U.S. Department of Energy
Office of River Protection
P.O. Box 450
Richland, Washington 99352

03-ESQ-063

SEP 30 2003

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

Dear Mr. Aromi:

CONTRACT NO. DE-AC27-99RL14047 – CH2M HILL HANFORD GROUP, INC. (CH2M HILL) INTERNAL DOSIMETRY PROGRAM (IDP), ASSESSMENT REPORT A-03-RADCON-TANKFARM-005, AUGUST 11 THROUGH 22, 2003

This letter forwards the results of the subject assessment. The U.S. Department of Energy, Office of River Protection (ORP) assessment team concluded that CH2M HILL was implementing the IDP according to the requirements of Title 10 Code of Federal Regulations Part 835. The team had no Findings but identified eight Observations which, if corrected, would enhance the performance of the IDP. The Enclosure (Assessment Report A-03-RADCON-TANKFARM-005) documents the details of the assessment.

The Observations for improvement included:

- Incorrect position title use in the *Hanford Radiological Control Manual*.
- Statement of Work with Pacific Northwest National Laboratory that did not facilitate CH2M HILL oversight of their services.
- No procedure for the investigation of high, anomalous, or missing positive bioassay results.
- No procedure comparable for a potential overexposure due to internal deposition of radioactivity.
- No reference to the Hanford Safety and Health Document (a contract requirement) in any of the IDP documents the team reviewed.
- Errors and areas needing clarification in three IDP base documents (Observations are separately listed in the report for each document).

While a written response is not required for Observations, they represent an opportunity for CH2M HILL to improve internal dosimetry. Such a response would typically include:

- Actions taken or planned to identify any similar Observations in other programs or activities.
- Evaluation of the underlying causes for each Observation.
- Actions taken or planned to correct the underlying cause(s) for each Observation.
- Actions planned to verify the effectiveness of the corrective actions.

SEP 30 2003

Mr. E. S. Aromi
03-ESQ-063

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

Sincerely,

Robert C Barr for

Roy J. Schepens
Manager

ESQ:LRM

Enclosure

cc w/encl:
E. E. Bickel, CH2M HILL
J. M. Hobbs, CH2M HILL
E. E. Kennedy, CH2M HILL
K. A. Benguiat, RL
W. M. Glines, RL

Enclosure
03-ESQ-063
A-03-RADCON-TANKFARM-005

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

ASSESSMENT:	CH2M HILL Hanford Group, Inc. Internal Dosimetry Program
REPORT NO.:	A-03-RADCON-TANKFARM-005
FACILITY:	Tank Farms
LOCATION:	Hanford Site
DATES:	August 11 through 22, 2003
ASSESSMENT TEAM:	L. R. McKay, U.S. Department of Energy Office of River Protection (Assessment Lead)
	W. M. Glines, U.S. Department of Energy Richland Operations Office

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EXECUTIVE SUMMARY

INTRODUCTION

The U.S. Department of Energy, Office of River Protection assessment team (the team) evaluated the CH2M HILL Hanford Group, Inc. (CH2M HILL) Internal Dosimetry Program (IDP) for scope, adequacy, and compliance with regulatory and contractual requirements in Title 10 Code of Federal Regulations (CFR) Part 835 and the Hanford Radiological Health and Safety Document (HSD). The team reviewed CH2M HILL program documents, procedures, and technical basis documents, as well as the Statement of Work with Pacific Northwest National Laboratory (PNNL) for dosimetry and radiological records services and applicable PNNL documents and reports. The team also conducted interviews with appropriate CH2M HILL and PNNL Managers, Health Physicists, and technical staff.

FINDINGS, OBSERVATIONS, AND CONCLUSIONS

The team concluded the CH2M HILL IDP satisfied the applicable requirements of 10 CFR 835 and the HSD, and was being adequately implemented. Consequently, the team assessed no Findings against the CH2M HILL IDP. However, the team identified eight Observations which, if corrected, would enhance IDP performance:

Observations:

- HNF-5183, *Tank Farms Radiological Control Manual*, Revision 1, dated February 28, 2003, used the term "Internal Dosimetry Facility Technical Authority," but the position has been officially titled "Instrumentation and Dosimetry Facility Technical Authority" in TFC-ESHQ-RP_DOS-C-04, *Internal Dosimetry* (Observation A-03-RADCON-TANKFARM-005-O-01, Section 1.2.1).

