

HASP₂



Software

Version 2.0

User's Manual

 **OSHA**
Office of Health
Enforcement

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Preface

The U.S. Department of Labor (DOL) Occupational Safety and Health Administration (OSHA) designed e-HASP₂ to help employers create site-specific health and safety plans consistent with the requirements in the Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) 29 CFR 1910.120 or 29 CFR 1926.65. For the purposes of this manual, where references are made to 29 CFR 1910.120, the user can assume the reference will also apply to 29 CFR 1926.65. Version 2.0 reflects the revisions, corrections, and clarifications made by OSHA to this standard published in the *Federal Register* March 7, 1996.

Creating a site-specific health and safety plan using this software does not automatically result in compliance with the requirements for this plan outlined in 29 CFR 1910.120(b)(4). If the information you enter into e-HASP, Version 2.0 (e-HASP₂) is accurate and informed however, the written plan generated by this software is likely to be consistent with HAZWOPER. You can then use the written plan to guide you in implementing effective, site-specific, exposure controls and work practices. To review your obligations under 29 CFR 1910.120, please see the text of the standard in Appendix A. Before you prepare your plan, please read the "Qualifications of the Person Preparing Your Plan" section located on page 2.

This program was developed and is distributed by the U.S. DOL OSHA, Office of Health Enforcement, in coordination with the U.S. Environmental Protection Agency. OSHA gratefully acknowledges the technical contributions made by private individuals and industry, labor, and public interest organizations during preparation of this program. Advanced Technologies and Laboratories International, Inc. (ATL), a consulting firm specializing in occupational and environmental health, assisted OSHA in developing e-HASP₂ and provides user support.

The e-HASP₂ software is designed to run in a Windows® 2000 environment or a later version of this operating system. The e-HASP₂ software was developed in Microsoft® Access using Visual Basic® programming. Microsoft® Access is a trademark of Microsoft Corporation.

Send your questions, comments or suggestions to:

e-HASP₂
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U.S. Department of Labor
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Washington, DC 20210

Or by email to: e-hasp2@dol.gov

Section 1 – Introduction

This user's manual describes e-HASP₂ and provides instructions for using its features. This manual is divided into the following sections:

Section 1: Introduction: What is e-HASP₂? – This section discusses the user manual and introduces e-HASP₂.

Section 2: The Written Health and Safety Plan – This section discusses OSHA's requirements for a written health and safety plan defined in 29 CFR 1910.120.

Section 3: Getting Started – This section provides step-by-step procedures for installing and setting up e-HASP₂. It also identifies the information you will need on-hand to complete a written plan.

Section 4: Using e-HASP₂ – This section describes e-HASP₂'s features and how to use the program.

Section 5: Entering Site Information into e-HASP₂ – This section describes how to enter your site-specific information into e-HASP₂ and develop your written plan.

Section 6: Viewing and Printing Your Written Health and Safety Plan – This section describes how to preview and print your written plan.

Section 7: Troubleshooting – This section provides troubleshooting information and explains error messages. If you experience problems while installing or using e-HASP₂, see this section before contacting OSHA.

Appendix A: OSHA's HAZWOPER Standard – This appendix contains the text of 29 CFR 1910.120(a)-(o) (including appendices).

Appendix B: Chemical Database – This appendix contains a disclaimer for the chemical database used in e-HASP₂.

This manual assumes that you are familiar with using either Windows 95® or a later version of this operating system. If you are not familiar with Windows® terms such as cursor, window, and toolbar, then see your Windows® documentation. This manual does not assume you have any previous experience using Microsoft Access®.

What is e-HASP₂?

e-HASP₂ is a software program designed to assist employers develop site-specific health and safety plans for assessing, cleaning up, or otherwise working on uncontrolled hazardous waste and Resource Conservation and Recovery Act (RCRA) corrective action sites. The software will help you create a written plan that meets the OSHA requirements in 29 CFR 1910.120 (see Section 2 of this manual for a discussion of these requirements). Using e-HASP₂, you can assemble one or more electronic plans and can update and print them, as necessary. e-HASP₂ can help you:

- *Increase worker safety* – Reduce worker injuries by developing and implementing an effective health and safety plan.
- *Save time* – Create and update your program with minimal effort and time.
- *Save money* – By reducing program preparation and update time, e-HASP₂ saves you money.
- *Be OSHA compliant* – e-HASP₂ contains model language for meeting the requirements of 29 CFR 1910.120.

e-HASP₂ assists you in developing a written plan by prompting you for information about a particular worksite, and your company policies and procedures. It consists of 15 separate chapters including: organizational structure, job hazard analysis, site control, training program, medical surveillance program, personal protective equipment, exposure monitoring, thermal stress, spill containment

program, decontamination program, emergency response plan, standard operating procedures, confined spaces program, hot work, and lockout/tagout. Section 5 of this manual provides a discussion of each e-HASP₂ chapter. Because several of the e-HASP₂ chapters rely on information entered in a previous chapter, the user should complete each chapter in chronological order. e-HASP₂ also provides compliance assistance and user help via help text buttons and links to compliance information on the OSHA web site.

NOTICE: e-HASP₂ does help you develop a written health and safety plan, but it does not relieve you from any of the specific requirements of 1910.120 or any other OSHA standards. Each workplace is unique, and the hazards on each hazardous waste site vary with the characteristics of the site and the site operations. While e-HASP₂ can prompt you with health and safety decisions and help create a plan, your plan must be tailored to your specific worksite and operations (see below). Ultimately, you, as the employer, must make sure that the plan you develop complies with OSHA standards and that you protect the safety and health of your employees.

The 26 states and territories operating OSHA-approved State plans set and enforce their own HAZWOPER standards that are equivalent to 29 CFR 1910.120 and 1926.65. Most State HAZWOPER standards are identical to the Federal, although some states may have different or additional requirements. Those using this e-tool to create a HASP for an establishment covered by an OSHA-approved State plan should also contact the State plan agency directly for information about any State-specific requirements and for compliance assistance.

Qualifications of the Person(s) Preparing Your Plan

e-HASP₂ is easy-to-use software that can assist you in developing your plan, but it cannot make many of the safety and health decisions necessary to ensure your plan is effective. These decisions must be made by a qualified health and safety professional with practical hazardous waste site experience. The person developing your plan should have the knowledge and skills necessary to identify and evaluate the range of hazards associated with hazardous waste site operations. This individual must also be qualified to identify the appropriate monitoring and exposure controls necessary for employee protection based on the contaminants and other hazards anticipated on site. For example, only an individual with experience in evaluating potential air contaminants and choosing appropriate instrumentation should select air-monitoring equipment and identify site action limits. Ongoing involvement of safety and health personnel is also essential. Site conditions and work operations change over time; the health and safety procedures and plan must be updated to address these changes as they occur. The involvement of qualified safety and health staff will ease the development and maintenance of your health and safety plan and will help ensure the well-being of your employees.

Section 2 – The Written Health and Safety Plan

This section of the manual describes the HAZWOPER standard, the OSHA regulation requiring you to develop and implement a written health and safety plan to protect the employees on your hazardous waste site.

OSHA's HAZWOPER Standard

The OSHA standard addressing hazardous waste site operations is 29 CFR 1910.120, HAZWOPER (see Appendix A of this manual). Paragraphs (b)-(o) of the standard contain requirements for written programs and site practices and procedures to protect your employees from the hazards found on hazardous waste sites. You are covered by HAZWOPER paragraphs (b)-(o) if you are conducting any of the following:

- Clean-up operations required by a governmental body at an uncontrolled hazardous waste site.
- An initial investigation of a government-identified site on which the presence or absence of hazardous substances has yet to be ascertained.
- Corrective actions on a RCRA site.
- Voluntary clean-up operations on a government-identified uncontrolled hazardous waste site.

The written plan is important for ensuring a systematic approach to employee health and safety during hazardous waste clean-up. The function of e-HASP₂ is to assist you with the development of the written plan to identify site practices and procedures. As the employer on a hazardous waste site, you are required to comply with 29 CFR 1910.120 paragraphs (b)-(o). The minimum requirements under that part of the standard are listed by paragraph below.

Paragraph (b) Safety and Health Program

The HASP must be in writing and must detail the site's health and safety hazards, job tasks and operations, and the specific control measures used to safeguard your employees. Each employer on a site needs to have a HASP structured so that it integrates smoothly with those of the site's coordinator or principal contractor and any applicable local, state, or federal emergency action plan. Your up-to-date HASP must be readily available to all employees on the site. It must address the site's organizational structure, lines of authority, accountability, and communication. Your HASP must also specify how you will inspect and evaluate the procedures to ensure that they are effective and how you will correct any deficiencies found.

The key elements of the HASP mirror the requirements of HAZWOPER paragraphs (b)-(o) and include: safety and health risk or hazard analysis and site-specific requirements for training, personal protective equipment (PPE), medical surveillance, air monitoring, site control, decontamination, emergency response plan, confined space entry program, and a spill containment program. e-HASP₂ assists you by leading you through the development of each of these written elements, incorporating your site information into acceptable standardized text.

Paragraph (c) Site Characterization and Analysis

Initial site characterization and analysis must be performed by a qualified person in order to choose and justify engineering controls, work practices, and PPE. The qualified person should examine historical data and the work plan to anticipate site conditions and then identify appropriate PPE and monitoring procedures. At the outset, site evaluations may be limited to conditions that:

- Are immediately dangerous to life or health (IDLH).
- Exceed published exposure levels (e.g., OSHA PELs, ACGIH TLVs®, NIOSH RELs).
- Indicate exposure over radioactive dose limits (see 10 CFR 20).

- Are otherwise dangerous conditions, including but not limited to the presence of flammable or oxygen-deficient atmospheres.

Historical data and known site processes should be used to identify potential chemical and physical hazards. After work begins, you must continue to evaluate conditions, update your hazard analysis, and choose appropriate controls, work practices, and PPE (see below). Exposure controls and monitoring instruments (see below) must be based on an up-to-date characterization and hazard analysis.

Paragraph (d) Site Control

Site control procedures should identify contaminated areas and appropriate work practices, address preventing unauthorized or unprotected workers from entering contaminated areas, and define controlling the migration of site contaminants. Your HASP must delineate work zones and establish safe work and communication procedures for each zone. It must contain a site map that shows work zone boundaries and identify how these boundaries will be visibly marked on the site. These boundaries may change as work operations change or if hazards migrate to clean areas. The HASP must identify your method for controlling entry into contaminated areas, restricting this to authorized employees who are properly trained and protected. Employees entering contaminated zones must follow the work procedures in the HASP including using the buddy system. To enable a quick response, emergency medical information, including the name of and route to the nearest medical facility, must be posted in the contamination reduction or support zone. Emergency communication procedures must be written and explained to employees.

Paragraph (e) Training and Paragraph (i) Information Programs

Your employees must be trained to do their assigned duties safely before they begin work on site. The required training, described in paragraph (e), is a combination of classroom instruction, site-specific information, and supervised fieldwork. You can send your workers to an outside training organization for their classroom instruction, but you, the employer, are ultimately responsible for ensuring that they are properly trained. The hours of initial training vary depending on a worker's duties and anticipated exposures. Initial training must be updated with eight hours of refresher training annually. You are also required by paragraph (i) to inform your employees and contractors of the types and level of hazards associated with your operations.

Non-mandatory Appendix E provides training criteria and content guidance. Your HASP must identify which jobs require training, how much training is needed, and how all of the training requirements in paragraph (e) are fulfilled. The location and maintenance of training documentation and certification must also be identified. In addition to the training requirements, your HASP must also document how information about changes in site-specific information is communicated to interested parties, including employees, contractors, etc. Each worker, however, must have eight hours of refresher training annually.

Paragraph (f) Medical Surveillance

If your employees are exposed to hazardous substances as a part of their work, you may be required to monitor their health through a medical surveillance program. Employees must be included in the medical surveillance program if they:

- Are or may be exposed to hazardous substances above permissible limits for at least 30 days per year.
- Wear a respirator for at least 30 days per year.
- Become ill or show signs or symptoms of job-related overexposure to hazardous substances.
- Are members of a HAZMAT team.

If you have employees who meet any of these criteria, you need to establish a medical surveillance program. You must consult a licensed physician to determine the content of the medical exams to be provided to your employees. Baseline, periodic, and exit exams are required by the standard.

You will also need to keep the physician's written opinion provided after each employee's medical exam. With few exceptions, you must keep both employees' medical and exposure records for the duration of their employment plus thirty (30) years. Employees and their representatives have the right to access these records during this time.

Paragraph (g) Engineering Controls, Work Practices, and Personal Protective Equipment (PPE) for Employee Protection

Engineering controls and work practices are the best ways to reduce employee exposures; they should be selected and highlighted first in the HASP. Often these controls will need to be used in combination with PPE to provide sufficient protection during hazardous waste site operations. If your employees require PPE, you must include a written PPE program in your HASP. This portion of the HASP must clearly describe how you select and use PPE based on the tasks and the nature and concentration of site contaminants. The PPE program must address how PPE will be used correctly and identify the limitations of its use; appropriate work mission durations; and procedures for decontaminating, maintaining, storing, and discarding PPE. Employees using PPE must be physically capable of doing so, and the PPE program must address the limitations of PPE use during temperature extremes, heat stress and other appropriate medical considerations. Employees must also be trained to use PPE correctly, including how to inspect it prior to, during, and after use. If PPE will be used, then the PPE program that includes all of the elements listed must be evaluated to ensure that it is effective.

Paragraph (h) Monitoring

Since site monitoring data are the basis for selecting many of your exposure controls, generating accurate and complete data is critical and must be addressed in the HASP. Your HASP must identify how often monitoring will be conducted and the method and equipment for each contaminant. HAZWOPER requires monitoring during initial site entry (see paragraph (c) above) and periodic monitoring during site operations. Periodic monitoring must be conducted when there is the possibility of an IDLH condition, a flammable atmosphere, or when employee exposures may have risen above published values (OSHA PELs, NIOSH RELs, ACGIH TLVs®) since prior monitoring. For example, periodic monitoring must be conducted when:

- Site conditions change (new tasks, locations, or hazards).
- New operations are started (such as drum opening after exploratory drilling).
- Leaky containers are handled.
- Work is conducted in areas with obvious liquid contamination.

You must monitor the breathing zones of employees who have the highest potential exposure(s). If their exposures meet or exceed published values, you must monitor all employees likely to be exposed over those published limits. Your HASP must also indicate the airborne concentrations at which you reevaluate your site's engineering controls, work practices, and PPE.

Calibration and maintenance schedules, as per manufacturers' recommendations, should also be maintained. You must take lab-analyzed samples and compare your real-time readings to the laboratory results. You may want to consult with an accredited laboratory to determine proper analytical sampling procedures. Results of personal sampling are considered employee exposure records.

Paragraph (j) Handling Drums and Containers

If you have drums or containers on your site (buried or aboveground) and plan to move them, you must: 1) inspect them prior to movement; 2) move them sparingly; and 3) stage them carefully. If drums or containers could create a major spill, you also need to develop a spill containment program. Employees inspecting drums must evaluate the integrity of the container. Employees should also locate and interpret important label information and assume the worst if a label does not exist. Drums in staging areas should be arranged to allow employees easy access and egress. Drum opening and

sampling operations must be isolated if the contents are unknown. If spills, leaks, or ruptures may occur, you must provide proper training and containment equipment to personnel who will control and contain spilled material. You also need to stock equipment such as salvage drums or containers, absorbent material, shovels, and PPE for spill response. All containers transported off site must have proper DOT labels, bills of lading, etc.

Shock sensitive wastes must be treated with special precautions, including evacuating all non-essential employees and availability of continuous communications between the employee-in-charge of the handling area, the site health and safety supervisor, and the command post. Any container or drum showing signs of pressure build up such as bulging or swelling cannot be moved until the source of the pressure is found and relieved. Lab waste packs must be opened only when necessary and only by knowledgeable personnel. If crystalline material is found in the lab pack(s), it must be treated as shock sensitive material until proven otherwise.

Tanks and vaults containing hazardous substances must be handled similar to drums and containers, taking into account the size of the tank or vault. If tanks or vaults will be entered, appropriate entry procedures must be identified in the HASP and be followed by employees conducting the entry.

Paragraph (k) Decontamination

Decontamination procedures address how employees' contact with contaminants or contaminated equipment (including PPE) will be minimized. Your HASP must include written decontamination procedures that address this goal, eliminate the movement of contaminants to clean areas, and prevent mixing of incompatible substances. Decontamination procedures must be appropriate for the contaminants present and for the equipment and PPE used on site. In addition, you must evaluate the effectiveness of the decontamination procedures you implement. One way to evaluate your procedures is to collect samples from key surfaces and analyze them for site contaminants. Samples should be collected from the surfaces of decontaminated reusable PPE, heavy equipment, and "clean" areas such as break and changing rooms.

Your HASP should also identify how disposable PPE and site decontamination waste will be discarded, and how reusable PPE will be cleaned and placed back in service. If you use a commercial laundry or cleaners, they must be informed of the potential effects of the hazardous substances.

Paragraph (l) Emergency Response by Employees at Uncontrolled Hazardous Waste Sites

You must have a written emergency response plan that identifies the actions employees will take if fire, personal injury, chemical release, or other emergencies occur on the site. The items you need to include in your emergency response plan are listed in paragraphs (l)(2) and (l)(3) of HAZWOPER. The emergency response plan must be tested and critiqued regularly.

If you plan to rely on local emergency response organizations such as the fire department, you must contact them and explain your response needs. If they cannot provide the services you need, you must retain a service provider who can. Even if you have an on-site HAZMAT team, you still must coordinate your emergency response plan with the local response plan, including incident reporting procedures. The emergency response plan must contain information on the following topics:

- Personnel roles, lines of authority, training and communication
- Employee recognition and prevention of emergencies
- Safe distances and places of refuge
- Site security and control in the event of an emergency
- Evacuation routes and procedures, including site topography, layout and prevailing weather conditions
- Emergency decontamination procedures not covered elsewhere in the HASP

- Emergency alerting and response procedures, including PPE and emergency equipment.

Rather than an emergency response plan, you may also choose to evacuate your employees and follow an emergency action plan developed in accordance with 1910.38(a). Choosing this option requires that you provide an emergency action plan and integrate the plan with the local response plan as a separate part of your HASP.

Paragraphs (m) Illumination, and (n) Sanitation at Temporary Workplaces

You must provide suitable lighting, potable water, and toilet facilities. When work operations are expected to exceed 6 months, you must also provide showers and change rooms. Site illumination levels must meet the minimum illumination levels provided in Table H-120.1 in paragraph (m). Adequate potable water with proper dispensers must be maintained on site. Showers and change rooms must meet OSHA requirements in the Sanitation standard at 29 CFR 1910.141. Site water sources must be labeled as either potable or non-potable. Adequate toilet and hand washing facilities must also be provided.

Paragraph (o) New Technology Programs

OSHA requires that you have procedures for evaluating technological innovations that could provide more effective protection to your employees. Manufacturers' literature can be a useful source of information. Before you implement the use of new technologies, equipment, or control measures on a large scale, however, make certain that they offer the protection you anticipate.

ADDITIONAL STANDARDS THAT MAY APPLY

In addition to HAZWOPER, several other OSHA standards requiring writing programs may apply to your site. Additional standards that apply to your site will depend on the types of hazards present and may include Permit-Required Confined Spaces (1910.146, see Chapter 13) and Control of Hazardous Energy (1910.147, see Chapter 15). A qualified person(s) needs to evaluate these hazards while writing your site's HASP.

Section 3 – Getting Started

System Requirements

The following tables outline the minimum and recommended system requirements for installing and running e-HASP₂. In general, if you are running Windows® 95 or later and have enough disk space, you can install and run e-HASP₂. Note that e-HASP₂ is fully compatible with later versions of Windows® and Microsoft® Access.

Microsoft® Access Users

Equipment	Minimum	Recommended
Operating system	Windows® 2000	Windows® XP
CPU	Pentium III 800 MHz	Pentium IV 1.6 MHz
Monitor	800 x 600 pixels	1024 x 768 pixels
Computer memory	256 MB	384 MB
Hard disk space	30 MB (approximately), additional free space for site information entered by user	60 MB (approximately), additional free space for site information entered by user
Printer	Any supported by Windows® 2000	Laser Printer

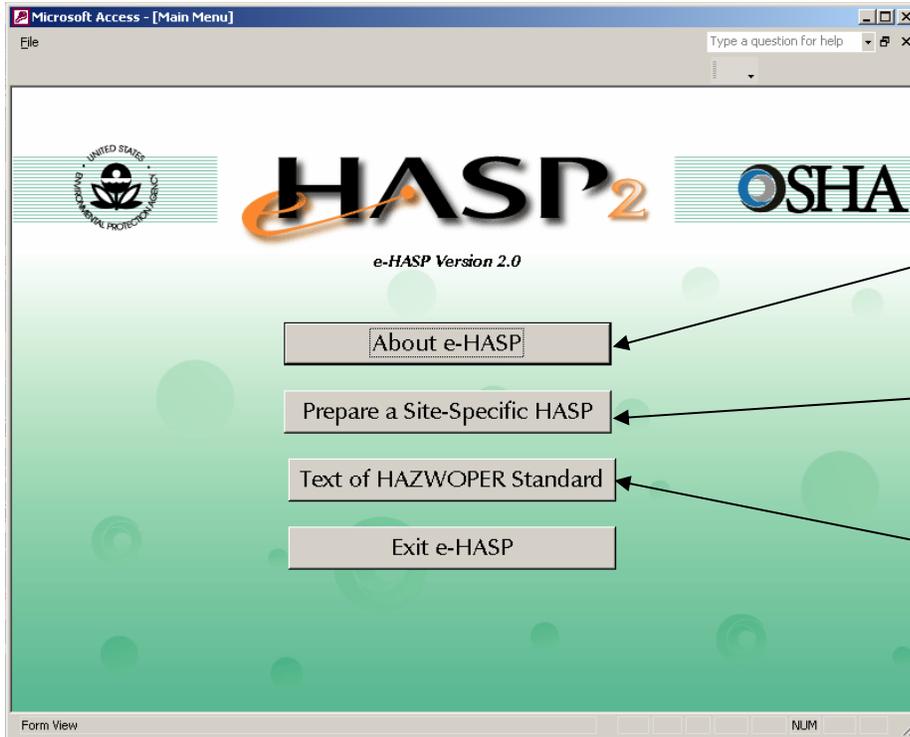
Installing and Running e-HASP₂

Installing e-HASP₂ on your computer is the initial step in developing your site-specific health and safety plan. If you do not already have the e-HASP₂ software, you need to download it from the OSHA website. e-HASP₂ is available on the OSHA website at: <http://www.osha.gov/dep/etools/ehasp/index.html>.

To install e-HASP₂:

- Download and save the eHASP2.ZIP file to your C: drive.
- Use Windows File Manager or Windows Explorer to select the file you downloaded, and double click to expand it. For assistance with expanding .zip files please see the Website Assistance for Browsers, Plugins & Players page.
- Open the file with Microsoft® Access.

When you have completed the steps on page 3-1, e-HASP₂ will open at the Main Menu (see below). Before using the software, you should, at a minimum, read and review Sections 4 and 5 of this user's manual.



About e-HASP:
Click to read a brief introduction to e-HASP₂.

Prepare a Site-Specific HASP:
Click to enter site information for your written plan.

Text of HAZWOPER Standard:
Click to view and print the text of 1910.120.

Section 4 – Using e-HASP2

Manual Entry Fields

Manual entry fields allow you to type information into e-HASP₂. These fields typically follow a statement that prompts you to enter a person's name or to identify a location or similar information.

Entering Information in Manual Entry Fields

To enter information in a manual entry field, place your cursor in the field where you want to enter information. Then, type the information for your site as prompted by e-HASP₂. If after entering information, you want to change it, you can delete what you previously entered and type in new information. An example of a manual entry field is shown below.

The screenshot shows a Microsoft Access window titled "Microsoft Access - [Site Edit]". The interface is divided into several sections. On the left, there is a "Select a Site" list with "River Side" and "Urban" options. Below this list are buttons for "Add New Site", "Delete Site", and "Print/Export". To the right of the list is a form for manual entry with the following fields: "Site Name" (containing "River Side"), "Date of Program" (containing "04/23/2003"), "Author" (containing "John"), and "Organization" (containing "ABC Group"). A bracket groups these four fields, with a line pointing to the text "Manual Entry Fields" on the right. Below the manual entry fields are buttons for "Text of HAZWOPER" and "Back to Main Menu". The main area of the screen displays a grid of 15 numbered sections: 1. Organizational Structure, 2. Job Hazard Analysis, 3. Site Control, 4. Training Program, 5. Medical Surveillance Requirements, 6. Personal Protective Equipment, 7. Exposure Monitoring, 8. Thermal Stress, 9. Spill Containment Program, 10. Decontamination Program, 11. Emergency Response Plan, 12. Standard Operating Procedures, 13. Confined Spaces Programs, 14. Hot Work, and 15. Lockout/Tagout. Section 1, "Organizational Structure", is expanded to show a list of sub-sections: "1. Primary Site Personnel *", "2. Other Contractors and Subcontractors *", and "3. State/Federal Agency Representative and Their Roles and Responsibilities *". A "Preview Chapter" button is located to the right of the sub-section list. The status bar at the bottom of the window shows "Form View" and "NUM".

NOTE: Manual entry fields requiring a date are programmed to accept only dates and to not accept phrases. Dates must be entered in mm/dd/yyyy format. For example, to enter a date of January 12, 2000, the user must type 1/12/2000.

