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CP4-RP-1103 **FRev. 1**	**TITLE**: Personnel and Personal Effects Decontamination	Page 1 of 8

DOCUMENT CATEGORY: ☒ Administrative ☐ Technical (Operations) ☐ Technical (Support)

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REVISION/CHANGE LOG

Revision/Change Letter	Description of Changes	Pages Affected	Date of Revision/Change
FR0	Bluesheet	ALL	10/2/2017
FR1	Non-Intent Changes for Bluesheet Incorporation.	ALL	11/8/2017

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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides guidance to Radiological Control (RADCON) personnel on methods and protocol for decontaminating individuals and items. This procedure contains requirements for reporting contamination events and contamination levels.

1.2 Scope

This procedure applies to RADCON personnel [i.e., Radiological Control Technicians (RCTs)] who conduct contamination surveys and personnel and equipment decontamination. The Radiation Protection Organization has organizational ownership and maintenance responsibility for this procedure. The approval authority for this document is the Radiation Protection Manager (RPM).

2.0 References

2.1 Use References

- 10 Code of Federal Regulations (CFR) 835, *Occupational Radiation Protection*
- CP2-RP-0002, *Radiation Protection Glossary*
- CP3-RP-1117, *Accidents and Emergencies*
- CP3-RP-1205, *Skin Dose Assessment*
- CP3-RP-1201, *Internal Dosimetry*
- CP3-RP-1202, *External Dosimetry*

2.2 Source References

- Title 10, Code of Federal Regulations, Part 835 (10 CFR 835), *Occupational Radiation Protection*
- CP2-RP-0001, *Radiation Protection Program*
- CP3-RP-1203, *Embryo/Fetus Protection*
- CP3-RP-1401, *Radiation Protection Program Records*

3.0 COMMITMENTS

None

4.0 RESPONSIBILITIES

Responsibilities may be incorporated in Section **6.0.**

5.0 GENERAL INFORMATION

5.1 Radiological Control Personnel may develop approved skin decontamination methods, including specific chemical solutions (if needed) that are more aggressive decontamination processes than basic soap-and-water washing, based on their specific radionuclides and chemical forms. These methods should take into account the following considerations:

- Effectiveness in removing contamination as rapidly as possible, yet minimizing the potential to harm the individual (i.e., a risk-based approach).
- Ensuring materials used in decontamination are compatible with radioactive waste disposal systems, and have plans to dispose any mixed waste.

- Any follow-up actions to lessen side-effects from the specific decontamination process (i.e. some type of medical treatment).
- Review by appropriate medical personnel as part of the approval process for each method. Identify when consulting specialists such as physicians or occupational health nurses will be required to be in attendance during decontamination efforts.

5.2 In the event of an injury coincident with skin contamination, the medical authority, in conjunction with knowledgeable RADCON personnel, will determine whether the injury is more hazardous than the radiological hazard of skin contamination. Refer to CP3-RP-1117, *Accidents and Emergencies*, as these situations are outside the scope of this procedure.

5.3 **If** there is no medical injury or need to assess the potential intake of radioactive materials (e.g. using nasal swabs or mouth smears) with a skin contamination incident, **then** skin decontamination will take place as rapidly as possible to reduce potential personnel radiation exposure.

5.4 In the event that radiological skin contamination is coincident with chemical skin contamination, chemical skin decontamination should take precedence. Appropriate safety or medical personnel knowledgeable in the chemical decontamination process should oversee this activity.

6.0 INSTRUCTIONS

6.1 Initial Actions to be taken during a Personnel Contamination Event

NOTE:

A splash of contamination into the eyes should require immediate flushing of the eyes, and is considered a medical emergency.

A spill/splash of chemicals that also has radioactive contamination should be regarded first as a chemical spill, and handled in this manner if the chemicals present an immediate hazard to the individual

All RADCON personnel

6.1.1 **If** notified by an individual that radioactive contamination is detected on the skin, hair, company issued clothing or personal clothing while monitoring for radioactive contamination, **then** inform the individual to:

- Stay in the immediate area and wait for RADCON personnel.
- Avoid physical contact with personnel, equipment, or objects (to prevent the spread of contamination).
- Warn others of potential contamination spread.

6.1.2 Contact RADCON Supervisor **and** provide a description of the event, actions underway, and needed resources.

6.1.3 Monitor the individual to confirm the presence and level(s) of contamination **and** record the results on appropriate survey record forms and (if needed) associated personnel contamination forms.

6.1.4 **If** contamination is positively detected on the face or head, **then** take these following additional actions:

- Request the employee provide nasal swabs immediately, even before continuing with decontamination. Save the nasal swabs for further analysis.
- **If** contamination is detected around the mouth, **then** request the employee to provide a mouth swipe immediately in addition to nasal swabs. Save the mouth swipes for further analysis.
- Obtain the contamination levels detected on the individual, nasal swabs, and mouth smears.
- Notify the Radiation Protection Project Manager (RPPM) as quickly as possible after the information is available. They may determine additional actions must be taken to quantify any internal dose or to mitigate the dose from the intake (e.g., chelation therapy).

