NOVEMBER 2013

PPPL ESH&S Newsletter

Minimize Your Risk of Suffering a Foodborne Illness

By Dorothy Strauss

The CDC reports that every year one in six Americans gets sick and 3,000 people die from foodborne illnesses. With Thanksgiving, holiday gatherings, and New Year's parties just ahead, safe food preparation and storage will reduce your risk so you can enjoy healthy celebrations this holiday and throughout the year.

AT THE SUPERMARKET

- Separate foods that will remain raw from foods that will be cooked.
- Place meats in separate plastic bags so their juices don't contaminate other items.
- Pick up your meat, poultry, fish, and eggs last to reduce the time they're not refrigerated.
- Make sure eggs are clean and not cracked.
- Don't buy cans that are dented or bulging and avoid buying cracked jars or jars with bulging lids.

AT HOME

- Set your refrigerator to 40 degrees F or below and your freezer to 0 degrees F or below.
- Wash your hands with warm water and soap for 20 seconds before and after handling any food.
- If you need to defrost something, don't put the item on the counter. Let it defrost in the refrigerator, run it under cold water, or use your microwave's defrost setting. If you defrost via water or microwave, be sure to cook the food right away.
- Marinate food in the refrigerator not on the counter. If you want to use leftover marinade on cooked meat, bring it to a boil first.
- Rinse fruits and vegetables under cool running water and use a produce brush to remove dirt.
- Don't rinse raw meat or poultry before cooking. This could spread bacteria across the sink and countertop.

- Use separate cutting boards for foods that will be cooked and those that will remain raw.
- Resist the urge to eat uncooked cookie dough. The raw egg it in could be contaminated with Salmonella bacteria.
- Use a food thermometer to ensure your food reaches a safe internal temperature (see chart). Bring gravies, sauces, or soups to a rolling boil when reheating them.
- Refrigerate leftovers and takeout within two hours. Eat leftovers within three to four days, unless frozen.
- WHEN IN DOUBT, THROW IT OUT!

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Foodborne Illness

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Safe preparation and storage of food are only part of avoiding a foodborne illness. Cooking your food to the proper temperature is also critically important.

COMMON SYMPTOMS

Food poisoning symptoms vary with the source of contamination but most types of food poisoning cause one or more of the following symptoms:

- Nausea
- Vomiting
- Watery diarrhea
- Abdominal pain and cramps
- Fever

Symptoms may start within hours after eating the contaminated food, but they may also begin days or even weeks later. Sickness caused by foodborne illness generally lasts from one to 10 days.

WHEN TO SEE A DOCTOR

The Mayo Clinic recommends you seek medical attention if you experience any of the following symptoms after eating suspect food:

- Frequent episodes of vomiting that interfere with your ability to keep liquids down
- Vomiting blood
- Severe diarrhea for more than three days
- Blood during bowel movements
- Extreme pain or severe abdominal cramping
- An oral temperature higher than 101.5 °F (38.6 °C)
- Signs or symptoms of dehydration — excessive thirst, dry mouth, little or no urination, severe weakness, dizziness or lightheadedness
- Difficulty speaking
- Trouble swallowing
- Double vision
- Muscle weakness that progresses downward

If you suspect food poisoning, contact your local health department. Your report can help identify a potential outbreak and may help prevent other people from getting sick. You may need to describe what you ate, where you got the food you think is making you sick, when you got sick, and your symptoms.

Young children, pregnant women, older adults, and people with chronic illnesses are especially susceptible to foodborne illnesses and may suffer more serious effects.

Don't let complacency put you at risk! Safely select, prepare, and store your food every time to avoid the potentially devastating or deadly effects of foodborne illnesses. ■

Category	Food	Temperature (°F)
Ground Meat & Meat Mixtures	Beef, pork, veal, lamb	160
	Turkey, chicken	165
Fresh Beef, Veal, Lamb	Steaks, roasts, chops	145
Poultry	Chicken & turkey, whole	165
	Poultry breasts, roasts	165
	Poultry thighs, legs, wings	165
	Duck & goose	165
	Stuffing (cooked alone or in bird)	165
Pork and Ham	Fresh pork	145
	Fresh ham (raw)	145
	Precooked ham (to reheat)	140
Eggs & Egg Dishes	Eggs	Cook until yolk and white are firm
	Egg dishes	160
Leftovers & Casseroles	Leftovers	165
	Casseroles	165
Seafood	Fish	145 or cook until flesh is opaque and separates easily with a fork.
	Shrimp, lobster, and crabs	Cook until flesh is pearly and opaque.
	Clams, oysters, and mussels	Cook until shells open during cooking.
	Scallops	Cook until flesh is milky white or opaque and firm.

