



# **Weatherization and Construction Site Hazards**

## **Facilitator Guide**

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Midwest Consortium for Hazardous Waste Worker Training

## Acknowledgments

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The Midwest Consortium developed this course under cooperative agreement number U45 ES 06184 from the National Institute of Environmental Health Sciences.

See <https://mwc.umn.edu> for a listing of contacts at each member institution and additional information. We encourage you to comment on these materials.

## Warning

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The Midwest Consortium for Hazardous Waste Worker Training has copyrighted this material. A recipient of the material, other than the Federal Government, may not reproduce it without permission of the copyright owner. The material was prepared for use by experienced facilitators in the training of persons who will be doing a range of weatherization and similar activities. Authors of this material have prepared it for the training as of the date specified below. Users are cautioned that the subject is constantly evolving. Therefore, the material may require additions, deletions, or modifications to incorporate the effects of that evolution occurring after the date of this material preparation.

## Disclaimer

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Weatherization and similar activities are covered by a range of Occupational Safety and Health Administration (OSHA) regulations. Many are referenced in the program. For information about further training, consult the training facilitator or your company health and safety representative.

Content was finalized May 8, 2023 and all web links are active as of that date; if you find an error, please inform the facilitator so that it can be updated.

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## **Overview**

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The Midwest Consortium developed this course to prepare workers to address hazards encountered during weatherization or similar activities. By following the outlined format and activities in this guide, you will be better able to enhance learning, stimulate participant discussion, and achieve the training objectives.

### **Preparation**

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The Topics provided in the Participant Guide are various hazards that could be encountered during weatherization or similar activities. The program is designed to be tailored for the needs of participants, from 2-8 hours, by choosing the desired content. It is expected that an interactive activity, such as the Hazard Controls Exercise, will take place for each Topic covered. This allows participants the opportunity to clarify information, identify options, and apply skills. Other exercises provided in this Facilitator Guide can be used as appropriate or a simulation designed by the facilitator may be utilized to give participants hands-on experience using equipment while reinforcing concepts learned in class. An emergency response plan must be in place for this program if you do a simulation. All facilitators must be aware of the elements of the plan. The Midwest Consortium for Hazardous Waste Worker Training is devoted to professional instructor freedom while maintaining consistency of training.

Below are Example Agendas of various lengths. Remember, breaks are not part of the training hours.

**2-hour program Example Agenda**

Introduction

Topics of Interest

Exercise 1: Hazard Controls

Exercise 2: Don/Doff N95

Closing and Evaluation

**4-hour program Example Agenda**

Introduction

Topics of Interest

Exercise 1: Hazard Controls

Exercise 2: Don/Doff N95

Exercise 3: Using SDS

Closing and Evaluation

**6-8-hour program Example Agenda**

Introduction

Topics of Interest

Exercise 1: Hazards Controls

Exercise 2: Don/Doff N95

Exercise 3: Using SDS

Exercise 4: Don/Doff PPE

Exercise 5: Inspecting Respirators and CPC

Closing and Evaluation

The Lesson Plan Form shown below may be helpful when drafting your presentation outline. For each program, it is the responsibility of the training center staff to retain a copy of the Agenda and Lesson Plan in the Program File.

**Lesson Plan Form - use to organize your facilitation**

<b>Topics</b>	<b>Details</b>	<b>Reference Information</b>
Topics from Participant Guide	Key points to be covered for each Topic	Page number in Participant Guide, section number of regulation, or audiovisual material

## Qualifications for Facilitators

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Facilitators must be documented to be qualified based on relevant work experience, education, and expertise. Certain Topics, such as asbestos and mold, may require additional training. Facilitators should be familiar with the OSHA Standard 29 CFR 1910.120.

## Presentation of Material

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This program is developed to be presented as discussion and small-group exercises. The Lesson Plan may be useful as a checklist for the facilitator to assure that key points are covered during the exercise and discussion.

Exercises are outlined in this Facilitator Guide and will vary depending on the program length. The purpose of these exercises is to involve participants in clarifying information, identifying options, and applying skills. Be sure to allow sufficient time for participants to complete activities.

