
Personnel Survey and Decontamination Procedure

Revision 2

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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides specific instructions regarding personnel monitoring for skin and clothing contamination and for the decontamination of personnel.

1.2 Scope

This procedure is for the exclusive use of EnergySolutions' Commercial Services Division and contractors at field project sites operating under the Commercial Services' (CS) Radiation Protection Program (RPP) where EnergySolutions has the primary role in controlling exposures to on-site personnel. Requirements herein are applicable to no other operational entities of EnergySolutions.

2.0 REFERENCES

- 2.1 ES-AD-PR-005, First Notifications
- 2.2 ES-AD-PR-008, Condition Reports
- 2.3 CS-RS-PR-016, Bio Assay Sampling
- 2.4 INPO 88-004, Monitoring Personnel for Radioactive Contamination
- 2.5 INPO 89-006, Hot Particle Controls Program

3.0 GENERAL

3.1 Definitions

Note: More restrictive limits may apply for some project sites. The site's radioactive material license requirements should be reviewed to ensure that the procedural limits as provided comply with their license.

- 3.1.1. *Contamination Area* - Any area accessible to personnel with loose surface activity greater than 1,000 dpm/100cm² β/γ or 20 dpm/100cm² α, or loose surface radioactivity greater than or equal to the site's regulatory guideline values.
- 3.1.2. *Hot Particle* -A discrete high-specific-activity radioactive fragment that is typically less than 1 millimeter in any dimension.
- 3.1.3. *Hot Particle Area* - Any room or area, accessible to personnel, in which hot particles have been detected or are suspected to be present, and in which work controls and protective equipment have been prescribed.
- 3.1.4. *Radiation Work Permit (RWP)* - A document prepared by the RPS to inform workers of the radiological conditions which exist in the work area and the radiological requirements for the job.

- 3.1.5. *Radiologically Controlled Area (RCA)* - Any area to which access is controlled and which has posted warnings due to the presence of radiation or radioactive materials. Radiologically Controlled Areas include Radioactive Materials Areas, Contamination Areas, High Contamination Areas, Radiation Areas, High Radiation Areas, Very High Radiation Areas, and Airborne Radioactivity Areas.

3.2 Responsibilities

Note: Depending upon personnel qualifications and the size of the project, project personnel may be assigned multiple roles and/or responsibilities.

3.2.1. Project Manager (PM)

The Project Manager is responsible for ensuring that the proper procedures and programs are implemented on the project site as required by customer agreements and contracts. The PM is responsible for ensuring that these programs and procedures are properly incorporated into project-specific plans and procedures. The PM is responsible for ensuring that Commercial Services and/or client programs and procedures are available for use by field personnel.

3.2.2. CS Radiation Safety Officer (RSO)

The CS RSO maintains and oversees the implementation of the CS RPP. The CS RSO shall ensure that radiation safety, radioactive materials management, and radiological operations procedures and programs are kept up to date such that they comply with current regulations and incorporate current and relevant industry practices and regulatory guidance. The CS RSO shall also make applicable notifications to the appropriate regulatory agencies as necessary.

3.2.3. Radiation Protection Supervisor (RPS)

The RPS is responsible for implementing the CS RPP and the project specific radiological requirements at the field project location. The RPS manages and oversees the technicians performing radiation protection surveys and site monitoring and reports directly to both the PM and the CS RSO.

3.2.4. Project Health Physicist (PHP)

The PHP is responsible for assisting the CS RSO in providing health physics support to the PM and RPS. This includes technical support to ensure procedural and regulatory compliance and to provide any support as necessary including the performance of personnel dose assessments.

3.2.5. Project Personnel

Project personnel are responsible for complying with the requirements of this procedure and all applicable radiation work permits (RWP).

3.3 Precautions & Limitations

- 3.3.1. Life saving medical procedures shall always take precedence over the decontamination of personnel.
- 3.3.2. Decontamination of wounded or injured personnel shall only be performed by or under the direction of qualified medical personnel.
- 3.3.3. Water used for the decontamination of personnel or personal articles shall be treated as contaminated and disposed of accordingly.
- 3.3.4. High contamination levels with dose consequences or hot particles located on the body shall require prompt decontamination.
- 3.3.5. Tritium smears may be used at the direction and discretion of the RPS or PHP, to measure personnel for tritium contamination after personnel exit a tritium-contaminated area.