Source: foodsafety.gov

Safety Culture Survey Results Coming Soon!

Thank you to everyone who took a few minutes to complete the safety culture survey this year! The survey, which polled 25 percent of staff members and graduate students each quarter, had a response rate of 61 percent. Overall, the results were very positive and indicate a strong safety culture.

PPPL's culture is particularly strong when it comes to the following:

- There is a high level of confidence in senior management's commitment to safety.
- A questioning attitude is encouraged.
- Unsafe actions by others are not ignored.
- Consideration is given to hazards by workers and their work groups.

Areas where the response was generally positive but less enthusiastic include:

- Praise for working safely is not given universally (and is not viewed as necessary by some).
- Blame may appear to supersede learning following an unfavorable incident.
- Management is perceived as overreacting after an incident.
- There appears to be a need for a clearer line between acceptable and unacceptable safety behavior.
- Some respondents indicated they believe the Laboratory does not learn from its mistakes.

A full report of the results will be issued to the staff in the near future. Suggestions for actions will be solicited from the Safety Review Committee and the Safety Champions Committee, in addition to those put forward by the ESH&S Department. The ES&H Executive Board will be presented with this information early next year.

The survey, perhaps with some new or changed questions, will continue to be held quarterly. Watch your email inbox for an invitation from Laboratory Director Stewart Prager. Surveys are conducted in January, April, July, and October. Your continued participation is needed as we look for trends and track the effectiveness of actions taken. ■

OSHA's New Global Harmonization Standard Addresses Workers' "Right to Understand" Chemical Information

The OSHA Hazard Communication Standard (HCS) was revised in 2012 so that it now aligns with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). This revision makes it easier to understand the hazards of chemicals by using a universal system of classifying chemicals and providing hazard information on labels and safety data sheets. The idea is to make it safer for workers by presenting information on the safe handling and use of hazardous chemicals in a standard, easier to read format.

The major changes to the standard are:

- **Hazard classification:** Provides specific criteria for classification of health and physical hazards, as well as for classification of mixtures. The classification system will make it easier to understand the hazards of the chemicals.
- **Labels:** Now include a signal word, pictogram, and hazard statement for each hazard class and category and provides precautionary statements. There is more information at a glance.
- **Safety Data Sheets:** Will now have a specified 16-section format. This replaces the often confusing and randomly organized Material Safety Data Sheet we are used to.

A new Hazard Communication training course covering these requirements has been developed and is now available online from the HR Training website. All employees who work with or around hazardous chemicals are required to complete this training by Dec. 1 in order to comply with the new regulation.

Any questions on the Hazard Communication Standard revisions or the training should be directed to the Safety Division.. ■

Safety Contest

This icon is hidden somewhere on the ESH&S website. Tell us where it is (be specific!) by Wednesday, Dec. 18. Everyone who correctly identifies the icon's location will be entered into a drawing for a chance to win a $20 gift certificate to the PPPL Plasma Hutch! Safety Division members are not eligible.

Congratulations to Andy Morrison, who won the August 2013 ESH&S Newsletter Safety Contest!

Who Can Use Fire Extinguishers and When?

By the Site Protection Division

The Laboratory provides portable fire extinguishers throughout PPPL to provide for fighting a small fire when it first starts.

Only employees who have been trained in the use of fire extinguishers are authorized to use them on a fire -- and only small fires that have just started should be fought by employees other than ESU.

Employees who are expected to use a fire extinguisher, such as those who will act as a fire watch for Hot Work Permits, will receive initial training that includes live fire extinguishment and will also receive annual refresher training. Extinguisher training will be provided by Site Protection and will be tracked by Human Resources.

To schedule fire extinguisher training, please contact Sue Hill in Human Resources (Ext. 2227 or shill@pppl.gov).

Reference: ESHD-5008, Section 5, Chapter 8, TCR R0-001, Egress and Fire Protection Equipment, dated July 19, 2013.

