Old Dominion University

Hazardous Materials Emergency Response and Hazardous Waste Contingency Plan

Prepared by
Environmental Health & Safety Office
(Revised August 2008)

Old Dominion University
Hazardous Materials Emergency Response Plan

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Section I. Purpose

The purpose of this plan is to outline the procedures that will be taken in an emergency to protect human health, property and the environment resulting from an unplanned release of hazardous materials or hazardous waste into the air, soil, surface water or groundwater. It is designed to act as a guide for individuals who, because of their training and experience, are qualified to respond to emergencies involving hazardous materials or hazardous waste.

This plan is to be implemented immediately when an emergency involving hazardous materials or hazardous waste occurs. Although the types, quantities, characteristics and circumstances surrounding unplanned releases are certain to vary from situation to situation, the procedures, lines of command and responsibilities outlined in this plan are applicable to all scenarios.

Section II. Governing Principles

Old Dominion University has developed a contingency plan, the *Hazardous Materials Emergency Response and Hazardous Waste Contingency Plan*, which addresses pre-emergency planning and cooperation with outside agencies in event of an emergency involving an accidental release of hazardous materials or hazardous waste. The Plan covers all University facilities on the Norfolk campus at which hazardous materials/waste are used and/or stored.

The Plan defines personnel roles, lines of authority, training, communication, emergency recognition and prevention, safe distances and places of refuge, site security and control, evacuation routes and procedures, decontamination, emergency first aid, emergency notification and response procedures, critique of response and follow-up, personal protective equipment and emergency equipment.

The City of Norfolk Emergency Operations Plan may supersede the University's *Hazardous Materials Emergency Response and Hazardous Waste Contingency Plan* in the event the incident exceeds the handling capabilities of the University. Regardless of which plan is implemented, it will be the University's responsibility for *all* emergency response measures taken, and whatever remediation procedures are necessary following the release of a hazardous material.

Guidance for this plan can be found in Title 29 of the Code of Federal Regulations, Part 1910.120(q)(2) and Title 40 of the Code of Federal Regulations, Parts 262.34(a)(4), 262.34(b), 264.52 and 265.50 thru 265.56. It shall be available for inspection, comment and duplication by employees, their representatives and OSHA and EPA personnel. Any questions or comments concerning Old Dominion University's *Hazardous Materials Emergency Response and Hazardous Waste Contingency Plan* should be directed to:

Douglas Alexander, Associate Director/Emergency Response Coordinator
Old Dominion University Environmental Health and Safety Office
4807 Hampton Blvd, Dragas Hall Room 2061
Norfolk, VA 23529
(757) 683-4495
dalexand@odu.edu

Section III. Responsibilities

Specific responsibilities for each entity at the University that may have either primary or ancillary role in the event of an emergency involving hazardous materials:

A. *Administration**:***

1. Provide program support.

2. Provide information services through the Office of Institutional Advancement, University Relations.

B. ***Environmental Health and Safety Office**:*

1. Provide or coordinate training for First Responders and Emergency Response Technicians.

2. Designate Emergency Response Technicians.

3. Develop and update the Plan as needed.

4. Develop specific response, cleanup, and remediation protocols.

5. Provide for proper disposal of hazardous waste resulting from cleanup of a release.

6. Provide detection instrumentation and emergency equipment as needed.

7. Provide the Office of Institutional Advancement with information as needed.

C. *Public Safety:*

1. Designate First Responders.

2. Provide the necessary communications mechanisms during an emergency.

3. Provide personnel for incident site security.

D. *Facilities Management:*

1. Designate First Responders and Emergency Response Technicians.

2. Provide maintenance services and technical support as needed.

E. *Academic Departments:*
Designate First Responders and Emergency Response Technicians.

F. *Fire Safety Office:*
Designate Emergency Response Technicians.

G. *Office of Institutional Advancement:*

1. Approve and/or present information to the media.

2. Provide the media with follow-up information as needed.

Section IV. The Incident Command System

A. *First Responders:*

A First Responder is an individual who is likely to witness or discover a release of hazardous materials/waste. These individuals have sufficient knowledge of the incident command system to notify the proper authority(s) that a release has occurred. First Responders have no responsibility beyond initiating the response, which includes containment of Level I releases if possible and prudent. Examples of First Responders include: campus police officers, laboratory technicians, housekeepers and maintenance personnel.

