



U.S. Department of Energy
Office of River Protection

P.O. Box 450, MSIN H6-60
Richland, Washington 99352

DEC 2 0 2006

06-ESQ-167

Mr. M. S. Spears, President
and Chief Manager
CH2M HILL Hanford Group, Inc.
2440 Stevens Center Place
Richland, Washington 99354

Dear Mr. Spears:

CONTRACT NO. DE-AC27-99RL14047 – ASSESSMENT REPORT A-06-ESQ-TANKFARM-011, STORAGE OF RADIOACTIVE MATERIAL, OCTOBER 30 THROUGH NOVEMBER 6, 2006

This letter forwards the results (Attachment) of the U.S. Department of Energy, Office of River Protection (ORP) assessment performed from October 30 through November 6, 2006, to evaluate the CH2M HILL Hanford Group, Inc. (CH2M HILL) Storage of Radioactive Material Program (the Program).

The assessor determined the Program effectively stored, posted, and labeled radioactive material as required by 10 CFR 835.605 and contract requirements, with the exception of the Finding described below.

Field inspections showed numerous items in Radioactive Material Area (RMA) 158 with radioactive material tags, labels, and signs that were faded by the sunlight; had illegible or missing entries; or were physically degraded to the point they did not serve the intended purpose (Finding). Based on discussions with your staff members and inspections of four RMAs, the assessor determined the conditions documented in the attached report represented a systemic deficiency in proper marking and labeling in RMAs throughout the Tank Farms. ORP recognizes that progress has been made consolidating/reducing the number of RMAs in the Tank Farms. As part of this ongoing effort, CH2M HILL should ensure that appropriate marking and labeling are applied in the remaining RMAs.

The assessor made one Observation for Program improvement: the implementing procedure on establishing/disestablishment of RMA references a form to be used to transfer RMA custodianship. The form was silent to transferring custodianship.

ORP requests a written response to the Finding, including determination of extent of condition assignment of responsible individual, proposed corrective action, and estimated due date within 30 days of receipt of this report. No response to the Observation is required.

U.S. DEPARTMENT OF ENERGY
Office of River Protection
Environmental Safety and Quality

ASSESSMENT: Storage of Radioactive Material Program

REPORT: A-06-ESQ-TANKFARM-011

FACILITY: CH2M HILL Hanford Group, Inc. Tank Farms

LOCATION: Hanford Site

DATES: October 30 through November 6, 2006

ASSESSOR: Larry R. McKay

APPROVED BY: Patrick P. Carrier, Team Lead
Verification and Confirmation

Executive Summary

The U.S. Department of Energy, Office of River Protection (ORP) evaluated the CH2M HILL Hanford Group, Inc. (CH2M HILL) Storage of Radioactive Material Program from October 30 through November 6, 2006.

The assessor determined the Program effectively stored, posted and labeled radioactive material as required by 10 CFR 835.605 and contract requirements, with one exception (the Finding described below).

- Field inspections showed that numerous items in Radioactive Material Area (RMA) 158 bore radioactive material tags, labels, and signs that were faded by the sunlight; contained illegible or missing entries; or were physically degraded to the point they did not serve the intended purpose. They did not consistently meet the 10 CFR 835.601 and 10 CFR 835.605 color scheme and legibility requirements (Finding).

Based on discussions with your staff members and inspections of four RMAs, the assessor determined the conditions documented in the attached report represented a systemic deficiency in proper marking and labeling in RMAs throughout the Tank Farms.

ORP recognizes that progress has been made consolidating/reducing the number of RMAs in the Tank Farms. As part of this ongoing effort, CH2M HILL should ensure that appropriate marking and labeling is applied in the remaining RMAs.

The assessor made one Observation for Program improvement:

- Implementing Procedure TFC-ESHQ-RP-ADMIN-C-14, “Administration of Radioactive Material Areas,” Revision B-7, September 15, 2006, specified the use of Form A-6003-176 (09/06), Establishing/Disestablishment of a RMA, to transfer RMA custodianship. The form does not support that type of action because it’s silent to transferring custodianship (Observation).

The assessor recommended revision of the form to be consistent with the procedure language.