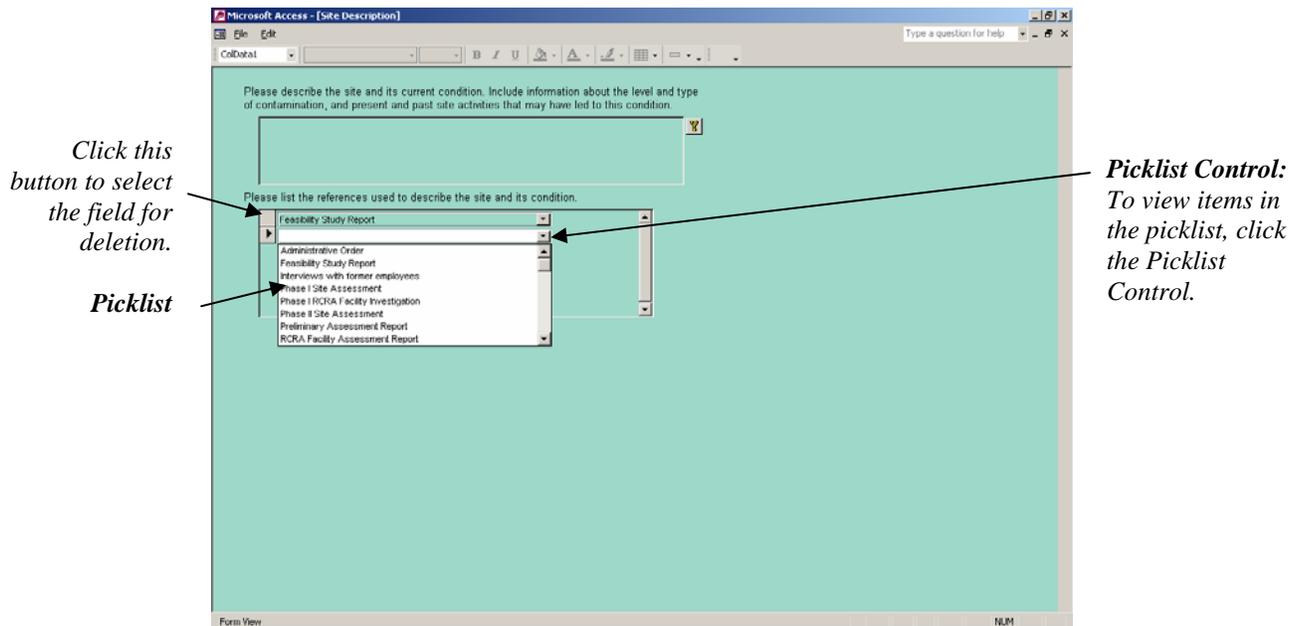
Picklist Fields

Picklist fields allow you to select one or more items from a list. Items in the list are provided to facilitate the entering of information and/or to provide users with some ideas or examples of information that is likely to be entered. In many cases throughout e-HASP₂, you can enter your own information into the fields in addition to selecting items from the picklist.

Entering and Deleting Information in Picklist Fields

To view and select items from a picklist, click on the picklist control on the right side of the picklist field (see below for a screen shot of a picklist). Point and click on the item you want to select. That item is automatically entered into the field. In some cases, you may select multiple items from the list. In those cases, select each item in an individual picklist field, as provided. If you want to enter an item that is not provided in the picklist, simply type the information into the field.

To remove an item, whether chosen or manually entered into a picklist field, either select a new item from the picklist, type over the existing entry, or delete the entry entirely. To entirely delete the entry, click on the button to the left of the picklist field, and hit the Delete key on your keyboard.



Option Buttons

Option buttons allow you to select one or more items from a number of options. Option buttons are used in e-HASP₂ to allow users to select from a pre-set list of options.

Using Option Buttons

To select an item from an option list, click the option box you want to select. When you click the option box, a checkmark appears in the box indicating that it is the option selected. To change the option selected, click on another option box or click the checked box again. See below for an example of option buttons.

The screenshot shows a Microsoft Access window titled "Microsoft Access - [Overall Hazardous Energy Control Program Responsibility]". The window contains a form with the following content:

Please select an option from the list below as appropriate for this site: ?

- Option 1 There are no lockout/tagout activities on this site
- Option 2 An outside contractor(s) performs all lockout/tagout activities on this site
- Option 3 Site employees and outside contractor(s) perform lockout/tagout activities on this site
- Option 4 Site employees perform all lockout/tagout activities on this site

Note: If you later de-select Option 3 or 4 after completing your program, you will erase all information you've entered.

This evaluation was made on the following date(s): ?

Done

Form View NUM

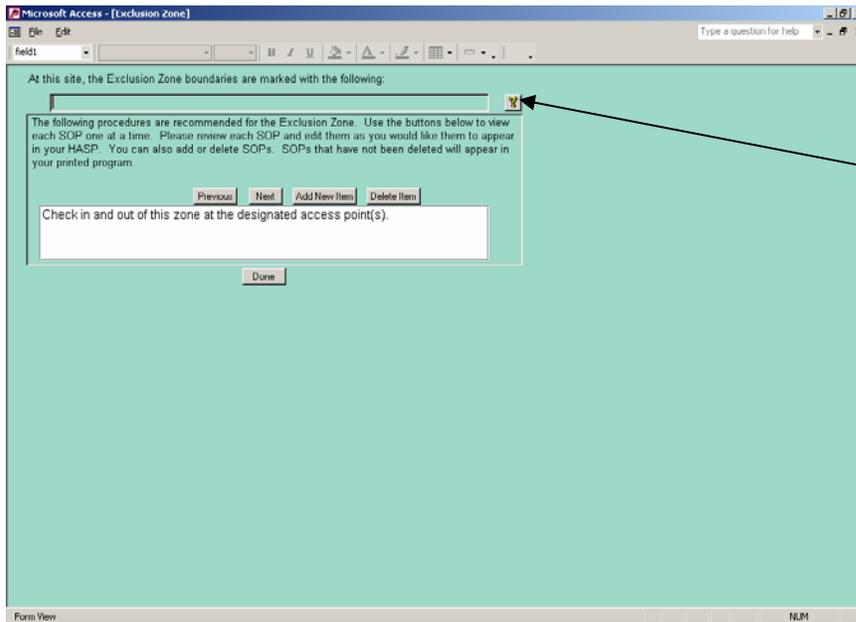
Help Buttons

e-HASP₂ includes help buttons to provide useful information about particular questions or items. The help text generally offers background information or interpretive guidance that may assist you in responding to a question.

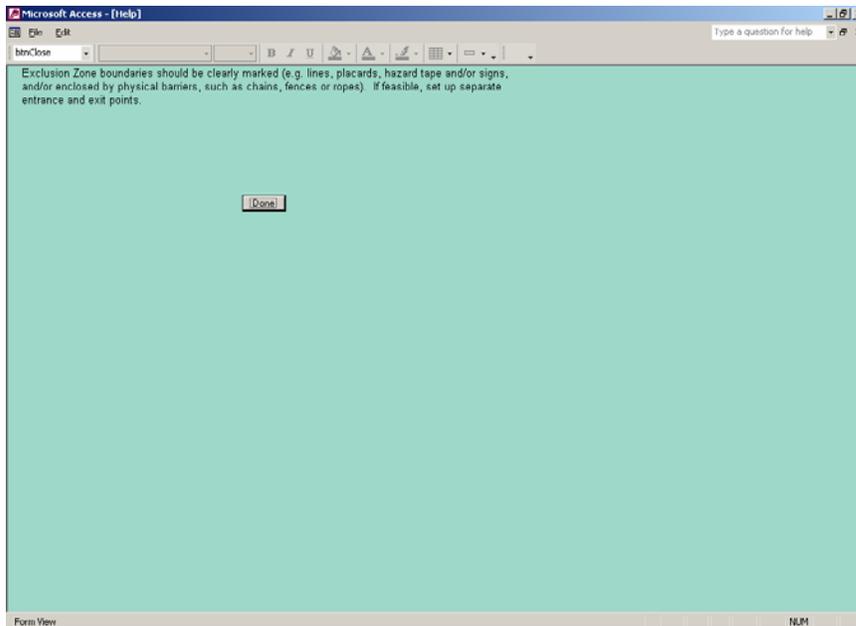
Using Help Buttons

To view the help provided by e-HASP₂, click on the help button to open the help text window. Once you have finished reading the help, click on the "Done" button to return to the previous screen.

NOTE: Help Buttons are only available on e-HASP₂ screens where they are needed. Some of the e-HASP₂ screens do not have help buttons.



Help Button:
When you click this help button, the help text shown below appears.



e-HASP₂ Navigation

Maneuvering through e-HASP₂ is fairly simple. e-HASP₂ was designed to allow you to quickly and easily move from chapter to chapter and from question to question. The following paragraphs briefly describe moving through e-HASP₂ and some of the controls you may use. You will be familiar with some of these controls through use of other software packages and programs.

Scroll Bars

Scroll bars allow you to move up and down within a screen. Scroll bars are used within e-HASP₂ when a screen is larger than the display window (your monitor's screen), so that you may view the entire e-HASP₂ screen. Scroll bars are also used when a sub-form (illustrated below) is used within one of e-HASP₂'s primary screens. Again, this allows you to scroll up and down the entire sub-form to see all of the information. To use a scroll bar, click the up and down arrows at the top and bottom of the scroll bar, depending on the direction you wish to move.

NOTE: Scroll bars are only available on e-HASP₂ screens where they are needed. Some of the e-HASP₂ screens do not have scroll bars.

Done Buttons

Each e-HASP₂ chapter and Help screen contain a "Done" button that allows you to exit the screen. The done buttons are placed at the bottom of each of these screens. When you are finished entering or reviewing the information in a chapter, click on the "Done" button to be taken to the next screen or to be returned to the previous screen, as appropriate. Alternatively, click on the "Close Window" button as described in the next section to exit a screen.

Close Window Buttons

"Close Window" buttons allow you to exit the current screen you are viewing. To close the screen you are viewing, click the "Close Window" button that is located in the upper right corner of the screen.

The screenshot shows a Microsoft Access window titled "Microsoft Access - [PPE Levels: Ensembles and Materials]". The window contains a form with the following content:

For each level of PPE you will use at this site, identify the standard PPE ensemble. Indicate model information if known, or minimally enter material. For respiratory protection, enter manufacturer and model. If an optional item like a hard hat is required, check the adjacent box and then identify the model and/or material.

If you expect employees to purchase a particular item of PPE listed below, leave model and material blank and check "Employee-Purchased." This is likely to apply to Level D only. Because of the serious consequences of hazard migration off site and because employers cannot restrict the use of employee-purchased PPE to the site, you are strongly cautioned about the use of employee-purchased PPE for hazardous waste site work.

Level C Equipment	Model(s)	Material(s)	Employee Purchased
<input type="checkbox"/> Coveralls			<input type="checkbox"/>
<input type="checkbox"/> Two-piece chemical-splash suit			<input type="checkbox"/>
<input type="checkbox"/> Disposable chemical-resistant overalls			<input type="checkbox"/>
<input type="checkbox"/> Other			<input type="checkbox"/>

At the bottom of the form is a "Done" button. The window's title bar includes standard Windows controls: minimize, maximize, and close buttons. A search bar is also present in the title bar.

Annotations on the right side of the image:

- Close Program Button:** When you click this button, the entire program will exit. (Points to the close button in the title bar)
- Close Window Button:** When you click this button, you will exit the current screen. (Points to the close button in the title bar)
- Examples of Scroll Bars** (Points to the scroll bar on the right side of the table)

Section 5 – Entering Site Information into e-HASP2

Entering a New Site

This section tells you how to add a new site or update general information about a site you previously entered. It covers:

- Layout and use of the "Site-Specific HASP" main screen.
- Entering your initial program information (site identification).
- Updating your program information.

More detailed instruction and guidance regarding the previewing and printing of your written program is provided in Section 6 of this manual.

Working with the “Site-Specific HASP” Main Screen

The main screen for entering site information opens when you click on the "Prepare a Site-Specific HASP" button on the e-HASP₂ Main Menu. A view of the main screen is shown on the next page. It includes fields to enter your general site information and options to print and preview your program, to view the text of 29 CFR 1910.120, and to open the screens to enter your site information in the e-HASP₂ chapters. Briefly, the buttons on the main screen have the following functions:

Button	Function
"Add New Site"	Enter and save a new site.
"Delete Site"	Delete a selected site.
"Print/Export"	Preview (view report on the screen), print report, or export report as a Rich Text File (.rtf).
"Text of HAZWOPER"	View the regulatory text of 29 CFR 1910.120. Includes "Find" feature to assist in locating specific text.
"Back To Main Menu"	Return to the main menu screen.
"Preview Chapter"	View report on screen.

The first time you open the main screen, the cursor is located in the *Site Name* field, and none of the e-HASP₂ chapter headings are displayed. Once you have added a site, tabs to select the e-HASP₂ chapters will appear.

What You Need

The initial information you need to begin your site-specific HASP is:

- The name of the site (i.e., the specific workplace for which the HASP is being developed).
- The organization (i.e., the company or division for which the HASP is being developed).

Entering Your General Site Information

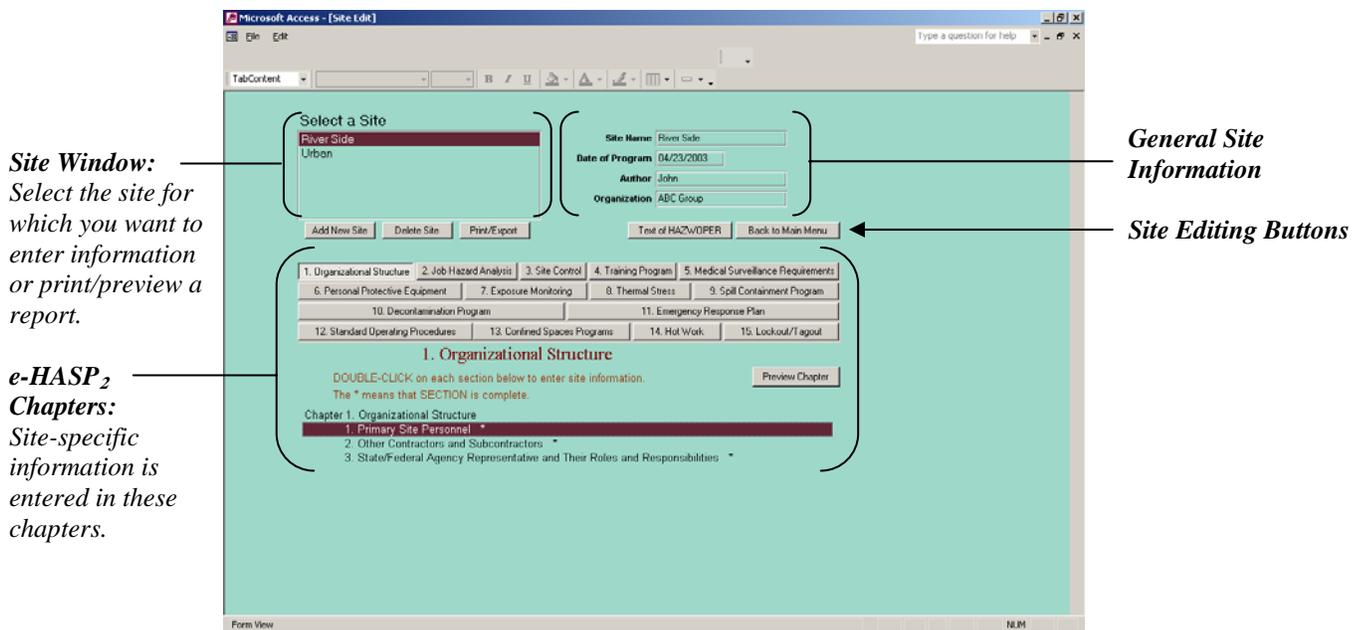
To begin your HASP, you must enter general site information. To enter this information:

- Click the "Add New Site" button.

- Type the specific name of the worksite in the *Site Name* field.
- Enter the date the report is being prepared in the *Date of Report* field. Enter the date in the form mm/dd/yy, such as 12/14/01.
- Enter the name of the person preparing the program, usually the site safety and health officer, in the *Author* field.
- Fill in the *Organization* field with the name of the employer for which the HASP is being developed.
- To save the data entered, click the "Submit" button.

After entering the required information and clicking the "Submit" button, the e-HASP₂ Chapters will appear. In addition, the site you entered will appear in the "Select a Site" window.

e-HASP₂ can prepare health and safety plans for a number of sites. To add additional sites, click "Add New Site" button. After entering the information as described above, click the "Submit" button and your new site will appear in the "Select a Site" window.



NOTE: The first time the main screen is opened, nothing is displayed below the "site editing buttons." Once a site has been added, the individual chapter headings will be displayed.

Updating Your General Site Information

At some time you may need to update the general information about your program, such as the name of the site or the date of the program. To do this, perform the following steps:

- Select the site you want to change by selecting that site in the *Select a Site* field.
- Change the information in the *Site Name*, *Date of Program*, *Author*, and *Organization* fields as needed.
- The information is updated and automatically saved by e-HASP₂.

Organizational Structure (Chapter 1 of e-HASP₂)

This part of the manual describes how to enter site information about the key employees on site, site contractors and subcontractors, and state and federal agency representatives. The e-HASP₂ chapter covers:

- Primary personnel on site, their roles, and their responsibilities.
- Other on-site contractors and subcontractors and their function.
- On-site state and federal representatives and their respective position descriptions.

Entering Your Information into e-HASP₂

Section 1.1 – Primary Site Personnel

In this section of e-HASP₂, you will document the names of key staff on your site and outline each person's responsibilities. To complete this subsection, you must:

- Click on the job title(s) of the personnel that will be on site, then click "Done."
- Type in the name of person for the first job title selected on the previous screen. Type in the name of his/her alternate, if appropriate.
 - Edit the job title and/or position description, as necessary, to identify actual site responsibilities.
- Click "Next" at the top of the screen to enter the information for the next primary site personnel position.
- Click "Previous" at the top of the screen to go back and edit a previous employee name, alternate name, job title, or position description.
- If you determine you need to add additional job titles from the first screen, click "Previous," at the bottom of the screen, to return to the job title selection screen.
- If you need to add a job title that was not available on the job title selection screen, click "Add New Position" at the top of the screen.
- Click "Done" to return to the "Main Site Screen."

Section 1.2 – Other Contractors and Subcontractors

In this section of e-HASP₂, you will document the names and work tasks of any contractors or subcontractors working on the site. To complete this section, you must:

- Check "Yes" or "No" to indicate whether there are other contractors working on the site.
- If "No," click "Done" to return to the "Main Site Screen."
- If "Yes," a table to identify the contractor(s) and his/her function on site will appear. To complete the table:
 - Type in the name of the first contractor under the heading "Company."
 - Type in the task or operation the contractor will perform under the heading "Function."
 - Add additional contractors in the subsequent rows of the table.
- Click "Done" to return to the "Main Site Screen."

Section 1.3 – State/Federal Agency Representative and Their Roles and Responsibilities

In this section of e-HASP₂, you will identify the government officials on the site and their roles in the clean-up action. To complete this section, you must:

- Click on the job titles of the government personnel that will be on site, then click "Done."

- Type in the name of person for the first state/federal agency selected on the previous screen. Type in the name of his/her alternate, if appropriate.
 - Edit the position and/or position description, as necessary, to identify actual site responsibilities.
- Click "Next" at the top of the screen to enter the information for the next state/federal agency.
- Click "Previous" at the top of the screen to go back and edit a previous position, name, or position description.
- If you determine you need to add additional state/federal agency representatives from the first screen, click "Previous" at the bottom of the screen to return to the state/federal agency representative selection screen.
- If you need to add a state/federal agency that was not available on the agency selection screen, click "Add New Position" at the top of the screen.
- Click "Done" to return to the "Main Site Screen."

Updating Your Information

- If there is a change in the key personnel on the site, enter the new information following the steps provided above. The information is updated and automatically saved by e-HASP₂.

Job Hazard Analysis (Chapter 2 of e-HASP₂)

This part of the manual describes how to enter the information needed to create a written Job Hazard Analysis (JHA). The e-HASP₂ chapter covers:

- A description of the site and its current condition.
- A description of the tasks and/or operations that will be performed at the site.
- The chemical, physical, and biological hazards associated with those tasks and operations.

Entering Your Information into e-HASP₂

Section 2.1 – Personnel Responsible for Job Hazard Analysis

In this section of e-HASP₂, you will identify the person who is responsible for conducting and updating the JHA as well as who is responsible for sharing the information with other contractors and on-site personnel. e-HASP₂ will automatically enter the name of the person identified as the Site Safety and Health Officer (SSHO) in Section 1.1. If someone other than the SSHO will be responsible for the JHA, edit the appropriate field(s) by:

- Highlighting the names shown as the default entries and type in the correct names of the persons with each responsibility.
- Click “Done” to return to the “Main Site Screen.”

Section 2.2 – Site Description

In this section of e-HASP₂, you will provide a description of the current site conditions and identify the source of the information used in describing the site. To complete this section, you must:

- Type in a brief description of the site including location, current and prior uses, type and extent of contamination, exposure pathways, and other pertinent information.
- Use the picklists to identify the sources of the information used to describe the site.
 - If you need to use a source that was not available from the picklist, type in the name of the appropriate source in the field box.
- Click “Done” to return to the “Main Site Screen.”

Section 2.3 – Site Tasks and Operations

This section of e-HASP₂ contains several screens, organized in a list format, for each task and operation the site workers will perform. To help organize the list of tasks and operations, select an operational phase from the picklist. To complete this section, you must:

- If the phase number is left blank, when the e-HASP is printed, the JHAs will print out in the order they were selected. To have the JHAs print out in a specific order, use the phase number field to assign unique numbers to each phase (e.g., 1, 2, 3, etc.).
- Select an operational phase from the picklist, or manually type in an operational phase.
- Select a task/operation from the picklist, or manually type in a task/operation, using subsequent rows for each.
- Type in the location of the task/operation.
 - If the same task will be performed in various locations, but the hazards and controls will not be the same at each location, create a separate JHA for each location.
- Use the “Next” and “Previous” buttons to navigate through each phase.
- Use the “Delete Record” button to delete the displayed operational phase.
 - **IMPORTANT:** This action will delete all information associated with the phase including the Phase No., Operational Phase, Task(s), and Site Location(s).

- Click “Done” when finished entering all tasks/operations information to return to “Main Site Screen.”

Section 2.4 – Job-Specific Hazards and Hazards Controls

In this section, you will identify the hazards associated with each task or operation specified in Section 2.3. To complete this subsection, you must:

- Enter the date that the JHA was performed for the task/operation.
- If chemical hazards are associated with this task/operation,

NOTE: If there are no chemical hazards associated with the task/operation, “No Chemical Hazard” must be selected from the Chemical Name picklist. If this field is left blank, the program will not mark the section as complete.

- Select the chemical hazard from the picklist. Note that only chemicals on the picklist can be added to this field. No manual entry is permitted in this field.
- Type in the source of the potential worker exposure when performing the task/operation.
- Type in a numeric value for the airborne concentration that may be present.
- Select the units of the airborne concentration from the picklist. Note, manual entry is not permitted for this field; you must select from the units available on the picklist.
- Click on the “Choose Exposure Limit” button to display the available exposure limit values. Double click on the appropriate exposure limit value.
 - If you select an exposure limit value that has different units than what you selected in the previous “units” field, a warning message will be displayed asking you to confirm that you wish to use a different unit.
 - Click “OK” to return to the hazard identification screen.
- Repeat the above steps for each chemical hazard associated with this task/operation.
- If other chemical hazards exist and are not in the database, enter the chemical name, source, airborne concentration, units, and exposure limit in the boxes provided.
- If physical hazards are associated with this task/operation,

NOTE: If there are no physical hazards associated with the task/operation, “No Physical Hazard” must be selected from the Physical Hazard picklist. If this field is left blank, the program will not mark the section as complete.

- Select the physical hazard from the picklist. If a physical hazard is not available from the picklist, select “other (please specify)” and manually type over the entry with the appropriate physical hazard.
- Type in the source of the physical hazard.
- Click the appropriate button for whether the site worker is likely or unlikely to be exposed to the physical hazard.
- For “Non-ionizing Radiation”, “Ionizing Radiation”, and “Noise” hazards, additional fields will appear. Enter the exposure levels, the units, and the exposure limits for each hazard identified.
- Using the “Previous” and “Next” buttons to navigate through, repeat the above steps for each physical hazard associated with this task/operation.
- If biological hazards are associated with this task/operation,

NOTE: If there are no biological hazards associated with the task/operation, “No Biological Hazard” must be selected from the Biological Hazard picklist. If this field is left blank, the program will not mark the section as complete.

- Select the biological hazard from the picklist. If a biological hazard is not available from the picklist, you may manually type the biological hazard in this field.
- Type in the source of the biological hazard.
- Click the appropriate button for whether the site worker is likely or unlikely to be exposed to the biological hazard.
- Repeat the above steps for each biological hazard associated with this task/operation.
- Identify the Control Measures that will be used to reduce worker exposures to the site hazards.
 - Manually type in a description of the **engineering controls** that will be used to reduce chemical/physical/biological exposures in the first box.
 - Manually type in a description of the **work practice controls** that will be used to reduce chemical/physical/biological exposures in the second box.
- Use the “Next” and “Previous” buttons at the top of the screen to navigate through the tasks/operations identified in Section 2.3, and repeat all of the above steps for each one.
- Use the “Delete Record” button at the top of the screen to delete the displayed operational phase.
 - **IMPORTANT:** This action will delete the task from Chapters 5, 6, 7, and 9. This action also deletes any chemicals selected under the task in Chapters 7 and 9.
- Click “Done” when you have filled in all the information for all tasks/operations.

