# Environmentally Speaking

**A Newsletter by Environmental Safety Division**

**Fall, Sept. 2008** **Volume 1, Issue 2**


## In This Issue:



## ESD: Going Green

**By: Chad Cheely, Environmental Safety Specialist**

This is the first of a new section in Environmentally Speaking. ESD has recently taken steps to become more environmentally friendly in the office. Over time this section will be composed of articles about environmentally friendly events around campus as well as things you can do in your office/home to participate in going green.

These days more and more people are going green. It's become everyday talk and is even the focus of many presidential election commercials. Most of the information we receive are ways to go green at home and in our personal lives: hybrid vehicles, energy saving light bulbs, "Energystar" appliances. These same practices can be used at work. A large portion of people probably spend more time awake at work than they do at home. This leads to large energy consumption in the workplace. Here are a few practices that can be adopted in your workplace:

- Energy saving light bulbs can be used in offices that use lamps for light. Be sure to turn them out when you are out of the office.
- Another option is alternative transportation for departments that drive vehicles for on-campus business. There are already multiple departments around UGA that use electric carts for their campus travelling.

Most departments also have recycling in place. If yours doesn't, Andrew Lentini is the recycling coordinator for the university. You can reach him by phone at 542-3152 or check out their website: gogreen.uga.edu/recycle.

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# Novelty Lighters

**By: Tori Outlaw**
**Fire Safety Inspector**

What happens when a lighter looks like a toy? There are several types and styles of novelty lighters being sold across the state. These lighters resemble toys. Steps should be taken to make sure the novelty lighters do not fall in to children's hands.

Novelty lighters are defined as "lighters that have features that make them attractive to children under five, including lighters with features entertaining to children, such as visual effects like flashing lights, or sound effects."

Many injuries and deaths have occurred because of novelty lighters, such as the death of Peyton and Breydon Edwards on September 25, 2007. The Edwards brothers were playing with a motorcycle shaped lighter and set their apartment on fire resulting in their death.

What can be done? There is an urgent need to survey your home and places where your children play and stay. Make sure that all lighters and matches are always carefully secured and only accessible to adults. Also make sure that toy-like and novelty lighters are removed from the premises.

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# Outlying Areas

**By: Bill Favaloro, Manager of Outlying Areas**

## A New Way of Fishing!!

### Below is a TED called the Big Boy

Sinkey Boone, inventor of the original turtle excluder device (TED), is testing a new design.

This TED, called the **Big Boy**, was developed specifically to easily exclude endangered leatherback sea turtles, and to reduce stress as all sea turtles escape.

This adaptation is also designed to reduce bycatch of finfish, sharks and rays, and ecologically important invertebrates such as horseshoe crabs.

The University of Georgia Marine Extension Service brought together scientists, fishermen, and volunteers to begin a pilot study. Testing was conducted aboard the R/V Georgia Bulldog, a 73' shrimp boat which has been converted for research and education.

*(description of picture cont. on page 3)*

# New Safety Seminar Offered This Fall

**By: Bill Favaloro**
**Manager for Outlying Facilities**

## Safe Handling of Compressed Gas Cylinders

The dangers of handing compressed gas cylinders are significant, including explosion, fire, exposure to toxic gases and potentially death. If You Handle Compressed Gas Cylinders it is STRONGLY encouraged that you attend.

Seminar dates will be announced over the ESD list serve and web site. If you would like a special class for your department or have any questions, contact Bill Favaloro at wfavaloro@esd.uga.edu or 706-369-5706.

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The Big Boy TED (left) and the standard Double Cover TED (right) were compared in simultaneous tows on the R/V Georgia Bulldog. Scientists and crew quantified bycatch composition and biomass, as well as shrimp harvest.

Three generations of shrimpers count shrimp. Sinkey (left), his grandson Brian, and his son, Howell, work together to count the shrimp caught in each net.

### Big Boy TED Double Cover TED


This catch comes from a 45 minute tow. In addition to catching more shrimp, the Big Boy (left) greatly reduced the amount of jellyfish bycatch compared to the Double Cover TED (right).

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## What's New at ESD?

Heath Hardison, environmental safety specialist, is in the Fellows Program.

Lab techs and students may remember Heath Hardison as an ESD lab specialist who inspected their lab, but he's entered the Finance and Administration's Fellows Program and is on a six month tour away from ESD. He will spend three months at Physical Plant and three months in Human Resources to gain meaningful work experience and increase his connections for potential career advancement.

