



U.S. Department of Energy
Office of River Protection

P.O. Box 450
Richland, Washington 99352

04-ESQ-038

Mr. E. S. Aromi, President
and General Manager
CH2M HILL Hanford Group, Inc.
Richland, Washington 99352

Dear Mr. Aromi:

CONTRACT NO. DE-AC27-99RL14047 – ASSESSMENT REPORT A-04-ESQ-TANKFARM-003 – RADIOLOGICAL CONTROL (RADCON) RELEASE OF MATERIAL AND EQUIPMENT PROGRAM, MARCH 8 – 11, 2004

This letter forwards the results of the U.S. Department of Energy, Office of River Protection (ORP) assessment of the CH2M HILL Hanford Group, Inc. RadCon Release of Material and Equipment Program during the period March 8 – 11, 2004.

The ORP assessors concluded that the Program was generally adequate, with one exception: additional management attention is needed to correct the poor quality of the Radiological Survey Reports (RSR). The team identified the following Finding (see Notice of Finding, Attachment 1):

- RSRs contained numerous errors and did not satisfy procedural requirements (Finding A-04-ESQ-TANKFARM-003-F01).

In addition, the assessors identified one Assessment Follow-up Item and four Observations that collectively point to the need for more rigor in this program:

- An outdated Technical Basis Document (Observation A-04-ESQ-TANKFARM-003-AFI-01);
- Deficiencies in Procedure for Release Surveys for Material and Equipment (Observation A-04-ESQ-TANKFARM-003-O01);
- Lack of Procedural Guidance for Release of Personal or Hand-Carried Items (Observation A-04-ESQ-TANKFARM-003-O02);
- Deficiencies in a Radiological Survey Plan for Material and Equipment (Observation A-04-ESQ-TANKFARM-003-O03); and
- Lack of Rigorous Program to Notify Health Physics Technicians of Procedural Changes (Observation A-04-ESQ-TANKFARM-003-O04).

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The attached assessment report (A-03-ESQ-TANKFARM-003), Attachment 2, documents the details of the assessment.

Within 30 days of receipt of this letter, please respond to the Finding (Attachment 1) and include the corrective actions management will take to resolve the program deficiencies discussed in the attached report. The plan should include actions, responsible individual(s), and due dates.

If you have any questions, please contact me, or your staff may call Larry R. McKay, Radiological Control Manager, (509) 376-7120.

Sincerely,

ESQ:LRM

Roy J. Schepens
Manager

Attachments: (2)

cc w/attachs:

E. E. Bickel, CH2M HILL
R. E. Broz, CH2M HILL
J. M. Hobbs, CH2M HILL
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K. A. Benguiat, RL
W. M. Glines, RL
Administrative Record

Notice of Finding

Section C.2 (d) (2) (iii), “Environmental, Safety, Health & Quality (ESH&Q),” of the Contract¹ requires CH2M HILL Hanford Group, Inc. (CH2M HILL, the Contractor) to

“Carry out all activities in a manner that complies with human health, safety, environmental, and quality regulations; minimizes the generation of wastes, releases or emissions into the atmosphere, and releases to soil and surface or groundwater; and complies with applicable regulatory requirements and DOE directives.”

During performance of an assessment of CH2M HILL’s Radiological Control Release of Material and Equipment Program, conducted March 8 - 11, 2004, on the Hanford Site, the U.S. Department of Energy (DOE), Office of River Protection (ORP) identified the following Finding:

A-04-ESQ-TANKFARM-003-F01- Radiological Survey Reports (RSR) contained numerous errors and did not satisfy the procedural requirements.

Requirements:

10 CFR 830, “Nuclear Safety Management,” Subpart A, “Quality Assurance Requirements,” January 10, 2001, established the requirement, in Section 122.(e)(1) to:

“Perform work consistent with technical standards, administrative controls, and other hazard controls adopted to meet regulatory or contract requirements, using approved instructions, procedures, or other appropriate means.”

Section 2.5.2.1, “General Requirements for Work Processes,” of the CH2M HILL Quality Assurance Program Description (QAPD), TFC-PLN-02, Revision A-3, November 19, 2003, specified:

“All activities that can affect the quality, safety, or the environment of CH2M HILL products and services shall be prescribed by, and performed, in accordance with documented, management-approved procedures, instructions, and design documents that meet the requirements of applicable regulatory requirements, DOE orders, technical standards, and administrative controls.”

