

## INSIDE

Fall 2015

<b>Safety Culture Survey Actions</b>	<b>1</b>	<b>External Lessons Learned – Aging Facilities</b>	<b>8</b>
<b>Incident Response</b>	<b>2</b>	<b>Overloaded Power Strip Catches Fire</b>	<b>9</b>
<b>Root Cause Analyses</b>	<b>3</b>	<b>Graduate Student Safety Training</b>	<b>10</b>
<b>C-Site MG Safety Changes &amp; Activities</b>	<b>4</b>	<b>Pay Attention to Unusual Occurrences</b>	<b>11</b>
<b>Safety Division Contact Information</b>	<b>5</b>	<b>Ergonomic Evaluations Improve Work</b>	<b>11</b>
<b>Safety Contest</b>	<b>6</b>	<b>Heavy Loads Require Special Bins</b>	<b>12</b>
<b>Personnel Update (S. Thiel)</b>	<b>7</b>	<b>Food and Container Disposal</b>	<b>12</b>
<b>Safety Video Library Available</b>	<b>7</b>	<b>Sustainable PPPL – Batteries and Bulbs</b>	<b>13</b>
<b>Internal Lessons Learned</b>	<b>7</b>		

## Safety Culture Surveys Result in Action

By Dorothy Strauss

The results of the 2014 safety culture surveys were overwhelmingly positive but staff identified a few areas for improvement. The ES&H Executive Board asked the Safety Review and Safety Champions committees to make recommendations based on the survey results. Actions have been assigned to various individuals and are summarized below:

### INCREASE RECOGNITION FOR SAFE WORK

- Event planners will be encouraged to reference safety in talks at Lab gatherings.
- Senior management will be reminded periodically to consider sending letters to special safety achievers and to utilize SPOT awards when possible.
- The Council will be apprised quarterly of SPOT awards issued, including those for safety.



## EDUCATE STAFF ON INCIDENT RESPONSE AND IMPROVE PROCESS

- Internal lessons learned will be publicized in the ES&H Newsletter, beginning with this issue (see [page 7](#)).
- [GEN-006](#), which governs the investigation and follow-up of adverse events and conditions, has been summarized in this newsletter (see below).
- The Safety Champions Committee will take the lead in providing a safety forum to the staff as a means of communicating safety messages and updates.
- An overview of the incident investigation and root cause analysis processes and purpose will be added to the agenda for future quarterly supervisors' meetings.
- An email was sent to supervisors in September encouraging them to take [incident response training](#).
- The look and searchability of the [lessons learned website](#) will be improved.
- A communications plan will be developed that identifies PPPL's standard plan and parallels

GEN-006 so incident response and actions can be communicated to the staff in an organized and consistent manner.

- An article on the root cause analysis process is included in this newsletter (see [page 3](#)).

## ENSURE LESSONS LEARNED ARE LEARNED

- A self-assessment of the lessons learned program will be conducted to evaluate how effective PPPL has been at integrating lessons from incidents and external events into PPPL processes and requirements, including refresher training offered for significant changes.

## AID STAFF IN FINDING WAYS TO COMPLETE WORK SAFELY

- The committees had multiple suggestions, which were incorporated into a [Safety Note of the Month](#) poster that was displayed around the Laboratory during October.

Thank you to everyone who participated in the safety culture surveys in 2014 and 2015! A review of the 2015 survey results is underway and actions will be reported in a future edition of the ES&H Newsletter. ■

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## Understanding PPPL Incident Response

By Bill Slavin

Results of the 2014 safety culture survey that was initiated by Laboratory Director Stewart Prager and conducted by ES&H staff members show that there is still some concern among staff about how the Lab responds to incidents. Primarily, the two issues that staff rated low are that management is perceived to overreact to incidents and that the Lab may not learn from its mistakes. A Lab-wide procedure, [GEN-006](#), describes the primary methods for incident response. To clarify how incidents are handled at PPPL, here is a summary of the procedure and what you need to do if something "unusual" happens at the Lab.

It all starts with you. If an adverse (unfavorable or unwanted) event happens and you see it or discover it, YOU must report it immediately to Site Protection, either by dialing x3333 in an emergency or x2536 for everything else. Site Protection will then respond as appropriate either by sending ESU to the area in an

emergency or simply notifying the on-duty facility manager (FM) for other situations. The FM will then determine if the event requires reporting to the DOE, other agencies, or individuals.

