

**OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE**  
**INTEGRATED HEALTH AND SAFETY PROGRAM**  
**STANDARD OPERATING PRACTICES**  
**FOR OSWER FIELD ACTIVITIES**

**Assistant Administrator**  
**Office of Solid Waste and Emergency Response**  
**U.S. Environmental Protection Agency**  
**Washington, DC 20460**

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## ABSTRACT

**PURPOSE:** The purpose of this document is to establish Standard Operating Practices for all Office of Solid Waste and Emergency Response (OSWER) workers engaged in field activities.

**BACKGROUND:** Several laws and regulations require the U.S. Environmental Protection Agency (EPA) to protect the health and safety of its workers. The Safety, Health, and Environmental Management Division (SHEMD)<sup>1</sup> has overall responsibility for the development, organization, and administration of EPA's Health and Safety Policies and Programs. OSWER, however, also is responsible for implementing certain health, safety, and training programs applicable to workers within OSWER. OSWER's responsibilities differ from SHEMD in that OSWER is responsible for developing programs that specifically address the health and safety problems that OSWER workers may encounter on the job.

This document, which is designed to inform the OSWER field worker of his/her duties and responsibilities with regard to specific health and safety practices, is but one example of OSWER's overall commitment to protect its workers.

**APPLICABILITY:** These Standard Operating Practices are effective for all OSWER workers who are, or potentially may become, engaged in field activities. Thus, any OSWER employee who is involved with one of the following activities must comply with these Practices:

- (1) Normal operations at treatment, storage, and disposal (TSD) facilities regulated under the Resource Conservation and Recovery Act (RCRA) (i.e., facilities regulated under 40 CFR Parts 264 and 265);
- (2) Corrective actions at RCRA TSD facilities;
- (3) Hazardous waste operations at uncontrolled hazardous waste sites;
- (4) Emergency spill response activities;
- (5) Chemical emergency preparedness;
- (6) Field operations involving leaking underground storage tanks;
- (7) Field operations involving solid wastes; and
- (8) Any other field activities involving hazardous or potentially hazardous substances.

**\*\*** *These Standard Operating Practices apply to all OSWER field activities, both foreign and domestic.*

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<sup>1</sup> SHEMD is a division within the Office of Administration and Resources Management (OARM) in the Office of Administration (OA) in EPA.

## TABLE OF CONTENTS

	<u>Page</u>
<b>1.0 PURPOSE</b> .....	1
<b>2.0 OSWER REQUIREMENTS</b> .....	1
2.1 Requirements for Field Categories .....	1
2.2 OSWER Practices as Applied to Non-EPA Organizations .....	2
<b>3.0 AUTHORITY</b> .....	2
<b>4.0 RESPONSIBILITY</b> .....	2
4.1 Administrative .....	2
4.2 Training .....	4
4.3 Emergency Medical Services .....	4
<b>5.0 FIELD ACTIVITY CATEGORIES AND PROCEDURES</b> .....	4
5.1 Definition of Categories .....	4
5.2 Category Requirements .....	6
5.3 Standard Operating Guidelines .....	7
5.3.1 Pre-Arrival Planning .....	7
5.3.2 Safety On-Site .....	7
5.4 Personal Protective Equipment .....	8
5.5 Site Departure and Decontamination Procedures .....	8
<b>6.0 MEDICAL SURVEILLANCE PROGRAMS</b> .....	9
<b>7.0 TRAINING</b> .....	9
<b>8.0 HAZARD COMMUNICATION/RIGHT-TO-KNOW</b> .....	10
8.1 Hazard Communication Requirements .....	11
8.2 Information and Training .....	12
<b>LIST OF ACRONYMS</b> .....	13

**TABLE OF CONTENTS**  
(Continued)

	<u>Page</u>
<b>APPENDICES</b>	
A     OSWER Integrated Health and Safety Work Group .....	15
B     Summary of the OSWER Health and Safety Training Course Requirements .....	16
C     General Description of the OERR Levels of Protection and Protective Gear .....	17
D     OSWER Incident Safety Check-Off List and Instructions .....	21
E     U.S. EPA OSWER Respiratory Protection Program .....	24
F     Summary of OSWER Medical Surveillance Requirements Per Worker Category .....	31
G     Available Guidance .....	33
H     Sample Certification Form .....	34

## **1.0 PURPOSE**

The purpose of this document is to establish Integrated Health and Safety Standard Operating Practices for all Office of Solid Waste and Emergency Response (OSWER) workers who are actually or potentially engaged in field activities (e.g., hazardous substance field activities and related activities involving hazardous chemicals/substances).

Each OSWER worker involved in field activities must receive appropriate training, equipment, and medical surveillance in accordance with the Safety, Health, and Environmental Management Division's (SHEMD) Health and Safety Policies and Programs,<sup>2</sup> the Emergency Response Division's (ERD) Standard Operating Safety Guides (SOSGs),<sup>3</sup> as well as other appropriate Federal/State requirements and guidelines such as 29 CFR 1910 and 1926.

## **2.0 OSWER REQUIREMENTS**

### **2.1 REQUIREMENTS FOR FIELD CATEGORIES**

All OSWER workers who participate in field activities must be classified into field activity categories. Once employees are classified, they must receive the training and medical surveillance applicable to their field certification category prior to performing any field work. (Worker field categories and procedures are defined below in Section 5.0.)

Any extension of duty associated with hazardous materials or other potentially hazardous OSWER field activities beyond the specific field category to which a particular worker is assigned, or for which he/she is specifically qualified by training and practical experience, is prohibited. Therefore, supervisors are not authorized to order, direct, or otherwise instruct a worker to engage in work activities involving hazards that are beyond the scope of the worker's field certification(s). In the event that a worker knowingly engages in hazardous activities on the job that are beyond the scope of his/her qualifications, as determined by certified training and practical experience, such worker will be deemed to have willfully self-endangered himself/herself, in violation of EPA procedures. Such workers will be disciplined in accordance with established policies, and may be denied Worker's Compensation benefits in the event of related injury or illness. Such workers also may incur other personal liabilities.

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<sup>2</sup> SHEMD is a division within the Office of Administration and Resources Management (OARM) in the Office of Administration (OA) in EPA.

<sup>3</sup> ERD is a division within the Office of Emergency and Remedial Response (OERR) in OSWER. The SOSGs developed by ERD provide a comprehensive overview of the health and safety information needed by employees engaged in operations at hazardous waste sites. The SOSGs are meant to supplement professional training, experience, and knowledge and can be used as a planning and management tool, an educational tool, or a reference document. The specific topics addressed in the SOSGs include: initial planning activities; training; site control; personal protective equipment (PPE); air monitoring; medical surveillance program; heat stress and cold exposure; decontamination; drum handling; and other requirements and safety considerations. To obtain a copy of the SOSGs, contact the National Technical Information Service (NTIS) at (703) 487-4600.

## 2.2 OSWER PRACTICES AS APPLIED TO NON-EPA ORGANIZATIONS

In implementing these Health and Safety Standard Practices, OSWER maintains the position that *contractors* are responsible for developing and implementing Standard Operating Safety and Health Practices for their employees and operations. To satisfy this requirement, OSWER has elected to allow contractors to develop and implement internal health and safety program and standard operating procedures (SOPs). Such programs/procedures must include employee right-to-know and must be in compliance with ERD's SOSGs and all applicable Occupational Safety and Health Administration (OSHA) standards. Thus, at a minimum, OSWER requires that each contractor know and adhere to 29 CFR 1910, (specifically 29 CFR 1910.120 (the Hazardous Waste Operations and Emergency Response Standards (HAZWOPER)) and 29 CFR 1910.121), 29 CFR 1926, and ERD's SOSGs.

After developing the internal health and safety programs and the SOPs, the contractor must certify to EPA that their programs and practices comply with 29 CFR 1910 and 1926 and the ERD SOSGs. In the event that a contractor's health and safety program differs from these requirements, the contractor must certify to EPA that their program and procedures are at least as stringent as EPA's requirements, and that they provide a commensurate level of worker safety.

Finally, all organizations that have their own health and safety programs, including private contractors and other Federal, State, and local agencies, are fully responsible for the proper administration of those programs. Such programs are permissible so long as they provide for a level of worker safety equivalent to OSWER's Practices, and they are at least as stringent as those Practices.