3.4 Records

- 3.4.1. A personnel contamination report, Attachment 5.1 or equivalent, shall be prepared by the RPS or PHP in response to a personnel contamination event. The report shall be provided to the PM and CS RSO and recorded as part of the employee's exposure file.
- 3.4.2. The PM shall implement the First Notification procedure, Reference 2.1, following all personnel contamination events.
- 3.4.3. Contamination reports are considered confidential information. Generally, only the RPS, PHP, PM, CS RSO, and line management personnel shall have knowledge of, or access to, personnel contamination reports.

4.0 REQUIREMENTS AND GUIDANCE

Personnel who have made entries into a contaminated or potentially contaminated area are required to survey their persons and any personal articles they are carrying for radioactive contamination when exiting in accordance with the applicable radiation work permit. The monitoring may be accomplished using automated whole body monitors or hand friskers and small article or tool monitors (SAM). Personnel who are discovered to be contaminated shall stand fast, notify health physics and be decontaminated under the supervision of the RPS or PHP.

4.1 Automated Whole Body Monitors

- 4.1.1. When available, use automated whole body monitors or Personnel Contamination Monitors (PCMs) for performing personnel surveys for beta-gamma and/or alpha activity.
- 4.1.2. Use the PCM in accordance with the instructions posted on the monitor.
- 4.1.3. If an alarm is experienced, exit the monitor and re-monitor the area using the same unit.
- 4.1.4. If the recount does not result in an alarm then exit the area.
- 4.1.5. If contamination is indicated during subsequent monitoring then:

- 4.1.5.1. Note the area of the body which the alarm indicates is contaminated.
- 4.1.5.2. Stand fast and notify health physics personnel and/or the RPS.

4.2 Personnel Frisking (Hand Held)

- 4.2.1. If an automated whole body frisker is not available, then use hand held portable field instruments as provided based upon the radionuclides of concern.
- 4.2.2. Field instruments should have both a visual and an audible response.
- 4.2.3. Ensure that the instrument is set on slow response, if available, and that the audible response is turned on.
- 4.2.4. Verify that the instrument is on the X1 scale and that the background count rate as applicable is <300 counts per minute (cpm) β/γ .
- 4.2.5. If the background is too high, then contact health physics and/or the RPS for direction prior to re-monitoring in a low background area.
- 4.2.6. If practical, check hands before picking up the frisker probe.
- 4.2.7. Hold the detector with the window at approximately $\frac{1}{2}$ -inch for β/γ or $\frac{1}{4}$ -inch for α from the surface being monitored.
- 4.2.8. Typically, starting with the face and mouth, move the detector over the surface being monitored at a rate of approximately 1 to 2 inches per second or less.
- 4.2.9. Pause for approximately 5 to 10 seconds at the nose and mouth to check for any indications of inhalation or ingestion of radioactive material.
- 4.2.10. Continue frisking the rest of the body. If an increase in the audible response is noted, then cease detector movement and allow the meter to stabilize for about 5 to 10 seconds.
- 4.2.11. Pay particular attention to high contact areas including the hands, feet (shoes), elbows, knees, or other areas where there is a high potential for contamination.
- 4.2.12. If no contamination is detected as indicated by an alarm and there is no visual response in excess of 100 cpm β/γ above background and no detectable α as applicable, then exit the area.
- 4.2.13. If the frisker alarms or a visual response in excess of 100 cpm β/γ above background is noted or there is measurable α , then stand fast and notify health physics and/or the RPS.
- 4.2.14. Remain in the area until the RPS arrives to provide assistance.

4.3 Alpha Frisking Considerations

Monitoring for alpha contamination may be impractical using typical whole body frisks because of the limited sensitivity of typical field instruments used in a scanning mode. Personnel surveys for alpha may be performed using the following techniques as directed by the RPS or PHP.

- 4.3.1. If practical, perform personnel surveys using a higher efficiency instrument such as a gas proportional detector in the alpha mode, a zinc sulfide (ZnS) scintillator or an equivalent α detector.
- 4.3.2. For greater sensitivity, perform a scalar count with an α sensitive meter on the hands, feet, face, and other parts of the body where there is a high probability of contamination. For example, a Ludlum model 2360 in a scalar mode and a 30 second count time with a Ludlum 43-93 ZnS scintillator will be capable of detecting 100 dpm/probe area or less assuming a background of less than 3 cpm.

