

**West Valley Site Management Program
RECORD OF REVISION AND DISTRIBUTION**

**TITLE: Training and Instruction of Radioactive Material Users on the
Retained Premises**

RP-RPP004.01

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**SUBJECT: Training and Instruction of Radioactive Material Users
on the Retained Premises**

RP-RPP004.01

1.0 PURPOSE

This document establishes the West Valley Site Management Program's (WVSMP) training requirements for personnel who may encounter radioactive materials during the performance of their work on the Retained Premises (RP). The required training will include radiological worker training; *WVSMP Annual Site-Specific Training*, HAS005, and task-specific prejob briefings.

2.0 TRAINING FREQUENCY AND EXAMINATIONS

All radiological workers will receive training as follows:

- Prior to performing work
- Whenever there is a significant change in duties, regulations or licensing
- Annual refresher training (e.g., Radiation Worker, WVSMP Site-Specific Training, etc.)

Training will be commensurate with the duties and functions of radiological workers under the purview of this RP-RPP.

3.0 TRAINING TOPICS

A health and safety training program including radiological worker training, *WVSMP Annual Site-Specific Training* and task-specific prejob briefings will be used to assure that all radioactive materials users receive instruction that includes, at a minimum, the following:

- Radiation fundamentals
- Biological effects of radiation exposure
- Radiation limits
- Principles and practices of radiation protection
- As low as reasonably achievable (ALARA) methods
- Personnel monitoring
- Radioactive contamination control
- Radiological postings and controls
- Radiological emergencies
- Hands-on practical exercises in areas such as:
 - Frisking for personnel contamination, Attachment A
 - Donning and doffing of protective clothing, Attachment B
 - Dosimetry placement
- Applicable regulations and standards
- A description of the Western New York Nuclear Service Center and areas where radioactive materials may be encountered
- The potential radiological and nonradiological hazards that may be encountered in areas covered by this RP-RPP
- A description of ongoing and planned activities

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- Worker rights and responsibilities under New York State and federal regulations including the following:
 - The right to exposure reports and bioassay results.
 - Each individual's responsibility to report unsafe conditions including any condition that may lead to, or cause a violation of, New York State or federal regulations, or cause unnecessary exposure to radiation or radioactive material.
 - Each individual's obligation to abide by the rules, regulations, and procedures established for their protection.
 - RP-RPP-specific emergency response information
 - Prejob briefings conducted prior to performing any radiological work at the Retained Premises, including the applicable work plans or procedures, task-specific safety documentation, radiation safety procedures and other relevant safety rules.

4.0 RECORDKEEPING

Records of initial, refresher and prejob briefing training for New York State Energy Research and Development Authority personnel will be maintained until license termination. Training records will include the names of the individuals receiving the training, the dates of the training, and a list of the topics covered or a copy of the training materials. Training records and prejob briefing records will be maintained in the WVSMP Central Files.

5.0 ATTACHMENTS

- Attachment A: Retained Premises Practical/Radiation Worker Training: Personnel Frisking (two pages)
- Attachment B: Retained Premises Practical/Radiation Worker Training: Donning and Doffing of PPE (three pages)

ATTACHMENT A

**RETAINED PREMISES PRACTICAL/RADIATION
WORKER TRAINING:
PERSONNEL FRISKING**

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**RETAINED PREMISES PRACTICAL/RADIATION WORKER TRAINING:
PERSONNEL FRISKING**

Only Radiological Worker trained individuals are allowed to use survey meters at the Retained Premises.

Radiological workers are qualified to use portable survey meters to check work areas, perform equipment or surface surveys, and for personal contamination frisks.

Surveys for alpha contamination will be performed by a Radiation Safety person under most circumstances. However, when necessary, any radiation worker can perform an alpha contamination survey using the same steps outlined below.

In all cases, follow the directions of the on-site Radiation Safety person, and the job or specific safety documentation.

PERFORMING A PERSONAL FRISK

1. Instrument Check

- Verify that the ratemeter is on and functioning properly. Observe background count rate.

NOTE: Contact the Radiation Safety person if a background count rate greater than 100 cpm is observed.