Once the immediate situation is secured, the FM, along with the Deputy Director for Operations, will determine if further investigation is warranted. Work will sometimes be stopped until the Lab leadership is confident that there is no further danger. Injury cases are usually handled by ES&H, while other subject matter experts handle technical investigations. The depth of the investigation will vary based on the incident. If there is a possibility that the incident may happen elsewhere in the Lab, an "extent of condition" review will try to determine where else it may happen. If the cause of the incident appears to be a systemic one, in which there may have been a breakdown in the Lab's programs that allowed it to happen, a root

cause analysis (an in-depth search for the causes) may occur. (For additional information on root cause analyses, please see the related article below.) In some cases, outside experts from Princeton University, other DOE Labs, or elsewhere may be recruited to help us determine the causes.

The reason these investigations are held and the reason why they may be very intense is for one reason only: TO PREVENT IT FROM HAPPENING AGAIN! The Lab does not try to pin the cause on an individual. Blame is not placed on individuals unless a person intentionally set out to cause trouble. Mistakes happen, but the Lab's systems are there to try to make sure that the consequences of those mistakes are not severe. The goal is to improve the systems to

reduce the risk of incidents happening again and to minimize the effects of adverse incidents should they occur again. Any lessons learned are usually added to existing systems and may not be readily apparent. If you were involved in or reported an incident, it may sometimes seem as though you are receiving a great deal of unwanted or unwarranted attention, but be assured this is necessary to determine the incident's cause and prevent a recurrence.

Lastly, it is *very important* that you report an incident if you witness or are involved in an adverse event. If you don't, and the situation is not investigated and corrected, it may occur again. This could result in additional injuries to personnel and much more severe consequences for the Laboratory as a whole. ■

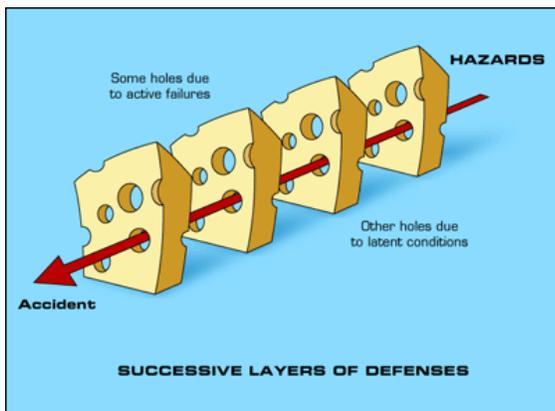
## Root Cause Analysis – What's It All About?

By Judy Malsbury

**A** root cause analysis team (RCA) is created after an event occurs. The event could be an accident, multiple related issues identified during a review or audit, an unexpected hardware failure, etc.

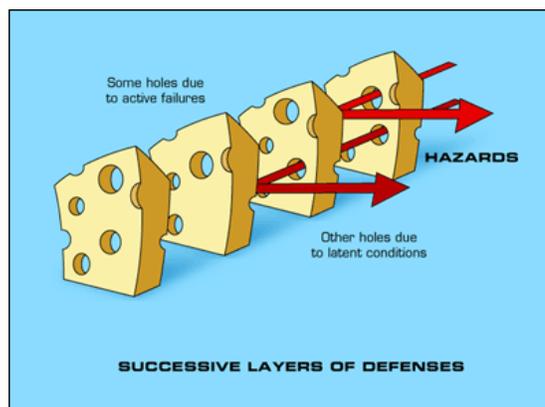
The RCA is a systematic process to review the event, identify what went wrong *and* what went well, and provide insights into how the event and similar events could be prevented in the future. Notice that the focus is prevention, NOT blame. If we can identify the systems or processes that failed, we can correct them and prevent future problems.

As an example, the diagram below illustrates how an accident or event can occur when the layers of defense are not adequate:



The trigger for an accident is the last action that happened before the accident. It may be pushing the wrong button on a control panel or powering up a system. In the illustration above, there is nothing in the defenses to prevent this trigger from resulting in an accident.

An example of adequate layers of defense, also known as barriers, is illustrated below. The trigger for the accident still exists, but some layers prevent the accident from actually happening.



