

**Version 2.0
(January 2017)**

Emergency Responder Health and Safety Manual



Field Guide

**Customized for Region 4
on January 2, 2019**



U.S. Environmental Protection Agency

TABLE OF CONTENTS

Introduction	1
Health and Safety Plan Development	2
Medical Surveillance Program	5
Respiratory Protection Program.....	7
Personal Protective Equipment.....	11
Injury, Illness, and Exposure Reporting	12
Physical Stress Management	14
Radiation Safety Program.....	17
Chemical and Biological Agents	20
Confined Space Safety Plan	22
Bloodborne Pathogen Exposure Control Plan	26

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Introduction

EPA's Emergency Responder Health and Safety Manual consists of a series of chapters that outline steps that must be taken to protect the Agency's emergency responders from job-related accidents, injuries, and illnesses. Each chapter contains a Quick Reference Guide that summarizes key information that emergency responders should have readily accessible when they are working in the field. This Field Guide is a compilation of the Quick Reference Guides.

The manual is still in development. Chapters are released as they are completed. This version of the Field Guide contains Quick Reference Guides from ten completed chapters (see Table 1). The Field Guide will be updated as needed to incorporate Quick Reference Guides from newly released chapters.

The manual is implemented across all 10 EPA regions, the Environmental Response Team, the Chemical, Biological, Radiological, and Nuclear Consequence Management Advisory Team (CBRN CMAT), Radiological Emergency Response Team (RERT), and Headquarters. To be relevant for each organization, the chapters must be customized with local information, such as the names of those responsible for specific program tasks. Each EPA organization must produce customized chapters (and their associated Quick Reference Guides) and update them annually. Your managers and supervisors have ensured that the customized information entered into each chapter's Quick Reference Guide is reflected in this Field Guide.

The following Quick Reference Guides provide a brief overview of key information from each chapter. For additional details on topics presented in the Quick Reference Guides, please visit the manual's Web site (see

Table 1
The Manual's Table of Contents

Chapters	Status
Introduction	Completed* (but no Quick Reference Guide included)
Health and Safety Plan Development	Completed* and Quick Reference Guide is included in the Field Guide
Health and Safety Training Program	Draft, not completed*. Quick Reference Guide is not Currently Included
Medical Surveillance Program	Completed* and Quick Reference Guide is included in the Field Guide
Respiratory Protection Program	Completed* and Quick Reference Guide is included in the Field Guide
Personal Protective Equipment	Completed* and Quick Reference Guide is included in the Field Guide
Injury, Illness, and Exposure Reporting	Completed* and Quick Reference Guide is included in the Field Guide
Physical Stress Management Program	Completed* and Quick Reference Guide is included in the Field Guide
Radiation Safety Program	Completed* and Quick Reference Guide is included in the Field Guide
Chemical and Biological Threat Agents	Completed* and Quick Reference Guide is included in the Field Guide
Confined Space Safety Program	Completed* and Quick Reference Guide is included in the Field Guide
Bloodborne Pathogen Exposure Control Plan	Completed* and Quick Reference Guide is included in the Field Guide
Transportation Safety Program	Completed*

* See <https://www.epaossc.org/HealthSafetyManual/manual-index.htm>

<https://www.epaossc.org/HealthSafetyManual/manual-index.htm>) for complete versions of the customized chapters that have been developed for your organization.

Health and Safety Plan Development

Part I: What You Need to Do Before Going Into the Field

This quick guide was created to assist in initial health and safety site planning, design and mobilization at a Emergency Response and Removal Sites. Refer to the [Health and Safety Plan Development Chapter](#) for detailed information on Health and Safety Plan Development.

The Occupational Safety and Health Administration (OSHA) requires employers to prepare site-specific health and safety plans (HASPs) for all responses operations under the Hazardous Waste Operations and Emergency Response (HAZWOPER) standard, [29 CFR 1910.120](#). HAZWOPER requires each employer on a site to protect its employees under a HASP. As an employer, EPA must also cite all other relevant OSHA standards (e.g., lead standard, fall protection, asbestos) in the HASP that may be applicable to a particular response.

Emergency Responders are encouraged to use the HASP Templates found at <https://www.epaossc.org/safetyofficertoolbox>. The template is compliant with the applicable OSHA Standards and EPA Policy and Procedures.

Site Specific Health and Safety Plan Review Checklists, available at <https://www.epaossc.org/safetyofficertoolbox>, can be used as a guide during the HASP development phase of the project.

Health and Safety Program Contacts (HSPC) and Safety, Health, Environmental Management Program Managers (SHEMP) are available to help with the creation of the HASP.

Items to consider for HASP development:

- Location and approximate size of the site
- Description of the response activity and/or the job task to be performed
- Duration of the planned activity
- Site topography and accessibility
- Available infrastructure, such as access roads to be used by crews and emergency responders, emergency egress, power, water, illumination, hygiene facilities, cell phone and communication coverage/reliability, and clean, climate-controlled break areas.
- Conditions that may pose inhalation or skin absorption hazards that are immediately dangerous to life or health (IDLH) or other conditions that may cause death or serious harm
- Physical hazards, such as dilapidated structures, working at heights, open pits/excavations, difficult terrain, vehicle/equipment traffic, etc.
- Pathways for hazardous substance dispersion
- Present status and capabilities of emergency response teams that would provide assistance to on-site employees at the time of an emergency
- Hazardous substances and health hazards involved or expected at the site and their chemical and physical properties.
- Define the Exclusion Zone, Contaminant Reduction Zone and Support Zone

NOTE: Each site should have a single site HASP. Independently written HASPs can lead to inconsistent application and awareness of site safety requirements and concerns. Contractor-specific requirements can be added to the HASP as an addendum.

Detailed Work Plan

The HAZWOPER standard requires a comprehensive work plan for site work that has moved from the emergency phase into the post emergency response phase (clean-up operations). Post-emergency clean-up begins when the person in charge of the initial emergency response declares the site to be under control and ready for clean-up. In general, the post emergency response phase begins once the release or spill has been stopped, stabilized, or otherwise contained and removal begins. Completed Job Hazard Analysis (JHA) and the JHA development process can assist with the work plan creation. Example JHAs can be found at <https://www.epaossc.org/safetyofficertoolbox>. A Quality Assurance Project Plan and/or Sampling Plan is often sufficient for Removal Site Evaluations.

A comprehensive work plan should include the following:

- Definition the work tasks and objectives.
- Identification of the cleanup goals, milestones, activities and standard operating procedures that will be used to complete the tasks and objectives.
- Definition of the work and exposure control methods for accomplishing the work tasks and objectives safely.
- Personnel requirements (i.e., personnel needed) to implement and execute the work plan.
- Equipment required.
- Identifies additional training needed to complete the removal.

Roles and Responsibilities

Assign a Site Safety Officer (SSO). Although contractors may be assigned some of the duties of the SSO, such as conducting site inspections, enforcing PPE requirements, and identifying and reporting of unsafe behaviors, the OSC is always ultimately in charge and responsible for implementation and enforcement of the HASP and work plan.

Review and Compliance Check

All HASP's must be reviewed and evaluated for compliance with OSHA Regulations and EPA Policy and Procedures. Use a HASP Checklist to complete the review. The HASP Checklist is available at <https://www.epaossc.org/safetyofficertoolbox>. The review process is streamlined if a HASP Template is used. This is a requirement of the EPA Safety, Health, and Environmental Management System (SHEMS). The HSPCs and SHEMP Managers may be available to assist with HASP review process.

Part II: Things You Must Do In the Field

Mobilization

Plan for and mobilize to the site. A Site Safety Checklist is available at <https://www.epaossc.org/safetyofficertoolbox>. This checklist can be used as a guide to ensure that the health and safety requirements are addressed.

Site Health and Safety Day-to Day Operations

- After a HASP briefing, all personnel shall review and sign that they have read and acknowledge the HASP. A copy of the HASP must be kept on-site.
- All personnel should continuously evaluate the site for health and safety issues and report to the SSO, ASSO(s), Site Managers as appropriate.
- It is recommended that the SSO, ASSO(s) complete a daily Safety Officer's Report (SOR). The following information on health and safety issues should be documented in the SOR:

NOTE: High risk safety issues should be rectified or interim controls implemented immediately

- Description of the issue
 - Severity/Priority
 - Recommend Solutions
 - Timeline to rectify the issue
 - Who is the action item assigned to
 - Date the issue was rectified
 - Description of how the issue was rectified
- A daily site safety briefing **must** occur. The SSO/ASSO's should document the topics discussed and file with the site HASP. This can be the forum to discuss health and safety issues from the crews. Example topics and training guidance is found at <https://www.epaosc.org/safetyofficertoolbox>.
 - The SSO should assure that safety inspections, including the inspection of personnel protective equipment, safety showers, eyewash stations, and fire extinguishers occur at the frequency specified in the HASP and documented in the SOR.
 - Site Management should debrief daily and discuss what safety issues have been rectified, new safety issues, and plans to address these new safety issues during the next operational period.