First Responders should have as a minimum, *Hazard Communication* or *Laboratory Safety* training and *Emergency Response Awareness Training*.

B. *Emergency Response Technicians:*

Emergency Response Technicians are individuals who respond to an incident by stopping, containing, and cleaning up a hazardous material/waste release. Individuals who are Emergency Response Technicians must have specific training beyond that which a First Responder needs. Emergency Response Technicians should have, as a minimum, *Hazard Communication* or *Laboratory Safety* training and *Radiation Safety* training (if applicable), be respirator fit tested and trained, and have *Hazardous Materials/Waste Emergency Response* training.

Individuals designated as Emergency Response Technicians are responsible for:

1. Initiating this Plan.

2. Knowing the classifications of hazardous materials/waste and the associated risks involved with handling each class.

3. Performing containment, cleanup and remediation procedures within the capabilities and limitations of the emergency equipment available.

4. Selecting the appropriate personal protective equipment for the potential hazard(s) that may be encountered as a result of a hazardous material release.

5. Having a basic knowledge of chemical terminology and the toxicological behavior of the different classes of hazardous materials/waste.

6. Assisting with preliminary decontamination of accident victims.

C. *Emergency Coordinator:*

The Emergency Coordinator is an individual who, because of his or her training, will assume control of an incident scene and direct the University's response to a release of hazardous materials/waste. The Emergency Coordinator must be present on the Old Dominion University campus, or on call at all times to respond to emergency situations.

In addition to competency at the Emergency Response Technician level, the Emergency Coordinator must also be familiar with this plan, hazardous materials/waste operations, activities, and locations at the University, location of records, University's layout, local emergency response plans and applicable State and Federal reporting requirements. He or she shall have considerable experience and knowledge in hazardous materials operations and handling.

The individual who is designated as the Emergency Coordinator is responsible for:

1. Activating the University's incident command system, and implementing this Plan.

2. Cleanup of a spill and remediation of the site if necessary.

3. Notifying and preparing any reports to regulatory agencies as required.

Section V. Emergency Response Procedures for the Release of Hazardous Materials or Hazardous Waste

A. *Summary of Response Activity Notification:*

For purposes of this plan, the University has designated three (3) categories of releases based on the magnitude of the event. The three categories are designated as Level I, Level II and Level III releases in order of increasing seriousness.

1. Level I Releases:

A Level 1 release can be contained by a First Responder and does not require evacuation of the facility or surrounding area(s). Such releases involve small areas and pose no immediate threat to human health, property or the environment.

In the event of a Level I release *the Emergency Coordinator shall be notified.*

2. Level II Releases:

A Level II release poses a greater hazard or involves more extensive area(s) than a Level I release. Such releases pose a *potential* threat to human health, property, and the environment and may require a limited evacuation of the facility or area(s) in which the release occurred.

In the event of a Level II release the following shall be notified:

a. *Emergency Coordinator*

b. *The Public Safety Office*

c. *The Fire Safety Office* (if the release poses a fire hazard)

3. Level III Releases:

A Level III release poses a severe health, safety or fire hazard. Such releases are an immediate threat to human health, property, and the environment. Full evacuation of the facility in which the release has occurred is required. It may also be necessary to evacuate surrounding areas.

In the event of a Level III release the following shall be notified:

a. *Emergency Coordinator*

b. *The Public Safety Office*

c. *The Fire Safety Office*

d. *Norfolk Fire Department*

e. *Norfolk Police Department*

f. *Other agencies at the discretion of the Emergency Coordinator according to applicable guidelines.*

B. *Response Procedures for Level I Releases (General):*

The person(s) discovering the release i.e., either a First Responder or Emergency Response Technician, shall:

1. Extinguish all ignition sources if the material is flammable or combustible.

2. Attempt to stop the flow of material if possible.

3. If possible, open windows or turn on local ventilation to exhaust fumes.

4. Contain the spill.

5. Assist anyone contaminated with a hazardous material/waste in removing contaminated clothing and flushing contaminated areas on the body with water.

