

D-3. HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSES

I. SCOPE

This procedure applies to the following applicable operations conducted by NCI-Frederick employees within the scope of 29 CFR 1910.120.

- A. Operations involving hazardous wastes conducted at RCRA-regulated treatment, storage, and disposal facilities (TSDFs); and
- B. Emergency response operations for releases of, or substantial threats of releases of, hazardous substances at the NCI-Frederick.

II. PURPOSE

To define the NCI-Frederick health and safety program for employees involved in hazardous waste and emergency response operations, as required by 29 CFR 1910.120.

III. DEFINITIONS

Buddy System - A system of organizing employees into work groups so that each employee is designated to be observed by another employee in the work group.

Decontamination - The removal of hazardous substances from employees and their equipment to the extent necessary to preclude the occurrence of foreseeable adverse health effects.

Emergency response - A response effort by employees or other responders from outside the immediate area to any occurrence which results, or is likely to result, in an uncontrolled release of a hazardous substance. (Detailed procedures are found in Section B-1 Emergency Response Procedures).

Hazardous Waste - A solid, liquid, or gas that is no longer suited for its intended purpose and that is ignitable, corrosive, toxic, reactive, or listed by the Environmental Protection Agency (40 CFR 261) or by any more stringent criteria established by the Maryland Department of the Environment (MDE).

Hazardous Waste Operation - Operations identified in 29 CFR 1910.120(a)(1), including; 1) Clean-up operations required by a federal, state, or local government body involving hazardous substances; 2) Initial investigations of

government-identified sites before the presence or absence of hazardous substances has been determined; 3) Clean-up operations at sites covered by the Resource Conservation and Recovery Act (RCRA); 4) Voluntary clean-up operations at sites recognized by federal, state, or local government bodies as uncontrolled hazardous waste sites, where an accumulation of hazardous substances poses a threat to health, safety, or environment; 5) Operations involving hazardous wastes conducted at RCRA treatment, storage, and disposal facilities (TSDFs); and 6) Emergency response operations for releases or threatened releases of hazardous substances.

Hazardous Waste Site - Any location at which hazardous waste operations as defined above take place.

IV. RESPONSIBILITIES

A. Environment, Health and Safety Program (EHS)

1. Maintains a current copy of applicable federal, state, and local regulations for environmental compliance and safety at a specific site.
2. Schedules training courses from qualified sources in advance of applicable expiration dates for employees who perform work covered under this procedure.
3. Maintains a copy of employee training and exposure records, audits, and other project records in accordance with NCI-Frederick Records Management and Training procedures.
4. Develops and implements as appropriate a site-specific health and safety compliance document such as the contingency plan.
5. Stops activities and/or orders evacuation if unanticipated hazardous conditions are encountered for which the Emergency Response Team is unprepared to respond or if any operation threatens employee or public health or safety.
6. Conducts inspections to verify compliance with applicable regulations and notifies the appropriate authority of violations, and hazardous conditions.
7. Conducts site-specific safety and health training and assures that employees have access to MSDSs.

8. Conducts a field activity debriefing at the end of any emergency response activity to identify problems encountered and lessons learned, and prepares a record summarizing actions taken to ensure compliance with applicable OSHA, EPA, NRC, and MDE requirements.

C. Environment, Health and Safety Supervisor

1. Ensures that protective clothing and equipment are properly used and maintained.
2. Controls entry and access to the Hazardous Waste Operations site (i.e., controlled area).
3. Ensures that chemicals brought on NCI-Frederick controlled property and wastes generated on NCI-Frederick controlled property are properly handled, labeled and stored.
4. Ensures that personnel (employees and visitors) allowed access inside controlled areas have completed the required training.

D. Occupational Health Services (OHS)

1. Schedules and conducts medical examinations in advance of applicable expiration dates for employees who perform field work at hazardous waste sites.
2. Maintains a copy of medical qualification correspondence and records for the duration of employment plus 30 years.
3. Coordinates and/or provides emergency medical care.

E. Environment, Health and Safety Employees

Each employee is responsible for:

1. Completing his or her work assignment in a safe and effective manner;
2. Accepting an assignment or beginning a task only after understanding the risks and hazards associated with that activity;

3. Completing the required training, monitoring medical status, respirator fit testing, and wearing protective clothing before beginning any job;
4. Using the buddy system and not working alone at a field location; with the exception of responding to small spills such as a broken mercury thermometer.
5. Having a thorough knowledge of specific emergency response procedures applicable to NCI-Frederick;
6. Immediately reporting any occupational illness or injury to the appropriate supervisor OHS, including any potential exposure to hazardous substances for which protection was not provided;
7. Wearing and maintaining personal protective equipment;
8. Reporting to EHS management any hazards inadequately controlled by standard operating procedures;
9. Implementing assigned responsibilities in accordance with standard operating procedures (e.g., calibrating and using monitoring equipment).

