2. To: (Receiving Organization)		3. From: (Originating Organization)	4. Related EDT No.:
Characterization		Characterization Engineering	N/A
5. Proj./Prog./Dept./Div.:		6. Design Authority/Design Agent/Cog. Engr.:	7. Purchase Order No.:
Characterization		G. P. Janicek/R. N. Dale	N/A
8. Originator Remarks:		Transmitted for approval and release.	9. Equip./Component No.:
			N/A
			10. System/Bldg./Facility:
			200G
11. Receiver Remarks:		11A. Design Baseline Document? ☐ Yes ☒ No	12. Major Assm. Dwg. No.:
			N/A
			13. Permit/Permit Application No.:
			N/A
			14. Required Response Date:
			N/A

[illegible]

16. KEY

Approval Designator (F)	Reason for Transmittal (G)			Disposition (H) & (I)	
E, S, Q, D OR N/A (See WHC-CM-3-5, Sec. 12.7)	1. Approval	4. Review		1. Approved	4. Reviewed no/comment
	2. Release	5. Post-Review		2. Approved w/comment	5. Reviewed w/comment
	3. Information	6. Dist. (Receipt Acknow. Required)		3. Disapproved w/comment	6. Receipt acknowledged

17. **SIGNATURE/DISTRIBUTION**
(See Approval Designator for required signatures)

[illegible]

18. JD Middle Jr. Signature of EDT Originator	19. RM Boger Authorized Representative for Receiving Organization	20. SS Schoffeld Design Authority/ Cognizant Manager	21. DOE APPROVAL (if required) Ctrl No. _____ ☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments
3/24/99 Date	3/24/99 Date	3/25/99 Date	

ENGINEERING TASK PLAN FOR THE ANNUAL REVISION OF THE ROTARY MODE CORE SAMPLING SYSTEM SAFETY EQUIPMENT LIST

R. M. Boger

Prepared by Lockheed Martin Hanford Corp.

Richland, WA 99352

U.S. Department of Energy Contract DE-AC06-96RL13200

EDT/ECN: 623365

UC: 2070

Org Code: 74900

Charge Code: 102248

B&R Code: EW3120074

Total Pages: 12

Key Words: Rotary Mode Core Sampling, Safety Equipment List, Design Compliance Matrix, SEL, DCM, RMCS

Abstract: This Engineering Task Plan addresses an effort to provide an update to the RMCS Systems 3 and 4 SEL and DCM in order to incorporate the changes to the authorization basis implemented by HNF-SD-WM-BIO-001, Rev. 0 (Draft), Addendum 5, Safety Analysis for Rotary Mode Core Sampling. Responsibilities, task description, cost estimate, and schedule are presented.

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3/25/99
Release Approval Date

Approved For Public Release

ENGINEERING TASK PLAN
FOR THE ANNUAL REVISION OF THE
ROTARY MODE CORE SAMPLING SYSTEM
SAFETY EQUIPMENT LIST

Prepared for

Characterization Engineering
Lockheed Martin Hanford Corp.

by

J. D. Criddle Jr.
COGEMA Engineering Corporation

March 24, 1999

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1.0 INTRODUCTION

The safety assessment WHC-SD-SAD-035, REV. 0a, (WHC 1996), was authorized in August 1996 per letter 96-QSH-042, (Wagoner 1996). Letter 97-WSD-165, (Wagoner 1997), approved an Authorization Basis (AB) change request. This change to the Rotary Mode Core Sampling (RMCS) System AB was issued by Engineering Change Notice (ECN) 173679, August 8, 1997. This ECN replaced the flammable gas controls contained in WHC-SD-SAD-035, REV. 0a, (WHC 1996), with the controls contained in Standing Order 97-01, *Justification for Continued Operation (JCO)*, and the Basis for Interim Operation (BIO), HNF-SD-WM-BIO-001, REV. 0-A, (HNF 1997a). As a result, WHC-SD-WM-SAD-035, Rev. 0b, (WHC 1997a), WHC-SD-WM-0SR-005, Rev. 0-G, (WHC 97B), HNF-SD-WM-BIO-001, Rev. 0-A (HNF 1997a), and HNF-SD-WM-TSR-006, Rev. 0-A, (HNF 1997b) were issued. At this time, it would have been acceptable to update the RMCS Safety Equipment List (SEL) HNF-SD-WM-SEL-044, Rev. 0, (HNF 1997c) to incorporate the philosophy of the AB regarding the flammable gas controls. However, since the existing SEL was considered conservative, and a unified philosophy regarding the treatment of equipment with relation to the flammable gas controls had not yet been developed, a decision was made not to update the SEL at this time.