6. *Notify an Emergency Response Technician or the Emergency Coordinator. If neither can be reached, contact Public Safety at 683-4000.* Inform the Emergency

Response Technician, Emergency Coordinator or the dispatcher that a hazardous material incident has occurred. Provide the following information:

a. Your name.

b. The location of the incident (e.g., building and room number).

c. Telephone number of the phone you are using.

d. The hazardous material/waste that has been released.

e. An estimate of the quantity that has been released.

f. The number and extent of any injury(s) and/or exposure(s).

g. A brief description of the incident.

7. Evacuate the area if the Emergency Coordinator decides to upgrade the release response from Level I to Level II, or as instructed. Do not return to the spill area unless or until the Emergency Coordinator has given permission.

Spill cleanup should not be undertaken without first consulting the Emergency Coordinator or an Emergency Response Technician. If the Emergency Coordinator determines that laboratory or ancillary personnel can safely clean the spill, they may proceed with the proper personal protective equipment (as described in the MSDS).

C. *Response Procedures for Level II or Level III Releases (General):*

The person discovering the release i.e., either a First Responder or Emergency Response Technician, *shall immediately initiate the Hazardous Materials Emergency Response Plan by notifying the Emergency Coordinator or Public Safety (if the Emergency Coordinator cannot be contacted).* Provide the Emergency Coordinator or Dispatcher with the following information:

1. Your name.

2. The location of the incident (e.g., building and room number).

3. Telephone of the phone you are using.

4. The hazardous material/waste that has been released.

5. An estimate of the quantity that has been released.

6. The number and extent of any injury(s) and/or exposure(s).

7. The location of any person(s) unable to evacuate the area.

8. A brief description of the incident.

If a Public Safety dispatcher has been contacted, he or she shall immediately contact the Emergency Coordinator or his/her designee. Upon arrival at the incident scene, the Emergency Coordinator will direct the response with the support of Emergency Response Technicians. Depending upon the severity of the release and the capabilities and limitations of the emergency equipment available, the Emergency Response Technician(s) will:

1. Extinguish accessible ignition sources, and close all fire doors (if prudent).
2. Activate the fire alarm if necessary.
3. Assist in evacuating any individuals who are injured or have difficulty evacuating the facility.
4. Attempt to stop the flow of material from a remote location if possible and prudent.
5. Secure the area.
6. Initiate containment and/or confinement procedures.
7. Assist anyone contaminated with a hazardous material in removing contaminated clothing and flushing contaminated areas on the body with water.
8. Proceed with cleanup procedures as instructed by the Emergency Coordinator.

Section VI. Evacuation Plan (General)

If the Emergency Coordinator or his/her designee deems that the evacuation of a building or buildings is necessary, the evacuation routes will be identical to those routes used in case of fire. These routes are posted in conspicuous areas throughout each building. If a building must be evacuated:

1. Activate the fire alarm system.

2. Evacuate by the route(s) specified in the fire evacuation plan.

3. Response personnel i.e., Public Safety Officers, the Emergency Coordinator or Emergency Response Technicians will direct building occupants to the approved evacuation site(s).

4. Persons are not to leave the evacuation site(s) until the response personnel verify that all occupants have evacuated the building.

5. Reentry into the building will be restricted to response personnel until containment, cleanup and remediation (if necessary) of the release are complete.

Note: If the evacuation of the entire campus and surrounding areas is deemed necessary, the evacuation will be directed by the Norfolk Fire Department with assistance from Old Dominion University's Public Safety Office and the Norfolk Police Department.

Section VII. Emergency Equipment

Emergency equipment should be available at each facility in which hazardous materials/waste are used and/or stored. Only those individuals who have been properly trained in the emergency equipment's use(s) and limitations shall use the equipment. All emergency equipment shall be maintained in accordance with the manufacturer's specifications and applicable regulations.

A. *Fire Alarms:*

Fire alarms are present in buildings as required by applicable building and NFPA codes. The number(s) and location(s) of the alarms in place comply with applicable NFPA codes in force at the time the structure was built.