After he has served six months, he'll return to ESD and his lab inspection duties..

Congratulations to Heath.

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# Hand Washing Prevents Illness!

**By: Beth Maples, Environmental Safety Specialist**

There are many health benefits associated with washing hands. Despite this fact, there are still many people who do not wash their hands enough or properly. Please take a moment to read the information below, which specifies the reasons why, when and how we should wash our hands to prevent illness.

### Why wash your hands?

Hands are one of the most exposed parts of the body and play a major role in the spread of bacteria and viruses associated with illness such as the common cold, flu and gastrointestinal disorders. Inadequate hand hygiene contributes to food-related illnesses, such as salmonella and E. coli infections. When washing your hands, the soap and friction motion help remove dirt and germs from your skin, which are washed away with warm water. Even more germs are removed when drying your hands with paper towels.

### When should hands be washed?

Here are some instances when you should wash your hands:

- After using the restroom;
- After changing a diaper;
- Before & after preparing food;
- After coughing or sneezing into your hands;
- After handling garbage;
- After touching animals or animal waste;
- After blowing your nose;
- Before & after tending to someone who is ill.

### Proper hand washing procedure:

1) Wet hands with warm running water.
2) Apply soap to hands & rub hands together for 15-20 seconds. Be sure to include the back of hands, wrists & underneath fingernails.
3) Rinse under warm water.
4) Dry hands with a paper towel & use paper towel to turn off faucet.

*Tailgating this football season? Go to www.fightbac.org and print off a Grill Master food safety sheet!*

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**Thanks to the staff members who contribute articles for the *Environmentally Speaking newsletter.***

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**Are YOU reading the newsletter? Let us know if you have unpublished concerns about issues in your lab. Our website is: www.esd.uga.edu**

# The Incident Command System (ICS), and the National Incident Management System (NIMS)

**By Wes Kolar, UGA Hazmat Response Coordinator**

In the 1970's, a series of large wildfires in California lead to a number of deaths and injuries among first response personnel from the many agencies involved with the fire control efforts. Later studies on the problems encountered during the multi-agency wildfire control responses determined that several inadequacies existed in the management of large scale emergency efforts including; 1) unclear chain of command, 2)inability for multiple agencies to communicate effectively, 3) lack of consistent, systematic response planning and 4) inconsistencies in multiple agency response requirements.

It is not difficult to imagine how inconsistencies and miscommunication among different agencies could lead to problems during something as potentially chaotic as the response to large wildfires. In order to address the problems sited above, a new command structure known as the Incident Command System or ICS was developed. ICS is a systematic approach to emergency responses that helps to eliminate command, control, communication, and planning issues that can occur when responders from many different agencies are tasked with working together in order to accomplish a common goal. Since ICS is recognized as a universal standard in the US, all emergency response personnel including police, fire, EMS, FEMA, hazmat, hospitals, public health officials and others train for emergency events using a common approach to command and control. An additional benefit provided by the incident command system is that it is scalable allowing for ICS to be adapted to everything from small single agency events to extended multi-agency emergencies such as the ongoing response to hurricane Katrina. That is to say that the incident command structure can be expanded or narrowed as called for by the scale and nature of a given emergency.

On March 1st, 2004, the National Incident Management System or NIMS was put in to action by the Federal Government in response to Homeland Security Presidential Directive 5, "Management of Domestic Incidences." Like ICS, NIMS is a scalable systematic framework that is used nationwide by both governmental and nongovernmental agencies to respond to emergency events. The NIMS system consists of three major components; 1) the incident command system, 2) multi-agency coordination system (MAC) and 3) public information systems. By employing a common framework, NIMS allows first responders from multiple agencies, whether they be federal, state, or local, to coordinate efforts during crises situations. NIMS training is divided into several different units, each of which focuses upon one aspect of the framework. All first responders have been directed by DHS to demonstrate proficiency in NIMS – 100, "Introduction to the Incident Command System", NIMS – 200, "ICS for Single Resource and Initial Action Incidences", and NIMS – 700, "The National Incident Management System." The courses listed above, as well as others, are offered through independent study online at FEMA's Emergency Management Institute (http://training.fema.gov) . By training together using common systematic

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## Household Hazards
**(PART I)**

**by Wes Kolar**

Nearly all households contain one to several potentially hazardous substances from flammable solvents found in paint thinners to toxic cleaners and pesticides (and many more). It is easy to ignore the potential perils associated with products that we store and use regularly, but to do so can be dangerous. For instance, in an average year, poison control centers in the United States receive over two million calls. Ninety percent of these calls have to do with exposures to products encountered in the home. Over fifty percent of the calls to poison control centers involve children under the age of six. Considering the potential perils associated with household hazardous substances, it is a good idea to examine what we can do to reduce the risks.