Updating Your Information

If there is a change in the job hazard analysis, enter the new information following the steps provided above. The information is updated and automatically saved by e-HASP₂.

Site Control (Chapter 3 of e-HASP₂)

This part of the manual describes how to enter information about site control procedures, including identifying site work zones, controlling access to the site, communication between site zones, and providing assistance in a medical emergency. The e-HASP₂ chapter covers:

- Key personnel and their responsibilities for site control and site access.
- Site security personnel and their responsibilities.
- Site work zones, including the criteria for zone selection and procedures to be followed in these zones.
- Communication procedures among site personnel within and between work zones.
- Emergency medical organization providing assistance to injured workers on your site.

Entering Your Site Information

Section 3.1 – Site Control Program Responsibility and Site Access

In this section of e-HASP₂, you will identify the personnel responsible for the overall site control program, access to the site during operational and non-operational hours, and safety of site visitors. To complete this section:

- Edit, if necessary, the name of the person responsible for evaluating site conditions and for verifying the effectiveness of the site control program. Note that e-HASP₂ will automatically enter the name of the Site Safety and Health Officer (SSHO) from Section 1.1 in this field.
- Choose from the picklist or type in a description of how site entry and exit are controlled during operational hours. (If you have more than one method, use subsequent rows to identify them.)
- Edit, if necessary, the name of the person responsible for registering all site visitors and ensuring that they are escorted at all times. Note that e-HASP₂ will automatically enter the name of the Security Officer from Section 1.1 in this field.
- Choose from the picklist or type in the method of, job title of person, or organization controlling site entry and exit during non-operational hours. (If you have more than one method, use subsequent rows to identify them.)
- Edit, if necessary, the name of the person who is responsible for providing PPE to all site visitors (site visitors may provide their own PPE). Note that e-HASP₂ will automatically enter the name of the Security Officer from Section 1.1 in this field.
- Click “Done” to return to the “Main Site Screen.”

Section 3.2 – Site Security (Optional)

In this section of e-HASP₂, you will identify the personnel and procedures used to maintain site security during working and non-working hours on your site. Security measures are not specifically required in the HAZWOPER standard; therefore, completion of this portion of e-HASP₂ is optional but recommended. To complete this section:

- Edit, if necessary, the name or job title of the person responsible for establishing and maintaining site security during working hours. Note that e-HASP₂ will automatically enter the name of the Security Officer from Section 1.1 in this field.
- Edit, as necessary, the measures for site security during working hours. (These measures are not required by OSHA.) To do this:
 - Click “Next” and “Previous” to scroll through the recommended site security measures.
 - Edit, as necessary, each recommended site security measure.
 - Click “Add New Item” to add a new site security measure; type in the description that will be added to the written HASP.

- Click “Delete Item” to delete the displayed security measure.
- Edit, if necessary, the name or job title of the person that is responsible for establishing and maintaining site security during non-working hours. Note that e-HASP₂ will automatically enter the name of the Security Officer from Section 1.1 in this field.
- Edit, as necessary, the measures for site security during non-working hours using the procedures identified above. (These measures are not required by OSHA.) To do this:
 - Click “Next” and “Previous” to scroll through the recommended site security measures.
 - Edit, as necessary, each recommended site security measure.
 - Click “Add New Item” to add a new site security measure; type in the description that will be added to the written HASP.
- Click “Done” to return to the “Main Site Screen.”

Section 3.3 – Site Work Zones (General)

In this section of e-HASP₂, you will list the criteria used to establish work zones on your site. To complete this section:

- Edit the recommended text to reflect the criteria you will use to establish work zones. To do this:
 - Click “Previous” and “Next” to scroll through the recommended work zone criteria.
 - Edit a recommended work zone criterion by overwriting the existing text.
 - Click “Add New Item” to add a new criterion; type in the text to be added to the written HASP.
 - Click “Delete Item” to delete the displayed criterion.
- Click “Done” to return to the “Main Site Screen.”

Subsection 3.3a – Exclusion Zone

In this section of e-HASP₂, you will identify how the Exclusion Zone’s boundaries will be marked and the work procedures that must be followed while working in this zone. To complete this section:

- Type in a description of how you will mark the Exclusion Zone boundaries.
- Edit the recommended text to reflect the procedures that employees must follow while working in the Exclusion Zone.
 - Click “Previous” and “Next” to scroll through the recommended work procedures.
 - Edit a recommended procedure by overwriting the existing text.
 - Click “Add New Item” to add a new work procedure; type in the text to be added to the written HASP.
 - Click “Delete Item” to delete the displayed work procedure.
- Click “Done” to return to the “Main Site Screen.”

Subsection 3.3b – Contamination Reduction Zone

In this section of e-HASP₂, you will identify how the Contamination Reduction Zone’s boundaries will be marked and the work practices that must be followed while working in this zone. This section is completed the same way you completed the **Exclusion Zone** section.

Subsection 3.3c – Support Zone

In this section of e-HASP₂, you will identify how the Support Zone’s boundaries will be marked and the work practices that must be followed while working in this zone. This section is completed the same way you completed the **Exclusion Zone** section.

Subsection 3.3d – Other Work Zones

In this section of e-HASP₂, you may add additional work zone(s) that will be established on site and identify work practices that must be followed while working in those zones. To complete this section:

- Check “Yes” or “No” to indicate if there are any other work zones on your site.
- If “No,” you are returned to the “Main Site Screen.”
- If “Yes,” a table appears; identify the zone(s), describe zone marking method(s), and identify applicable work practices. To complete the table:
 - Type in the name of the work zone under the heading “Name of Zone.”
 - Type in a description of the zone and how it will be marked under the heading “Description of Zone/Demarcation.”
 - Type in the set of applicable work practices under the heading “SOPs for Zone.”
 - Enter additional work zones in the subsequent rows.
- Click “Done” to return to the “Main Site Screen.”

Section 3.4 – Site Communications

In this section of e-HASP₂, you will identify how personnel will communicate and where communication equipment/systems will be located. You must also identify how employees will communicate when verbal communication on site is infeasible. To complete this section:

- Check “Telephones,” “Two-way Radios,” and/or “Other Communication Equipment” to identify the communication system(s) that will be used on site. Additional questions/tables will appear based on the system(s) checked.
 - If “Telephones,”
 - Choose from the picklist or type in the locations where telephones are found on your site.
 - Type in the locations where emergency contact information will be posted on your site.
 - Select from the picklist or manually enter the hand signals (and their meanings) used on this site when voice communication is infeasible.
 - If “Two-way Radios,”
 - Choose from the picklist or type in the locations where two-way radios are available on your site.
 - Type in the names or job titles of personnel that are assigned and will carry two-way radios.
 - Select from the picklist or manually enter the hand signals (and their meanings) used on this site when voice communication is infeasible.
 - If “Other Communication Equipment,”
 - Type in a description of the other communication equipment that will be used on your site.
 - Select from the picklist or manually enter the hand signals (and their meanings) used on this site when voice communication is infeasible.
- Click “Done” to return to the “Main Site Screen.”

Section 3.5 – Emergency Medical Assistance

In this section of e-HASP₂, you will identify the facility and/or service that will provide emergency medical assistance for your site. To complete this section:

- Type in the organization, contact person, address/location, and telephone number of the medical facility that will provide emergency medical assistance for your site.
- Separately, provide directions and a map to this facility and attach them to Chapter 11.
- Click “Done” to return to the “Main Site Screen.”

Updating Your Information

If there is a change in the site control information, enter the new information following the steps provided above. The information is updated and automatically saved by e-HASP₂.

Training Program (Chapter 4 of e-HASP₂)

This part of the manual describes how to enter information about site-specific HAZWOPER and other training employees will need and how the training will be provided. This e-HASP₂ chapter covers:

- Key personnel and their responsibilities for overseeing the training program and maintaining program records.
- Initial and annual refresher training required under HAZWOPER.
- Training that employees must have in addition to required HAZWOPER training.
- Equivalent training.
- Training required by site managers and supervisors.

Entering Your Site Information

Section 4.1 – Training Program Responsibility and Recordkeeping

In this section of e-HASP₂, you will identify the person(s) responsible for the training program and for ensuring that employees are properly trained, and identify where training records are kept. To complete this section:

- Edit, if necessary, the name of the person who oversees the training program and is responsible for ensuring that workers are adequately trained. Note that e-HASP₂ automatically enters the name of the Site Safety and Health Officer from Section 1.1 in this field.
- Type in the location where training documents/certifications are maintained for site workers.
- Click "Done" to return to the "Main Site Screen."

Section 4.2 – Training in Addition to HAZWOPER Training

In this section of e-HASP₂, you will identify training, other than that required under HAZWOPER, employees must be provided to work on site. To complete this section:

- Choose from the picklist or type in the additional training that is provided to site workers. Add additional training in subsequent rows.
- Click "Done" to return to the "Main Site Screen."

Section 4.3 – Initial HAZWOPER Training

In this section of e-HASP₂, you will identify the HAZWOPER training that employees must be provided to work on site. To complete this section:

- Check "Option 1" or "Option 2" to indicate the training provided to all or the majority of workers on your site. You may only select one option.

Option 1: This is the 40-hour general site worker training required by HAZWOPER for all site workers who are or may be exposed to hazardous substances and health hazards. This type of training also requires three days of supervised fieldwork.

Option 2: This is the 24-hour training appropriate for two groups of site workers. Option 2 can be used for site workers who work in areas which have been monitored and fully characterized indicating: 1) exposures below the permissible exposure limit or other published limits, 2) no requirement for the use of respiratory protection, 3) no health hazards, and 4) no potential for an emergency to develop. Option 2 can also be used for workers who are occasionally on site for a limited task and are not likely to be exposed above the permissible exposure limit or other published limit. This type of training also requires one day of supervised fieldwork. Please refer to Appendix A for the actual regulatory language [29 CFR 1910.120(e)(3)(ii)-(iii)].

- Identify any employees on site who do not fit the primary option chosen and the type of training they must have to work on site. To do this:
 - Type in the employee's name or job title in the *Worker or Category of Worker* column.
 - Type in the level of HAZWOPER training the worker is required to have in the second column.
 - Type in the reason why this employee/job title is provided different training. For example, on a site where most site workers require 40 hours of training, several workers may only be on site occasionally and will only work in areas where they are unlikely to be exposed above the PEL or other published limit. The occasional site workers only require 24 hours of initial training.
 - Add additional employees or job titles in subsequent rows of the table.
- Check "Option 1" or "Option 2" to indicate whether or not equivalent training will be evaluated and accepted in lieu of initial training on this site.
- Click "Done" to return to the "Main Site Screen."

Section 4.4 – Specialized Training for Managers and Supervisors

In this section of e-HASP₂, you will identify the training (in addition to the appropriate initial training) that is provided specifically for site managers and supervisors. To complete this section:

- Choose from the picklist or type in the additional training provided to site managers and supervisors. Add additional training in subsequent rows of the table.
- Click "Done" to return to the "Main Site Screen."

Section 4.5 – Refresher Training

In this section of e-HASP₂, you will identify the components of your annual refresher training for site workers and Managers/Supervisors. To complete this section:

- Choose from the picklist or type in the topics included in your annual refresher training program. Enter each topic in a separate row.
- Click "Done" to return to the "Main Site Screen."

Updating Your Information

If there is a change in the training requirements for your site workers, enter the new information following the steps provided above. The information is updated and automatically saved by e-HASP₂.

Medical Surveillance (Chapter 5 of e-HASP₂)

This part of the manual describes how to enter information about the medical surveillance program that covers employees on a specific site. You will need to identify the site contaminants and medical surveillance requirements covered under a substance-specific standard, the examinations and other medical tests included in your medical surveillance program, and how the program (including records) will be maintained. The e-HASP₂ chapter covers:

- Key personnel and their responsibilities for overseeing the medical surveillance program, maintaining program records, and reviewing the program on a routine basis.
- Hazardous substances on site that are covered by a substance-specific standard and their respective medical surveillance requirements.
- Site workers who will be included in the medical surveillance program and the specific medical tests given during initial, periodic, and termination examinations.
- The facility and attending physician providing medical surveillance to site workers.
- Medical records retention and contents.
- Medical surveillance program review.

Entering Your Site Information

NOTE: Before you can complete the Medical Surveillance Chapter, you need to consult with the site's attending physician. The attending physician shall determine the types of medical tests required and the frequency of the exams. Because of the severity of the impacts from incorrect decisions, OSHA does not believe employers can make these determinations independently.

Section 5.1 – Medical Surveillance

In this section of e-HASP₂, you will identify the site chemicals covered by a substance-specific OSHA standard and the associated medical surveillance requirements. These requirements are in addition to those required for HAZWOPER, but may overlap. To complete this section:

- Scroll through the picklist of "Chemical Agents with Specific OSHA Medical Surveillance Requirements" until you reach the chemical to be added to the "Site Contaminants" list. Add the chemical to the site contaminant list by either double clicking on the chemical or clicking on the down arrow at the bottom of the chemical agents screen.
- Click "Done" to return to the "Main Site Screen."

Section 5.2 – Site Medical Surveillance Program

In this section of e-HASP₂, you will identify the components of the medical surveillance program used to monitor employees on this site. To complete this section:

- Check "Yes" or "No" to identify if employees may be exposed to hazardous substances above the OSHA PEL (or other published exposure limit if there is no PEL) on this site.
- Check "Yes" or "No" to identify if employees will wear a respirator on this site and/or others, or during other jobs/tasks not covered by HAZWOPER, for a total of 30 days a year or more.
- Check "Yes" or "No" to identify if there is an on-site HAZMAT team for this site.
 - If you answered "No" to all three sections of Question 1, then you have completed this chapter of e-HASP₂ and you will automatically return to the "Main Site Screen."
 - If you answered "Yes" to any one of the three questions in this section, additional questions will be displayed that must be answered to complete this chapter of e-HASP₂.

The following fields will be displayed if you answered YES to any of the above questions.

- Check “Yes” or “No” to identify if all employees entering the contaminated areas of the site are included in the medical surveillance program.
 - If “No”, then type in the group(s) of workers that will be included in the medical surveillance program (adding additional groups in subsequent rows), then follow the remaining instructions.
- Check the appropriate box to identify whether your attending physician recommends the same set of tests and evaluations for all employees in the program.
 - If the same, choose from the picklist and/or use the box provided to type in the tests and evaluations required for the baseline, periodic, and termination examinations.
 - If different, choose from the picklist and/or use the box provided to type in the tests and evaluations required for each job/task; a list of the hazards you identified for the job/task appears to the right for reference. Use “Next” and “Previous” to move between tasks/operations, and “Surveillance Not Required” to eliminate the task from the medical surveillance program.
- Check the appropriate box to indicate the frequency of the periodic medical surveillance exams offered to enrolled employees.
- Click "Done" to return to the "Main Site Screen."

Section 5.3 – Communication between the Site, Physicians, and Workers

In this section of e-HASP₂, you will identify the medical facility and attending physician providing medical surveillance for the employees on this site. To complete this section:

- Type in the name, address, and telephone number of the facility that provides medical surveillance and overexposure examinations to site employees covered by your program.
- Type in the name and telephone number for the site’s attending physician.
- Click "Done" to return to the "Main Site Screen."

Section 5.4 – Medical Recordkeeping Procedures

In this section of e-HASP₂, you will identify how employees and other authorized individuals can access medical surveillance information and how the records of this information are maintained. To complete this section:

- Type in the location where site personnel can obtain a copy of your procedures for maintaining and accessing medical records.
- Type in the location where employee medical surveillance records are stored.
- Check all of the items included in a covered employee’s medical record. Add additional items using the box provided.
- Click "Done" to return to the "Main Site Screen."

Section 5.5 – Program Review

In this section of e-HASP₂, you will identify how your medical surveillance program is reviewed and how frequently this is done. To complete this section:

- Check the appropriate box or type in the interval (in months) that describes how often your organization’s medical surveillance program is reviewed.
- Edit, if necessary, the name of the person who is responsible for ensuring that the medical surveillance program is implemented and maintained. Note that e-HASP₂ automatically enters the name of the Site Safety and Health Officer from Section 1.1 in this field.

- Edit, if necessary, the name of the person responsible for reviewing the medical surveillance program. Note that e-HASP₂ automatically enters the name of the licensed attending physician identified in Section 5.3.
- Click "Done" to return to the "Main Site Screen."

Updating Your Information

If there is a change in the medical surveillance program, enter the new information following the steps provided above. The information is updated and automatically saved by e-HASP₂.

Personal Protective Equipment (Chapter 6 of e-HASP₂)

This part of the manual describes how to enter information about the personal protective equipment (PPE) that is needed at the site for each of the tasks/operations identified in the JHA chapter. The e-HASP₂ chapter covers:

- The person responsible for implementing the PPE program.
- The approaches for upgrading and/or downgrading PPE.
- The specific levels and types of PPE.

Entering Your Information into e-HASP₂

Section 6.1 – Personnel Responsible for PPE Program

In this section of e-HASP₂, you will identify the person responsible for implementing the PPE Program, as well as who has the authority to upgrade or downgrade PPE in response to changing site conditions. You will also indicate your approach to PPE upgrades/downgrades and identify where the written respiratory program is kept. To complete this section, you must:

- Edit, if necessary, the name of the person responsible for implementing the PPE program. Note that e-HASP₂ automatically enters the name of the person identified as the Site Safety and Health Officer (SSHO) in Section 1.1.
- Edit, if necessary, the name of the person who has the authority to upgrade or downgrade PPE in response to changing site conditions. Note that e-HASP₂ automatically enters the name of the person identified as the SSHO in Section 1.1.
- Indicate your approach to PPE upgrades and/or downgrades by clicking on the appropriate option.
- Enter the location for your written respiratory protection program.
- Click “Done” to return to the “Main Site Screen.”

Section 6.2 – PPE Levels: Ensembles and Materials

In this section of e-HASP₂, you will identify the levels of PPE used. For each level of PPE, you will identify the specific items that comprise the standard PPE ensemble. To assist in the completion of this section, it is recommended that you print the JHA chapter and review the hazard information for each task before selecting the levels of PPE. To complete this section, you must:

- Click on the appropriate level(s) of PPE for your site and tasks.
- Click “Done” to move to the standard PPE ensemble subsection.

Subsection 6.2.a – Standard PPE Ensembles

In this subsection, you will identify the specific items that will comprise each level of PPE. Due to the amount of information that is required to complete this section, it may be necessary to use the scroll bars to view all PPE options and fields. To complete this subsection, you must:

- Click on the type of protective clothing to be used, and type in the model(s) and/or material(s) for that particular item. If the employee is expected to purchase the item, leave the model(s) and material(s) fields blank, and check the “Employee Purchased” box.
- Click on any additional equipment required, if appropriate. If additional equipment is required and it will be supplied by the employer, type in the model(s) and/or material(s) for that particular item. If the employee is expected to purchase a particular item, leave the model(s) and material(s) fields blank and check the “Employee Purchased” box.

- Click on the appropriate respiratory protection equipment, and enter the model(s) and material(s) including the name of the manufacturer(s).
- Repeat the above steps for each level of PPE selected.
- Click “Done” when finished to return to “Main Site Screen.”

Subsection 6.2.b – PPE Upgrades and Downgrades

This subsection appears only if “Establish upgrade/downgrade action levels and/or criteria that apply to all tasks using the same PPE level” option is selected in Section 6.1. In this subsection, you will enter information about PPE upgrades and downgrades, based on the level(s) of PPE you selected for this site. For upgrades, you can enter more than one action level if you have stepped or progressive upgrades. To complete this section you must:

- For each PPE level to be upgraded, select from the picklist or manually enter the action level/conditions for upgrade, manually enter the PPE modification(s) required, manually enter the 2nd action level for upgrade (if applicable), and manually enter the PPE modifications for the 2nd action level (if applicable).
 - Note that level A cannot be upgraded.
- For each PPE level to be downgraded, select from the picklist or manually enter the action level/conditions for downgrade, and manually enter the PPE modification(s) required.
 - Note that level D cannot be downgraded.
- Click “Done” when finished to return to the “Main Site Screen.”

Section 6.3 – PPE Selection by Task

In this section, you will select the PPE that will be used for each site task. Due to the amount of information that is required to complete this section, it may be necessary to use the scroll bars to view all PPE options and fields. To complete this section, you must:

- Click on the level of PPE required for the specific task/operation.
 - If the level of PPE required for this job is Level C, identify the type of cartridge or canister to be used.
- If this particular task/operation will require a PPE item not previously included in the standard PPE ensemble for that level of PPE, manually enter the additional items needed to complete the PPE ensemble for the task.
- The following is applicable only if “Establish upgrade and downgrade section levels and/or criteria for each task” is selected in Section 6.1:
 - Check “Yes” or “No” to indicate whether or not you anticipate upgrading PPE for this task.
 - If you check “Yes,” select the PPE level that you anticipate upgrading to.
 - Manually enter any additional items that would be needed for the particular task that were not a part of the standard PPE ensemble.
 - Manually enter the action levels and/or conditions that would trigger the need to upgrade.
 - Check “Yes” or “No” to indicate whether or not you anticipate downgrading PPE for this task.
 - If you check “Yes,”
 - Select the PPE level that you anticipate downgrading to.
 - Identify the type of cartridge or canister to be used if the standard PPE ensemble includes respiratory protection.
 - Manually enter any additional items needed for the particular task that were not a part of the standard PPE ensemble.
 - Manually enter the action levels and/or conditions that would trigger the need to upgrade.

- Click on the “Next” button at the top of the screen to move to the next site task/operation, and repeat the above steps to select PPE for each site task/operation.
- Click “Done” to move the subsection for additional information required by e-HASP₂ on Cartridge Service Life Identification and Cartridge Replacement.

Subsection 6.3a – Cartridge Service Life and Replacement

If you indicated that PPE ensembles or modifications will include respiratory protection, you will need to provide information on the cartridges to be used. To complete this section, you must:

- Check “Yes” or “No” to indicate whether or not the cartridge will be used only for particulates.
 - If “No,” a question on end of service life indicators will be displayed.
- Check “Yes” or “No” to indicate whether or not the cartridge has a NIOSH end of service life indicator.
 - If “No,” identify the service life for the cartridge.
- Manually enter any additional criteria you will use to determine when to replace a respirator cartridge.
- Click the “Next” button to display additional cartridges identified for use with respiratory protection, and repeat the above steps.

Section 6.3.b – Replacement of Cartridges and Canisters

This section lists three statements that will automatically appear in your written HASP. Additional criteria for replacement should be entered here.

- Enter additional criteria you will use to determine when to replace a respirator cartridge, using subsequent rows for each.
- Click “Done” when cartridge service life information has been entered for each cartridge and additional criteria has been identified to return to the “Main Site Screen.”

Section 6.4 – Basis for PPE Selection

In this section, you will indicate the reasoning used in selecting the PPE. An editable field is displayed beneath each level of PPE identified in Section 6.2. The field boxes contain standard selection criteria that you may delete by highlighting the text and pressing the delete key. You may also manually enter additional criteria. Click on the “Done” button after reviewing and editing the selection criteria.

Section 6.5 – Procedures for Determining Work Duration

In this section, you will identify the person responsible for determining how long each task can be safely performed, as well as the criteria used to determine the duration of the work. To complete this section, you must:

- Edit, if necessary, the name of the person who is responsible for determining task-specific work duration. Note that e-HASP₂ will automatically enter the name of the person identified as the SSHO in Section 1.1.
- Identify the criteria used to determine the task-specific work duration. Standard criteria have been pre-defined for this field. Use the “Previous” and “Next” buttons to scroll through the pre-defined criteria. Use the “Delete Item” button to remove inappropriate criteria. If additional criteria is needed, you may manually enter the criteria by clicking on the “Add New Text” button.
- Identify how the employees will receive information about work duration. Use the picklist to select from a pre-defined means of information dispersal, or manually enter your means of information distribution.
- Click “Done” when you have identified all criteria and return to the “Main Site Screen.”

Section 6.6 – PPE Maintenance and Storage

In this section, you will identify the person who will oversee PPE maintenance and storage procedures and maintain the inspection records. You will also identify the person to whom employees will report defective or damaged PPE. To complete this section, you must:

- Edit, if necessary, the name of the person who is responsible for overseeing the PPE maintenance and storage procedures. Note that e-HASP₂ will automatically enter the name of the person identified as the SSHO in Section 1.1.
- Edit, if necessary, the name of the person to whom employees will report defective or damaged PPE. Note that e-HASP₂ will automatically enter the name of the person identified as the SSHO in Section 1.1.
- Provide detailed procedures for PPE inspection and cleaning. Check on the appropriate option to use an existing SOP or manually enter the information into this section of e-HASP₂.
 - If you check the “enter information here” option, additional data fields will be displayed. (Equipment previously identified in Section 2 will appear.) Due to the volume of information that needs to be entered, it may be necessary to use the scroll bars to view all of the data entry fields.
 - For each level of PPE, specify the inspection frequency and identify the person responsible for conducting the inspection of respiratory protection equipment. You will also need to specify the cleaning frequency and identify the person responsible for cleaning the PPE.
 - Follow the steps above for the other protective equipment previously identified in Section 2.
- Click “Done” to return to the “Main Site Screen.”

Section 6.7 – PPE Program Evaluation

In this section you will identify the person responsible for the ongoing evaluation of PPE effectiveness and for modifying the PPE Program. To complete this section, you must:

- Edit, if necessary, the name of the person who is responsible for the ongoing evaluation of PPE effectiveness and modifying the PPE Program. Note that e-HASP₂ will automatically enter the name of the person identified as the SSHO in Section 1.1.
- Click “Done” to return to the “Main Site Screen.”