Site Safety Visit

- For sites lasting longer than 2 weeks, consider scheduling a site safety visit with your Group's HSPC or SHEMP Manager.

Record Keeping

- The approved HASP should be uploaded to the site website found on epaosc.net
 - At the conclusion of the project, the approved HASP with all personnel signatures should be scanned and uploaded to the site website found on epaosc.net and sent to the Records Center with the other site files for inclusion in the Site Files. Contractors must also follow their specific records retention plan.
 - All daily site safety briefing attendance sheets must also be filed with the completed HASP in the Site Files.
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Medical Surveillance Program

Part I: What You Need to Do Before Going Into the Field

1. Have you attended a medical surveillance awareness training session? ☐
If so, do you have documentation confirming that you completed this training? ☐
2. Are you up-to-date on your medical examinations? ☐
(Note: Exams should be performed on an annual basis if assigned to a hazmat team or if regularly assigned tasks and duties include potential for exposure.)
3. When you visit the physician, do you share information about your medical history, occupational history, and exposure history? ☐
4. Do you retain records of all of the *Medical Clearance Statements* that are issued on your behalf? ☐
5. Have you shared information about your immunization status with your physician, either by providing documentation of past vaccinations or by allowing the physician to perform a simple blood test to determine whether you are immunized against specific diseases? ☐
6. Have you received all of the vaccinations that the Agency recommends? (See Table 4 of the [Medical Surveillance Program chapter](#) for a list). ☐
If you lack any of these vaccines:
 - Have you been informed of the fact that EPA is willing to provide these vaccines to you if you desire them? ☐
 - Have you consulted your physician about whether you should be vaccinated? ☐
 - Have you signed a *Vaccine Declination Statement*? ☐
7. Do you have the most up-to-date documentation of your vaccination status, and do you maintain it in an accessible location so that you could carry it with you when you are sent into the field? ☐
8. Do you or your SHEMP Manager have a signed prescription for antibiotics from your physician on file? ☐
9. Has your HSPC or SHEMP Manager provided you with a nerve agent antidote kit, if needed? ☐
10. Have you attended initial and annual training on how to use nerve agent antidote kits and obtained a successful competency evaluation? ☐
If so, do you have documentation confirming that you completed this training? ☐

Medical Surveillance Program

Part II: What to Do If You Know (or Suspect) That You Have Been Exposed to Hazardous Substances

Step #1: If you know or suspect you have been exposed to a hazardous substance, obtain medical attention immediately, if appropriate.

Step #2: Follow the emergency procedures that your organization has identified for non-life threatening exposure events as shown here:

Emergency Procedures for Non-Life-Threatening Exposures Region 4 Medical Surveillance Program	
If you have had a significant exposure to a hazardous chemical or toxic substance, please follow these instructions.	
<ol style="list-style-type: none">1. Seek medical care at the nearest medical facility and identify yourself as a participant in the EPA Medical Surveillance Program. Report exposures. Have the name of the substance(s) to which you have been exposed, if known. Describe the symptoms you are experiencing.2. To report exposure and receive advice and directions, have the medical facility doctor or nurse contact:	
During duty hours (9:00 a.m. – 5:00 p.m.)	After duty hours
Name: <u>Barbara Scott</u>	Name: <u>Barbara Scott</u>
Contact Info: 706-340-5465 706-355-8570	Contact Info: 706-340-5465 706-355-8570
<hr/>	
<ol style="list-style-type: none">3. If treatment is necessary, inform the medical facility that your supervisor will forward them a standard authorization form for examination and/or treatment under the Office of Workers' Compensation (OWCP).4. Immediately inform your supervisor of the exposure incident. (Supervisor approval is not needed before contacting the SHEMP Manager)	

Step #3: Submit the following form to your supervisor: EPA Form 1340.1, *OSHA & EPA 301—Injury, Illness & Near Miss Report*.

Step #4: If illness or injury results, consult the SHEMP Manager or HSPC for advice and inform your supervisor if you think you need follow-up medical evaluation or treatment.

Step #5: Refer to the [Injury, Illness, and Exposure Reporting chapter](#) for additional information on follow-up reporting activities.

Respiratory Protection Program

Part I: What You Need to Do Before Going Into the Field

If you are going to a site where respirators are required, you must have done the following within the past year:

1. Received medical clearance to wear each type of respirator that you might use in the field. ☐
2. Completed initial (or refresher) respiratory protection training and engaged in a hands-on exercise. ☐
3. Demonstrated that you can breathe down a tank of air for a minimum of 20 minutes.
(Note: This is relevant for SCBA users only.) ☐
4. Passed a quantitative fit test (QNFT) for each type of respirator that you might use. ☐

When preparing to take respirators to a site, you must:

5. Conduct a hazard evaluation of the site. ☐
6. Produce a site-specific written respiratory protection program (RPP), including respirator use, selection, and care information as part of the HASP. ☐
7. Ensure that the site-specific HASP indicates which specific respirator type and filter/cartridge is needed. ☐
8. Examine the respiratory protection equipment to be taken to the site to ensure that it is appropriate, complete, and in service (no red tags, no expired cartridges/cylinders), and that spare parts and an adequate number of filters/cartridges are included for each brand of respirator to be used at the site. ☐
9. Know respirator care procedures, including the contact time required for respirator disinfection solutions to be used and which sanitation compounds are incompatible with respirators at the site. ☐
10. If you wear corrective lenses, obtain a spectacle kit for your make/model of respirator or confirm that alternate lenses do not interfere with the respirator face-to-facepiece seal. ☐

Part II: Things You Must Do In the Field

1. Implement engineering, work practice, and/or administrative controls whenever feasible to minimize hazardous air contaminants. ☐
2. Before entering a site, confirm that you agree with the respirator selection that has been chosen for each task that you will be expected to perform. ☐
3. Conduct air monitoring to confirm that the selection is appropriate. ☐
4. Maintain proper facial conditions for respirator(s) to seal to your face (e.g., shave, wash). ☐
5. Inspect respirators, with special attention to inhalation and exhalation valves, and conduct a user seal check (fit check) each time you don a respirator. ☐
6. Track chemical cartridge service life and change cartridges and filters according to RPP requirements (at the end of each shift or more frequently as conditions require). ☐
7. Exit hazardous atmospheres immediately when detected and report problems if respirators do not perform as expected (breakthrough odor, breathing resistance, or malfunctions) or if site conditions change significantly (new contaminants emerge or concentrations change). ☐
8. Clean respirators during the shift when visible accumulation is present. ☐
9. Clean, disinfect, and properly store respirators at the end of every shift. ☐
10. Ensure that breathing air obtained from an outside source is Grade D breathing air and provide documentation of this to the Health and Safety Program Contact. ☐
11. Maintain and use any breathing air compressor under your control according to manufacturer's recommended procedures and document all compressor care/use. ☐

Respiratory Protection Program

Part III: Things You Need to Know in the Field

RESPIRATOR SELECTION

- Use EPA standard issue respirators unless the SHEMP Manager has authorized a different respirator or if the conditions for voluntary respirator use are in effect.
- **Standard Issue Respirators****Specified Facepieces and Conditions of Use:**
 - **Air-Purifying Respirators (APRs)**
 - Negative pressure:* Full facepiece; P-100 filter and/or suitable chemical cartridge.
 - PAPR:* Tight-fitting full facepiece; continuous flow mode; P-100/HEPA filter and/or suitable chemical cartridge.
 - **Atmosphere-Supplying Respirators (ASRs)**
 - SCBA:* Tight-fitting full facepiece; positive pressure open-circuit mode.
 - Airline:* Tight-fitting full facepiece; connected to an appropriate cascade system.
- **Conditions Requiring SCBA:**
 - O₂ is less than 19.5%.
 - Possibility of an IDLH atmosphere.
 - Contaminants of unknown identity or concentration might be present.
 - Other ASR might be permitted under certain circumstances with approval of the SHEMP Manager.
- **Situations When an APR is Acceptable:**
 - O₂ in ambient air is equal to or greater than 19.5%.
 - A filter or cartridge that can remove the contaminant is available.
 - Airborne concentration of the contaminant does not exceed the maximum use concentration (MUC).
- **Calculating the MUC:**
 - $MUC = APF \times 0.5 \text{ PEL}$. [Note: 0.5 PEL represents a conservative MUC for EPA employees.]
 - APF is the assigned protection factor for the respirator published by NIOSH or OSHA (not the fit factor from QNFT).
 - PEL is the permissible exposure limit (e.g., from OSHA 29CFR 1910.1000). In the MUC equation, it is also acceptable to use exposure limits published by other organizations (e.g., ACGIH, NIOSH).
- **OSHA APFs to Use in MUC Calculations:**
 - **With QNFT fit testing:**
 - Half-facepiece APR: APF = 10 (half-mask use must be approved by SHEMP Manager).
 - Full-facepiece APR: APF = 50.
 - Full-facepiece (tight-fitting) PAPR: APF = 1,000 (1,000 with SHEMP Manager approval).
 - Full-facepiece SCBA (standard issue configuration): APF = 10,000.
 - **With emergency field QLFT fit test:**
 - Full-facepiece APR: APF = 10.
 - Full-facepiece SCBA (standard issue configuration): APF = 10,000.

