



# The Environmental Health & Safety Guardian

## GREETINGS

Welcome to the first edition of the East Tennessee State University Environmental Health & Safety Guardian. The Health and Safety team at ETSU covers a wide variety of tasks that are designed to keep the campus community healthy and safe on a daily basis. These tasks range anywhere from indoor air quality investigations to testing of the fire alarm systems. This newsletter provides information on the importance of clean stormwater, what to do in the event of an emergency on campus, consequences of poorly managed hazardous waste, fire prevention tips, information about grant awards, and information about the EH&S staff.

## STORMWATER MANAGEMENT

Stormwater drain markers, like the one depicted to the right, are all around ETSU's campus. They are located on every drain that is designed to handle stormwater runoff. They are reminders of why it is important that only rain goes down the drain. When it rains, the runoff water flows into the stormwater drainage system and then to the local rivers, lakes, creeks, and other bodies of water without being treated. The runoff not only includes the rain water, but also any potential pollutants such as oils, paints, grass clippings, or litter that was carelessly tossed aside and not put in the proper receptacle.

For more information on the management of stormwater at ETSU, please contact the Environmental Health & Safety Office at 439-6028 or visit our website at <https://www.etsu.edu/facilities/healthsafety/stormwater.php>

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## EMERGENCY PROCEDURE PLAQUES

It is impossible to know when a disaster or emergency will arise on the campus. It is important to always be prepared for any emergency situation. There are emergency plaques on the walls at the main entrance to campus buildings. They contain information that is critical in the event of an emergency. One of the most important aspects of these plaques is the picture on the lower left corner. This picture depicts the locations of

the designated assembly area or areas, allowing occupants to know where to gather outside in the event of a building evacuation.

Also listed on the plaques are guidelines to follow for other emergencies that might impact campus. These include severe weather, the event of a hazardous material release, as well as a building power outage.

*It is important to always be prepared for any emergency situation.*

## CONSEQUENCES OF HAZARDOUS WASTE NEGLIGENCE

The University of Georgia will spend more than \$400,000 after federal inspectors found dozens of safety violations in UGA's handling of hazardous waste.

Under the "consent agreement and final order" with the Environmental Protection Agency (EPA), UGA will pay a penalty of \$99,900 and spend \$333,000 over the next 18 months on programs that will help "local public school districts and emergency response organizations in low-income areas" upgrade hazardous waste practices, response capabilities, and material handling. UGA must also pay its own legal costs.

Although federal authorities found numerous violations in UGA's hazardous waste handling, including improperly using tap water to dilute waste poured into a sink drain, the agency concluded that they did not find any of the violations placed UGA's students or workers in any danger, according to a UGA announcement of the settlement.

The EPA said UGA failed to monitor storage areas for leaking or deteriorating containers, stored waste in open containers, failed to properly label hazardous waste, and failed to give UGA workers required training in hazardous waste handling.

UGA also failed to inspect fire extinguishers, emergency communication systems, and other safety equipment at the facility. They also failed to identify hazardous materials and kept radioactive materials stored longer than permitted. UGA also failed to keep accurate records in a number of instances, according to the consent agreement and final order, signed by Larry Lambeth, Chief of Enforcement and Compliance in the EPA's Region 4 Resource Conservation and Restoration Division.

For more information on hazardous waste compliance at ETSU, please visit the Office of Environmental Health and Safety's homepage at <https://www.etsu.edu/facilities/healthsafety/default.php>

# Calendar of Fire Safety

"PRACTICE FIRE SAFETY EVERY DAY"