V. PROCEDURES

A. Training

An employee's previous work experience and/or training can be accepted in lieu of initial training if it can be shown that it was equivalent. EHS management will review the employee's work history and academic training, as documented by the employee, to determine its suitability. All documentation, including a memo describing an individual's work experience and/or training and a copy of the certificate, will be maintained in accordance with the Records Management Office procedures.

1. Emergency Response Training

All employees responding to emergencies outside of their regular work area are appointed by EHS management and shall receive training based on the duties and functions to be performed by the responder. Training shall be provided before the employee is permitted to take part in actual emergency operations. Employees responding to emergencies shall be trained as follows:

a. First Responder Awareness Level

Likely to witness or discover a hazardous substance release and are trained to initiate an emergency response by notifying the proper office of the release. First responders would then take no further action beyond notification. Must have sufficient training or experience to demonstrate competency in the following areas:

- Understanding of hazardous substances and their associated risks;
- Understanding of potential outcomes associated with a hazardous substance emergency;
- Ability to recognize the presence of hazardous substances in an emergency;
- Ability to identify the hazardous substance, if possible;
- Understanding of the first responder's role in NCI-Frederick Emergency Response Procedure (Section B-1), including site security and control and the U.S. Department of Transportation's Emergency Response Guidebook.
- Ability to realize when additional resources are needed, and notify the appropriate response office.

b. First Responder Operations Level

Trained to respond defensively without trying to contain the spill or release. Employees shall have received at least 8 hours of training or have sufficient experience to objectively demonstrate certified competency in the following areas in addition to those listed in the awareness level:

- Knowledge of basic hazard and risk assessment techniques;
- Know how to select and use proper personal protective equipment provided;

- Understanding of basic hazardous materials terms;
- Know how to perform basic control, containment, and/or confinement within the capabilities of the resources and personal protective equipment available;
- Know how to implement basic decontamination procedures; and
- An understanding of Emergency Response Procedure, other relevant standard operating procedures, and work stoppage/evacuation procedures.

c. Hazardous Materials Technician

Respond to releases or potential releases for the purpose of controlling/stopping the release. Hazardous materials technicians shall have received at least 24 hours of training equal to the first responder operations level and in addition have certified competency in the following areas:

- Knows how to implement NCI-Frederick Emergency Response Procedures;
- Knows how to classify, identify, and verify known and unknown materials by using field survey instruments and equipment;
- Be able to function within an assigned role in the incident command system;
- Knows how to select and use proper specialized chemical personal protective equipment provided;
- Understands hazard and risk assessment techniques;
- Be able to perform advance control, containment, and/or confinement operations within the resources and personal protective equipment available;
- Understands and implement decontamination procedures;

- Understands termination procedures; and
- Understands basic chemical and toxicological terminology and behavior.

d. Hazardous Materials Specialist

Responds with and support Hazardous Materials technicians, but duties require more in-depth knowledge of hazardous substances. Training shall include at least 24 hours equal to the technician level and certified competency in the following areas:

- Knows how to implement the NCI-Frederick Emergency Response Procedures;
- Understands the classification, identification, and verification of known and unknown materials by using advanced survey instruments and equipment;
- Knows of the Maryland emergency response plan;
- Be able to select and use proper specialized chemical personal protective equipment;
- Understands in-depth hazard and risk control techniques;
- Be able to perform specialized control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available;
- Be able to determine and implement decontamination procedures;
- Has the ability to develop a site safety and control plan; and
- Understands chemical, radiological, and toxicological terminology and behavior.

e. On-Scene Incident Commander

Assumes control of the incident scene. Must receive at least 24 hours of training equal to the first responder operations level and have certified competency in the following areas:

- Knows how to implement the NCI-Frederick Emergency Response Procedures;
- Knows and understand the hazards and risks associated with employees working in chemical protective clothing;
- Knows how to implement the local emergency response plan;
- Knows of the State emergency response plan and of the Federal Regional Response Team; and
- Knows and understand the importance of decontamination procedures.

2. TSDF - Site Worker Training (24 hours):

All new employees who participate in the 24-hour TSDF course shall have one day of on-the-job training under the direct supervision of a trained and experienced supervisor. For such employees a record attesting to the completion of this on-the-job training will be prepared by the supervisor and retained in accordance with the EHS Records Management Office procedures.