ESCAPE RESPIRATORS

- Choose based on:
 - Time needed to escape.
 - Likelihood of IDLH or oxygen deficiency conditions, which require an ASR-style escape respirator.

VOLUNTARY RESPIRATOR USE

- For nuisance dust and odors.
- If a hazard evaluation indicates that a respirator is not required for the task or area and that wearing a respirator voluntarily will not in itself create a hazard.
- If you have received EPA emergency responder respiratory protection training, OR if you (1) have received OSHA's information for voluntary users ([29 CFR 1910.134 Appendix D](#)), (2) have received training on wearing respirators, and (3) are medically qualified to wear a respirator. (Exception: medical evaluation and training are not required for voluntary use of filtering facepieces ["dust masks"].)

OSHA SUBSTANCE-SPECIFIC STANDARDS THAT CONTAIN RESPIRATORY PROTECTION REQUIREMENTS

See Appendix G of the [Respiratory Protection Program chapter](#) for links to these standards: asbestos,¹ 13 carcinogens,² vinyl chloride, arsenic (inorganic), lead, cadmium, benzene, coke oven emissions, cotton dust, 1,2-dibromo-3-chloropropane, acrylonitrile,¹ ethylene oxide, formaldehyde,¹ methylenedianiline, 1,3-butadiene,¹ and methylene chloride.

FILTERS AND CHEMICAL CARTRIDGES

- **Selecting Filters and Cartridges:**
 - Use only NIOSH-approved filters, cartridges, and parts intended for the specific make and model of respirator.
 - The P-100 is the designated filter for standard issue respirator configurations. If the SHEMP Manager authorizes other respirators/configurations for a specific worksite, select filter styles based on potential presence of oil particles and type of dust:
 - N for Not resistant to oil,
 - R for Resistant to oil
 - P for oil Proof
 - Select filter efficiency (i.e., 95%, 99%, or 99.97% [nominally 100]) depending on how much filter leakage can be accepted. Higher filter efficiency means lower filter leakage.
 - Consult manufacturer's product information to select suitable chemical cartridges.
- **Change Schedules for Filters and Cartridges:**
 - **Filters** (whichever of the following occurs sooner):
 - At the end of each shift.
 - Breathing resistance increases significantly.
 - **Chemical Cartridges** (whichever of the following calls for the earliest exchange):
 - At the end of each shift.
 - Based on airborne contaminant concentration(s), cartridge capacity, work rate, and atmospheric conditions.
 - As specified by local/regional policy.
 - Based on indication from end-of-service-life-indicator (ESLI).

EMERGENCY FIT TESTING IN THE FIELD

- A qualitative fit test (QLFT) may be used as a temporary measure under emergency conditions.
- Use irritant smoke (stannic chloride).
- QLFT is NOT a substitute for quantitative fit testing! Obtain a QNFT as soon as feasible.
- Prior to a QLFT, you must be trained and medically qualified to wear a respirator.

ENTRY PROCEDURES FOR AN IDLH ATMOSPHERE

- Wear SCBA with a minimum of 30 minutes of service life or an airline respirator (pressure-demand mode) with auxiliary self-contained air supply.
- Use the "Buddy System."
- A standby employee must maintain communication with employee(s) in an IDLH atmosphere.
- The standby employee must have rescue equipment and a respirator suitable for an IDLH atmosphere.
- The standby employee must notify designated personnel before entering an IDLH environment to provide emergency rescue.

BREATHING AIR (USED WITH ASRs)

- Must meet the criteria for Grade D breathing air:
 - O₂ is between 19.5% and 23.5%.
 - Hydrocarbons (condensed) are 5 mg/m³ or less.
 - Carbon monoxide (CO) is 10 ppm or less.
 - Carbon dioxide (CO₂) is 1,000 ppm or less.
 - No noticeable odor.
- Always obtain supplier certification that air is of at least Grade D quality.
- Grade E breathing air is also acceptable.
- Oxygen-enriched air (above 23.5% O₂ – of medical/breathing purity) is:
 - Unacceptable unless a dedicated facemask for O₂ enriched air is used.
 - Required at altitude above 14,000 feet.

RESOURCES FOR RESPIRATORY PROTECTION

- Scott Health & Safety Technical Support (for standard issue respirators)
 - Tel: 1-800-247-7257
 - techsupport.scotths.us@tycoint.com
 - <http://www.scotthealthsafety.com/Americas/en/Support/Support.aspx>
- NIOSH
 - [Respirator Selection Logic \(2004\)](#)
 - General
 - Escape Respirators (Chapter IV)
 - [Pocket Guide – IDLH levels](#)
- OSHA PELs
 - [Table Z-1 \(air contaminants\)](#)
 - [Table Z-2](#)
 - [Table Z-3 \(mineral dusts\)](#)
 - [Calculate the PEL for a chemical mixture](#) (for use in MUC equation)

¹Contains information specific to respirator filter/cartridge selection or change schedules.

²For alpha-naphthylamine, methyl chloromethyl ether, 3'-dichlorobenzidine (and its salts), bis-chloromethyl ether, beta-naphthylamine, benzidine, 4-aminodiphenyl, ethyleneimine, beta-propiolactone, 2-acetylaminofluorene, 4-dimethylaminoazobenzene, and n-nitrosodimethylamine

Personal Protective Equipment

Part I: What You Need to Do Before Going into the Field

1. Have you completed PPE training ([Section 3.2](#))? ☐
If so, do you have a copy of your training certificate and is your training documented in the FRM? (Note: PPE training should be incorporated into HAZWOPER 40-hour and 8-hour refresher courses.) ☐
2. Are you up to date on all medical examinations, including, if applicable, exam elements required for responders wearing Level A or B PPE? ☐
3. Are you familiar with the contents of your organization's (customized) PPE program, including: ☐
 - Practices for PPE selection and use ([Section 4.0](#))
 - Hazards associated with PPE use ([Section 3.5](#))
 - Signs of PPE malfunction ([Section 3.5](#))
 - PPE inspection ([Section 3.3.1](#))
 - Donning and doffing PPE ([Section 3.4](#))
 - Decontamination procedures ([Section 5.0](#))
4. Has a site hazard assessment been conducted to determine the appropriate level and type of PPE required for each task ([Section 4.1](#)). (Note: The Agency has created [Guidelines for PPE Ensemble Selection](#) to assist emergency responders in selecting PPE ensembles for specific activities and tasks.) ☐
5. Have you reviewed the site-specific HASP, specifying appropriate PPE by task and PPE decontamination procedures? ☐
6. Have you inspected your PPE to make sure it is free of defects/damage (check for tears, imperfect seams, pinholes, malfunctioning closures, and valves, etc.)? (See [Appendix G](#)) ☐
7. Does your field bag and/or vehicle contain the required PPE and decontamination materials for the task/operation? ☐
8. Are you familiar with the site-specific emergency decontamination and egress procedures? ☐

Part II: Things You Need to Do in the Field

1. Have engineering, work practice, and/or administrative controls been implemented whenever feasible to minimize exposure to identified hazards? ☐
2. Do you periodically check your PPE for failure or breaches (e.g., stains or other evidence of chemical attack, tears, punctures, or seam breaks)? ☐
3. If you experience signs or symptoms of PPE failure, promptly leave the site, proceed to decontamination (if an emergency follow emergency egress) and inform your supervisor, Onsite Safety Officer, or Medical Monitor. ☐
4. Have you followed the site-specific PPE decontamination procedures specified in the HASP? ☐
5. At the end of the shift, have you placed all single-use PPE in labeled containers for disposal and have you placed contaminated reusable PPE in plastic bags for further decontamination/disposal? ☐
6. Have you properly treated and disposed of all spent solutions used for decontamination? ☐
7. If PPE will be reused, have you cleaned and/or sanitized it after each shift and stored it properly ([Section 3.3](#))? ☐

Injury, Illness, and Exposure Reporting

Part I: What You Need to Do Before Going Into the Field

1. Have you completed an injury, illness, and exposure reporting training course ([Section 8.0](#))? ☐
If so, do you have a copy of your training certificate and is your training documented in the FRM? ☐
2. Have you reviewed your organization's injury, illness, and exposure reporting program and familiarized yourself with: (a) the procedures and forms for reporting injuries, illnesses, exposures, near misses, and motor vehicle accidents; (b) the procedures and forms for obtaining medical treatment and filing a claim for workers' compensation; (c) the procedures for reporting unsafe or unhealthy working conditions; and (d) incident investigation and reporting? ☐
3. Are organization-specific incident reporting and investigation procedures incorporated into the HASP? ☐
4. Do you know how to contact your immediate supervisor, local SHEMA Manager, and Vehicle Manager when you are working in the field? ☐