Updating Your Information

If there is a change in the medical surveillance program, enter the new information following the steps provided above. The information is updated and automatically saved by e-HASP₂.

Exposure Monitoring (Chapter 7 of e-HASP₂)

This part of the manual describes how to enter information about the exposure monitoring methods and equipment used at the site for each of the chemicals the site workers may be exposed to. The e-HASP₂ chapter covers:

- Air monitoring methods and equipment.
- Surface sampling procedures.
- Person responsible for implementing the site exposure monitoring program.
- The analytical laboratory used for the chemical testing.

Entering Your Information into e-HASP₂

Section 7.1 – Air Monitoring

In this section of e-HASP₂, you will identify the monitoring methods and equipment used to quantify employee exposures. To complete this section, you must:

- Decide if you will be monitoring for the chemicals identified in the JHA Chapter. Check the “Not Monitored” box behind the chemical name if you will not be monitoring the chemical identified by the JHA.
 - If no monitoring for the chemical will be done, the sampling method, equipment, and related fields are removed from the display screen.
- If the chemical of interest to be monitored has an OSHA substance-specific standard, the appropriate standard number is automatically entered into the OSHA Substance-Specific Standard field.
- Enter the sampling method to be used for laboratory analysis.
 - A sampling method must be manually entered for the first chemical to be monitored. If more than one chemical was identified during the JHA, the sampling method is available on a picklist for use with the remaining chemicals.
- Select the sampling equipment to be used from the picklist or manually enter the appropriate equipment if it is not available on the picklist.
- Enter the analyte the laboratory will actually test for based on the sampling method selected.
 - An analyte must be manually entered for the first chemical to be monitored. If more than one chemical was identified during the JHA, the analyte is available on a picklist for use with the remaining chemicals.
- Select the direct-reading equipment you will use to quantify employee exposures. If the direct-reading equipment you intend to use is not available on the picklist, you may manually enter the appropriate equipment in this field.
- Click the “Next” button to display the next chemical identified in the JHA, and repeat the above steps.
- Click “Done” to move to a subscreen to identify the tasks or operations that will be monitored.

Subsection 7.1.a – Chemical Monitoring by Task/Operation

Tasks with established PPE action levels are automatically displayed on the Air Monitoring subscreen. You can change the entries if your upgrade and/or downgrade decisions are based on a different chemical and you plan to monitor for that chemical exposure during the task. If you click “Yes” to indicate that monitoring will occur for a task, additional data fields are displayed. To complete these fields, you must:

- Select the type of monitoring (either personal or area) from the picklist.

- Edit, if necessary, the site location where the monitoring will take place. Note that e-HASP₂ automatically enters the site location identified for the task in Section 2.3 of the JHA.
- Check the “Sampling with Lab Analysis” box if laboratory testing will be done.
- Select how frequently the monitoring will be performed using the picklist or by manually typing a frequency.
- Check the “Direct Reading Monitoring” box if direct-reading equipment will be used.
- Select how frequently direct-reading equipment will be used. If the desired frequency is not available on the picklist, you may manually enter the appropriate frequency.
- Use subsequent rows to identify additional types of monitoring.
- Click the “Next Task” button and repeat the above steps for each task that may expose workers to that chemical.
- Click the “Next Chemical Name” button, and repeat the above steps for each chemical where workers may be exposed to during on-site tasks/operations.
- Click “Done” when finished to move to a subscreen to add any other action levels or required responses that apply to the site based on the response factors of the direct reading equipment.

Subsection 7.1.b – Action Levels and Response Factors for Direct-Reading Equipment

This subsection will use information entered in Chapter 6 – Personal Protective Equipment. Review the information entered in Chapter 6 to make sure the action levels identified in the PPE chapter are adequate. To complete this subsection, you must:

- Enter the response factor for the first chemical to be monitored.
 - A response factor must be manually entered for the first chemical to be monitored. If more than one chemical was identified during the JHA, the response factor entered for the first chemical will be available on a picklist for use with the remaining chemicals.
- Enter the action level.
- Enter the required action.
- Click the “Next” button, and repeat the above steps for each chemical that will be monitored.
- Click “Done” to return to the “Main Site Screen.”

Section 7.2 – Surface Sampling

This section will describe the surface sampling procedures to be used to determine the presence and level of contaminants in the site zones. To complete this section, you must:

- If surface sampling for the chemicals identified during the JHA will be performed, check the “Surface Sampling” box. Checking the box will cause additional data entry fields to be displayed.
 - If no surface sampling will be performed, simply click on the “Done” button and return to the “Main Site Screen.”
- Enter the surface sampling location.
- Select the collection method from the picklist, or manually enter the appropriate collection method.
- Select the collection frequency from the picklist, or manually enter the appropriate frequency.
- Enter the analyte.
- Enter the permissible surface concentration and units.
- Click “Next”, and follow the above steps for each chemical.
- Click “Done” to return to the “Main Site Screen.”

Section 7.3 – Equipment Calibration and Maintenance

This section will describe the field calibration and maintenance requirements for each piece of sampling equipment identified in Section 7.1. If no field calibration is required, simply check the “Does not require calibration” box and click “Done” to return to the “Main Site Screen.” If the equipment will be calibrated in the field, you will need to complete the remaining portions of this section. To complete this section, you must:

- Select the field calibration method from the picklist, or manually enter the appropriate method.
- Select the field calibration frequency from the picklist, or manually enter the appropriate frequency.
- Enter the serial number or equipment identification number.
- Enter the date of the required manufacturer recalibration. Note that the date must be entered in mm/dd/yyyy format.
- Use subsequent rows for additional equipment.
- Enter the location where manufacturer information and calibration and maintenance records will be kept.
- Click “Next” and repeat the above steps for each piece of equipment.
- Click “Done” to return to the “Main Site Screen.”

Section 7.4 – Qualified Personnel

This section will identify the person responsible for implementing the site exposure monitoring procedures, the employees who are qualified to use air monitoring instruments, the person who will provide employees with exposure monitoring results, and the person responsible for evaluating surface sampling results and determining corrective actions. To complete this section, you must:

- Edit, if necessary, the name of the person responsible for implementing the site exposure monitoring procedures. Note that e-HASP₂ automatically enters the name of the Site Safety and Health Officer (SSHO) from Section 1.1 in this field.
- Click the appropriate option to indicate how you will list employees who are qualified to use air monitoring instruments.
 - If you select “by name only,” use a separate row to enter the name of each qualified person.
 - If you select “by name and type of instrument,” use a separate row to enter the name of each qualified person for the first instrument displayed. Click “Next” to display additional instruments, and enter the names of the qualified persons for that instrument.
- Enter the names of the employees qualified to conduct surface sampling. Use a separate row for each name.
- Edit, if necessary, the name of the person who will provide employees with their exposure monitoring results. Note that e-HASP₂ will automatically enter the name of the SSHO from Section 1.1 in this field.
- Edit, if necessary, the name of the person who will evaluate surface sampling results and determine corrective actions based on those results. Note that e-HASP₂ will automatically enter the name of the SSHO from Section 1.1 in this field.
- Click “Done” to return to the “Main Site Screen.”

Section 7.5 – Handling and Management of Monitoring Data

This section will identify the analytical laboratory that will be used and indicate how the laboratory results will be handled. To complete this section, you must:

- Enter the name of the analytical laboratory.
- Enter the complete address (street, city, state, and zip code) for the laboratory.

- The zip code field accepts the standard five digit zip code plus the optional four digit expanded zip code (zip plus four).
- Enter the laboratory telephone number and contact name.
 - The telephone number field accepts a four digit extension in addition to the main telephone number.
- List the analytes that the laboratory will handle, using a separate row for each.
- Click “Next”, and repeat the above steps if additional laboratories will be used.
- Enter the number of working days it will take before laboratory results will be available.
- Enter the number of working days after the laboratory results are available that you will provide written notification of sampling results to employees who participated in the monitoring program.
- Enter the location on site where the lab-analyzed results will be kept.
- Enter the location on site where direct reading monitoring results will be kept.
- Click “Done” to return to the “Main Site Screen.”

Updating Your Information

If there is a change in the exposure monitoring program, enter the new information following the steps provided above. The information is updated and automatically saved by e-HASP₂.

Thermal Stress (Chapter 8 of e-HASP₂)

This part of the manual describes how to enter information about the thermal stress prevention program, if applicable. You will need to determine if there is a potential for thermal stress, either heat stress or cold stress, on the site and if so, the precautions in place for its control. The e-HASP₂ chapter covers:

- Site hazards that contribute to thermal stress.
- The person responsible for implementing the thermal stress program.
- The criteria used to determine when to implement the thermal stress program.
- Prevention strategies for heat and/or cold stress.
- Medical management procedures for heat and/or cold stress.
- References used in developing the thermal stress program.

Entering Your Site Information

Section 8.1 – Site Conditions

To complete this section, you must select one of four options that best addresses the potential thermal stress hazards at the site. After selecting the most appropriate option, click on the “Done” button to return to the “Main Site Screen.”

If you select Option 1, indicating there are no environmental conditions at the site that could result in illnesses or injuries from thermal stress, this chapter of e-HASP₂ is complete and you may proceed to Chapter 9, Spill Containment Program.

Section 8.2 – Program Responsibility

In this section, you will identify the person responsible for implementing the thermal stress program. To complete this section, you must:

- Edit, if necessary, the name of the person responsible for implementing the thermal stress program. Note the e-HASP₂ automatically enters the name of the Site Safety and Health Officer (SSHO) from Section 1.1.
- Click “Done” to return to the “Main Site Screen.”

Section 8.3 – Implementation Criteria

In this section, you will identify the temperatures at which you will implement your Heat Stress and/or Cold Stress Programs. To complete this section, you must:

- Enter the temperature value that triggers implementation of the Heat Stress and/or Cold Stress program.
 - If you selected Option 2 or 4 (potential for either heat or cold stress) in Section 8.1, then you will only need to enter one temperature value. If you selected Option 3 (potential for both heat and cold stress), you will need to enter a temperature value for heat stress and a temperature value for cold stress.
- Select the appropriate units for the temperature value(s).
- Select the appropriate type for the temperature value(s).
- Enter the location where the temperature measurements will be recorded.
- Click “Done” to return to the “Main Site Screen.”

Section 8.4 – Prevention Strategies

In this section, you will identify the methods to be used to reduce an employee’s risk of heat and/or cold-related injuries and illnesses. If you selected Option 2 in Section 8.1, you will only need to complete the Heat Stress subsections. If you selected Option 4 in Section 8.1, you will only need to complete the Cold Stress subsections. If you selected Option 3 in Section 8.1, you will need to complete both the Heat Stress and the Cold Stress subsections.

Subsection 8.4.a – Heat Stress Risk Reduction Methods

To complete this subsection, you must decide what methods will be used to reduce an employee’s risk of heat-related injuries and illnesses. To complete this subsection, you must:

- Check the method(s) used to reduce risk of heat-related injuries/illnesses. Note that you may check as many methods as appropriate for your specific site.
- Click “Done” to move to the next subsection screen.

NOTE: The subsections displayed after clicking the “Done” button will depend on the method(s) checked in Subsection 8.4.a. For the purposes of this manual, all available subsection screens are discussed in the order they are displayed if every available method were selected.

Subsection 8.4.a.1 – Alternate Work Schedules

If you indicated that alternate work schedules would be used, you must:

- Select the task(s) that will be scheduled during alternate work shifts or during cooler parts of the day using the picklist. The picklist used to identify the task(s) show the tasks you identified during the JHA.
- Enter the work schedule for each task selected.
- Click “Done” to move to the next subsection or to return to the “Main Site Screen”, depending on the risk reduction methods selected in Section 8.4.

Subsection 8.4.a.2 – Work/Rest Schedules

If you indicated that work/rest schedules would be used to control heat stress, you must indicate the schedules to be used for specific combinations of temperature and PPE. To complete this section, you must:

- Enter a temperature range for the work area.
- Select the PPE level from the picklist.
- Select the work period, in minutes, from the picklist, or manually enter the appropriate work period.
- Select the rest period, in minutes, from the picklist, or manually enter the appropriate rest period.
- Use subsequent rows, and repeat the steps above for additional temperature ranges.
- Check the appropriate units for the temperature range.
- Check the appropriate type of temperature.
- Edit, if necessary, the name of the person responsible for determining the work/rest schedules. Note that e-HASP₂ automatically enters the name of the SSHO from Section 1.1.
- Click “Done” to move to the next subsection or to return to the “Main Site Screen”, depending on the risk reduction methods selected in Section 8.4.

Subsection 8.4.a.3 – Monitoring for Signs of Heat Stress

If you indicated you will use monitoring for signs of heat stress, you must:

- Select the frequency that you will review the physical signs and symptoms of heat stress with employees from the picklist, or manually enter the appropriate frequency.
- Check “Yes” or “No” to indicate whether you will conduct physiological monitoring.
 - If you select “No,” click on the “Done” button to move to the next subsection.
 - If you select “Yes,” additional fields will be displayed on the screen.
 - Check the appropriate option regarding whether employees will monitor themselves or whether another employee will monitor the workers.
 - If another employee will monitor the workers, enter the name and title of the person(s) who will do the monitoring.
 - Select the type of monitoring to be done using the picklist, or manually enter the appropriate type of monitoring.
 - Select the monitoring location using the picklist, or manually enter the location.
 - Select the monitoring frequency from the picklist, or manually enter the frequency.
 - Enter the action level and required action.
 - Use subsequent rows to identify additional monitoring requirements.
- Click “Done” to move to the next subsection or to return to the “Main Site Screen”, depending on what risk reduction methods were selected in Section 8.4.

Subsection 8.4.a.4 – Shaded Rest Areas

If you indicated that shaded rest areas will be used, you must:

- Enter the location(s) of the designated rest area(s).
- Check “Yes” or “No” to indicate whether you will provide cool drinking liquids in uncontaminated rest areas.
- Click “Done” to move to the next subsection or to return to the “Main Site Screen”, depending on what risk reduction methods were selected in Section 8.4.

Subsection 8.4.a.5 – Liquid Replacement Program

If you indicated that you will implement a liquid replacement program, you must identify the amount of liquid and drinking frequency. To complete this section, you must:

- Check the appropriate units for the temperature values.
- Check the appropriate type of temperature.
- Enter a work area temperature range. If you previously indicated that you would be using employee work/rest intervals (subsection 8.4.a.2), the temperature range entered in that subsection will be available on the picklist.
- Enter the length of the work period between drinks using the picklist, or manually enter the appropriate time frame.
- Enter the minimum quantity of liquids that the worker is to consume using the picklist, or manually enter the appropriate quantity.
- Enter the type of liquid to be consumed using the picklist, or manually enter the appropriate quantity.
- Click “Done” to move to the next subsection or to return to the “Main Site Screen”, depending on what risk reduction methods were selected in Section 8.4.

Subsection 8.4.a.6 – Acclimatization Schedules

If you indicated you will use acclimatization schedules, you must provide information about the schedule. To complete this section, you must:

- Enter the number of days away from the site that would require an employee to repeat the acclimatization process.
- Edit, if necessary, the employee status and heat conditions. Additional data can be entered on new rows if required.
- Enter the acclimatization procedures for each employee status/heat condition.
- Click “Done” to move to the next subsection or to return to the “Main Site Screen”, depending on what risk reduction methods were selected in Section 8.4.

Subsection 8.4.a.7 – Cooling Garments or Other PPE

If you indicated that cooling garments would be used, you must identify the type of garment and when it will be worn. To complete this section, you must:

- Enter the work area temperature range. If you previously indicated that you would be using employee work/rest intervals (subsection 8.4.a.2), the temperature range entered in that subsection will be available on the picklist.
- Enter the task/location using the picklist. The information available on the picklist is based on the information provided in Section 2.3.
- Enter the PPE Level using the picklist. The information available on the picklist is based on the information provided in Section 6.2.
- Enter the type of cooling garments that will be worn using the picklist, or manually enter the appropriate type of garment.
- Check the appropriate units for the temperature.
- Check the appropriate type of temperature.
- Click “Done” to move to the next subsection or to return to the “Main Site Screen”, depending on what risk reduction methods were selected in Section 8.4.

Subsection 8.4.a.8 – Other Engineering Controls and/or Work Practices

If you indicated that you will use control methods other than those already described, you may describe the additional engineering controls and/or work practices that will be used to control employee exposure and reduce the risk of heat-related illnesses and injuries in the text box provided on this subsection screen. After entering the appropriate description, click “Done” to return to the “Main Site Screen.”

Subsection 8.4.b – Cold Stress Risk Reduction Methods

To complete this subsection, you must decide what methods will be used to reduce an employee’s risk of cold-related injuries and illnesses. To complete this subsection, you must:

- Check the method(s) used to reduce risk of cold-related injuries/illnesses. Note that you may check as many methods as appropriate for your specific site.
- Click “Done” to move to the next subsection screen.

NOTE: The subsections displayed after clicking the “Done” button will depend on the method(s) checked in Subsection 8.4.b. For the purposes of this manual, all available subsection screens will be discussed in the order they would be displayed if every available method were selected.

Subsection 8.4.b.1 – Work/Rest Intervals

If you indicated that work/rest intervals would be used to control cold stress, you must indicate the schedules to be used for specific combinations of temperature and PPE. To complete this section, you must:

- Enter a temperature range for the work area.
- Select the PPE level from the picklist.
- Select the work period, in minutes, from the picklist, or manually enter the appropriate work period.
- Select the rest period, in minutes, from the picklist, or manually enter the appropriate rest period.
- Check the appropriate units for the temperature range.
- Check the appropriate type of temperature.
- Edit, if necessary, the name of the person responsible for determining the work/rest schedules. Note that e-HASP₂ automatically enters the name of the SSHO from Section 1.1.
- Click “Done” to move to the next subsection or to return to the “Main Site Screen”, depending on what risk reduction methods were selected in Section 8.4.

Subsection 8.4.b.2 – Monitoring for Signs of Cold Stress

If you indicated that you will use monitoring for signs of cold stress, you must:

- Select the frequency at which you will review the physical signs and symptoms of cold stress with employees from the picklist, or manually enter the appropriate frequency.
- Click “Done” to move to the next subsection or to return to the “Main Site Screen”, depending on the risk reduction methods selected in Section 8.4

Subsection 8.4.b.3 – Warm, Sheltered Rest Areas

If you indicated that warm, sheltered rest areas will be used, you must:

- Enter the location(s) of the designated rest area(s).
- Check “Yes” or “No” to indicate whether you will provide warm, non-caffeinated drinking liquids in uncontaminated rest areas.
- Click “Done” to move to the next subsection or to return to the “Main Site Screen”, depending on the risk reduction methods selected in Section 8.4.

Subsection 8.4.b.4 – Liquid Replacement Program

If you indicated you will implement a liquid replacement program, you must identify the amount of liquid and drinking frequency. To complete this section, you must:

- Enter a work area temperature range. If you previously indicated you would be using employee work/rest intervals (subsection 8.4.b.1), the temperature range entered in that subsection becomes available on the picklist.
- Enter the length of the work period between drinks using the picklist, or manually enter the appropriate time frame.

- Enter the minimum quantity of liquids the worker is to consume using the picklist, or manually enter the appropriate quantity.
- Enter the type of liquid to be consumed using the picklist, or manually enter the appropriate quantity.
- Click “Done” to move to the next subsection or to return to the “Main Site Screen”, depending on the risk reduction methods selected in Section 8.4.

Subsection 8.4.b.5 – Warm Garments or Other PPE

If you indicated that warm garments would be used, you must identify the type of garment and when it will be worn. To complete this section, you must:

- Enter the work area temperature range. If you previously indicated that you would be using employee work/rest intervals (subsection 8.4.b.1), the temperature range entered in that subsection is available on the picklist.
- Enter the task/location using the picklist. The information available on the picklist is based on the information provided in Section 2.3.
- Enter the PPE Level using the picklist. The information available on the picklist is based on the information provided in Section 6.2.
- Enter the type of warm garments that will be worn using the picklist, or manually enter the appropriate type of garment.
- Check the appropriate units for the temperature.
- Check the appropriate type of temperature.
- Enter the type of water repellant garments to be worn using the picklist, or manually enter the appropriate type of wet weather gear.
- Click “Done” to move to the next subsection or to return to the “Main Site Screen”, depending on risk reduction methods selected in Section 8.4.

Subsection 8.4.b.6 – Other Engineering Controls and/or Work Practices

If you indicated you will use control methods other than those already described, you may describe the additional engineering controls and/or work practices that will be used to control employee exposure and reduce the risk of heat-related illnesses and injuries in the text box provided on this subsection screen. After entering the appropriate description, click “Done” to return to the “Main Site Screen”.

Section 8.5 – Medical Management

In this section, you will outline the procedures to follow when a worker exhibits signs or symptoms of thermal stress. If you selected Option 2 in Section 8.1, you only need to complete the Heat Stress subsection. If you selected Option 4 in Section 8.1, you only need to complete the Cold Stress subsection. If you selected Option 3 in Section 8.1, you need to complete both the Heat Stress and the Cold Stress subsections.

Subsection 8.5.a – Heat Stress Medical Management

Enter the procedures to be followed if an employee exhibits signs or symptoms of heat exhaustion or heat stroke. When you begin typing data into the procedures field, a second row appears. Enter procedures using as many rows as needed. The procedures are presented in the written HASP in the order entered in this screen. Click “Done” to return to the “Main Site Screen.”

Subsection 8.5.b – Cold Stress Medical Management

Enter the procedures to be followed if an employee exhibits signs or symptoms of hypothermia and/or frostbite. When you begin typing data into the procedures field, a second row appears. Enter procedures using as many rows as needed. The procedures are presented in the written HASP in the order entered in this screen. Click “Done” to return to the “Main Site Screen.”

Subsection 8.6 – Thermal Stress Prevention References

This section provides an option to generate a list of references used in the development of the Thermal Stress Prevention Program. To complete this section, you must:

- Check "Yes" or "No" to indicate whether you want to list the references in your written HASP.
 - If “No,” then no additional information is required. Click “OK” to return to the "Main Site Screen."
 - If "Yes," then additional fields are displayed. Check the appropriate reference(s) used.
- Click “Done” to return to the “Main Site Screen.”

Updating Your Information

If there is a change in the thermal stress program, enter the new information following the steps provided above. The information is automatically updated and saved by e-HASP₂.

Spill Containment Program (Chapter 9 of e-HASP₂)

This part of the manual describes how to enter information about the spill containment program, if applicable, for a specific site. You need to determine if there is a potential for a hazardous material spill on the site and, if so, the precautions in place for its control. The e-HASP₂ chapter covers:

- Key personnel and their responsibilities for implementing the spill containment program,
- Emergency and incidental spills that may occur on site.
- Response equipment available on site to control spills.
- Spill containment standard operating procedures (SOPs).
- Spill notification procedures.

Entering Your Site Information

Section 9.1 – Potential Spills and Available Controls

In this section of e-HASP₂, you will indicate whether there is a potential for a hazardous material spill at the site. Based on this information, you may or may not have to enter other site information. If there is no potential for a hazardous material spill, this is the only section you will need to complete. To complete this section, you must:

- Check "Yes" or "No" to indicate the potential for hazardous material spills at the site.
 - If "No," a message box appears indicating you have completed the Spill Containment Program chapter and no additional information is required. Click "OK" to return to the "Main Site Screen."
 - If "Yes," then additional fields are displayed. The location and the hazardous substance will automatically be filled, based on the information provided in the JHA from Chapter 2. If there is no potential for a spill from the hazardous substance displayed, click "Delete Record" to remove the location and hazardous substance. Use the "Next" button to display the next hazardous substance/location and continue deleting the entries that could not involve a hazardous substance spill. To complete the table for the remaining entries:
 - Select the source of the spill from the picklist, or manually enter the source if it is not available on the picklist.
 - Enter the maximum quantity of the spill.
 - Enter a classification for the spill using the picklist. Note that no manual entry is available; you must use one of the options shown on the picklist to complete this field.
 - Select the equipment that will be used to address the spill from the picklist, or manually enter the appropriate equipment.
 - Enter the location of the equipment.
- Click "Done" to return to the "Main Site Screen."

Section 9.2 – Spill Evaluation and Response

In this section, you must enter the standard operating procedures and notification requirements site workers are to follow in the event of a spill. When you open the Spill Evaluation and Response section of e-HASP₂, the first three columns of the first table are completed. These columns are filled with information entered in the previous section, Potential Spills and Available Controls. To complete this section, you must:

- For each location and hazardous material, type in the required notification in the event of a spill.

- Edit, as necessary, the spill program procedures to reflect the procedures to be implemented at your site. Click the "Previous" and "Next" buttons to scroll through the procedures. If you want to delete a procedure, click the "Delete Item" button.
- Edit, if necessary, the name of the person site workers will contact if they discover **any** hazardous material spill on the site. Note that e-HASP₂ will automatically enter the name of the Site Safety and Health Officer from Section 1.1.
- Click the "Done" button to return to the "Main Site Screen."

Updating Your Information

If there is a change in the spill containment program, enter the new information following the steps provided above. The information is updated and automatically saved by e-HASP₂.

Decontamination Program (Chapter 10 of e-HASP₂)

This part of the manual identifies information about decontamination of employees and equipment leaving the Exclusion Zone on a specific site. You need to identify how decontamination is completed, so that it ultimately achieves an orderly, controlled removal or neutralization of contaminants that may accumulate on personnel or equipment. The e-HASP₂ chapter covers:

- Key personnel and their responsibilities for implementing the decontamination procedures.
- Decontamination procedures for personnel and PPE leaving contaminated areas.
- Decontamination procedures for equipment leaving contaminated areas.
- Monitoring and inspection procedures to evaluate the effects of decontamination procedures.
- Program documentation and location of records.

