management, and wife Kathleen on the birth of daughter Nichole March 6.

Congratulations to **Lisa Hancock** of the Computer Division and husband David on the arrival of baby boy Joshua on February 2. (Apologies for misprint of name and date in last issue.)



Daylight savings time begins on Sunday, April 5.
Be sure to remember to advance your clocks by one hour.
And, don't forget to check the batteries in your
smoke alarms and flashlights.

What's Happening at PPPL?



During a PPPL-sponsored Engineering Week reception, Deputy Director Dale Meade (left) presented astronaut Lt. Col. James Adamson with a certificate of appreciation as Dean James Wei of the Engineering School looked on.

Photo: Mary Ann Brown

Harry Howard, Chairperson of the 1991 United Way Campaign, holds the Gold Award, won by PPPL for \$60 per capita giving. Committee members (front, left) Sonja Patterson and Edna Kalmus and Coordinator Mary Ann Brown joined Howard in celebrating at the Awards Presentation held in February. Also present was Steve Iverson.

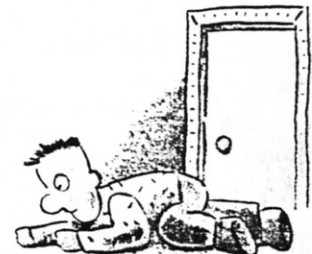
Photo: Steve Iverson



Crawl Low in Smoke

If you get caught in smoke, get down on your hands and knees and crawl towards the nearest safe exit. Smoke and hot fumes rise, so the cleanest air is near the floor.

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"Ever wish someone would invent a ?"

*The Committee on Inventions and the Technology Transfer Department
is hosting a*

"Most Wanted Invention" Contest

Give us your ideas on the most wanted or needed Invention.

Come up with something that should be invented; or

Something the world should have but doesn't; or

Simply something to make life easier.

All ideas, fusion and otherwise, are welcome.

Contestants will be divided into three groups.

Group 1 - Research and Engineering Staffs

Group 2 - Administrative and Sr. Lab and Shop Staffs

Group 3 - Lab and Shop and Office Support Staffs

Multiple entries accepted - Judges decisions are final.

One winner will be selected from each group.

Each winner will receive:

*A Certificate for their creativeness,
an Invitation to the Patent Awareness Dinner for two, and
a cash award in the amount of \$50.*

Please send all entries to Marilyn Hondorp, LOB B368, by April 8, 1992.

Winners will be contacted personally and announced in the HOTLINE.

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Name: _____ *Date:* _____

Location: _____ *Phone:* _____

What the world needs most is _____