Exercises enhance the learning process. Therefore, it is strongly recommended that you make them comfortable so that everyone can participate. Assume that every class will have participants with a wide range of communication skills. Some will have no problems participating in group discussion, while others may have a hard time talking in front of the group.

Suggestions for facilitating group activities include:

- Allow participants to freely express their values, attitudes, and opinions.
- Do not judge a participant's responses.
- Avoid putting people on the spot. Instead of asking individuals for answers, have a volunteer spokesperson present findings to the entire group.
- Keep the groups focused on the task at hand. Because small-group activities can draw heavily on the participants' personal experience, sometimes conversation can drift.
- Be alert to the potential for one person to dominate work in small groups. If you see this happening, facilitate participation by other members of the group.
- Keep the trainees alert and interested by encouraging participation. If the groups are not participating or giving only cursory answers, ask them probing questions linked to previous work or life experiences.

## Evaluation

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Evaluation provides input from participants regarding value to them, achievement of learning objectives and insights into how to improve the program. NIEHS supports 'model programs' that employ interactive training methods to build skills; see [https://tools.niehs.nih.gov/wetp/public/hasl\\_get\\_blob.cfm?ID=11266&file\\_name=WTP\\_Minimum\\_Criteria\\_062818\\_Final\\_508.pdf](https://tools.niehs.nih.gov/wetp/public/hasl_get_blob.cfm?ID=11266&file_name=WTP_Minimum_Criteria_062818_Final_508.pdf). Collection and use of evaluation data are key to program improvement. Adherence to these criteria is a term-and-condition of NIEHS funding.

Evaluation forms are shown at <http://mwc.umn.edu>.

Successful completion of the program is based on attendance for the entire program, documented with the sign-in sheet, and active participation in all exercises.



# Introduction

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Time Requirement: 10 minutes

Number of Instructors: 1

## Materials

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- Registration and sign-in forms
- Technology – computer(s), projector, screen, cables, internet

## Objectives

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During the brief introduction, the following will be accomplished:

- Introductions
- Registration
- Sign-in

## Suggested Instructor Preparation

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- Identify needs of participants
- Prepare lesson plan
- Ensure operation of any technology to be used
- Verify web links to be used are working

## **Minimum Content Requirements**

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- Introduction of facilitator(s), program, participants (if appropriate)
- Complete registration forms (if not done in advance)
- Everyone signs in
- Review objectives

## **Question You May be Asked**

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How do I find more information on...?

The internet and the local library are resources for researching. Use only trusted internet sources such as government websites. Avoid independent opinion blogs and unverified groups.

## **Presentation of the Session**

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The session can be presented as follows:

## **Introduction**

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Introduce facilitator(s) and provide needed orientation. Review MWC, NIEHS 'model programs', and uses of evaluation. Note that attendance is required for the duration of the program.

Review the objectives of the program:

After completion, participants will be better able to:

- Recognize potential worksite hazards
- Identify work practices and other controls to minimize hazards
- Use personal protective equipment (PPE)

If appropriate, ask participants to introduce themselves and what each wants to gain from the session. This is an ideal time to gauge the level of knowledge of the participants. Note any goals identified by participants that are not in the listing above - address any that may fit with the session materials and describe why remaining goals are outside the scope of this training.

Collect registration and any other forms and provide to program staff for retention.

## Topics

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Time Requirement: Variable

Number of Instructors: 1 or more, consistent with ratio in Minimum Criteria

### Materials

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- Technology – computer, projector, screen, cables, internet
- Participant Guide
- Materials such as PPE for selected exercises

### Objectives

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When completed, participants will be better able to:

- Recognize potential worksite hazards
- Identify work practices and other controls to minimize hazards
- Use personal protective equipment (PPE)

### Teaching Methods

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- Presentation/discussion/small-group exercises

### Suggested Facilitator Preparation

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- Review the Participant Guide for each Topic to be covered
- Review the exercises in this Facilitator Guide to be used
- Print materials such as checklists for exercises, as they are not included in the Participant Guide.