How does an RCA typically proceed? The major tool that the team uses is a timeline of what happened compared to what should have happened. The timeline is based on interviews, a review of procedures and records, a review of the site of the event, hardware, and software involved in the events, etc. Typical interviews

would include those involved in the event, the managers responsible for the work being performed, and ES&H staff when appropriate. The timeline covers planning for the work, performing the work that led to the event, and any cleanup or recovery after the event.

The RCA team reviews the timeline once it is completed. Were the barriers involved in the event adequate or did they fail? These inadequate barriers may be administrative, such as training or procedures, or physical such as personal protective equipment. If the work had been performed successfully before, were there differences in this incident that could help explain the failure? Were there conditions in this work that impacted the human performance, such as time pressures, a high workload, or lack of proficiency with the specific task?

Once the timeline is completed, the RCA uses it to determine the causes of the event. There are three types of causes – direct, root, and contributory. Direct causes are typically easy to determine and are the *immediate* events or conditions that caused the incident, for example, pushing a button. Root causes are the most basic cause or combination of causes that management can fix and, when fixed, will prevent or significantly reduce the likelihood of recurrence. Contributory causes are the other identified causes.

Once causes are identified, corrective actions will be identified and assigned to specific individuals. These commitments are tracked by QA until closed.

#### EXAMPLES OF ROOT CAUSES FROM ACTUAL PPPL RCAS ARE:

**1.** In 2011, newly installed chilled water piping was undergoing a pressurized test. The line failed, resulting in water spraying approximately 25 feet in the air. Approximately 10 minutes before this rupture, the contract pipefitter had been inspecting a small

leak near the point of failure. Had he been in the area where the joint ruptured, he could have been injured.

Two root causes were identified: The risk of proximity to a pressurized pipe was not adequately perceived, and the safety requirements in ENG-014, Attachment 2, Guidelines for Hydrostatic and Pneumatic Testing were inadequate.

**2.** In 2012, a QA audit of laser safety identified two findings. At the request of management, an RCA was performed to identify any unknown gaps in the program.

Two root causes were identified: The laser safety program controls were inadequate to assure the safe use of class 3b and class 4 lasers and the principle laser safety officers did not adequately assume responsibility for the safe operation of lasers.

**3.** In 2013, two issues were identified with software systems at PPPL – unexplained loss of data in a database and inadequate backups of data in a second system.

The root cause for the unexplained loss of data was due to incompatibilities between the database package, users running Windows-based systems, and users running Macintosh systems.

The root cause for the inadequate backups was due to the fact that PPPL had no clearly articulated process for piloting approaches for software development efforts for which in-house experience does not exist.

Actual root cause analysis reports related to ES&H issues may be found at <http://www-local.pppl.gov/esh/SpecialReportList.htm>.

The key to remember is that the RCA process is a powerful tool to help assure that problems do not recur and to encourage the continuous improvement of PPPL processes and programs for engineering, operations, and safety. ■

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## C-MG Work Brings Many Safety-Related Changes and Activities

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By Julia Toth

**W**ith preparations for the IOI renovation project starting, many safety changes have been made to requirements for working in the C-Site Motor Generator (MG) building. These changes were necessary to limit personnel's exposure to contaminants that were discovered in certain areas such as lead,

cadmium, and polychlorinated biphenyls (PCBs). Lead and cadmium are heavy metals, and are typically taken into the body by ingestion (eating or drinking with contaminated hands) or inhaling dust that has been stirred up. Both metals are toxic to humans and may cause damage to a variety of internal organs

such as the kidneys or liver. PCBs were typically used decades ago as an additive in oils, plastics, and many other products. PCBs can cause cancer, liver damage, and other health effects by being absorbed into the body through the skin or by inhalation or ingestion. Industrial hygiene samples were taken prior to the start of and also during preparatory work in the C-Site MG Building, which indicated no airborne hazards from the metals and PCBs. This means that the contamination was sticking to the surface. Most accessible horizontal surfaces in the C-MG building have been vacuumed to reduce the levels of PCBs below regulatory limits, but some levels of lead and cadmium remain, so lead safety awareness training (available on the [HR/Training website](#)) is required for all workers performing tasks in the C-Site MG building.



C-Site MG Building

Currently, the C-MG building is an active construction area; therefore, hard hats are required (and will remain required throughout the project) at all times. The area has now been turned over to contractors for concrete demolition, so access will NOT be permitted for casual entry. Anyone who needs to work in the

building must check with the PPPL construction coordinator, whose contact information will be posted on signs outside the C-Site MG access doors, and review any applicable JHAs before work begins.