ORP requests a written response to the Finding, including assignment of responsible individual, proposed corrective action, and due date within 30 days of receipt of this report; no response to the Observation is not required.

Assessment details are described in this report and in Assessment Note A-06-ESQ-TANKFARM-011-01.

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List of Acronyms

CH2M HILL	CH2M HILL Hanford Group, Inc.
CO	Closure Operations
CTA	Company Technical Authority
DOE	U.S. Department of Energy
FCA	Fixed Contamination Area
ORP	Office of River Protection
PER	Problem Evaluation Request
POC	Point-of-Contact
RadCon	Radiological Control
RMA	Radioactive Material Area

Radiological Control (RadCon) Assessment Storage of Radioactive Material Program

Scope

The U.S. Department of Energy (DOE), Office of River Protection (ORP) evaluated the CH2M HILL Hanford Group, Inc. (CH2M HILL) Storage of Radioactive Material Program (the Program) from October 30 through November 6, 2006.

The assessor evaluated procedures against regulatory requirements and guidance; examined records; interviewed staff members responsible for implementing the Program or knowledgeable of it; and conducted field inspections to evaluate applied Program controls.

Details

The DOE specified posting and labeling requirements in Sections 601 and 605 of 10 CFR 835, "Occupational Radiation Protection," January 1, 1999. The DOE specified guidance for posting and labeling in DOE-STD-1098-99, "Radiological Control," Chapter 2, Part 3, Posting and Table 4.1, "Radioactive Material Labeling," July 1999.

The following CH2M HILL implementing procedures governed the Program:

- TFC-ESHQ-RP-ADMIN-C-14, "Administration of Radioactive Material Areas," Revision B-7, September 15, 2006;
- TFC-ESHQ-RP-MON-C-18, "Radiological Posting," Revision C-1, September 19, 2006;
- TFC-ESHQ-RP-MON-C15, "Radioactive Material Packaging and Labeling," Revision A-6, June 22, 2006; and
- TFC-OPS-WM-C-10, "Contaminated Equipment Management Practices," Revision B-1, October 24, 2006.

The assessor interviewed the following CH2M HILL staff members responsible for implementing the Program or knowledgeable of the Program:

CH2M HILL RadCon Program

RadCon Program Director

Primary Company Technical Authority (CTA) – Posting/Labeling/Radioactive Material Area (RMA)*/Fixed Contamination Area (FCA)**

Backup CTA – Posting/Labeling/RMAs/FCAs

Analytical Technical Services Facility Point-of-Contact (POC) –

Posting/Labeling/RMAs/FCAs

Closure Operations (CO) RadCon Director & Team Lead RMA Reduction Initiative

CO Facility POC – Posting/Labeling/RMAs/FCAs

Waste Feed Operations Facility POC – Posting/Labeling/RMAs/FCAs

Team Lead, Contaminated Equipment Program

*Radioactive Material Areas

**Fixed Contamination Areas

In addition, the assessor conducted two field tours to inspect and evaluate applied controls.

Assessment Note A-06-ESQ-TANKFARM-011-01 contains details of interviews, records review, and field inspections, including an excerpt from a quarterly summary of the Work Initiative Team to reduce the number and size of RMAs, and a presentation “Reduction of Radioactive Management Areas (RMA)” to describe efforts to manage contaminated equipment more effectively.

Results

CH2M HILL institutionally controlled the storage of radioactive material; established and maintained implementing procedures; appointed custodians each RMA; conducted monthly inspections and annual reviews of each RMA; and provided oversight of the activity through the CTA, assisted by the Facility POCs.

The field inspections revealed a significant improvement in consolidating and reducing the number of RMAs and managing contaminated equipment. Champions (team leads) actively managed both the Contaminated Equipment initiative and the RMA Reduction initiative. Both initiatives included schedules, goals, and progress reports. The initiatives complemented each other: the RMA Reduction Initiative reduced the number and size of RMAs; the Contaminated Equipment initiative moved equipment into the RMAs. Neither initiative focused on posting and labeling of the equipment nor material stored inside the RMAs, because this was considered a normal responsibility of Health Physics Technicians. The assessor interviewed both individuals and received status reports on each initiative.