<p><b>JANUARY</b></p> <ul style="list-style-type: none"> <li>• Make a home escape plan</li> <li>• Know two (2) ways out of each room</li> <li>• Practice exit drills during the day and at night</li> <li>• Have a family meeting place outside</li> </ul> 	<p><b>FEBRUARY</b></p> <ul style="list-style-type: none"> <li>• Burn Awareness Week</li> <li>• Keep water heaters set below 130 degrees F.</li> <li>• Be careful with hot liquids</li> <li>• Treat burns with cool water</li> </ul> 	<p><b>MARCH</b></p> <ul style="list-style-type: none"> <li>• When you change your clocks, change your smoke alarm batteries</li> <li>• Test smoke alarms monthly</li> <li>• Vacuum dust from alarms monthly</li> <li>• Replace smoke alarms after 10 years.</li> </ul> 	<p><b>APRIL</b></p> <ul style="list-style-type: none"> <li>• Spring Cleaning Time</li> <li>• Conduct a hunt for home hazards</li> <li>• Store flammable liquids outdoors in approved containers</li> <li>• Keep combustibles away from heat or flame</li> </ul> 
<p><b>MAY</b></p> <ul style="list-style-type: none"> <li>• Electrical Safety Month</li> <li>• Replace worn, cracked cords</li> <li>• Don't overload outlets or power strips</li> </ul> 	<p><b>JUNE</b></p> <ul style="list-style-type: none"> <li>• Keep barbecue grills at least 10 feet away from the house</li> <li>• Never use gasoline to start a fire</li> <li>• Allow lawn mowers to cool before refueling</li> </ul> 	<p><b>JULY</b></p> <ul style="list-style-type: none"> <li>• Leave fireworks to the professionals</li> <li>• If your car overheats don't open the radiator cap until it cools; then use a rag to open it slowly</li> <li>• When fueling your vehicle shut off the engine</li> </ul> 	<p><b>AUGUST</b></p> <ul style="list-style-type: none"> <li>• Keep all matches and lighters away from children</li> <li>• Teach children that matches and lighters are tools not toys</li> <li>• Smoke outdoors. Put it out. All the way. Every time.</li> </ul> 
<p><b>SEPTEMBER</b></p> <ul style="list-style-type: none"> <li>• Have your heating appliances serviced</li> <li>• Have chimneys inspected &amp; cleaned</li> <li>• Purchase and install carbon monoxide detectors</li> </ul> 	<p><b>OCTOBER</b></p> <ul style="list-style-type: none"> <li>• Fire Prevention Month</li> <li>• Test smoke alarms monthly</li> <li>• Be safe at night on Halloween</li> <li>• Use battery operated candles.</li> </ul> 	<p><b>NOVEMBER</b></p> <ul style="list-style-type: none"> <li>• Keep space heaters 3 feet away from things that will burn</li> <li>• Avoid using extension cords with heaters</li> <li>• Dispose of ashes in metal cans with lids</li> </ul> 	<p><b>DECEMBER</b></p> <ul style="list-style-type: none"> <li>• Keep Christmas trees away from heat and open flames</li> <li>• Never leave candles burning unattended</li> <li>• Keep off the ice on ponds and streams</li> </ul> 

Department of Fire Services

## FIRE PREVENTION CALENDAR

According to a National Fire Protection Agency (NFPA) report, 2,105 people died in the United States from home fire related events between the years of 2012 and 2016. The calendar of fire safety above provides a simple but effective plan for preventing fires. For more information, go the NFPA website [here](#).

**January:** It is important to develop, review, and practice a home escape plan with your family.

**February:** Check to make sure your home's hot water heater is below 130°F.

**March:** Properly maintain smoke detectors by replacing the batteries and testing the alarm.

**April:** Make sure flammable liquids are stored properly.

**May:** Do not overload outlets or power strips. Do not use extension cords as permanent wiring.

**June:** Keep barbecue grills a minimum of 10 feet from the house.

**July:** Leave fireworks to the professionals.

**August:** Make sure lighters and matches are kept away from children.

**September:** Purchase and install carbon monoxide detectors.

**October:** Test smoke alarms monthly.

**November:** Keep space heaters a minimum of 3 feet away from flammable and combustible materials.

**December:** Keep Christmas trees away from sources of heat and open flames.

## ETSU GRANT AWARD

In December 2017, ETSU completed a \$3,000,000 capital maintenance project that consisted of removing three coal fired boilers and replacing them with two natural gas boilers. ETSU applied for and was awarded a \$250,000 grant from the Tennessee Department of Environment and Conservation (TDEC) in August 2015.

In 2011, Tennessee and three other states were part of a Federal court settlement of an enforcement action under the Federal Clean Air Act that resulted in a consent decree with the Tennessee Valley Authority (TVA). A part of the consent decree obligated TVA to provide Tennessee with \$26.4 million to fund environmental mitigation projects over a five year period or longer.

The \$26.4 million funding of the Clean Tennessee Energy Grant Program originated on December 22, 2008 when a dike failed at TVA's Kingston Fossil Plant causing 5.4 million cubic yards of coal ash to reach the Emory and Clinch rivers. This incident remains the nation's largest coal ash spill in history.

The Department of Environment and Conservation was designated by Governor Bill Haslam as the lead state agency to develop and manage a process for selection and implementation of the environmental mitigation projects for Tennessee.

The purpose of the Clean Tennessee Energy Grant Program was to select and fund projects that best result in a reduction of emissions and pollutants. The Clean Tennessee Program provided financial assistance to municipal governments, county governments, utility districts, and other entities created by statute in Tennessee to purchase, install, and construct energy projects that fit into one of the following eligible categories:

- Clean Alternative Energy: Biomass, geothermal, solar, wind.
- Energy Conservation: Lighting, HVAC improvements, improved fuel efficiency, insulation, idling minimization.
- Air Quality Improvement: sulfur dioxide (SO<sub>2</sub>), volatile organic compounds (VOCs), nitrogen oxides (NO<sub>x</sub>), hazardous air pollutants (HAPs), and greenhouse gases.

Over the period of six years, a total of 133 grants were awarded across the state, totaling over \$13.6 million with the rest of the grant money obligated to state facilities.

Since the start-up of the new natural gas boilers in December 2017, ETSU has seen a total reduction of 503.11 tons of regulated air emissions as opposed to utilizing coal. This reduction consists of lower particulate matter, nitrogen oxide, volatile organic compounds, carbon monoxide, and sulfur dioxide emissions.