## 3.0 AUTHORITY

The authority for this program is derived from: EPA's SHEMD and all applicable Federal regulations, Executive Orders, Directives, Policies, Programs, and Practices.

## 4.0 RESPONSIBILITY

### 4.1 ADMINISTRATIVE

The following personnel are responsible for implementing and administering OSWER's Integrated Health and Safety Standard Operating Practices.<sup>4</sup>

- The Assistant Administrator of OSWER, or designee, is ultimately responsible for ensuring that all field workers actively participate in the OSWER Integrated Health and Safety Standard Operating Practices.
- Office Directors are delegated the authority and responsibility for implementing and enforcing these Practices. To ensure a truly integrated and coordinated program,

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<sup>4</sup> These practices identify six distinct field activity categories into which workers are assigned, based upon their field training certification classification (29 CFR 1910.120 and 29 CFR 1910.121) and exposure potential. The categories are defined and outlined in Section 5.0 of this document.

each Office Director is required to assign at least one appropriately qualified occupational safety and health professional to serve as liaison on the OSWER Integrated Health and Safety Workgroup, which is chaired by the Chief of the Safety and Air Surveillance Section, Environmental Response Team (ERT), 2890 Woodbridge Avenue, Building 18 (MS 101), Edison, NJ, 08837-3679, (908) 321-6740. (Refer to Appendix A for the list of OSWER Integrated Health and Safety Workgroup members.)

- **Division Directors** are authorized to identify each field activity category in their Divisions. The Division Directors also are responsible for the budgeting of funds for safety training and for the purchase, maintenance, and storage of worker safety equipment.
- **Branch Chiefs** are responsible for assigning field activity categories to Section Chiefs/first-line supervisors. The Branch Chiefs are also responsible for maintaining worker safety and training records, which contain all safety-related matters. (See below for proper procedures.\*\*)
- **Section Chiefs/first-line supervisors** are responsible for assigning field activity categories to individual workers. Each worker must be provided with a complete description of the field activity categories. The Section Chief, or designee, also is responsible for purchasing, issuing, and training his/her personnel concerning all phases of personal protective equipment (PPE) and medical surveillance.
  - \*\* Once the list of categorized workers has been compiled by the Section Chief/first-line supervisor, the Branch Chief or the Section Chief must transmit a copy of the list to ERT. Each list must include the worker's first and last name, relevant office, mail code, and worker category. Upon receipt of these lists, ERT staff will solicit relevant employee training and medical records, including updates. Such information will be recorded by ERT staff into a data base. Annually, ERT will send computer-generated copies of employee records to the appropriate Branch Chief and will request that the Branch Chief, or designee, revise or update the information based on employment changes or recategorizations. The Branch Chief, or designee, is responsible for transmitting the updated information to ERT so that the employee data base can be modified accordingly.
- **Affected EPA workers** must read and fully understand the OSWER Standard Operating Practices and must sign a statement attesting to that fact. Appendix H contains a sample certification form that may be used as a model in obtaining worker signatures. The statement forms are provided to each worker by their immediate supervisor. Once such forms are signed by the worker, the appropriate Branch Chief will retain the form for documentation purposes.

A "Worker" is defined as any full, part-time, temporary, or permanent EPA employee; a detailee to the EPA from another government agency; an individual enrolled in EPA's Senior Environmental Employment (SEE) Program; a student assigned to the EPA; an EPA stay-in-school program participant; an intern or fellow assigned to the EPA; and any other individual who is designated on a case-by-case basis by the Director of SHEMD.



- The **OSWER Integrated Health and Safety Workgroup** is responsible for the implementation and maintenance of these Standard Operating Practices. The Workgroup representative is the focal point for coordinating the office's activities with regard to OSWER worker occupational health and safety activities.

If additional logistical and administrative support is required, such support may be obtained from the ERT upon request. (Refer to Appendix A for relevant ERT telephone numbers.)

## **4.2 TRAINING**

The development, implementation, and ongoing management of health and safety training programs is the highest OSWER training priority. The Assistant Administrator of OSWER, or designee, bears the ultimate responsibility for ensuring that all OSWER workers receive the appropriate safety equipment and training, or equivalent, in accordance with EPA Policies and Programs and 29 CFR 1910 and 1926. Although the Assistant Administrator is ultimately responsible for worker training, the task of ensuring that all workers receive the proper mandatory safety training and equipment on a day-to-day basis is borne jointly by the OSWER Office Directors, Division Directors, Branch Chiefs, Section Chiefs/first-line supervisors, and workers.

## **4.3 EMERGENCY MEDICAL SERVICES**

In addition to routine medical surveillance coverage, the worker may be entitled to certain emergency and other medical services provided under Worker Compensation programs. It is the worker's responsibility to seek medical assistance and to immediately advise his/her supervisor in the event of a job-related injury or illness, or acute exposure or exposures above published exposure levels (e.g., above permissible exposure limits (PELs) or threshold limit values (TLVs))<sup>5</sup>.

# **5.0 FIELD ACTIVITY CATEGORIES AND PROCEDURES**

## **5.1 DEFINITION OF CATEGORIES**

Six distinct field activity categories have been identified for OSWER field personnel. Each category requires different amounts of initial and annual training. Medical surveillance requirements also differ by category, according to exposure potential. The training and medical surveillance requirements for each category are described below and summarized in Appendices B and F, respectively.

A first-line supervisor may modify a worker's category assignment by providing written notification to the Chief of the Safety and Air Surveillance Section, ERT. This notification must identify the change(s) in the field activity category and verify that the appropriate training,

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<sup>5</sup> For additional information on TLVs, refer to the *1991-1992 Threshold Limit Value for Chemical Substances and Physical Agents and Biological Exposure Indices*, published by the American Conference of Governmental Industrial Hygienists (ACGIH) (1991). For further information on PELs, refer to 29 CFR 1910.1000, Subpart Z.

equipment, and medical examination(s) have been provided to the individual, as required for reclassification.

- **Category 1** is established as the OSWER highest risk category. This category includes all workers whose job description/critical job elements require handling of, or potential exposure to, identified or unidentified hazardous chemicals. For example, workers who respond to spill emergencies, engage in hazardous waste operations at uncontrolled hazardous waste sites, and perform corrective actions at RCRA TSD facilities (e.g., ERT personnel) fall within this category. Category 1 workers are authorized to wear all OERR Levels of PPE (i.e., Levels A, B, C, and D). (Refer to Appendix C for a general description of the protective gear required for each level of PPE.)

All Category 1 workers are required to submit to a baseline medical examination. Thereafter, the frequency of medical examinations and tests are based on the individual's job-related risks, and are determined by the OSWER Occupational Medicine Program, in accordance with National Medical Surveillance Program guidance.

- **Category 2** includes those OSWER personnel who are required to enter a Superfund or RCRA Corrective Action "Exclusion Zone" or a RCRA TSD facility's "Activity Area," where there is the potential for exposure to identified or unidentified hazardous chemicals. However, to fall within this category, workers must be present in the relevant zone or area for **more than approximately 20 days per calendar year**.<sup>6</sup> Category 2 workers are authorized to wear OERR PPE Levels C and D.

Category 2 workers also are required to submit to a baseline medical examination. Thereafter, the frequency of medical examinations and tests are based on the individual's job-related risks and are determined by the OSWER Occupational Medicine Program, in accordance with National Medical Surveillance Program guidance.

- **Category 3** includes those OSWER personnel who are required to enter a RCRA TSD facility, where there is the potential for exposure to identified or unidentified hazardous chemicals. A worker must be present at such a facility for **more than approximately 20 days per calendar year** to fall within this category. These workers are authorized to wear OERR PPE Levels C and D.

These workers must receive a baseline medical examination plus updates based on potential exposure frequency, as determined by the OSWER Occupational Medicine Program, in accordance with National Medical Surveillance Program guidance.

- **Category 4** includes those OSWER personnel who are required to enter a Superfund or RCRA Corrective Action "Exclusion Zone" or a RCRA TSD facility's "Activity Area," where there is the potential for exposure to identified or unidentified hazardous chemicals. However, to fall within this category, workers must be present

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<sup>6</sup> The period of potential exposure of greater than or less than 20 days is derived from the 30-day standard in 29 CFR 1910.120.

in the relevant zone or area for less than approximately 20 days per calendar year. Category 4 workers are authorized to wear OERR PPE Levels C and D.