- The *Statement of Work: FY 2003 Pacific Northwest National Laboratory Dosimetry and Radiological Records Services* did not facilitate CH2M HILL oversight of these contracted services (Observation A-03-RADCON-TANKFARM-005-O-02, Section 1.2.2).

- No procedure comparable to TFC-ESHQ-RP_DOS-C-10, *Dose Investigations* (for external dosimetry results) existed for the investigation of high, anomalous, or missing positive bioassay results (Observation A-03-RADCON-TANKFARM-005-O-03, Section 1.3.1).

- No procedure comparable to HNF-IP-0842, Volume VII, Radiological Control, Section 13.7, *Radiation Overexposure Situations*, existed for a potential overexposure due to internal deposition of radioactivity (Observation A-03-RADCON-TANKFARM-005-O-04, Section 1.3.1).

- The team found no references to the HSD, a contract requirement, in any of the IDP documents it reviewed (Observation A-03-RADCON-TANKFARM-005-O-05, Section 1.3.2).

- RPP-9990, *Tank Farm Contractor (TFC) Work Place Air Monitoring Technical Basis Document*, Revision 1, dated July 12, 2002, contained several errors and areas requiring clarification, as detailed in this report (Observation A-03-RADCON-TANKFARM-005-O-06, Section 1.4.1).

- TWR-4675, *Tank Farm Contractor (TFC) Radiological Source Term Report*, Revision 2, dated October 2002, contained several errors and areas requiring clarification, as detailed in this report (Observation A-03-RADCON-TANKFARM-005-O-07, Section 1.4.2).

- RPP-7888, *Technical Basis for Hand Digging in Contaminated Soil*, Revision 0, dated March 15, 2001, contained several errors and areas requiring clarification, as detailed in this report (Observation A-03-RADCON-TANKFARM-005-O-08, Section 1.4.3).

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A-03-RADCON-TANKFARM-005

INTERNAL DOSIMETRY PROGRAM ASSESSMENT REPORT FOR THE PERIOD OF AUGUST 11-22, 2003

1.0 REPORT DETAILS

1.1 Introduction

The team evaluated the CH2M HILL Hanford Group, Inc. (CH2M HILL) Internal Dosimetry Program (IDP) for compliance with and implementation of applicable requirements of Title 10 Code of Federal Regulations (CFR) Part 835, *Occupational Radiation Protection*, Subpart E, *Monitoring of Individuals and Areas*; Subpart H, *Records*; and Subpart I, *Reports to Individuals*, and the Hanford Radiological Health and Safety Document (HSD).

In addition to these requirement documents, the team reviewed applicable CH2M HILL program documents, procedures, and technical basis documents. The team reviewed the program documents to ensure the CH2M HILL IDP incorporated all applicable regulatory and contractual requirements. The team reviewed applicable procedures to ensure adequate implementation of the CH2M HILL IDP. The team reviewed technical basis documents to ensure there was a sound, technically-defensible basis for the design and implementation of the CH2M HILL IDP.

CH2M HILL contracts with the Pacific Northwest National Laboratory (PNNL) for radiobioassay, *in vivo* monitoring, internal dose evaluation, and radiological records services. The team reviewed the most recent (Fiscal Year [FY] 2002) Statement of Work (SOW) between CH2M HILL and PNNL for these services, and applicable PNNL documents and reports to ensure this SOW incorporated all necessary requirements and provided adequate direction for the conduct of internal dosimetry activities for CH2M HILL. The team also reviewed internal dose evaluation reports prepared by PNNL for CH2M HILL in Calendar Year (CY) 2002 and CY 2003 to date. The team reviewed these dose evaluation reports to ensure they met all applicable requirements between CH2M HILL and PNNL.

In addition to these document reviews, the team interviewed CH2M HILL and PNNL Managers, Health Physicists, and technical staff responsible for overseeing and implementing the CH2M HILL IDP. These interviews ranged from the Director, Environment, Safety, Health and Quality, CH2M HILL Closure Projects, to the PNNL Data Administrator for the Access Control/Entry System, and included the CH2M HILL Lead Health Physicist for the IDP, and the Program Managers for the PNNL Internal Dosimetry and *In Vivo* Monitoring Programs.

