Change History (≤ last 5 Rev-Mods)

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<th>Rev-Mod</th>
<th>Release Date</th>
<th>Justification</th>
<th>Summary of Changes</th>
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<tr>
<td>C-3</td>
<td>05/10/2017</td>
<td>RadCon Request</td>
<td>Modified Section 2.1 to include additional terms and definitions applied throughout procedure in addition to minor changes.</td>
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<tr>
<td>C-2</td>
<td>09/09/2016</td>
<td>PER</td>
<td>Updated Records section to current standard.</td>
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<td>C-1</td>
<td>09/09/2014</td>
<td>Radcon request</td>
<td>Changed from Reference to Routine.</td>
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<td>C-0</td>
<td>04/10/2014</td>
<td>Periodic Review</td>
<td>Update procedure to meet current standard.</td>
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<td>B-0</td>
<td>04/14/2011</td>
<td>Periodic Review</td>
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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instruction to health physics technicians (HPTs) for receiving samples in the Radiological Control (RadCon) Program Count Room.

1.2 Scope

This procedure involves Sample Receipt, Sample Processing, Sample Results Reporting and Sample Disposal.

2.0 INFORMATION

2.1 Terms and Definitions

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>COC</td>
<td>Chain of Custody</td>
</tr>
<tr>
<td>CRFLM</td>
<td>Count Room First Line Manager</td>
</tr>
<tr>
<td>CRLHPT</td>
<td>Count Room Lead HPT</td>
</tr>
<tr>
<td>DAC</td>
<td>Derived Air Concentration</td>
</tr>
<tr>
<td>dpm</td>
<td>Disintegrations Per Minute</td>
</tr>
<tr>
<td>IDMS</td>
<td>Information Data Management System</td>
</tr>
<tr>
<td>ORRSR</td>
<td>Onsite Routine Radioactive Shipment Record</td>
</tr>
<tr>
<td>RSC</td>
<td>Request for Sample Counting</td>
</tr>
<tr>
<td>SAIMS</td>
<td>Sample Analysis Information Management System</td>
</tr>
</tbody>
</table>

3.0 PRECAUTIONS AND LIMITATIONS

3.1 Radiation and Contamination Control

3.1.1 Samples received for gross alpha/beta and alpha energy counting are limited to 6,000 dpm/100 cm² alpha and 50,000 dpm/100 cm² beta, as determined by handheld instruments, unless otherwise approved by the CRFLM.
4.0 **PREREQUISITES**

4.1 **Special Tools, Equipment, and Supplies**
- GM or equivalent
- PAM or equivalent
- CP or equivalent
- Alpha Spectrometer, if applicable
- Gamma Spectrometer, if applicable
- Liquid Scintillation Counter, if applicable
- Tennelec or equivalent gross alpha/beta counting system, if applicable
- Sample Log
- RSC form, if applicable
- ORRSR, if applicable
- Chain of Custody (COC), if applicable.

4.2 **Performance Documents**

The following documents may be needed to perform this procedure:
- TFC-ESHQ-RP_DOS-C-04, “Internal Dosimetry”
- TFC-ESHQ-RP_MON-C-15, “Radiological Material Packaging and Labeling”.

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**Type**: ROUTINE  **Document No.**: TF-RC-016  **Rev/Mod**: C-3  **Release Date**: 05/11/2017  **Page**: 3 of 8
5.0 PROCEDURE

5.1 Sample Receipt

5.1.1 CONFIRM the following information is provided for the sample:
- COC, if applicable
- RSC, if applicable
- ORRSR, if applicable.

5.1.2 CONFIRM sample container/package is not damaged.

5.1.3 IF sample container/package is damaged and COC is available, PERFORM the following:

5.1.3.1 RECORD on COC AND REQUEST client initial and date note.

5.1.3.2 MAKE an entry in RadCon logbook.

5.1.4 IF sample container/package is damaged and COC is not available, PERFORM the following:

5.1.4.1 MAKE an entry in RadCon logbook.

5.1.5 CONFIRM sample is labeled and packaged in accordance with TFC-ESHQ-RP_MON-C-15.

5.1.5.1 IF sample is not labeled and packaged properly, DO NOT accept sample.

5.1.6 ENSURE sample is received in a manner that will maintain sample integrity (e.g., air samples in Petri dishes, smears in planchets placed in cardboard folders).
5.1 Sample Receipt (Cont.)