Further, the Industrial Hygiene staff recommends anyone working in the C-MG building wear gloves and disposable coveralls in order to prevent spreading contamination. We especially recommend gloves and coveralls for anyone working with cable trays and other hard to clean locations since PCBs can be absorbed through the skin and may still be found in those areas. Personnel may also voluntarily wear disposable dust masks but must complete the required [dust mask/N95 training](#) available on the HR/Training website, prior to use. There are no special requirements for the disposal of any PPE. Avoid dry sweeping or other activities that may create airborne dust.

It is extremely important to follow proper hygiene when working in this area. Eating, drinking or use of tobacco products is prohibited throughout the building. Also all workers must thoroughly wash their hands when completing their work. Following these procedures will minimize your exposure to contaminants.

As construction proceeds to the next phase, the Safety Division will continue to perform sampling to ensure the safety of operations and determine the safest way to handle personnel access. The Safety Division plans to hire a construction safety person who will provide oversight specifically to the IOI Project construction activities, thereby ensuring the safety of those working on the project and ensuring the project complies with related requirements and standards.

If you have any safety questions or concerns regarding the IOI Project, please contact Bill Slavin (ext. 2533) or Keith Rule (ext. 2329). ■

## Report Safety Concerns, Questions, Ideas

Notify your supervisor (or HR if chain-of-command is a concern)

[SOS Box](#) - can be anonymous if you prefer.

If you include your name, we will respond to you directly as well as on the website.

[Safety@pppl.gov](mailto:Safety@pppl.gov)

[Director's Suggestion Box](#)

**FOR SAFETY DIVISION-SPECIFIC CONCERNS, PLEASE CONTACT:**

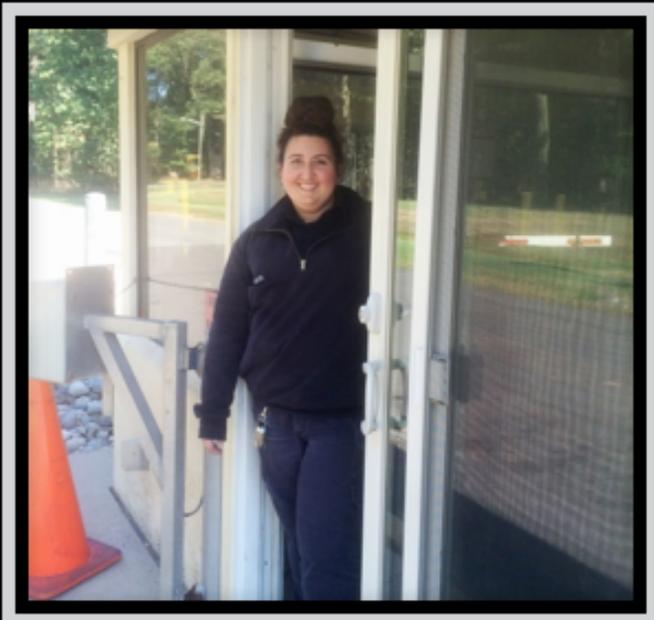
**Industrial Hygiene, Industrial / Construction Safety, Ergonomic Evaluations, Chemical Approvals:** Bill Slavin (x2533), Neil Gerrish (x2531), or Julia Toth (x2832)  
**Laser Safety / Scaffolding Review:** Bill Slavin (x2533)  
**Electrical Safety:** Glenn Anderson (x3740)

## Safety Contest

These four pictures can be described by one word. Can you figure it out? The answer can be made from some of the letters beneath the pictures. Submit the common word to [dstrauss@pppl.gov](mailto:dstrauss@pppl.gov) by Fri., Jan. 8. The names of all entrants who correctly answer the puzzle will be entered into a drawing for a \$20 gift

certificate to the PPPL Plasma Hutch. Safety Division members are not eligible.