Safety guidance for those who are trained to use a fire extinguisher:

- Alert other occupants and call (or have someone else call) ESU.
- Only fight fires that are small and contained to a single object, such as a wastebasket.
- Be sure you are safe from the toxic smoke produced by the fire.
- Be sure you have a means of escape identified and the fire is not between you and the escape route.
- Your instincts should tell you when it is safe to use an extinguisher and when to flee.

Please direct any questions on this topic to the Site Protection Division. ■

The ESH&S Department Wants to Hear from YOU!

Do you think there's a new topic that should be included in the SafetyWiki? Do you have a question on a requirement? Do you need more information about a safety topic? Let us know! If it's of interest to you, it's likely of interest to others. The ESH&S Department wants to make sure you have the information you need to work safely, be it here or at home. If there's a topic you'd like to see in the ESH&S Newsletter, the SafetyWiki, or otherwise addressed by our department, please get in touch! Email suggestions to dstrauss@pppl.gov. ■

High Strength Bolts, Counterfeit or Suspect: Why Care?

By Barry Jedic

I was not happy when my grade 8 bolt failed in my snow blower with two feet of snow on my driveway. The failure disengaged the drive wheels. Ever try to push a snow blower through two feet of snow with no drive wheels? Don't! It turned out that the bolt was not counterfeit or suspect but just a good old fashioned mechanical failure. Fortunately, that was not a catastrophic failure causing an injury or major equipment damage. But I certainly checked to ensure the replacement bolt (and spare) I purchased was not suspect or counterfeit!

Individuals involved in purchasing high fasteners for use on site (both fasteners for installations on site as well as those included in purchased equipment) need to take certain steps to ensure they will work as advertised.

So let's talk high strength bolts!

High Strength? Bolts with a tensile strength equal to or greater than 100,000 psi, such as grade 5, grade 8 and A325 bolts are considered high strength by PPPL's definition.

When used? Bolts are used when the design relies on bolts having a minimum tensile strength of 100,000 psi or greater.

Bolts are a subset of high strength fasteners, which also include high strength nuts, rods, etc. These must be purchased via a requisition and purchase order to ensure proper certification is received. PCards cannot be used for purchase as proper certification cannot be reliably specified in that situation.

How do you identify a suspect / counterfeit bolt?

Markings on the head of the bolt are used. Hash marks can indicate the grade.

This bolt is Grade 5 as indicated by the three hash marks.

This bolt is a Grade 8 indicated by the six hash marks.

Both are considered high strength at PPPL and both are NOT PERMITTED to be used on site. Why? Neither has a manufacturer's mark so they are both considered "suspect".

This grade 8 bolt, however, is acceptable when purchased with a material certificate as it does contain the manufacturer's mark. The LE is the manufacturer mark of Lake Erie Screw (aka LEP), which is a reputable supplier of high strength fasteners in the United States.

Counterfeit Bolts?

Two of the three bolts here are "counterfeit." How do we know? We can tell because of certain headmarks. The centered KS on the grade 5 bolts, for example, identifies the bolts as counterfeit. QA maintains a list of unacceptable headmarks that can be found on the QA webpage. The other bolt pictured is also considered "suspect," and you should already know why if you have read this far!

If you have questions on suspect or counterfeit parts, please contact Quality Assurance. Guidance will be readily available. For those who purchase high strength fasteners, training is available at http://www-local.pppl.gov/qa/SCI/SCI.shtml

Recently, the Suspect / Counterfeit Committee (yes, it does exist!) met to discuss how to handle high strength fasteners when they arrive on site in commercial items such as transformers, motors, dust collectors, etc. Recommendations on how to better handle this situation were discussed and further information will be issued once it is finalized by the committee.

Just remember: High strength bolts need to be used with high strength nuts. But that is a whole other story! ■

Lessons Learned – Fake or Unauthorized UL Labels Raise Concerns at Another DOE National Laboratory

By Jerry Levine (Based on DOE Lessons Learned Database)

Lessons Learned Statement:

Avoid counterfeit electrical items and be skeptical about unusually low prices, particularly for smaller products and appliances (often targeted by counterfeiters). Be wary of products that don't have an authentic Underwriters Laboratories (UL) or Nationally Recognized Testing Laboratory (NRTL) label on the item itself.

