

Instructor Led Simulation Guide

Hazardous Waste Decontamination

Introduction

This simulation is designed to provide an immersive learning experience for participants to understand and apply decontamination procedures at hazardous waste sites. The simulation will cover the various areas on a site where decontamination lines should be placed, the basic six-step decontamination process (Level B), and the correct placement of personnel based on health and medical records. This is in accordance with OSHA requirement 29 CFR 1910.120 (k). Additionally, learners will explore emergency decontamination procedures and the responsibilities of a decontamination leader.

Pre Brief

The pre-brief serves to prepare participants for the simulation by explaining the objectives, roles, and context. As the instructor, ensure the following key components are covered:

Objectives Overview: The primary objectives include understanding how to establish and operate a decontamination line, preventing contamination spread, and ensuring worker safety. Participants should also be familiar with the different decontamination methods and PPE requirements.

Communication and Respect: Set a tone of respect and open communication. Remind participants that the exercise is designed to help them learn in a controlled environment where mistakes are part of the process. Establish confidentiality to encourage honest participation, and clarify that any post-exercise discussions should focus on lessons learned rather than individual performances.

Decontamination Course Overview: Briefly review each of the six stations in the decontamination line and the procedures to be performed at each station. Provide participants with an overview of any PPE they may need knowledge of during the simulation.

Participants' Roles: Execute tasks based on assigned roles within the decontamination process. Ensure proper decontamination sequences are followed and maintain order in the decontamination line.

Facilitator's Role: Guide participants through the process, providing feedback and clarification where necessary. Ensure participants engage with the simulation fully and encourage reflective thinking by asking questions like, "What would happen if you skipped a step in the decontamination process?"

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Debrief

The debrief is crucial for helping participants reflect on their experience and consolidate their learning. As an instructor, lead a group debrief immediately after the exercise or the following day to allow participants time for reflection. Encourage self-reflection and invite participants to share their insights.

- Begin with a summary of the simulation.
- Discuss whether participants met the learning objectives, highlighting both successes and areas for improvement.
- Guide a discussion on how the principles of decontamination, emergency procedures, and PPE protocols can be applied in real-world hazardous waste site settings.
- If possible, break the debrief into smaller groups to allow more intimate discussion. Each group can discuss specific scenarios from the simulation, identifying key takeaways and lessons.

Operating Instructions

The user interface of the simulation allows participants to visualize the decontamination process and interact with various elements of a hazardous waste site. Participants will be required to:

- Select the appropriate areas to place the main and emergency decontamination lines.
- Drag and drop personnel and equipment into appropriate decontamination stations.
- Follow on-screen prompts and instructions to move through the six-step decontamination line.
- Monitor and control contamination levels using in-simulation health indicators for personnel.

Conclusion

This instructor-led simulation is designed to enhance participants' understanding of the critical procedures in place at hazardous waste sites for preventing contamination. By experiencing the six-step decontamination line, participants will leave with a practical understanding of how decontamination works, the importance of following procedures, and how PPE contributes to worker safety.

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Answer Key



The **main decon and emergency decon lines** can be placed on any of the highlighted areas except the bottom left, due to the wind blowing in that direction causing air contamination in those areas. This can be identified using the compass in the top left corner.

This shows the correct placement of arrows for the **flow of movement** in the six step decontamination line. The red line indicates the hot zone boundary, marking the contaminated area, while the green line defines the support zone, where clean operations take place. Placing these elements correctly ensures a safe and controlled decontamination setup.



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Answer Key

This represents the **six stages of the decontamination line** in the correct order. Each step has an associated image that you can click on to view a description, helping you understand its purpose to ensure a logical and effective workflow.



Hot Zone and Equipment Drop

Gross Wash and Rinse

Air Tank Change or SCBA Removal

Boots, Gloves and Outer Garment Removal

SCBA Face Piece and Removal

Support Zone and Field Wash

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Answer Key


This represents the **personnel assigned** to each stage of the decontamination line. Each individual has an associated image that you can click on to review their medical history and background, ensuring they are suited for their assigned role. This also includes the most experienced personnel assigned as the decon leader.




These **five personnel** do not have the medical qualifications to be able to work on the decontamination line.




- 30 Year old
- Prescribed medications for multiple medical issues
- Skips doses




- 18 Year old
- Diabetic
- Has asthma
- Heart murmur



- 25 Year old
- Had spinal decompression surgery last month
- Insists he's "back and better"
- Avoids lifting heavy unless necessary



- 27 Year Old
- Reports Claustrophobia and heat exhaustion a year ago
- No physical since 2015



- 29 year old
- 20 Weeks pregnant
- Requires Special consideration regarding physical exertion and stress