¹ Contract No. DE-AC27-99RL14047, between the U. S. Department of Energy and CH2M HILL Hanford Group, Inc., dated October 1, 1999.

In addition, Procedure TFC-ESHQ-P_ADM-P-09, Revision B-3, "Documentation of Radiological Surveys," December 3, 2003, Section 4.0, "Procedure" specified detailed requirements for generating and/or reviewing RSRs.

Discussion:

Contrary to these requirements, CH2M HILL Health Physics Technicians (HPT) and their First Line Managers generated and reviewed, respectively, RSRs containing numerous deficiencies. The assessors reviewed 101 RSRs and identified the following deficiencies:

- Eight (8%) of the RSRs contained empty spaces or boxes, e.g., missing instrument efficiency;
- Fourteen (14%) RSRs contained incomplete HPT names (last name only) in the HPT signature box;
- Ten (10%) of the RSRs used "---" vs. "N/A" to indicate the lack of applicable data;
- Five (5%) of the RSRs contained corrections made by the reviewer vs. the HPT(s) performing the survey. On three RSRs a strike-out correction was either not initialed, not dated, or was missing both;
- On one RSR the reviewer's signature was dated the day prior to the HPT's date;
- RSR forms (BD-6003-343R) with a version date of "07/02" did not include a space/box for indicating whether the status map(s) had been updated. RSR forms (BD-6003-343R) with a version date of "12/03" did include such a box; and
- Ninety-eight of the total of 101 RSRs reviewed included instrument efficiency data (three RSRs were missing such data). Of these 98 RSRs with instrument efficiency data, 47 (48%) recorded the data in decimal form, e.g., 0.1, while 51 (52%) recorded the data in percentage, e.g., 10%. The assessors concluded that instrument efficiency data should be consistently recorded.

ORP requests CH2M HILL to provide, within 30 days from the date of the letter that transmitted this Notice, a reply to the Finding above. The reply should include: 1) admission or denial of the Finding; 2) the reason for the Finding, if admitted, and if denied, the reason why; 3) the corrective steps that have been taken and the results achieved; 4) the corrective steps that will be taken to avoid a further Finding; and 5) the date when full compliance with the 10 CFR 830 and the QAPD requirements will be achieved. Where good cause is shown, consideration will be given to extending the requested response time.

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

ASSESSMENT: Release of Material & Equipment

REPORT: A-04-ESQ-TANKFARM-003

FACILITY: CH2M HILL Hanford Group, Inc. (CH2M HILL) Tank Farms

LOCATION: Hanford Site

Dates: March 8 - 11, 2004

ASSESSORS: Larry R. McKay, Lead Assessor
Wayne M. Glines, Assessor

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

Release of Material & Equipment Program for the Period of March 8 - 11, 2004

Assessment Purpose and Scope

During the period of March 8 - 11, 2004, the U. S. Department of Energy (DOE), Office of River Protection, conducted an assessment of the Release of Material & Equipment Program (the Program) of CH2M HILL Hanford Group, Inc. (CH2M HILL). The assessors evaluated the procedural requirements, interviewed those charged with implementing the program, and conducted a tour of the tank farms to evaluate release of material and equipment. The requirements for radiological release are specified in 10 CFR 835, "Occupational Radiation Protection" Code of Federal Regulations, Section 1101, "Control of Material and Equipment", November 14, 1998; the CH2M HILL "Radiation Protection Program" (HNF-MP-5184), Requirements 219-229, Revision 2, February 28, 2003; and in CH2M HILL implementing procedures.

Significant Observations and Conclusions

Overall Conclusions

The assessors concluded that the Program was generally functioning well, with one exception: poor quality of the Radiological Survey Reports (RSR). The team identified one Finding during the assessment and concluded that additional management attention was warranted in this area:

- RSRs contained numerous errors and did not satisfy the procedural requirements (Finding A-04-ESQ-TANKFARM-003-F01).

In addition, the assessors identified one Assessment Follow-up Item (AFI) and four Observations which pointed to the need for a more rigorous program:

- An Outdated Technical Basis Document (A-04-ESQ-TANKFARM-003-AFI-01);
- Deficiencies in Procedure for Release Surveys for Material and Equipment (A-04-ESQ-TANKFARM-003-O01);
- Lack of Procedural Guidance for Release of Personal or Hand-Carried Items (A-04-ESQ-TANKFARM-003-O02);
- Deficiencies in a Radiological Survey Plan for Material and Equipment (A-04-ESQ-TANKFARM-003-O03); and

- Lack of Rigorous Program to Notify Health Physics Technicians (HPT) of Procedural Changes (A-04-ESQ-TANKFARM-003-004).