Based on these document reviews and personnel interviews, the team concluded the CH2M HILL IDP was fundamentally sound and was currently implementing all applicable regulatory and contractual requirements. Accordingly, the team assessed no Findings against the CH2M HILL IDP. However, the team did identify eight Observations which, if implemented, would enhance the performance of the CH2M HILL IDP. These Observations are grouped by general source, i.e., program documents, procedures, or technical basis documents, and discussed in the following sections.

Although not included in the eight Observations discussed below, the team noted the CH2M HILL IDP Health Physicist; i.e., Instrumentation and Dosimetry Health Physicist, is also the technical lead for the CH2M HILL External Dosimetry, Radiological Instrumentation, and Radiological Survey Programs. Although this individual is well qualified and conscientious, this is a very broad range of technical responsibilities. Consequently, this individual relies heavily on PNNL staff for the technical aspects of the CH2M HILL IDP. While the PNNL staff is very well qualified and experienced in Hanford internal dosimetry needs and requirements, a single CH2M HILL employee with multiple responsibilities was challenged to provide adequate technical input and oversight of the PNNL services to ensure CH2M HILL needs and requirements were fully met.

1.2 Program Documents

1.2.1 Inconsistent Title for Dosimetry Facility Technical Authority

1.2.1.1 Assessment Scope

The team examined IDP documents for position title consistency for the individual responsible for providing subject matter expertise on the IDP.

1.2.1.2 Assessment Results

The individual responsible for providing subject matter expertise on the IDP is identified on the CH2M HILL organizational chart, dated March 27, 2003, as the Instrumentation and Dosimetry Health Physicist. However, TFC-ESHQ-RP_DOS-C-04, *Internal Dosimetry*, Revision A-1, dated July 25, 2003, changed "Internal Dosimetry Facility Technical Authority" to "Instrumentation and Dosimetry Facility Technical Authority." Further, HNF-5183, *Tank Farms Radiological Control Manual*, Revision 1, dated February 28, 2003, used the term "Internal Dosimetry Facility Technical Authority." As a result, consistent terminology has not been used throughout CH2M HILL document system.

1.2.1.3 Conclusion

Observation A-03-RADCON-TANKFARM-005-O-01 **HNF-5183, *Tank Farms Radiological Control Manual*, Revision 1, dated February 28, 2003, used the term "Facility Technical Authority on Internal Dosimetry," but the position has been officially titled "Instrumentation and Dosimetry Facility Technical Authority" in TFC-ESHQ-RP_DOS-C-04, *Internal Dosimetry*.**

1.2.2 Errors and Clarifications Needed in Statement of Work: FY 2003 Pacific Northwest *National Laboratory Dosimetry and Radiological Records Services*

1.2.2.1 Assessment Scope

The team reviewed *Statement of Work: FY 2003 Pacific Northwest National Laboratory Dosimetry and Radiological Records Services*, dated August 26, 2002, for technical accuracy, clarity, and completeness.

1.2.2.2 Assessment Results

The team observed the following errors and areas requiring clarification in *Statement of Work: FY 2003 Pacific Northwest National Laboratory Dosimetry and Radiological Records Services*, dated August 26, 2002:

Note: In the SOW the obsolete abbreviation "CHG" is used for "CH2M HILL."

a. Section 4.1 stated PNNL would review CH2M HILL internal dosimetry procedures for areas of service provided by PNNL. The team concluded no such reviews have been conducted.

b. Section 4.3 stated only Battelle staff could be official auditors of the analysis laboratory (currently Severn Trent Laboratory). The team questioned whether CH2M HILL could fulfill its full oversight responsibility with this stipulation.

c. Section 4.5 stated the "records maintained by the program are required by, or in support of records required by 10 CFR 835 and DOE Records Schedules." However, the team could not locate a list of specific records required to be maintained for the CH2M HILL internal dosimetry program.

d. The terminology used in referring to CH2M HILL and PNNL was inconsistent. CH2M HILL was referred to directly as "CHG" or the "Buyer." PNNL was referred to as "PNNL," the "Contractor," or the "subcontractor." Neither Consistent terminology, nor clear definitions for this terminology, was used in the document.

e. This section stated changes to QA Program documents would be "approved by authorized personnel." However, there was no indication these authorized personnel included CH2M HILL personnel.

f. Section 13.1 indicated many of the 10 CFR 835 requirements involved activities for which CH2M HILL and PNNL shared responsibilities. Attachment 1 provided a listing of such shared responsibilities. The team recommended the addition of a clear statement that CH2M HILL has the ultimate responsibility for all activities necessary to achieve compliance with 10 CFR 835 (and other contractually mandated) requirements.

