



Department of Energy
 Carlsbad Field Office
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 AUG 24 2017

ENTERED



Ms. Mary McDaniel, Manager
 Quality and Contractor Assurance
 Nuclear Waste Partnership LLC
 P.O. Box 2078
 Carlsbad, NM 88221-2078

Subject: Transmittal of Audit Report for Audit A-17-19

Dear Ms. McDaniel:

The Carlsbad Field Office performed Audit A-17-19 of the Nuclear Waste Partnership LLC (NWP) Procurement and Graded Approach Programs, July 25 - 27, 2017. The audit team concluded that the overall status of the program is adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

The audit team identified two concerns during the audit, both of which were determined to be conditions adverse to quality (CAQs). Corrective Action Reports (CARs) were issued and have been transmitted to NWP under separate correspondence. Details of the audit, conclusions of the audit team, and detailed descriptions of the CARs are documented in the enclosed report.

If you have any questions or comments, please contact me at (575) 234-7483.

Sincerely,

Martin P. Navarrete
 Senior Quality Assurance Specialist

Enclosure

cc: w/enclosure

J. Carswell, CBFO	*ED	T. Peake, EPA	ED
M. Brown, CBFO	ED	J. Kieling, NMED	ED
E. Garza, CBFO	ED	R. Maestas, NMED	ED
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M. Stapleton, CBFO	ED	P. Martinez, CTAC	ED
M. Fineran, CBF	ED	C. Castillo, CTAC	ED
J. Britain, NWP	ED	M. Leroch, CTAC	ED
V. Ballew, NWP	ED	G. Knox, CTAC	ED
S. Saiz, NWP	ED	D. Harvill, CTAC	ED
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*ED denotes electronic distribution



U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE

AUDIT REPORT

OF

NUCLEAR WASTE PARTNERSHIP LLC
PROCUREMENT AND GRADED APPROACH PROGRAMS

AUDIT NUMBER A-17-19

July 25 – 27, 2017

CARLSBAD, NEW MEXICO



Prepared by:

Greg Knox
Greg Knox, CTAC
Audit Team Leader

Date:

8 Aug 2017

Approved by:

Michael R. Brown
Michael R. Brown, Director
CBFO Office of Quality Assurance

Date:

8/24/2017

1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) Audit A-17-19 was conducted July 25 – 27, 2017, to evaluate the adequacy, implementation, and effectiveness of Nuclear Waste Partnership LLC (NWP) Procurement and Graded Approach programs. The audit was conducted at the Waste Isolation Pilot Plant (WIPP) near Carlsbad, New Mexico. The activities were evaluated with respect to the implementation of the quality assurance (QA) requirements defined in DOE/CBFO-94-1012, *Quality Assurance Program Document (QAPD)*, and WP 13-1, *Quality Assurance Program Description*.

The audit team identified two conditions adverse to quality (CAQs) during the audit. The two CAQs were identified in the area of procurement, regarding the inclusion of conflicting Quality Assurance requirements on a single purchase requisition (PR) and the mixing of different Management Levels (MLs) in a single task order. These CAQs are documented in CBFO Corrective Action Reports (CARs) 17-042 and 17-043, respectively (see section 6.1). No Observations or Recommendations were offered to NWP management.

In addition, the team reviewed two open CARs, CBFO CAR 16-055 and 16-057, which were identified during the previous A-16-13, NWP Procurement and Graded Approach Audit, conducted July 19 – 21, 2016. Discussions were held with NWP Procurement Management to determine status and immediate path forward to close these issues.

Overall, the audit team concluded that the NWP Procurement and Graded Approach programs are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

2.0 SCOPE

The audit evaluated NWP compliance with the current Graded Approach program, the CBFO-approved Procurement Program, and all applicable governing documents. This included verifying implementation of the contractor's approved procurement system based on appraisal criteria established by the CBFO, as well as the implementation of a graded approach to determine MLs for the application of purchase order (PO) requirements. POs selected for review were files supporting ML-1, ML-2, and ML-3 procurement activities. In addition, the audit team verified the flow-down of applicable requirements from the CBFO *Quality Assurance Program Document*, and the NWP *Quality Assurance Program Description*.

