

LA-UR-20-24565

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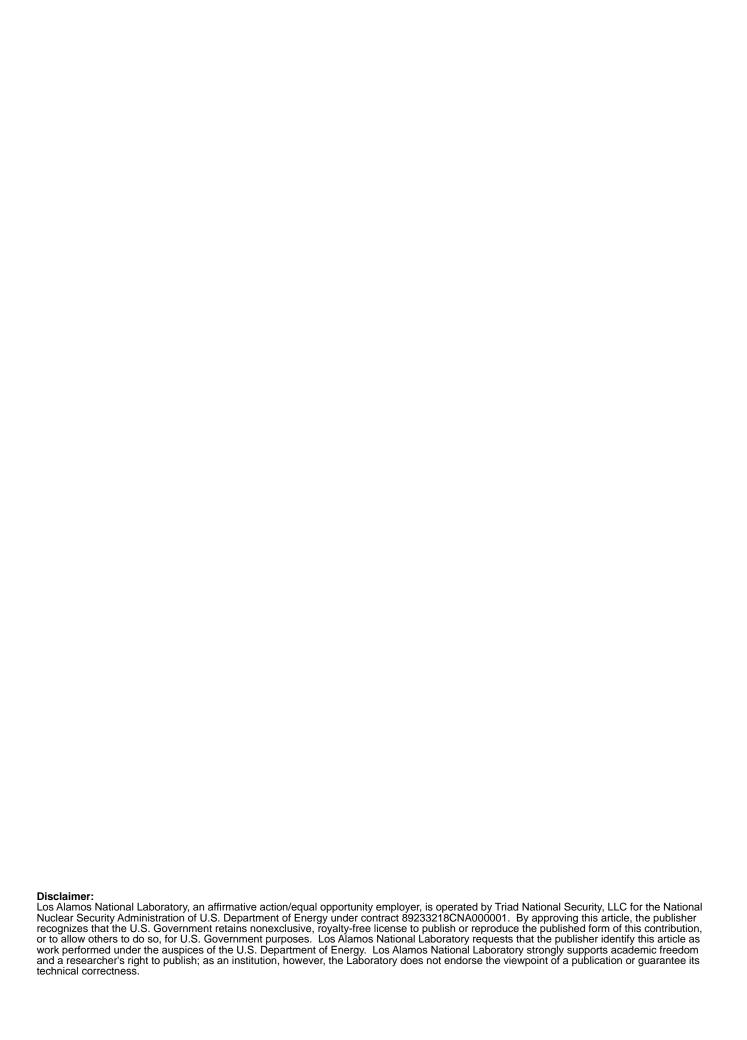
Los Alamos National Laboratory Spent Fuel Waste Disposition (SFWD) Quality Assurance (QA) Assessment Report Rev. 1 Title:

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Los Alamos National Laboratory Spent Fuel Waste Disposition (SFWD) Quality Assurance (QA) Assessment Report

Rev. 1

June 23, 2020

1. ASSESSMENT PURPOSE & SCOPE

An internal assessment was conducted of the Los Alamos National Laboratory (LANL) work activities, as required to complete the FY20 Spent Fuel and Waste Disposition (SFWD) Program Level 4 Milestone M4SF-20LA010802012 - Summary report of QA Assessment conducted on LANL SFWD work packages. It assessed the SFWD activities at LANL to verify the LANL implementation of the NFCSC Quality Assurance (QA) Program meets the requirements of the NFCSC Quality Assurance Program Document, Revision 6. The source document for the evaluation is CNP-NFCSC-QAPP-001, Rev 4, LANL NFCSC Quality Assurance Program Plan, March 2020. This assessment was performed June 8-11, 2020 by reviewing program documentation, training records, implementation records, and discussion with the LANL QA Point of Contact (POC). The evaluation does not include a review of the ASME NQA-1-2008/1a-2009 Addenda criteria.

