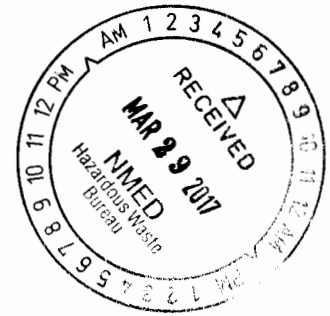


ENTERED



Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221
MAR 29 2017



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

Subject: Surveillance Report S-17-07, Nuclear Waste Partnership LLC Waste Data System

Dear Ms. McDaniel:

A surveillance team from the Carlsbad Field Office (CBFO) conducted Surveillance S-17-07 of the Nuclear Waste Partnership LLC (NWP) Waste Data System (WDS). The surveillance was conducted February 21 – 28, 2017, in Carlsbad, NM. The team concluded that the NWP program requirements and associated implementing procedures for the WDS are satisfactorily implemented and effective. Further, the reclassification of the WDS as safety software and the application of software quality assurance controls as applied by NWP to the maintenance of WDS are also satisfactory and effective.

One condition adverse to quality (CAQ) was identified during the surveillance. The CAQ was related to the identification and capture of records that provide evidence of justification for changes made to reference tables in the WDS. The CAQ resulted in the issuance of CAR 17-026.

If you have any questions concerning the surveillance, please contact me at (575) 234-7491.

Sincerely,

Dennis S. Miehl
Senior Quality Assurance Specialist

Enclosure

cc: w/enclosure

M. Brown, CBFO	*ED	R. Maestas, NMED	ED
M. Navarrete, CBFO	ED	D. Biswell, NMED	ED
J.R. Stroble, CBFO	ED	P. Martinez, CTAC	ED
D. Standiford, CBFO	ED	C. Castillo, CTAC	ED
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S. Punchios, NWP	ED	B. Tousley, CTAC	ED
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J. Kieling, NMED	ED	*ED denotes electronic distribution	



CBFO SURVEILLANCE REPORT

Surveillance Number: S-17-07 **Date of Surveillance:** February 21 – 28, 2017

Surveillance Title: NWP Waste Data System

Organization: Nuclear Waste Partnership LLC (NWP)

Surveillance Team:

Dennis S. Miehls	Quality Assurance Representative, Carlsbad Field Office (CBFO), Office of Quality Assurance
Martin Fineran	CBFO Quality Assurance
Jim Vernon	Surveillance Team Leader, CBFO Technical Assistance Contractor (CTAC)
Brian Tousley	Surveillance Team Leader-in-training, CTAC
Kathy Hood	Team Member, CTAC
Jim Schuetz	Team Member, CTAC

Surveillance Scope:

The surveillance evaluated the implementation and effectiveness of the NWP program requirements and associated implementing procedures for the Waste Data System (WDS). The surveillance also evaluated any changes to the WDS based on the recent revision of DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WAC), and the reclassification of the WDS as safety software.

The surveillance team evaluated implementation and effectiveness of software quality assurance (SQA) controls applied by NWP to the maintenance of the WDS. WDS is a web-based software application that incorporates elements of the Waste Isolation Pilot Plant (WIPP) Waste Information System (WWIS) software application.

Results:

Activities Evaluated

The surveillance team interviewed NWP Waste Information Tracking System (WITS) personnel and reviewed SQA documents regarding the WWIS/WDS web-based data management application. The surveillance team assessed management of software changes and data management activities performed by the software programming contractor and by Database Administrator (DBA) and WITS personnel.

Application of SQA to changes to the WWIS/WDS code and data were evaluated. Requests for changes to code modules, generation of statements of work for contractor programming, software design, software requirements, testing, test reporting, and promotion of code changes to the production environment were included in the

evaluation of SQA activities. WDS release number 2.7.3, on January 24, 2017, implemented the documented safety analysis (DSA) 18.8 required checks as a permanent modification to the WDS. Specifically, Chemical Compatibility, Acceptable Knowledge Assessment, Integrated Waste Management Document Lists, and statistical Material at Risk evaluations have been implemented. Basis of Knowledge evaluation prior to shipment is controlled by procedure WP 08-NT3021, *Approval of Shipments in the Waste Data System*. Currently the WDS DBA's perform manual checks of the Basis of Knowledge that will be automated in the WDS in 2.8.1. The CCP Site Project Managers also check for all of the enhanced AK elements manually using CCP-TP-200 *Chemical Compatibility Evaluation Memorandum and Acceptable Knowledge Assessment Review*. DOE/WIPP 07-3372, *WIPP Documented Safety Analysis, Rev. 5*, Review and approval of requests for data changes and modification of data and data tables contained in the WWIS/WDS were included in the evaluation of maintenance and control of administrative reference tables.

The *CBFO Quality Assurance Program Document (QAPD)*, DOE/CBFO-94-1012, Rev. 12, is used as the upper-tier reference document stating SQA requirements for this activity. The following NWP documents were evaluated during the surveillance:

- WP 08-NT.01, Rev. 32, *Waste Data System Program and Data Management Plan*
- WP 08-NT.04, Rev. 24, *Waste Data System Software Quality Assurance Plan*
- WP 08-NT1004, Rev. 4, *Waste Data System Verification, Validation, and Deployment of Application Software*

The team reviewed NWP controlling documents, procedures, and WWIS/WDS user manuals for compliance with requirements of the upper-tier documents and WP 13-1, *NWP Quality Assurance Program Description*. The surveillance team determined that the documents listed above provide adequate flow-down of upper-tier requirements and provide adequate guidance and work steps for users to apply SQA to management of the WWIS/WDS.