4.4 Monitoring Contaminated Personnel (HP Response)

Note: A hot particle will cause the count rate to rapidly increase as the detector is moved slowly over a small area. For specific instructions on hot particle decontamination, see Section 4.6

- 4.4.1. The RPS shall notify the PM of any individual who may be contaminated so the PM can complete a First Notification as required by Reference 2.1.
- 4.4.2. If it is necessary to transport an individual to an off-site medical facility, immediately notify the PM or designee so a member of management and health physics may accompany the individual. The PM shall make the necessary notifications per Reference 2.1.
- 4.4.3. Health physics shall perform a survey of the contaminated individual for β/γ , α , and/or tritium as required.
- 4.4.4. If the skin is broken while working with radioactive materials, the employee should immediately report to his immediate supervisor who shall have the skin break surveyed by health physics. The RPS or PHP shall determine if additional follow-up actions are required.
- 4.4.5. Determine whether the contamination is on the skin or clothing.
- 4.4.6. Determine if the contamination is in the form of a hot particle.
- 4.4.7. Notify the PM and the CS RSO immediately of all personnel skin or clothing contamination incidents involving hot particles.
- 4.4.8. If the contamination is a hot particle, then:
 - 4.4.8.1. Quickly evaluate the hot particle.
 - 4.4.8.2. Attempt to collect and retain the particle for subsequent evaluation.
 - 4.4.8.3. Decontaminate the individual as described in Section 4.5.

- 4.4.9. If the β/γ activity level is beyond the range of the instrumentation used, then survey the contaminated area with an ion chamber dose-rate instrument as follows:
 - 4.4.9.1. Perform an "open window" scan of the affected area(s) to locate the contamination.
 - 4.4.9.2. Hold the detector window within 1/2-inch of the surface being surveyed.
 - 4.4.9.3. Obtain "open window" and "closed window" exposure rates for the contaminated area(s) as directed by the RPS or PHP. Record these readings on Attachment 5.1, or equivalent.
 - 4.4.9.4. Record the instrument Beta Correction Factor (BCF) as needed.
- 4.4.10. Lightly smear any areas that may have been directly exposed to tritium contamination (e.g., face, hands, hair, knees, or soles of shoes) as directed by the RPS or PHP.
- 4.4.11. If contamination is detected on the face or airborne radioactivity was suspected, then obtain nasal swabs.
 - 4.4.11.1. Collect nasal swabs on a clean, cotton-tipped applicator (e.g., Q-tip).
 - 4.4.11.2. Gently rotate the swab over the accessible surfaces, not more than 1/2-inch inside the nostril.
 - 4.4.11.3. Use a separate swab for each nostril.
 - 4.4.11.4. Transport nasal swabs to the laboratory for analysis as soon as possible.
- 4.4.12. If tritium contamination is suspected the RPS or PHP may obtain tritium smears for liquid scintillation counting.
- 4.4.13. Record all survey information as well as the instrument information on a personnel contamination report, Attachment 5.1 or equivalent.
- 4.4.14. Decontaminate the individual in accordance with Sections 4.5 and 4.6 as applicable.
- 4.4.15. Re-survey the individual following each decontamination attempt and record all survey information on the personnel contamination report, Attachment 5.1 or equivalent.
- 4.4.16. Repeat Steps 4.4.14 and 4.4.15 as necessary.

4.5 Personnel Decontamination - General

Note: All first aid measures take precedence over decontamination efforts

- 4.5.1. Except under emergency situations, only Health Physics personnel and qualified medical personnel are permitted to administer personnel

- decontamination procedures. Cleaning of open wounds shall only be done under the direction of qualified medical personnel.
- 4.5.2. Perform personnel decontamination in such a manner as to prevent the spread of contamination to other body parts, breaking the skin, or the ingestion of radioactive material.
 - 4.5.3. If the contamination is on an article of clothing, health physics personnel shall perform the following:
 - 4.5.3.1. Attempt to decontaminate the article using a tape press.
 - 4.5.3.2. Carefully remove the article of clothing.
 - 4.5.3.3. Survey the inside surface(s) that were against the skin.
 - 4.5.3.4. Verify that no contamination was transferred to the skin.
 - 4.5.3.5. If the contamination is a hot particle remove, label, and bag the hot particle. Store the hot particle pending further evaluations and/or dose calculations.
 - 4.5.3.6. Remove label, and bag the clothing if decontamination is not successful. Store the item pending further evaluations and/or dose calculations.
 - 4.5.3.7. Provide modesty clothing as necessary and determine a replacement cost of the item.
 - 4.5.4. Take appropriate precautions to minimize the spread of contamination when proceeding from the control point or step-off-pad (SOP) to the decontamination facility.
 - 4.5.5. Decontaminate personnel in accordance with the methods as described in Attachment 5.2. Flushing of the eyes and mouth are also acceptable.
 - 4.5.6. Personnel decontamination processes or materials other than those listed in Attachment 5.2 shall be performed only under the specific direction of qualified medical personnel.
 - 4.5.7. Beyond general flushing with water, decontamination inside the ears, eyes and mouth shall be performed under the direction of qualified medical personnel.
 - 4.5.8. Decontamination of nasal passages shall be limited to repeated nose blowing by the individual.
 - 4.5.9. As necessary, supplemental nasal irrigations shall only be performed under the direction of qualified medical personnel.
 - 4.5.10. The individual shall provide a bioassay sample and/or whole body count in accordance with Section 4.8 as applicable.
 - 4.5.11. Note the final survey results and time of survey on Attachment 5.1 or equivalent.
 - 4.5.12. Record the area of the skin contaminated in cm².