3.0 AUDIT TEAM

Martin Navarrete	Quality Assurance Management Representative, CBFO
Greg Knox	Audit Team Leader (ATL), CBFO Technical Assistance Contractor (CTAC)

Ricardo Chavez	Auditor, CTAC
Jack Walsh	Auditor, CTAC
Harley Kirschenmann	Auditor, CTAC

4.0 AUDIT PARTICIPANTS

Individuals contacted during the audit are identified in Attachment 1. A pre-audit conference was held in the WIPP Safety Building conference room on July 25, 2017. The audit was concluded with a post-audit conference in the WIPP Safety Building conference room on July 27, 2017.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

The following sections identify each of the Procurement and Graded Approach program elements evaluated during the audit. For each element, the audit team evaluated the associated implementing procedures to verify the adequate flow-down of upper-tier requirements, conducted interviews with responsible personnel, and reviewed randomly selected records to determine the effectiveness of the NWP Procurement and Graded Approach program implementation.

Two concerns were identified during the audit and were determined to be procedural violations. These CAQs were documented as CBFO CARs 17-042 and 17-043. No Observations or Recommendations were offered to NWP management during this audit.

In addition, the team reviewed two open CARs, CBFO CAR 16-055 and 16-057, that were identified during the previous A-16-13 NWP Procurement and Graded Approach Audit, conducted July 19 – 21, 2016. Discussions were held with NWP Procurement Management to determine status of the CBFO approved Corrective Action Plan and an immediate path forward to close these issues.

NWP implementing procedures included in the audit are identified in Attachment 2. Attachment 3 provides a summary of the audit results. Details of the audit are contained in the following sections.

Prior to the performance of A-17-19, the NWP Issues Management Processing System (IMPS) and the CBFO Issue Collection and Evaluation (ICE) System were reviewed for Procurement and Graded approach issues that had been identified since the previous A-16-13 Audit. These identified issues were distributed and discussed with the team as examples of potential issues in the objective evidence to be reviewed during A-17-19.

Overall, the audit team concluded that, with the exceptions noted in this report, the Procurement and Graded Approach programs are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

Procurement Program

WP 15-PC3609, *Preparation of Purchase Requisitions*, requires proposed procurements be evaluated to WP 09-CN3005, *Graded Approach to Application of QA Controls*, to assure that proper quality controls are included in POs. WP 09-CN3005 identifies four MLs requiring special controls:

ML-1 – Generally consisting of Safety Class (SC) and Safety Significant (SS) structures, systems, and components (SSCs) defined in Chapters 3 and 4 of the WIPP Documented Safety Analysis (DSA), or containers that affect the confinement or shielding of radioactive material.

ML-2 – Generally consisting of SSCs related to Important to Safety (ITS) as described in the DSA: (1) requiring calibration, code welding, or nondestructive examination; (2) having application to the WIPP Hazardous Waste Facility Permit or Compliance Certification Application; or (3) providing a physical barrier to prevent worker-related injury.

ML-3 – Generally consisting of containment and hazard detection or injury mitigation SSCs, and not identified in ML-1 or ML-2.

ML-4 – Generally consisting of Balance of Plant SSCs where controls consist of ensuring industry codes and standards are applied. (ML-4 procurements were not in the scope of A-17-19)

Due to the differing procurement quality control requirements of the three MLs being evaluated, the team chose random samples from populations of ML-1, ML-2 and ML-3 procurements over the last year.

The audit evaluated NWP compliance with the current CBFO-approved contractor procurement system and applicable governing documents. The audit also evaluated and verified the implementation and effectiveness of the implementing procedures and applicable sections of the CBFO QAPD and the NWP *Quality Assurance Program Description* for the activities being audited.

The team evaluated seven of 28 ML-1 graded procurements made within the last year. Documentation of pre-Purchase Order (PO) and subcontract award requirements pertaining to ML-1 Procurements were reviewed and verified for compliance to procedure WP 15-PC3605. Post subcontract award requirements for Purchase Requisitions of ML-1 procurements were also reviewed and verified for compliance to procedure WP 15-PC3609. Of the ML-1 procurements packages reviewed, two required implementation of the Approval/Variation Request (AR/VR) process. For those two POs, the AR/VR process had not been closed; therefore, not all requirements could be verified to be implemented. The process was reviewed nonetheless for compliance to procedure WP 15-PC3041. The Audit Team also reviewed the flow-down of upper-

tier requirements into the NWP purchasing system. There were no Credit Card purchases made for ML-1 procurements since the A-16-13 Audit.