Category 4 workers also must receive a baseline medical examination with updates based on potential exposure frequency, as determined by the OSWER Occupational Medicine Program, in accordance with National Medical Surveillance Program guidance.

- Category 5 includes those OSWER personnel who are required to enter a RCRA TSD facility, where there is potential for exposure to identified or unidentified hazardous chemicals. A worker must be present at such a facility for less than approximately 20 days per calendar year to fall within this category. Category 5 workers are authorized to wear OERR PPE Levels C and D.

These workers also must receive a baseline medical examination plus updates based on potential exposure frequency, as determined by the OSWER Occupational Medicine Program, in accordance with National Medical Surveillance Program guidance.

- Category 6 includes all other OSWER field activity personnel not specifically addressed in Categories 1 through 5, but who are required to perform their job function in a "Secure/Clean Area." Category 6 is limited to those personnel who, although they work in a secure/clean area, are associated with those activities being performed by workers in Categories 1 through 5.

These workers are authorized to wear OERR PPE Level D. A baseline medical examination will be conducted for Category 6 workers if it is deemed necessary by the OSWER Occupational Medicine Program, in accordance with National Medical Surveillance Program guidance.

## 5.2 CATEGORY REQUIREMENTS

The following provides a basic framework for the safe conduct of OSWER field activities and is applicable to all field personnel, whenever such personnel are either directly or indirectly involved in a hazardous substance activity:

- OSWER field activity personnel must be aware, in advance, of the objectives of each site visit and must be prepared to employ safe operations to avoid potential hazards.
- Each worker must comply with these Standard Operating Practices and exercise good personal judgment and technical expertise on a case-by-case basis.
- Whenever applicable, OSWER field activity personnel must implement the ERD SOSGs for guidance and selection criteria. OSWER personnel also must exercise extreme caution to prevent loss of life, injury, or health hazards to themselves and to the general public.
- OSWER field activity personnel are required to adhere to these Practices regardless of whether local requirements are as stringent. In the event of conflicting health or safety regulations, workers are expected to implement those practices that afford the

highest level of protection. Managers and supervisors are responsible for ensuring that the most stringent requirements are implemented in the event of a conflict.

To be eligible to perform Category 1 through 5 duties, the worker must:

- (a) Be assigned to the on-site work by his/her supervisor;
- (b) Complete the required baseline medical examination and participate in the medical surveillance program;
- (c) Complete the appropriate health and safety training program as required by EPA policies and programs, OSHA's HAZWOPER standards, and 29 CFR 1910.121, prior to involvement in field activities, and/or other types of activities similar to field activities; and
- (d) Be assigned to the appropriate Field Activity Category.

### **5.3 STANDARD OPERATING GUIDELINES**

#### **5.3.1 Pre-Arrival Planning**

In planning a field activity, it is each worker's responsibility to be aware of the purpose of the field activity and to comply with the OSWER Integrated Health and Safety Standard Operating Practices, SHEMD Health and Safety Policies and Programs, OSHA standards specified at 29 CFR 1910.120, and 1910.121, and all other applicable regulations and requirements.

Prior to arrival at a Superfund field activity location, each worker must complete Part I of the OSWER Incident Safety Check-off List (provided in Appendix D), and furnish the list to the first-line supervisor or designee for review and signature. Although lead time and availability of information are often limited, the worker must attempt to complete this form *prior* to departing the office. If an emergency arises, it is recommended that the worker and his/her supervisor contact the Environmental Response Branch's Edison, NJ, Hotline at (908) 321-6660 for technical assistance. Site Safety Plans must also be completed prior to site entry, in accordance with 29 CFR 1910.120 standards and the ERD SOSGs.

#### **5.3.2 Safety On-Site**

The general rule is that employees cannot participate in or supervise field activities until they have been properly trained to the level required by their job function and responsibility. The purpose of this requirement is to ensure the health and safety of all workers on-site and the general public. Because all training must be consistent with the requirements specified in 29 CFR 1910.120, on-site training sessions must address, at a minimum: (1) the names of personnel responsible for site safety and health; (2) the safety, health, and other hazards present on the site; (3) the proper method to use PPE; (4) the work practices by which an employee can reduce the risk from hazards; and (5) relevant medical surveillance requirements, including recognition of signs and symptoms that might indicate overexposure to a particular hazard. (Refer to 29 CFR 1910.120(e) for additional training information.)

Once workers have satisfied the relevant training requirements, they may engage in field activities. The buddy system must always be employed in the field. OSWER field personnel shall

not enter an "Exclusion Area" or a RCRA TSD hazardous waste facility without another appropriately trained individual present. In addition to the buddy system requirement, OSWER personnel must implement continuous on-site evaluation and inspection for potentially dangerous conditions in accordance with the ERD SOSGs. If any condition is discovered to be more hazardous than originally anticipated, all field activity must cease temporarily, until a re-evaluation of the hazards and the level of protection occurs.

In the event that an OSWER field activity worker experiences any adverse effects or symptoms of exposure while engaged in field activities, he/she must immediately leave the site/area, contact the site/facility supervisor (e.g., On-Scene Coordinator (OSC)) and seek appropriate medical attention. Such incidents must be reported in accordance with EPA SHEMD policies and programs. (For additional information on how to comply with SHEMD policies and programs, contact one of the OSWER Integrated Health and Safety Workgroup members. Names and telephone numbers of Workgroup members are provided in Appendix A.)

#### **5.4 PERSONAL PROTECTIVE EQUIPMENT (PPE)**

If OSWER personnel are required to enter any area in which there is a risk of potential exposure or in which respiratory protection is needed (e.g., a hazardous site/spill exclusion zone, RCRA TSD facility, or manufacturer's production area), they must adhere to these Integrated Health and Safety Standard Operating Practices, regardless of whether the Region has a policy or a specific site-safety plan. Workers are required to refer to the ERD SOSGs for a detailed description of the levels of protection and selection criteria. Other relevant guidance includes the *OSWER Respiratory Protection Program*, which is included in Appendix E of this document, and the *Standard Operating Guide for Site Entry* (U.S. EPA, draft, Publication 9285.2-01A). (Refer to Appendix G for information on how to obtain these Standard Operating Guides.)

#### **5.5 SITE DEPARTURE AND DECONTAMINATION PROCEDURES**

Disposable safety clothing and sampling equipment must be disposed of properly. If appropriate disposal facilities are not available, safety clothing and sampling equipment must be placed in a suitable container pending proper disposal. Non-disposable safety clothing and sampling equipment also must be decontaminated (preferably on-site) in accordance with the ERD SOSGs.

In the event that the adequacy of the decontamination procedures is questionable, non-disposable equipment must be placed in appropriate containers until the exact nature of the contamination is known. Either suitable decontamination procedures must be employed to clean the equipment, or the equipment must be properly disposed of at an approved RCRA hazardous waste facility that meets the requirements of the EPA off-site policy (OSWER Directive 9834.11) and EPA Land Disposal Restrictions (40 CFR 268.30 and 268.32). For additional guidance regarding decontamination procedures and requirements, refer to 29 CFR 1910.120(k) and the *Standard Operating Guide for Decontamination of Response Personnel* (U.S. EPA, draft, Publication 9285.02A).<sup>7</sup>

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<sup>7</sup>Refer to Appendix G for a list of other available standard operating guidelines.

## 6.0 MEDICAL SURVEILLANCE PROGRAMS

OSWER field activity workers in Categories 1 through 5 must undergo a baseline health profile. A baseline examination is also recommended for Category 6 workers; however, such an examination is not required. Following the baseline profile, based on field exposure classification, OSWER workers in Categories 1 through 5 also must submit to routinely scheduled examinations to determine the possible health effects, if any, associated with their field activities.

In addition, OSWER field activity personnel must receive a medical examination/consultation as soon as possible after notifying their Section Chief(s) or first-line supervisors that they have either developed signs or symptoms indicating possible overexposure to hazardous substances or health hazards, or that they have been injured or exposed to hazardous substances above the PELs or published exposure levels in an emergency situation.

Category 6 personnel who develop signs or symptoms or overexposure to hazardous substances or health hazards from an emergency incident, or who are exposed during an emergency incident to hazardous substances at concentrations above the permissible or published exposure levels without use of the necessary PPE, are entitled to a medical examination or consultation as soon as possible following the emergency incident or the development of signs or symptoms. Additional examinations may be scheduled for such Category 6 workers if the examining physician determines that such a follow-up is medically necessary.<sup>8</sup>

A summary of the OSWER Medical Surveillance Requirements according to Field Activity Category is included in Appendix F. (Also, refer to *"Occupational Medical Monitoring Program Guidelines for SARA Hazardous Waste Field Activity Personnel,"* U.S. EPA, 1990 Publication 9285.3-04.)