A good first step in reducing the risk associated with hazardous substances at home is to recognize which products may be dangerous, and to know the threat posed by each. An excellent list of hazardous household products is located on the FEMA website at; http://www.fema.gov/hazard/chemical/index.shtm .
Once we have identified the products, a simple inventory can be generated listing the type, quantity, and location of each product. Risk reduction may be as simple as safely disposing of as many of the hazards as possible. Remaining products that pose a threat should be properly stored, and kept well away from locations that can be accessed by small children.

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frameworks, such as ICS and NIMS, first responders from multiple agencies are learning how to coordinate efforts during large scale emergency responses.


**NIMS – 300 training sponsored recently by Athens Regional Medical Center at the UGA FIRST building involved representatives from ARMC, St. Mary's Hospital, UGA, and Public Health.**

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## Management of Hazardous Waste at Satellite Accumulation Areas

**By: Brian K. Adams, Hazardous Materials Facility Coordinator**

Satellite accumulation points are typically used to increase the efficiency of waste collection and to reduce the costs of waste disposal. Waste collected at satellite accumulation areas are collected at the point where the waste is initially generated in containers. In addition, waste may be collected at that point indefinitely until 55 gallons of hazardous waste or 1 quart of acutely hazardous (P-listed) waste is accumulated. All waste at satellite accumulation areas must be under the control of the operator of the process generating the waste. The container at a satellite accumulation point must be placed next to or near the process that generates the hazardous waste, and the person who operates that process or area must control the hazardous waste placed in that container.

No more than 55 gallons of hazardous waste or 1 quart of acutely hazardous waste may be collected in any satellite accumulation area. If the 55 gallon limit is exceeded in a satellite accumulation area, the operator must mark the container holding the excess waste with the date when the excess waste began accumulating. The excess waste must be moved to an accumulation point or a permitted treatment, storage, or disposal facility within 3 days.

The EPA has set the following management standards for waste collected at satellite accumulation areas: Containers used to accumulate hazardous waste must be in good condition (e.g., no severe rusting or apparent structural defects). A container that begins to leak must immediately have its contents transferred to another container.

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## Fire Extinguisher Classes Held at ESD FIRST Bldg.

**By: Tori Outlaw**
**Fire Safety Inspector**

Fire Extinguisher classes will be held at the FIRST Building starting on **Oct. 7, 2008** at 10:00 am by Tori Outlaw, fire safety inspector, and another class on **Nov. 11, 2008** at 10:00 am

If you don't know how to use a fire extinguisher, now is the time to learn. It is needed when playing or working. You never know when you'll be called upon to stop a fire or prevent one.

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*Waste compatible with container*. The waste placed in the container must be compatible with it. Acidic or basic waste will destroy metal drums and some organic solvents will dissolve the materials in certain plastic containers.

*Containers kept closed.* A container holding hazardous waste must always be kept closed during accumulation except when it is necessary to add or remove waste. This is one of the most commonly cited violations during regulatory compliance audits.

*Manage containers to avoid releases*. At accumulation areas, containers must not be stored or handled in a manner that may cause them to rupture or leak. The following precautions are required and should be considered best management practices: Do not completely fill a container, liquids expand in container as the temperature increases and can cause bulging which damages the container and creates a safety hazard for lab personnel. Do not allow containers to freeze, the freeze/thaw cycle can damage some containers.

*Incompatibles separated.* Incompatible waste or incompatible waste and materials, must not be placed in the same container if the placement could lead to a hazardous chemical reaction.