The audit team examined 10 ML-2 procurement packages and confirmed that all requirements, including QA requirements contained in WP 15-PC3609, were implemented. The team confirmed that there were no credit card purchases of ML-2 graded items in the last year. One concern was identified. Purchase Requisition 508020 for the TRU PACT-II tie down Go/No-go gauges cites conflicting QA requirements. At the bottom of page 1, Documentation Requirements require Certified Mill Test Reports (CMTRs) and NON-DESTRUCTIVE EXAMINATION (NDE), while the Inspection Requirements at the top of page 2 states in part "CMTRs and NDE are not applicable to this item" (see CAR 17-042, section 6.1).

The audit team evaluated a sample of 10 ML-3 procurement packages. One concern was identified. PO DOE13-501716-069, Rev. 0, was issued 5/28/2017 for evacuation and investigation of the fire water line break east of building 452. This activity was graded as an ML-3 activity on MDL #3132; however, on 6/22/2017, PO DOE13-501716-069, Rev. 1, was issued for the subcontractor to repair the fire water line break east of building 452. This activity was graded as an ML-2 activity on MDL #3138. The audit team verified quality requirements were identified in the statement of work and other QA requirements documents (see CAR 17-043, section 6.1).

The audit team verified that all requisitioners and approvers were qualified to the training requirements of WP 15PC-3509. The team confirmed that QA performed all required reviews and that the requisitions manager ensured all reviews were performed.

During A-16-13, two CARs were issued and remained open during the performance of A-17-19. CBFO CAR 16-055 documented that no objective evidence was provided to the audit team confirming the existence of an established written training program for the buyers. CBFO CAR 16-057 documented that there was no objective evidence of established procedures for the activities of the NWP Procurement Buyers. As these issues have not been closed and remain open, these areas were not addressed during A-17-19. The U.S. Department of Energy (DOE) Management representative and the ATL met with NWP procurement management and discussed the status of the CBFO approved corrective action plan (CAP) and the path forward to resolution.

The audit team also reviewed the organization's records inventory and disposition schedule (RIDS) and the handling of procurement records. No concerns were identified in the processing of procurement records.

Overall, the audit team concluded that, with the exceptions noted above, the Procurement Program activities evaluated were adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3 Graded Approach

The audit team verified that the requirements of DOE/CBFO-94-1012 (CBFO QAPD), Section 1.1.2.3, Grading Items and Activities and Applying Management Controls, were flowed down to WP 13-1, *Nuclear Waste Partnership QAPD*, Section 1.1.8.1, Grading Items and Processes and Applying Quality Assurance Controls. Flow-down is also documented in the controlling document of WP 09-CN3005, *Graded Approach to Application of QA Controls*, and individual procedures for various processes such as those for preparation of procedures and design control.

The audit team verified that the initial Management Level Determination (MLD) grading or the revision to an existing MLD grading was in accordance with the process identified in WP 09-CN3005.

Six MLD documents were reviewed for documentation of requirements for maintenance controls, supplier documentation, procurement inspection requirements, quality clauses, work package documents, test plan requirements, procurement requirements, and purchased manufacturing requirements. Two of the MLD packages were ML-1, two were ML-2, one was ML-3, and one was ML-4. All questions pertaining to determination of Management Levels were completed, as required, with affirmative answers including an explanation as to why the grading applies.

The audit team verified that, for equipment not currently in the system or that needs to be modified for a new MLD, an Engineering Change Order is generated by engineering and entered into the Computerized History and Maintenance Planning System (CHAMPS) equipment register via an Engineering Change Notice. MLD #110, Revision 1, was completed 7/25/2017. This MLD addressed requirements for changes/additions to WIPP System ED14 for installation of a mini-power center and electrical panels in two different underground (UG) locations. The mini-power center will power electrical outlet receptacles to be used for test equipment such as DC power supplies, data loggers, etc. The test equipment is supplied by others. ECOs 14133 (5/09/17) and 14134 (5/09/17) were generated to address the changes/additions to System ED14. Each of the ECOs includes MLD #110. CHAMPS Work Orders (1734821 and 1628471) were developed for the engineering change notices (ECNs) and are currently in process in the UG.