Discussion:

Counterfeit goods are a thriving global business, encompassing far more than music CDs and designer handbags. In the case of electrical items, they pose a potentially serious hazard for buyers. Of particular concern is the growing number of counterfeit electrical items with fake or unauthorized Underwriters Laboratories (UL) labels. All electrical equipment and appliances used must be tested, certified and labeled by a Nationally Recognized Testing Laboratory (NRTL) such as UL. The items most often counterfeited are inexpensive consumer items such as power strips, cords, and other small items or small appliances. New or legacy electrical items with no UL or NRTL labels must be inspected by Electrical Safety before being used and labels on other items should also be checked to verify their authenticity.

Analysis:

Frequent notices are received about electrical equipment such as extension cords, power strips, heaters, fluorescent lamps, strobe lights, AC adaptors and other products that are counterfeit or have been found using an unauthorized UL label. Upon inspecting these items, it was found that strobe lights received had a legitimate UL label on the packaging, but not on the lights themselves. It was later determined that the lights did not have UL's endorsement.

Any electrical item being used that has not been certified by an OSHA-approved Nationally Recognized Testing Laboratory may be hazardous to use. For staff members' safety, all equipment without a UL or other OSHA-approved NRTL mark or label must be inspected by Electrical Safety before it is used.

UL has provided guidelines for recognizing authentic UL labels and has pointed out warning signs that indicate when a UL label may be counterfeit.

Four elements of a genuine UL label are (see figure):

1. The name and/or certification mark of Underwriters Laboratories (UL in a circle with the letters staggered)
2. The word "LISTED" in capital letters
3. A product identity (what the product is)
4. A control number (four alpha-numeric characters) or issue number (typically a sequence of four to six numbers). The issue number may or may not be preceded by one or two letters and may or may not be preceded by the phrase "Issue No."

Four elements of a genuine UL Mark

Actions:

Spotting Counterfeit Products

The International Chamber of Commerce projects the value of global counterfeiting at more than $1.7 trillion by 2015 and concern is mounting about increasing numbers of counterfeit and fraudulently labeled electrical products coming into the Lab. Procuring non-NRTL- or UL-listed electrical goods through this DOE Laboratory's P-card program is prohibited. If any newly acquired or legacy electrical items are acquired or found to be unlisted, they must be inspected before they are used.

For goods that come with fake UL labels, the best defense is a questioning attitude--and knowing what to look for to verify a label's authenticity (see figure). Counterfeit electrical items found at this DOE Laboratory included laser/outlet tables, research incubators and legacy items such as strobe lights without UL listings. Some things to watch for:

- Question a low price. Be skeptical. The price of an electrical item may be too good to be true. Examine the packaging and the equipment. If printing and graphics are sloppy, words are misspelled, or important information, such as a user manual, is missing, the item may be counterfeit.
- Examine small items. Counterfeiters don't often copy large, complex products. They are more likely to make phony lighting, ballasts, cords, transformers or other products and small appliances, using inferior wiring and other materials--and substandard manufacturing practices.
- Look for a UL label on the product. If a product has a UL label on the packaging but not on the product, that's a tip-off. Even if there is a label, determine its authenticity by comparing it to the elements listed in the figure above.

At PPPL, commercially available equipment must have a NRTL label (such as "UL"), or be inspected, analyzed and approved for use in accordance with the National Electric Code (NEC). See ESHD 5008 Section 2, Chapter 4, Paragraph 4.5, "Listed or Labeled Equipment" (http://bp.pppl.gov/ESHD_MANUAL/safety/es4.0.pdf). ■

Noteworthy Safe Practices in the Facilities & Site Services' Janitorial Group

Janitors showed quick thinking and safety consciousness in two recent incidents.

The janitors were getting ready to leave for the day on the afternoon of Aug. 22, when they were called about a leak in the first floor hallway of the COB building. Two janitors responded to the call, bringing with them a shop vacuum and mop bucket. As they sucked up water with the vacuum, more water continued to spill into the hallway. They looked around the floor and the walls and when they opened the Surface Imaging and Microanalysis Laboratory, they noticed there was a burning smell and water gushing out of the ceiling. Machinery and exposed electrical wires were in the room. The janitors immediately stopped the job and contacted Security, who took over and closed off the area. The janitors' actions prevented the possibility of electrical shock.