- Verify that the instrument is in calibration (i.e., note the calibration due date written on the calibration sticker).
- Verify that the instrument is set to the proper mode (e.g., ratemeter mode) and scale (x1 scale, **NOTE: digital ratemeters may not have scale settings**).
- Be sure that the audio is on and that the output can be heard.
- Verify meter set to slow response.

If the instrument is out of calibration, does not appear to be functioning properly, or the settings are incorrect, notify the Radiation Safety person at the work site.

2. Performing the Frisk

NOTE: A properly performed personal frisk will take a minimum of 2.5 minutes.

Perform the frisk by holding the frisker probe less than ½ inch from the surface of the body and slowly move the probe at approximately 2 inches per second.

- **Frisk your hands before picking up the probe.** At the rate indicated above, slowly pass the back, then front, of your hands over the up-facing probe while it is mounted in the probe holder.
- After frisking your hands, if a field source is present, source check the instrument by placing the probe face a centimeter or less from the instrument field source. The instrument count rate should be within the range posted on the instrument. If the source check fails, contact the Radiation Safety person at the job site.

**RETAINED PREMISES PRACTICAL/RADIATION WORKER TRAINING:
PERSONNEL FRISKING**

- Perform the whole body frisk pausing at places that are most likely to have contacted contamination (i.e., elbows, knees, back of head, wrists). If the count rate increases during the frisk, pause for 5 to 10 seconds over the area to provide adequate time for the instrument to respond and note the instrument reading.
- Perform the frisk in the following order:
 - A. Face
 - B. Back and top of head
 - C. Neck and shoulders
 - D. Arms (pausing at elbows for approximately 5 seconds)
 - E. Chest and abdomen
 - F. Back, hips, seat of pants
 - G. Legs (pausing at knees for approximately 5 seconds)
 - H. Shoe tops
 - I. Shoe bottoms (pause at sole and heel for approximately 5 seconds)
 - J. Dosimetry and personal belongings.
- Contact the work site Radiation Safety person if you believe contamination is present or a count rate **greater than 100 cpm above the background** is observed.
- If Radiation Safety personnel are not available, don shoe covers and two pairs of thin disposable gloves, minimize movement, contact the NYSERDA Radiation Safety Officer at (716) 942-9960 ext. 4027 for assistance and stand fast.
- Upon successful completion of frisking, return the probe to its holder and leave the area. The probe should be placed on its side or face up to allow the next person to monitor their hands before handling the probe.

ATTACHMENT B

**RETAINED PREMISES PRACTICAL/RADIATION
WORKER TRAINING:
DONNING AND DOFFING OF PPE**

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**RETAINED PREMISES PRACTICAL/RADIATION WORKER TRAINING:
DONNING AND DOFFING OF PPE**

The appropriate personal protective equipment (PPE) for your assigned work activities has been determined during a job hazard evaluation and is identified in the task-specific safety documentation for your work activities.

PPE is only recommended when it has been determined that additional controls are required after all feasible engineering and administrative controls have been implemented. PPE is used in conjunction with administrative and engineering controls to provide a higher level of protection.

PPE will be distributed at the Retained Premises (RP), and collected for disposal or reuse prior to departing the RP.

1) Typical PPE Used at the Retained Premises

As a result of the job hazard evaluation, an appropriate level of PPE protection will be specified for work activities at the RP. Workers **MUST** check the Radiation Work Permit (RWP) and be aware of the PPE requirements specified for their activities. However, Level "D" PPE is used under most circumstances.

Level "D" PPE can refer to the following:

- hearing protection
- eye, head and face protection
- whole-body coverings (i.e., tyvek coveralls, etc.)
- gloves
- foot protection

PPE should fit comfortably and be appropriate for your work assignment.

If you have a concern about the fit, condition or the appropriateness of the PPE required for your work activities, voice your concern to the project manager and/or the Radiation Safety person. **Defective or damaged equipment must NOT be used.**

BE SURE YOUR CONCERNS ARE RESOLVED AND THAT YOU ARE SATISFIED WITH THE RESOLUTION PRIOR TO BEGINNING YOUR WORK ACTIVITIES.