2. EXECUTIVE SUMMARY

The LANL NFCSC QAPP Rev. 4 addresses the organization, roles, and responsibilities for the maintenance and implementation of the NE-4 NFCSC QAPD. The results of this assessment concluded that the LANL NFCSC QAPP is effectively and satisfactorily implementing the NE-4 NFCSC program, with the exceptions noted in the assessment report.

The QAPP addresses Quality Rigor Levels, training requirements, and implementation requirements. Documents are reviewed, approved, and uploaded in the Review & Approval System for Scientific and Technical Information (RASSTI), the LANL Records Management System. P1020-1, Laboratory Records Management details the process for controlling and maintaining records.

This assessment is a follow up to the FY19 SFWD Assessment and satisfactorily verified that previous concerns and recommendations were completed. Also, this assessment verified that CNP0-NTRD-QAPP-001 was revised to reflect SFWD activities as recommended.

The SFWD activities of the LANL NFCSC Program are satisfactory. The assessment resulted in one observation and one opportunity for improvement. See Section 4 for details.

3. ASSESSMENT TEAM

This assessment was conducted by Emily Wilson, Lead Assessor, Michelle Sharp, Assessor, and John Dunwoody, Assessor.

4. ASSESSMENT RESULTS

The assessment was conducted June 8-11, 2020 in virtual meetings with auditors and

participants at PNNL, INL, and LANL due to the ongoing COVID-19 pandemic. This evaluation was performed by reviewing program documentation, SFWD training records, and program implementation records. The evaluation was conducted on FY19-FY20 milestone activities performed from August 1, 2019 through June 11, 2020. A total of four completed FY19 SFWD milestone activities were available for review.

The details of the results are documented in the SFWD QA Checklist (See Attachment 1).

The assessment reviewed completed work package milestones to verify appropriate Quality Rigor Level (QRL) assignments and associated peer and/or technical reviews were conducted, by reviewing the uploaded documentation into the PICS: NE database. Also, the assessment verified that required training had been effectively implemented. Documentation and records were reviewed to ensure they were complete, easily retrievable and submitted to the laboratory's record system per LANL procedure P1020-1, Laboratory Records Management. Lastly, the assessment verified that NFCSC QAPD, Appendix E cover sheets and/or PICS: NE Deliverable Forms were used, that they were properly completed and that they were included in the laboratory's record system.

One observation and one opportunity for improvement (OFI) were identified in this assessment:

Observation: Records are listed as "draft" in the LANL system and are not easily retrievable. Records should be updated to reflect an "active" status.

Opportunity for Improvement: In some cases, LA-UR numbers on final record documents are not complete. Final documents that become records should include complete LA-UR numbers.

The objective evidence reviewed during the assessment is provided in the attachments below.

5. ASSESSMENT CONCLUSIONS

The overall conclusion of the assessment was that the LANL, has satisfactorily and effectively implemented a QA Program in compliance with the NFCSC QAPD, Revision 6 and CNP-NFCSC-QAPP-001, Rev 4, LANL NFCSC Quality Assurance Program Plan. The observation and OFI are for information of the assessed organization. There is no formal response required. The observation and OFI will be followed up in the 2021 Level 4 milestone assessment activity.

6. ATTACHMENTS:

- Attachment 1, NFCSC Assessment Checklist, Rev. 2
- Attachment 2, FY 2019 Milestones Reviewed
- Attachment 3, Required Reading Report

Prepared by:

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Assessment Report Number: FY 2020 LANL SFWD QA Assessment Report, Rev. 1