Congratulations to James Beard, who won the summer 2015 ES&H Newsletter contest! ■



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## Personnel Update

**S**ue Thiel has taken the new position of Health Physics Support Assistant within the Health Physics (HP) Division. In this position, Sue will be supporting the Lab's radiation dosimetry program, including issuance of dosimetry, maintenance of dose records, and satisfying reporting requirements. Additional responsibilities will include Nuclear Material Control and Accountability (MC&A) Health Physics records management, and backup support for additional HP



and Safety programs. Sue's recent background as a Health Physics Technician and prior experience within the Site Protection Division provides a solid knowledge base and understanding for her to successfully support these programs. ■

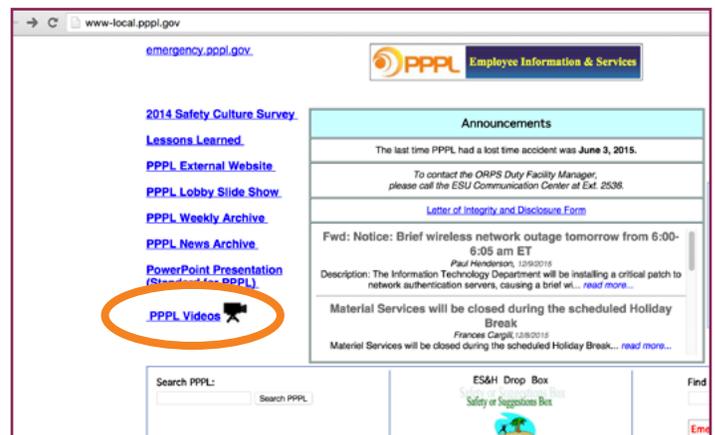
## Safety Video Library Available For Your Use

By Julia Toth

**N**ew to the PPPL Employee Services home page (by clicking on the PPPL Videos link) is the safety video library. This library provides a collection of various safety-related videos for everyone at the lab to use. The Safety Champions Committee developed the idea as a way to introduce safety topics at safety meetings, toolbox talks, or similar trainings and communications. Currently, several videos are available and new videos will be added to the library periodically.

The idea of the safety video library is to raise awareness and encourage discussion regarding workplace and home safety-related topics. A video team including Barry Jedic, Elle Starkman, and Julia Toth edits and reviews all videos. Prior to inclusion in the safety video library, the Safety Division reviews the videos to ensure they are comprehensive and accurate.

The videos vary in length from 15-minute trainings to 1-minute clips and the topics range from battery safety and back safety to winter weather and construction work. Communication is vital to spreading the safety



word, and this library is a great way to introduce a safety topic or enhance discussion during your next safety talk or meeting. Individuals should feel free to review the videos for their own information as well.

Questions or suggestions for additions can be directed to B. Jedic, [bjedic@pppl.gov](mailto:bjedic@pppl.gov), ext. 3516, E. Starkman, [estarkma@pppl.gov](mailto:estarkma@pppl.gov), ext. 2090, or J. Toth, [jtoth@pppl.gov](mailto:jtoth@pppl.gov), ext. 2832. ■

## Lessons Learned from Internal Incidents

By Neil Gerrish

**S**afety is an important part of day-to-day operations. However, even with controls in place, accidents and injuries occur occasionally. Any time someone gets hurt, a lesson can be learned. It is important to capture this information so that we can prevent recurrence.

Numerous strains and sprains have been reported because individuals work through discomfort. Pulling cables overhead for long periods of time resulted in a shoulder injury. Extended sitting caused a fall when an extremity fell asleep and resulted in a broken bone. You can prevent these types of injuries. If the work

is considered routine, listen to your body. Avoiding awkward body positions and taking breaks can help tremendously.

Dust particles falling off the bottom of roll-up doors and ethyl alcohol splashing into eyes have resulted in (fortunately) minor injuries. Always use the appropriate personal protective equipment (PPE). If you are using liquid chemicals, you should know safety glasses are not designed to prevent splashed material from entering your eye. You must use goggles.

Employees have also tripped over debris in aisle ways or on uneven pavement in the parking lots. Most have resulted in scrapes and bruising, however a few suffered broken bones. Focusing on the task at hand

is crucial, even if it's just walking. Wear appropriate footwear for conditions outside and tasks at work and avoid distractions.

While we don't want anyone to get injured, each investigation provides a valuable learning experience that may prevent future incidents. Remember, if you do get hurt—even a minor injury—inform your supervisor and report to the Occupational Medicine Office (OMO).