Entering Your Site Information

Section 10.1 – Decontamination Responsibilities and Recordkeeping

In this section of e-HASP₂, you will identify the individual responsible for the overall decontamination program. To complete this section, you must:

- Edit, if necessary, the name of the individual who oversees the decontamination program and is responsible for ensuring its effectiveness. Note that e-HASP₂ automatically enters the name of the decontamination manager from Section 1.1.
- Type in the location where the results of routine inspections are recorded and where documentation, including information about what was done to correct the problems identified, is stored.
- Click "Done" to return to the "Main Site Screen."

Section 10.2 – Decontamination Procedures for Personnel and PPE

In this section of e-HASP₂, you will identify the decontamination procedures employees will follow for each level of PPE, to ensure that contaminants are not spread from one work zone to the next or off site.

- Check "Option 1" or "Option 2" to indicate whether showers and a changing room will be necessary for decontamination.

<p>NOTE: Paragraph (n)(7) of HAZWOPER requires change rooms and showers when the work will require six or more months to complete.</p>

- Edit, as appropriate, the general procedures employees must follow during decontamination.
 - Click "Previous" and "Next" to move between procedures.
 - Click "Add New Item" to add a new procedure; type in the text that will appear in the written HASP.
 - Click "Delete Item" to delete the displayed procedure.
- Click "Done" to move to the subsection on decontamination for selected levels of PPE.

Subsection 10.2.a – Levels of Decontamination

In this section you will identify the levels of decontamination to be used at the site. To complete this section, you must:

- Check each of the levels of PPE employees will use in contaminated areas on site, include potential upgrade and downgrade levels of PPE.
- A table will appear for each level of PPE (except Level D) selected to identify the step-wise procedures employees will use to decontaminate and remove PPE. To complete the individual tables:
 - Type in the number for the individual decontamination station/step.
 - Choose from the picklist or type in the step/procedure that must be completed.
 - Choose from the picklist or type in the decontamination solution used to perform the step, if applicable. Identify additional solutions in subsequent rows, as necessary.
 - Click "Previous" and "Next" to move between steps/procedures.
 - Click "Delete Item" to delete the displayed step/procedure.
- Click "Done" when each of the tables displayed is complete and you are ready to move to the subsection for Level D.

Subsection 10.2.b – Level D

In this subsection you will provide information about Level D Protection, if selected. To complete this subsection, you must:

- Type in the storage procedures for Level "D" equipment.
- Type in the cleaning procedures for Level "D" equipment.
- Type in the special handling requirements for Level "D" equipment.
- Click "Done" when the information about Level D is complete and you are ready to move to the subsection for disposal of decontamination wastes.

Subsection 10.2.c – Disposal of Decontamination Wastes

In this subsection, you will provide information on the disposal of decontamination wastes and contaminated PPE. To complete this subsection, you must:

- Type in each kind of waste stream created during decontamination; add additional waste streams in subsequent rows.
- Type in the method to be used to discard the waste stream (e.g., disposal off site as hazardous waste).
- Click "Done" to return to the "Main Site Screen."

Section 10.3 – Decontamination Procedures for Equipment

In this section of e-HASP₂, you will identify the procedures employees will follow to decontaminate equipment (sampling, heavy equipment) used in contaminated areas. To complete this section, you must:

- Edit, as appropriate, the general procedures employees must follow to decontaminate equipment.
 - Click "Previous" and "Next" to move between procedures.
 - Click "Add New Item" to add a new procedure; type in the text to appear in the written HASP.
 - Click "Delete Item" to delete the displayed procedure.
- Choose from the picklist, or type in each type of equipment that must be decontaminated. You can add, delete, and move between equipment using the appropriate keys.
- Choose from the picklist, or type in the proper decontamination solution for each piece of equipment. Add additional solutions in subsequent rows.
- Choose from the picklist, or type in the proper decontamination procedure(s) for each piece of equipment decontaminated. Add additional procedures in subsequent rows.

- Type in the waste streams and other products generated while decontaminating each type of equipment.
- Choose from the picklist, or type in the proper disposal method for each waste stream generated.
- Click “Done” to return to the “Main Site Screen.”

Updating Your Information

If there is a change in the decontamination program, enter the new information following the steps provided above. The information is updated and automatically saved by e-HASP₂.

Emergency Response Plan (Chapter 11 of e-HASP₂)

This part of the manual describes information about potential site emergencies and the way employees will respond to them. The e-HASP₂ chapter covers:

- Key personnel and their responsibilities for implementing the emergency response plan.
- On- and off-site personnel who will respond to site emergencies and their specific roles.
- Anticipated site emergencies and their locations (if appropriate).
- Emergency response procedures, equipment, and planned evacuation routes.
- Emergency alert and notification system.
- Medical treatment and first aid.
- Plan rehearsal, critique, and revision.

Entering Your Site Information

Section 11.1 – Emergency Response Plan

In this section of e-HASP₂, you will identify where you keep documentation verifying coordination with outside response parties (for assistance during an emergency) on site. To complete this section, you must:

- Check the statement that most accurately describes your site procedures.
- Type in the location of site records that document any meetings with local responders to coordinate how emergency response assistance will be provided for the site.
- Click "Done" to return to the "Main Site Screen."

Note: You are required to contact each outside party identified in this HASP as support for your site during an emergency. This coordination verifies that each party is willing to respond and is capable of providing the assistance necessary for your site. Your notes should document whom you contacted within each outside organization and the outcome of the communication.

Section 11.2 – Pre-Emergency Planning

In this section of e-HASP₂, you will identify the potential emergencies you anticipate on site. When you open this section, the table displayed will automatically include all of the potential “emergency” spills you identified in Chapter 9, Spill Containment Program. You may add to this list of potential emergencies by entering information in a new row. You should include fire/explosions, natural disasters, and physical injuries/exposures, in addition to the hazardous substance spills already listed. To add new potential site emergencies:

- Choose from the picklist or type in the kind of emergency.
- Choose from the picklist or type in the source of the potential emergency.
- Type in the location of the source associated with the potential emergency.
- Click "Done" to return to the "Main Site Screen."

Section 11.3 – On-Site Emergency Response Equipment

In this section of e-HASP₂, you will identify the emergency equipment and PPE maintained on-site for use during response to the potential emergencies you have identified. To complete this section:

- Choose from the picklist or type in each kind of emergency equipment available on site, adding additional equipment in subsequent rows.
- Type in the model information for each piece of emergency equipment (i.e., trade name, model number, and size) in the *Specific Type* field.

- Type in the number of units of the equipment stored on site.
- Type in the location where the equipment is stored on site.
- Move to the next table, and choose or type in the same information for PPE stored for use during emergency response.
- Click "Done" to return to the "Main Site Screen."

Section 11.4 – Emergency Planning Maps

In this section of e-HASP₂, you will identify the locations where you post maps showing the driving route to the nearest emergency medical care facility serving your site. To complete this section:

- Type in the location(s) where maps for the nearest emergency medical facility are posted.
- Click "Done" to return to the "Main Site Screen."

NOTE: You will need to insert two items into the printed HASP: a copy of the emergency planning map for the site (showing evacuation routes, places of refuge, assembly points, and location(s) of emergency equipment), and a copy of the map showing the route to the nearest medical facility serving the site.

Section 11.5 – Roles/Responsibilities for On-Site and Off-Site Personnel

In this section of e-HASP₂, you will identify how employees and off-site personnel will respond to fires and spills involving hazardous substances. The actual fields to be completed will depend on which statement you indicated most accurately matched your site procedures for providing emergency services in Section 11.1. Select the option that best describes the site procedures during an emergency. "Option 1" covers sites where all employees evacuate and the site completely relies on off-site responders for all emergency response. "Option 2" covers sites where most employees evacuate, but designated personnel (on-site emergency responders) perform limited response to a fire or an emergency spill involving a hazardous substance. Designated responders only act in accordance with their level of training and capability. "Option 3" covers sites with a designated HAZMAT team. The HAZMAT team responds according to their level of training and capability to respond to a fire or an emergency spill involving a hazardous substance.

Option 1 – site personnel do not respond to any emergencies

If you selected the first statement in Section 11.1, *our site evacuates all employees and relies upon outside emergency responders*, the first table displayed (Site Personnel) automatically lists the site personnel you entered in Chapter 1, Organizational Structure. To complete the rest of the table, you must:

- Type in each employee's phone number in the last column.
 - Add additional site personnel by typing in their titles, names, and phone numbers in subsequent rows.
 - Delete site personnel by clicking on the gray button to the left of the row and pressing the "Delete" key.
- The second table displayed (Outside Assistance) automatically lists relevant emergency contact organizations and fills in the contact information (provided in Chapter 3) for the site's emergency medical facility. To complete the table:
 - Type in the contact, address, and phone number of all other organizations that will respond or otherwise provide assistance during a fire, medical emergency, or emergency spill involving hazardous substances.
 - Add and delete organizations as described above for the Site Personnel table.
- Type in the location(s) where emergency contact information is posted, adding additional locations on subsequent rows.
- Click "Done" to return to the "Main Site Screen."

Option 2 – designated site personnel respond to an emergency based on their training/capabilities and all other personnel evacuate

If you selected the second statement in Section 11.1, *designated site personnel respond to an emergency based on their training/capabilities and all other personnel evacuate*, you must identify the limited emergency response activities assigned to trained site personnel. The first table displayed (Site Personnel) automatically lists the site personnel you entered in Chapter 1, Organizational Structure. To complete this section, you must:

- Choose from the picklist, or type in a description of the limited emergency response activities designated personnel will perform.
- Refer to “Option 1” to complete the remaining tables and questions for this option.
- Click "Done" to return to the "Main Site Screen."

Option 3 – an on site HAZMAT team responds to an emergency

If you selected the third statement, *an on site HAZMAT team responds to an emergency*, the HAZMAT team will determine the need for others to evacuate. In the first table (Potential Site Emergencies), you will identify the actions HAZMAT team member may take while responding to each of the potential emergencies you entered in Section 11.2, Pre-Emergency Planning. The first potential emergency you identified in Section 11.2 is displayed in the first field. To complete the remainder of this section, you must:

- Scroll through the list of available actions in the “Possible On-Site Responders Selections” table on the left side of the screen. Use the arrow buttons to move an action to the table on the right side of the screen.
- Scroll through the list of available actions in the “Possible Off-Site Responders Selections” table on the left side of the screen. Use the arrow buttons to move an action to the table on the right side of the screen.
- Click “Previous” and “Next” to move between emergencies, providing the same information for all site emergencies.
- Refer to “Option 1” to complete the remaining tables and questions for this option.
- Click "Done" to return to the "Main Site Screen."

Section 11.6 – Emergency Alerting and Evacuation

In this section of e-HASP₂, you will identify the kind of emergency alarm system(s) used on site and how often the system is tested. To complete this section:

- Choose from the picklist, or type in the kind of emergency alarm used on the site.
- Type in the specific location(s) where the alarm can be activated.
- Type in a description of what personnel must do if the alarm is activated (complete evacuation, hot zone evacuation, work stoppage, etc.).
- Add information for additional alarm systems in subsequent rows.
- Select the frequency of testing for the site alarm system. Use “every” to type in a number and identify a unique frequency.
- Click "Done" to return to the "Main Site Screen."

<p>NOTE: 29 CFR 1910.165(d)(2) requires that non-supervised employee alarm systems be tested at least every two months. 1910.165(d)(4) requires that supervised employee alarm systems be tested at least annually.</p>
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Section 11.7 – Emergency Medical Treatment and First Aid

In this section of e-HASP₂, you will identify whether or not site personnel are trained and assigned to provide first aid, including the number of workers assigned these duties, if applicable. To complete this section:

- Check “Yes” or “No” to indicate if site personnel are trained and assigned to provide first aid.
 - If “No,” click “Done” to return to the “Main Site Screen.”
 - If “Yes,” type in the number of site personnel, per shift, trained and assigned to provide first aid.
- Click “Done” to return to the “Main Site Screen.”

NOTE: 29 CFR 1910.151 requires that in the absence of an infirmary, clinic, or hospital in near proximity to the workplace that is used for the treatment of all injured employees, a person or persons must be trained to render first aid.

Section 11.8 – Emergency Response Critique and Plan Updates

In this section of e-HASP₂, you will identify who evaluates and corrects any deficiencies noted during emergency response actions. You must also indicate how and when site workers are trained about updates to the emergency response plan. To complete this section:

- Edit, if necessary, the name of the person who organizes and leads a critique of the quality and safety of each site emergency response and the person responsible for ensuring that any deficiencies are corrected. Note that e-HASP₂ automatically enters the name of the Emergency Response Coordinator identified in Section 1.1.
- Type in a description of how site workers will receive training about changes to the site emergency response plan and their responsibilities under the plan.
- Type in a description of how often site workers will receive training about updates to the emergency response plan or to their responsibilities under it.
- Click “Done” to return to the “Main Site Screen.”

Section 11.9 – Emergency Response Rehearsals

In this section of e-HASP₂, you will indicate how often the emergency response plan is rehearsed on site and where documentation describing the rehearsals is kept. To complete this section:

- Select the frequency of emergency response rehearsals for the site. Use “every” to indicate a unique frequency; type in the number of months between rehearsals.
- Type in the location where the written log of emergency response rehearsals is kept.
- Click “Done” to return to the “Main Site Screen.”

NOTE: If you selected the first statement in Section 11.1, *our site evacuates all employees and relies upon outside emergency responders*, the employer must evacuate all employees under an “emergency action plan” in accordance with 1910.38. Standard 1910.38 does not require rehearsals or “drills” of the emergency action plan, however, OSHA recommends that rehearsals be performed. If this option is selected in Section 11.1, then Section 11.9 allows the user to choose whether rehearsals will be performed or not.

Updating Your Information

If there is a change in the key emergency response plan, enter the new information following the steps provided above. The information is updated and automatically saved by e-HASP₂.

Standard Operating Procedures (Chapter 12 of e-HASP₂)

Under 1910.120(b)(1)(ii)(F), the site-specific safety and health plan does not require employers to repeat their standard operating procedures (SOPs). Therefore, if an employer has existing SOPs, those SOPs can be manually inserted into the written HASP generated by e-HASP₂.

Section 12.1 – SOPs to Attach

If you choose to use existing SOPs, you must:

- Enter the titles of the SOPs that will be attached to the HASP in the text box associated with e-HASP₂ Chapter 12.
- Click “Done” after entering the appropriate SOP titles, and return to the “Main Site Screen.”

Confined Spaces Program (Chapter 13 of e-HASP₂)

This part of the manual describes how to enter information about permit and non-permit required confined spaces at your site and the procedures for entering spaces on site. The e-HASP₂ chapter covers:

- Key personnel and their responsibilities for implementing the confined spaces program.
- Confined spaces on site and their specific locations.
- Evaluations for determining each space's hazards.
- Procedures for marking and securing spaces against unauthorized entry.
- Entry procedures, equipment, and PPE for each permit-required confined space employees may enter.
- Rescue and emergency procedures for the spaces that may be entered on site.

Entering Your Site Information

Section 13.1 – Overall Permit-Required Confined Spaces (PRCS) Program Responsibility

In this section of e-HASP₂, you will identify who is responsible for the overall confined spaces program. To complete this section, you must:

- Edit, if necessary, the name of the individual who oversees the Confined Spaces Program. Note that e-HASP₂ automatically enters the name of the Site Safety and Health Officer (SSHO) identified in Section 1.1.
- Click “Done” to return to the “Main Site Screen.”

Section 13.2 – Identification and Evaluation of Confined Spaces

In this section of e-HASP₂, you will identify the confined spaces on site and describe how the spaces are evaluated, marked, secured, and entered. You will choose from four options, selecting the one that best reflects how existing permit-required confined spaces are handled on this site. You will also need to provide additional information, applicable for the option you select. To complete this section of e-HASP₂, you must:

- Select the option that best describes the type(s) of spaces on site and your policy for entering them. Options 1 and 2 cover sites without any **permit-required** confined spaces; though, under Option 2 there are spaces that meet the three criteria for a “confined space.” Options 3 and 4 cover sites with **permit-required** confined spaces on the site. Employees may enter these spaces under Option 4 only.
- Follow the steps below based on the option you selected (the steps for completing this section differ under each of the four options).

Option 1 or 2

Select “Option 1” if none of the spaces on site meet the definition of a “confined space,” on site.

Select “Option 2” if there are spaces that meet the definition of a “confined space” but none have any additional hazards that would classify them as “**permit-required**” confined spaces. For either option:

- Enter the date that the site was evaluated for confined spaces.
- Edit, if necessary, the name of the individual who made the determination. Note that e-HASP₂ automatically enters the name of the SSHO from Section 1.1.
- Click “Done” to return to the “Main Site Screen.” You have completed this chapter of e-HASP₂ and do not need to complete sections 13.3 through 13.5.

Option 3

There are **permit-required** confined spaces on the site, but your employees do not enter them. To complete this option, you must:

- Enter the date that the site was evaluated for confined spaces.
- Check “Yes” or “No” to indicate whether or not contractors will enter a permit-required confined space.
- Click “Done” to move to the Option 3 subsection. To complete this subsection, you must:
 - Edit, if necessary, the name of the individual who made the determination. Note that e-HASP₂ enters the name of the SSHO from Section 1.1.
 - Type in the location where the site evaluation for permit–required confined spaces is kept.
 - Choose from the picklist or type in a description of the effective measures used to prevent unauthorized entry into the permit-required confined spaces on site, adding additional measures in subsequent rows.
 - Type in a description of how employees are informed that a permit-required confined space exists, where it is located, and what dangers it poses, adding additional descriptions in subsequent rows.

NOTE: Information must be provided by posting danger signs or by another method that is equally effective.

- Create a list of the hazards for each permit-required confined space. To do this for each space:
 - Type the space’s location.
 - Type the space’s name.
 - Choose from the picklist or type in the hazards associated with the space, adding additional hazards in subsequent rows.
 - Click the “Previous” and “Next” buttons to add new spaces or move between them.
- Click “Done” to return to the “Main Site Screen.” You have completed this chapter of e-HASP₂ and do not need to complete Sections 13.3 through 13.5 in this chapter of e-HASP₂.

Option 4

There are **permit-required** confined spaces on site, and personnel (employers and contractors) may enter them. To complete this option:

- Check “Yes” or “No” to indicate if contractors will enter a permit-required confined space.
- Click “Done” to move to the Option 4 subsection. To complete this subsection, you must:
 - Edit, if necessary, the name of the individual who made the determination. Note that e-HASP₂ automatically enters the name of the SSHO from Section 1.1.
 - Type in the location where the site evaluation for permit-required confined spaces is kept.
 - Edit, if necessary, the name of the individual who is responsible for performing initial atmospheric testing and interpreting the data collected.
 - Type in the location where the atmospheric monitoring records for each space are kept on site.

Note: You should complete Chapter 11 Emergency Response Plan prior to beginning this section. Some of the information entered in Chapter 11 is referenced in this section.

- Create a profile of the hazards for each permit-required confined space that employees may enter (do not include any spaces that may not be entered by employees). For each space:
 - Type in the space’s location.
 - Type in the space’s name.
 - Check “Yes” or “No” to indicate if the space has or may have a potential atmospheric hazard.
 - If “Yes,”
 - Choose from the picklist or type in each atmospheric hazard associated with the space.
 - Select “Yes” or “No” to indicate if the space meets the criteria for “Alternate Procedures” (see NOTE below). If “Yes,” you have completed all required information and can click “Done” to move to the next subsection. If “No,” continue identifying the space’s hazards as listed below.

NOTE: Alternate Procedures are described in 29 CFR 1910.146(c)(5)(ii) and can be used when an employer can demonstrate through documented inspection and monitoring data that the only hazard associated with the permit-required space is atmospheric and that the hazard can be adequately eliminated without entry using only forced air ventilation.

- Choose from the picklist, or type in each potential engulfment hazard (engulfment by grain, soil, wood dust, etc.); use “None” to indicate that there is no engulfment hazard. Add additional hazards in subsequent rows.
- Choose “Yes” or “No” to indicate if there is a configuration hazard present.
- Choose from the picklist or type in any additional serious health or safety hazards associated with the space.
- Choose “Yes” or “No” to indicate if the space can be reclassified as a non-permit space.
- Choose “Yes” or “No” to indicate if standby personnel are required.
- Click the “Previous” and “Next” buttons to move between and to add spaces.
- Click “Done” once you have repeated this process for each permit-required confined space, and move to the next subsection.
- Check “Yes” or “No” to indicate if there are also permit-required spaces on site that employees **will not** be allowed to enter.
- If “No,” click “Done” to return to the “Main Site Screen.”
- If “Yes,”
 - Choose from the picklist or type in the effective measures used to prevent unauthorized entry into the permit-required spaces.
 - Create a list of the hazards for each of these permit-required confined spaces. For each space:
 - ♦ Type in the space’s location and name.
 - ♦ Choose from the picklist or type in the hazards associated with the space, adding additional hazards in subsequent rows.
 - ♦ Click the “Previous” and “Next” buttons to add new spaces and move between them.
- Click “Done” to return to the “Main Site Screen.”

Section 13.3 – Prevention of Unauthorized Entry – Required for Option 4 only

In this section of e-HASP₂, you will identify how spaces are labeled to prevent unauthorized entry and who verifies that the individuals named on a permit are authorized entrants.

- Select from the picklist, or type in the method used to prevent unauthorized entry into the all permit-required confined spaces in the workplace, adding additional methods in subsequent rows.
- Click “Done” to return to the “Main Site Screen.”

NOTE: 29 CFR 1910.144 lists specifications for safety color-coding of signs. 29 CFR 1910.145 gives specifications for accident prevention signs and tags. 29 CFR 1910.146(c)(2) contains model language for signs marking permit-required confined spaces.

Section 13.4 – Entry Requirements and PPE – Required for Option 4 only

In this section of e-HASP₂, you will identify the monitoring, ventilation, isolation, and protective equipment necessary for entry into each space. The hazards you identified for each permit-required confined space that employees/contractors may enter as well as the space location and name are displayed at the top of the screen for reference. To complete this section:

- Choose from the picklist, or type in the monitoring instrument(s) required to evaluate the space for safe entry conditions throughout the entry. Add additional monitoring instruments in subsequent rows.
- Choose from the picklist, or type in the purging/ventilation equipment needed to provide forced ventilation and maintain safe entry conditions.
- Choose from the picklist the appropriate PPE level for entry into the space.
- Type in any modifications from the level of PPE assigned for this task in the Job Hazard Assessment completed for this task in Chapter 2.
- Choose from the picklist, or type in the rescue and emergency equipment required for safe entry into the space.
- Choose from the picklist, or type in the communication equipment that attendants will use to keep in contact with entrants and alert them if they need to evacuate.
- Choose from the picklist or type in the barriers used to block pedestrian, vehicular, or other traffic and protect your employees during entry.
- Type in the kind of lighting equipment used while working in the space and to facilitate quick exit in the event of an emergency.
- Type in any additional equipment required for safe entry to the space.
- Click “Next” or “Previous” to move between spaces, providing the information above for each space.
- Click “Done” to return to the “Main Site Screen.”

Section 13.5 – Rescue and Emergency Procedures

In this section of e-HASP₂, you will identify how entrants will be rescued and the emergency procedures authorized personnel will follow during an emergency. The hazards you identified for each permit-required confined space that employees/contractors may enter as well as the space location and name are displayed at the top of the screen for reference. You will choose from two options, depending on whether or not site personnel will perform rescue during permit-required entries. You will also need to provide additional information, applicable for the option you select.

- Select the option that best describes who will perform permit-required confined space rescue. “Option 1” covers sites where an outside organization will perform rescue procedures. “Option 2” covers sites where on-site personnel will perform rescue procedures.
- Click “Done” to move to the appropriate subsection for the option selected. Follow the steps listed below for the option you selected.

Option 1

This option covers rescue services to be provided by an outside organization and NOT by site personnel. To complete this option:

- Type in the company name, contact person, address, and emergency telephone number for the organization that will perform permit-required confined space rescue operations for the site.
- Type in the name of the person you contacted at the outside organization to determine its ability to provide effective and timely confined space rescue services for the site.
- Type in the name of the person on site who evaluated the rescue service's capabilities for performing confined space rescue.
- Type in the date of the evaluation.
- Type in the name of the person on site who informed the rescue service of the hazards.
- Type in the procedures for contacting the off-site confined space rescue service.
- Click "Done" to return to the "Main Site Screen."

Option 2

This option covers rescue services by site personnel. To complete this option:

- Type in the method that will be used to summon the on-site confined space rescue team.
- Type in the name(s) of the employee(s) designated to provide rescue services.
- Type in the name(s) of the rescue team member(s) that are currently certified in first aid and CPR.
- Check the appropriate box indicating the frequency of practicing confined space rescues.
- Type in the location of the rescue practice logs.
- Type in the name of the organization or team that will perform a rescue when your site rescue team cannot complete it.
- Type in the emergency phone number used to contact this "back-up" organization.
- Type in the name of the person you contacted at the "back-up" organization.
- Type in the name of the person on site who evaluated the "back-up" rescue organization's capability for performing confined space rescue.
- Click "Done" to return to the "Main Site Screen."

Updating Your Information

- If there is a change in the confined space program, enter the new information following the steps provided above. The information is updated and automatically saved by e-HASP₂.