## **Minimum Content Requirements**

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The following are minimum content objectives for the session:

- Content of Topics as found in Participant Guide
- Small-group exercises

## **Question You May be Asked**

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How do I find more information on...?

The internet and the local library are resources for researching. Use only trusted internet sources such as government websites. Avoid independent opinion blogs and unverified groups.

## **Resources**

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Most Topics in the Participant Guide include resources that may be useful in preparation and during the program. A list of Resources is also found at the end of the Participant Guide.

## **Presentation of Material**

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The session can be presented as follows.

## **Topic**

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Use the content in the Participant Guide to facilitate discussion of each Topic to be covered. Each Topic includes a Quick Checklist to identify key concepts.

## Exercise 1: Hazard Control

**Time Requirement:** 20 minutes per Topic

**Materials:** None

**Facilitator Preparation:** Review this exercise

**Instructions:** After each Topic, divide participants into small groups. Have each group write down their responses to the questions below. Facilitate a report-back. Reinforce key concepts.

In what way(s) is this hazardous?

How could this hazard be encountered at a worksite?

What action(s) could you take to prevent/reduce this hazard?

## Exercise 2: Don/Doff N-95

**Time Requirement:** 15 minutes

**Materials:** N-95 respirators (could include some with defects/unapproved)

**Facilitator Preparation:**

- Review Respiratory Protection Topic in Participant Guide
- Review this exercise

**Instructions:**

- Divide participants into groups
- Pass out N-95 respirators
- Have participants use the Checklist
- Assist as needed
- Discuss work activities that would require an N-95

**Don/Doff N-95 Checklist**

1. Selected NIOSH approved respirator	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2. Fit nose piece to nose	<input type="checkbox"/> Yes	<input type="checkbox"/> No
3. Lower strap at neck	<input type="checkbox"/> Yes	<input type="checkbox"/> No
4. Upper strap high on head	<input type="checkbox"/> Yes	<input type="checkbox"/> No
5. Performed fit check	<input type="checkbox"/> Yes	<input type="checkbox"/> No
6. Removed lower strap first	<input type="checkbox"/> Yes	<input type="checkbox"/> No

## Exercise 3: Using an SDS

**Time Requirement:** 20 minutes

**Materials:**

- SDS for a chemical of interest
- Worksheet on next page

**Facilitator Preparation:**

- Review SDS Topic in Participant Guide
- Review this exercise
- Select a chemical of interest to the participants and print a copy of the SDS for that chemical for each participant

**Instructions:**

- Divide participants into groups
- Pass out SDSs
- Have participants use the SDS to find the information requested on the worksheet on the next page
- Facilitate a report-back

## Worksheet – Using an SDS

Type of Information	Section	Answer/Information
What is the appropriate firefighting agent?		
What is the physical form of the hazard?		
Is a respirator needed?		
What is the allowable workplace exposure (PEL or TLV)?		
What is the hazard?		
What PPE is needed?		
Show information from two different sections that must be on the label.		
Are there storage requirements?		
Do I need special tools?		
Is there a contact, if needed?		
What is the product?		
Is there an acute health effect?		
What action is need if someone is splashed on the skin?		



## Exercise 4: Don/Doff PPE

**Time Requirement:** 45 minutes

**Materials:**

- N-95 respirators
- Half-face APRs/Full-face APRs (as needed)
- Head covers
- Gloves
- Goggles
- Boot covers
- Full-body protective suits

**Facilitator Preparation:**

- Review reference materials
- Review this exercise
- Prepare copies of worksheet for all participants

**Instructions:**

- Divide participants into groups
- Pass out materials
- Have participants select ensembles for maximum and low levels of protection
- Ensure that at least one group member dresses out for each level
- Assist as needed
- Have participants fill out the worksheet

**Participants should select the following ensembles for each level:**

- **LOWEST LEVEL:** Gloves, N-95 respirator, goggles/eye protection
- **MAXIMUM LEVEL:** Gloves, disposable full body clothing, head gear, foot coverings, full-face respirator with HEPA filter

**Worksheet: Donning and Doffing PPE**

You will be divided into teams for this exercise. Your facilitator will provide you with duct tape and a cart or table full of various types of PPE such as:

N-95 respirator	Gloves	Full-body protective suits
Half-face APR	Goggles	Full-face APR
Head cover	Boot covers	

Using the PPE provided select an ensemble for the following two situations:

- Maximum protection
- Lowest level of protection (not none!)