Part II: Things You Need to Do in the Field

1. **Report every job-related injury, illness, significant exposure, near miss, and motor vehicle accident to your supervisor as soon as possible.** Have your supervisor complete the *OSHA & EPA 301 Injury, Illness and Near Miss Report* (see the ["Forms" section of the manual's website](#)) and submit it to the local SHEMA Manager. If you wish to report a near miss anonymously, complete the applicable sections of the *OSHA & EPA 301 Injury, Illness and Near Miss Report* yourself and forward the completed report to the local SHEMA Manager or, report the near miss through the EPA Reporting Hotline by calling or leaving a message at (877) 301-7233 (8 a.m. to 5 p.m. EST, Monday through Friday).
2. **Obtain first aid or medical treatment as necessary.**
 - **If immediate medical care is required, go to the nearest health care facility or to your private health care provider. Ask your supervisor for assistance in making transportation arrangements or in calling for an ambulance.**

In a non-emergency situation, if you need medical treatment for an injury, ask your WCC to authorize medical treatment by use of Form CA-16 ([Section 3.2.1.3](#)). **(For emergency situations, the WCC or the supervisor must authorize treatment by telephone and then send/fax Form CA-16 to the treating medical facility within 48 hours.)** You may initially select the health care provider to provide the necessary treatment. This may be a private health care provider or, if available, a local federal medical officer/hospital. Take Form CA-16 and [Form OWCP-1500](#) to the health care provider. Form OWCP-1500 is the billing form health care providers must use to submit bills to OWCP. (Hospitals and pharmacies may use their own billing form.) If you need medical treatment for an occupational illness or disease, obtain care directly from a specialist health care provider in the indicated field. Form CA-16 cannot be used for an illness or disease without prior approval from OWCP.
 - Complete and submit the appropriate OWCP form for work-related injuries, illnesses, or significant exposures. If you have a traumatic injury (conditions that occur in one work shift), complete the employee's section of [Form CA-1](#) and turn it in to your supervisor within 24 hours from the date of the injury. Provide medical evidence in support of the disability within 10 days of submission of Form CA-1. If you are disabled due to traumatic injury, you may claim continuation of pay (COP) not to exceed 45 calendar days or use leave. (Form CA-1 is designed to serve as a claim for COP.)

- If you have an occupational illness or disease (conditions that occur over more than one work shift), use [Form CA-2](#) instead of Form CA-1, and turn it in with the appropriate checklist from [Form CA-35](#) and supporting medical evidence (if possible) to your supervisor within 24 hours from the date you realized the illness or disease was caused (or aggravated) by your job.
 - A “Receipt” is attached to each Form CA-1 and Form CA-2. Your supervisor must complete the receipt and return it to you with a copy of the completed form for your personal records. If it is not returned to you, ask your supervisor for it.
 - File a claim for workers’ compensation on [Form CA-7](#) or use leave if you are disabled beyond the COP period, or if you are not entitled to COP. If you are disabled due to an occupational illness or disease, you may claim workers’ compensation on Form CA-7 or use leave. A claim for compensation for disability must be submitted as soon as possible after it is apparent that you are disabled and will enter a leave-without-pay status. Submit Form CA-7 together with medical evidence ([Form CA-20](#) or a report from a health care provider) to the WCC.
3. **Report the work-related death of any employee, all work-related in-patient hospitalizations, amputations and losses of an eye to the nearest [OSHA Area Office](#) or by calling OSHA’s toll free number: 1-800-321-6742.** This notification must be made within 8 hours of the incident for a work-related death or within 24 hours of the incident for all work-related in-patient hospitalizations, amputations or losses of an eye by the SHEMP Manager or supervisor.
5. **Report motor vehicle accidents to your supervisor and the Vehicle Manager as soon as possible.**
- The *OSHA & EPA 301 Injury, Illness and Near Miss Report* (see the [“Forms” section of the manual’s website](#)) must be completed (by the supervisor with input from the driver) if the driver is injured or the incident meets the definition of a “near miss” ([Section 5.0](#)). Copies of the completed report must be provided to the SHEMP Manager and the Vehicle Manager.
 - Motor vehicle accidents must be investigated by the driver’s supervisor. The investigation report, [SF-91](#), [SF-94](#), a copy of the employee’s authorization to travel (if on travel), a copy of the rental contract (if vehicle is a commercial rental), a copy of the police report (if available), and other applicable documents, receipts, or reports must be provided to the Vehicle Manager or AMC.
 - The rental company must be notified if the vehicle is a commercial rental (see the rental agreement for contact information). If the vehicle is from the GSA fleet, notify the AMC by calling 1-866-400-0411, Option 2 (6:00 a.m. to 7:00 p.m. CST) or 1-800-621-3588 after hours.
 - Making or signing a statement as to responsibility for the accident must not be done (except to the employee’s supervisor or the government investigator). Legal documents (notice, summons) and telephone calls requesting information about the accident must be forwarded to the employee’s supervisor or Vehicle Manager.
- See [Section 4.0](#) for details.
6. **Report unsafe or unhealthy working conditions to your supervisor or the Onsite Safety Officer as soon as possible.** Make your notification orally or through a written report. In an imminent danger situation, make your report by the most expeditious means available. See [Section 6.0](#) for details.
7. **Conduct workplace inspections when employee reports of hazardous working conditions are made.** Notify employees of the inspection results and any abatement plans. See [Section 6.0](#) for details.
8. **Investigate incidents involving work-related injuries, illnesses, near misses, and property damage to determine the root cause and develop corrective actions.** See [Section 7.0](#) for details.
-

Physical Stress Management

Fatigue

Why Should You Be Concerned?

Fatigue impairs judgment, effects vision, and slows down reflexes. It also enhances the likelihood of auto accidents, which are the number one cause of workplace fatalities.

What Can You Do to Avoid Fatigue?

- Tell your supervisor if you are starting to feel fatigued.
- Avoid large quantities of caffeine and sugary food.
- Get regular exercise.
- Be aware of the following guidelines that exist for establishing a reasonable work/rest schedule:
 - A 16-hour shift is the MAXIMUM that individuals must be allowed to work. Shorter work shifts (8 to 12 hours) must be established during long-term response activities.
 - Individuals must not drive more than 11 hours (including time for rest/meal/fuel stop) during a 14-hour work shift. Upon approval of the local SHEMP Manager, the driving guideline may be exceeded provided the employee is driving with a partner (another eligible driver).

Heat Stress

Why Should You Be Concerned?

- Heat stroke can cause renal failure, brain damage, or death.
- Other heat-related illnesses can cause painful cramping or fainting (which can result in dangerous falls).

First Aid Procedures: See Appendix G of the [Physical Stress Management chapter](#).

What Can You Do to Avoid Injury?

- **Increase preparedness.** Participate in a heat acclimatization program and maintain good physical conditioning.
- **Wear light clothing (if possible).** Wear light, loose-fitting, breathable clothing (e.g., cotton). Wearing PPE (semi-permeable or impermeable chemical-resistant suits and respirators) dramatically reduces the ability to dissipate excess body heat and increases the risk of heat strain.
- **Drink plenty of water.** Drink water BEFORE you get thirsty. Drink frequently (beyond your thirst) when you are working in hot places.
- **Avoid caffeine and alcohol.**
- **Acknowledge risk factors.** Inform your supervisor of conditions (e.g., hypertension) or medications that decrease your tolerance to heat exposure.
- **Eat smaller meals** before work and avoid lots of sugar.
- **Take frequent breaks in cool shaded areas with moving air.**
- **Be observant.** Be aware of how your body is reacting and tell your supervisor you need a break if you are uncomfortable. Work in pairs and stay alert for symptoms of heat stress.
- **Follow appropriate engineering/administrative controls** as outlined in Section 6 of the [Physical Stress Management chapter](#).

Danger Signs for Heat Stress:

- **Heat stroke:** Symptoms include: internal body temperatures equal to or exceeding 105.8°F (41°C); altered mental status (irritability, confusion, or inability to think coherently); convulsions, seizures; dry, pale skin with no sweating (although sweating does not rule out heat stroke) or hot, red skin that appears sunburned; rapid, weak pulse; and rapid shallow breathing. *Note: If an employee exhibits any of the danger signs of heat stress it is an immediate, life-threatening emergency requiring immediate emergency medical care and hospitalization.*
- **Other heat illnesses.** Other illnesses (see Appendix G of the [Physical Stress Management chapter](#)) can be a precursor to heat stroke. Symptoms of heat exhaustion (headache, nausea, dizziness, vertigo, tiredness, weakness, thirst, giddiness, profuse perspiration, or pale or flushed, cool, moist, clammy skin), heat syncope (fainting), or heat cramps (painful muscle spasms) need to be treated quickly.