## 7.0 TRAINING

An adequate training program is essential for proper implementation of these Integrated Health and Safety Standard Operating Practices. The complexities of the topics of interest, the variety of courses offered, and the need for specific training within each category necessitates formulation of certain ground rules.

- Each OSWER field activity worker must receive safety training commensurate with his/her job requirements and field exposure classification. In addition, first-line supervisors must recommend additional safety training courses for each worker's future needs.
- A series of core topics are designated for each worker field category as specified in Appendix B, "The Summary of the OSWER Health and Safety Training Requirements." The core topics specified in Appendix B are mandatory for all OSWER field activities category workers. The other topics identified as "desirable" should be taken by workers based upon the recommendations of their supervisors.

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<sup>8</sup> 29 CFR 1910.120(f)(3)(i)(ii).

- Supervisors are ultimately responsible for ensuring that their workers are properly trained.
- The training plans and programs must remain flexible enough to include or delete any additional or obsolete topics as the need arises or as new ideas are introduced.

Training hour requirements vary according to the specific field activity. The following summarizes the 29 CFR 1910.120 and 1910.121 training requirements as they relate to the OSWER Field Activity Categories.

**Categories 1, 2, and 4:** These workers must receive 40 hours of initial training, plus 3 days of actual field experience under the direct supervision of a trained, experienced supervisor. (Field supervisors in these categories will be required to have an additional 8 hours of "Supervisor Training.") All workers must also receive 8 hours of refresher training annually.

**Categories 3 and 5:** These workers must receive 24 hours initial training and 8 hours refresher training annually.

**Category 6:** Although not required by 29 CFR 1910.120 and 1910.121, all Category 6 workers are by this Practice to have a minimum of 4 hours of training in those areas identified in Appendix B.

**\*\* All supervisors equivalent to, or lower than, Section Chiefs in charge of field activity workers must receive commensurate safety training in all applicable field safety categories.**

## **8.0 HAZARD COMMUNICATION/RIGHT-TO-KNOW**

The EPA is required to communicate the hazards associated with the workplace in accordance with SHEMD policies and programs, the OSHA Hazard Communication Standard (29 CFR 1910.1200), and the OSHA HAZWOPER standards (29 CFR 1910.120). These regulations and programs require that workers be given information and training on hazardous substances in their specific work areas. (A work area is defined to include both field and office settings.)

OSWER maintains that the hazard communication/right-to-know requirement will be extended to contractors and/or contractor representatives. Although it is often the case that the exact nature of the hazardous substances are unknown, OSWER workers and contractors and their representatives must be informed of the physical and health hazards of known substances in the work area. In addition, OSWER workers and contractors must be notified of methods to detect hazardous substances and any measures that workers can take to protect themselves from hazards.

The OSHA Hazard Communication Standard, at 29 CFR 1910.1200, specifically excludes hazardous waste from its requirements. Also excluded from the Hazard Communication requirements are any products or hazardous substances brought on-site and used as they would normally be used at home or in the office. For example, small quantities of floor cleaners with ammonia, window cleaners, copier inks, and correction fluid, are excluded from the requirements of 29 CFR 1910.1200.

Although the OSHA Hazard Communication Standard excludes hazardous waste, the OSHA HAZWOPER standards (29 CFR 1910.120) include requirements strikingly analogous to those specified in 29 CFR 1910.1200. Thus, although 29 CFR 1910.1200 does not specifically apply to

hazardous waste and, therefore, OSWER workers, 29 CFR 1910.120 fills the gap. For example, 29 CFR 1910.120(b) requires (1) a written site-specific health and safety plan that addresses the safety and health risk or hazard analysis for each site task; and (2) identification of risks and communication of those risks to workers involved with hazardous substances. In addition, 29 CFR 1910.120(c)(8) requires that any available information on known or potential hazardous substances be made available to workers prior to conducting site work. 29 CFR 1910.120(i) requires the implementation of an informational program to inform workers, contractors, subcontractors, or their representatives of the nature, level, and degree of exposure potential. Finally, for RCRA workers, 29 CFR 1910.120(p)(2) requires workers to implement a hazard communication program. Thus, 29 CFR 1910.120, which applies to all OSWER workers, effectively captures the critical requirements of the OSHA Hazard Communication Standard.

Although not specifically required by the OSHA Hazard Communication Standard (29 CFR 1910.1200), OSWER maintains that a material data safety sheet (MSDS), or equivalent information, must be included as part of the site-specific safety plan for any hazardous substance that is identified or suspected to be present on-site. Inclusion of such information will thereby satisfy the requirements of 29 CFR 1910.120.

## **8.1 HAZARD COMMUNICATION REQUIREMENTS**

The 29 CFR 1910.1200 Hazard Communication Standard is applicable to several site activities, including:

- (a) Hazardous chemicals brought on-site for use in such a manner that workers may be exposed under normal conditions (e.g., compressed gases);
- (b) Reagents brought on-site for use in collecting samples for future analysis and on-site testing; and
- (c) Instruments used in decontaminating field personnel, equipment, and containers (such as degreasers and chemical solutions).

The following requirements apply to the above three categories of site activities that fall within the scope of 29 CFR 1910.1200. These requirements must be addressed in addition to the written hazard communication program already provided in the site-specific health and safety plan:<sup>9</sup>

- (a) Labels and other forms of warning including the identity of the hazardous chemical, hazard warnings, and the name and address of the chemical manufacturer or other responsible party.
- (b) An MSDS must be obtained or developed for each hazardous chemical, and must include the following information:
  - Identity, including the chemical and common name;
  - Physical and chemical characteristics;
  - Physical hazards;
  - Health hazards;

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<sup>9</sup> 29 CFR 1910.1200(e), (f), (g), and (h).



- Primary routes of entry;
  - PELs and TLVs or other published exposure levels;
  - Whether or not the chemical is considered a carcinogen;
  - Precautions for safe handling including protective measures and clean-up procedures for spill/leaks;
  - Control measures;
  - Emergency and first aid procedures
  - Date of MSDS preparation; and
  - Name and address of individual who prepared the MSDS.
- (c) Employers must provide workers with information and training on the hazardous chemicals in the work area.

## **8.2 INFORMATION AND TRAINING**

Prior to a worker's initial assignment and whenever new hazards are identified or introduced, the Section Chief(s)/first-line supervisor(s) is responsible for providing workers with information and training on hazardous chemicals in their work area. (All parties working together at a hazardous waste site or spill emergency/accident must share all available information on the possible hazards present in the area.)

OSWER field workers must be informed of:

- (a) Any operation in their work area where hazardous chemicals are present; and
- (b) The location and availability of the written Hazard Communication Program, or equivalent, which includes the list(s) of hazardous chemicals and MSDSs.

OSWER field worker training, at a minimum, must include:

- (a) Requirements of a written Hazard Communication Program;
- (b) Awareness and recognition of hazardous chemicals in the work area;
- (c) Physical and health hazards of chemicals in the work area; and
- (d) Measures that workers can take to protect themselves from these hazards.