B. *Fire Extinguishers:*

All facilities on the Old Dominion campus are equipped with fire extinguishers. Fire extinguisher inspection, maintenance and recharging are the responsibility of Facilities Management. For further information on the correct use of fire extinguishers contact the Fire Safety Engineer at 683-3023.

Extinguishers are rated for use against one particular type of fire or a combination of types of fires. Each extinguisher is labeled for the class or classes of fires against which it is effective:

1. Class A:

   Burning paper, wood, rags and trash are examples of Class A fires. Water extinguishers are most effective against Class A fires.

2. Class B:

   Burning flammable or combustible liquids are examples of Class B fires. Carbon dioxide (CO_2) or dry powder extinguishers are effective against Class B fires.

3. Class C:

   Burning live electrical equipment is an example of a Class C fire. Carbon dioxide (CO_2) or dry powder extinguishers are effective against Class C fires.

4. Class D:

   Class D fires involve flammable metals and solids. Extinguishers containing granular solid media are effective against Class D fires.

C. *Communications Equipment:*

Emergency Red Phones, that automatically connect a user to Public Safety upon lifting the receiver, are located in most buildings on the Old Dominion University campus. For the specific locations of these phones refer, to Appendix C.

D. *Safety Showers:*

Safety showers have been installed in facilities in which hazardous materials are used and/or stored. These showers are tested and certified in accordance with the guidelines set forth in Old Dominion University's *Chemical Hygiene Plan*. Each safety shower is clearly marked with a sign. For the specific location(s) of safety showers in each building, refer to Appendix C.

E. *Eyewash Stations:*

Each laboratory in which hazardous materials/waste are located is required to have an accessible eyewash station. Eyewash stations are tested and certified in accordance with the guidelines set forth in Old Dominion University's *Chemical Hygiene Plan*. The proper operation of eyewash stations is outlined in the *Chemical Hygiene Plan*. Each eyewash station is clearly marked with a sign. For the specific location(s) of eyewash stations in each building, refer to Appendix C.

F. *Spill Control Equipment:*

Spill control equipment is intended to contain a release of materials and prevent the release from spreading. The University uses absorbent and/or neutralizing materials in either spill pillows or in loose granular form or absorbent pads. Proper disposal of contaminated spill control materials is the responsibility of the Environmental Health and Safety Office.

Spill control equipment is available at various locations within facilities in which hazardous materials/waste are used and/or stored. This equipment is either stored in individual laboratories or in a central location, easily accessible to the building occupants. Spill control equipment should be utilized only if its use would not place an individual in any danger. If the spill exceeds the handling capabilities of the spill equipment available, and additional spill control equipment is required, contact the Environmental Health and Safety Office. If there is any question whether utilizing spill control equipment would be prudent, contact an Emergency Response Technician, or the Emergency Coordinator.

Spill control equipment can be found at the following campus locations:

- Environmental Health & Safety Office – Dragas Hall Rooms 2048 and 2050
- Hazardous Waste Storage Facility
- Facilities Management Building – Equipment Room
- Alfriend Chemistry Building – Room 306 – Rooms 310, 311, 405, 410 and 411 have sodium bicarbonate and Solusorb – Mercury vacuum cleaner available (usually kept outside room 410)

- Mills Godwin Life Sciences Building – Rooms 106, 111, 114, 115, 116, 117, 118A, 122, 124, 125, 202B,C, & K, 204, 205, 206, 207, 208, 209, 210, 211, 212, 216, 216A, 249, 302C, F, & M, 307, 307A, 311, 312, 314, 314A, 320, and 406 – 2nd and 3rd floor hallways have sodium bicarbonate and Solusorb.

Note: Departments that use or store hazardous materials/waste should purchase their own spill response equipment and supplies. Departments will be charged for the use of spill response equipment provided by the Environmental Health & Safety Office.

G. *Personal Protective Equipment (PPE):*

Personal protective equipment shall be used as a secondary measure to supplement administrative and engineering controls. If personal protective equipment is necessary, the MSDS for the particular hazard shall serve as a guideline for determining the type(s) of equipment selected and utilized.

Specific types of personal protective equipment require specialized training and/or testing depending upon its intended use. The Emergency Coordinator, and the Environmental Health and Safety Office will review the use of specialized personal protective equipment to ensure compliance with applicable regulations.