Cold Stress

Why Should You Be Concerned?

- Hypothermia can be fatal.
- Frostbite can result in amputation.

First Aid Procedures: see Appendix I of the [Physical Stress Management chapter](#).

What Can You Do to Avoid Injury?

- **Wear warm clothes.** Wear several loose, warm layers. Wear a hat and insulated footwear. Keep a change of dry clothes available (See Appendix K of the [Physical Stress Management chapter](#)).
- **Stay dry.** Moisture reduces clothing's insulating value.
- **Avoid caffeine, alcohol, and smoking.**
- **Drink plenty of liquids and eat nutritious food.** Drink water or warm, sweet, non-caffeinated, non-alcoholic drinks or soup. (*Note: Dehydration occurs insidiously in cold weather.*) Consume warm, high calorie food, such as pasta, to maintain energy reserves.)
- **Get rest.** Avoid fatigue since energy is consumed to keep the body warm. Take frequent breaks in a warm setting.
- **Be observant.** Be aware of how you are reacting to the cold and tell your supervisor you need a break if you are uncomfortable. Work in pairs and stay alert for signs of cold stress in yourself and coworkers.
- **Acknowledge risk factors.** Older people are not able to generate heat as rapidly as younger people. Certain nervous system and vascular diseases make some people less tolerant to cold stress. Some medications (e.g., antidepressants, sedatives, or tranquilizers) impair thermoregulation.
- **Follow appropriate engineering/administrative controls** as outlined in Section 7 of the [Physical Stress Management chapter](#).

Danger Signs for Cold Stress

- **Hypothermia:** Symptoms include: uncontrollable shivering (might be diminished in older adults); stomping of feet to generate heat; numbness; glassy stare; a puffy or swollen face; apathy, loss of coordination; slurred speech; confusion; loss of logical thinking; loss of consciousness; and pale cold skin that might be marked with irregular blue or pink spots. As body temperature drops, these symptoms worsen and shivering will stop. Employees might be unable to walk or stand. Significant drops in blood pressure, pulse rate, and respiration are possible.
- **Frostbite:** Affected body parts will get cold, tingling, stinging or aching, and then will turn numb. The skin will turn red, then purple, then white, and will be cold to the touch. Blisters may form in severe cases.

Noise and Hearing Conservation

Why Should You Be Concerned?

Excessive exposure to noise can cause temporary or permanent hearing loss. It can also cause tinnitus (ringing in ears) and more physiologic reactions, such as a rise in blood pressure or a faster heart rate.

What Can You Do to Avoid Injury?

- Participate in an audiometric testing program.
 - Wear hearing protection (e.g., ear plugs or muffs or both). Generally, if you need to raise your voice to be heard, you should wear hearing protection. Sound level measurements or noise dosimetry must be performed to show that noise exposure levels are below the action levels.
 - Implement engineering/administrative controls if noise levels exceed OSHA's permissible noise levels. Controls include: installing sound-dampening materials or mufflers, erecting acoustical enclosures and barriers, increasing the distance between employees and noise sources, rotating employees who are operating noisy machines, and keeping windows and doors closed when noisy equipment is nearby.
-

Vibration

Why Should You Be Concerned?

- Hand-arm vibration can cause circulatory, sensory, motor, and musculoskeletal disturbance.
- Whole-body vibration can create lower back pain.

What Can You Do to Avoid Injury?

- Identify tasks that might pose vibrational stress.
- Use equipment that has built-in vibration controls.
- Eliminate awkward, asymmetric postures when working with tools, sitting, or standing.
- Provide adequate lumbar support, adjustable seat pans, back and arm rests, and other ergonomic modifications for better support and to reduce vibration.

Overexertion

Why Should You Be Concerned?

Heavy labor can cause overexertion injuries and result in serious and long-lasting adverse health effects.

What Can You Do to Avoid Injury?

- Identify tasks that might exceed your physical capacities.
- Implement engineering and administrative controls, such as work station redesign, tool redesign, job rotation, and work pacing.

Altitude

Why Should You Be Concerned?

- At high altitudes less oxygen is available for the body to use, the air is colder, and ultraviolet radiation is more intense.
- Working at high altitudes has significant effects on physical and psychological performance and causes altitude illness which may be fatal.

What Can You Do to Avoid Altitude Illness?

- Ascend gradually. Spend several days at 5,000 feet before ascending to 10,000 feet. If not possible, rest for 2 days after arrival at altitude.
- Sleep at a lower altitude than the workplace.
- Drink plenty of water before, during, and after work.
- Use reduced work rates and increased rest periods.
- Avoid salty foods, caffeine, alcohol, tobacco, and depressant drugs.
- Eat low fat, high carbohydrate meals.
- Inform your supervisor of conditions (asthma, heart/lung disorders) or medications that decrease your tolerance to high altitudes.
- Be aware of how your body is reacting and tell your supervisor if you are uncomfortable or do not feel well. Work in pairs and stay alert for symptoms of altitude illness (e.g., headache, loss of coordination, confusion, weakness, lack of appetite, nausea, vomiting, shortness of breath, chest tightness, dizziness, and bluish skin color).

Radiation Safety Program

Part I: What You Need to Do Before Going Into the Field

1. Have you attended (and passed) a basic radiation safety training course? ☐
2. Have you attended (and passed) an advanced radiation safety training course? ☐
3. Do you attend (and pass) radiation safety refresher courses at least once every 2 years? ☐
4. Have you received training on the proper use of radiation detection equipment? ☐
5. Do you have copies of your training certificates and are they available upon request? ☐
6. Have you enrolled in EPA's personal monitoring program? ☐
7. Have you been issued a passive dosimeter (e.g. thermoluminescent dosimeter (TLD) or an optically stimulated luminescence dosimeter (OSLs)? ☐
8. Have you received training on how to use your TLD or OSL badge? ☐
9. Have you been issued a self-reading dosimetry (SRD) device? ☐
 - When wearing a SRD, are you ensuring that your TLD or OSL is being worn as well? ☐
10. Have you received instructions on how to use SRDs and how to fill out Exposure Record Cards? ☐
11. *Addressing dosimetry data:*
 - Have you been informed of the Agency's Action Reference Level (ARL) and Administrative Control Level (ACL)? ☐
 - If dosimetry data suggest that you have exceeded the Agency's ARL (50 mrem per quarter) or ACL (500 mrem per year), have you talked to your Removal Manager and RSO or SHEMP Manager about temporarily modifying your job activities? ☐
 - If SRD readings indicate an exceedance of ARL and/or ACL, have you notified your Removal Manager and RSO or SHEMP Manager? ☐
 - Have you been made aware of your quarterly doses received, especially any ARL and/or ACL exceedances on your quarterly dosimetry report? ☐
 - Have you signed acknowledging your annual dose report? ☐
12. *Exceeding the Agency's ACL of 500 mrem:*
 - Have you received information on the scenarios (i.e., planned special exposures and emergency operations) for which it is acceptable to exceed the Agency's ACL? ☐
 - If you are trying to obtain permission to participate in a planned special exposure event, have you submitted a written request to your RSO or SHEMP Manager? ☐
 - Have you been informed of the risks and potential health effects associated with exposure levels that exceed the Agency's ACL? ☐
13. If you are pregnant:
 - Have you reviewed [NRC Guide 8.13 "Instructions Concerning Prenatal Radiation Exposure?"](#) ☐
 - If you chose to declare your pregnancy, have you declared your pregnancy in writing? Are you exchanging your TLD badge on a monthly basis? ☐
 - Have you talked with your Removal Manager and your RSO or SHEMP Manager about whether your job functions should be temporarily modified? ☐
14. Have you talked to your RSO or SHEMP Manager about whether it is necessary to develop an internal monitoring plan? ☐
15. If you plan to transport/ship/transfer equipment that contains a radioactive source and/or sources of radioactive material, have you asked your RSO or SHEMP Manager (or another designated person) to find out what kind of paperwork and/or certification that must be obtained in shipping/transporting the equipment and/or sources.? ☐

Radiation Safety Program

Part II: Things You Need to Do in the Field

Radiation detection instrumentation:

- Perform an initial radiation survey of each field site to measure and evaluate exposure dose rates and/or levels of contamination.
- At a minimum, before taking measurements with radiation detection instrumentation, the user must
 - Ensure that the radiation detection instrumentation has been calibrated within the last year.
 - Perform a battery check.