In October of 1998, Addendum 5, HNF-SD-WM-BIO-001, Rev. 1-A (Draft), (HNF 1998a), was submitted for review and approval. This addendum will merge WHC-SD-WM-SAD-035, Rev. 0b, (WHC 1997a) with HNF-SD-WM-BIO-001, Rev. 0-A, (HNF 1997a), or current revision. As a result of this reconciliation, the SEL HNF-SD-WM-SEL-044, Rev. 2, (HNF 1998b) and the design compliance matrix (DCM) HNF-SD-WM-CR-062, Rev. 1, (HNF 1998c) will be updated. This update will at a minimum include changes required to reflect the new philosophy regarding the treatment of equipment with relation to the flammable gas controls discussed above. In addition, it will include any modifications required by the approval of Addendum 5, HNF-SD-WM-BIO-001, Rev. 1-A (Draft) (HNF 1998a).

2.0 SCOPE

The scope of this task is to provide an update to the RMCS Systems #3 and #4 SEL and DCM consistent with the changes to the authorization basis implemented by ECN 173679, August 8, 1997 and any additional modifications required by the approval of Addendum 5, HNF-SD-WM-BIO-001, Rev. 1-A (Draft) (HNF 1998a).

3.0 DESCRIPTION

3.1 PHYSICAL DESCRIPTION

This task does not include any modification of RMCS Systems 3 and 4. It is only an update of existing documents. However, an evaluation will be performed to identify any possible equipment changes resulting from the approval of Addendum 5, HNF-SD-WM-BIO-001, Rev. 1-A (Draft) (HNF 1998a). One equipment modification is anticipated and is described in HNF-3663, (HNF 1999).

3.2 ENGINEERING TASKS

The engineering tasks addressed by this plan are to update current safety and design criteria documentation for RMCS Trucks #3, and #4. The following is required in order to complete this effort:

- Evaluate HNF-SD-WM-SEL-044, Rev. 2, (HNF 1998b) with respect to Addendum 5, HNF-SD-WM-BIO-001, Rev. 1-A (Draft) (HNF 1998a).
- Update and release HNF-SD-WM-SEL-044, Rev. 2, (HNF 1998b) to incorporate any changes necessitated by ECN 173679, August 8, 1997 and any additional modifications required by the approval of Addendum 5, HNF-SD-WM-BIO-001, Rev. 1-A (Draft) (HNF 1998a).
- Evaluate HNF-SD-WM-CR-062, Rev. 1, (1998c) with respect to Addendum 5, HNF-SD-WM-BIO-001, Rev. 1-A (Draft) (HNF 1998a).
- Update and release HNF-SD-WM-CR-062, Rev. 1, (1998c) to incorporate any changes necessitated by ECN 173679, August 8, 1997 and any additional modifications required by the approval of Addendum 5, HNF-SD-WM-BIO-001, Rev. 1-A (Draft) (HNF 1998a).

These Engineering tasks are being performed on behalf of the Characterization Engineering Design Authority (DA), responsible for the preparation and technical content of the documents being revised. A close working relationship with the DA is necessary and will be maintained during the performance of these engineering tasks.

3.3 VERIFICATION, TECHNICAL REVIEWS AND MODIFICATION MANAGEMENT

There are no modifications to RMCS Trucks #3 and #4 systems included in the scope of this task. This task revises the SEL and DCM documents, which govern the safety classification and design requirements for RMCS Truck systems #3 and #4. Revision of these documents will be in accordance with HNF-IP-0842, Vol. IV, Sec. 5.2, (HNF 1998d) and PI-CP-008-00, Rev. 0, (PI 1997) respectively. All updated documents will be reviewed and/or approved by individuals identified in Section 4.0, or as otherwise designated by the Design Authority.