Section VIII. Media Relations

The University's Office of Institutional Advancement is responsible for coordinating media contact. If a member of the media contacts an individual in the *Hazardous Materials Emergency Response Plan* incident command system about a hazardous materials release, he or she should refer the reporter to the Office of Institutional Advancement.

When the media is present on-site during an ongoing response to a hazardous materials release, all inquiries concerning the incident should be referred to the Emergency Coordinator (or his/her designate) who, with guidance from the Office of Institutional Advancement, will release information as it is known.

Appendix A

Emergency Contacts: Old Dominion University

Environmental Health & Safety Office:
Campus Address:
Dragas Hall Room 2061
4807 Hampton Blvd
Norfolk, VA 23529

Doug Alexander	(757) 683-4495 (office)
Emergency Response Coordinator	(757) 546-8684 (home)
	(757) 438-0266 (cell)
Frank Dzupinka (backup)	(757) 683-4797 (office)
Asbestos Emergency Response Coordinator	(757) 853-0580 (home)
	(757) 409-4017 (cell)
Shawn Sarauw (backup)	(757) 683-6358 (office)
Safety Technician	(757) 588-4244 (home)
	(757) 448-5580 (cell)

Public Safety Office:

Dispatcher	(757) 683-4000 (24 hours a day)

Fire Safety Office:

Charlie Core	(757) 683-3032 (office)
Fire Safety Engineer	(757) 686-5882 (home)
	(757) 477-4060 (cell)

Risk Management Office:

Ken Blow	(757) 683-4009 (office)
Risk Manager	(757) 399-4583 (home)
	(757) 477-3981 (cell)

Office of Institutional Advancement:

John Broderick	(757) 683-3152
Vice President	(757) 482-9371 (home)
	(757) 406-5139 (cell)

Appendix B

Emergency Assistance Phone Numbers: Agencies Outside Old Dominion University

Police / Fire / Rescue	**911**
Virginia Department of Emergency Management (Assistance)	**(804)-897-6510**
Virginia Hazardous Waste Emergency Response Team	**(800) 468-8892**
Virginia Emergency Operations Center (After hours/Weekends/Holidays)	**(804) 674-2400**
Norfolk Fire and Paramedical Services Division of Hazardous Materials	**(757) 441-2536**
Poison Control Center	**(800) 552-6337**
CHEMTREC	**(800) 424-9300**
National Response Center	**(800) 424-8802**
Virginia Natural Gas	**(757) 466-5500**
Dominion Virginia Power	**(888) 667-3000**
Virginia State Police	**(757) 424-6820** **(800) 582-8350**
VA Department of Environmental Quality (Tidewater Regional Office)	**(757) 518-2000**
Virginia Department of Fire Programs (Eastern Virginia Area Office)	**(757) 727-4700**
U.S. Nuclear Regulatory Commission (Collect calls excepted)	**(301) 816-5100**
Virginia Department of Health Radiological Health Program	**(804) 786-5932**
Industrial Marine Service, Inc. (Petroleum spill contractor)	**(757) 543-5718**

Appendix C

I. Definitions

Acid: An organic or inorganic compound that (1) reacts with metals to yield hydrogen (2) reacts with a base (caustic or alkali) to form a salt (3) has a pH <7.0. All acids contain hydrogen and turn litmus paper red. They are corrosive to human tissue and by their nature must be handled with care. Some common acids include hydrochloric acid (HCl), sulfuric acid (H_2SO_4), and nitric acid (HNO_3).

Alkali: Broadly, any compound with a pH >7.0. They react with acids to form salts and turn litmus paper blue. Alkalis are corrosive to human tissue and by their nature must be handled with care. Some common commercial alkalis include sodium hydroxide (NaOH), potassium hydroxide (KOH), lime (CaO, calcium oxide), potash (K_2CO_3, potassium carbonate) and soda ash (Na_2CO_3, sodium carbonate).

Carcinogen: A material that either causes cancer in humans or because it causes cancer in test animals is assumed to cause cancer in humans.

Caustic: See *alkali*.

Combustible: As defined by OSHA, any material with a flash point >100°C and <200°C. Some common examples of combustible materials include diesel oil (fuel oil No. 2), bunker fuel oil, and glycerin (glycerol).