On Sept. 12, a contractor sent a truck with a new driver to pick up compost waste at PPPL. The new driver did not know were the totes were but a janitor was appointed as his contact. When the driver got to the cafeteria loading dock area, the janitor realized that the parking brake on the truck was not working. The driver informed the PPPL employee that he would put the truck in neutral and asked he janitor to provide a stone or block to hold the truck in place. Recognizing this as an unsafe practice, the janitor stopped the job and called Security. Security asked the driver to return with a properly working vehicle to pick up the compost and to make sure that the truck was repaired prior to bringing it back on site.

The compost waste was scheduled for pick up the day before this incident, and all the bins were overflowing. Despite the urgency of getting the bins emptied, the janitor made the right decision and put safety first. His action prevented the possibility of the truck rolling and hitting pedestrians and/or other vehicles in the area.

The choices and actions of the janitors show commendable hazard analysis and commitment to safety. Kudos! ■

Be Wary of Slippery Leaves

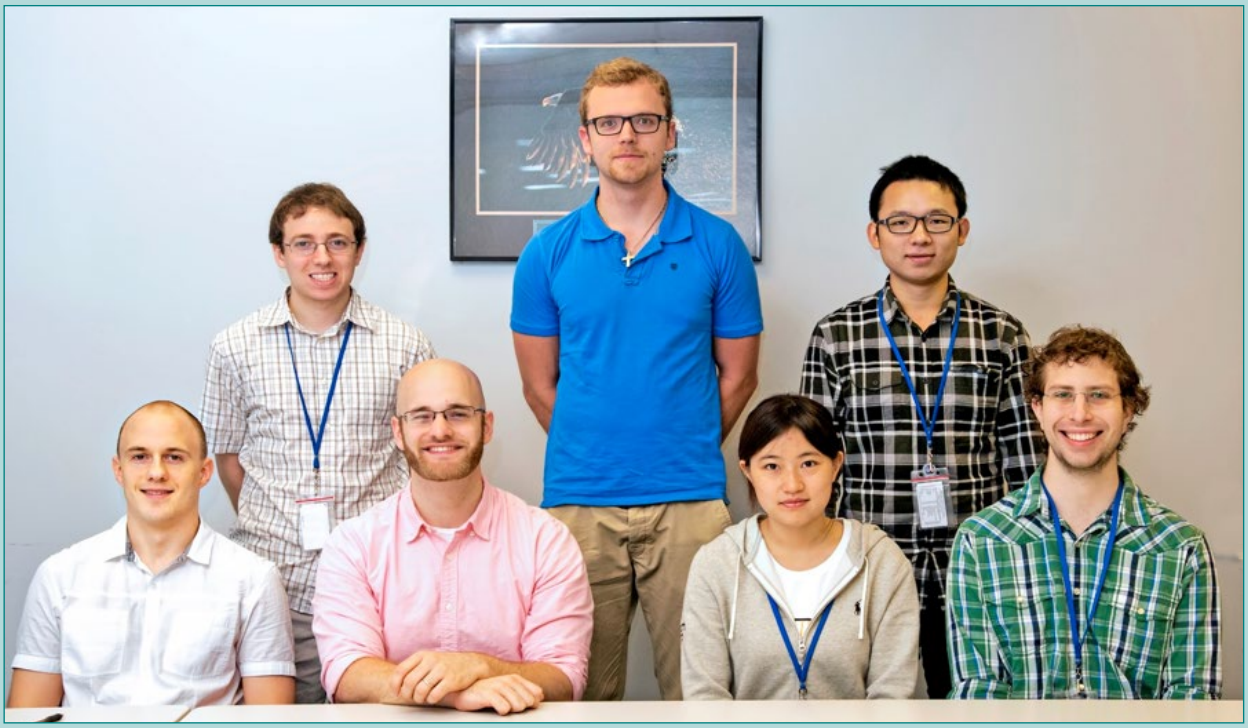
By the Site Protection Division

This time of year, the leaves on the trees are beautiful as they turn to vibrant orange, yellow and red. But that beauty can cause problems as the leaves fall to the ground. Autumn is the season that is often overlooked when it comes to safety but it presents its own set of challenges on the roads and sidewalks. While the weather is not as harsh as winter, it is easy to assume that driving and even walking isn't tricky. Fallen leaves may contain a large amount of water because of frost, fog, rain, sleet, or snow. Leaves combined with these conditions may cause slippery conditions.