3.4 SOFTWARE DEVELOPMENT TASKS

There are no software development activities included in the scope of this task.

3.5 PROCUREMENT/FABRICATION TASKS

There are no procurement or fabrication activities included in the scope of this task.

3.6 INSTALLATION/REMOVAL TASKS

There are no installation or removal activities included in the scope of this task.

3.7 PRE-OPERATIONAL AND OPERATIONAL TESTS (TEST AND EVALUATION)

There are no testing activities included in the scope of this task.

3.8 ACCEPTANCE FOR BENEFICIAL USE (ABU)

There is no ABU preparation or revision associated with this task.

3.9 RISK ASSESSMENT

Failure to complete this task would create a situation in which portions of the safety and design criteria documentation for the RMCS Systems 3 and 4 not consistent with the current authorization basis for these systems. This task is starting based on Addendum 5, HNF-SD-WM-BIO-001, Rev. 1-A (Draft), (HNF 1998a), which has not yet been approved. Changes to Addendum 5 may require additional change to the SEL and DCM.

4.0 ORGANIZATION

The following organizations/individuals will provide support for revision, review, and release of the SEL and DCM updates provided by this task.

Characterization Project Engineering

Manager- RM Boger
Project Manager - JL Smalley
Design Authority- GP Janicek
Responsible Engineer - JD Criddle Jr.

Characterization Field Engineering

Cognizant Manager - JS Schofield
Cognizant Engineer - RN Dale

Characterization Project Operations

Truck Sampling - JS Lee
Technical Operations – JE Corbett

Characterization Support Organizations

Safety - JA Ranschau
Quality Assurance – JS SPARKS
Environmental Ops Compliance – DL Dyekman
Nuclear Safety and Licensing – TG Goetz

5.0 SCHEDULE/COST ESTIMATE

SCHEDULE

This activity is currently being tracked on the Characterization Equipment Engineering Projects Master Schedule attached in Appendix A. The following assumptions were made in the creation of the schedule:

1. Revision of the SEL and DCM will proceed as scheduled.
2. The revisions can not be officially released until Addendum 5 is approved.

COST ESTIMATE

ETP Preparation -	\$3,500
SEL Revision -	\$17,500
DCM Revision -	\$14,600
Total -	\$35,600

6.0 CONFIGURATION MANAGEMENT

The following policies, practices and procedures will be used to govern configuration management during this task.

HNF-IP-0842	Tank Waste Remediation System (TWRS) Administrative Procedures
HNF-PRO-261	Quality Assurance Program Plans
HNF-PRO-440	Engineering Document Change Control Requirements
HNF-PRO-445	Design Verification Requirements

7.0 QUALITY ASSURANCE

The existing TWRS QA procedures and requirements shall be followed.

8.0 SAFETY AND AUTHORIZATION BASIS

There are no modifications to the safety or authorization basis as a result of this task. This task updates existing safety and design documentation to reflect recent changes in the authorization basis documentation.

9.0 SYSTEM ENGINEERING

This task is identified in HNF-SP-1230, (Draft), (HNF 1998e), and funded in WBS # 1.1.1.1.1.3.1.7.

10.0 CLOSEOUT COSTS

Should the funding for this task be deleted the closeout costs would be minimal due to the limited scope of the task.