2) DONNING YOUR PPE

Inspect PPE for defects prior to donning. **DO NOT USE DEFECTIVE PPE.**

Don **ONLY** the PPE specified in the safety documentation; and don PPE in the following sequence:

- Don **whole-body coverings** (i.e., tyvek coveralls, etc.) and secure closures (zippers, snaps, etc.) over street or work clothing.
- Don **shoe covers** grabbing rear and pulling back over your safety or work shoes. If required by the RWP, don secondary shoe coverings (i.e., over boots) and pull coverall legs over boot tops. When required by safety documentation, seal outer boot to coverall legs using masking tape.
- Don **gloves** (i.e., skindex, etc.) in layers, as designated on the safety documentation. Generally, a single layer of gloves (i.e., skindex, nitrile, etc.) will be used followed by an anti-contamination

**RETAINED PREMISES PRACTICAL/RADIATION WORKER TRAINING:
DONNING AND DOFFING OF PPE**

(anti-c) outer-glove. If required by the safety documentation, secure the inner layer glove to the coverall sleeves using tape or pull-on sleeve covers. The sleeve covers fit tightly over the glove wrist area and the sleeve. Don outer gloves. Some tasks may require ONLY gloves and sleeve covers. In these cases, the sleeves will fit tightly over the glove wrist and your work shirt, followed by the outer anti-c or second skindex glove.

- Don **head, eye, face and/or ear protection** as required by your safety documentation.
 - Hard hats should fit securely. If a hood or head cover is required, the hard hat must be fit to wear over the head cover.
 - Face shields should be securely attached to your hard hat or head, and should not obstruct your vision.
 - Safety glasses must have side shields, and fit securely over or around your ears.
 - Ear protection must be worn as demonstrated when required. Due to the many types of ear protection available, proper use will be demonstrated by safety staff prior to beginning work activities.

When your safety documentation specifies PPE that is not covered above (e.g., respiratory equipment, etc.) you will receive additional training and instruction from on-site safety staff prior to use. Training will include the limitations and purpose of the PPE, along with proper donning and doffing procedures necessary to ensure that the equipment is used properly.

3) DOFFING YOUR PPE

Be aware of the work zones established for contamination control in your work area.

Only remove potentially contaminated PPE in designated zones within the radiological work area.

Deposit or discard PPE in designated containers.

Doff PPE in the following sequence:

- **Doff outer anti-c gloves**, pulling outward on finger tips and place in the appropriate container. (In some cases, you will don an additional pair of skindex gloves over inner gloves before proceeding to remove other potentially contaminated PPE. This step will be required when directed by the Radiation Safety person at the job site or your RWP).
- **Doff eye, head, or face PPE** and place in the appropriate container. Head covers should be pulled toward the rear while holding the front edge.
- When necessary, remove **tape securing shoe covers or boots**. Place tape in the waste container.
- **Doff outer shoe covers** and place in the appropriate container. As the outer boot is removed from each foot, step onto the step-off pad in the next contamination control zone, one foot at a time.
- Having moved to the step-off pad in the next contamination control zone, remove any **tape or glove sleeves between gloves and coveralls**, and place in the appropriate container. Pull glove sleeves forward from the leading edge until removed.

**RETAINED PREMISES PRACTICAL/RADIATION WORKER TRAINING:
DONNING AND DOFFING OF PPE**

- **Do off coveralls.** Open zipper or buttons, pull sleeves forward while slipping your arms out and rolling the coverall inside out as you progress downward. Step out of the legs and finish rolling inside out before placing in the appropriate container.
- **Do off shoe covers** by pulling the heel downward and slipping the cover inside-out while pulling it forward to remove. As the outer boot is removed from each foot, step onto the step-off pad, one foot at a time. Place used shoe covers in the appropriate container.
- **Do off inner gloves** by grabbing the cuff and pulling the glove inside out as it is pulled off while keeping the hands on the contaminated side. Place used inner gloves in the waste container.

Perform a whole body frisk prior to exiting the area.

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