At least one team member should dress out for each of these scenarios, and remember to seal the wrists and ankles with tape.

**Check the PPE you selected for the maximum protection from exposure:**

<input type="checkbox"/> N-95 respirator	<input type="checkbox"/> Gloves	<input type="checkbox"/> Full-body protective suits
<input type="checkbox"/> Half-face APR	<input type="checkbox"/> Goggles	<input type="checkbox"/> Full-face APR
<input type="checkbox"/> Head cover	<input type="checkbox"/> Boot covers	

**Check the PPE you selected for the lowest level of protection:**

<input type="checkbox"/> N-95 respirator	<input type="checkbox"/> Gloves	<input type="checkbox"/> Full-body protective suits
<input type="checkbox"/> Half-face APR	<input type="checkbox"/> Goggles	<input type="checkbox"/> Full-face APR
<input type="checkbox"/> Head cover	<input type="checkbox"/> Boot covers	

## Exercise 5: Inspecting Respirators and CPC

**Time Requirement:** 20 minutes

**Materials:** Respirators and CPC (some defective/unapproved)

### Facilitator Preparation:

- Review Respiratory Protection section in Participant Guide
- Review Chemical Protective Clothing (CPC) and other PPE section in Participant Guide
- Review this exercise
- Review 29 CFR 1910.134
- Make copies of worksheet for each participant
- Gather needed PPE and CPC for inspection

### Instructions:

Divide participants into groups and provide each with several different respirators and CPC. Using the worksheet below, have them examine each for defects, noting their findings.

## Worksheet – Inspecting PPE and CPC

### Inspecting respirators

- Is it NIOSH approved?
- Check the condition of each part including, the facepiece, head straps, valves, connecting tube, and cartridges, and canisters or filters
  - Is the rubber cracked on the head straps or the face seal?
  - Are the head straps overly stretched?
  - Does the filter screw in and out properly?
  - Disassemble and examine each of the pieces. Make sure you can reassemble the equipment correctly.
- Check for tightness of connections
- Check elastomeric parts for pliability and signs of deterioration
- Check respirator function

### Inspecting CPC

Factors to consider are:

- Cuts, holes, tears, swelling, and abrasions in seams of fabric
- Weakness in zipper or valve seals
- Signs of contamination such as discolorations or visible chemical residues
- Signs of malfunctioning exhaust valves

List the types of respirators you and your teammates inspected and what you discovered. Did you identify a NIOSH approved/unapproved respirator? Did you identify any defective parts?

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# **Closing and Program Evaluation**

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Time Requirement: 10 minutes

Number of Instructors: 1 or more, consistent with ratio in Minimum Criteria

## **Materials**

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- Evaluation forms

## **Objectives**

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- Review program objectives
- Answer questions
- Collect feedback (evaluation forms)

## **Teaching Methods**

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- Discussion

## **Suggested Instructor Preparation**

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- Ensure you have evaluation forms prior to the program

## **Minimum Content Requirements**

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The following are minimum content requirements for the section:

- Evaluation forms
- Answer questions
- Provide certificates for those who met the definition of successful completion; provide remediation according to Training Center and MWC policy for anyone who did not attend the entire program.

## **Question You May Be Asked**

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“How do I get more training?”

Provide your schedule and reference other MWC members who provide the needed training.

## **Presentation of the Session**

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Thank participants for attending the program.

Review the goals of the program.

This is an opportunity for final questions and to assure that the list of questions has been addressed during the program.

Evaluation is important to continued program improvement. This should not be rushed.