The surveillance team reviewed NWP WDS controlling documents for compliance to upper-tier documents CBFO QAPD, Rev. 12, and DOE/WIPP-09-3427, *WDS User's Manual*, Rev. 14. Additional NWP documents reviewed were:

- WP 05-WH.02, Rev. 2, *WIPP Waste Handling Operations WDS User's Manual*
- WP 08-NT.15, Rev. 8, *WDS Maintenance of Administrative Reference Tables*
- WP 08-NT1002, Rev. 5, *WDS Administrative Reference Tables*

Documentation reviews and personnel interviews were conducted during the course of the surveillance evaluating the maintenance and control of administrative reference tables contained in the WDS. The team verified training qualifications for the Data Administrators (DAs) are current. Further evaluations of the WDS and interviews with the DAs concluded the Reference Data Change Log is properly maintained as required. The Reference Data Change Log is maintained electronically and can be produced in hard copy format upon request. Roles and responsibilities of administrative reference tables are maintained and controlled by way of limiting access, function, and control to specific personnel within the WDS system.

The surveillance team verified the quality assurance (QA) functions that apply to maintenance of administrative reference tables are incorporated into the WDS system, and personnel are performing these functions per procedural requirements.

In reviewing WP 08-NT1002, Rev. 5, *WDS Administrative Reference Tables*, the surveillance team identified one concern. Various steps in the procedure associate with instructions and notifications through email correspondence. The surveillance team observed that justification for changes to reference tables is briefly stated in fields in the WDS Reference Data Change Log with details being provided in the email correspondence. The WDS Reference Data Change Log is listed as a record in the procedure; however, email correspondence that provides full details of change justification is not. Further, a review of the current WDS Records Inventory and Disposition Schedule (RIDS) determined it did not list email correspondence. The surveillance team concluded a condition adverse to quality existed concerning identification and capture of records (see CAR 17-026).

With the exception of the condition adverse to quality documented in CAR 17-026, the surveillance team concluded that the established QA program for WDS-related activities is compliant with upper-tier requirements and that associated implementing procedures were determined to be satisfactorily implemented and effective.

Program Adequacy, Implementation, and Effectiveness

The software contractor, Information System Laboratories, Inc. (ISL), performs code modifications and provides SQA and configuration control of all aspects and modules of the WWIS/WDS under the direction of NWP WITS. NWP WITS performs acceptance and installation testing of all ISL code changes prior to deployment. User testing is performed by selected users as determined necessary by the NWP senior engineer based on the scope of a code change and following a user test plan. WITS personnel utilize Approval Request/Variation Request forms for documentation of review and approvals of contractor deliverables that are generated per the change scope.

The surveillance team determined that NWP adequately identifies, reviews, and approves change requirements to the WWIS/WDS. ISL adequately translates software requirements into design, implements code, and generates SQA life-cycle documents. NWP and ISL utilize a web-based software management application called "Matrix" to track each change through the requirements, design, code modification, testing, and approval phases, including change and management of impacted life-cycle documents. The "Matrix" code and data are maintained by ISL under the approved ISL SQA program. The surveillance team reviewed implementation of SQA to WWIS/WDS version 6.1 and determined that changes were reviewed and approved and that code was modified, tested, and installed in accordance with procedures.

Testing of changes using defined test cases and the Automated Testing Tool (ATT) are adequately performed and documented in test reports based on implementation of approved test plans. The senior engineer determines if and how the ATT function will be implemented for changes. The AAT is maintained by ISL under the approved ISL SQA program.

NWP manages data within the WDS software application and implements the Data Change process. The surveillance team determined that WITS personnel adequately review, approve, perform, and document changes made to data for the WDS.

The surveillance team determined that NWP SQA procedures are adequate and that implementation of these procedures is satisfactory and provides for an effective application of SQA to maintenance, control, and use of the WWIS/WDS.

Corrective Actions:

Corrective Action Reports/Deficiencies Corrected During the Surveillance

One deficiency related to identification and capture of records that provide evidence of justification for changes made to reference tables was identified during this surveillance.

WP 08-NT1002, Rev. 5, *WDS Administrative Reference Tables*, provides instructions for the maintenance of reference data in the WDS by DAs, DBAs, and other authorized users. Throughout the procedure, DAs, DBAs, and authorized users perform steps in the procedure based on direction/requests from email correspondence. Justification for changes to reference tables is briefly stated in fields in the log with details being provided in the email correspondence. Changes to the WDS Administrative Reference Tables are documented in WDS and are reported in the WDS Reference Data Change Log report. None of the DAs interviewed during the surveillance were able to produce emails that provided justification for changes that were performed. The WDS Reference Data Change Log is specified/listed as a record in the procedure; however, email correspondence is not.

Email correspondence that provides justification and details for changes to WDS reference tables must be specified/listed on the RIDS and captured as a record for compliance with WP 13-1, *Quality Assurance Program Description*, regarding identification and capture of QA records related to site characterization data and data of mixed transuranic (TRU) waste form characterization and acceptance of the mixed TRU waste form. CBFO CAR 17-026 was generated as a result of this concern.

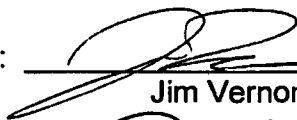
Observations

No Observations were made as a result of the surveillance.

Recommendations

No Recommendations were offered for management consideration as a result of the surveillance.

Surveillance Team Leader:



Jim Vernon, CTAC

Date: 3-29-17

Director CBFO OQA Approval:



Dennis S. Miehl

Date: 3-29-17