Perform a source check to ensure that the radiation detection instrumentation is responding to radiation

TLD badges:

- TLD or OSL badges must be worn at sites where there is potential for exposure to ionizing radiation.
- Badges must be worn in the assigned designated area of the body (e.g. whole body dosimeter between chest and waist, collar badges on the neck area, finger badges worn on the finger with window facing the source of radiation, etc.)
- TLDs or OSLs are assigned to specific users. It is not acceptable to share your device with a fellow employee.
- TLDs or OSLs must be worn outside personal protective clothing, between the neck and waist.
- TLD or OSL badges must be exchanged on at least a quarterly basis.
- If you have declared that you are pregnant, you must exchange your TLD badge on a monthly basis.
- When your shift is over, store your TLD or OSL in a low radiation area and in a location where the badge will not be exposed to elevated temperatures, light, or moisture.
- TLDs or OSLs must never be deliberately exposed to radiation or exposed to non-occupational sources of radiation.
- Notify your RSO or SHEMP Manager immediately if your TLD or OSL badge has been lost, damaged, or exposed to non-occupational sources of radiation.

SRD devices:

SRD devices must be worn at sites where there is a potential for exposure to ionizing radiation. You must still wear your TLD or OSL? Notify your RSO or SHEMP Manager immediately if:

- Your whole body $H_p(10)$ alarm sounds (e.g., if radiation is detected at a dose rate of 1 mrem/hour).
- You have reached a one-time shift dose limit of 50 mrem.
- You have reached a dose limit of 50 mrem over several shifts.

What to do in the event of exposure:

- If dosimetry data indicate that you have exceeded the Agency's ARL (50 mrem per quarter) or ACL (500 mrem per year), communicate with your Removal Manager and your RSO or SHEMP Manager about modifying your duties and/or implementing special protective measures.
- Notify your direct supervisor immediately if you know (or suspect) that you have been exposed to radiation.

Situations where EPA allows employees to exceed the Agency's Administrative Dose Limits:

- Planned special exposure. You may ask for permission to temporarily exceed the Agency's ACL if doing so will allow you to complete a long-term site project. Requests must be submitted in writing. Official approval must be granted before any planned special exposure is allowed to occur.
- Emergency operations. EPA employees may perform a variety of emergency response activities that could result in exposure doses up to 5 rem. If efforts are needed to protect major property or human life, exposure levels higher than 5 rem may be allowed on a voluntary basis. Contact the senior EPA official on site and the RSO or SHEMP Manager in advance if you think you might receive a dose greater than the ACL.

Recordkeeping requirements:

- Submit *Exposure Record Cards* after each incident response, or at least quarterly to your RSO or SHEMP Manager.

Handling equipment that contains or is accompanied with radioactive sources (e.g., gas chromatographs):

- When in the field, you are responsible for the storage and security of this equipment.
 - Alert the Equipment Warehouse Manager immediately if this equipment is damaged, lost, or stolen.
 - Before returning equipment back to the office, ask your RSO or SHEMP Manager whether any paperwork needs to accompany the equipment.
-

Chemical and Biological Agents

Part I: What You Need to Do Before Going Into the Field

1. Have you received Chemical and Biological Agent Awareness training? ☐
If so, do you have a copy of your training certificate and is your training documented in the FRM? ☐
(Note: The awareness training may be provided as a standalone course or as part of initial 40-hour HAZWOPER training or annual 8-hour refresher training.)
2. If the potential exists to be exposed to a biological agent, have you received available prophylaxis measures (e.g., vaccine and/or antibiotics)? ☐
3. Are you familiar with the site-specific HASP for the response? ☐
4. If applicable, have you received instructions on how to operate the chemical or biological agent detection equipment to be used during the incident? ☐
5. Is your PPE appropriate for the nature and magnitude of the hazard, as specified in the HASP? ☐
6. Do you know the signs and symptoms of exposure to the chemical or biological agent involved in the response? (The [CDC](#), the Office of Research and Development's [National Homeland Security Research Center](#), and the [National Response Team](#) maintain websites that provide agent-specific information.) ☐

Part II: Things You Need to Do in the Field

1. Report to the appropriate checkpoint for onsite medical monitoring, if applicable.
2. Assist in implementing and/or inspecting the exposure controls in place, including engineering controls, work practices, and administrative controls, if applicable.
3. Periodically check your PPE to ensure that it is functioning properly, in accordance with field inspection protocols.
4. If you know (or suspect) you have been exposed to a chemical or biological agent, notify your direct supervisor immediately. Also, consult with the Medical Monitor concerning the need for additional prophylaxis or immediate treatment.
5. When performing decontamination, make sure to use potable or clean water, in accordance with standard decontamination procedures.
6. Make sure that all decontamination fluids and other materials are captured for appropriate treatment and disposal.

Part III: What You Need to Do After the Incident Response

1. If you develop any signs or symptoms that may be related to your field activities, seek immediate medical attention.
 2. Report any chronic or latent health problems to your supervisor and complete appropriate forms.
 3. In the case of a biological agent, continue to take any antibiotics or other prophylaxis that has been prescribed to you. Take the full antibiotic course prescribed by the health professional.
 4. Attend any follow-up medical evaluations scheduled.
-
-

Confined Space Safety Plan

Part I: What You Need to Do Before Going into the Field

- 1 Have you completed Confined Space Awareness training ([Section 3.14](#))? Also, if you are an authorized entrant, entry supervisor, or perform air monitoring, have you completed all of the applicable training requirements listed in [Table 3](#) of this chapter? Do you have copies of your training certificates and is your training documented in the FRM? ☐
- 2 If you are assigned duties as an onsite rescuer, have you completed all of the required training (confined space entry certification; rescue duties, procedures, and equipment; practice rescue drill within the last 12 months; and first aid/CPR) ([Table 3](#))? Do you have copies of your training certificates and is your training documented in the FRM? ☐
- 3 Have you reviewed your organization's confined space safety plan (i.e., customized version of the Confined Space Safety Program chapter) and familiarized yourself with: (a) confined space and PRCS definitions and examples; (b) OSHA requirements for PRCS operations; (c) safety practices and procedures for minimizing PRCS hazards; and (d) personnel roles and responsibilities? **The flow chart on the following page provides an overview of the minimum requirements for EPA employees. Employees must also review the information in [Section 3.0](#) and [Appendix A](#).** ☐
- 4 Are site-specific PRCS procedures incorporated into the HASP? ☐
- 5 Does your field bag and/or vehicle contain the required equipment and supplies for PRCS operations (e.g., respirators and other PPE, rescue equipment (if applicable), air monitoring equipment, calibration gases, ventilators and ductwork, PRCS signs, radios, etc.)? ☐
- 6 Do you know who to contact if you experience equipment/supplies shortages in the field (Section 3.7)? ☐

Part II: Things You Need to Do in the Field

- 1 Survey the site to identify and evaluate potential confined spaces and PRCSs ([Section 3.2](#)).
- 2 Inform site workers (by posting danger signs, holding safety briefings, or by any other equally effective means) of the existence, location, and dangers posed by PRCSs ([Section 3.2](#) and [Appendix D](#)).
- 3 Determine if site personnel will enter non-permit confined spaces:

If **YES**, specify any conditions and precautions that must be in place for safe entry and changes in conditions that would require a re-evaluation of the space. Re-evaluate a non-permit space periodically and when there are changes in the use or configuration of the space that might increase the hazards to entrants. If necessary, reclassify the space as a PRCS ([Section 3.2](#)).

If **NO**, re-evaluate the non-permit space periodically and when there are changes in the use or configuration of the space. If necessary, reclassify the space as a PRCS ([Section 3.2](#)).
- 4 Determine if site personnel will enter PRCSs:

If **YES**, written site-specific PRCS procedures that EPA has reviewed and determined to be acceptable (i.e., meet all requirements specified in [Section 3.3](#) of the Confined Space Safety Program chapter) must be incorporated into the HASP prior to entry. Any deficiencies noted must be corrected and emergency/rescue procedures must be in place prior to entry.
 - If emergency responders will enter PRCSs: Adopt and follow the HASP PRCS procedures. These may be existing procedures (developed by an EPA contractor or facility owner) reviewed and deemed acceptable by EPA prior to entry and incorporated in the HASP. Any deficiencies noted must be

corrected prior to entry. For large scale responses where no existing procedures are available, enlist the services of the ERT or OSHA through the ICS Liaison Officer to develop written PRCS procedures for the HASP ([Section 3.3](#)). Written site-specific PRCS procedures must make provisions for:

- Preventing unauthorized entry.
 - Identifying, evaluating, and controlling or eliminating all hazards in the space.
 - Specifying and maintaining acceptable conditions throughout the entry.
 - Specifying all equipment needed to safely perform all tasks in the space (including air monitoring and ventilation equipment, PPE, proper lighting, etc.).
 - Providing an attendant outside the space for the duration of the entry.
 - Assuring communications, rescue, and emergency capabilities.
 - Designating and training employees who have active roles.
 - Implementing a permit entry system.
 - Coordinating multi-employer entry operations.
 - Reviewing entry permits and operations and revising as necessary.
- If contractors or other agencies will enter PRCSs: Comply with all host and controlling employer requirements specified in [Section 2.3.1](#) of the Confined Space Safety Program chapter.