1.2.2.3 Conclusions

Observation A-03-RADCON-TANKFARM-005-O-02 **The *Statement of Work: FY 2003 Pacific Northwest National Laboratory Dosimetry and Radiological Records Services* did not facilitate CH2M HILL oversight of these contracted services.**

1.3 Procedural Documents

1.3.1 Dose Investigations

1.3.1.1 Assessment Scope

The team examined the procedural requirements for investigating high, missing, or anomalous internal dosimetry results, and the procedures for a potential overexposure due to internal deposition of radioactivity.

1.3.1.2 Assessment Results

TFC-ESHQ-RP_DOS-C-10, *Dose Investigations*, Revision A-1, dated July 9, 2003, provided a detailed procedure for when and how to conduct an investigation for high, anomalous, or missing external dosimetry results. The procedure also provides specific requirements for generation and retention of records associated with such investigations. No comparable procedure existed for the investigation of positive bioassay results. TFC-ESHQ-RP_DOS-C-04, Revision A-1, *Internal Dosimetry*, dated July 25, 2003, did provide direction regarding the need for follow-up bioassay following a positive bioassay result, but did not provide any specific direction for conducting an investigation of a positive bioassay result, or the generation of records associated with such an investigation.

HNF-IP-0842, Volume VII, Radiological Control, Section 13.7, *Radiation Overexposure Situations*, Revision 0a, dated April 2, 2001, provided a detailed procedure for the process to follow in the event of a potential overexposure due to external radiation. However, no comparable procedure existed for a potential overexposure due to internal deposition of radioactivity.

1.3.1.3 Conclusion

Observation A-03-RADCON-TANKFARM-005-O-03 **No procedure comparable to TFC-ESHQ-RP_DOS-C-10, *Dose Investigations* (for external dosimetry results) existed for the investigation of high, anomalous, or missing positive bioassay results.**

Observation A-03-RADCON-TANKFARM-005-O-04 **No procedure comparable to HNF-IP-0842, Volume VII, Radiological Control, Section 13.7, *Radiation Overexposure Situations*, existed for a potential overexposure due to internal deposition of radioactivity.**

1.3.2 Lack of References to Hanford Safety and Health Document in Procedural Documents

1.3.2.1 Assessment Scope

The team reviewed the IDP documents for references to the HSD, a contract requirement.

1.3.2.2 Assessment Results

No references to the HSD were found in any CH2M HILL IDP procedures.

1.3.2.3 Conclusions

Observation A-03-RADCON-TANKFARM-005-O-05 **The team found no references to the HSD, a contract requirement, in any of the IDP procedures documents it reviewed.**

1.4 Technical Basis Documents

1.4.1 Errors and Clarifications Needed in RPP-9990, Tank Farm Contractor (TFC) Work Place Air Monitoring Technical Basis Document

1.4.1.1 Assessment Scope

The team reviewed RPP-9990, *Tank Farm Contractor (TFC) Work Place Air Monitoring Technical Basis Document*, Revision 1, dated July 12, 2002 for technical accuracy, clarity, and completeness.

1.4.1.2 Assessment Results

The team observed the following errors and areas requiring clarification in RPP-9990, *Tank Farm Contractor (TFC) Work Place Air Monitoring Technical Basis Document*, Revision 1, dated July 12, 2002:

a. This document contained no requirements, descriptions, or references to data or records which should be retained to either demonstrate compliance with air monitoring program requirements, provide a basis for evaluating internal dose in the absence of bioassay data, or provide a basis for evaluating the effectiveness of workplace radiological controls.

b. Section 2.0 used NUREG-1400 as the basis for requiring air monitoring if an individual is likely to receive an exposure of 40 or more Derived Activity Concentration-hours in a year. This is a specific 10 CFR 835 requirement (835.403 a.[1]). 10 CFR 835 should be used as the basis for this requirement instead of NUREG-1400.