11.0 REFERENCES

- HNF, 1997a, *Tank Waste Remediation System Basis for Interim Operation*, HNF-SD-WM-BIO-001, Rev. 0-A, Duke Engineering and Services Hanford, Richland, Washington.
- HNF, 1997b, *Tank Waste Remediation System Technical Safety Requirements*, HNF-SD-WM-TSR-006, Rev. 0-A, Duke Engineering and Services Hanford, Richland, Washington.
- HNF, 1997c, *A Safety Equipment List for Rotary Mode Core Sampling Systems Operation in Single Shell Flammable Gas Tanks*, HNF-SD-WM-SEL-044, Rev. 0, COGEMA Engineering Corporation, Richland, Washington.
- HNF, 1998a, Addendum 5, *Safety Analysis for Rotary Mode Core Sampling*, HNF-SD-WM-BIO-001, Rev. 0 (Draft), Duke Engineering and Services Hanford, Richland, Washington.
- HNF, 1998b *A Safety Equipment List for Rotary Mode Core Sampling Systems Operation in Single Shell Flammable Gas Tanks*, HNF-SD-WM-SEL-044, Rev. 2, COGEMA Engineering Corporation, Richland, Washington.
- HNF, 1998c *Baseline Design Compliance Matrix for the Rotary Mode Core Sampling (RMCS) System, Tanks*, HNF-SD-WM-CR-062, Rev. 1, COGEMA Engineering Corporation, Richland, Washington.
- HNF, 1998d *Safety Equipment Lists*, HNF-IP-0842, Vol. IV, Section 5.2, Rev. 1b, Lockheed Martin Hanford Company, Richland, Washington.
- HNF, 1998e *Tank Waste Remediation System Fiscal Year 1999 Multi-Year Work Plan WBS 1.1*, HNF-SP-1230, (Draft).
- HNF, 1998f *Quality Assurance Program Plan*, HNF-IP-0842, Vol. XI, Section 1.1, Rev. 0b, Lockheed Martin Hanford Company, Richland, Washington.
- HNF, 1998g *Tank Waste Remediation System Characterization Project Quality Policies*, HNF-SD-WM-QAPP-025, Rev. 4, Lockheed Martin Hanford Company, Richland, Washington.
- HNF, 1999 *Engineering Task Plan for Rotary Mode Core Sampling Exhausters CAM High Radiation Interlock*, HNF-3663, Rev. 0, Lockheed Martin Hanford Company, Richland, Washington.
- PI, 1997, *Design Compliance Matrix*, Desk Instruction, PI-CP-008-00, Rev. 0, Characterization Engineering Projects, Lockheed Martin Hanford Company, Richland, Washington.

- Wagoner, J. D., 1996, *Authorization of the Safety Assessment (SA) of Rotary Mode Core Sampling (RMCS) in Flammable Gas Single-Shell Tanks*, WHC-SD-SAD-035, Rev. 0a and *Interim Operational Safety Requirements (IOSR)*, (letter 96-QSH-042 to A. L. Trego, August 1996), United States Department of Energy-Richland Operations Office, Richland, Washington.
- Wagoner, J. D., 1997, *Contract number DE-AC06-96RL13200 – Approval of Rotary Mode Core Sampling (RMCS) Authorization Basis Change Request*, (letter 97-WSD-165 to H. J. Hatch, July, 1997), United States Department of Energy-Richland Operations Office, Richland, Washington.
- WHC, 1994, *Rotary Mode Core Sampling Safety Equipment List*, WHC-SD-WM-SEL-032, Rev. 1, Westinghouse Hanford Company, Richland, Washington.
- WHC, 1996, *A Safety Assessment of Rotary Mode Core Sampling in Flammable Gas Single Shell Tanks: Hanford Site, Richland, Washington*, WHC-SD-SAD-035, REV. 0a, Lockheed Martin Hanford Company, Richland, Washington.
- WHC, 1997a, *A Safety Assessment of Rotary Mode Core Sampling in Flammable Gas Single Shell Tanks: Hanford Site, Richland, Washington*, WHC-SD-WM-SAD-035, Rev. 0b, Lockheed Martin Hanford Company, Richland, Washington.
- WHC, 1997b, WHC-SD-WM-OSR-005, Rev. 0-G, *Single Shell Tank Interim Operational Safety Requirements*, Duke Engineering and Services Hanford, Richland, Washington.

APPENDIX A - SCHEDULE

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Page 1 of 1

Date 3/25/99

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HNF-3740 ENGINEERING TASK PLAN FOR THE ANNUAL REVISION OF THE ROTARY MODE CORE SAMPLING SYSTEM SAFETY EQUIPMENT LIST

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