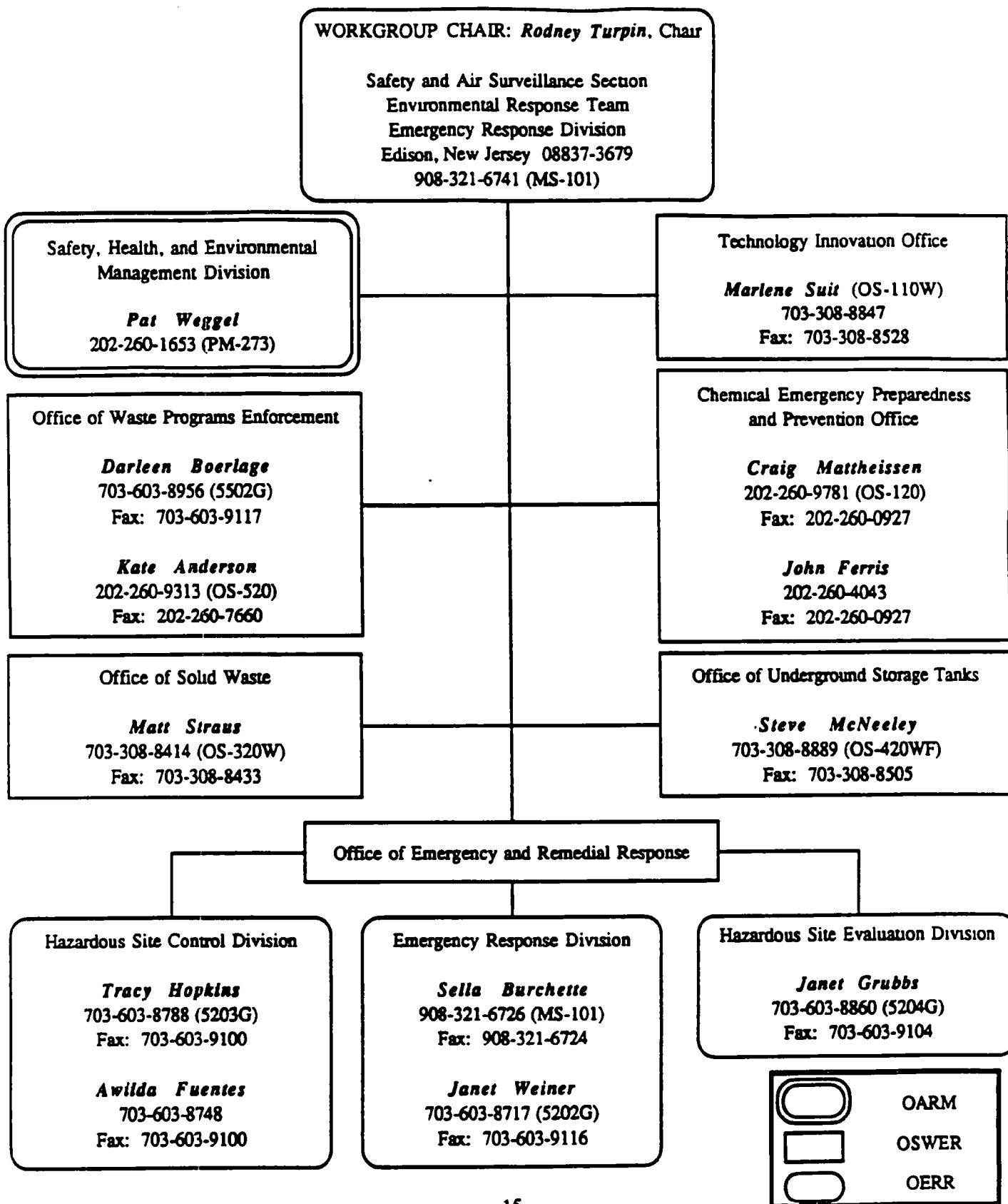
In addition to the above requirements, as part of hazard communication, workers also must be informed of any known threats to human reproduction, or fetus, by hazards in the workplace. OSWER workers (both male and female) who are potentially exposed to chemicals that affect reproduction, such as teratogens, mutagens, and agents that alter fertility, have the right to request a temporary change in job assignment as needed to allow conception or to protect an unborn child. Each request will be handled on an individual basis. For each request, the supervisor has the responsibility to assess the reproductive hazards associated with the job and to make reasonable accommodations of equal professional status.

## ACRONYMS

<b>AA</b>	Assistant Administrator
<b>ACGIH</b>	American Conference of Governmental Industrial Hygienists
<b>AIHA</b>	American Industrial Hygienists Association
<b>DOT</b>	Department of Transportation
<b>EPA</b>	U.S. Environmental Protection Agency
<b>ERD</b>	Emergency Response Division
<b>ERT</b>	Environmental Response Team
<b>IDLH</b>	Immediately Dangerous to Life or Health
<b>MSDS</b>	Material Safety Data Sheet
<b>MSHA</b>	Mine Safety and Health Administration
<b>NIOSH</b>	National Institute of Occupational Safety and Health
<b>NTIS</b>	National Technical Information Service
<b>OA</b>	Office of Administration
<b>OARM</b>	Office of Administration and Resources Management
<b>OERR</b>	Office of Emergency and Remedial Response
<b>OSC</b>	On-Scene Coordinator
<b>OSHA</b>	Occupational Safety and Health Administration
<b>OSWER</b>	Office of Solid Waste and Emergency Response
<b>PEL</b>	Permissible Exposure Limit
<b>PPE</b>	Personal Protective Equipment
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>SARA</b>	Superfund Amendments and Reauthorization Act
<b>SCBA</b>	Self-Contained Breathing Apparatus
<b>SEE</b>	Senior Environmental Employment
<b>SHEMD</b>	Safety, Health, and Environmental Management Division
<b>SOP</b>	Standard Operating Procedures
<b>SOSG</b>	Standard Operating Safety Guides
<b>TLV</b>	Threshold Limit Value
<b>TSD</b>	Treatment, Storage, and Disposal
<b>WEELS</b>	Workplace Environmental Exposure Levels

## APPENDIX A

### OSWER INTEGRATED HEALTH AND SAFETY WORKGROUP



## APPENDIX B

### SUMMARY OF THE OSWER HEALTH AND SAFETY TRAINING COURSE REQUIREMENTS

Category	OERR Authorized Levels of Protection	OSWER H&S SOP Document	OERR Standard Operating Safety Guides	Properties of Hazardous Metals	Toxicology
1	A, B, C	X	X	X	X
2	C	X	X	X	X
3	C	X	X	X	X
4	C	X	X	X	X
5	C	X	X	X	X
6	None	X	X	N/A	N/A

Category	Basic Office First Aid	Basic Field First Aid	CPR*	Protective Clothing	Respiratory Protection	Decontamination Procedures	Entry Procedures	Worker Rights & Responsibilities	Defensive Driving
1	O	X	O	X	X	X	X	X	X
2	O	X	O	X	X	X	X	X	X
3	O	X	O	X	X	X	X	X	X
4	O	X	O	X	X	X	X	X	X
5	O	X	O	X	X	X	X	X	X
6	O	O	N/A	N/A	N/A	N/A	X	X	X

**Key:** X = Mandatory, Core Topics  
O = Desirable, but not Mandatory  
N/A = Not Applicable  
\* = Cardiopulmonary Resuscitation

## APPENDIX C

### GENERAL DESCRIPTION OF THE OERR LEVELS OF PROTECTION AND PROTECTIVE GEAR

Personal protective equipment has been divided into the following four categories based on the degree of protection afforded:

LEVEL OF PROTECTION A		
Equipment	Protection Provided	Should Be Used When:
<p><b>RECOMMENDED:</b></p> <ul style="list-style-type: none"> <li>• Pressure-demand, full-face-piece, self-contained breathing apparatus (SCBA), approved by the Mine Safety and Health Administration (MSHA) and the National Institute of Occupational Safety and Health (NIOSH).</li> <li>• Fully-encapsulating, chemical-resistant suit.</li> <li>• Inner and outer chemical-resistant gloves.</li> <li>• Chemical-resistant safety boots, steel toe and shank. (Depending on suit construction, work over or under suit boot.)</li> <li>• Disposable protective suit, gloves, and boots. (Depending on suit construction, worn over or under suit boot.)</li> <li>• Two-way radios (worn inside encapsulating suit).</li> </ul> <p><b>OPTIONAL:</b></p> <ul style="list-style-type: none"> <li>• Hard hat (under suit).</li> <li>• Coveralls.</li> <li>• Long cotton underwear.</li> </ul>	<p>The highest available level of respiratory, skin, and eye protection.</p>	<ol style="list-style-type: none"> <li>1. The chemical substance has been identified and requires the highest level of protection for skin, eyes, and the respiratory system.</li> <li>2. Substances with a high degree of hazard to the skin are known or suspected to be present, and skin contact is possible.</li> <li>3. Operations must be conducted in confined, poorly ventilated areas until the absence of conditions requiring Level A protection is determined.</li> </ol>

