SPILL/SLUG CONTROL PLAN
APPALACHIAN STATE UNIVERSITY

CONTACTS

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DEFINITIONS:

Central Accumulation Area	An area where containers of hazardous waste are being stored, originating from satellite accumulation areas or have been otherwise generated on campus.
Conditionally Exempt Small Quantity Generator	A hazardous waste generator, generating 100 kilograms or less per month of hazardous waste and one kilogram or less per month of acutely hazardous waste.
EHS&EM	Appalachian State Department of Environmental Health, Safety and Emergency Management.
Emergency	Any occurrence such as, but not limited to, equipment failure, rupture of containers or failure of control equipment that results in an uncontrolled release of hazardous material or physical hazard in the workplace.
EPA	Environmental Protection Agency.
Hazardous Material	A biological, chemical, or radiological agent, or any item that may have been contaminated by these, which has the potential to harm humans, animals, the environment, or property, either by itself or through interaction with other factors.

Physical Hazard	A chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water.
NCDENR	North Carolina Department of Environmental Quality.
RCRA	Resource Conservation and Recovery Act.
Satellite Accumulation Area	A storage location at or near the point of generation where hazardous wastes initially accumulate, which is under the control of the operator of the process generating the waste.
Small Quantity Generator	A hazardous waste generator, generating more than 100 kilograms, but less than 1,000 kilograms per month of non-acutely hazardous waste.
Universal Waste	A subcategory of hazardous waste managed under reduced requirements, commonly generated by a wide variety of establishments. Universal wastes are regulated under 40 CFR 273.

FACILITY LAYOUT DIAGRAMS:

Appalachian State University conducts research and teaching activities which require the use of hazardous materials and physical hazards. Most activities utilizing these materials are concentrated in academic buildings including, but not limited to, Garwood, Rankin, Wey, Leon Levine Hall and Katherine Harper. Most hazardous chemical and physical hazard inventories are stored in relatively small quantities throughout individual laboratories. As these hazardous chemicals become waste, they are collected and concentrated into areas located in the respective buildings.

Appalachian State University's academic campus is registered with the EPA and NCDENR as a small quantity generator of hazardous waste. Chemical waste is stored in satellite accumulation areas by personnel that generated the waste. It is later consolidated and held at one of several central accumulation areas for pickup by Appalachian State's hazardous waste contractor. Central accumulation areas represent the largest quantities and concentrations of hazardous material and hazardous waste stored on campus. Building layout plans, indicating the hazardous waste central accumulation area if present are included as attachments to this plan.

Appalachian State University's Facilities Operations is registered with the state of North Carolina as a conditionally exempt small quantity generator of hazardous waste. EHS&EM operates a building dedicated to hazardous material storage, located at 164 Ayers Lane in Boone. This building is used primarily to store Universal Waste (waste bulbs, lamps and batteries). Other non-waste products used for closed loop cooling applications and cooling water bio control are stored at this facility as well.

See building layout diagrams for the central accumulation areas on campus and the hazardous storage building operated at Facilities Operations in the attachment "Facility Layout Diagrams".

MATERIAL INVENTORY:

The diverse spectrum of research, maintenance, and teaching activities undertaken at Appalachian State University, leads to an extensive catalogue of materials throughout campus that remains in constant fluctuation. In order to meet the challenges of inventory management of such an array of chemicals, the university has employed

a hazardous chemical software tracking system named ChemInventory. Faculty and staff are trained on its usage so that they may update their inventory. Whenever needed, EHS&EM can access hazardous chemical inventories for distinct areas through the use of the ChemInventory software system. For specific material inventory needs, contact EHS&EM at (828) 262-4008.

SPILL PREVENTION EQUIPMENT:

Hazardous waste central accumulation areas are equipped with commercial spill kits and other specific spill kit supplies, including a variety of universal spill pads and pillows, loose absorbent (vermiculite), labels, and containers suitable for spill debris storage. The largest central accumulation area, located in the Garwood building is equipped with a variety of spill equipment and supplies, including absorbent pillows and pads along with loose vermiculite absorbent.

The chemistry department equips each of their labs with the following:

- Mercury spill kits
- Extra gloves and goggles
- Disposal bags
- Marker
- Sodium bicarbonate marked as “Acid neutralizer”
- Base neutralizer
- pH paper
- Absorbent pillows
- Absorbent pads
- Brush and dustpan labels for spills
- Hazardous waste labels

Spill trays are also in use in laboratory areas, as containment devices to prevent a release to the water system and/or environment in the event of an accidental spill.

In addition to waste storage areas, the Lab Safety Program in EHS&EM purchases spill kits for every lab. These kits can be utilized individually for small, incidental spills within the lab, or combined and used together for spills of greater quantities. EHS&EM also keeps additional stock of spill pads, pillows and other related materials and equipment for use as needed.

EHS&EM also stocks larger quantities of spill equipment in the storage building located at 164 Ayers Lane that can be deployed as needed throughout university property. Over-packs, a variety of storage drums, and large amounts of loose absorbents are kept in stock for emergency use by the university.

SPILL / SLUG REPORTING:

Appalachian State trains its employees to report all spills to a single department, the Appalachian State Campus Police. Once contact has been made with this unit, campus police will then contact the university’s EHS&EM department and the local fire department if the situation dictates. From there, the EHS&EM department will contact the wastewater treatment plant (828-268-6270) if the incident has any threat of impacting the water treatment system.

