

Inspect, Don, Doff a Level of Protection

Time Requirement: 3 hours total

Number of Instructors: Minimum of 2, consistent with ratio in Minimum Criteria

Materials

- Participant Guide and worksheets
- Whiteboard or equivalent; markers
- Open-space room that will allow groups mobility with protective equipment
- Four tables set up as lab stations
- Chemical protective clothing (CPC)
- Tape (Tape recommended by the manufacturer should be used)
- SCBA units (one per participant as needed)
- Cylinder of breathing air (1 breathing air cylinder per participant, if Level A or B)
- Supplied-air respirator face pieces
- Air-purifying respirators (as needed)
- Some defective PPE (for identification during inspection)
- All levels of PPE, if demonstration is included

Objectives

When completed, participants will be better able to:

- Inspect gear for defects or damage prior to use
- Demonstrate the ability to dressout in Level A, B or C

Teaching Methods

- Presentation/discussion
- Demonstration
- Small-group activity
- Individual activity

Suggested Instructor Preparation

- Review the Participant Guide and exercises
- Test all web links prior to the session and if any are inoperative please notify your Program Director
- Review the Chemical Protective Clothing (CPC), Work Practices and Decon sections of the HAZWOPER program that these participants have completed.
- Review 29CFR1910.120 and 29CFR1910.134. ER also review 29CFR1910.156
- Review background reading materials
- Conduct reconnaissance to obtain Respiratory Protective Equipment (RPE) and Chemical Protective Clothing (CPC) programs, describe use during the past year and obtain brands/sizes available
- Review manufacturer information and instructions for equipment to be used during module
- Prepare checklists
- Prepare an outline for class notes to be placed in the program file
- Assemble supplies and equipment for exercise

Minimum Content Requirements

- Review different types of chemical protective clothing (CPC) that are available
- Selection considerations
- Different levels of protection of PPE
- Characteristics and properties

- Precautions when wearing CPC
- Inspection of protective gear
- Donning and doffing of PPE

Questions You May Be Asked

1. Participants might remark, "We don't do the inspection this way at our site. So what are we supposed to do?" You should be prepared to facilitate a discussion about working through union or management representatives to facilitate review and possible changes in the facility Health and Safety Plan (HASP). Emphasize that HAZWOPER requires the development and implementation of written procedures. Alternative procedures may be effective. Stress that inspection should be performed.

2. "What do I do when my employer tells me there is no budget to get new suits, but I have lost weight and need a smaller size?" Be prepared to facilitate a discussion on strategies to improve the company program through discussions with employee or management representatives. Emphasize that the law requires that employers provide protective gear. Perhaps the employer is waiting to order a smaller size when the current supply runs out?

3. "What about facial hair? My employer has a 'no beard' policy, and I don't like it." Emphasize that facial hair prevents a good fit, resulting in exposure to toxic substances.

4. "What about medical clearance?" Facilitate a discussion of the stresses of wearing PPE. Medical clearance is needed for respirator use; employers may have additional requirements based on other PPE.

Presentation of the Session

This session can be presented as follows:

Review the objectives

Review the figures in the Participant Guide

Chemical-Protective Clothing

Ask: Why is protective clothing necessary?

Ask: What are the types of protective clothing you have used at a work site?

Ask: What are situations in which protective clothing is required?

Ask: What considerations should be made when selecting protective clothing?

Refer to hazards that the group might be exposed to.

Types of Chemical-Protective Suits

- Emphasize that different types of CPC are needed to protect against different hazards.
- Stress that totally encapsulating chemical-protective suits (TEPC) are the only ones that can protect from vapor hazards.
- Also note that CPC can have an expiration date, because it can and does degrade during use and storage.

Selection of PPE

Ask: What hazards are present at your current work site or at sites where you have worked in the past?

List responses where all participants can see them. Point out that different hazards will require different PPE.

Levels of PPE

Ask: What equipment, according to OSHA, makes up Level A protective clothing? and "What is required, and what is optional equipment?"

If available, have a second instructor demonstrate the equipment for Level A.

Ask: When is Level A equipment necessary?

Repeat these questions and demonstration for Levels B, C, and D protection.

Non-vapor-tight TECPs may be used for Level B protection.

Characteristics and Properties of CPC

Discuss the terms Penetration, Degradation and Permeation shown in the Participant Guide by reviewing the figures.

Precautions When Wearing CPC

List 5 precautions to consider when selecting CPC, as listed in the Participant Guide.

Have participants make a list of five precautions to consider. This task should take about 3 minutes. Ask for volunteers to state what they considered.

List participant responses where everyone in the class can see them. Add additional responses to complete the list.

Refer to the Participant Guide for a list of precautions in the use of CPC.

Ask: How can you minimize each of the following potential hazards?

- Hearing impairment
- Vision impairment
- Heat stress
- Slips, trips, and falls

Emphasize:

- Care taken when donning and doffing gloves to avoid rips and tears
- Avoid placing hands and knees on the ground to prevent permeation of chemicals and abrasion of suit material
- Use of the buddy system

Inspection, Maintenance, and Storage of CPC

Ask "Why is it important to inspect, maintain, and properly store CPC?"