**APPENDIX C**  
(Continued)

**GENERAL DESCRIPTION OF THE OERR LEVELS OF  
PROTECTION AND PROTECTIVE GEAR**

<b>LEVEL OF PROTECTION B</b>		
<b>Equipment</b>	<b>Protection Provided</b>	<b>Should Be Used When:</b>
<p><b>RECOMMENDED:</b></p> <ul style="list-style-type: none"> <li>• Pressure-demand, full-face-piece SCBA (MSHA/NIOSH approved) or airline respirator.</li> <li>• Chemical-resistant clothing (overalls and long-sleeved jacket; hooded, one- or two-piece chemical splash suit; disposable chemical-resistant one-piece suit).</li> <li>• Inner and outer chemical-resistant gloves.</li> <li>• Chemical-resistant safety boots, steel toe and shank.</li> <li>• Boot covers (outer).</li> <li>• Hard hat.</li> <li>• Two-way radios (worn inside encapsulating suit).</li> </ul> <p><b>OPTIONAL:</b></p> <ul style="list-style-type: none"> <li>• Coveralls.</li> <li>• Face shield.</li> <li>• Disposable boot covers.</li> <li>• Long cotton underwear.</li> </ul>	<p>The same level of respiratory protection but less skin protection than Level A.</p> <p>It is the minimum level recommended for initial site entries until the hazards have been further identified.</p>	<ol style="list-style-type: none"> <li>1. The type and atmospheric concentration of substances have been identified and conditions require a high level of respiratory protection, but less skin protection. This involves atmospheres: <ul style="list-style-type: none"> <li>- with immediately dangerous to life or health (IDLH) concentrations of specific substances that do not represent a skin hazard; or</li> <li>that do not meet the criteria for use of air-purifying oxygen.</li> </ul> </li> <li>2. Atmosphere contains less than 19.5 percent oxygen.</li> <li>3. Presence of incompletely identified vapors or gases is indicated by direct-reading organic vapor detection instrument, but vapors and gases are not suspected of containing high levels of chemicals harmful to skin or capable of being absorbed through the intact skin.</li> </ol>

**APPENDIX C**  
(Continued)

**GENERAL DESCRIPTION OF THE OERR LEVELS OF  
PROTECTION AND PROTECTIVE GEAR**

<b>LEVEL OF PROTECTION C</b>		
<b>Equipment</b>	<b>Protection Provided</b>	<b>Should Be Used When:</b>
<p><b>RECOMMENDED:</b></p> <ul style="list-style-type: none"> <li>• Full-facepiece, air-purifying, canister-equipped respirator (MSHA/NIOSH approved).</li> <li>• Chemical-resistant clothing (overalls and long-sleeved jacket; hooded, one- or two-piece chemical splash suit; disposable chemical-resistant one-piece suit).</li> <li>• Inner and outer chemical-resistant gloves.</li> <li>• Chemical-resistant safety boots and boot covers (outer).</li> <li>• Hard hat.</li> <li>• Two-way radios (worn inside encapsulating suit).</li> </ul> <p><b>OPTIONAL:</b></p> <ul style="list-style-type: none"> <li>• Boots with steel toe and shank.</li> <li>• Coveralls.</li> <li>• Disposable boot covers.</li> <li>• Face shield.</li> <li>• Escape mask.*</li> </ul>	<p>The same level of skin protection as Level B, but a lower level of respiratory protection.</p>	<ol style="list-style-type: none"> <li>1. The atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect any exposed skin.</li> <li>2. The concentration(s) of the type(s) of airborne substance(s) is known and the criteria for using air-purifying respirators are met.</li> </ol>
<p>* Use of escape mask during initial entry is optional only after characterization (29 CFR 1910.120(c)(5)(ii)).</p>		

**APPENDIX C**  
(Continued)

**GENERAL DESCRIPTION OF THE OERR LEVELS OF  
PROTECTION AND PROTECTIVE GEAR**

<b>LEVEL OF PROTECTION D</b>		
<b>Equipment</b>	<b>Protection Provided</b>	<b>Should Be Used When:</b>
<p><b>RECOMMENDED:</b></p> <ul style="list-style-type: none"> <li>• Coveralls.</li> <li>• Safety boots/shoes, leather or chemical-resistant, steel toe and shank.</li> <li>• Safety glasses.</li> <li>• Hard hat.</li> </ul> <p><b>OPTIONAL:</b></p> <ul style="list-style-type: none"> <li>• Disposable chemical-resistant boots (outer).</li> <li>• Gloves.</li> <li>• Escape mask.</li> <li>• Face shield.</li> <li>• Chemical splash goggles.</li> </ul>	<p>No respiratory protection. Minimal skin protection.</p>	<ol style="list-style-type: none"> <li>1. The atmosphere contains no known hazard.</li> <li>2. Work functions preclude splashes, immersion, or the potential for unexpected inhalation of or contact with hazardous levels of any chemicals.</li> </ol>



## **APPENDIX D**

### **OSWER INCIDENT SAFETY CHECK-OFF LIST INSTRUCTIONS**

The OSWER Incident Safety Check-Off List, when completed, fulfills the requirements for performing Preliminary Evaluations under OSHA's HAZWOPER standards, 29 CFR 1910.120. The checklist is divided into two parts.

Part I, which includes the preliminary evaluation criteria, must be completed *prior* to leaving the office for field activities. Part I requests information, such as: the site name and location, response dates, activity description, topography and accessibility, suspected chemicals, relevant PPE, and identification of site-specific health and safety plan. If the answers provided on the form are not applicable to your particular site, you may simply write in the appropriate information and any necessary explanations. When completing Part I, be certain to verify your responses and to have a first-line supervisor or a health and safety officer review the information provided and sign and date the form. Once the form has been properly signed and reviewed, field operations may commence.

The following may assist you in completing Part I of the form:

- When responding to the site accessibility question (Question 6), keep in mind that this information is primarily requested to evaluate the accessibility of the site for emergency response and first-aid vehicles, if such a response should become necessary.
- When responding to Question 7, please include the pathway (e.g., dermal, inhalation) along with the identification of the suspected chemical contaminant.
- Question 9 requires you to identify the level of Personal Protective Equipment (PPE) you intend to use. If Level B is selected, you must also identify your "Buddy." If Level C is selected, you must identify the canister. If Level D is selected, you must provide a justification for selecting such a response.

Upon returning from the response activity, complete Part II of the form to reflect what actually transpired on-site. Part II must also be reviewed, signed, and dated by an appropriate supervisor or officer. If you have any questions regarding the completion of this form, please contact the Environmental Response Team (ERT) at (908) 321-6741.

**APPENDIX D**  
(Continued)

**OSWER SUPERFUND INCIDENT SAFETY CHECK-OFF LIST**

**I. BEFORE FIELD ACTIVITY** Employee \_\_\_\_\_

1. Incident: Site \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

a. Response Dates \_\_\_\_\_

2. Activity Description: Environmental Sampling \_\_\_\_\_ Product Sampling \_\_\_\_\_

Residential \_\_\_\_\_ Site Evaluation \_\_\_\_\_ Containment \_\_\_\_\_ Well Drilling \_\_\_\_\_

Facility Inspection \_\_\_\_\_ Other \_\_\_\_\_

3. Type of Response: Spill \_\_\_\_\_ Site \_\_\_\_\_ Facility \_\_\_\_\_ Other \_\_\_\_\_

4. Site Topography: Mountains \_\_\_\_\_ Rivers \_\_\_\_\_ Valley \_\_\_\_\_ Rural \_\_\_\_\_

Suburban \_\_\_\_\_ Urban \_\_\_\_\_ Level \_\_\_\_\_ Slopes \_\_\_\_\_

Facility \_\_\_\_\_

5. Incident Safety Plan: Not Developed \_\_\_\_\_ Reviewed \_\_\_\_\_  
(when applicable) Region \_\_\_\_\_ Briefed \_\_\_\_\_  
ERT \_\_\_\_\_

6. Site Accessibility: Road: Good \_\_\_\_\_ Air: Good \_\_\_\_\_  
Fair \_\_\_\_\_ Fair \_\_\_\_\_  
Poor \_\_\_\_\_ Poor \_\_\_\_\_

