

Radiological Clearance of DOE Real and Personal Property

January 15, 2013

Release from DOE Control

- Release of Property – The removal of property from DOE control for the purpose of reuse, recycling, or disposal

- 10 CFR 835 *Occupational Radiation Protection*
 - Defines Radiation Protection Programs for DOE sites
- DOE Order 458.1, *Radiation Protection of the Public and the Environment*
 - In general DOE O 458.1 provides a detailed explanation of DOE expectations for control and clearance of property

- *Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)*
- *Multi-Agency Radiation Survey and Assessment of Materials and Equipment (MARSAME)*

- A multi-agency committee representing the
 - U.S. Department of Defense (DOD),
 - U.S. Department of Energy (DOE),
 - U.S. Environmental Protection Agency (EPA),
 - U.S. Nuclear Regulatory Commission (NRC)produced a guidance document known as the [Multi-Agency Radiation Survey and Site Investigation Manual \(MARSSIM\)](#).
- MARSSIM provides detailed guidance how to demonstrate compliance for release of property. MARSSIM focuses on the demonstration of compliance during the final status survey once scoping, characterization and any necessary remedial actions are completed.

MARSAME

- (MARSAME) is a supplement to the *Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)* providing information on planning, conducting, evaluating, and documenting radiological disposition surveys for the assessment of materials and equipment.
- MARSAME is a multi-agency consensus document that was developed collaboratively by four Federal agencies having authority and control over radioactive materials:
 - Department of Defense (DOD)
 - Department of Energy (DOE)
 - Environmental Protection Agency (EPA)
 - Nuclear Regulatory Commission (NRC)
- The objective of MARSAME is to provide a multi-agency approach for planning, performing, and assessing disposition surveys of materials and equipment, while at the same time encouraging an effective use of resources.

Procedures

- Based on the requirements and criteria of these governing documents, site procedures are developed to document and control the release of property from DOE control.
 - **FBP-RP-PRO-00004**, *Release of Items and Equipment from DOE Control*
 - **FBP-RP-PRO-00128**, *Release of Land, Buildings, and Bulk Materials from DOE Control*

FBP-RP-PRO-00004, *Release of Items and Equipment from DOE Control*

- This procedure defines the process for the clearance of personal property from Fluor-B&W Portsmouth LLC (FBP) and the Department of Energy (DOE) control, and ensures that the subsequent Release of such property complies with the requirements of DOE Order 458.1, and the DOE metals recycling suspension requirements.

DOE Metals Recycling Suspension

- On January 12, 2000 the Secretary of Energy issued a moratorium on the Department's release of metals pending a decision by the Nuclear Regulatory Commission (NRC) whether to establish national standards.
- A July 13th memorandum also suspended the unrestricted release for recycling of metal from radiological areas within DOE facilities.

FBP-RP-PRO-00004, *Release of Items and Equipment from DOE Control*

- Property Custodian or Project Lead assembles required supporting documents/records and completes Part I of form FBP-RP-PRO-00004-F01, UE-5 Request for Release of Equipment/Material From DOE Control for property/material to be released.