If **NO**, take effective measures to prevent PRCS entry ([Section 3.2.1](#)) (e.g., permanently closing the space, using physical barriers, bolting and locking the space, notifying employees, and posting danger signs).

5 Immediately evacuate and re-evaluate confined spaces if hazards arise during entry.

Part III: What You Need to Know about Recent Regulatory Changes

There is a new Construction Rule for Confined Spaces, 29 CFR Subpart AA. The 5 key differences from the general industry rule are:

1. More detailed provisions requiring coordinated activities when there are multiple employers at the worksite, see the paragraph and diagram “Information Flow and Coordination” below.
2. A competent person must evaluate the work site and identify confined spaces, including permit spaces.
3. There must be continuous atmospheric monitoring whenever possible.
4. There must be continuous monitoring of engulfment hazards.
5. There is an allowance for suspension of a permit, instead of cancellation, in the event of changes from the entry conditions list on the permit or an unexpected event requiring evacuation of the space. The space must be returned to the entry conditions listed on the permit before re-entry.

In addition, there are some clarifications to existing requirements in the General Industry standard, including:

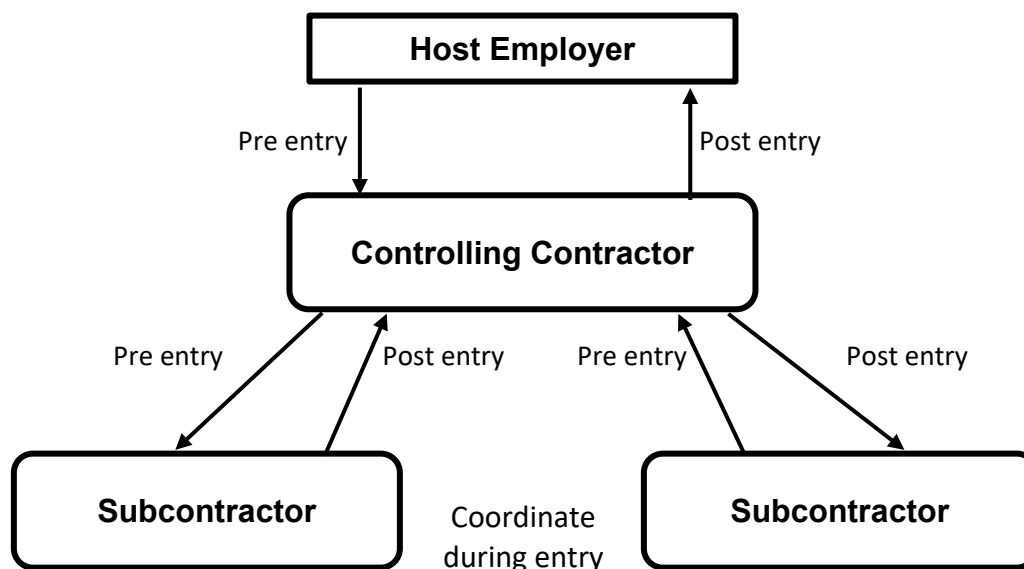
1. Employers who direct workers to enter a space without using a complete permit system are required to prevent workers’ exposure to physical hazards through elimination of the hazards or isolation methods such as lockout/tagout.
2. Employers who are relying on local emergency services for emergency services arrange for their responders to them (the employer) advance notice if they will be unable to respond for a period of time (because they are responding to another emergency, attending department-wide training, etc.).
3. Employers are required to provide training in a language and vocabulary that the worker understands.

Several terms have been added to the definitions for the construction rule, such as “entry employer” to describe the employer who directs workers to enter a space, and “entry rescue”, added to clarify the differences in the types of rescue employers can use.

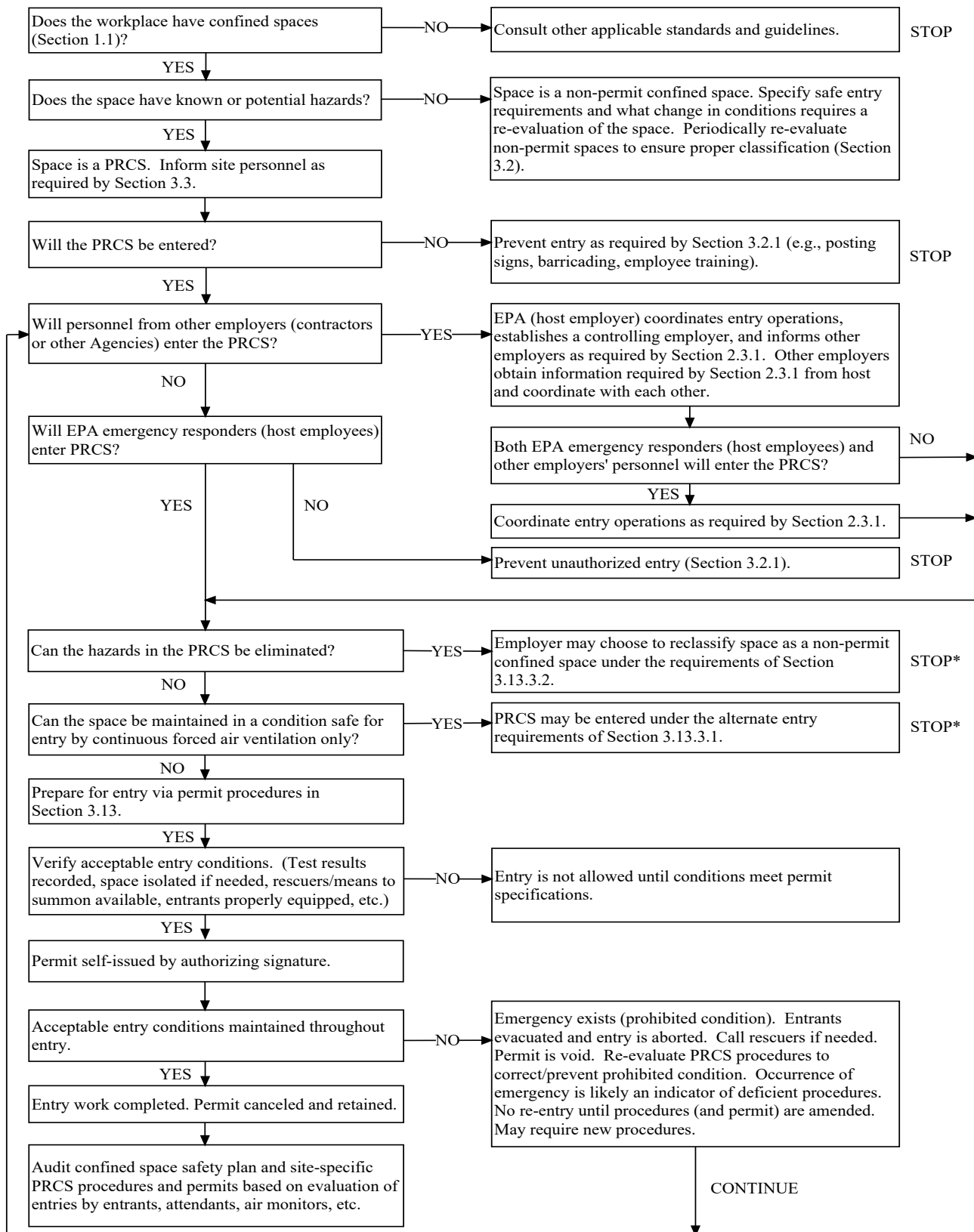
Note: an employer whose workers are engaged in both construction and general industry work in confined spaces will meet OSHA requirements if that employer meets the requirements of 29 CFR 1926 subpart AA – Confined Spaces in Construction.

Information Flow and Coordination. The rule makes the controlling contractor, rather than the host employer, the primary point of contact for information about permit spaces at the work site. The host employer must provide information it has about permit spaces at the work site to the controlling contractor, who then passes it on to the employers whose employees will enter the spaces (entry employers). Likewise, entry employers must give the controlling contractor information about their entry program and hazards they encounter in the space, and the controlling contractor passes that information on to other entry employers and back to the host. The controlling contractor is also responsible for making sure employers outside a space know not to create hazards in the space, and that the entry employers working in a space at the same time do not create hazards for one another's workers.

Information Flow and Coordination



Confined Space Decision Flow Chart



*Spaces must be evacuated and re-evaluated if hazards arise during entry.

Source: Adapted from 29 CFR 1910.146 Appendix A.