It was also verified that engineering and quality assurance personnel selected adequate and appropriate controls that were applied to Work Packages, Procurement, Engineering or Procedures based on the ML assigned. All MLDs reviewed, including revisions, were verified to have approvals as required by the controlling procedure. NWP Engineering and Technical Services RIDS identified that the RIDS appropriately addresses hard and electronic copies of the following records:

- EA09CN3005-1-0, Management Level Determination Worksheet
- EA09CN3005-2-0, Graded Approach Controls Worksheet
- Management Level Determination form generated by the graded approach database

NWP's Engineering department RIDS, item numbers 20 (A), "Determination of QA Program Applicability Results" and 20 (B), "Determination of QA Program Applicability Results – Copy," were reviewed and found to be adequate in the identification of disposition authority, authorized disposition instructions, and transfer instructions. Hard copies of the respective records are maintained in fire rated 2- and 4-drawer vertical file cabinets in the Engineering Building. Copies of all records maintained are available from the MLD computer database. Completed MLD forms are no longer completed on hard copy, but on electronic forms. The MLD database is backed up via the disaster recovery process to achieve dual copy status.

All Engineering and Quality Assurance personnel identified as approvers on page 1 of the MLD packages were verified by review of the training database to have taken the required training course CON-008, Graded Approach to QA Requirements. Training results are documented and available from the Training Department's training database.

No issues were identified for this area.

Overall, the audit team concluded that the Graded Approach process is adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

6.0 SUMMARY OF DEFICIENCIES

6.1 Corrective Action Reports (CARs)

During the audit, the audit team may identify CAQs and document such conditions on CARs.

Condition Adverse to Quality (CAQ) – Term used in reference to failures, malfunctions, deficiencies, defective items, and nonconformances.

Significant Condition Adverse to Quality – A condition which, if uncorrected, could have a serious effect on safety, operability, waste confinement, TRU waste site certification, compliance demonstration, or the effective implementation of the QA Program.

As described below, the audit team identified two CAQs during Audit A-17-19, which resulted in the issuance of two CARs.

CBFO CAR 17-042

Purchase Requisition 508020 for the TRU PACT-II tie down Go/No-go gauges cites conflicting QA requirements. At the bottom of page 1, Documentation Requirements require CMTRs and NON-DESTRUCTIVE EXAMINATION, while the Inspection Requirements at the top of page 2 states in part "CMTRs and NDE are not applicable to this item".

WP 15-PC3609, Preparation of Purchase Requisitions, Rev. 30, section 1.4.1 states in part "Quality requirements are identified in statement of work (SOW), specification, QA Inspection Plan or other QA requirements.

WP 15-PC3609, Rev. 30, section 4.2.6 states in part "Identify all applicable documentation...requirements."

CBFO CAR 17-043

PO DOE13-501716-069, Rev. 0, was issued 5/28/2017 for evacuation and investigation of the fire water line break east of building 452. This activity was graded as an ML-3 activity on MDL #3132.

On 6/22/2017, PO DOE13-501716-069, Rev. 1, was issued for the subcontractor to repair the fire water line break east of building 452. This activity was graded as an ML-2 activity on MDL #3138.

WP 15-PC3609, Preparation of Purchase Requisitions, Rev. 30, note before 1.1.

NOTE

Mixing of different ML requirements (ML-1, ML-2, ML-3, ML-4), Packaging Quality Categories (A, B, C) or quality level (QL) requirements (QL 1, QL 2, QL 0) is prohibited on the same PR (PO).

6.2 Deficiencies Corrected During the Audit (CDAs)

Corrected During the Audit (CDA) – Isolated deficiencies that do not require a root cause determination or actions to preclude recurrence, and where correction of the deficiency can be verified prior to the end of the audit. Examples include one or two minor changes required to correct a procedure (isolated), one or two forms not signed or dated (isolated), and one or two individuals who have not completed a reading assignment.

During the audit, the audit team may identify CAQs. The audit team members and the ATL evaluate the CAQs to determine if they are significant. Once a determination is made that the CAQ is not significant, the audit team member, in conjunction with the ATL, determines if the CAQ is isolated requiring only remedial action and therefore can be corrected during the audit. Deficiencies that can be classified as CDA are those isolated deficiencies that do not require a root cause determination or actions to preclude recurrence, and those for which correction of the deficiency can be verified prior to the end of the audit.