UE-5 REQUEST FOR RELEASE OF EQUIPMENT/MATERIAL FROM DOE CONTROL Part I

 **UE-5 REQUEST FOR RELEASE OF EQUIPMENT/MATERIAL FROM DOE CONTROL**

Log # FBP-UE5-

PART I. To be completed by Requestor	
A. Description of equipment/material <i>(include make/model, serial #, property #, and/or other unique identifying numbers; attach list if necessary)</i>	
B.1. Describe how and where equipment/material was used, and its history while on site. <i>(Bldg/area/rooms, radiological areas, projects, etc. where the equipment/material was used and associated dates and time of use if known. Attach list if necessary.)</i>	
Current location: _____	
B.2. Are there any gaps or unaccounted for periods in the use and history described above? <input type="checkbox"/> Yes <input type="checkbox"/> No	
B.3. Specific history questions.	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	Was the property used to handle radioactive material and/or had radioactive material pass through it?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	Has the property been in a Contamination Area, High Contamination Area, Airborne Radioactivity Area or a Soil Contamination Area?
Explanation for any boxes marked Yes:	
<i>If any question in B.3 above was marked "Yes" or "Unknown", then the equipment/material must be prepared for a radiological survey. Consult with RP to ensure what necessary conditions must exist and check the box below indicating the equipment/material is ready for a radiological survey. Continue completing Part I of this form.</i>	
<input type="checkbox"/>	Equipment/material is free from paint, lacquer, or other recoating/refinishing that was applied during its history on site.
<input type="checkbox"/>	Equipment/material surfaces are free from all oil, grease, dirt, and any film that may prevent proper surveying.
<input type="checkbox"/>	Equipment/material was disassembled to allow access to all surfaces where contamination may be present.
C. Intended Disposition	
<input type="checkbox"/> Return to Vendor <input type="checkbox"/> Re-use <input type="checkbox"/> Recycle <input type="checkbox"/> Disposal <input type="checkbox"/> Other:	
Recipient (name, company, address):	
E. Requestor Information	
(phone) _____	(print name) _____
(signature) _____	(date) _____
<i>All property released from DOE control must be evaluated for radioactive contamination and cleared by Radiation Protection.</i>	

FBP-RP-PRO-00004, Release of Items and Equipment from DOE Control

- A Radiological Engineer Prepares Part II of form FBP-RP-PRO-00004-F01, UE-5 Request for Release of Equipment/Material From DOE Control.
 - If necessary, collects radiological survey records and applicable related information to support review.
 - Reviews process knowledge or historical records to determine if the property to be released from DOE control potentially contains residual radioactive material.
 - Evaluates data/records sufficiently to demonstrate compliance with release criteria and documents results once the requested surveys are complete.
 - Prepares survey and release plans as necessary.
 - Verifies that property to be released is in compliance with the memorandum on the suspension on recycling of metals from radiological areas.

UE-5 REQUEST FOR RELEASE OF EQUIPMENT/MATERIAL FROM DOE CONTROL Part II

UE-5 REQUEST FOR RELEASE OF EQUIPMENT/MATERIAL FROM DOE CONTROL		Log # FBP- UE5-	
PART II. RADIOLOGICAL EVALUATION (to be completed by Radiological Engineer)			
A. RER – Radiological Engineering Review (check only one)			
<input type="checkbox"/> The provided property description, history, and process knowledge are judged sufficient to demonstrate that the property does not contain residual radioactive material. No additional RER action is required; radiological clearance may be authorized.			
<input type="checkbox"/> The provided property description, history, process knowledge, and existing radiological monitoring/ survey records are judged sufficient to demonstrate that the property does not contain residual radioactive material. No additional RER action is required; radiological clearance may be authorized.			
<input type="checkbox"/> The provided property description, history, process knowledge, and existing radiological monitoring/ survey records may be sufficient to assure that the property does not contain residual radioactive material. However, additional radiological surveys are requested before property may be radiologically cleared.			
<input type="checkbox"/> The provided property description, history, process knowledge, and existing radiological monitoring/ survey records are NOT judged sufficient to demonstrate that the property does not contain residual radioactive material. Additional radiological monitoring/surveys as specified below <input type="checkbox"/> or in the attached sampling plan <input type="checkbox"/> are required.			
_____ <small>(phone/ext.)</small>		_____ <small>(signature)</small>	
_____ <small>(print name RE requesting additional surveys)</small>		_____ <small>(date)</small>	
<input type="checkbox"/> No additional surveys requested; signature not required.			
B. Radiological Evaluation Summary			
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Appropriate approved Authorized Release Limits exist.	<input type="checkbox"/> FBP-PP-PRO-00004
			<input type="checkbox"/> Other: _____
Yes <input type="checkbox"/>	No <input type="checkbox"/>	n/a <input type="checkbox"/>	Radiological survey results:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	were not necessary based on process knowledge.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	are not distinguishable from background.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	are less than the applicable Authorized Release Limits.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	include measurements that are >80% of the applicable Authorized Release Limits but less than the Authorized Release Limits (RPPM / RPM authorization required).
C. Metal recycling suspension/moratorium evaluation			
Yes <input type="checkbox"/>	No <input type="checkbox"/>	n/a <input type="checkbox"/>	The property may be recycled.
Recycling disposition explanation:			
Evaluation results/comments: <input type="checkbox"/> report attached (Report # _____)			Survey #'s <input type="checkbox"/> list attached
D. DOE PPO concurrence <input type="checkbox"/> attached <input type="checkbox"/> n/a			
E. Radiological Clearance Authorization			
_____ <small>(phone)</small>		_____ <small>(signature)</small>	
_____ <small>(print name)</small>		_____ <small>(date)</small>	
<input type="checkbox"/> n/a RPM/RPPM approval required if contamination levels 80% to 100% of Authorized Release Limit(s).			
_____ <small>(phone)</small>		_____ <small>(signature)</small>	
_____ <small>(print name)</small>		_____ <small>(date)</small>	