QAPD Ref. Sect.	Quality Assurance Requirements	Sat	Unsat.	N/A	Verification Conducted	
	REQUIREMENT: 1 - PROGRAM					
	Verify that your national laboratory conducting NFCSC work activities is maintaining its interface document, describing the application of their QA Program (including implementing procedures), in compliance with the latest issued NFCSC QAPD revision.	Х			PLN-3708 INL NFCSC Quality Assurance Program Plan, Rev. 5 12/4/19 implements NFCSC QAPD Rev. 6 issued October 2019	
	REQUIREMENT: 2 - TRAINING					
Section 2.0, POC Responsibilit ies	Verify that personnel (work package managers and associated laboratory technical staff) have received the required training (which may include self-study).	X			Verified WPM and applicable staff have been trained except for two LANL staff members. Required Reading Completion Report is attached. During the assessment, four workers were removed from training (1 retired, 2 upper level managers, 1 no longer or the program). 2 workers (D. Henzlova, G. Goff) were in-process of completing training.	
Section 3.0	REQUIREMENT: 3 - QA REQUIREMENTS FOR WORK PERFORMED BY THE NATION	AL LABOR	RATORIES	6		
Section 3.1	QUALITY RIGOR LEVEL 1 REQUIREMENTS					
Section 3.1, Table 1.0	Verify activities are conducted in accordance with an established NQA-1- 2000 (or later version) quality assurance program.			Х	N/A	

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QAPD Ref. Sect.	Quality Assurance Requirements	Sat	Unsat.	N/A	Verification Conducted
Section 3.1, Table 1.0	Verify software design, development, and testing meets the requirements of NQA-1-2000 (or later version), for Design Control, and, Test Control. In addition, a work package may specify that the activities meet the requirements of NQA-1 Subpart 2.7 Quality Assurance Requirements for Computer Software for Nuclear Facility Applications.			Х	N/A
Section 3.2	QUALITY RIGOR LEVEL 2 REQUIREMENTS		1		
Section 3.2, Table 2.0	Verify activities are conducted in accordance with the Laboratory's DOE-approved quality assurance program.	Х		_	See attached List of Work Packages Reviewed
Section 3.2, Table 2.0	Verify that milestones / deliverables with a Quality Rigor Level 2 received a Peer Review in accordance with NFCSC QAPD Appendix C or a procedure that meets the requirements for Peer Review as specified in Appendix C of the NFCSC QAPD.				No QRL-2 deliverables were submitted in FY2019.
Section 3.3	QUALITY RIGOR LEVEL 3 REQUIREMENTS				
Section 3.3, Table 3.0	Verify activities are conducted in accordance with the Laboratory's DOE-approved quality assurance program.	Х			See attached list of Work Packages Reviewed
Section 3.3, Table 3.0	verify that imesteries y deliverables with a Quality high zeries received a			_	See attached list of Work Packages Reviewed. All milestones/deliverables with a QRL-3 included technical reviews.
Section 3.4	QUALITY RIGOR LEVEL 4 REQUIREMENTS		1		
Section 3.4, Table 4.0	Verify that Laboratory QA requirements apply to the work activity and no additional NFCSC QA requirements (such as QRL-1/NQA-1, QRL-2 or QRL-3) are applied.	Х			See attached list of Work Packages Reviewed

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QAPD Ref. Sect.	Quality Assurance Requirements	Sat	Unsat.	N/A	Verification Conducted
Section 3.4, Table 4.0	Verify, as applicable, that if a QRL-4 milestone / deliverable provides input to a final QRL-2 or QRL-3 milestone / deliverable, that a note was added in the "Comments" section on the Deliverable Form in PICS: NE, stating that review requirements (i.e., peer review, technical review, etc.) will be documented in the final QRL-2 or QRL-3 milestone / deliverable			X	N/A – none were identified during this review.
Section 6.0	GENERAL IMPLEMENTATION REQUIREMENTS				
Section 6.2	Verify that a QRL designation has been assigned to the milestone / deliverable that is associated with the work package.	Х			All QRLs were assigned to milestones/and deliverables.
Section 6.3	Verify that the QRL designation (associated to a particular milestone / deliverable) has been changed accordingly, if the work package has been changed.	Х			See attached list of Work Packages reviewed.
Section 6.4	Verify that the QA requirements identified in a work package, including the designated Quality Rigor Level(s) are flowed down to other participants, contractors and/or subcontractors through the appropriate contractual or work control process.			Х	N/A
Section 6.6	Verify records are controlled and maintained at your national laboratory site, using each lab's record management system and procedures.	Х			Records are controlled using Records Procedure SPO-CNP: 20.001, Civilian Nuclear Program Office Records Management Plan, Rev 2.
					Observation 1: Records are listed as "draft" in the LANL system and are not easily retrievable. The status of reports should be updated to reflect "active" status. See list of work packages reviewed.