ETSU has likewise seen a total cost savings of \$359,000 since implementation of the natural gas boilers. The breakdown consists of \$332,000 in fuel costs (natural gas vs coal), \$20,000 in the elimination of coal ash disposal, and \$7,000 in the elimination of pollution control devices.

This environmental mitigation project is something that the entire ETSU community can be proud of as it enables us to reduce our air emission footprint by utilizing a cleaner alternative energy source while assisting us with strengthening our energy conservation efforts.

## PREVENTING CAMPUS FIRE FATALITIES

According to a United States Fire Administration (USFA) report, from January 2000 to May 2015, there were a total of 85 fatal fires across the United States in dormitories, fraternities, sororities, and off campus housing. These fires resulted in 118 fatalities—an average of approximately seven fatalities per school year.

- 94% of fatal campus fires occurred off-campus.
- Smoking was the leading cause of fatal campus fires at 29%.
- Alcohol was a factor in 76% of fatal campus fires.
- Smoke alarms were either missing or tampered with in 58% of fatal campus fires.

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*Alcohol was a factor in 76% of fatal campus fires.*

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## WORKPLACE FIRE EXTINGUISHER USAGE

According to the Occupational Safety and Health Administration (OSHA), the most common emergency that businesses must plan for is a fire. Fire extinguishers can be invaluable tools to help fight smaller fires in the workplace or even used to provide protection for evacuation routes in the event of a larger fire. ETSU has fire extinguishers installed throughout every building on campus.

A simple fire extinguisher training technique to use with employees is the P.A.S.S. method. This stands for:

- **P**: Pull the pin on the fire extinguisher.
- **A**: Aim the nozzle low to the base of the fire.
- **S**: Squeeze the handle.
- **S**: Sweep the nozzle from side to side.

Proper fire extinguisher training extends beyond the P.A.S.S. method. Employees who are responding to a fire also need to be sure to activate the fire alarm and call the ETSU Department of Public Safety at 423-439-4480 immediately.

Fire extinguishers are designed to handle small fires. If a fire becomes too large or the surrounding environment becomes too dangerous, occupants should know when and how to evacuate the area.

If any of the following conditions are met, do not attempt to fight the fire and evacuate instead:

- **The fire is too large**: If the fire is rapidly spreading (flammable materials involved) or involves a large area.
- **The air is unsafe to breath**: The level of smoke makes the fire impossible to fight without some type of respiratory protection.
- **The environment is too hot or smoky**: Radiated heat is easily felt, making it hard to approach a fire within adequate range of the extinguisher (10-15 ft).
- **The evacuation paths are impaired**: The fire is not contained and heat, smoke, or flames block potential evacuation routes. Don't forget to keep your back to the exit at all times.

## THE EH&S DEPARTMENT

The Environmental Health and Safety team is responsible for development, oversight, and management of environmental health and safety programs that protect the environment, provide safe and healthy conditions for work and study, and comply with applicable laws and regulations. Our office provides fire and life safety support, radiation safety, educational programs, technical assistance, and health and safety services to the university community. The office also functions as a consultant to deans, directors, and heads of academic and administrative units, other staff members, and students in all areas of environmental health and safety.

The website can be found at <https://www.etsu.edu/facilities/healthsafety/>, and has a feature where any member of the campus community can request assistance from the EH&S department. Near the bottom of the left hand column of our webpage there is an “Information/Service Request” button. Simply click on this button and complete the request form for submittal. Once made, the request will be assigned to the appropriate member of the team.

## EH&S MISSION STATEMENT

The East Tennessee State University Office of Environmental Health and Safety supports the university’s mission of educating students to become responsible, enlightened, and productive citizens by providing comprehensive environmental, health, and safety services to faculty, staff, students, and visitors. These services include professional consultations, ensuring regulatory compliance, inspections to identify and abate hazards, maintaining a safe environment, and education through training.

## CONTACT US

- **Dr. Mark Jee, Director of EH&S**  
(423) 439-7785  
[jee@etsu.edu](mailto:jee@etsu.edu)
- **Travis Williams, Pest Control Technician**  
(423) 439-7278  
[williamt@etsu.edu](mailto:williamt@etsu.edu)
- **Chris Hurley, Health & Safety Specialist**  
(423) 439-7784  
[hurleycd@etsu.edu](mailto:hurleycd@etsu.edu)
- **Mike Barrett, Environmental Compliance Manager**  
(423) 439-6029  
[barretmb@etsu.edu](mailto:barretmb@etsu.edu)
- **Mike Grim, Fire Protection Specialist**  
(423) 439-7773  
[grim@etsu.edu](mailto:grim@etsu.edu)
- **Nicholas Carey, Health & Safety Technician**  
(423) 439-4081  
[careyns@etsu.edu](mailto:careyns@etsu.edu)
- **Janice Lyles, Radiation Safety Officer**  
(423) 439-6056  
[lylesj@etsu.edu](mailto:lylesj@etsu.edu)