NOTE:

Items of clothing removed during the following steps should be retained in individual, securely closed bags in the event further analysis is needed.

6.1.5 **If** contamination is positively detected on the individual, **then** notify supervision immediately **and** take following actions:

- Direct the contaminated individual to place protective clothing over the contaminated part; DO **NOT** cover the face if that is what is contaminated. However, a hood or other head covering is acceptable.
- Instruct the individual **NOT** to touch the contaminated area with their hands, nor to touch their face or head even if the hands, face, or head are **NOT** contaminated.
- Proceed with the individual to the designated area for personnel decontamination.

NOTE:

If both skin and personal item contamination present, decontaminating the skin *should* normally take precedence, followed by the personal item decontamination. However, the sequence of decontamination is left to the discretion of RADCON personnel managing the incident.

6.1.6 **If** there is skin contamination present, **then** continue with Section **6.2**.

6.1.7 **If** a personal item contaminated, **then** continue with Section **6.3.**

6.2 Decontaminating Skin

NOTE:

Any contamination incident involving an injury, especially where a wound may be or is contaminated, will require supervision by the medical authority. Refer to CP3-RP-1117 for more information.

When modesty concerns are an issue, RADCON personnel involved in the following steps should be of the same gender as the contaminated individual.

Radiological Control Technician (RCT)

6.2.1 **If** performing decontamination. Don necessary protective clothing to prevent cross-contaminating skin or personal clothing items.

6.2.2 Initiate decontamination first by either wiping-off the area and/or by using only soap (preferably mild soap) and warm water or towelettes containing skin cleaning agents (e.g., non-alcohol baby wipes).

NOTES:

If at any time during the decontamination process discomfort, redness, or injury is caused by the decontamination actions, **then** stop and immediately notify medical personnel of the problem.

If event occurs off-shift, **the**n medical assistance may be obtained by contacting the Plant Shift Superintendent or by going to the emergency medical staff located at the C-200 Fire Department.

6.2.3 Monitor the contaminated area(s) and adjacent areas once the skin is dry after each decontamination attempt, **and** record pertinent information on record forms, including:

- the area of the contamination with pertinent level values for those areas, and
- the time each measurement was taken.

6.2.4 Continue with decontamination process, as necessary and/or directed.

6.2.5 **If**, redness appears or residual contamination is left on skin after three attempts, **then** notify the RPM for guidance.

6.2.6 Notify the RPPM so proper notification of the contamination event can be made.

Radiation Protection Project Manager (RPPM)

6.2.7 Give follow-up information to RPM (refer to CP3-RP-1201, *Internal Dosimetry*) if contamination was found on the face or head.

RCT

6.2.8 Gather skin dose estimate information, as needed, according to CP3-RP-1205, *Skin Dose Assessment*, and CP3-RP-1202, *External Dosimetry*, **and** forward to RPPM.

6.3 Decontaminating Personal Effects

NOTE:

When modesty concerns are an issue, RADCON personnel involved in the following steps should be of the same gender as the contaminated individual.

RCT

6.3.1 Direct the individual (as applicable) on what contaminated personal effects to remove, and how to remove the contaminated personal effects to minimize the chance of further contamination, especially skin contamination.

NOTE:

Under no circumstance should RADCON personnel state that items unable to be decontaminated will automatically be replaced. This decision can only be made by an individual's company and management.

6.3.2 Determine whether the item is reasonably able to be decontaminated, based on the composition of the item, potential to absorb contamination, and the ability to monitor all surfaces. Contact the RPPM for direction if needed.

6.3.3 Don necessary protective clothing to prevent cross-contaminating skin areas or personal clothing items.

6.3.4 Assist with decontamination of the contaminated item as determined feasible and appropriate.

6.3.5 Monitor the contaminated area(s) and adjacent areas once the item is dry **and** record pertinent information on survey and skin contamination forms.

6.3.6 Continue with decontamination process, as necessary and/or directed.

6.3.7 **If** the contamination is **NOT** eliminated after reasonable attempts to decontaminate the item, **then** discard the item as radioactive waste.

6.3.8 Notify the RPPM so proper notification of the contamination event can be made.

7.0 RECORDS

7.1 Records Generated

The following records may be generated by this procedure:

- Completed and approved radiation survey record form(s) with all required information.
- Other pertinent information and data on the incident.

Forms are to be completed in accordance with CP3-OP-0024, *Forms Control.*

7.2 Records Disposition

The records are to be maintained in accordance with CP3-RP-1401, *Radiation Protection Program Records* and CP3-RD-0010, *Records Management Process.*

Attachment A – Acronyms/Definitions

ACRONYMS

CFR – Code of Federal Regulations

RADCON – Radiological Control

RCT – Radiological Control Technician

RPM – Radiation Protection Manager

RPPM – Radiation Protection Project Manager

DEFINITIONS

None