c. Section 4.3 stated 10 CFR 835 "requires air sample results to be trended when personnel are exposed to airborne radioactive material on a continuous basis." CH2M HILL was unable to provide the team with a 10 CFR 835 citation to support this statement. Section 4.3 further stated "CHG does not require continuous work in an airborne radioactivity area, hence no air samples are currently identified for trending." No definition of "continuous work" was provided, so conformance to this "requirement" was difficult to evaluate. Regardless of whether such trending is required by 10 CFR 835, trending of air monitoring results is strongly recommended to provide a basis for evaluating internal dose in the absence of bioassay data, or provide a basis for evaluating the effectiveness of workplace radiological controls.

d. The quantities "C" and "C'" (C prime) in Section 5.1.1 were erroneously defined as airborne concentration "levels" instead of "limits," because these quantities were defined as providing the limiting airborne concentration values, in either cpm/L or cpm/ft^3, respectively, at which areas must be controlled as Airborne Radioactivity Areas.

e. Section 5.1.3 referred to Regulatory Guide 8.25 as a basis for "rounding up the collection efficiency *(referring to filter collection efficiency)* to 100% when filters collect >95% of the particulates." Regulatory Guide 8.25 is a Nuclear Regulatory Commission guidance document, not a U.S. Department of Energy (DOE) guidance document, and therefore, use of this "rounding up" should either be justified based on a DOE directive or guidance document, or not applied to CH2M HILL procedures. The team recommended Section 5.1.3 be revised to provide a particulate size range for which the stated efficiencies are valid.

f. Section 5.1.8 stated a resuspension factor of 1E-05/m was used, and provided a 1980 reference as a basis. The team recommended CH2M HILL review DOE-HNBK-3010-94, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities*, for a potential DOE-approved resuspension factor.

g. This document did not provide a clear description of how air monitoring data would be assessed to evaluate internal dose in the absence of bioassay data, so the team concluded this document did not fully comply with the requirements of Article G.6 of the HSD.

1.4.1.3 Conclusion

Observation A-03-RADCON-TANKFARM-005-O-06 **RPP-9990, *Tank Farm Contractor (TFC) Work Place Air Monitoring Technical Basis Document*, Revision 1, dated July 12, 2002, contained several errors and areas requiring clarification, as detailed in this report.**

1.4.2 Errors and Clarifications Needed in TWR-4675, Tank Farm Contractor (TFC) Radiological Source Term Report

1.4.2.1 Assessment Scope

The team reviewed TWR-4675, *Tank Farm Contractor (TFC) Radiological Source Term Report*, Revision 2, dated October 2002, for technical accuracy, clarity and completeness.

1.4.2.2 Assessment Results

The team observed the following errors and areas requiring clarifications in TWR-4675, *Tank Farm Contractor (TFC) Radiological Source Term Report*, Revision 2, dated October 2002:

a. The paragraph at the end of Section 1.2 referred to "PNL-MA-442." The correct reference was "PNL-MA-552." Also, the reference citation (i.e., PNL 1997) for this document should be provided in Section 1.2 instead of in Section 2.3.

b. Section 4.1 stated there are three key sources of data for accessible source terms at TFC facilities: soil contamination information; removable component contamination samples; and contamination samples associated with waste generated from tank farm facilities. Appendix 1 provided data for "Personnel Effects/Skin Contamination Data." The team could not determine into which of these three "key sources of data" the Appendix 1 data fell.

c. This document did not clearly indicate how the data provided in Appendices 1 through 6 were used to determine appropriate bioassay for TFC workers. The team concluded this was a deficiency because the Sr:Cs and Cs:alpha ratios did not appear consistent across the various sources of data. For example, Appendix 1 showed a significant number of high (greater than 40) Sr:Cs ratios, while Appendices 2 and 3 appeared to have a smaller percentage of such high ratios, and Appendix 4 had none. Additionally, the percentage of Cs:alpha ratios indicating the need for Pu urinalysis was much larger for Appendix 4 data than for Appendices 1 through 3.

d. The team questioned the applicability of the data in Appendix 5 for determining source terms or ratios for TFC facilities. The air monitoring data in this appendix represented potential emissions from all Area 200 facilities, not just TFC facilities. The document did not appear to address Appendix 5 data, and Section 4.3 stated "air sample data to support conclusions for bioassay is of limited value and, beyond the general observation of negative results, is not used in this report."