A 24-hour initial safety and health training course shall include the following topics:

- a. Overview of 29 CFR 1910.120 and appendices;
- b. Overview of 29 CFR 1910.1200;
- c. Rights and responsibilities of employees under OSHA and CERCLA;

- d. Recognition, assessment, and control of chemical hazards; the training must include toxicity, flammability, compressed gases and reactivity;
- e. Recognition, assessment, and control of physical (safety) hazards, including housekeeping, heavy equipment, falls, and working surfaces;
- f. Recognition, assessment, and control of radiological hazards;
- g. Recognition, assessment, and control of noise hazards;
- h. Donning and use of PPE, including basic types of suits and gloves, air purifying respirators, air supplied respirators, and definition of EPA levels of protection;
- i. Monitoring equipment (air and environmental sampling, including calibration, and maintenance) and interpretation of results;
- j. Medical surveillance requirements;
- k. Equipment and personnel decontamination; and
- l. Recognition and response to site emergencies, including evacuation signals, medical emergencies.

3. Manager/Supervisor Training (8 Hours)

All managers and supervisors directly responsible for hazardous waste site operations will complete one eight-hour management/supervisor training course in addition to the 24-hour and annual eight-hour refresher courses. This training shall be completed prior to supervising on-site work. This training will include such topics as:

- a. Management responsibilities;
- b. NCI-Frederick safety and environmental compliance programs;
- c. Development, implementation, and review of site-specific SOPs and compliance documents;

- d. Implementation and auditing of health and safety requirements, including personal protective equipment, spill containment, and health hazard monitoring;
- e. Decision-making and documentation;
- f. Emergency procedures, incident investigation, and notification requirements;
- g. Available resources; and
- h. Subcontractor control and liability.

4. Site-Specific Training

All field staff, managers, and supervisors assigned to a hazardous waste operation shall participate in site-specific training. This training shall be completed prior to commencing emergency hazardous waste activities and only after all other required health and safety training is completed and medical clearance for site work received. The length of site-specific training is dependent on the scope and complexity of site operations and expected hazards. Required topics of site-specific training include:

- a. Names and telephone numbers of personnel and alternates responsible for site health and safety and emergency response;
- b. Site history and review of specific health and safety hazards for various tasks and operations;
- c. Employee health and safety responsibilities;
- d. Review of site zones and decontamination procedures;
- e. Medical surveillance requirements for hazards on-site;
- f. Medical symptoms that may indicate overexposure to site hazards;
- g. Frequency and types of monitoring to be performed for health and safety hazards;

- h. Equipment calibration procedures to be followed for site monitoring equipment;
- i. Site control measures;
- j. Emergency procedures, response equipment, and telephone numbers;
- k. Confined space entry procedures (if required);
- l. Levels of protection and PPE use, storage, and maintenance requirements;
- m. Spill containment and hazardous waste management procedures to be implemented on-site;
- n. Site tour;
- o. Location of SOPs and MSDSs;
- p. Chain of command;
- q. Additional safety briefings will be held as necessary to ensure site personnel are aware of operational limitations, changes in conditions at the site, and possible approaches to anticipated technical problems. Briefings may be of short duration (10 to 15 minutes) but will be sufficiently comprehensive to ensure awareness of site-specific requirements. Safety briefings will be documented, including date, time, name and signature of person providing briefing, content of briefing, and signatures of attendees.

5. Annual Refresher Training (8-Hour)

Every employee working at a hazardous waste site will complete an annual refresher course on health and safety. In addition, any EHS personnel who engage in hazardous materials spill response must also complete such training. This course shall be completed within twelve months of previous training and be of at least eight hours duration. The topics to be included are:

- a. Review of the NCI-Frederick Environment, Health and Safety Program;

- b. Chemical and physical hazards and hazard communication;
- c. Use and maintenance of personal protective equipment;
- d. Respiratory protection;
- e. Medical surveillance program;
- f. Engineering and administrative hazard control;
- g. Decontamination procedures;
- h. Level A, B, C, and D protection review;
- i. Exposure monitoring;
- j. Confined space entry (if required);
- k. Hearing conservation (if required);

If an employee who received 24-hour initial training is temporarily removed from hazardous waste operations and more than 13 months has elapsed between 8-hour refresher training, an evaluation will be made by EHS management to determine whether the individual is required to receive the initial 24-hour training again or whether the worker may be re-certified by completing the 8-hour refresher course. In all cases a lapse period of three years or more requires that the employee complete an initial 24-hour course. The employee shall document to EHS management how the employee maintained a current, working knowledge of the topics in 29 CFR 1910.120 (e)(2) and (4) during the lapse period.