7. Suspected chemical(s) and pathway with source(s) involved:

(A) \_\_\_\_\_ (B) \_\_\_\_\_ (C) \_\_\_\_\_ (D) \_\_\_\_\_

8. Emergency Response Teams present for First Aid, etc.: Yes \_\_\_\_\_ No \_\_\_\_\_

9. Protective Level(s) Selected: (A) \_\_\_\_\_ (B) \_\_\_\_\_ (C) \_\_\_\_\_ (D) \_\_\_\_\_

(a) If Level "C", identify Canister \_\_\_\_\_

If Level "D", JUSTIFY: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

10. If SCBA, Identify Buddy System: Office/Name \_\_\_\_\_

11. Last Response: (a) Level Used: (A) \_\_\_\_\_ (B) \_\_\_\_\_ (C) \_\_\_\_\_ (D) \_\_\_\_\_

(b) Medical Attention/Exam Performed: Yes \_\_\_\_\_ No \_\_\_\_\_

**PART I: Date Prepared** \_\_\_\_\_ **Reviewed by** \_\_\_\_\_ **Date** \_\_\_\_\_

**APPENDIX D**  
(Continued)

**OSWER SUPERFUND INCIDENT SAFETY CHECK-OFF LIST**

**II. AFTER RESPONSE**

**1. Protective Level Used:** (A) \_\_\_\_\_ (B) \_\_\_\_\_ (C) \_\_\_\_\_ (D) \_\_\_\_\_

a. Level 'C,' identify canister: \_\_\_\_\_ b. Level 'D,' JUSTIFY: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

c. Level B/C skin protection: Tyvek \_\_\_\_\_ Tyvek/Saran \_\_\_\_\_ Acid/Rain \_\_\_\_\_

Other \_\_\_\_\_

**2. List possible chemical exposure:** Same as above: (A) \_\_\_\_\_ (B) \_\_\_\_\_

(C) \_\_\_\_\_ (D) \_\_\_\_\_

**3. Equipment Decontamination:** (a) clothing (b) respirator (c) monitoring

Disposed:	_____	_____	_____
Cleaned:	_____	_____	_____
No Action:	_____	_____	_____

**4. Approximate time in exclusion area:** \_\_\_\_\_ hours per day for \_\_\_\_\_ days.

**PART II:** Date Prepared \_\_\_\_\_ Reviewed by \_\_\_\_\_ Date \_\_\_\_\_

## **APPENDIX E**

### **U.S. ENVIRONMENTAL PROTECTION AGENCY OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE RESPIRATORY PROTECTION PROGRAM (Revised May 1991)**

#### **I. PURPOSE**

The Office of Solid Waste and Emergency Response (OSWER) respiratory protection program is intended to control exposures to those agents that may cause occupational diseases when air is contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors.

#### **II. OBJECTIVE**

Respiratory protection may be properly worn when effective engineering control methods are not feasible, while they are being implemented, or in emergencies. Generally, most corrective actions do not lend themselves to effective engineering controls. Therefore, respiratory protection is judged to be the best approach to ensure worker health protection. It is important to note, however, that effective work practices can minimize reliance on such devices. The primary objective of this program is to protect the worker against "potential" exposure as well as measured exposure.

#### **III. SCOPE**

This respiratory protection program is intended to address all OSWER field activity workers.

#### **IV. RESPONSIBILITY**

It is the responsibility of Section Chiefs/first-line supervisors to administer this program in close liaison with medical monitoring personnel. Supervisors are required to provide both the appropriate training and respiratory protection that workers need, at no cost to the worker.

Workers shall use the respiratory protection provided in accordance with instructions and training received. Each worker shall guard against damage to the respirator, report any respirator malfunctions to the supervisor, and comply with the Respiratory Program.

#### **V. PROGRAM ELEMENTS**

- A. The OSWER respiratory protection program meets all provisions of 29 CFR 1910.134 and 29 CFR 1910.120. In addition, it meets all U.S. EPA SHEMD's Occupational Health and Safety requirements, and the OERR's ERD Standard Operating Safety Guides.

**APPENDIX E**  
**(Continued)**

**B. Program Elements**

- 1. Standard Operating Procedures.** This respiratory protection program shall function as the written standard operating procedures governing the selection and use of respiratory protection for OSWER personnel.
- 2. Respirator Fitting and Selection**
  - a.** The selection of the proper type of respiratory protection shall be based primarily on, but not limited to, the:
    - (1)** Nature of the field activity;
    - (2)** Type of respiratory hazard;
    - (3)** Location of the hazardous area;
    - (4)** Period of time for which respiratory protection must be provided;
    - (5)** Worker's potential exposure;
    - (6)** Worker's activities;
    - (7)** Worker's physical characteristics and functional activities;
    - (8)** Limitations of the various types of respirators; and
    - (9)** Respirator protection factors/respirator fit.
  - b.** Factors concerning both the potential and the measured hazard shall be considered when requiring the use of respiratory protection. These factors shall include, but not be limited to:
    - (1)** Types of hazard;
    - (2)** Physical and chemical properties;
    - (3)** Physiological effects on the body;
    - (4)** Expected concentration/level;
    - (5)** Established ACGIH TLVs, OSHA PELs, and AIHA WEELs;
    - (6)** IDLH considerations; and
    - (7)** Agent warning properties.
  - c.** U.S. EPA Environmental Response Team's (ERT) Air Monitoring Guidelines shall be followed, when applicable, to identify the type of respiratory hazards, define their nature and potential (i.e., vapor, particulate, etc.), and determine the concentration in the work area.
  - d.** Factors concerning potential and actual site activities shall be taken into account in selecting proper respiratory protection. These factors include a description of work activities; description of the potential hazards; agents of health concern; worker exposure potential; and work activities. The selected respirator protection must be continuously evaluated to reflect changes in conditions or factors.

**APPENDIX E**  
(Continued)

- e. The work activity location, with respect to a safe/clean area, shall be considered when selecting respirator protection. Not only does this permit for a well-identified contamination reduction zone, but it also requires the presence of emergency access and exit areas.
- f. The period of time a respirator is to be worn shall be considered when selecting respiratory protection.
- g. Worker activities and locations during site activities shall be considered when selecting proper respiratory protection.
- h. The physical characteristics, functional capabilities, and performance limitations of various types of respiratory protection shall be considered when selecting a respirator.
- i. The hazards for which a particular respirator is designed shall be considered when selecting a respirator.
- j. A qualitative respirator fit test shall be performed on each user to determine a satisfactory fit for negative-pressure respirators. Test results shall be used to select specific types, makes, and models for individual workers. All OSHA Category 1, 2, and 3 workers will be fit tested at least annually. Category 4 and 5 personnel will be fit tested before each respirator use after the initial testing. Fit testing is not required for positive pressure respirators (e.g., SCBA units). Individual workers shall be trained to qualitatively check respirator fit via the positive-negative pressure method each time a unit is donned. Whenever possible, a quantitative fit test shall be incorporated.
- k. Respirators shall not be worn when conditions prevent a good seal. Workers shall not wear respirator temple bars, straps, head coverings, etc., between the sealing surface of the respirator. Neither shall respirators be worn if facial hair, features, etc., prevent a good fit.
- l. Respirator fit testing records shall be kept. Records shall include type of fit-test method used, specific make and model of respirator tested, name of worker tested, name of test operator, date of test, and results of fit testing.
- m. A variety of sizes of respirator facepieces shall be available to OSHA personnel to accommodate the wide range of facial shapes and dimensions among personnel.
- n. Worker preference for a particular respirator model shall be considered when selecting suitable respiratory protection. This

## **APPENDIX E**

### **(Continued)**

includes factors such as comfort, breathing resistance, weight, field of vision, etc. However, the preferred model must have a satisfactory fit test and be MSHA/NIOSH approved.

- o. Where feasible, respirators shall be individually assigned to workers for their exclusive use. If a respirator is marked for identification purposes, the marking shall not affect the respirator performance.

### **3. Training and Education**

- a. Each respirator wearer shall be given training that shall include explanations and discussions of respiratory hazards and misuse; the need for respiratory protection; the reason for selecting a particular respirator; the function, capabilities, and limitations of the selected respirator; the method for donning the respirator and checking its fit and operation; proper wearing instructions; respirator maintenance; recognizing and handling emergencies; special instructions as required; regulations concerning respirator use; and identification of respirator cartridges and canisters by color code.
- b. The training shall include a hands-on portion that covers donning, wearing, and removing the respirator; adjusting the respirator for proper fit; and wearing the respirator in a safe atmosphere and in a test atmosphere.
- c. The Section Chief or designee is responsible for purchasing, issuing, and training his/her personnel concerning any phase of respiratory protection.
- d. Trainers, workers, and others associated with the respiratory protection program shall be trained to ensure the proper use of respirators. Training shall include basic respiratory protection practices; the nature and extent of expected respiratory hazard exposure; principles and criteria for selecting respirators; using respirators and monitoring their use; maintenance and storage; and regulations governing respirator use.
- e. Each respirator wearer shall be retrained and fit tested at least annually or as appropriate (e.g., after large changes in body weight, dental surgery, etc.) when facial size or shape significantly changes (see Paragraph V.B.2.j, page 29).