*Weekly inspections conducted.* To ensure that accumulation areas are kept in good condition, RCRA regulations require these areas to be inspected weekly. Areas where containers are stored must be inspected for leaks and deterioration caused by corrosion or other factors. Inspection records should be maintained on site for at least three years from the date of inspection. (See hazmat website at: http://www.esd.uga.edu/hazmat/pub/sataccum.pdf )

*Marking requirements during accumulation.* The date upon which each period of accumulation begins must be clearly marked on each container and must be visible for inspection. Additionally, while being accumulated on-site, each container must be clearly marked with the words "Hazardous Waste" or with other words that identify their contents.

*Employees trained*. Generators of hazardous waste are required to receive hazardous waste management training. Persons who must be trained include those who are involved with or are occupationally exposed to hazardous waste. This training must be reviewed annually and is available online at: http://www.esd.uga.edu/hazmat/training.htm

The success of our program, the Environmental Safety Division and the university research community, relies on the continued proper management of all hazardous waste generated on campus. Adherence to the regulatory standards above will help ensure compliance and lessen the chances of violations resulting from regulatory audits. If you have questions please contact the Hazardous Materials Program at (706) 369 -5706. Our staff is available and ready to assist you when needed.

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## RAD Waste

**Loading radioactive waste drums for disposal by a licensed vendor.**

**Truck driver loading radioactive drums on the vehicle for transport.**

# Rad Dawg News

**By: Jody Jacobs, Radiation Safety Manager**

ESD has funded several commercial radioactive waste disposals in recent years. The following table provides a list of the cost, by department, of commercial disposals of long-lived radioactive waste that have been funded by ESD since April of 2006.

**Commercial Radioactive Waste Disposal Costs by Department**

| Department | Rad Waste Disposal Costs Paid by ESD April 2006 to present |
|---|---|
| Animal Science | $819 |
| Biochemistry & Molecular Biology | $503 |
| CCRC | $2311 |
| Cellular Biology | $506 |
| Crop & Soil Sciences | $393 |
| Ecology | $1085 |
| Entomology | $606 |
| Foods & Nutrition | $2589 |
| Geology | $2441 |
| Large Animal Medicine | $1230 |
| Marine Sciences | $4082 |
| Medical Microbiology | $299 |
| Microbiology | $3015 |
| Pharmacy | $3435 |
| Physiology & Pharmacology | $2775 |
| Plant Sciences | $421 |
| Poultry Science | $325 |
| Psychology | $182 |
| Veterinary Pathology | $1026 |
| **TOTAL** | **$28,043** |

As shown in the table above, the disposal of long-lived radioactive waste is not inexpensive. Long-lived radioactive waste consists primarily of laboratory trash contaminated with radioactive materials. Long-lived radioactive materials have a half-life greater than 120 days. The half-life of a radioactive material is the time required for it to become half as radioactive by the natural decay process. Short-lived radioactive waste, which has a half-life of less than 120 days, is held in safe storage for a minimum of 10 radioactive half-lives, and then tested for the presence of radiation. If no radiation is present, the decayed short-lived waste is considered safe for disposal as non-radioactive.

An especially costly type of radioactive waste is long-lived mixed waste. Mixed waste consists of radioactive waste mixed with hazardous chemicals. Mixed waste is typically in liquid form. Our last commercial

## Next Newsletter

Expect to see the next newsletter around Jan. 2009. This will be the **Winter 2009** newsletter.

Remember, if you need to see a past issue, the most recent issues are archived on our website www.esd.uga.edu . Go there to read the issue you want; or, run it off; also, you can save it to your computer and read it later.

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disposal of liquid mixed waste, included in the table above, cost approximately $7000 for proper disposal of a single 30 gallon drum of hazardous solvents contaminated with radioactive Carbon-14 and Tritium.

The generation of long-lived radioactive waste can be reduced by common sense methods, including, but not limited to the following:

- Substituting short-lived radioisotopes for long-lived ones, if practical;
- Limiting the quantity of radioisotopes procured to the minimum needed;
- Limiting contact of non-radioactive materials with radioactive ones;
- Properly segregating waste into appropriate containers;
- Reusing potentially contaminated items when practical;
- Frequently monitoring the work area for radiation/contamination;
- Minimizing the size and scope of the radioisotope work area.

Due to the mandated budget restrictions, it is unlikely that ESD will be able to fund commercial radioactive waste disposals in the near future. It is especially important that users of radioisotopes do their part to limit the production of long-lived and mixed radioactive waste. If you have any questions about the proper handling of radioactive waste or waste minimization methods, please contact UGA Radiation Safety.

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