6. Selection of Trainers

Training required by this section shall be provided by qualified trainers. When outside vendors are selected to conduct required training courses, the basis for the selection shall be documented by the EHS individual responsible for vendor selection, and include: the course duration, topics covered, instructor qualifications, previous experience giving the course, and recommendations (if any) of NCI-Frederick employees who have taken the course. A memorandum to the file, summarizing the vendor's qualifications, will be maintained in accordance with the Records Management

Office procedures.

7. Training Records

- a. Certificates documenting completion of 24-hour, 8-hour, and other required training courses shall be signed by the course instructor and contain the following information:
 - i. Name and type of course;
 - ii. Training requirements satisfied (e.g., 29 CFR 1910.120, 29 CFR 1910.95, etc);
 - iii. Name and employee number of attendee;
 - iv. Completion date; and
 - v. Instructor's name and signature.
- b. Records of project or site-specific training shall include the date of training, attendees, topics covered, and the instructors name and signature.
- c. Training records will be maintained in accordance with the Records Management Offices procedures.

B. Medical Surveillance and Emergency Medical Care

1. Medical Surveillance

The medical surveillance program for employees who work at hazardous waste operations is maintained by OHS. Procedures are described in Section C-7 Medical Surveillance.

2. Emergency Medical Care

In the event that personnel exhibit signs or symptoms of chemical exposure/physical stress while on-site, the emergency medical treatment provisions of the NCI-Frederick Emergency Response Procedure must be implemented. This includes emergency first aid, transportation to a nearby medical facility, and a medical examination to detect any potential job-related symptoms or illnesses. All such events shall be reported immediately to EHS management.

C. Inspections

1. EHS is responsible for conducting weekly inspections of applicable operations to ensure that compliance documents and standard operating procedures are effectively implemented. These inspections are conducted and documented as specified in Chapter D-2 Hazardous Waste Disposal of the EHS Compliance Manual.

D. Response Documentation

EHS will document all responses to the release or threat of release of hazardous substances. At a minimum, one of the forms in Exhibits D-3-1 or D-3-2 will be completed, distributed, and maintained in accordance with the Records Management Office procedures.

E. Personal Protective Equipment

NCI-Frederick will provide, maintain, repair, and store personal protective equipment for use as required according to OSHA regulations. The Personal Protective Equipment chapter of this manual provides guidance on the provision and use of eye protection and foot protection. The Hearing Conservation Program, provides requirements on hearing protection. The Respiratory Protection Program provides requirements on respiratory protection.

VI. REFERENCES

29 CFR 1910.120 - Hazardous Waste Operations and Emergency Response
40 CFR Subchapter I - Solid Wastes
40 CFR Subchapter J - Superfund, Emergency Planning, and Community Right-To-Know Programs
COMAR Title 26, Subtitle 13 - Disposal of Controlled Hazardous Substances
Maryland Environment Article Title 7 - Hazardous Materials and Hazardous Substances
Resource Conservation and Recovery Act of 1976, as amended
29 CFR 1910.120 - Hazard Communication
Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)

EXHIBIT D-3-1: EHS RESPONSE RECORD FORM**EHS RESPONSE RECORD**

Environment, Health and Safety Program

Record #05-xxx

Section I - Caller Information

Name of Caller	Extension	Building and Room Number
Date and Time of Call	Date and Time of Event	

Section II - Type of Event

Check Type of Event <input type="checkbox"/> Accident <input type="checkbox"/> Medical Emergency <input type="checkbox"/> Odor <input type="checkbox"/> Exposure <input type="checkbox"/> Spill <input type="checkbox"/> Improper Waste Disposal <input type="checkbox"/> Other	Employee Injuries: <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Have caller contact OHS at 911)</i> Is assistance needed? <input type="checkbox"/> Yes <input type="checkbox"/> No Qty of spill: Name of Material:	<input type="checkbox"/> Chemical <input type="checkbox"/> Radiation <input type="checkbox"/> Biological <input type="checkbox"/> Other
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Section III - Detailed Event Data

Subject of Call

Action Taken

Time Arrived on Scene:

Recommendations and Follow-up Action

Call Taken By:

EHS Responder:

Date:

Section IV - Completed by EHS Manager or Safety Officer

Status Pending further action
 Closed

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