- 4.5.12.1. For contamination distributed over an area greater than or equal to the area of the probe, the measured activity may be assumed to be distributed over the probe area (i.e., the area of a typical pancake probe is 15.5 cm²).
- 4.5.12.2. If the area of contamination is less than the area of the probe but greater than 1 cm², the actual area of the activity must be determined if possible. A plastic detector cover with a small hole can be used to estimate the size.
- 4.5.12.3. If the contamination area is less than or equal to 1 cm², assume an area of 1 cm². An area <1 cm² should never be assumed.
- 4.5.13. When skin decontamination has been successfully completed, the RPS or PHP may release the individual after obtaining the information needed to complete Attachment 5.1, or equivalent.
- 4.5.14. The RPS or PHP may allow a contaminated employee to go home in accordance with Section 4.7 when, in their judgment; further decontamination effort would not be beneficial or would harm the contaminated individual.

4.6 Personnel Decontamination – Hot Particle

Caution Hot particles may have very high contact dose rates and should not be handled directly with the fingers. Hot particles shall be removed from an individual as quickly as possible.

- 4.6.1. Decontamination efforts should be performed while keeping extremities away from the hot particle to the maximum extent possible to avoid any excess dose.
- 4.6.2. Attempt to remove the hot particle by pressing a piece of masking tape onto the skin and lifting the particle with the tape.
- 4.6.3. Repeat the tape removal technique up to three times.
- 4.6.4. Record any survey results and the time of hot particle removal on Attachment 5.1 or equivalent.
- 4.6.5. Recover and retain the hot particle for further analysis.
- 4.6.6. If the tape removal technique is not successful, remove the hot particle by gently washing with soap and lukewarm water.
 - 4.6.6.1. Attempt to recover the particle for further analysis.
 - 4.6.6.2. After each washing, pat dry the area and resurvey the location where the particle was found.
 - 4.6.6.3. If the particle has moved, but it is still on the skin, indicate the new location and time on Attachment 5.1 or equivalent.
 - 4.6.6.4. If there is no indication of the hot particle, check the surrounding areas and any locations where the hot particle may have been transported.

- 4.6.6.5. When the hot particle has been removed, record the time of removal on Attachment 5.1 or equivalent, and obtain the individual's signature.
- 4.6.6.6. If the particle is still on the skin after the three wash cycles, immediately contact the CS RSO or designee.
- 4.6.7. Submit the particle for isotopic analysis noting the known or potential radionuclide of concern, the count rate or dose rate on the particle and the date and time of removal.

4.7 Conditional Release of Personnel

- 4.7.1. Do not release personnel if detectable skin contamination is present unless authorized by the RPS or PHP.
- 4.7.2. Suitable contamination control measures shall be invoked, and appropriate follow-up shall be continued until all detectable contamination has been removed.
- 4.7.3. Document all instructions given to personnel released with detectable skin contamination on Attachment 5.1, or equivalent.