Reports on occupational injury & illness cases with lessons and recommendations of interest to PPPL staff are now being posted to the PPPL [Lessons Learned web page](#). This link is also available from the PPPL Staff Resources home page. ■

## Lessons Learned – Stair Treads in Aging Facilities Can Dislodge Suddenly Creating Slip/Trip Hazards

By Jerry Levine (Based on DOE Lessons Learned Database)

### LESSONS LEARNED STATEMENT:

Stair tread covers in aging facilities can experience adhesive failure that is not readily evident, creating a potential trip/slip hazard that is unknown to people who use the stairs. Inspection and repair activities must consider the age and condition of all treads on a set of stairs when indications of failure are noted, and replace similar treads before they fail.

### DISCUSSION:

A worker at another DOE Lab was descending a set of stairs inside an older facility when one of the rubber stair tread coverings came completely loose and slid, causing him to lose his footing and fall approximately 10 feet down the stairs. The fall resulted in a shoulder injury that required a surgical repair. The worker was holding the stair railing with his left hand, and as he lost his footing tried to arrest the fall by gripping the railing tightly. The loose tread remained in one piece and the worker “rode” the tread as he fell to the bottom of the stairs. After the fall, the worker experienced pain in his left shoulder and left knee. He was seen by site medical personnel then sent to an off-site physician for further evaluation. The worker was released back to work with physical restrictions, but it was later determined that surgery would be required to correct damage to the worker's shoulder.



## ANALYSIS:

The adhesive that anchored the tread cover to the metal stairs had deteriorated with age and the portion that was still securing the tread released suddenly as the worker transferred his weight to the tread. The worker was not placing undue stress on the stair tread and was not rushing down the stairs. The tread was attached and had functioned normally 20 minutes earlier when the worker ascended the stairs.

Aging facilities present special problems for items that do not require periodic maintenance. Stair tread covers and the adhesives used to anchor them are considered “permanent” and are not normally replaced at a set interval. The need to replace tread covers is normally based on indications of wear or physical damage such as a broken lip or cracked surface. For the stairs associated with this event, several of the tread covers had been replaced previously and one was missing pending future replacement.

A review of maintenance activities to replace or repair damaged stair treads/covers across the Lab site where this incident occurred showed 47 work requests had been generated for this purpose since January 30, 2006. Based on the variety of locations and the number of work requests, there was no single area that indicated an unusual replacement frequency.

Discussions with personnel who perform site-wide Facility Condition Assessment Survey activities at this Lab (where all facilities are inspected for physical adequacy every three years) confirmed that stairwells are a part of those inspections. They also confirmed that tread covers that are observed damaged, loose or missing are reported to the facility manager for repair/replacement action along with other facility deficiencies. If an unsafe condition is noted by the inspectors, the area is controlled and the facility manager is notified immediately.

## RECOMMENDATIONS:

In aging facilities where older stairs have tread covers installed, perform an inspection of the covers and note the physical condition including the possibility for tread adhesive to be loose and/or failing, then repair or replace them.

Whenever stair treads/covers are discovered damaged or loose, consider evaluation of the adjacent treads/covers as well for signs of wear or loose adhesive. When the conditions are questionable, replace all of the treads.

If you see a facility safety issue at PPPL, please report it to the Online Work Request System (<https://ifa-facilities.princeton.edu/WebMaintPPPL/NoCAS/login.aspx>) or to the SOS Box ([http://www-local.pppl.gov/ihs/ESH\\_Report.html](http://www-local.pppl.gov/ihs/ESH_Report.html)). ■

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## Overloaded Power Strip Catches Fire

By Glenn Anderson

**A**t another laboratory, a power strip under a cafeteria cashier’s station caught on fire during the lunch hour. Fortunately, the cashier had the presence of mind to move a plastic waste can of combustibles away from the unit and yell out, “Fire!” The fire department responded and the fire was quickly extinguished.

An investigation found that an ice cream cooler, capable of drawing about 14 amps of current, was plugged into a power strip along with other miscellaneous electrical equipment. This overloaded the power strip and caused the fire. The power strip was also found not to have a circuit breaker or fuse, which would have tripped and prevented the overload.



Burned power strip

To avoid having a similar event occur here:

- Make sure that no high current loads are plugged into power strips (e.g., refrigerators, coolers/ freezers, coffee pots, microwave ovens, space heaters, heat guns, etc.).
- Confirm that power strips have a circuit breaker or fuse and that they bear the listing label of a Nationally Recognized Testing Laboratory such as UL, CSA, TUV or ETL.
- Ensure that power strips and extension cords are not “daisy-chained” (i.e., one plugged into another).
- Inspect electrical cords before plugging in and take frayed or cut items out of service.
- Do not open or troubleshoot electrical equipment if you are not a qualified electrical worker.