Hot Work (Chapter 14 of e-HASP₂)

This part of the manual describes how to enter information about where welding and other hot work can be conducted on site and the procedures for this type of work. The e-HASP₂ chapter covers:

- Key personnel and their responsibilities for implementing hot work procedures.
- Areas designated for hot work and the site locations where hot work is prohibited.
- Standard operating procedures for performing hot work on site.

Entering Your Site Information

Section 14.1 – Hot Work Authorization and Designated Hot Work Areas

In this section of e-HASP₂, you will identify whether or not hot work may be performed on site, and who is responsible for authorizing hot work, if applicable. To complete this section:

- Check "Yes" or "No" to indicate if hot work is performed at the site.
- If "No," you have completed this chapter of e-HASP₂ and will be automatically returned to the "Main Site Screen."
- If "Yes," :
 - Edit, if necessary, the name of the individual responsible for implementing the hot work plan, and authorizing cutting and welding operations when performed. Note that e-HASP₂ will automatically enter the name of the Site Safety and Health Officer (SSHO) from Section 1.1.
 - Edit, if necessary, the name of the individual with the authority and responsibility to stop site operations that could be dangerous or might ignite combustibles during hot work. Note that e-HASP₂ will automatically enter the name of the SSHO from Section 1.1.
 - Type in the site locations designated for hot work.
 - Type in the site locations where hot work is prohibited.
- Click "Done" to return to the "Main Site Screen."

Section 14.2 – Hot Work Standard Operating Procedures

In this section of e-HASP₂, you will list the standard operating procedures employees must follow during hot work. To complete this section:

- Edit, as necessary, the recommended procedures to reflect the procedures used on site. To do this:
 - Click "Previous" and "Next" to scroll through the procedures.
 - Click "Delete Item" to delete the displayed procedure.
 - Click "Add New Item" to add a procedure and then type in the procedure.
- Click "Done" to return to the "Main Site Screen."

Updating Your Information

- If there is a change in the hot work to be performed on the site, enter the new information following the steps provided above. The information will be updated and saved by e-HASP₂.

Lockout/Tagout Program (Chapter 15 of e-HASP₂)

This part of the manual describes how to enter information about the sources of hazardous energy on site and how they will be controlled while servicing and maintaining equipment. You will need to develop your site-specific Hazardous Energy Control or Lockout/Tagout program (LOTO), including information about equipment-specific procedures, training, and periodic inspections. The e-HASP₂ chapter covers:

- Key personnel with overall responsibility for the hazardous energy control program.
- Hazardous energy control procedures and LOTO devices used on site.
- Equivalent protection and fixed electrical equipment.
- Equipment identification and authorized employees.
- Energy isolation and LOTO devices.
- Equipment-specific LOTO procedures.
- Group and contractor LOTO procedures.
- Site-specific inspection procedures.
- Site-specific employee training requirements.

Entering Your Site Information

Section 15.1 – Overall Hazardous Energy Control Program

In this section of e-HASP₂, you must identify the person(s) who oversee the LOTO program and select from one of four options that describe the type of LOTO that applies to your site:

- Edit, if necessary, the name of the person responsible for implementing the LOTO program on site.
- Check “Yes” or “No” to indicate whether or not the program will be used to lockout/tagout fixed electrical equipment or circuits that have been de-energized.
- Click “Done” to move to the LOTO Option subsection.
- Select the option that best describes if LOTO procedures are necessary on site and who will perform them. Option 1 covers sites with machines and/or equipment that do not require the use of LOTO procedures to protect workers servicing or maintaining them. Options 2 – 4 cover sites with machines and/or equipment that require LOTO procedures during service or maintenance, and vary according to who will perform them.
- Type in the date the evaluation was performed.
- Edit, if necessary, the name of the person who made the determination. Note that e-HASP₂ will automatically enter the name of the Site Safety and Health Officer (SSHO) from Section 1.1.
- Click “Done” to return to the “Main Site Screen.”

<p>NOTE: If either Option 1 or Option 2 were selected, you have completed all required sections of Chapter 15. If you selected either Option 3 or Option 4, you must complete the remaining sections of Chapter 15.</p>
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Section 15.2 – Hazardous Energy Control Procedures and LOTO Devices (Options 3 and 4 only)

In this section of e-HASP₂, you will develop energy control procedures for each machine and piece of equipment on your site that requires isolation before it can be safely serviced or maintained. This section is split into five sub-sections. Each sub-section is addressed separately.

Subsection 15.2a – Equivalent Protection

In this section, you will identify if tagging devices will be used instead of locking devices on any equipment and if this chapter of e-HASP₂ will be used to protect individuals working on fixed electrical equipment or de-energized circuits subject to 29 CFR 1910.133. To complete this section:

- Check “Yes” or “No” to indicate if there are any machine/equipment pieces where you will use a tagging device rather than a locking device.
- If “No,” click “Done” to return to the “Main Site Screen.”
- If “Yes,”:
 - Edit, if necessary, the name of the person who is responsible for the LOTO program. Note that e-HASP₂ will automatically enter the name of the SSHO from Section 1.1.
- Click “Done” to return to the “Main Site Screen.”

Subsection 15.2b – Equipment Identification and Authorized Employees

In this section of e-HASP₂, you will enter information about the site equipment requiring LOTO and the employees authorized to work on it. You will need to identify the name and location of the equipment, the reason for the LOTO procedures, and the authorized employee for each piece of equipment requiring LOTO on site. For each piece of equipment:

- Type in the name of the equipment.
- Type in the location of the equipment.
- Choose from the picklist, or type in the hazardous energy source for this piece of equipment, adding additional sources in subsequent rows.
- Type in the location of the energy source.
- Choose from the picklist, or type in the reason why you would need to LOTO this equipment.
- Type in the name of the authorized employee.
- Click “Next” and “Previous” to add new pieces of equipment and move between them.
- Click “Delete Record” to delete the displayed piece of equipment and associated information.
- Click “Done” to return to the “Main Site Screen.”

Subsection 15.2c – Energy Isolation and LOTO Devices

In this section of e-HASP₂, you will identify how hazardous energy sources are isolated and the LOTO and identification devices used on each piece of equipment. The equipment you identified in Section 15.b is displayed at the top of the screen for reference. To complete this section:

- Choose from the picklist, or type in the device that will be isolated to eliminate each energy source associated with a piece of equipment. Click “Next” and “Previous” to move between the energy sources you identified for each piece of equipment.
- Choose from the picklist, or type in a description of the LOTO device that will be used to secure each energy source associated with a piece of equipment. Click “Next” and “Previous” to move between the energy sources you identified for each piece of equipment.
- Choose from the picklist, or type in a description of the characteristic (e.g., color, shape, etc.) used to distinguish the LOTO devices listed from other similar devices on site. Click “Next” and “Previous” to move between the energy sources you identified for each piece of equipment.
- Choose from the picklist, or type in a description of the means used to identify the owner of the LOTO devices listed. Click “Next” and “Previous” to move between the energy sources you identified for each piece of equipment.
- Click “Next” or “Previous” at the top of the screen to move between pieces of equipment, providing the information above for each piece.
- Click “Done” to return to the “Main Site Screen.”

Subsection 15.2d – Equipment Specific LOTO Procedures

In this section of e-HASP₂, you will identify the equipment-specific procedures employees must follow to prepare, shutdown, isolate, and apply the LOTO to each piece of equipment or machinery. You will need to provide step-by-step procedures for each of these phases. The equipment you identified in Section 15.2b will be displayed on the right side of the screen for reference. To complete this section:

- Create a sequential shutdown procedure necessary to prepare a specific machine or piece of equipment for isolation. The list of hazardous energy sources you identified is provided on the right for reference. To create the procedure:
 - Type in the first step in the sequence.
 - Click “New Step,” and add additional steps until the full procedure is complete.
- Create a sequential isolation procedure necessary to secure a specific machine or piece of equipment from its hazardous energy sources.
 - Click “New Step” to add each step in the sequence.
- Create a sequential procedure for applying the LOTO devices to a specific machine or piece of equipment.
 - Click “New Step” to add each step in the sequence. The list of isolation devices you identified is provided to the right for reference.
- Create a sequential procedure for releasing all potentially hazardous stored or residual energy in a machine or piece of equipment.
 - Click “New Step” to add each step in the sequence.
- Create a sequential procedure for verifying that hazardous energy sources associated with a machine or piece of equipment have been isolated.
 - Click “New Step” to add each step in the sequence.
- Create a sequential procedure for removing LOTO devices and re-energizing a machine or piece of equipment once work is complete.
 - Click “New Step” to add each step in the sequence.
- Create a sequential procedure for ensuring the continuity of LOTO protection during shift or personnel changes which allows for the transfer of LOTO device protection. The steps must minimize exposure to unexpected energizing, start-up, or release of stored energy.
 - Click “New Step” to add each step in the sequence.
- Click “Next” or “Previous” at the top of the screen to move between pieces of equipment, providing the information above for each piece.
- Click “Done” to return to the “Main Site Screen.”

Subsection 15.2e – Group and Contractor LOTO

In this section of e-HASP₂, you will identify the procedures employees must follow to complete group LOTO of machines or pieces of equipment, if applicable. The equipment you identified in Section 15.2b will be displayed at the top of the screen for reference. To complete this section:

- Click “Yes” or “No” to identify if group LOTO be used to work on the equipment or machine displayed.
- If “No,” skip to the next instruction.
- If “Yes,”
 - Follow the instructions under Section 15.2c for entering the appropriate information about the LOTO devices used for group lockout.
 - Edit, if necessary, the primary authorized employee responsible for the employees working under the protection of the group LOTO. Note that e-HASP₂ automatically enters the name of the SSHO from Section 1.1.

- Check “Yes” or “No” to identify if a contractor will LOTO this equipment or machine to conduct work. **Note: This question will only appear if you selected Option 3.**
- If “No,” skip to the next instruction.
- If “Yes,”:
 - Type in the contractor’s name, a contact name, address/location, and phone number, using subsequent rows for additional contractors.
 - Choose from the picklist, or type in a description of the LOTO devices used by the contractor.
 - Choose from the picklist, or type in a description of the characteristic of the LOTO device used by the contractor to distinguish it from other similar devices on site.
- Click “Next” or “Previous” at the top of the screen to move between pieces of equipment, providing the information above for each piece.
- Click “Done” to return to the “Main Site Screen.”

Section 15.3 – Inspection Procedures

In this section of e-HASP₂, you will identify the person who performs the inspections of the LOTO procedures, the frequency of inspections, and the location of inspection records. To complete this section:

- Type in the name of the person responsible for performing LOTO procedure inspections.
- Choose from the picklist or type in the interval between inspections.
- Type in the location where inspection records and documentation of corrective actions are kept.
- Click “Done” to return to the “Main Site Screen.”

Section 15.4 – Employee Training

In this section of e-HASP₂, you will identify where employee training records are kept on site. To complete this section:

- Type in the location where employee training records are kept on site.
- Click “Done” to return to the “Main Site Screen.”

Updating Your Information

- If there is a change in the lockout/tagout program, enter the new information following the steps provided above. The information is updated and saved by e-HASP₂.

Section 6 – Viewing and Printing Your Health and Safety Plan

Viewing Your Program

Once you have entered all your information into e-HASP₂, you should review your health and safety plan prior to printing. To view your program, select the site you want to preview in the "Select a Site" window on the "HAZWOPER" "Main Site Screen" (see page 4-1). Then, click on the "Print/Export" button. When you click this button, you may review individual chapters or all chapters of your program based on the information you have entered. Check the appropriate box(es) to indicate which chapter(s) you wish to review, then click the "Preview Program" button.

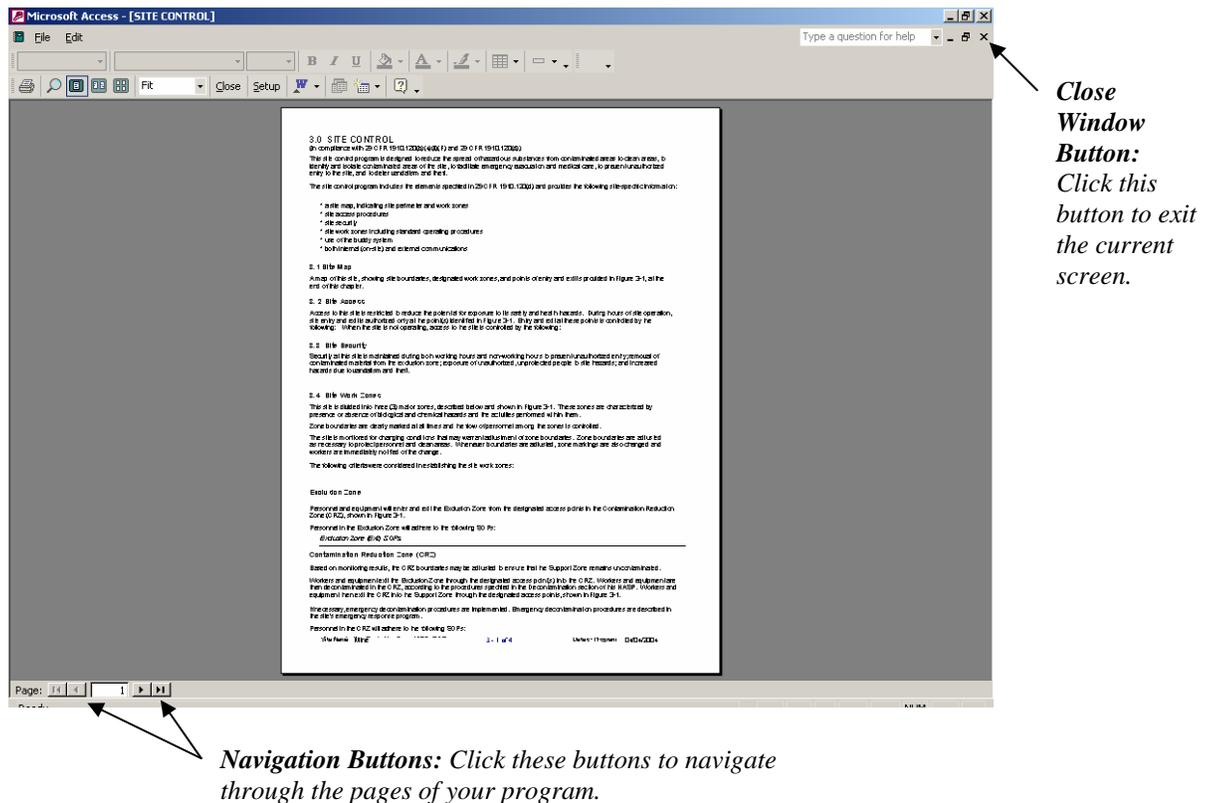
You may also quickly view the chapter being worked on by clicking on "Preview Chapter."

To navigate through your program, use the navigation buttons at the bottom of the window. To view the next page, click on the first navigation button to the right of the page number. To jump to the last page of your program, click on the second button to the right of the page number. [See the illustrations below and on the following page.]

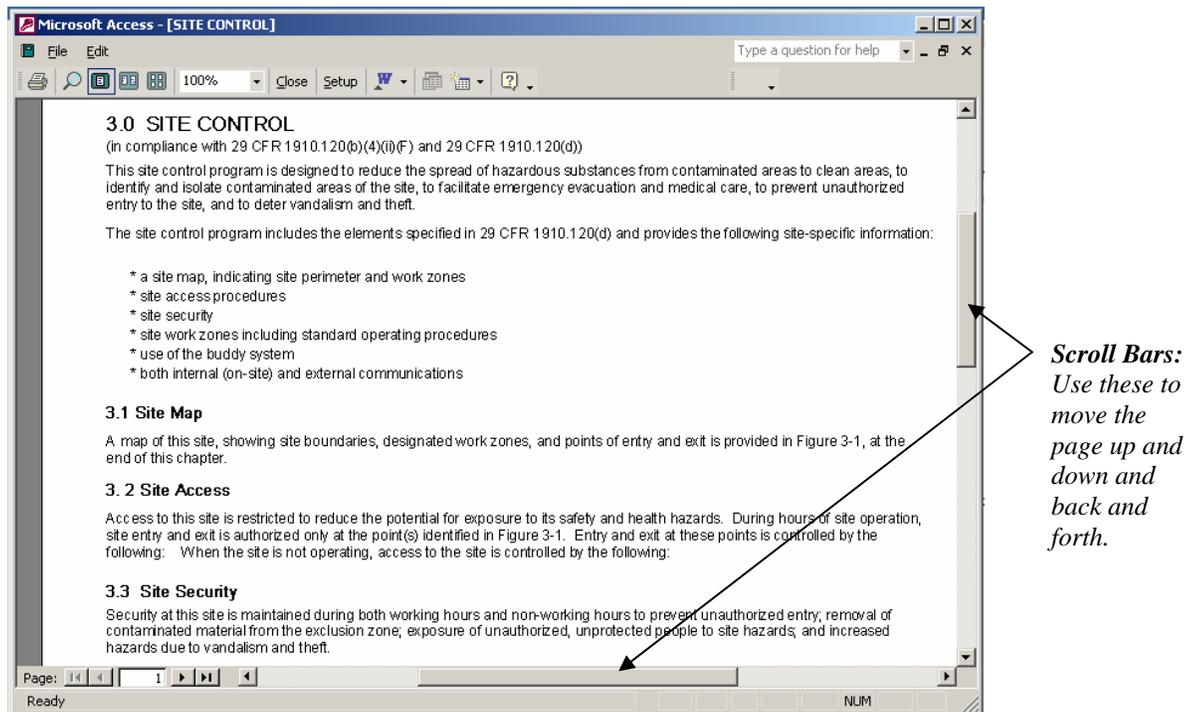
To get a closer or wider view of your program, click on the page on the screen. To zoom out (get a wider view), click on the page once. To zoom in (get a closer view), click on the page again. When zoomed in on a page, you must use the scroll bars on the right side and bottom of the screen to move the page up and down and back and forth.

To return to the "Main Site Screen", click the "Close Window" button in the upper right corner of the screen.

Zoomed-Out Preview of Program



Zoomed-in Preview of Program



Printing Your Program

To print your program, select the site you want to print in the "Select a Site" window on the Main Screen and click on the "Print/Export" button. When you click this button, a list of chapters appears. You may print individual chapters or all chapters of your program. Check the appropriate box(es) to indicate which chapter(s) you wish to print, then click the "Print Program" button. When you click this button, you will see a pop-up screen indicating that the print process is underway, and your print job is sent to your printer.

Exporting Your Program

To export your program, select the site you want to export in the "Select a Site" window on the "Main Site Screen" and click on the "Print/Export" button. When you click this button, a list of chapters will appear. You may export individual chapters or all chapters of your program. Check the appropriate box(es) to indicate which chapter(s) you wish to export, then click the "Export Report" button. A "Save" menu will appear with a default file name. Type in the appropriate file name, and click "Save." All files will be exported in rich text format (.rtf).

NOTE: Microsoft Access is not capable of completely converting tables and other formatted features to word processing applications. Therefore, your exported document will not have tables and other features formatted exactly the same as those in the Access printed report.

Section 7 – Troubleshooting

This section covers problems that you may encounter during installation and use of e-HASP₂. If a problem is not mentioned in this section, you may send your questions, comments, or suggestions to:

e-HASP₂
OSHA, Office of Health Enforcement
U.S. Department of Labor
200 Constitution Avenue, NW
Washington, D.C. 20210

Or by email to: e-hasp2@dol.gov

This section is organized so that each problem is listed first, followed by the suggested solution and/or discussion of the problem(s) you may be experiencing.

Problem — My McAfee software says the e-HASP₂ file has a virus

We are aware that there may be difficulties for some users who use McAfee Anti-Virus Software®. If you use McAfee Anti-Virus Software and are downloading the file for “Users Without Microsoft Access,” the anti-virus software may indicate that the file is infected with an unknown virus and that it cannot be cleaned. This has occurred with users who have McAfee Anti-Virus version 4.5 with the 4.0.70 Scan Engine and the 4.0.4094 and 4.0.4095 virus definitions. The file has been validated using multiple anti-virus software packages and does **not** contain a virus. For users with McAfee Anti-Virus, please download the latest virus definitions update to correct any misreadings. We have downloaded and successfully validated the file using McAfee Anti-Virus using the 4.0.4096 virus definitions.

Problem — Run-time error

This message typically indicates a programming error. We attempted to de-bug the program thoroughly before releasing it. If you see a pop-up screen with the words "Run-time error '####'" at the top, you may have uncovered a programming bug that was not identified for correction. OSHA requests that you please note the message in the error pop-up screen and contact the e-HASP₂ support team via the e-HASP₂ help page. OSHA will correct these bugs for subsequent releases of e-HASP₂.

To close the error pop-up screen, click the "End" button on the pop-up. We encourage you not to attempt debugging e-HASP₂ yourself. This may create additional errors with e-HASP₂. In addition, OSHA will not be made aware of the needed correction. The Agency will correct programming errors and repost the new program file as soon as possible.

Problem — Cannot enter information into Chapter 15, Sections 15.2c through 15.2e

Information cannot be entered into sections 15.2c through 15.2e unless you have completed section 15.2b first.

Problem — Information has disappeared

Users may experience that data entered into Chapter 15, Lockout/Tagout, has disappeared. Data disappearing is likely the result of changing your selection at one of e-HASP₂'s option lists in Chapter 15. At two points in e-HASP₂, you must choose from two or more options that reflect or are consistent with your workplace operations. Specifically, these are:

- Section 15.1 (second screen): You must select from four options concerning the existence of lockout and/or tagout activities and who performs them;

- Section 15.2e (first screen): (applicable to Option 3 and 4): You must indicate whether group lockout and/or tagout will be conducted and whether contractor(s) will perform lockout and/or tagout.

If you have previously entered information based on an option and then change to a different option, you will lose the previously entered information. When you have changed an option and returned to the main screen, the previously entered data may be deleted from e-HASP₂. This is not a problem if you truly intended to change the option. If, however, you did not intend the change, you must select your original option and reenter the information.

Appendix A – OSHA’s HAZWOPER Standard

A partial copy of the text of 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response standard, is presented below. The text presented here covers paragraphs (a) through (o). A complete copy of the HAZWOPER standard, including all appendices, can be accessed at http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9765.

29 CFR 1910.120(a)-(o)

(a) Scope, application, and definitions.

(a)(1) Scope. This section covers the following operations, unless the employer can demonstrate that the operation does not involve employee exposure or the reasonable possibility for employee exposure to safety or health hazards:

(a)(1)(i) Clean-up operations required by a governmental body, whether Federal, state local or other involving hazardous substances that are conducted at uncontrolled hazardous waste sites (including, but not limited to, the EPA's National Priority Site List (NPL), state priority site lists, sites recommended for the EPA NPL, and initial investigations of government identified sites which are conducted before the presence or absence of hazardous substances has been ascertained);

(a)(1)(ii) Corrective actions involving clean-up operations at sites covered by the Resource Conservation and Recovery Act of 1976 (RCRA) as amended (42 U.S.C. 6901 *et seq*);

(a)(1)(iii) Voluntary clean-up operations at sites recognized by Federal, state, local or other governmental bodies as uncontrolled hazardous waste sites;

(a)(1)(iv) Operations involving hazardous waste that are conducted at treatment, storage, disposal (TSD) facilities regulated by 40 CFR Parts 264 and 265 pursuant to RCRA; or by agencies under agreement with U.S.E.P.A. to implement RCRA regulations; and

(a)(1)(v) Emergency response operations for releases of, or substantial threats of releases of, hazardous substances without regard to the location of the hazard.

(a)(2) Application.

(a)(2)(i) All requirements of Part 1910 and Part 1926 of Title 29 of the Code of Federal Regulations apply pursuant to their terms to hazardous waste and emergency response operations whether covered by this section or not. If there is a conflict or overlap, the provision more protective of employee safety and health shall apply without regard to 29 CFR 1910.5(c)(1).

(a)(2)(ii) Hazardous substance clean-up operations within the scope of paragraphs (a)(1)(i) through (a)(1)(iii) of this section must comply with all paragraphs of this section except paragraphs (p) and (q).

(a)(2)(iii) Operations within the scope of paragraph (a)(1)(iv) of this section must comply only with the requirements of paragraph (p) of this section.

Notes and Exceptions:

(a)(2)(iii)(A) All provisions of paragraph (p) of this section cover any treatment, storage or disposal (TSD) operation regulated by 40 CFR parts 264 and 265 or by state law authorized under RCRA, and required to have a permit or interim status from EPA pursuant to 40 CFR 270.1 or from a state agency pursuant to RCRA.

(a)(2)(iii)(B) Employers who are not required to have a permit or interim status because they are conditionally exempt small quantity generators under 40 CFR 261.5 or are generators who qualify under 40 CFR 262.34 for exemptions from regulation under 40 CFR parts 264, 265 and 270 ("excepted employers") are not covered by paragraphs (p)(1) through (p)(7) of this section. Excepted employers who are required by the EPA or state agency to have their employees engage in emergency response or who direct their employees to engage in emergency response are covered by paragraph (p)(8) of this section, and cannot be exempted by (p)(8)(i) of this section.

(a)(2)(iii)(C) If an area is used primarily for treatment, storage or disposal, any emergency response operations in that area shall comply with paragraph (p) (8) of this section. In other areas not used primarily for treatment, storage, or disposal, any emergency response operations shall comply with paragraph (q) of this section. Compliance with the requirements of paragraph (q) of this section shall be deemed to be in compliance with the requirements of paragraph (p)(8) of this section.

(a)(2)(iv) Emergency response operations for releases of, or substantial threats of releases of, hazardous substances which are not covered by paragraphs (a)(1)(i) through (a)(1)(iv) of this section must only comply with the requirements of paragraph (q) of this section.