4.8 Bioassay(s) and Dose Assessment(s)

- 4.8.1. An in-vivo and/or in-vitro examination shall be ordered by the RPS or PHP for the following circumstances:
 - 4.8.1.1. Any detectable nasal or mouth contamination exceeding background,
 - 4.8.1.2. Any detectable facial contamination in the event that respiratory protection is not worn,
 - 4.8.1.3. When an airborne event is suspected to which the individual may have been exposed without respiratory protection, or
 - 4.8.1.4. As directed by a Certified Health Physicist (CHP) based upon an evaluation of the circumstances.
- 4.8.2. When in-vivo examinations are required as a result of an incident, the involved personnel shall be transported directly to the whole body counter facility/counter as soon as practicable.
- 4.8.3. When in-vitro examinations are required as a result of an incident, the involved personnel shall continue supplying the required samples until directed to stop by the evaluating CHP.
- 4.8.4. Tritium bioassays should not be collected any sooner than 2 hours after the contamination event.
- 4.8.5. A personnel dose assessment shall be performed in the event of a positive bioassay result.
- 4.8.6. A skin dose calculation shall be required in the following circumstances:
 - Hot particle contamination, or

- General skin contamination exceeding 10,000 dpm/100 cm² β/γ.

4.8.7. Restrict personnel activities pending bioassay results as directed by the CS RSO or CHP and the completion of any dose assessments.

4.9 Radiological Follow-Up

4.9.1. Determine if any notifications are required.

4.9.2. Perform a root-cause analysis of the event with participation from the PM, RPS, PHP, CS RSO and those individuals involved in the event.

4.9.3. Identify the location where the event occurred, sequence of events leading up to the event and any contributing conditions. Consideration shall be given to the following:

- Are proper radiological controls being implemented,
- Did the event occur during doffing of PCs,
- General rad practices of the individual and is re-training required.
- Are there changing conditions within the area.
- Are areas properly posted and controlled.
- Personnel restrictions pending bioassay results and the completion of any dose assessments.

4.9.4. Perform any follow-up actions as a result of the root-cause analysis.

4.9.5. Complete Attachment 5.1, or equivalent, with the pertinent information.

4.9.6. The individual completing the form shall sign and transmit the form to the PM and the CS RSO.

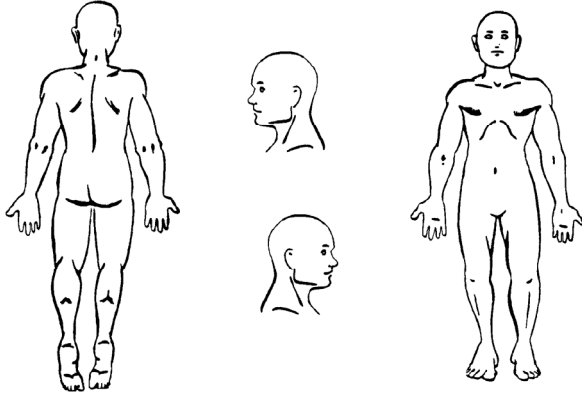
4.9.7. The RPS shall issue the individual a bioassay container as applicable and a CHP shall perform any dose calculations, as appropriate.

5.0 ATTACHMENTS AND FORMS

5.1 Personnel Contamination Report

5.2 Decontamination Methods

(Attachment 5.1) Personnel Contamination Report (example)

Name		Company		Date	Time
SS#	Dosimeter#	Dept.		Supervisor	
Instrument(s)		Serial #	Beta Correction Factor	Cal. Due Date	
Probe Model		Serial #		Cal. Due Date	
Location of Personnel Contamination				RWP #	Survey #
					
Contamination Levels (Use # to reference drawing)					
Number	Time	Initial Count Rate	Size of Area (cm ²)	Time	Final Count Rate
Decontamination Methods				Other:	
RPS Signature:				Date/Time	
I acknowledge the above information represents the contamination event.					
Individual Signature:				Date/Time	

(Attachment 5.1) Personnel Contamination Report (continued)

Name _____

SSN _____

CLOTHING CONTAMINATION

Item:	Max cpm	<input type="checkbox"/> Decon/Return	<input type="checkbox"/> Contaminated/Retained
Item:	Max cpm	<input type="checkbox"/> Decon/Return	<input type="checkbox"/> Contaminated/Retained
Item:	Max cpm	<input type="checkbox"/> Decon/Return	<input type="checkbox"/> Contaminated/Retained

RADIOLOGICAL FOLLOW-UP

Location of Event:	<input type="checkbox"/> Contamination Area	<input type="checkbox"/> Hot Particle Area	<input type="checkbox"/> Clean area inside RCA	<input type="checkbox"/> Clean area outside RCA
Follow-up actions:				
Additional information:				