Questions can be directed to [Glenn Anderson](#), electrical safety specialist. ■

## Graduate Student Safety Training Introduces New Class to PPPL's Safety Methods

By Dorothy Strauss

**P** PPL's incoming class of graduate students took part in the ES&H 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

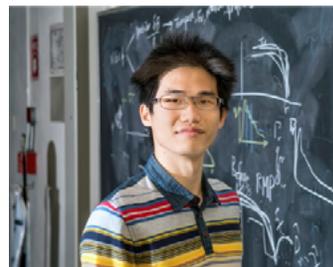
(PPE). Tours of the NSTX Control Room and test cell, NBPC area, D-Site MGs, LTX, and the S-109 shop allowed the students to meet subject matter experts while getting a firsthand look at how safety is integrated into a variety of activities at the Laboratory. ■



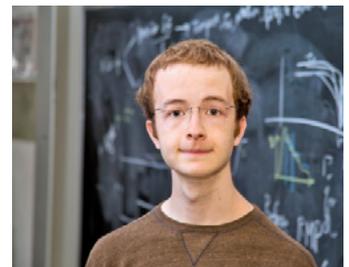
Andrew Alt  
*University of Wisconsin  
- Madison*



Alexander Glasser  
*Harvard University*



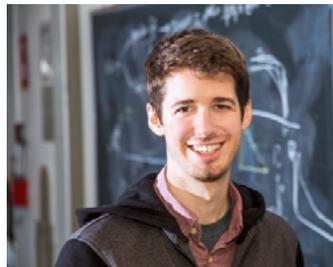
Derek Man Hon Hung  
*University of Michigan -  
Ann Arbor*



Elijah Kolmes  
*Princeton University*



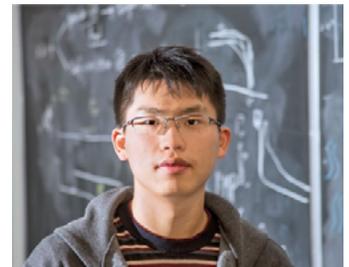
Nicolas Lopez  
*Massachusetts Institute of  
Technology*



Ian Ochs  
*Harvard University*



David Smith  
*University of Pennsylvania*



Hongxuan Zhu  
*Peking University*

## Pay Attention to Unusual Occurrences

By Dorothy Strauss

**T**racking down the cause of off-normal incidents is important both at work and at home. An unusual sound, odor, temperature, vibration, or other indicator may signal that something is about to go wrong, and catching problems in their earliest stages may prevent harmful or costly events. PPPL retiree Joe Carson submitted the following account, which demonstrates the importance of persevering until the source of a potential problem is identified.

“My son kept smelling something in the area of his dryer but they couldn’t pin it down to when the dryer was running. He thought it was the exhaust or an external filter. He finally got close enough to the outlet to touch it and it was hot. It seems the one contact wasn’t making contact intermittently. The smell came and went. It was a good discovery. He replaced the outlet and the dryer cord and everyone is happy again.”

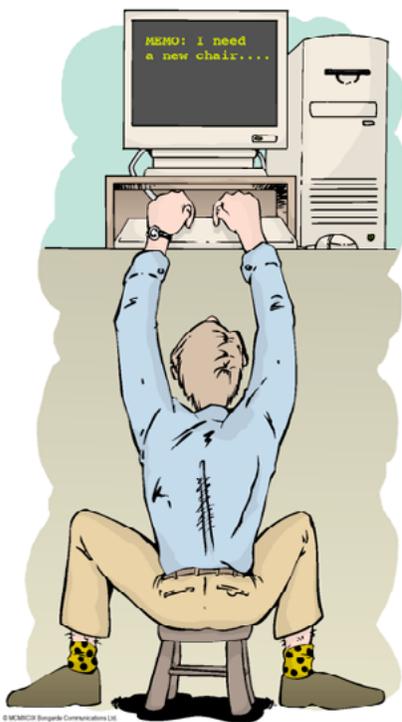
Be sure to investigate anything out of the ordinary. Your perseverance may prevent injury or equipment damage. ■



Photo provided by J. Carson

## Ergonomic Evaluations Improve Work Stations and Physical Tasks

By Julia Toth



**E**rgonomics is a significant component to working safely. The goal of ergonomics is to fit a job to a person, thereby reducing stress placed upon the body. Although there is no ergonomic standard, the federal Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) recognize that the work you perform may cause injuries. This includes work common to construction, maintenance, and office tasks.