(a)(3) Definitions –

Buddy system means a system of organizing employees into work groups in such a manner that each employee of the work group is designated to be observed by at least one other employee in the work group. The purpose of the buddy system is to provide rapid assistance to employees in the event of an emergency.

Clean-up operation means an operation where hazardous substances are removed, contained, incinerated, neutralized, stabilized, cleared-up, or in any other manner processed or handled with the ultimate goal of making the site safer for people or the environment.

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

Emergency response or responding to emergencies means a response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual aid groups, local fire departments, etc.) to an occurrence which results, or is likely to result, in an uncontrolled release of a hazardous substance. Responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel are not considered to be emergency responses within the scope of this standard. Responses to releases of hazardous substances where there is no potential safety or health hazard (i.e., fire, explosion, or chemical exposure) are not considered to be emergency responses.

Facility means (A) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, storage container, motor vehicle, rolling stock, or aircraft, or (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any water-borne vessel.

Hazardous materials response (HAZMAT) team means an organized group of employees, designated by the employer, who are expected to perform work to handle and control actual or potential leaks or spills of hazardous substances requiring possible close approach to the substance. The team members perform responses to releases or potential releases of hazardous substances for the purpose of control or stabilization of the incident. A HAZMAT team is not a fire brigade nor is a typical fire brigade a HAZMAT team. A HAZMAT team, however, may be a separate component of a fire brigade or fire department.

Hazardous substance means any substance designated or listed under (A) through (D) of this definition, exposure to which results or may result in adverse effects on the health or safety of employees:

[A] Any substance defined under section 101(14) of CERCLA;

[B] Any biologic agent and other disease causing agent which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any person, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations in such persons or their offspring.

[C] Any substance listed by the U.S. Department of Transportation as hazardous materials under 49 CFR 172.101 and appendices; and

[D] Hazardous waste as herein defined.

Hazardous waste means –

[A] A waste or combination of wastes as defined in 40 CFR 261.3, or

[B] Those substances defined as hazardous wastes in 49 CFR 171.8.

Hazardous waste operation means any operation conducted within the scope of this standard.

Hazardous waste site or **Site** means any facility or location within the scope of this standard at which hazardous waste operations take place.

Health hazard means a chemical, mixture of chemicals or a pathogen for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes. It also includes stress due to temperature extremes. Further definition of the terms used above can be found in Appendix A to 29 CFR 0.

IDLH or **Immediately dangerous to life or health** means an atmospheric concentration of any toxic, corrosive or asphyxiant substance that poses an immediate threat to life or would interfere with an individual's ability to escape from a dangerous atmosphere.

Oxygen deficiency means that concentration of oxygen by volume below which atmosphere supplying respiratory protection must be provided. It exists in atmospheres where the percentage of oxygen by volume is less than 19.5 percent oxygen.

Permissible exposure limit means the exposure, inhalation or dermal permissible exposure limit specified in 29 CFR Part 1910, Subparts G and Z.

Published exposure level means the exposure limits published in "NIOSH Recommendations for Occupational Health Standards" dated 1986, which is incorporated by reference as specified in § 1910.6, or if none is specified, the exposure limits published in the standards specified by the American Conference of Governmental Industrial Hygienists in their publication "Threshold Limit Values and Biological Exposure Indices for 1987-88" dated 1987, which is incorporated by reference as specified in § 1910.6.

Post emergency response means that portion of an emergency response performed after the immediate threat of a release has been stabilized or eliminated and clean-up of the site has begun. If post emergency response is performed by an employer's own employees who were part of the initial emergency response, it is considered to be part of the initial response and not post emergency response. However, if a group of an employer's own employees, separate from the group providing initial response, performs the clean-up operation, then the separate group of employees would be considered to be performing post-emergency response and subject to paragraph (q)(11) of this section.

Qualified person means a person with specific training, knowledge and experience in the area for which the person has the responsibility and the authority to control.

Site safety and health supervisor (or official) means the individual located on a hazardous waste site who is responsible to the employer and has the authority and knowledge necessary to implement the site safety and health plan and verify compliance with applicable safety and health requirements.

Small quantity generator means a generator of hazardous wastes who in any calendar month generates no more than 1,000 kilograms (2,205) pounds of hazardous waste in that month.

Uncontrolled hazardous waste site means an area identified as an uncontrolled hazardous waste site by a governmental body, whether Federal, state, local or other where an accumulation of hazardous substances creates a threat to the health and safety of individuals or the environment or both. Some sites are found on public lands such as those created by former municipal, county or state landfills where illegal or poorly managed waste disposal has taken place. Other sites are found on private property, often belonging to generators or former generators of hazardous substance wastes. Examples of such sites include, but are not limited to, surface impoundments, landfills, dumps, and tank or drum farms. Normal operations at TSD sites are not covered by this definition.

(b) Safety and health program.

NOTE TO (b): Safety and health programs developed and implemented to meet other federal, state, or local regulations are considered acceptable in meeting this requirement if they cover or are modified to cover the topics required in this paragraph. An additional or separate safety and health program is not required by this paragraph.

(b)(1) General.

(b)(1)(i) Employers shall develop and implement a written safety and health program for their employees involved in hazardous waste operations. The program shall be designed to identify, evaluate, and control safety and health hazards, and provide for emergency response for hazardous waste operations.

(b)(1)(ii) The written safety and health program shall incorporate the following:

(b)(1)(ii)(A) An organizational structure;

(b)(1)(ii)(B) A comprehensive workplan;

(b)(1)(ii)(C) A site-specific safety and health plan which need not repeat the employer's standard operating procedures required in paragraph (b)(1)(ii)(F) of this section;

(b)(1)(ii)(D) The safety and health training program;

(b)(1)(ii)(E) The medical surveillance program;

(b)(1)(ii)(F) The employer's standard operating procedures for safety and health; and

(b)(1)(ii)(G) Any necessary interface between general program and site specific activities.

(b)(1)(iii) Site excavation. Site excavations created during initial site preparation or during hazardous waste operations shall be shored or sloped as appropriate to prevent accidental collapse in accordance with Subpart P of 29 CFR Part 1926.

(b)(1)(iv) Contractors and sub-contractors. An employer who retains contractor or sub-contractor services for work in hazardous waste operations shall inform those contractors, sub-contractors, or their representatives of the site emergency response procedures and any potential fire, explosion, health, safety or other hazards of the hazardous waste operation that have been identified by the employer's information program.

(b)(1)(v) Program availability. The written safety and health program shall be made available to any contractor or subcontractor or their representative who will be involved with the hazardous waste operation; to employees; to employee designated representatives; to OSHA personnel, and to personnel of other Federal, state, or local agencies with regulatory authority over the site.

(b)(2) Organizational structure part of the site program.

(b)(2)(i) The organizational structure part of the program shall establish the specific chain of command and specify the overall responsibilities of supervisors and employees. It shall include, at a minimum, the following elements:

(b)(2)(i)(A) A general supervisor who has the responsibility and authority to direct all hazardous waste operations.

(b)(2)(i)(B) A site safety and health supervisor who has the responsibility and authority to develop and implement the site safety and health plan and verify compliance.

(b)(2)(i)(C) All other personnel needed for hazardous waste site operations and emergency response and their general functions and responsibilities.

(b)(2)(i)(D) The lines of authority, responsibility, and communication.

(b)(2)(ii) The organizational structure shall be reviewed and updated as necessary to reflect the current status of waste site operations.

b)(3) Comprehensive workplan part of the site program. The comprehensive workplan part of the program shall address the tasks and objectives of the site operations and the logistics and resources required to reach those tasks and objectives.

(b)(3)(i) The comprehensive workplan shall address anticipated clean-up activities as well as normal operating procedures which need not repeat the employer's procedures available elsewhere.

(b)(3)(ii) The comprehensive workplan shall define work tasks and objectives and identify the methods for accomplishing those tasks and objectives.

(b)(3)(iii) The comprehensive workplan shall establish personnel requirements for implementing the plan.

(b)(3)(iv) The comprehensive workplan shall provide for the implementation of the training required in paragraph (e) of this section.

(b)(3)(v) The comprehensive workplan shall provide for the implementation of the required informational programs required in paragraph (i) of this section.

(b)(3)(vi) The comprehensive workplan shall provide for the implementation of the medical surveillance program described in paragraph (f) if this section.

(b)(4) Site-specific safety and health plan part of the program.

(b)(4)(i) General. The site safety and health plan, which must be kept on site, shall address the safety and health hazards of each phase of site operation and include the requirements and procedures for employee protection.

(b)(4)(ii) Elements. The site safety and health plan, as a minimum, shall address the following:

(b)(4)(ii)(A) A safety and health risk or hazard analysis for each site task and operation found in the workplan.

(b)(4)(ii)(B) Employee training assignments to assure compliance with paragraph (e) of this section.

(b)(4)(ii)(C) Personal protective equipment to be used by employees for each of the site tasks and operations being conducted as required by the personal protective equipment program in paragraph (g)(5) of this section.

(b)(4)(ii)(D) Medical surveillance requirements in accordance with the program in paragraph (f) of this section.

(b)(4)(ii)(E) Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of monitoring and sampling equipment to be used

(b)(4)(ii)(F) Site control measures in accordance with the site control program required in paragraph (d) of this section.

(b)(4)(ii)(G) Decontamination procedures in accordance with paragraph (k) of this section.

(b)(4)(ii)(H) An emergency response plan meeting the requirements of paragraph (l) of this section for safe and effective responses to emergencies, including the necessary PPE and other equipment.

(b)(4)(ii)(I) Confined space entry procedures.

(b)(4)(ii)(J) A spill containment program meeting the requirements of paragraph (j) of this section.

(b)(4)(iii) Pre-entry briefing. The site specific safety and health plan shall provide for pre-entry briefings to be held prior to initiating any site activity, and at such other times as necessary to ensure that employees are apprised of the site safety and health plan and that this plan is being followed. The information and data obtained from site characterization and analysis work required in paragraph (c) of this section shall be used to prepare and update the site safety and health plan.

(b)(4)(iv) Effectiveness of site safety and health plan. Inspections shall be conducted by the site safety and health supervisor or, in the absence of that individual, another individual who is knowledgeable in occupational safety and health, acting on behalf of the employer as necessary to determine the effectiveness of the site safety and health plan. Any deficiencies in the effectiveness of the site safety and health plan shall be corrected by the employer.

(c) Site characterization and analysis

(c)(1) General. Hazardous waste sites shall be evaluated in accordance with this paragraph to identify specific site hazards and to determine the appropriate safety and health control procedures needed to protect employees from the identified hazards.

(c)(2) Preliminary evaluation. A preliminary evaluation of a site's characteristics shall be performed prior to site entry by a qualified person in order to aid in the selection of appropriate employee protection methods prior to site entry. Immediately after initial site entry, a more detailed evaluation of the site's specific characteristics shall be performed by a qualified person in order to further identify existing site hazards and to further aid in the selection of the appropriate engineering controls and personal protective equipment for the tasks to be performed.

(c)(3) Hazard identification. All suspected 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 shall be identified during the preliminary survey and evaluated during the detailed survey. Examples of such hazards include, but are not limited to, confined space entry, potentially explosive or flammable situations, visible vapor clouds, or areas where biological indicators such as dead animals or vegetation are located.

(c)(4) Required information. The following information to the extent available shall be obtained by the employer prior to allowing employees to enter a site:

(c)(4)(i) Location and approximate size of the site.

(c)(4)(ii) Description of the response activity and/or the job task to be performed.

(c)(4)(iii) Duration of the planned employee activity.

(c)(4)(iv) Site topography and accessibility by air and roads.

(c)(4)(v) Safety and health hazards expected at the site.

(c)(4)(vi) Pathways for hazardous substance dispersion.

(c)(4)(vii) Present status and capabilities of emergency response teams that would provide assistance to on-site employees at the time of an emergency.

(c)(4)(viii) Hazardous substances and health hazards involved or expected at the site and their chemical and physical properties.

(c)(5) Personal protective equipment. Personal protective equipment (PPE) shall be provided and used during initial site entry in accordance with the following requirements:

(c)(5)(i) Based upon the results of the preliminary site evaluation, an ensemble of PPE shall be selected and used during initial site entry which will provide protection to a level of exposure below permissible exposure limits and published exposure levels for known or suspected hazardous substances and health hazards and which will provide protection against other known and suspected hazards identified during the preliminary site evaluation. If there is no permissible exposure limit or published exposure level, the employer may use other published studies and information as a guide to appropriate personal protective equipment.

(c)(5)(ii) If positive-pressure self-contained breathing apparatus is not used as part of the entry ensemble, and if respiratory protection is warranted by the potential hazards identified during the preliminary site evaluation, an escape self-contained breathing apparatus of at least five minute's duration shall be carried by employees during initial site entry.

(c)(5)(iii) If the preliminary site evaluation does not produce sufficient information to identify the hazards or suspected hazards of the site an ensemble providing equivalent to Level B PPE shall be provided as minimum protection, and direct reading instruments shall be used as appropriate for identifying IDLH conditions. (See Appendix B for guidelines on Level B protective equipment.)

(c)(5)(iv) Once the hazards of the site have been identified, the appropriate PPE shall be selected and used in accordance with paragraph (g) of this section.

(c)(6) Monitoring. The following monitoring shall be conducted during initial site entry when the site evaluation produces information which shows the potential for ionizing radiation or IDLH conditions, or when the site information is not sufficient reasonably to eliminate these possible conditions:

(c)(6)(i) Monitoring with direct reading instruments for hazardous levels of ionizing radiation.

(c)(6)(ii) Monitoring the air with appropriate direct reading test equipment for (i.e., combustible gas meters, detector tubes) for IDLH and other conditions that may cause death or serious harm (combustible or explosive atmospheres, oxygen deficiency, toxic substances.)

(c)(6)(iii) Visually observing for signs of actual or potential IDLH or other dangerous conditions.

(c)(6)(iv) An ongoing air monitoring program in accordance with paragraph (h) of this section shall be implemented after site characterization has determined the site is safe for the start-up of operations.

(c)(7) Risk identification. Once the presence and concentrations of specific hazardous substances and health hazards have been established, the risks associated with these substances shall be identified. Employees who will be working on the site shall be informed of any risks that have been identified. In situations covered by the Hazard Communication Standard, 29 CFR 0, training required by that standard need not be duplicated.

NOTE TO PARAGRAPH (c)(7). – Risks to consider include, but are not limited to:

[a] Exposures exceeding the permissible exposure limits and published exposure levels.

[b] IDLH Concentrations.

[c] Potential Skin Absorption and Irritation Sources.

[d] Potential Eye Irritation Sources.

[e] Explosion Sensitivity and Flammability Ranges.

[f] Oxygen deficiency.

(c)(8) Employee notification. Any information concerning the chemical, physical, and toxicologic properties of each substance known or expected to be present on site that is available to the employer and relevant to the duties an employee is expected to perform shall be made available to the affected employees prior to the commencement of their work activities. The employer may utilize information developed for the hazard communication standard for this purpose.

(d) Site control.

(d)(1) General. Appropriate site control procedures shall be implemented to control employee exposure to hazardous substances before clean-up work begins.

(d)(2) Site control program. A site control program for protecting employees which is part of the employer's site safety and health program required in paragraph (b) of this section shall be developed during the planning stages of a hazardous waste clean-up operation and modified as necessary as new information becomes available.

(d)(3) Elements of the site control program. The site control program shall, as a minimum, include: A site map; site work zones; the use of a "buddy system"; site communications including alerting means for emergencies; the standard operating procedures or safe work practices; and, identification of the nearest medical assistance. Where these requirements are covered elsewhere they need not be repeated.

(e) Training

(e)(1) General

(e)(1)(i) All employees working on site (such as but not limited to equipment operators, general laborers and others) exposed to hazardous substances, health hazards, or safety hazards and their supervisors and management responsible for the site shall receive training meeting the requirements of this paragraph before they are permitted to engage in hazardous waste operations that could expose them to hazardous substances, safety, or health hazards, and they shall receive review training as specified in this paragraph.

(e)(1)(ii) Employees shall not be permitted to participate in or supervise field activities until they have been trained to a level required by their job function and responsibility.

(e)(2) Elements to be covered. The training shall thoroughly cover the following:

(e)(2)(i) Names of personnel and alternates responsible for site safety and health;

(e)(2)(ii) Safety, health and other hazards present on the site;

(e)(2)(iii) Use of personal protective equipment;

(e)(2)(iv) Work practices by which the employee can minimize risks from hazards;

(e)(2)(v) Safe use of engineering controls and equipment on the site;

(e)(2)(vi) Medical surveillance requirements including recognition of symptoms and signs which might indicate over exposure to hazards; and

(e)(2)(vii) The contents of paragraphs (G) through (J) of the site safety and health plan set forth in paragraph (b)(4)(ii) of this section.

(e)(3) Initial training.

(e)(3)(i) General site workers (such as equipment operators, general laborers and supervisory personnel) engaged in hazardous substance removal or other activities which expose or potentially expose workers to hazardous substances and health hazards shall receive a minimum of 40 hours of instruction off the site, and a minimum of three days actual field experience under the direct supervision of a trained experienced supervisor.

(e)(3)(ii) Workers on site only occasionally for a specific limited task (such as, but not limited to, ground water monitoring, land surveying, or geophysical surveying) and who are unlikely to be exposed over permissible exposure limits and published exposure limits shall receive a minimum of 24 hours of instruction off the site, and the minimum of one day actual field experience under the direct supervision of a trained, experienced supervisor.

(e)(3)(iii) Workers regularly on site who work in areas which have been monitored and fully characterized indicating that exposures are under permissible exposure limits and published exposure limits where respirators are not necessary, and the characterization indicates that there are no health hazards or the possibility of an emergency developing, shall receive a minimum of 24 hours of instruction off the site, and the minimum of one day actual field experience under the direct supervision of a trained, experienced supervisor.

(e)(3)(iv) Workers with 24 hours of training who are covered by paragraphs (e)(3)(ii) and (e)(3)(iii) of this section, and who become general site workers or who are required to wear respirators, shall have the additional 16 hours and two days of training necessary to total the training specified in paragraph (e)(3)(i).

(e)(4) Management and supervisor training. On-site management and supervisors directly responsible for or who supervise employees engaged in hazardous waste operations shall receive 40 hours initial and three days of supervised field experience (the training may be reduced to 24 hours and one day if the only area of their responsibility is employees covered by paragraphs (e)(3)(ii) and (e)(3)(iii) and at least eight additional hours of specialized training at the time of job assignment on such topics as, but no limited to, the employer's safety and health program, personal protective equipment program, spill containment program, and health hazard monitoring procedure and techniques.

(e)(5) Qualifications for trainers. Trainers shall be qualified to instruct employees about the subject matter that is being presented in training. Such trainers shall have satisfactorily completed a training program for teaching the subjects they are expected to teach, or they shall have the academic credentials and instructional experience necessary for teaching the subjects. Instructors shall demonstrate competent instructional skills and knowledge of the applicable subject matter.

(e)(6) Training certification. Employees and supervisors that have received and successfully completed the training and field experience specified in paragraphs (e)(1) through (e)(4) of this section shall be certified by their instructor or the head instructor and trained supervisor as having completed the necessary training. A written certificate shall be given to each person so certified. Any person who has not been so certified or who does not meet the requirements of paragraph (e)(9) of this section shall be prohibited from engaging in hazardous waste operations.

(e)(7) Emergency response. Employees who are engaged in responding to hazardous emergency situations at hazardous waste clean-up sites that may expose them to hazardous substances shall be trained in how to respond to such expected emergencies.

(e)(8) Refresher training. Employees specified in paragraph (e)(1) of this section, and managers and supervisors specified in paragraph (e)(4) of this section, shall receive eight hours of refresher training annually on the items specified in paragraph (e)(2) and/or (e)(4) of this section, any critique of incidents that have occurred in the past year that can serve as training examples of related work, and other relevant topics.

(e)(9) Equivalent training. Employers who can show by documentation or certification that an employee's work experience and/or training has resulted in training equivalent to that training required in paragraphs (e)(1) through (e)(4) of this section shall not be required to provide the initial training requirements of those paragraphs to such employees and shall provide a copy of the certification or documentation to the employee upon request. However, certified employees or employees with equivalent training new to a site shall receive appropriate, site specific training before site entry and have appropriate supervised field experience at the new site. Equivalent training includes any academic training or the training that existing employees might have already received from actual hazardous waste site experience.

(f) Medical surveillance

(f)(1) General. Employees engaged in operations specified in paragraphs (a)(1)(i) through (a)(1)(iv) of this section and not covered by (a)(2)(iii) exceptions and employers of employees specified in paragraph (q)(9) shall institute a medical surveillance program in accordance with this paragraph.

(f)(2) Employees covered. The medical surveillance program shall be instituted by the employer for the following employees:

(f)(2)(i) All employees who are or may be exposed to hazardous substances or health hazards at or above the established permissible exposure limit, above the published exposure levels for these substances, without regard to the use of respirators, for 30 days or more a year;

(f)(2)(ii) All employees who wear a respirator for 30 days or more a year or as required by 1910.134;

(f)(2)(iii) All employees who are injured, become ill or develop signs or symptoms due to possible overexposure involving hazardous substances or health hazards from an emergency response or hazardous waste operation; and

(f)(2)(iv) Members of HAZMAT teams.

(f)(3) Frequency of medical examinations and consultations. Medical examinations and consultations shall be made available by the employer to each employee covered under paragraph (f)(2) of this section on the following schedules:

(f)(3)(i) For employees covered under paragraphs (f)(2)(i), (f)(2)(ii), and (f)(2)(iv);

(f)(3)(i)(A) Prior to assignment;

(f)(3)(i)(B) At least once every twelve months for each employee covered unless the attending physician believes a longer interval (not greater than biennially) is appropriate;

(f)(3)(i)(C) At termination of employment or reassignment to an area where the employee would not be covered if the employee has not had an examination within the last six months.

(f)(3)(i)(D) As soon as possible upon notification by an employee that the employee has developed signs or symptoms indicating possible overexposure to hazardous substances or health hazards, or that the employee has been injured or exposed above the permissible exposure limits or published exposure levels in an emergency situation;

(f)(3)(i)(E) At more frequent times, if the examining physician determines that an increased frequency of examination is medically necessary.

(f)(3)(ii) For employees covered under paragraph (f)(2)(iii) and for all employees including of employers covered by paragraph (a)(1)(iv) who may have been injured, received a health impairment, developed signs or symptoms which may have resulted from exposure to hazardous substances resulting from an emergency incident, or exposed during an emergency incident to hazardous substances at concentrations above the permissible exposure limits or the published exposure levels without the necessary personal protective equipment being used:

(f)(3)(ii)(A) As soon as possible following the emergency incident or development of signs or symptoms;

(f)(3)(ii)(B) At additional times, if the examining physician determines that follow-up examinations or consultations are medically necessary.

(f)(4) Content of medical examinations and consultations.

(f)(4)(i) Medical examinations required by paragraph (f)(3) of this section shall include a medical and work history (or updated history if one is in the employee's file) with special emphasis on symptoms related to the handling of hazardous substances and health hazards, and to fitness for duty including the ability to wear any required PPE under conditions (i.e., temperature extremes) that may be expected at the work site.

(f)(4)(ii) The content of medical examinations or consultations made available to employees pursuant to paragraph (f) shall be determined by the attending physician. The guidelines in the *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities* (See Appendix D, reference # 10) should be consulted.

(f)(5) Examination by a physician and costs. All medical examinations and procedures shall be performed by or under the supervision of a licensed physician, preferably one knowledgeable in occupational medicine, and shall be provided without cost to the employee, without loss of pay, and at a reasonable time and place.

(f)(6) Information provided to the physician. The employer shall provide one copy of this standard and its appendices to the attending physician and in addition the following for each employee:

(f)(6)(i) A description of the employee's duties as they relate to the employee's exposures,

(f)(6)(ii) The employee's exposure levels or anticipated exposure levels.

(f)(6)(iii) A description of any personal protective equipment used or to be used.

(f)(6)(iv) Information from previous medical examinations of the employee which is not readily available to the examining physician.

(f)(6)(v) Information required by §1910.134.

(f)(7) Physician's written opinion.

(f)(7)(i) The employer shall obtain and furnish the employee with a copy of a written opinion from the examining physician containing the following:

(f)(7)(i)(A) The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health from work in hazardous waste operations or emergency response, or from respirator use.

(f)(7)(i)(B) The physician's recommended limitations upon the employees assigned work.

(f)(7)(i)(C) The results of the medical examination and tests if requested by the employee.

(f)(7)(i)(D) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.

(f)(7)(ii) The written opinion obtained by the employer shall not reveal specific findings or diagnoses unrelated to occupational exposure.

(f)(8) Recordkeeping.

(f)(8)(i) An accurate record of the medical surveillance required by paragraph (f) of this section shall be retained. This record shall be retained for the period specified and meet the criteria of 29 CFR 1910.20.

(f)(8)(ii) The record required in paragraph (f)(8)(i) of this section shall include at least the following information:

(f)(8)(ii)(A) The name and social security number of the employee;

(f)(8)(ii)(B) Physicians' written opinions, recommended limitations and results of examinations and tests;

(f)(8)(ii)(C) Any employee medical complaints related to exposure to hazardous substances;

(f)(8)(ii)(D) A copy of the information provided to the examining physician by the employer, with the exception of the standard and its appendices.

(g) Engineering controls, work practices, and personal protective equipment for employee protection. Engineering controls, work practices and PPE for substances regulated in Subpart Z. (i) Engineering controls, work practices, personal protective equipment, or a combination of these shall be implemented in accordance with this paragraph to protect employees from exposure to hazardous substances and safety and health hazards.