Bloodborne Pathogen Exposure Control Plan

Part I: What You Need to Do Before Going Into the Field

1. Have you attended a bloodborne pathogen exposure control training course within the year? ☐
2. If so, do you have proof that you are up-to-date on your training requirements? ☐
3. Have you reviewed your Bloodborne Pathogen Exposure Control Plan (i.e., customized version of the [Bloodborne Pathogen Exposure Control Plan chapter](#)) and familiarized yourself with the onsite safety controls that you must follow? *(Note: The flowchart on the following page provides an overview of the minimum requirements that EPA employees must follow. While the flowchart serves as a useful field guide, employees must also review the detailed information that is presented in Section 3.2 and Appendix B of their Bloodborne Pathogen Exposure Control Plans.)* ☐
4. Is your field bag stocked with the PPE (as well as other equipment) that you might need to protect yourself from bloodborne pathogens in the field and do you know who to contact if you experience equipment shortages in the field? ☐
5. Are bloodborne pathogen exposure control procedures incorporated into the site-specific HASP? ☐
6. Have you received the hepatitis B vaccine? ☐
7. If not, have you signed a *Hepatitis B Vaccine Declination Statement*? ☐

Part II: What to Do If You Know (or Suspect) That You Have Contacted Blood or Other Potentially Infectious Materials

Step #1: Implement procedures to mitigate the risk of acquiring disease. For example:

- If your hands (or any other part of your body) contacted blood or other potentially infectious materials, **IMMEDIATELY** wash the exposed part of your body for at least 60 seconds with potable water and soap (germicidal soap is desirable). If a washing station is not available, use a waterless antiseptic cleanser until a thorough washing can be performed.
- If the mucous membranes of the mouth, eye, or nose contacted blood or other potentially infectious materials, flush these body parts with water **IMMEDIATELY**.

Step #2: Contact your Direct Supervisor **IMMEDIATELY** (or at least within 24 hours) upon being exposed to blood or other infectious materials. If your supervisor cannot be reached, contact the Removal Manager

Step #3: Working with your supervisor, fill out EPA Form 1340-1 (*OSHA & EPA 301—Injury, Illness & Near Miss Report*) and make sure that the following is documented on that form:

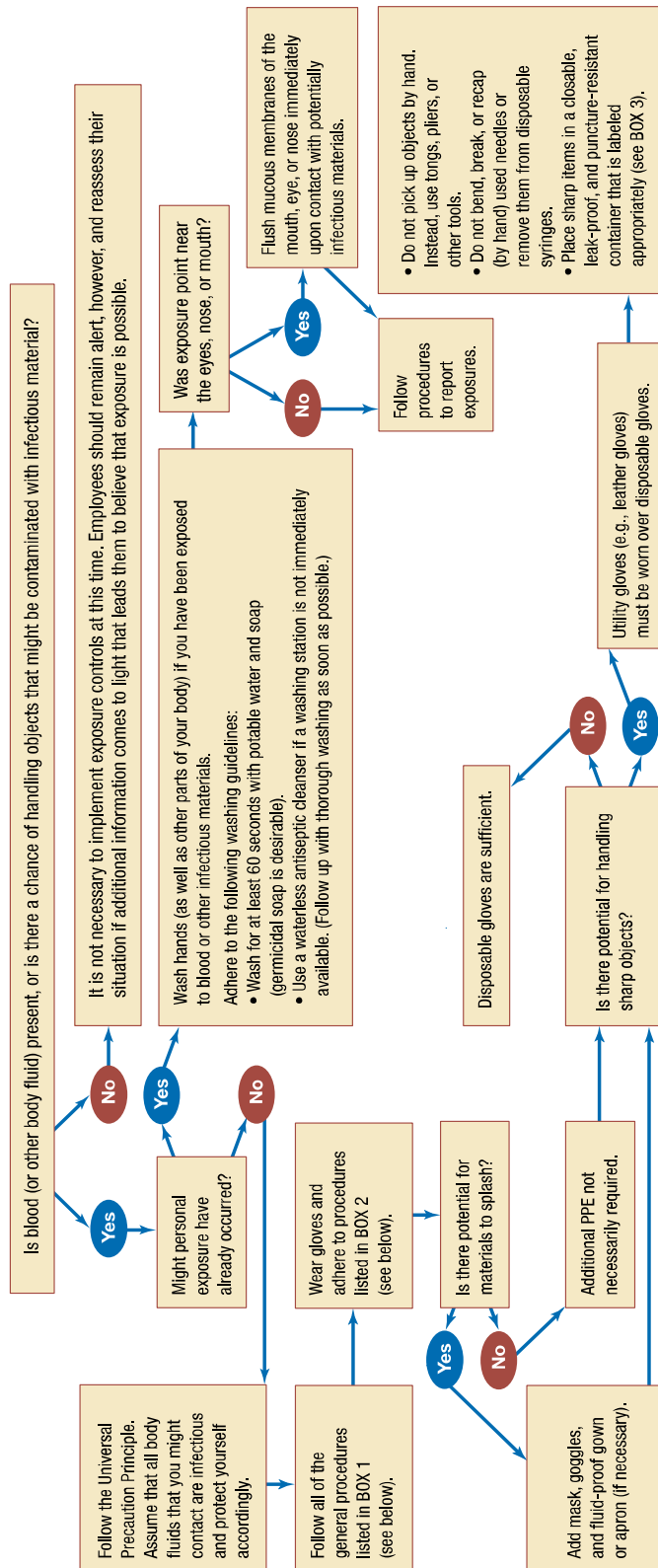
- The time, date, and location of the exposure.
- The routes of exposure.
- The HBV and HIV antibody status of the source individual (if known).
- The circumstances under which exposure occurred.

Step #4: Working with your supervisor, communicate with the SHEMP Manager about obtaining post-exposure medical support (at no charge to yourself) **IMMEDIATELY OR AS SOON AS FEASIBLE** since prompt prophylactic measures can reduce the chance of developing disease.

Step #5: Contact your healthcare provider (or ask your SHEMP Manager to do so) and ask for a copy of his/her written opinion and recommended course of action if you have not received such information within 15 days of your initial medical evaluation.

Step #6: Following your healthcare provider's advice, work with your SHEMP Manager or your Workers' Compensation Coordinator to set up follow-up evaluations and post-exposure counseling at no cost to yourself.

Part III: Procedures Designed to Minimize or Eliminate Occupational Exposures to Bloodborne Pathogens



BOX 1: General Procedures

- **Cover breaks in the skin** before going into the field. For example, bandage body areas marked by cuts, severe acne, rash, etc.
- **Avoid reaching into hidden areas.** If necessary, use long-handled mirrors and flashlights to search hidden areas.
- **Do not keep food or drink** in the vicinity of potentially infectious objects.
- **If clothing becomes contaminated,** place it in a labeled (see BOX 3) leak-proof bag, and don a new set of clothes. (Note: Keep an extra set of clothes available at ALL times.)

BOX 2: PPE

- ALL PPE:** Wash hands upon removing gloves or any other PPE (follow the washing guidelines presented in flowchart).
- GLOVES:**
- Wear disposable gloves **ONLY** once and dispose of as regulated waste (see BOX 3). Decontaminate (see BOX 3) non-disposable gloves.
 - Replace torn or soiled gloves immediately.
 - Do not smoke, eat, drink, apply cosmetics (or lip balm), handle contact lenses, or touch eyes, nose, mouth, or broken skin while wearing gloves.
 - Removal techniques: Peel off one glove from the wrist toward the finger tips. Then, using the exposed hand, peel the second glove off from inside, tucking the first glove inside the second. Never touch the outside of the gloves with bare skin. Also, do not use teeth to remove (or put on) gloves.

BOX 3: Disposal, Labeling, Decon

- **Disposing of regulated waste.** Disposable item must be bagged (or in the case of contaminated sharps, placed in a container), labeled, and disposed of as regulated waste in accordance with Federal, State, and local regulations.
- **Labeling requirements.** Affix labels to bags and containers used to store, transport or dispose of potentially infectious materials. Labels must display the biohazard symbol, be fluorescent orange or orange-red in color, and use letters or symbols in a contrasting color. (A biohazard label is not required, however, if red bags or containers are used.)
- **Decontaminating reusable equipment.** A solution of 1 part liquid household bleach to 10 parts water is sufficient to decontaminate equipment.

BOX 4: Other Procedures

- **Packaging objects/evidence.** Place objects in leak-proof plastic bags (as long as objects are not sharps). Air-dry objects if possible before sealing in bags. If objects can't be dried, double bag them. Label bags appropriately (see BOX 3). (Note: When packaging objects, use only tape. Heat-sealing clear plastic envelopes are also acceptable.)
- **Cleaning up bodily fluid spills.** Wear appropriate PPE. Remove visible material with a towel. Clean with approved germicide or a solution of 1 part liquid household bleach to 10 parts water. Pour cleaning solution into spill, let stand for 20 minutes, and mop it up. Clean the mop.