When the Safety Division performs an ergonomic evaluation we look at rearranging, changing, or creating a workspace or job task that corresponds to your physical needs. For instance, we examine tooling work, awkward postures, lifting requirements, and the repetitive nature of jobs in field locations. Likewise, in office work, we examine the workstation set-up, the way you sit and stand, the tools you use, lighting, noise, and temperature.

Many common ergonomic issues at PPPL are associated with computer workstations. A blend of new and old equipment provides the potential for risk of injury throughout our offices. Neck pain, back pain, arm pain, and headaches may be associated with a poor arrangement of keyboards, monitors, laptops, or office chairs. Other common issues throughout PPPL occur when staff members lift heavy objects or are not aware of available ergonomic tools.

PPPL is committed to providing a hazard-free work environment so if you have a question regarding the set-up of your workstation or job tasks, request an evaluation. The ergonomic evaluation could decrease your pain, increase your energy, and help make your workday a little easier. [Http://www-local.pppl.gov/ihs/Ergo/EvalRequest.html](http://www-local.pppl.gov/ihs/Ergo/EvalRequest.html). ■

## Heavy Loads Require Special Bins

Everyone should be familiar with the large totes on wheels (pictured right) available for recyclable materials. To keep the weight load manageable, the bins are marked with a maximum fill line. However, not all loads are equal. If you are recycling heavy materials such as books, files, or large quantities of material, please contact Margaret King (x3652) so the janitorial staff can provide a dump cart (pictured below). Dump carts make it easier and safer for janitorial team members to move and empty heavy loads. Thank you for your cooperation! ■



## If You Ate, Don't Wait!

Remnants of yesterday's lunch are not only attractive to a variety of critters but can also quickly produce an aroma. Janitorial staff members will not remove food, dishes, packaging, or cafeteria trays or silverware from your desk or workspace. It is your responsibility to promptly dispose of or return these items to keep all areas clean and odor-free. Rinsing cans, bottles, yogurt cups, tuna fish tins, and the like is also helpful. Avoid leaving food on desks or disposing of food in office bins. All food waste should be placed in the food waste compost bins, which are green and/or have green signage. If you are storing food, please ensure containers are tightly sealed and, if necessary, refrigerated promptly. Thank you! ■



Dispose of food waste properly. Do not dispose of food or food service items in office trash.



## Bulbs & Batteries

### Proper recycling protects the environment.

**F**luorescent bulbs are energy efficient, but they contain the toxic metal mercury and must be properly recycled at the end of their life. While many disposable batteries don't have mercury added when they are manufactured, they contain valuable minerals and can leach metals into the environment if not recycled.

PPPL has a recycling program for batteries and fluorescent bulbs that are generated at the laboratory. There are 36 battery recycling locations around the Laboratory that are available to all employees. One fluorescent bulb recycling station is used only by PPPL electricians. Waste Management Technicians

of the Environmental Services Division collect all batteries and fluorescent bulbs and package them for recycling at permitted off-site facilities.

DOE funding pays for our recycling program, which includes the transfer, packaging, transportation, and recycling of these items. The Laboratory can only accept for recycling those bulbs and/or batteries that have been generated at PPPL.



### Batteries and fluorescent bulbs from employees' homes may not be recycled at the Laboratory.



Employees are encouraged to take their batteries and fluorescent bulbs to local recycling facilities. All Home Depot and Lowes stores accept fluorescent bulbs for recycling and some also accept batteries and other materials. New Jersey has an active recycling program for batteries and fluorescent bulbs as well as household hazardous waste, electronics, etc. Recycling NJ (<http://recyclingnj.com>) is a very user friendly website which provides all of the necessary information for your home recycling needs. In addition, this website provides links to your [local county website](#). Most county websites will have specific information about their recycling and universal waste disposal.

Finally, personnel from the Environmental Services Division are happy to assist you in locating information about the recycling and/or disposal of household items. Please contact us Mark Swanek (x3391), Rick Horner (x3201), or Maria Pueyo (x2213). ■

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