Upon determination that the CAQ is isolated, the audit team member, in conjunction with the ATL, evaluates/verifies any objective evidence/actions submitted or taken by the audited organization and determines if the condition was corrected in an acceptable

manner. Once it has been determined that the CAQ has been corrected, the ATL categorizes the condition as a CDA.

No CDAs were identified and corrected during the audit.

7.0 SUMMARY OF OBSERVATIONS AND RECOMMENDATIONS

During the audit, the audit team may identify conditions that warrant input by the audit team to the audited organization regarding potential problems or suggestions for program improvement. The audit team members, in conjunction with the ATL, evaluate these conditions and classify them as observations or recommendations (using the following definitions). Once a determination is made, the audit team members, in conjunction with the ATL, categorize the conditions appropriately.

Observation – A condition that is determined not to be a violation of procedure or requirement at the time but, if not controlled or addressed, may result in a CAQ during future activities.

Recommendation – A suggestion that is directed toward identifying opportunities for improvement and enhancing methods of implementing requirements.

7.1 Observations

No Observations were offered by the audit team to NWP Management during the course of this audit.

7.2 Recommendations

No Recommendations were offered by the audit team to NWP Management during the course of this audit.

8.0 LIST OF ATTACHMENTS

- Attachment 1: Personnel Contacted During the Audit
- Attachment 2: NWP Implementing Procedures Evaluated
- Attachment 3: Summary Table of Audit Results

ATTACHMENT 1

PERSONNEL CONTACTED DURING THE AUDIT				
NAME	ORGANIZATION/ DEPARTMENT	PRE- AUDIT MEETING	CONTACTED DURING AUDIT	POST- AUDIT MEETING
BP Shagula	NWP/ESH	X		
Clam Quintana	NWP/Cognizant Engineer- Electrical Underground		X	
Heidi Lowe	NWP/Technical Training Records Admin		X	
Jerry Graham	NWP/Electrical/I&C		X	
Mark Edwards	NWP/SWB Procurement Manager	X	X	X
Mark Huck	NWP/Procurement Buyer		X	
Mark Trygstad	NWP/Project Procurement Manager	X	X	X
Mary McDaniel	NWP/Q&CA Manager	X		X
Mike Holder	NWP/Procurement Buyer		X	
Pam Hester	NWP/Business & Financial CFO	X	X	X
Ray Carrasco	NWP/Geo. & Mine Engineer		X	
Roland Taylor	NWP/Site Procurement Manager	X	X	X
Sheri Saiz	NWP/Staff Admin.	X	X	X
Susan Brooks	NWP/Engineering Specialists		X	
Veronica Ballew	NWP/QA Project Integration Manager	X	X	X

ATTACHMENT 2

NWP Implementing Procedures Evaluated			
Number	Doc. Number	Rev	NWP Document Title
1.	WP 09-CN3005	8-FRI7	Graded Approach to Application of QA Controls
2.	WP 09-CN3007	46	Engineering and Design Document Preparation and Change Control
3.	WP 13-1	35	NWP Quality Assurance Program Description
4.	WP 15-PC3041	12	Approval/Variation Request Processing
5.	WP 15-PC3044	10	Quality Credit Card Purchases
6.	WP 15-PC3605	6	Proposal, Competition, Identification Selection, Evaluation and Award
7.	WP 15-PC3608	8	Subcontract Technical Representative Program Manual
8.	WP 15-PC3609	30	Preparation of Purchase Requisitions

ATTACHMENT 3

Summary Table of Audit Results

Audit Elements	Concern Classification				QA Evaluation		
	CARs	CDAs	Obs	Rec	Adequacy	Implementation	Effectiveness
Upper-Tier Flow-Down					A	S	E
ML-1, ML-2 and ML-3 Procurements	2				A	S	E
Graded Approach					A	S	E
TOTALS	2	0	0	0	A	S	E

Definitions

A = Adequate
 I = Indeterminate
 NA = Not Adequate
 S = Satisfactory

E = Effective
 M = Marginal
 NE = Not Effective
 Rec = Recommendation

CAR = Corrective Action Report
 CDA = Corrected During Audit
 Obs = Observation