1.4.2.3 Conclusions

Observation A-03-RADCON-TANKFARM-005-O-07 **TWR-4675, *Tank Farm Contractor (TFC) Radiological Source Term Report*, Revision 2, dated October 2002, contained several errors and areas requiring clarification, as detailed in this report.**

1.4.3 Errors and Clarifications Needed in RPP-7888, Technical Basis for Hand Digging in Contaminated Soil

1.4.3.1 Assessment Scope

The team reviewed RPP-7888, *Technical Basis for Hand Digging in Contaminated Soil*, Revision 0, dated March 15, 2001, for technical accuracy, clarity and completeness.

1.4.3.2 Assessment Results

The team observed the following errors and areas requiring clarification in RPP-7888, *Technical Basis for Hand Digging in Contaminated Soil*, Revision 0, dated March 15, 2001:

a. Section 3.0 stated a resuspension factor of 2.4E-7/m was used. The basis for this value was a study performed at Savannah River in 1975. Also, this value was not consistent with the resuspension factor used in RPP-9990, Revision 1, *Tank Farm Contractor (TFC) Work Place Air Monitoring Technical Basis Document*. The team recommended CH2M HILL review DOE-HNBK-3010-94, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities*, for applicable resuspension factors.

b. In Section 3.0 the description of the volume of air assumed to be occupied by a worker in a year was unclear: "a semi-circle with a radius of 2 meters and approximately 1.2E7 meters in length."

c. Section 4.2 stated the resuspension factors determined in the Savannah River study were considered "volumetric in nature" vs. the typical surface resuspension factors. However, there was no explanation of the significance, if any, of this distinction.

d. In the list of references, the date of publication for HNF-2418 was given as 1998. However, the date on the actual report was May 1997.

e. Several typographical errors were noted in the text of this report.

f. In Appendices 1 and 2 the origin/meaning of the term "3.1 m^2" which appears at the end of the equations for "Volume of Air Occupied by Laborer" was not defined.

1.4.3.3 Conclusions

Observation A-03-RADCON-TANKFARM-005-O-08 **RPP-7888, *Technical Basis for Hand Digging in Contaminated Soil*, Revision 0, dated March 15, 2001, contained several errors and areas requiring clarification, as detailed in this report.**

2.0 PRESENTATION OF RESULTS TO CH2M HILL HANFORD GROUP, INC.

The team presented the assessment results to members of CH2M HILL Radiological Control (RadCon) management during an exit briefing held on August 21, 2003, and by distributing a "factual accuracy review" draft of the report on September 12, 2003. CH2M HILL acknowledged the team's findings, observations, and conclusions presented and committed to provide a written response to all findings after the report was published.

3.0 REPORT BACKGROUND INFORMATION

3.1 Partial List of Persons Contacted

E. E. Bickel, CH2M HILL RadCon Program Manager
R. E. Broz, CH2M HILL Material Release/Air Sampling Health Physicist
E. H. Carbaugh, PNNL Hanford Internal Dosimetry Program Manager
D. R. Hekkala, CH2M HILL Instrumentation & Dosimetry Health Physicist
J. W. Hobbs, CH2M HILL Closure Projects ESH&Q Director
T. P. Lynch, PNNL *In Vivo* Monitoring Program Manager
J. M. McAuley, CH2M HILL Waste Feed Operations Sr. RadCon Supervisor
E. J. Millikin, CH2M HILL Lead Health Physicist
L. H. Pigulski, PNNL Data Administrator (ACES)

3.2 List of Inspection Procedures Used

1. ORP M 220.1, *Integrated Assessment Program*, dated June 13, 2003.

3.3 List of Documents Reviewed

Requirements Documents

1. 10 CFR Part 835, *Occupational Radiation Protection*, dated November 14, 1998.

2. *Hanford Radiological Health and Safety Document*, Revision 1, dated December 20, 2001.

CH2M HILL Internal Dosimetry Program Documents

3. HNF-5183, Revision 1, *Tank Farms Radiological Control Manual*, Chapter 5, *Radiological Health Support Operations*, and Chapter 7, *Radiological Records*, Revision 1, dated February 28, 2003.

4. HNF-MP-5184, CH2M HILL Hanford Group, Inc., *Radiation Protection Program*, Revision 3, dated February 28, 2003.

5. *Statement of Work: FY 2003 Pacific Northwest National Laboratory Dosimetry and Radiological Records Services*, dated August 26, 2002.