(g)(1) Engineering controls, work practices and PPE for substances regulated in Subparts G and Z.

(g)(1)(i) Engineering controls and work practices shall be instituted to reduce and maintain employee exposure to or below the permissible exposure limits for substances regulated by 29 CFR Part 1910, to the extent required by Subpart Z, except to the extent that such controls and practices are not feasible.

NOTE TO PARAGRAPH (g)(1)(i): Engineering controls which may be feasible include the use of pressurized cabs or control booths on equipment, and/or the use of remotely operated material handling equipment. Work practices which may be feasible are removing all non-essential employees from potential exposure during opening of drums, wetting down dusty operations and locating employees upwind of possible hazards.

(g)(1)(ii) Whenever engineering controls and work practices are not feasible, or not required, any reasonable combination of engineering controls, work practices and PPE shall be used to reduce and maintain to or below the permissible exposure limits or dose limits for substances regulated by 29 CFR Part 1910, Subpart Z.

(g)(1)(iii) The employer shall not implement a schedule of employee rotation as a means of compliance with permissible exposure limits or dose limits except when there is no other feasible way of complying with the airborne or dermal dose limits for ionizing radiation.

(g)(1)(iv) The provisions of 29 CFR, subpart G, shall be followed.

(g)(2) Engineering controls, work practices, and PPE for substances not regulated in Subparts G and Z. An appropriate combination of engineering controls, work practices, and personal protective equipment shall be used to reduce and maintain employee exposure to or below published exposure levels for hazardous substances and health hazards not regulated by 29 CFR Part 1910, Subparts G and Z. The employer may use the published literature and MSDS as a guide in making the employer's determination as to what level of protection the employer believes is appropriate for hazardous substances and health hazards for which there is no permissible exposure limit or published exposure limit.

(g)(3) Personal protective equipment selection.

(g)(3)(i) Personal protective equipment (PPE) shall be selected and used which will protect employees from the hazards and potential hazards they are likely to encounter as identified during the site characterization and analysis.

(g)(3)(ii) Personal protective equipment selection shall be based on an evaluation of the performance characteristics of the PPE relative to the requirements and limitations of the site, the task-specific conditions and duration, and the hazards and potential hazards identified at the site.

(g)(3)(iii) Positive pressure self-contained breathing apparatus, or positive pressure air-line respirators equipped with an escape air supply shall be used when chemical exposure levels present will create a substantial possibility of immediate death, immediate serious illness or injury, or impair the ability to escape.

(g)(3)(iv) Totally-encapsulating chemical protective suits (protection equivalent to Level A protection as recommended in Appendix B) shall be used in conditions where skin absorption of a hazardous substance may result in a substantial possibility of immediate death, immediate serious illness or injury, or impair the ability to escape.

(g)(3)(v) The level of protection provided by PPE selection shall be increased when additional information or site conditions show that increased protection is necessary to reduce employee exposures below permissible exposure limits and published exposure levels for hazardous substances and health hazards. (See Appendix B for guidance on selecting PPE ensembles.)

NOTE TO PARAGRAPH (g)(3): The level of employee protection provided may be decreased when additional information or site conditions show that decreased protection will not result in hazardous exposures to employees.

(g)(3)(vi) Personal protective equipment shall be selected and used to meet the requirements of 29 CFR Part 1910, Subpart I, and additional requirements specified in this section.

(g)(4) Totally-encapsulating chemical protective suits.

(g)(4)(i) Totally-encapsulating suits shall protect employees from the particular hazards which are identified during site characterization and analysis.

(g)(4)(ii) Totally-encapsulating suits shall be capable of maintaining positive air pressure. (See Appendix A for a test method which may be used to evaluate this requirement.)

(g)(4)(iii) Totally-encapsulating suits shall be capable of preventing inward test gas leakage of more than 0.5 percent. (See Appendix A for a test method which may be used to evaluate this requirement.)

(g)(5) Personal protective equipment (PPE) program. A personal protective equipment program, which is part of the employer's safety and health program required in paragraph (b) of this section or required in paragraph (p)(1) of this section and which is also a part of the site-specific safety and health plan shall be established. The PPE program shall address the elements listed below. When elements, such as donning and doffing procedures, are provided by the manufacturer of a piece of equipment and are attached to the plan, they need not be rewritten into the plan as long as they adequately address the procedure or element.

(g)(5)(i) PPE selection based upon site hazards,

(g)(5)(ii) PPE use and limitations of the equipment,

(g)(5)(iii) Work mission duration,

(g)(5)(iv) PPE maintenance and storage,

(g)(5)(v) PPE decontamination and disposal,

(g)(5)(vi) PPE training and proper fitting,

(g)(5)(vii) PPE donning and doffing procedures,

(g)(5)(viii) PPE inspection procedures prior to, during, and after use,

(g)(5)(ix) Evaluation of the effectiveness of the PPE program, and

(g)(5)(x) Limitations during temperature extremes, heat stress, and other appropriate medical considerations.

(h) Monitoring.

(h)(1) General.

(h)(1)(i) Monitoring shall be performed in accordance with this paragraph where there may be a question of employee exposure to hazardous concentrations of hazardous substances in order to assure proper selection of engineering controls, work practices and personal protective equipment so that employees are not exposed to levels which exceed permissible exposure limits, or published exposure levels if there are no permissible exposure limits, for hazardous substances.

(h)(1)(ii) Air monitoring shall be used to identify and quantify airborne levels of hazardous substances and safety and health hazards in order to determine the appropriate level of employee protection needed on site.

(h)(2) Initial entry. Upon initial entry, representative air monitoring shall be conducted to identify any IDLH condition, exposure over permissible exposure limits or published exposure levels, exposure over a radioactive material's dose limits or other dangerous condition such as the presence of flammable atmospheres, oxygen-deficient environments.

(h)(3) Periodic monitoring. Periodic monitoring shall be conducted when the possibility of an IDLH condition or flammable atmosphere has developed or when there is indication that exposures may have risen over permissible exposure limits or published exposure levels since prior monitoring. Situations where it shall be considered whether the possibility that exposures have risen are as follows:

(h)(3)(i) When work begins on a different portion of the site.

(h)(3)(ii) When contaminants other than those previously identified are being handled.

(h)(3)(iii) When a different type of operation is initiated (e.g., drum opening as opposed to exploratory well drilling.)

(h)(3)(iv) When employees are handling leaking drums or containers or working in areas with obvious liquid contamination (e.g., a spill or lagoon.)

(h)(4) Monitoring of high-risk employees. After the actual clean-up phase of any hazardous waste operation commences; for example, when soil, surface water or containers are moved or disturbed; the employer shall monitor those employees likely to have the highest exposures to those hazardous substances and health hazards likely to be present above permissible exposure limits or published exposure levels by using personal sampling frequently enough to characterize employee exposures. The employer may utilize a representative sampling approach by documenting that the employees and

chemicals chosen for monitoring are based on the criteria stated in the first sentence of this paragraph. If the employees likely to have the highest exposure are over permissible exposure limits or published exposure limits, then monitoring shall continue to determine all employees likely to be above those limits. The employer may utilize a representative sampling approach by documenting that the employees and chemicals chosen for monitoring are based on the criteria stated above.

NOTE TO PARAGRAPH (h): It is not required to monitor employees engaged in site characterization operations covered by paragraph (c) of this section.

(i) Informational programs. Employers shall develop and implement a program which is part of the employer's safety and health program required in paragraph (b) of this section to inform employees, contractors, and subcontractors (or their representative) actually engaged in hazardous waste operations of the nature, level and degree of exposure likely as a result of participation in such hazardous waste operations. Employees, contractors and subcontractors working outside of the operations part of a site are not covered by this standard.

(j) Handling drums and containers

(j)(1) General.

(j)(1)(i) Hazardous substances and contaminated, liquids and other residues shall be handled, transported, labeled, and disposed of in accordance with this paragraph.

(j)(1)(ii) Drums and containers used during the clean-up shall meet the appropriate DOT, OSHA, and EPA regulations for the wastes that they contain.

(j)(1)(iii) When practical, drums and containers shall be inspected and their integrity shall be assured prior to being moved. Drums or containers that cannot be inspected before being moved because of storage conditions (i.e., buried beneath the earth, stacked behind other drums, stacked several tiers high in a pile, etc.) shall be moved to an accessible location and inspected prior to further handling.

(j)(1)(iv) Unlabeled drums and containers shall be considered to contain hazardous substances and handled accordingly until the contents are positively identified and labeled.

(j)(1)(v) Site operations shall be organized to minimize the amount of drum or container movement.

(j)(1)(vi) Prior to movement of drums or containers, all employees exposed to the transfer operation shall be warned of the potential hazards associated with the contents of the drums or containers.

(j)(1)(vii) U.S. Department of Transportation specified salvage drums or containers and suitable quantities of proper absorbent shall be kept available and used in areas where spills, leaks, or ruptures may occur.

(j)(1)(viii) Where major spills may occur, a spill containment program, which is part of the employer's safety and health program required in paragraph (b) of this section, shall be implemented to contain and isolate the entire volume of the hazardous substance being transferred.

(j)(1)(ix) Drums and containers that cannot be moved without rupture, leakage, or spillage shall be emptied into a sound container using a device classified for the material being transferred.

(j)(1)(x) A ground-penetrating system or other type of detection system or device shall be used to estimate the location and depth of buried drums or containers.

(j)(1)(xi) Soil or covering material shall be removed with caution to prevent drum or container rupture.

(j)(1)(xii) Fire extinguishing equipment meeting the requirements of 29 CFR Part 1910, Subpart L, shall be on hand and ready for use to control incipient fires.

(j)(2) Opening drums and containers. The following procedures shall be followed in areas where drums or containers are being opened:

(j)(2)(i) Where an airline respirator system is used, connections to the source of air supply shall be protected from contamination and the entire system shall be protected from physical damage.

(j)(2)(ii) Employees not actually involved in opening drums or containers shall be kept a safe distance from the drums or containers being opened.

(j)(2)(iii) If employees must work near or adjacent to drums or containers being opened, a suitable shield that does not interfere with the work operation shall be placed between the employee and the drums or containers being opened to protect the employee in case of accidental explosion.

(j)(2)(iv) Controls for drum or container opening equipment, monitoring equipment, and fire suppression equipment shall be located behind the explosion-resistant barrier.

(j)(2)(v) When there is a reasonable possibility of flammable atmospheres being present, material handling equipment and hand tools shall be of the type to prevent sources of ignition.

(j)(2)(vi) Drums and containers shall be opened in such a manner that excess interior pressure will be safely relieved. If pressure cannot be relieved from a remote location, appropriate shielding shall be placed between the employee and the drums or containers to reduce the risk of employee injury.

(j)(2)(vii) Employees shall not stand upon or work from drums or containers.

(j)(3) Material handling equipment. Material handling equipment used to transfer drums and containers shall be selected, positioned and operated to minimize sources of ignition related to the equipment from igniting vapors released from ruptured drums or containers.

(j)(4) Radioactive wastes. Drums and containers containing radioactive wastes shall not be handled until such time as their hazard to employees is properly assessed.

(j)(5) Shock sensitive wastes. As a minimum, the following special precautions shall be taken when drums and containers containing or suspected of containing shock-sensitive wastes are handled:

(j)(5)(i) All non-essential employees shall be evacuated from the area of transfer.

(j)(5)(ii) Material handling equipment shall be provided with explosive containment devices or protective shields to protect equipment operators from exploding containers.

(j)(5)(iii) An employee alarm system capable of being perceived above surrounding light and noise conditions shall be used to signal the commencement and completion of explosive waste handling activities.

(j)(5)(iv) Continuous communications (i.e., portable radios, hand signals, telephones, as appropriate) shall be maintained between the employee-in-charge of the immediate handling area and both the site safety and health supervisor and the command post until such time as the handling operation is completed. Communication equipment or methods that could cause shock sensitive materials to explode shall not be used.

(j)(5)(v) Drums and containers under pressure, as evidenced by bulging or swelling, shall not be moved until such time as the cause for excess pressure is determined and appropriate containment procedures have been implemented to protect employees from explosive relief of the drum.

(j)(5)(vi) Drums and containers containing packaged laboratory wastes shall be considered to contain shock-sensitive or explosive materials until they have been characterized.

Caution: Shipping of shock sensitive wastes may be prohibited under U.S. Department of Transportation regulations. Employers and their shippers should refer to 49 CFR 173.21 and 173.50.

(j)(6) Laboratory waste packs. In addition to the requirements of paragraph (j)(5) of this section, the following precautions shall be taken, as a minimum, in handling laboratory waste packs (lab packs):

(j)(6)(i) Lab packs shall be opened only when necessary and then only by an individual knowledgeable in the inspection, classification, and segregation of the containers within the pack according to the hazards of the wastes.

(j)(6)(ii) If crystalline material is noted on any container, the contents shall be handled as a shock-sensitive waste until the contents are identified.

(j)(7) Sampling of drum and container contents. Sampling of containers and drums shall be done in accordance with a sampling procedure which is part of the site safety and health plan developed for and available to employees and others at the specific worksite.

(j)(8) Shipping and transport.

(j)(8)(i) Drums and containers shall be identified and classified prior to packaging for shipment.

(j)(8)(ii) Drum or container staging areas shall be kept to the minimum number necessary to safely identify and classify materials and prepare them for transport.

(j)(8)(iii) Staging areas shall be provided with adequate access and egress routes.

(j)(8)(iv) Bulking of hazardous wastes shall be permitted only after a thorough characterization of the materials has been completed.

(j)(9) Tank and vault procedures.

(j)(9)(i) Tanks and vaults containing hazardous substances shall be handled in a manner similar to that for drums and containers, taking into consideration the size of the tank or vault.

(j)(9)(ii) Appropriate tank or vault entry procedures as described in the employer's safety and health plan shall be followed whenever employees must enter a tank or vault.

(k) Decontamination

(k)(1) General. Procedures for all phases of decontamination shall be developed and implemented in accordance with this paragraph.

(k)(2) Decontamination procedures.

(k)(2)(i) A decontamination procedure shall be developed, communicated to employees and implemented before any employees or equipment may enter areas on site where potential for exposure to hazardous substances exists.

(k)(2)(ii) Standard operating procedures shall be developed to minimize employee contact with hazardous substances or with equipment that has contacted hazardous substances.

(k)(2)(iii) All employees leaving a contaminated area shall be appropriately decontaminated; all contaminated clothing and equipment leaving a contaminated area shall be appropriately disposed of or decontaminated.

(k)(2)(iv) Decontamination procedures shall be monitored by the site safety and health supervisor to determine their effectiveness. When such procedures are found to be ineffective, appropriate steps shall be taken to correct any deficiencies.

(k)(3) Location. Decontamination shall be performed in geographical areas that will minimize the exposure of uncontaminated employees or equipment to contaminated employees or equipment.

(k)(4) Equipment and solvents. All equipment and solvents used for decontamination shall be decontaminated or disposed of properly.

(k)(5) Personal protective clothing and equipment.

(k)(5)(i) Protective clothing and equipment shall be decontaminated, cleaned, laundered, maintained or replaced as needed to maintain their effectiveness.

(k)(5)(ii) Employees whose non-impermeable clothing becomes wetted with hazardous substances shall immediately remove that clothing and proceed to shower. The clothing shall be disposed of or decontaminated before it is removed from the work zone.

(k)(6) Unauthorized employees. Unauthorized employees shall not remove protective clothing or equipment from change rooms.

(k)(7) Commercial laundries or cleaning establishments. Commercial laundries or cleaning establishments that decontaminate protective clothing or equipment shall be informed of the potentially harmful effects of exposures to hazardous substances.

(k)(8) Showers and change rooms. Where the decontamination procedure indicates a need for regular showers and change rooms outside of a contaminated area, they shall be provided and meet the requirements of 29 CFR 1910.141. If temperature conditions prevent the effective use of water, then other effective means for cleansing shall be provided and used.

(l) Emergency response by employees at uncontrolled hazardous waste sites

(l)(1) Emergency response plan.

(l)(1)(i) An emergency response plan shall be developed and implemented by all employers within the scope of paragraphs (a)(1)(i) through (ii) of this section to handle anticipated emergencies prior to the commencement of hazardous waste operations. The plan shall be in writing and available for inspection and copying by employees, their representatives, OSHA personnel and other governmental agencies with relevant responsibilities.

(l)(1)(ii) Employers who will evacuate their employees from the danger area when an emergency occurs, and who do not permit any of their employees to assist in handling the emergency, are exempt from the requirements of this paragraph if they provide an emergency action plan complying with 29 CFR 1910.38.

(l)(2) Elements of an emergency response plan. The employer shall develop an emergency response plan for emergencies which shall address, as a minimum, the following:

(I)(2)(i) Pre-emergency planning.

(I)(2)(ii) Personnel roles, lines of authority, training, and communication.

(I)(2)(iii) Emergency recognition and prevention.

(I)(2)(iv) Safe distances and places of refuge.

(I)(2)(v) Site security and control.

(I)(2)(vi) Evacuation routes and procedures.

(I)(2)(vii) Decontamination procedures which are not covered by the site safety and health plan.

(I)(2)(viii) Emergency medical treatment and first aid.

(I)(2)(ix) Emergency alerting and response procedures.

(I)(2)(x) Critique of response and follow-up.

(I)(2)(xi) PPE and emergency equipment.

(I)(3) Procedures for handling emergency incidents.

(I)(3)(i) In addition to the elements for the emergency response plan required in paragraph (I)(2) of this section, the following elements shall be included for emergency response plans:

(I)(3)(i)(A) Site topography, layout, and prevailing weather conditions.

(I)(3)(i)(B) Procedures for reporting incidents to local, state, and federal governmental agencies.

(I)(3)(ii) The emergency response plan shall be a separate section of the Site Safety and Health Plan.

(I)(3)(iii) The emergency response plan shall be compatible and integrated with the disaster, fire and/or emergency response plans of local, state, and federal agencies.

(I)(3)(iv) The emergency response plan shall be rehearsed regularly as part of the overall training program for site operations.

(I)(3)(v) The site emergency response plan shall be reviewed periodically and, as necessary, be amended to keep it current with new or changing site conditions or information.

(I)(3)(vi) An employee alarm system shall be installed in accordance with 29 CFR 1910.165 to notify employees of an emergency situation, to stop work activities if necessary, to lower background noise in order to speed communication, and to begin emergency procedures.

(I)(3)(vii) Based upon the information available at time of the emergency, the employer shall evaluate the incident and the site response capabilities and proceed with the appropriate steps to implement the site emergency response plan.

(m) Illumination. Areas accessible to employees shall be lighted to not less than the minimum illumination intensities listed in the following Table H-120.1 while any work is in progress:

TABLE H-120.1. – MINIMUM ILLUMINATION INTENSITIES IN FOOT-CANDLES

Foot-candles	Area or operations
5	General site areas.
3	Excavation and waste areas, access ways, active storage areas, loading platforms, refueling, and field maintenance areas.
5	Indoors: warehouses, corridors, hallways, and exit ways.
5	Tunnels, shafts, and general underground work areas; (Exception: minimum of 10 foot-candles is required at tunnel and shaft heading during drilling, mucking, and scaling. Mine Safety and Health Administration approved cap lights shall be acceptable for use in the tunnel heading.
10	General shops (e.g., mechanical and electrical equipment rooms, active storerooms, barracks or living quarters, locker or dressing rooms, dining areas, and indoor toilets and workrooms.
30	First aid stations, infirmaries, and offices.

(n) Sanitation at temporary workplaces

(n)(1) Potable water.

(n)(1)(i) An adequate supply of potable water shall be provided on the site.

(n)(1)(ii) Portable containers used to dispense drinking water shall be capable of being tightly closed, and equipped with a tap. Water shall not be dipped from containers.

(n)(1)(iii) Any container used to distribute drinking water shall be clearly marked as to the nature of its contents and not used for any other purpose.

(n)(1)(iv) Where single service cups (to be used but once) are supplied, both a sanitary container for the unused cups and a receptacle for disposing of the used cups shall be provided.

(n)(2) Nonpotable water.

(n)(2)(i) Outlets for nonpotable water, such as water for firefighting purposes shall be identified to indicate clearly that the water is unsafe and is not to be used for drinking, washing, or cooking purposes.

(n)(2)(ii) There shall be no cross-connection, open or potential, between a system furnishing potable water and a system furnishing nonpotable water.

(n)(3) Toilet facilities.

(n)(3)(i) Toilets shall be provided for employees according to Table H-120.2.

TABLE H-120.2. – TOILET FACILITIES

Number of employees	Minimum number of facilities
20 or fewer	One.
More than 20, fewer than 200	One toilet seat and 1 urinal per 40 employees.
More than 200	One toilet seat and 1 urinal per 50

	employees.
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(n)(3)(ii) Under temporary field conditions, provisions shall be made to assure not less than one toilet facility is available.

(n)(3)(iii) Hazardous waste sites, not provided with a sanitary sewer, shall be provided with the following toilet facilities unless prohibited by local codes:

(n)(3)(iii)(A) Chemical toilets;

(n)(3)(iii)(B) Recirculating toilets;

(n)(3)(iii)(C) Combustion toilets; or

(n)(3)(iii)(D) Flush toilets.

(n)(3)(iv) The requirements of this paragraph for sanitation facilities shall not apply to mobile crews having transportation readily available to nearby toilet facilities.

(n)(3)(v) Doors entering toilet facilities shall be provided with entrance locks controlled from inside the facility.

(n)(4) Food handling. All food service facilities and operations for employees shall meet the applicable laws, ordinances, and regulations of the jurisdictions in which they are located.

(n)(5) Temporary sleeping quarters. When temporary sleeping quarters are provided, they shall be heated, ventilated, and lighted.

(n)(6) Washing facilities. The employer shall provide adequate washing facilities for employees engaged in operations where hazardous substances may be harmful to employees. Such facilities shall be in near proximity to the worksite; in areas where exposures are below permissible exposure limits and which are under the controls of the employer; and shall be so equipped as to enable employees to remove hazardous substances from themselves.

(n)(7) Showers and change rooms. When hazardous waste clean-up or removal operations commence on a site and the duration of the work will require six months or greater time to complete, the employer shall provide showers and change rooms for all employees exposed to hazardous substances and health hazards involved in hazardous waste clean-up or removal operations.

(n)(7)(i) Showers shall be provided and shall meet the requirements of 29 CFR 1910.141(d)(3).

(n)(7)(ii) Change rooms shall be provided and shall meet the requirements of 29 CFR 1910.141(e). Change rooms shall consist of two separate change areas separated by the shower area required in paragraph (n)(7)(i) of this section. One change area, with an exit leading off the worksite, shall provide employees with an area where they can put on, remove and store work clothing and personal protective equipment.

(n)(7)(iii) Showers and change rooms shall be located in areas where exposures are below the permissible exposure limits and published exposure levels. If this cannot be accomplished, then a ventilation system shall be provided that will supply air that is below the permissible exposure limits and published exposure levels.

(n)(7)(iv) Employers shall assure that employees shower at the end of their work shift and when leaving the hazardous waste site.

(o) New technology programs.

(o)(1) The employer shall develop and implement procedures for the introduction of effective new technologies and equipment developed for the improved protection of employees working with hazardous waste clean-up operations, and the same shall be implemented as part of the site safety and health program to assure that employee protection is being maintained.

(o)(2) New technologies, equipment or control measures available to the industry, such as the use of foams, absorbents, absorbents, neutralizers, or other means to suppress the level of air contaminants while excavating the site or for spill control, shall be evaluated by employers or their representatives. Such an evaluation shall be done to determine the effectiveness of the new methods, materials, or equipment before implementing their use on a large scale for enhancing employee protection. Information and data from manufacturers or suppliers may be used as part of the employer's evaluation effort. Such evaluations shall be made available to OSHA upon request.

Appendix B – Chemical Database

The chemical database used in e-HASP₂ contains information concerning more than 800 chemicals. OSHA has gathered this information for the convenience of employers, employees, and other interested parties from a variety of published sources which the Agency considers to be reliable and current. However, since OSHA did not conduct the research/analysis upon which much of the underlying information is based, the Agency cannot independently vouch for the accuracy and reliability of every piece of information contained in this tool. Moreover, OSHA does not control the publication of the information, and the Agency cannot unilaterally modify information provided by non-OSHA sources. If a user believes that any information contained in this tool is inaccurate or no longer current, please send your questions, comments or suggestions to:

e-HASP₂
OSHA, Office of Health Enforcement
U.S. Department of Labor
200 Constitution Avenue, NW
Washington, DC 20210

The Agency can then take appropriate actions with respect to the maintenance of this information on the OSHA website. Finally, while this is an extensive repository of information concerning chemical hazards, and is posted to assist interested parties as they collect information concerning various chemicals. This tool does not diminish or affect an employer's obligation to comply with the provisions of the OSH Act or OSHA standard and regulations concerning toxic and hazardous substances, including 29 CFR 1910.120, 1910.1000 through 1910.1096, 1910.1200, 1910.1201, and 1910.1450.

The following resources and references were used in the creation of the chemical database:

- 1) CAMEO, version 1.2 (March 1996)
- 2) ACGIH 2004 edition of Guide to Occupational Exposure Values
- 3) OSHA 2004 edition of 29 CFR 1910.1000 Tables Z1-Z3
- 4) AIHA 2004 edition of Emergency Response Planning Guidelines (ERPGs) and Workplace Environmental Exposure Level Guides (WEELs) Handbook
- 5) NIOSH 2004 edition of Pocket Guide to Chemical Hazards
- 6) 9th Report on Carcinogens (Released in May 2000)
- 7) IARC Monographs through Volume 77 (August 2000)