Additionally, leaves can conceal hidden dangers below. It is common for a person to step in a hole or trip over an uneven sidewalk due to leaves concealing the dangerous sidewalk below. Drivers should be aware that wet leaves on the road surface can make stopping difficult, and piles of leaves can obscure potholes, curbs and street markings. Add to these hazards the fact that road conditions can change from ideal to miserable in a matter of minutes, and what you have is a potentially dangerous situation. Even when roads or sidewalks look dry, the underside of leaves may remain damp, so continue to be cautious and maintain safety. ■

Graduate Student Safety Training

PPPL's incoming class of graduate students took part in the ESH&S Department's Graduate Student Safety Training seminar in September. Classroom sessions covered hazard awareness, environmental safety, security and emergency preparedness, project safety controls, integrated safety management (ISM), and information on personal protective equipment (PPE). Tours of the NSTX Control Room, NBPC area, D-Site MGs, LTX, the S-109 shop, and the NSTX-U coil shop allowed the students to meet subject matter experts while getting a firsthand look at how safety is integrated into a variety of activities at the Laboratory.



Standing, left to right: Jeffrey Lestz (University of Washington), Matthias Knolker (Technische University Munich), Qian Teng (Peking University). Seated, left to right: Scott Keller (Rutgers University), Denis St-Onge (University of Alberta, Canada), Ge Dong (Peking University), Eugene Evans (University of California, Berkeley).

Found Items Left Unclaimed

Site Protection maintains a safe for lost and found articles; however more items are being turned in than retrieved. Contact the Communications Center at Ext. 2536 to report lost or missing personal items. Found items may be brought to the Communications Center in LSB-131.

Found articles include several pieces of jewelry, bank/gift cards, a navigation device, a personal music device, several sets of keys and several pairs of glasses. If you believe any of these items may be yours, please contact the Communications Center to identify and claim your item. Any cash that remains unclaimed is typically donated to the United Way at the end of the year.

Questions regarding Lost and Found may be directed to the Site Protection Division at Ext. 3208.

RECYCLING AND DISPOSAL OF HOUSEHOLD SMOKE DETECTORS

Most household smoke detectors use either photoelectric or ionization detection technologies. Photoelectric smoke detectors use a light beam to detect smoke and do not contain radioactive material. Ionization and "combination" detectors contain a small amount (about 1 micro-curie) of Americium-241.

When properly used, the Americium in the detector does not pose a health or environmental hazard. However, a detector can present a health hazard if it is broken during demolition or disposal. For this reason, all ionization detectors must be labeled as to radioactive content. The label is usually located on the "top" side of the detector and is visible when the detector is removed.

Although it is legal in New Jersey to dispose of an ionization smoke detector in the household trash, you are encouraged to return the detector back to the manufacturer. Detector companies must accept returned radioactive detectors for disposal. They are mandated by the Nuclear Regulatory Commission regulation to see that the radioactive material is disposed of properly at a nuclear waste disposal facility. Some manufacturers charge a small fee for this service.

When sending a smoke detector back to the manufacturer for disposal:

- Do not take apart the detector.
- Remove the batteries and properly dispose of or recycle them.
- No special shipping is needed. Wrap it in padding, seal it in a box, and send it.
- Mail smoke detectors back to the original manufacturer only.
- If unable to return a smoke detector to the manufacturer, remove the battery from the smoke detector and dispose of it in the garbage if no other options exist.
- Most county-run household hazardous waste programs do not accept smoke detectors.
- Some retails outlets, such as Lowe's or Home Depot, will accept smoke detectors purchased from them for disposal. Check with your local store.

This newsletter is issued by the U.S. Department of Energy's Princeton Plasma Physics Laboratory; under Contract No. DE-AC02-76CH03073. Correspondence and requests to reprint material should be directed to Head, ESH&S Office, P.O. Box 451, Princeton, NJ 08543. Interoffice correspondence should be addressed to Jerry Levine (MS-1, fax 609-243-3375, telephone 609-243-3439; or e-mail to jlevine@pppl.gov).

Layout Design and Graphics: Gregory J. Czechowicz, PPPL Communications
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