5.1.7 IF sample integrity is not preserved, **PERFORM** the following:

5.1.7.1 **SURVEY** sample packaging to determine sample activity loss.

5.1.7.2 **CONTACT** project RadCon management.

5.1.7.3 **MAKE** an entry in RadCon logbook.

5.1.8 **CONFIRM** samples do not exceed 5 mrem/hr @ 30 cm.

5.1.8.1 IF sample exceeds 5 mrem/hr @ 30 cm, **CONTACT** CRFLM for approval.

5.1.9 **CONFIRM** samples received for gross alpha/beta and alpha energy counting do not exceed 6,000 dpm/100 cm² alpha and 50,000 dpm/100 cm² beta, as determined by handheld instruments, unless otherwise approved by CRFLM.

5.1.10 **CONFIRM** all sample information is provided.

5.1.11 IF sample does not meet sample receipt criteria, **CONTACT** CRFLM.
5.2 Sample Processing

5.2.1 ENTER sample information into Sample Log.

5.2.2 IF sample has a unique sample number provided by requesting facility, ENTER number into sample comments.

5.2.3 PROVIDE the count room unique sample log number to client.

5.2.4 INSPECT sample to determine if sample was collected properly.

5.2.5 IF sample was not collected properly (e.g., collected on wrong side of filter, wrong collection media), PERFORM the following:

   5.2.5.1 CONTACT project HPT or CRLHPT.
   5.2.5.2 MAKE a note in comments section of sample log.
   5.2.5.3 CONTACT CRFLM.

5.2.6 PREPARE sample for counting.

5.2.7 COUNT sample according to RSC, if applicable

   OR

   COUNT sample as directed by CRFLM for WRPS samples AND

   RECORD results on applicable form.
5.3 Sample Results Reporting

5.3.1 REQUEST CRFLM validate data upon sample counting completion.

5.3.2 REPORT results after data has been validated as follows:

5.3.2.1 UNLESS other arrangements are made, ELECTRONICALLY SEND results to name provided on RSC form, if applicable.

5.3.2.2 REPORT WRPS samples as follows:

- Results are available on IDMS or SAIMS
- Notifications are made by CRFLM to Project RadCon Management if action levels are exceeded
- Upon request for samples that do not exceed action levels.

5.4 Sample Disposal

5.4.1 UPON completion of Sample Counting, DISPOSE of samples as follows:

- As specified on RSC, if applicable
- Special arrangements are made for disposal by client, receiving HPT, or CRFLM
- Samples are used to determine internal exposures (e.g., blood smears, nasal smears, air samples > 0.20 DAC in an area not posted as Airborne Radioactivity Area, lapels > 1 DAC-hr). Such samples are retained until internal dosimetry company technical authority authorizes disposal.

OR

UNLESS otherwise directed by CRFLM (normally after final count)

5.4.2 REQUEST Environmental approval before disposing any of the following samples:

- Stack record sample air samples
- Stack CAM air samples
- DST Annulus leak detector CAM air samples.
5.5 Records

5.5.1 **PERFORM** the following for records identified within this procedure.

5.5.1.1 On the Records Submittal Checklist, **RECORD** the number of pages that were completed

**OR**

**PLACE** a check mark (✔) in the N/A column.

5.5.1.2 **ATTACH** the completed records to the Records Submittal Checklist **AND**

**SIGN** Records Submittal Checklist indicating the package is complete.

5.5.1.3 **SUBMIT** the completed records to an approved RadCon Record Storage Area for retention.

The record custodian identified in the Company Level Records Inventory and Disposition Schedule (RIDS), is responsible for record retention in accordance with TFC-BSM-IRM_DC-C-02.

<table>
<thead>
<tr>
<th>Records Submittal Checklist</th>
<th>Number of pages completed</th>
<th>N/A (✔)</th>
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<tbody>
<tr>
<td>Site Form A-6003-962, Chain of Custody/Sample Analysis Request</td>
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<tr>
<td>Site Form A-6004-173, RadCon Program Count Room Request for Sample Counting</td>
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_________________________ / _______________________/ _____________
Signature                  Print (First and Last Name)                      Date

FLM