For a more detailed description of reporting responsibilities within Appalachian State University, see appendix A: “Spill Procedure”.

Notices will be posted in prominent and conspicuous locations throughout campus in departments which are at risk of hazardous material spills, having potential to impact the wastewater treatment plant. The notices will contain steps to guard employee and student safety as well as give clear directions to whom a hazardous material spill or release should be reported.

A copy of this Notice is included as appendix B: “Spill Procedure Sign”.

TRAINING PROGRAM:

As a generator of hazardous waste, Appalachian State University operates a hazardous waste training program that seeks to train every faculty and staff member that handles or has the potential to handle hazardous waste. This training can take place as an in-person, classroom based course, led by Appalachian State’s Environmental Affairs Manager or as an online asynchronous course available through ASULearn.

In addition to hazardous waste identification regulations, trainees are instructed on what wastes are illegal to dispose of by non-hazardous means (dumpsters, sink, trash bins, drains, etc). RCRA and the Boone Water/Sewer Ordinance are both referenced and form the basis of waste disposal training methods employed at Appalachian State. A section of the course is dedicated to covering the wastewater treatment facility’s rules and limits on the facility’s acceptance and how they impact the college’s disposal activities.

Relevant emergency response topics, covered in this training include but are not limited to:

- Who to contact in the event of a spill.
- What information should be communicated when reporting a spill.
- Immediate steps to be taken to prevent spills from reaching sinks, drains or otherwise allowing for a release to the environment.
- Proper management of chemical inventory.
- Processes that can be taken to decrease the risk of release to a sink, drain or environment.
- Appropriate materials needed to compile a spill kit.
- Resources for other spill control and emergency response equipment, located outside individual laboratories.
- EHS&EM contact information for ongoing consultation.

APPENDIX A: SPILL PROCEDURE

TITLE	**Hazardous Material Spill/Slug Control Procedure**
OBJECTIVE AND PURPOSE	Ensure a proper response from the university in the event of a hazardous material release to sinks, drains, and waterways.
CONTACT NUMBERS	Campus Police: 828-262-8000 EHS&EM: 828-262-4008
CAMPUS POLICE RESPONSIBILITY	• Receive calls pertaining to any campus spill. • Initiate spill response by calling local fire department when necessary. • Initiate spill response by calling EHS&EM as situation dictates. • Assist EHS&EM and/or fire department in securing the area.
HAZARDOUS MATERIAL HANDLERS RESPONSIBILITY	• Immediately alert area occupants and principal investigator/supervisor. • Call campus police in the event of a spill located on campus property, both during and after hours. Give specifics of location, amount, and identity of material, along with contact information. • Call EHS&EM for any spill requiring cleanup assistance. • Obtain spill and emergency response information through EHS&EM's hazardous waste training. • Maintain appropriate spill kit (consult EHS&EM for supplies). • Prepare in advance for high hazard or special need spills (i.e. mercury, radioactives, pyrophorics, and large volumes.) • Comply with Town of Boone sewer use ordinance. • Develop protocols which decrease the likelihood of an environmental release (i.e. non work in sinks, protection of floor drains, etc.). • Inspect hazardous waste/material storage areas weekly for proper container management (i.e. close, no leaks, labeled.) • Follow all federal and state regulation concerning the generation, accumulation and disposal of hazardous waste. • Consult with EHS&EM before discharging any chemical down the sink, drains, or other method of environmental release. • Containerize any spill material and manage s prescribed. • Decontaminate all surfaces equipment and general area affected by the spill with suitable solvents and materials. • Report all spills to supervisor or principal investigator and EHS&EM.
ENVIRONMENTAL HEALTH, SAFETY, AND EMERGENCY MANAGEMENT RESPONSIBILITY.	• Provide training and consultation for individual or groups using hazardous chemicals and/or generating hazardous waste. • Contact municipal WWTP (828-268-6270) and regulatory authorities when necessary. • Request assistance from local hazardous materials response teams in the event of chemical spills outside of capabilities. • Consult with handlers to achieve safe storage environments. • Recommend stock and waste containers, bins, and storage conditions. • Arrange for proper training of EHS&EM staff. • Maintain training records.

APPENDIX B: SPILL PROCEDURE SIGN

HAZARDOUS MATERIAL SPILL PROCEDURE

1. **Report injuries and major spills to Appalachian State Police (828) 262-8000**
   a. **Give location, chemical identity and amount, your contact information, and details of material release to sinks, drains, or the environment.**
2. **Alert others in the immediate spill area & notify supervisor/principal investigator.**
3. **Turn off all electrical or spark-producing equipment in the area if possible and evacuate the area.**
4. **Determine the chemical nature, assess the risk. If the area can be re-entered:**
   a. **Consult the Safety Data Sheet (SDS).**
   b. **Select appropriate personal protective equipment.**
   c. **Confine the spill and protect floor drains, sinks, and other avenues of environmental release.**
   d. **Using the laboratory spill kit, absorb or sweep spilled material onto appropriate media.**
   e. **Containerize and label spilled material and debris as "Hazardous Waste".**
   f. **Document ALL spills and receive further assistance by contacting Environmental Health, Safety, and Emergency Management at (828) 262-4008.**