Compressed Gas: Any gas container under pressure. Specifically a gas or mixture of gases having an absolute pressure of >40 psi at 70°F (21.1°C) or >104 psi at 130°F (54.4°C) or a liquid having a vapor pressure exceeding 40 psi at 100°F (37.8°C). Defined in 29 CFR 1910.1200.

Corrosive: A chemical that causes visible destruction of or irreversible alterations in living tissue by chemical action at the site of contact.

Eyewash (Station): A device used exclusively for the irrigation of the eyes.

Fire Extinguisher: A device used to put out a fire. Extinguishers are classified as either *Class A, Class B, Class C or Class D* (depending upon its intended use) or a combination of two or more classes.

First Responder: An individual who is likely to witness or discover a release of a hazardous material. The individual is aware of the risks associated with hazardous materials, and the line of incident command, but take no action other than containment of Level I releases and notification others in the case of Level II and Level III releases.

Flammable Liquid: As defined by OSHA, a liquid with a flash point <100°F. Some commonly available flammable liquids include ethers, toluene, and gasoline.

Flammable Solid: Any solid material (other than an explosive) that is liable to cause fires through friction, through heat retained from manufacturing or processing or which can be ignited readily and when ignited burns vigorously and persistently.

Hazardous Material: Any material that can reasonably cause detrimental effects to human health, the destruction of property and the degradation of the environment from an uncontrolled release.

Highly Toxic Material: A poison falling into any of the following categories:

(1) A chemical that has an LD_{50} of $\leq$ 50 mg/kg body weight when administered orally to test animals.

(2) A chemical that has an LD_{50} of $\leq$ 200 mg/kg body weight when administered by continuous skin contact to test animals for 24 hours.

(3) A chemical that has an LC_{50} in air of $\leq$ 200 ppm by volume air when continuous inhaled for 1 hour.

Laboratory Fume Hood: A local exhaust system designed to capture and contain contaminants.

Level I Release: A release that can be controlled by the first responder. This level release does not require evacuation of the facility or surrounding area(s). It involves a small area and poses no immediate threat to human health, property or the environment.

Level II Release: A release that involves a greater hazard or more extensive area(s) than a *Level I* release. This level release poses a potential threat to human health, property, and the environment and requires limited evacuation of a facility.

Level III Release: A release involving a severe hazard or fire. This level release poses an immediate threat to human health, property, and the environment. Full evacuation of the facility is required. There exists the possibility that surrounding area(s) may need to be evacuated.

Media: Broadly defined as an apparatus for the dissemination of information (e.g. newspapers, television, and radio).

Mercury: Metallic element with an atomic number of 80.

(1) *Metallic mercury*: Mercury in elemental form. Metallic mercury is toxic by skin absorption and inhalation of vapors.

(2) *Mercury compounds*: Inorganic and organic compounds that contain mercury. Most mercury compounds are highly toxic by skin absorption, inhalation and ingestion.

MSDS (Material Safety Data Sheet): A document provided by the manufacturer of chemicals which, for the purposes of hazard communication, it provides a description of the hazards posed by a particular chemical and additional information as mandated by OSHA in 29 CFR 1910.1200.

NFPA: The National Fire Protection Association.

OSHA: The Occupational Safety and Health Administration.

Petroleum: Broadly, a complex mixture of hydrocarbons used as energy source to power machinery, heat buildings and produce power. In the context of this plan, petroleum is assumed to be gasoline, diesel, kerosene and heating oil.

Response Personnel: Persons who because of their training are qualified to respond to hazardous material releases as directed by the *Emergency Coordinator*.

Safety Shower: A device that enables its user to have water cascading down the entire surface of his/her body.

Spill Control Equipment: Device(s) and material(s) used in the containment and cleanup of a release of hazardous materials. Examples include spill pillows (see definition) and pads, vermiculite and Ultra-fine.

Spill Pillow: Usually a quantity of absorbent and/or neutralizing material contained within permeable bags or pouches of variable sizes and shapes.

Appendix D

Building
Emergency Response, Evacuation, and Emergency Equipment Information

"Building information available upon request from the Environmental Health & Safety Office.