CONTAMINATION EVENT DESCRIPTION AND CAUSE

A - EVENT DIRECTLY RELATED TO WEARING PPE

- | | |
|---|---|
| <input type="checkbox"/> Contaminated by physical compromise of PC (tear, etc.) | <input type="checkbox"/> Improper donning of PC |
| <input type="checkbox"/> Contamination penetration of intact PC | <input type="checkbox"/> Improper PC use related to worker knowledge/experience |
| <input type="checkbox"/> Contamination came from PC | <input type="checkbox"/> Work area not deconned to extent practicable |
| <input type="checkbox"/> Contaminated skin by touching contaminated item | <input type="checkbox"/> Practical limitation of available alternatives |
| <input type="checkbox"/> Contamination came from contaminated liquid | <input type="checkbox"/> Improper PC requirement on RWP |
| <input type="checkbox"/> Contamination came from airborne radioactivity | <input type="checkbox"/> Improper control by RP of worker activity in PC |
| | <input type="checkbox"/> Improper laundry/monitoring of PC |

B - EVENT OCCURRED WHILE REMOVING PPE

- | | |
|---|---|
| <input type="checkbox"/> Contaminated during removal of hood | <input type="checkbox"/> Lack of knowledge in proper methods to remove PC |
| <input type="checkbox"/> Contaminated during removal of respiratory equipment | <input type="checkbox"/> Lack of knowledge in proper methods to remove respirator |
| <input type="checkbox"/> Contaminated during removal of outer PC | <input type="checkbox"/> Worker careless removing PC |
| <input type="checkbox"/> Contaminated during removal of inner PC | <input type="checkbox"/> Worker actions while removing PC - accident |
| <input type="checkbox"/> Contaminated during removal of plastics | <input type="checkbox"/> RP technician actions - unavoidable/accident |
| <input type="checkbox"/> Contamination came from airborne radioactivity | <input type="checkbox"/> RP technician actions - avoidable |
| | <input type="checkbox"/> Improper laundering/monitoring of PC |

C - EVENT NOT DIRECTLY RELATED TO USING PPE

- | | |
|--|--|
| <input type="checkbox"/> Contaminated while in area designated as clean RCA | <input type="checkbox"/> Noncompliance with postings/rad controls |
| <input type="checkbox"/> Contaminated while in area designated clean non-RCA | <input type="checkbox"/> Improper monitoring/control of rad material by worker |
| <input type="checkbox"/> Contaminated by liquid | <input type="checkbox"/> Improper actions at work area (sitting, lying) |
| <input type="checkbox"/> Contamination spread to area and not identified | <input type="checkbox"/> Accidental contact with contamination beyond worker control |
| <input type="checkbox"/> Improper control of airborne radioactive material | <input type="checkbox"/> Surveys not appropriate for existing conditions |

Commercial Services RSO

- | | |
|---|--|
| <input type="checkbox"/> Interview with the project RPS | <input type="checkbox"/> Released with residual contamination |
| <input type="checkbox"/> Excluded individual from further RCA access | <input type="checkbox"/> Initiated skin dose calculation by CHP |
| <input type="checkbox"/> First Notification Report initiated by Project Manager | <input type="checkbox"/> No further action required, routine close out |
| <input type="checkbox"/> Discussed with individual and supervisor | |

Comments:	
Approved by:	

Completed by: _____

Date: _____

(Attachment 5.2) Standard Personnel Decontamination Methods

Method	Effective For	Instructions
Masking Tape	Dry contamination, Hot particles	Apply tape to skin by lightly patting. Remove carefully.
Waterless Hand Cleaner	All skin contamination	Apply to affected area and allow it to melt onto the skin. Remove with cotton or soft disposable towel.
Soap and Tepid Water	All skin contamination except tritium	Wash area with soap and lukewarm water. Repeat until further attempts do not reduce the level. A cloth or surgical hand brush may be used with moderate pressure.
Soap and Cool Water	Tritium contamination	Wash area with soap and cool water. Repeat until further attempts do not reduce the level. A cloth may be used with moderate pressure.
Carbonated Water	All skin contamination	Apply to affected area with cotton or soft disposable towel and wipe with dry towel.
Cornmeal Detergent Paste	All skin contamination	Mix cornmeal and powder detergent in equal parts with enough water to form a paste. Rub onto affected area for 5 minutes. Remove with cotton or disposable towel. Rinse skin.
Shampoo	Hair contamination	Wash hair and rinse. Repeat as necessary.
Sweating	All skin contaminations	Cover affected area with impermeable cover (plastic, glove, para film) to cause sweating. Remove after sweating has occurred and wipe area.