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QAPD Ref. Sect.	Quality Assurance Requirements	Sat	Unsat.	N/A	Verification Conducted		
					OFI 1: LA-UR numbers on final records documents are not complete (e.g., LA-UR-19XXXXX).		
Section 6.10	Verify each deliverable having a QRL-1, -2, -3 or -4 designation, includes a standardized Document Cover Sheet (Appendix E). If the PICS: NE system permits, complete information entered into the PICS: NE Deliverable Form, and listing the names of all reviewers, satisfies this requirement, including the requirement for signatures on the Document Cover Sheet (Appendix E).	Х			See attached List of Work Packages Reviewed		
Appendix A	If applicable, verify the NFCSC Nuclear Data activities meet the requirements established in Appendix A of the NFCSC QAPD.			Х	N/A		
Appendix D	If applicable, verify NEUP University assessment work completed during the year, meets the requirements of Appendix D of the NFCSC QAPD.			Х	N/A		

Attachment 2 FY 19 Completed Milestones

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Milestone	Title	Date Completed	QRL#	Comments						
FY19 SFWD Completed Milestones										
M4SF- 19LA010304021	Progress Report on Geological Framework for GDSA	8/8/19	QRL-4	Satisfactory LA-UR-19-27943						
M4SF- 19LA010305032	Dual Purpose Canister of BORAL Solubility	7/25/19	QRL-4	Satisfactory LA-UR-19-27122 but record copy of document cover page has incomplete number LA-UR- 19#####. See OFI 1.						
M4SF- 19LA010310012	LANL Technical Support for Underground Research Laboratory Activities	8/31/19	QRL-4	Satisfactory LA-UR-19-29779 Released as draft – record not updated/uploaded after LA-UR was assigned. Only available with manager's permission. See Observation 1.						
M4SF- 19LA-10303014	2019 LANL Experiments and Simulation in Support of Salt R&D	9/30/19	QRL-3	Satisfactory LA-UR-19-29830 Released as draft – record not updated/uploaded after LA-UR was assigned. Only available with manager's permission. See Observation 1.						