Surveys in Support of Release of Items of Equipment

- If there is some doubt or question as to whether the provided process knowledge and previous radiological survey documents are adequate to support a determination that the property does not contain residual radioactive contamination:
 - Contact the RCT supervisor to have a radiological survey performed.
 - Surveys will be performed for removable contamination and total (fixed + removable) contamination.
 - Surface Contamination Values for Radiological Clearance of Property for Subsequent Release are:
 - Removable 1,000 dpm/100 cm²
 - Total 5,000 dpm/100cm²
 - Radiological engineer will verify survey results are $\leq 80\%$ of these values.
 - Results that are $\geq 80\%$ but $<100\%$ of these values require RPM approval for release from site.

FBP-RP-PRO-00004, *Release of Items and Equipment from DOE Control*

- The Radiological Engineer will obtain DOE Portsmouth/Paducah Project Office (PPPO) concurrence if necessary.
- Obtain PPPO concurrence under the following conditions:
 - For property that was in a radiological area, as defined in 10 CFR 835.2, at any time in its history.
 - At the discretion of the radiological engineer or Radiation Protection Manager (RPM).
 - As otherwise specified by the PPPO.

FBP-RP-PRO-00128, Release of Land, Buildings, and Bulk Materials from DOE Control

- This procedure provides instructions for
 - Certifying that real property and/or volumes of bulk material greater than 30 cubic yards has been radiologically cleared for release from U.S. Department of Energy (DOE) control

FBP-RP-PRO-00128, Release of Land, Buildings, and Bulk Materials from DOE Control

- Under this procedure, a Radiological Engineer will
 - Develop a survey and release plans to implement the release of real property and bulk material from DOE control as directed by Radiation Protection management.
 - a survey and release plan (SRP) is a document used to ensure the adequate characterization of the radiological conditions of designated real property or of bulk material greater than 30 cubic yards.
 - Reviews and evaluates radiological survey data and other appropriate information and records pertaining to property to be released from DOE control for compliance with release limits.

FBP-RP-PRO-00128, Release of Land, Buildings, and Bulk Materials from DOE Control

- Obtain PPPO concurrence under the following conditions:
 - For property that was in a radiological area, as defined in 10 CFR 835.2, at any time in its history or was involved in radiological operations or had radioactive material on or in the property.
 - At the discretion of the radiological engineer or Radiation Protection Manager (RPM).
 - As otherwise specified by the PPPO.

Survey and Release Plans (SRPs)

- SRPs are designed and implemented consistent with the concepts and terminology with the *Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)*.