Demonstrate how to inspect CPC including examining suits for cuts, holes, rips and tears, abrasions, weakness in zippers, signs of malfunctioning, and discolorations and visible chemical contaminants.

Donning and Doffing a Level of Protection

Stress the following:

- PPE should be inspected every time it is donned and doffed
- All tape should include tabs for ease of removal

- Positive and negative pressure checks of respirators should be performed every time a respirator is donned
- Be sure there are annual pressure checks for suits

Exercise – Inspect, Don, Doff

The purpose of this exercise is to give participants the opportunity to wear and become familiar with proper donning and doffing of Levels A, B, and C protective clothing and to teach participants inspection procedures of the various parts, such as boots, hard hat, gloves, CPC suit, etc.

The 2 hours were allotted because of the time for each person in a team to complete the three checklists. Depending upon the Level of Protection and program size, more time and facilitators may be needed. After the participant has donned and doffed the suit and completed the checklist, you review, sign, and collect the checklist.

Lab Performance Checklists are part of the Consortium's documentation of training and must be collected from the participants and maintained by the training institution. Copies of checklists may be given upon request by the participant or his/her employer. Before running a station, each station leader should wear the PPE and read through the checklists to know what is expected of him/her and the participants.

Inspection

Allow participants to handle all available clothing. Include some gear that has defects or shows signs of damage. Facilitators may emphasize specific points while going from group-to-group including:

- Suits
 - Types of seams
 - Hoods versus no hoods
 - Stress points
 - Sizes
 - Face shield not tested for permeation
 - Tape may degrade
- Gloves
 - Performance charts
 - Sizes

- Damage
- Inspection
- Boots
 - Steel toes
 - Stitching, molded seams
- Respiratory protection

Donning and Doffing a Level of Protection

Materials (tailor to the Level to be used)

- SCBAs (one per participant for Level A or B))
- Extra facepieces in various sizes
- Minimum of 1200 lbs. air pressure
- Manufacturer's procedures for donning and doffing SCBA
- One table for every four participants
- Paper towels
- Mild cleaning solution
- Moist wipes
- Cylinders of air
- Levels A, B, or C protective clothing
- Tape recommended by the manufacturer should be used in the field.
- Clipboards and pens
- Checklists
- Selected suits, gloves, boots, and hard hats

Organization:

- Depending on class size and equipment, determine how many teams of two to have
- Set up an equipment pick-up area
- Set up large tables (one for every 4 participants) for donning and doffing

Inspect, Don, Doff a Level of Protection – Facilitator Guide

- Have one person in each group do the inspection, then don and doff
- Complete Checklist
- Repeat

Summary

Review the objectives

Ask: Based on this exercise, what takeaways do you have as you go back to work?

List them on a writing surface viewable by all

Answer any remaining questions

Follow up

Make this exercise better:

- Forward suggestions to your Program Director
- Are there other 'Questions you may be asked' that should be included?
- Organize the listing of 'takeaways' and forward to your program director. These are very important impacts to report to NIEHS.

Exercise - PPE Donning and Doffing

During this exercise you will demonstrate proficiency inspecting PPE and donning and doffing one level of protection (A, B, or C).

Checklists for this exercise are provided here; however, the instructor will hand out duplicates of these checklists which you will complete, have signed by the instructor, and turn in at the end of the exercise. The training center retains this information with your other training records. Therefore, you may want to record your results on the duplicate for your personal records.

Name: _____

Buddy's Name: _____

PPE Performance Checklist - Inspecting PPE

1. Were inspection procedures described for:
 - a. Boots? Yes No
 - b. Outer gloves? Yes No
 - c. Hard hats? Yes No
 - d. Suits? Yes No
2. Did you inspect gloves? Yes No
3. Did you find defects in the gloves? Yes No
If yes, describe the defects:

4. Did you inspect a suit prior to donning? Yes No
5. Did you find defects in the suit? Yes No
If yes, describe the defects:

6. Did you observe the Level A suit leak-test procedure? Yes No
7. Did you see the repair kit for the Level A suit? Yes No

Date _____ Instructor's Signature: _____

Name: _____

Buddy's Name: _____

PPE Performance Checklist - Donning and Doffing Level A

Preparing to Don the Equipment

1. List the size that you chose for all of the following equipment. If you did not wear the listed equipment, put an "X" on the line.

- a. Disposable suit Size _____
- b. SCBA Facepiece Size _____ Brand _____
- c. Level A training suit Size _____
- d. Boots Size _____
- e. Inner gloves Size _____
- f. Outer gloves Size _____
- g. Hard hat Size = adjustable

List any equipment for which you could not find a proper size, and state whether you needed a larger or smaller size.

Type of Equipment _____ Size _____

Type of Equipment _____ Size _____

Type of Equipment _____ Size _____

2. Did you inspect the equipment before donning it?..... Yes No

3. Did you and your buddy help each other get dressed? Yes No

Donning the Equipment

4. Did you do a negative-pressure check of your facepiece? Yes No

5. Did you check the SCBA by-pass valve before you put on Level A? Yes No

6. Did your buddy ask if you could breathe OK before your suit was closed??
..... Yes No

Name: _____

Buddy's Name: _____

PPE Performance Checklist - Donning and Doffing Level A (Cont.)