Field inspections also showed that numerous items in RMA-158 bore radioactive material tags, labels, and signs that were faded by the sunlight; contains illegible or missing entries; or physically degraded to the point they did not serve the intended purpose (a Finding). 10 CFR 835.601 required the yellow-and-magenta color scheme, and 10 CFR 835.605 required posting maintained in a legible condition.

Based on discussions with your staff members and inspections of four RMAs, the assessor determined the conditions documented in the attached report represented a systemic deficiency in proper marking and labeling in RMAs throughout the Tank Farms. ORP recognizes that progress has been made consolidating/reducing the number of RMAs in the Tank Farms. As part of this ongoing effort, CH2M HILL should ensure that appropriate marking and labeling is applied in the remaining RMAs.

The assessor reviewed 11 Problem Evaluation Requests (PER) associated with storage of radioactive material and determined that custodians occasionally fail to complete the required monthly inventories of RMAs on time. When that occurs, the Facility POC issued a PER to document the issue. Considering there were some 20 custodians and 150 more than RMAs at the time of the assessment, about 3,000 monthly inventories were required. The assessor considered the filing of these 11 PERs as documentation of isolated events and not indicative of a systemic problem.

The assessor identified one Finding and one Observation for Program improvement, as described below.

A-06-ESQ-TANKFARM-011-F01 -- Signs, Labels, & Tags in RMA-158 Did Not Consistently Meet 10 CFR 835.601 and 10 CFR 835.605 Color Scheme and Legibility Requirements

10 CFR 835.601 requires "...the standard radiation warning trefoil in black or magenta imposed upon a yellow background." 10 CFR 835.605 requires "The label shall also provide sufficient information to permit individuals handling, using, or working in the vicinity of the items or containers to take precautions to avoid or control exposures." In addition, Article 231 of the DOE-STD1098-99 (the DOE RadCon Standard) specifies "Posting should be maintained in a legible condition and updated..."

The CH2M HILL implementing procedures for posting and labeling complied with 10 CFR 835.601 and 10 CFR 835.605, "CH2M HILL Radiation Protection Program," and "Tank Farms Radiological Control Manual" requirements. The assessor determined from field inspections of approximately 50 radiological signs, labels, and tags hat in RMA-158 the signs and labels did not consistently meet the requirements for color scheme and legibility required by 10 CFR 835.601 and 10 CFR 835.605, respectively.

The assessor recommended CH2M HILL determine extent of condition for this issue and increase its efforts to monitor the condition of, and replace as necessary, degraded labels, tags, and signs for items stored within RMAs.

Observation (Area for Program Improvement) - An Inconsistency Existed Between Procedure and Form for Transferring RMA Custodianship

Implementing procedure TFC-ESQ-RP-ADM-C-14, Step 4.2, directed the user to complete Part 1/Section 1/Item 1 of Form A-6003-176 (09/06), Establish/Disestablsh RMA, to transfer custodianship for a RMA from one custodian to another. Section 1 of the form did not include language on transferring RMA custodianship.

The assessor recommended revision of the form to be consistent with the procedure language.

Conclusions:

The assessor concluded the CH2M HILL Storage of Radioactive Material Program was adequately controlled by procedure, but the program implemented in the field was not fully compliant with requirements. The assessor identified one Finding and one Observation for Program improvement, fully described above:

- Signs, Labels, & Tags in RMA-158 Did Not Consistently Meet 10 CFR 835.601 and 10 CFR 835.605 Color Scheme and Legibility Requirements (Finding); and
- An Inconsistency Existed between Procedure and Form for Transferring RMA Custodianship (Observation).

The CH2M HILL CTA – Posting/Labeling/RMAs/ FCAs agreed with the Finding and the Observation.

Open Items

A-06-ESQ-TANKFARM-011-F01	Signs, Labels, & Tags in RMA-158 Did Not Consistently Meet 10 CFR 835.601 and 10 CFR 835.605 Color Scheme and Legibility Requirements
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Closed Items

None

Discussed Items

None

Signature

Larry R. McKay, Assessor

Date