Attachment 3 Required Reading Report

Active		Curriculum	1	Compl	Assignment	Davs		Revision	Completion	Completion	Completion
User	Last Name	ID	Curriculum Title	eted	Date	Remaining	Item ID	Number		Status ID	Status
Yes	Caporuscio		8 FCT Quality Assuran		6/12/14	659	24599		4/1/2020 09		Completed
Yes	Caporuscio		8 FCT Quality Assurance		6/12/14	659	24598		4/1/2020 09		Completed
Yes	Woloshun		8 FCT Quality Assurance		6/12/14	724	24599		6/5/2020 12		Completed
Yes	Woloshun		8 FCT Quality Assurance		6/12/14	724	24598		6/5/2020 12		Completed
Yes	Viswanathan		8 FCT Quality Assurance		2/1/18	663	24599	4	4/5/2020 11	:RR-COMPL	Completed
Yes	Viswanathan		8 FCT Quality Assurance		2/1/18	663	24598	6	4/5/2020 11	:RR-COMPL	Completed
Yes	Maloy	3438	8 FCT Quality Assurance	сY	6/12/14	673	24599	4	4/15/2020 0	RR-COMPL	Completed
Yes	Maloy	3438	8 FCT Quality Assurance	сY	6/12/14	673	24598	6	4/15/2020 0	RR-COMPL	Completed
Yes	Unal	3438	8 FCT Quality Assurance	сY	6/12/14	693	24599	4	5/5/2020 09	:RR-COMPL	Completed
Yes	Unal	3438	8 FCT Quality Assurance	сY	6/12/14	693	24598	6	5/5/2020 09	:RR-COMPL	Completed
Yes	Browne	3438	8 FCT Quality Assuran	сY	2/12/19	717	24599	4	5/29/2020 1	RR-COMPL	Completed
Yes	Browne		8 FCT Quality Assurance		2/12/19	717	24598		5/29/2020 1		Completed
Yes	Mcclellan		8 FCT Quality Assurance		6/12/14	659	24599		4/1/2020 09		Completed
Yes	Mcclellan		8 FCT Quality Assuran		6/12/14	659	24598	6	4/1/2020 08	RR-COMPL	Completed
Yes	Stauffer		8 FCT Quality Assurance		2/1/18	660	24599		4/2/2020 09		Completed
Yes	Stauffer		8 FCT Quality Assurance		2/1/18	660	24598		4/2/2020 10		Completed
Yes	Weaver		8 FCT Quality Assurance		6/12/14	659	24599		4/1/2020 07		Completed
Yes	Weaver		8 FCT Quality Assurance		6/12/14	659	24598		4/1/2020 07		Completed
Yes	Chu		8 FCT Quality Assurance		6/12/14	659	24599		4/1/2020 11		Completed
Yes	Chu		8 FCT Quality Assurance		6/12/14	659	24598		4/1/2020 11		Completed
Yes	Limback		8 FCT Quality Assurance		6/12/14	693	24599		5/5/2020 10		Completed
Yes	Limback		8 FCT Quality Assurance		6/12/14	693	24598		5/5/2020 10		Completed
Yes	Saleh Saleh		8 FCT Quality Assurance		6/12/14	728	24599		6/9/2020 10		Completed
Yes			8 FCT Quality Assurance		6/12/14	728	24598		6/9/2020 10		Completed
Yes	Byler		8 FCT Quality Assurance		6/12/14	659	24599		4/1/2020 09		Completed
Yes	Byler Dunwoody		8 FCT Quality Assurance		6/12/14	659	24598		4/1/2020 09 4/1/2020 11		Completed
Yes	Dunwoody		8 FCT Quality Assurance		6/12/14	659 659	24599 24598		4/1/2020 11		Completed
Yes	,		8 FCT Quality Assurance		6/12/14	685			· · · · · ·		Completed
Yes Yes	Key		8 FCT Quality Assurano 8 FCT Quality Assurano		2/1/18 2/1/18	685	24599 24598		4/27/2020 1 4/27/2020 1		Completed Completed
Yes	Key Dozier		8 FCT Quality Assurant		6/12/14	659	24599		4/1/2020 05		Completed
Yes	Dozier		8 FCT Quality Assurant		6/12/14	659	24598		4/1/2020 05		Completed
Yes	Croce		8 FCT Quality Assurance		2/1/18	687	24599		4/29/2020 0		Completed
			•								
Yes	Croce		8 FCT Quality Assurance		2/1/18	687	24598		4/29/2020 0	KK-COMPL	Completed
Yes	Goff		8 FCT Quality Assurance		4/7/20	-64	24598	6			
Yes	Goff		8 FCT Quality Assurance		4/7/20	-64	24599	4	1/5/2020 12		
Yes	LaFleur		8 FCT Quality Assurance		2/12/19	664	24599		4/6/2020 12		Completed
Yes	LaFleur		8 FCT Quality Assurance		2/12/19	664	24598		4/6/2020 12		Completed