Hooked to Air in Level A

7. Did your buddy check your suit's sealing points (zipper, cuff, ted.) after your suit was closed? Yes No

8. Did you and your buddy review the communications system after your suit was closed? Yes No

9. Did you withdraw your hand from the sleeve of the suit and turn on the SCBA emergency by-pass valve? Yes No

10. Did you have to withdraw your hand and defog your face shield?? Yes No

11. Did you do an assigned task? Yes No

If yes, describe the task: _____

DoFFing the Equipment

12. Did you touch the outside of your suit as it was being removed? Yes No

13. Did you remove your inner gloves properly? Yes No

14. Did you dry your suit as instructed? Yes No

15. After doffing the SCBA, did you:

a. Extend the harness straps? Yes No

b. Extend the facepiece straps? Yes No

c. Clean the facepiece? Yes No

d. Check the cylinder? Yes No

If yes, did the cylinder need to be changed? Yes No

If yes, did you change it or have it changed? Yes No

16. How long did you stay in Level A? _____ minutes

Date _____ Instructor's Signature: _____

Name: _____

Buddy's Name: _____

PPE Performance Checklist - Inspecting PPE

1. Were inspection procedures described for:

a. Boots? Yes No

b. Outer gloves? Yes No

c. Hard hats? Yes No

d. Suits? Yes No

2 Did you inspect gloves? Yes No

3. Did you find defects in the gloves? Yes No

If yes, describe the defects: _____

4. Did you inspect a suit prior to donning? Yes No

5. Did you find defects in the suit? Yes No

If yes, describe the defects: _____

Date _____ Instructor's Signature: _____

Name: _____

Buddy's Name: _____

PPE Performance Checklist - Donning and Doffing Level B

1. List the size that you chose for all of the following equipment. If you did not wear the listed equipment, put an "X" on the line.

- a. Chemical-protective clothing Size _____
- b. Face piece Size _____ Brand _____
- c. Boots Size _____
- d. Inner gloves Size _____
- e. Outer gloves Size _____
- f. Hard hat Size = adjustable

List any equipment for which you could not find a proper size, and state whether you needed a larger or smaller size.

Type of Equipment	_____	Size	_____
Type of Equipment	_____	Size	_____
Type of Equipment	_____	Size	_____

2. Did you inspect the equipment before donning it? Yes No

3. Did your buddy:

- a. Make pull tabs when taping your boots/pants? Yes No
- b. Make pull tabs when taping your gloves/sleeves? Yes No
- c. Review the communications system with you? Yes No

4. Did you do an assigned task? Yes No
If yes, describe the task: _____

5. After doffing the SCBA, did you:

- a. Extend the harness straps? Yes No
- b. Extend the facepiece straps? Yes No
- c. Clean the facepiece? Yes No
- d. Check the cylinder? Yes No
If yes, did the cylinder need to be changed? Yes No
If yes, did you change it or have it changed? Yes No

6. How long did you stay in Level B? _____ minutes

Date _____ Instructor's Signature: _____

Name: _____

Buddy's Name: _____

PPE Performance Checklist - Inspecting PPE

1. Were inspection procedures described for:

a. Boots? Yes No

b. Outer gloves? Yes No

c. Hard hats? Yes No

d. Suits? Yes No

2. Did you inspect gloves? Yes No

3. Did you find defects in the gloves? Yes No

If yes, describe the defects: _____

4. Did you inspect a suit prior to donning? Yes No

5. Did you find defects in the suit? Yes No

If yes, describe the defects: _____

Date _____ Instructor's Signature: _____

Name: _____

Buddy's Name: _____

PPE Performance Checklist - Donning and Doffing Level C

1. List the size that you chose for all of the following equipment. If you did not wear the listed equipment, put an "X" on the line.

Chemical-protective clothing Size _____
Air-purifying respirator Size _____ Brand _____
Boots Size _____
Inner gloves Size _____
Outer gloves Size _____
Hard hat Size = adjustable

List any equipment for which you could not find a proper size, and state whether you needed a larger or smaller size.

Type of Equipment _____ Size _____

Type of Equipment _____ Size _____

2. Did you inspect the equipment before donning it? Yes No
3. Did your buddy:
- a. Make pull tabs when taping your boots/pants? Yes No
 - b. Make pull tabs when taping your gloves/sleeves? Yes No
 - c. Review the communications system with you? Yes No
4. Did you do an assigned task? Yes No
- If yes, describe the task: _____

5. Did you take off the suit in a manner that would protect you and the other workers around you from contamination? Yes No
6. Did you remove your inner gloves properly? Yes No
7. When removing your respirator:
- a. Were you wearing your inner gloves? Yes No
 - b. Did you extend your facepiece straps? Yes No
 - c. Did you clean the respirator? Yes No
8. How long did you stay in Level C? _____ minutes

Date _____ Instructor's Signature: _____