CH2M HILL Internal Dosimetry Program Procedural Documents

6. HNF-IP-0842, Volume VII, *Radiological Control*, Section 13.7, *Radiation Overexposure Situations*, Revision 0a, dated April 2, 2001.

7. TFC-ESHQ-RP_ADM-C-15, *Entry and Exit Controls*, Revision A, dated September 26, 2002.

8. TFC-ESHQ-RP_DOS-C-04, *Internal Dosimetry*, Revision A-1, dated July 25, 2003.

9. TFC-ESHQ-RP_DOS-C-10, *Dose Investigations*, Revision A-1, dated July 9, 2003.

CH2M HILL Internal Dosimetry Program Technical Basis Documents

10. RPP-7888, *Technical Basis for Hand Digging in Contaminated Soil*, Revision 0, dated March 15, 2001.

11. *Internal Bioassay Technical Basis, 242-A Evaporator, 2003-04 Campaign* (Draft), dated August 2003.

12. RPP-9990, *Tank Farm Contractor (TFC) Work Place Air Monitoring Technical Basis Document*, Revision 1, dated July 12, 2002.

13. TWR-4675, *Tank Farm Contractor (TFC) Radiological Source Term Report*, Revision 2, dated October 2002.

14. RPP-5779, RCI-43, *Planning for Work in Contaminated Soil*, Revision 1, dated November 13, 2002.

Other Records

15. PNL-MA-552, *Hanford Internal Dosimetry Manual*, Pacific Northwest National Laboratory, Revision 4, dated September 2000.

16. Dose Evaluation Reports prepared by the Internal Dosimetry Program at PNNL for positive bioassay results for CH2M HILL workers, CYs 2002 and 2003.

17. Organization Chart for CH2M HILL Environmental, Safety, Health and Quality, dated March 27, 2003.

3.4 List of Acronyms

CFR	Code of Federal Regulations
CH2M HILL	CH2M HILL Hanford Group, Inc.
CY	Calendar Year (January – December)
DOE	U.S. Department of Energy
FY	Fiscal Year (October – September)
HSD	Hanford Radiological Health and Safety
IDP	Internal Dosimetry Program
PNNL	Pacific Northwest National Laboratory
RadCon	Radiological Control
SOW	Statement of Work
TFC	Tank Farm Contractor (CH2M HILL)

E-STARS™ Report
Task Detail Report
09/18/2003 07:38

TASK INFORMATION

Task#	ORP-ESQ-2003-0059		
Subject	CONCUR:03-ESQ-063;CH2M HILL HANFORD GROUP, INC. (CH2M HILL) IDP, ASSESSMENT REPORT A-03-RADCON-TANKFARM-005, AUGUST 11 -22		
Parent Task#		**Status**	~~Open~~ Closed
Reference	03-ESQ-063	**Due**	
Originator	Mosby, Debbie A	**Priority**	None
Originator Phone	(509) 376-9106	**Category**	None
Origination Date	09/18/2003 07:33	**Generic1**	
Remote Task#		**Generic2**	
Deliverable	None	**Generic3**	
Class	None	**View Permissions**	Normal
Instructions	bcc: ESQ OFF FILE ESQ RDG FILE MGR RDG FILE R. C. BARR, ESQ L. R. MCKAY, ESQ J. S. O'CONNOR, OPA C. J. BOSTED, TOD M. C. BROWN, TOD B. A. HARKINS, TOD B. J. HARP, TOD S. H. PFAFF, TOD G. D. TRENCHARD, TOD K. G. WADE, TOD B. I. WILLIAMSON, TOD D. L. NOYES, TPD		

ROUTING LISTS

1 Route List — Active

- McKay, Larry R - Review - Awaiting Response JRMC 9/18/03 RLB 9/18/03
- Swailes, John H - Review - Awaiting Response JHA 9/24/03
- Schepens, Roy J - Approve - Awaiting Response RLB 9/30/03

ATTACHMENTS

Attachments
1. 03-ESQ-063 Int Doslm Pgm Assessment Report.doc
2. 03-ESQ-063.lrm.doc

COMMENTS

No Comments

TASK DUE DATE HISTORY

No Due Date History

SUB TASK HISTORY

No Subtasks

-- end of report --