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(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN
		Design Authority	N/A			1	1	E. E. Bickel R3-82	<i>EE Bickel</i>	6/3/03	
		Design Agent	N/A			1	1	C. E. Upchurch S5-07	<i>CE Upchurch</i>	4/27/03	
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Reduced Protective Clothing Determinations

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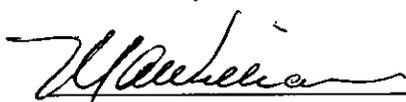
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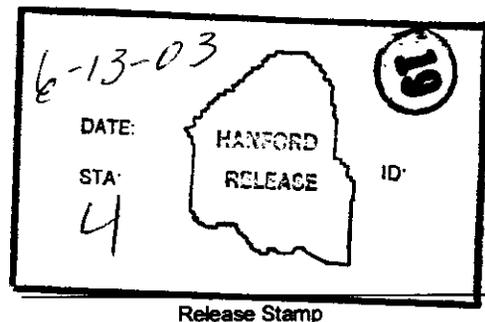
Abstract: This document defines the determinations made relative to the application of reduced protective clothing.

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Reduced Protective Clothing Determinations

1.0 PURPOSE

This technical basis document defines conditions where reduced protective clothing can be allowed, defines reduced protective clothing, and documents the regulatory review that determines the process is compliant with the Tank Farm Radiological Control Manual (TFRCM) and Title 10, Part 835, of the Code of Federal Regulations (10CFR835).

The criteria, standards, and requirements contained in this document apply only to Tank Farm Contractor (TFC) facilities.

2.0 CRITERIA, STANDARDS, AND REQUIREMENTS

A review of the criteria contained in the TFRCM and 10CFR835 is attached. Based on the standards reviewed, there are three fundamental criteria that can be applied to the use of protective clothing:

- The RWP or alternative work-controlling document must specify protective clothing.
- Protective clothing must be worn for entry into a contamination area.
- The protective clothing should be commensurate with the activity and associated risk.

Any selection of protective clothing for a work activity must meet these criteria.

3.0 DEFINING CONDITIONS ALLOWING REDUCED PROTECTIVE CLOTHING

3.1 Area Conditions for Reduced Protective Clothing

The following criteria must be met to allow the application of reduced protective clothing (PC):

Removable Contamination- Removable contamination levels available for transfer to personnel will be less than ten times TFRCM Table 2-2 levels.

Contamination Location- Removable contamination is not located in the overhead of the work area or in areas readily accessible for direct transfer to unprotected areas of the body.

Work Area Congestion- The area allows access without forced contact to the unprotected areas of the body with contamination area surfaces.

The following criteria were not considered relevant when determining applicability of reduced protective clothing:

- Fixed Contamination
- External Radiation
- Soil or Matrixed Contamination

3.2 Work Activities

The following criteria must be satisfied for the work activity to be performed using reduced protective clothing:

- The work must be permitted under a general RWP.
- The work must not allow opening of contaminated systems.
- Soil intrusive work must be limited to picking up specks of contamination or vegetation removal.
- The work must not include activities where portions of the body beyond the hands and feet will be required to come in contact with the contaminated components.
- The work must not include the handling of radioactive liquids.
- The work must not include sitting or kneeling in a contamination area.

Additional determinations of whether an activity can be performed using reduced protective clothing are permissible with the concurrence of the facility Radiological Control Manager.

4.0 Protective Clothing Recommendations

The defined protective clothing considered as “reduced protective clothing” is surgeons gloves, with additional pair(s) of surgeons gloves or other approved outer gloves, rubber shoe covers, and canvas boots.

This selection ensures portions of the body coming in contact with contaminated surfaces are protected from contamination.

5.0 REFERENCES

1. 10 CFR 835, "Occupational Radiation Protection."
2. *Tank Farm Radiological Control Manual*, HNF-5183
3. *Radiation Protection Program*, HNF-MP-5184
4. *Protective Clothing Recommendations for Low Risk Activities*, HNF 3392

Attachment: Relevant standards for the Use of Protective Clothing

TFRCM

1. **STANDARD:** HSRCM ARTICLE 325.1

 SUMMARY: Requires personnel to wear protective clothing when working in contamination areas or with contaminated equipment and that the protective clothing be designated by Radiological Work Permit (RWP) or by the Radiological Control Organization.

 ANALYSIS: The specific protective clothing required is not defined. Using the criteria contained in article 325, the wearing of partial protective clothing is compliant so long as the RWP addresses the appropriate protective clothing.

2. **STANDARD:** TFRCM 335.1

 SUMMARY: States that protective clothing, as required by the governing RWP, is required for entry into a contamination area.

 ANALYSIS: Same as provided for TFRCM 325.1.

3. **STANDARD:** TFRCM 347.2

 SUMMARY: Requires that protective clothing for bench top operations include gloves and lab coats.

 Requires that workers monitor those areas of their body that are potentially contaminated (minimum hands, arms, and front portions of the body). States workers should do a whole body survey.

 NOTE: Identical requirements are included for sample station and glove box operation.

 ANALYSIS: The key point to note is that this is a case where the TFRCM allows the protective clothing options be tailored to the work activity. Using this as an example of an acceptable practice demonstrates the intent to allow flexibility in terms of applying the appropriate protective clothing based on the perspective work activity.

4. **STANDARD:** TFRCM Appendix 3C, item 2.

SUMMARY: Recommends protective clothing be selected based on the contamination level in the work area, the anticipated work activity, worker health considerations, and regard for non-radiological hazards that may be present. References Table 3-3 as providing general guidelines for selection of protective clothing.

ANALYSIS: This is consistent with the premise of partial protective clothing in that it provides evaluation criteria used to determine an outcome. The reference to table 3-3 as being limited to “general guidelines” clearly pre-empts any determination that table 3-3 is a requirement.

10 CFR Part 835

1. **STANDARD:** 10 CFR 835.1102.e

SUMMARY: This section states that protective clothing is required for entry into areas with removable contamination greater than TFRCM Table 2-2.

ANALYSIS: HNF-5184, the Tank Farm Radiation Protection Plan cites TFRCM 325 as the implementing measure for this section of 10 CFR 835. This section of the TFRCM is previously discussed.