Yes	Otto Otto		8 FCT Quality Assurance		6/12/14	659	24599		4/1/2020 05		Completed
Yes Yes	Andersson		8 FCT Quality Assurance		6/12/14	659 659	24598 24599		4/1/2020 05		Completed Completed
	Andersson		8 FCT Quality Assurance		6/12/14 6/12/14	659	24598		4/1/2020 06		Completed
Yes Yes	Neiner		8 FCT Quality Assurano 8 FCT Quality Assurano		4/7/20	666	24598		4/1/2020 06 4/8/2020 08		Completed
Yes	Neiner		8 FCT Quality Assurance		4/7/20	666	24599		4/8/2020 08	RR-COMPL	Completed
Yes	Henzlova		8 FCT Quality Assurance		2/1/18	-71	24599	4			
Yes	Henzlova		8 FCT Quality Assurance		2/1/18	-71	24598	6	4/1/2020 02	LDD COMPL	Camanlatad
Yes	Eftink		8 FCT Quality Assurance		2/12/19	659	24599		4/1/2020 03		Completed
Yes	Eftink		8 FCT Quality Assurance		2/12/19	659	24598		4/1/2020 02		Completed
Yes Yes	Frazer Frazer		8 FCT Quality Assurano 8 FCT Quality Assurano		2/12/19 2/12/19	659 659	24599 24598		4/1/2020 08		Completed Completed
Yes	White				'. '.	659	24598		4/1/2020 08		• • • • • • • • • • • • • • • • • • • •
Yes	White		8 FCT Quality Assurance		6/12/14	659	24598		4/1/2020 07		Completed Completed
Yes	Remillieux		8 FCT Quality Assurance		6/12/14	693	24599		4/1/2020 07 5/5/2020 02		
Yes	Remillieux		8 FCT Quality Assurano 8 FCT Quality Assurano		6/12/14 6/12/14	693	24599		5/5/2020 02		Completed Completed
Yes	Telles		8 FCT Quality Assurance		6/12/19	659	24599		4/1/2020 12		Completed
Yes	Telles		8 FCT Quality Assurant		6/12/19	659	24598		4/1/2020 12		Completed
Yes	Kardoulaki		8 FCT Quality Assurance		2/1/18	659	24599		4/1/2020 09		Completed
Yes	Kardoulaki		8 FCT Quality Assurance		2/1/18	659	24598		4/1/2020 09		Completed
Yes	Grote		8 FCT Quality Assurance		2/1/18	659	24599		4/1/2020 08		Completed
Yes	Grote		8 FCT Quality Assurance		2/1/18	659	24598		4/1/2020 08		Completed
Yes	Ulrich		8 FCT Quality Assurance		4/7/20	666	24598		4/8/2020 01		Completed
Yes	Ulrich		8 FCT Quality Assurance		4/7/20	666	24599		4/8/2020 01		Completed
Yes	Widgeon Paisner		8 FCT Quality Assurance		2/12/19	659	24599		4/1/2020 09		Completed
Yes	Widgeon Paisner		8 FCT Quality Assurance		2/12/19	659	24598		4/1/2020 09		Completed
Yes	Shivprasad		8 FCT Quality Assurance		2/1/18	659	24599		4/1/2020 10		Completed
Yes	Shivprasad		8 FCT Quality Assurance		2/1/18	659	24598		4/1/2020 09		Completed
Yes	Abdul-Jabbar		8 FCT Quality Assurance		2/12/19	709	24599		5/27/2020 1		Completed
Yes	Abdul-Jabbar	3438	8 FCT Quality Assurance	сΥ	2/12/19	709	24598	6	5/21/2020 0	RR-COMPL	Completed
Yes	Taylor		8 FCT Quality Assurance		4/7/20	666	24599		4/8/2020 01		Completed
Yes	Taylor		8 FCT Quality Assurance		4/7/20	666	24598		4/8/2020 11		Completed
Yes	Gross		8 FCT Quality Assurance		4/7/20	666	24598		4/8/2020 03		Completed
Yes	Gross		8 FCT Quality Assurance		4/7/20	666	24599		4/8/2020 03		Completed
Yes	Hayne		8 FCT Quality Assurance		4/7/20	667	24599		4/9/2020 10		Completed
Yes	Hayne		8 FCT Quality Assurance		4/7/20	667	24598		4/9/2020 10		Completed
Yes	Coons		8 FCT Quality Assurance		4/7/20	666	24598		4/8/2020 03		Completed
Yes	Coons		8 FCT Quality Assurance		4/7/20	666	24599		4/9/2020 09		Completed
Yes	Steckler		8 FCT Quality Assurance		4/7/20	667	24598		4/9/2020 03		Completed
Yes	Steckler	3438	8 FCT Quality Assurance	CY	4/7/20	667	24599	4	4/13/2020 1	KK-COMPL	Completed