### **4. Cleaning and Disinfecting**

- a. Respirators shall be regularly cleaned and disinfected. Those issued for the exclusive use of one worker should be cleaned after

## **APPENDIX E**

**(Continued)**

each day's use, or more often if necessary. Those used by more than one worker shall be thoroughly cleaned and disinfected after each use (e.g., routine, non-routine, emergency, or rescue units). For information regarding proper decontamination and cleaning requirements and procedures, refer to 29 CFR 1910.120(k) and the *Standard Operating Guide for Decontamination of Response Personnel* (U.S. EPA, draft, Publication 9285.2-02A).

### **5. Equipment Storage**

- a. Respirators shall be stored in a convenient, clean, and sanitary location so that they are protected against dust, sunlight, extreme temperature, excessive moisture, or damaging chemicals.
- b. Respirators shall be stored to prevent distortion of rubber or other elastomeric parts. Respirators shall not be stored in such places as lockers and tool boxes unless they are adequately protected from contamination, distortion, and damage. Consult the "use and care" instructions, usually mounted inside the carrying case lid, for proper storage of emergency respirators.

### **6. Inspection and Repair**

- a. Each respirator shall be inspected routinely before and after each use. A respirator shall be inspected by the user immediately before each use to ensure that it is in proper working condition.
- b. After cleaning and sanitizing, each respirator shall be inspected to determine whether it is in proper working condition, whether it needs replacement parts or repairs, or whether it should be discarded. Each respirator stored for emergency or rescue use shall be inspected at least monthly and after each use by an experienced person. Respirator inspection shall include a check for tightness of connections; for the conditions of the respiratory inlet covering, head harness, valves, connecting tubes, harness assembly, filter(s), cartridges, canister, end-of-service-life indicator, and shelf-life date(s); and for the proper function of regulators, alarms, and other warning systems.
- c. Each rubber or elastomeric part shall be inspected for pliability and signs of deterioration. Each air and oxygen cylinder shall be inspected to ensure that it is fully charged according to the manufacturer's instructions.
- d. Only parts designed for a specific respirator shall be used in its repair. Do not replace components or make adjustment or repairs beyond the manufacturer's recommendations. Reducing and



## **APPENDIX E**

**(Continued)**

admission valves or regulators shall be returned to the manufacturer or to a trained technician for adjustment or repair.

- e. A record of inspection dates, findings, and remedial actions shall be kept for each SCBA respirator maintained for emergency or rescue use.

### **7. Surveillance**

Appropriate surveillance or work area conditions and degree of worker exposure or stress shall be maintained.

### **8. Evaluation of Respiratory Protection Program**

- a. There shall be periodic (at least annual) inspection and evaluation to determine the continued effectiveness of the respiratory protection program. It is essential to ensure that all workers are provided with adequate protection. The program should be improved and deficiencies should be eliminated based on evaluation results.
- b. Respirator wearers shall be consulted periodically about their acceptance of respirators. Frequent inspection of the program shall be conducted to ensure that proper types of respirators are selected; users are properly trained; appropriate equipment is issued and used; respirators are worn properly; respirators are in good operating condition; respirators are inspected and maintained properly; respiratory storage is acceptable; respiratory hazards are monitored; and medical examinations are given as necessary to evaluate user health.
- c. The results of the inspection and evaluation shall be utilized to improve or maintain elements of the program as appropriate. Follow-up investigations shall be conducted to ensure that sources of concerns are identified and corrected. Evaluation findings shall be documented. Plans to correct program concerns shall be documented (i.e., problem, target dates, responsibility, etc.).

### **9. Medical Approval**

- a. Each worker shall have a medical evaluation to determine fitness to wear respiratory protection and potential exposure. Adequate medical data shall be provided as part of the preplacement examination and all subsequent examinations to allow a physician to make judgment on each worker's fitness (refer to Appendix B of the OSWER Integrated Health and Safety Standard Operating Practice for Field Activities for examination schedule).

**APPENDIX E**  
(Continued)

- b. Workers shall show the examining physician their exposure records (e.g., Incident Safety Check-Off Sheet [see Appendix D of the OSWER Integrated Health and Safety Standard Operating Practice for Field Activities]) since the last examination.

**10. Approved Respiratory Protection**

Only approved respiratory protection shall be selected when available. Any modification of an approved respirator that is not authorized by the approval agencies (e.g., MSHA and NIOSH) voids the respirator approval.

**VI. AIR QUALITY**

- A. Compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiratory protection shall be of high purity. Compressed air should be the principle source of breathing air. Compressed gaseous air shall meet at least the requirements for Type 1 - Grade D breathing air of Compress Gas Association Commodity Specification G-7.1-1966.
- B. Breathing air should be supplied to respirators from cylinders. All cylinders shall be tested for quality and maintained in accordance with applicable DOT specifications for shipping containers (49 CFR Parts 173 and 178).
- C. Breathing air containers shall be marked in accordance with ANSI Z48.1-1954 (R1971) or Interim Federal Specification GG-B-675b, September 23, 1976.

## APPENDIX F

### SUMMARY OF OSWER MEDICAL SURVEILLANCE REQUIREMENTS FOR EACH WORKER CATEGORY

Category 1	Category 2	Category 3 (RCRA only)
Baseline plus periodic medical surveillance exam not less than twice annually. <sup>1</sup>	Baseline plus annual medical surveillance exam. <sup>1</sup>	Baseline plus periodic medical surveillance exam based on potential exposure frequency (Avg. 1-4 years). <sup>1</sup>

Category 4	Category 5 (RCRA only)	Category 6
Baseline plus periodic medical surveillance exam based on potential exposure frequency (Avg. 1-4 years). <sup>1</sup>	Baseline plus periodic medical surveillance exam based on potential exposure frequency <sup>1</sup> (Avg. 1-4 years).	Baseline recommended.

\* A "calendar year" is a somewhat arbitrary term when discussing a measurement of exposure. For example, 8 one-day visits to a site where the exposure is great or the toxicity is high may be more critical to the health of the individual than 19 visits at another site. Therefore, all factors must be considered when selecting the medical surveillance exam schedule.

\*\* For each Category, the examination rate may increase with increasing incidence of exposure.

<sup>1</sup> The periodicity of all routine medical surveillance examinations, and related testing, is determined by the occupational medical program, in accordance with National Medical Surveillance Program guidance.

**APPENDIX G**  
**AVAILABLE GUIDANCE**

- *Standard Operating Guide for Air Sampling and Monitoring at Emergency Responses* (U.S. EPA, draft, Publication 9285.2-03A).
- *Standard Operating Guide for Decontamination of Response Personnel* (U.S. EPA, draft, Publication 9285.2-02A).
- *Standard Operating Guide for Establishing Work Zones*, (U.S. EPA, draft, Publication 9285.2-04A).
- *Standard Operating Guide for Site Entry* (U.S. EPA, draft, Publication 9285.2-01A).
- *Standard Operating Guidelines for the Use of Air Monitoring Equipment for Emergency Response* (U.S. EPA, draft).
- *Standard Operating Procedures for Site Safety Planning* (U.S. EPA, 1985, Publication 9285.2-05).
- *Occupational Medical Monitoring Program Guidelines for SARA Hazardous Waste Field Activity Personnel* (U.S. EPA, 1990, Publication 9285.3-04).

To obtain copies of any of these documents, call or write:

U.S. EPA ERT  
2890 Woodbridge Avenue  
Building 18 (MS-101)  
Edison, NJ 08837-3679  
(908) 321-6740

When ordering documents,  
please be certain to provide  
the appropriate document  
number.

- *Standard Operating Safety Guides* (U.S. EPA, 1992, Publication 9285.1-03).

To obtain copies of this document, call or write:

National Technical Information  
Service\*  
U.S. Department of Commerce  
5285 Port Royal Road  
Springfield, VA 22161  
(703) 487-4650

\*EPA employees may obtain  
copies from the Superfund  
Document Center.