Details of the Finding and Observations may be found in the remainder of this assessment report.

The assessors concluded that additional management attention was warranted in this functional area, especially toward correcting the RSR deficiencies.

Assessment Summary

The assessors prepared Assessment Note A-04-ESQ-TANKFARM-003-01 which provides the details for each issue summarized below.

Documentation of Release Surveys

The assessors reviewed 101 RSRs and identified about 40 instances where CH2M HILL was not complying with its Procedure TFC-ESHQ-RP_ADM-P-09, Revision B-3, “Documentation of Radiological Surveys,” December 3, 2003, Section 4.0 requirements for documenting surveys for the release of material and equipment. The assessors issued Finding A-04-ESQ-TANKFARM-003-F01 (see attached Notice of Finding [Attachment 1]) and concluded that increased management attention is required to ensure records are completed in accordance with procedures.

Procedural Weaknesses

The assessors reviewed Procedure TFC-EHSQ-RP_MON-C-23, Revision C, “Release Surveys for Material and Equipment,” January 5, 2004, and identified several deficiencies in the procedure:

- Attachment A, “Allowable Total Residual Surface Contamination” uses DOE 5400.5, Figure IV-1, values modified by Nuclear Regulatory Commission (NRC) Regulatory Guide 1.86. The assessors concluded that the use of NRC guidance was inappropriate in a DOE contractor procedure;
- Step 4.4.1, Sub step 1.a contained a hypertext link to Appendix H2-D of the Tank Farm Radiological Control Manual (TFRCM) for tagging or labeling of radioactive material. This link also appears in several other locations in this procedure. However, the current version of the TFRCM does not contain App. H2-D; and
- The procedure did not explicitly define the term “uncontrolled area.” The assessors concluded that terms used in procedures should be defined within the procedure or reference other documents in which they are explicitly defined.

The assessors identified this issue as Observation A-04-ESQ-TANKFARM-003-001.

The assessors could not find procedural guidance regarding the release of personal or hand-carried items. During the interviews, the HPTs understood what needed to be done, but the lack of written guidance might lead to inconsistent implementation. The assessors identified this issue as Observation A-04-ESQ-TANKFARM-003-002.

The assessors reviewed Technical Basis Document HNF-3391, "Justification for Dual Survey Exemption in Tank Farm Facilities," dated March 3, 1999, and found that it included a facility no longer under CH2M HILL control. The assessors concluded that the document needed to be updated and issued Assessment Follow-Up Item A-04-ESQ-TANKFARM-003-AFI-01. At a future date, the assessors will reexamine this issue to determine if CH2M HILL has updated Technical Basis Document HNF-3391.

Radiological Survey Plans

The assessors examined a representative Survey Plan and concluded that it did not meet the requirements of Procedure TFC-EHSQ-RP_MON-C-23, Revision C, "Release Surveys for Material and Equipment," January 5, 2004:

- The plan did not specify the number of swipes (technical smears), or large area wipes to be collected, or reference a technical procedure to be used to determine such a number; and
- The review/approval footer appeared only on the second page of the plan instead of the first page as required by the procedure.

The assessors issued Observation A-04-ESQ-TANKFARM-003-003 on this issue.

Communication of Release Survey Requirements to HPTs

Based on their interviews of eight Radiological Controls staff members (including four HPTs), the assessors concluded a rigorous program to positively notify HPTs of procedure changes was not in place. The old Required Reading List has been substantially modified, and although the First Line Manager discussed changes with the HPTs at morning or tailgate meetings, the system employed was not rigorous -- some HPTs failed to get the information.

The assessors issued Observation A-04-ESQ-TANKFARM-003-004 on this issue.

List of Items Opened, Closed, and Discussed

Opened

| | | |
|------------------------------|---------|--------------------------------------------------------------------------------------------|
| A-04-ESQ-TANKFARM-003-F01 | Finding | Deficiencies in Radiological Survey Reports for Release Surveys for Material and Equipment |
| A-04-ESQ-TANKFARM-003-AFI-01 | AFI | Outdated Technical Basis Document HNF-3391 |

Closed

None

Discussed

None