ENTERED

RECEIVED
DEC 20 2018

Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221
DEC 20 2017

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

Subject: Verification and Acceptance of Corrective Actions for CAR 16-058 from Surveillance S-16-51

Dear Ms. McDaniel:

Enclosed are the results of the Carlsbad Field Office (CBFO) evaluation and verification of documentation demonstrating completion of the corrective actions associated with CBFO Corrective Action Report (CAR) 16-058, which resulted from Surveillance S-16-51, Assessment of the Waste Isolation Pilot Plant Diesel Fire Pump Dynamometer Test at the Stewart & Stevenson Facility, conducted July 14, 2016. The results of the verification are documented on the enclosed CAR Continuation Sheets and indicate that the documentation of completion of corrective actions is acceptable. CAR 16-058 is considered closed.

If you have any questions or comments regarding the CAR closure, please contact me at (575) 234-7476.

Sincerely,

Michael R. Brown, Director
Office of Quality Assurance

Enclosure

cc: w/enclosure

J. Carswell, CBFO	*ED	J. Kieling, NMED	ED
E. Garza, CBFO	ED	R. Maestas, NMED	ED
M. Navarrete, CBFO	ED	D. Biswell, NMED	ED
R. Elmore, CBFO	ED	H. Tellez, NMED	ED
D. Miehls, CBFO	ED	T. Runyon, CTAC	ED
M. Stapleton, CBFO	ED	P. Martinez, CTAC	ED
M. Fineran, CBFO	ED	C. Castillo, CTAC	ED
M. Heard, CBFO	ED	M. Leroch, CTAC	ED
J. Britain, NWP	ED	P. Yanez, CTAC	ED
V. Ballew, NWP	ED	J. Vernon, CTAC	ED
S. Saiz, NWP	ED	J. Fernandez, CTAC	ED
A. Boyea, NWP	ED	P. Hinojos, CTAC	ED
J. Ellis, NWP	ED	G. White, CTAC	ED
J. Walsh, EPA	ED	CBFO QA File	
T. Peake, EPA	ED	CBFO M&RC	

*ED denotes electronic distribution

CBFO:OQA:MRB:BA:17-2627:UFC 2300.00

171219

CAR CONTINUATION SHEET

1. CAR No: 16-058	2. Activity No: S-16-51	3. Page 1 of 3

Blocks #16 & 17 Acceptance of Corrective Actions Completion and Closure:

The Carlsbad Field Office (CBFO) has reviewed the closure package for Corrective Action Report (CAR) 16-058, including objective evidence and supporting documentation, submitted via Nuclear Waste Partnership LLC (NWP) letter QA:17:00421 UFC:2300.00, dated December 8, 2017, from Ms. M.G. McDaniel, Manager, NWP Quality Assurance, to Mr. Michael Brown, CBFO Director of Quality Assurance.

Italicized text, taken verbatim from the Corrective Action Plan (CAP), is used to reflect the correlation between the actions required by the CAR and the method used for evaluation.

REMEDIAL ACTIONS

1. *NCR 2016-042 and NCR 2016-043 were issued against the Diesel Fire Pump to ensure that all CGID issues associated with the Diesel Fire Pump installation and testing were resolved prior to declaring the Diesel Fire Pump operable. NCR 2016-042 specifically addresses the nonconforming condition associated with testing the BHP capacity of the Diesel Engine which drives the Diesel Fire Pump. NCR 2016-043 was issued to document the indeterminate data described on existing CGID forms and is addressed separately in a CAP developed in response to CARs 16-060.*
2. *NWP evaluated the impact of NCR 2016-042 condition in ETO-G-333. Dynamometer testing of the Diesel Engine was performed in Albuquerque at a higher altitude and at a higher temperature, which lowered the BHP. ETO-G-333 concluded that the manufacturer's UL rating of the Diesel Engine of 188 BHP at 1760 rpm was met or exceeded after taking into consideration the effects of temperature and pressure.*
3. *NCR 2016-042 as well as NCR 2016-043 were closed September 30, 2016, prior to Turnover of the Diesel Fire Pump to Facility Operations.*

Verification:
The objective evidence submitted in this closure package was reviewed and verified to meet the required remedial actions commitment. The evidence included disposition documentation of NWP's Non-conformance Reports (NCRs) #2016-42, dated 16 August 2016 and #2016-43 dated 28 September 2016.

INVESTIGATIVE ACTIONS

NWP's investigation and analysis resulted in the following observations:
NWP QA observed during their test oversight that the Diesel Engine (Pump Driver) produced 188 BHP. This is also noted under Repair Description in the vendor's Work Order (See the attached). However, as stated in this CAR, >= 188 BHP was not maintained over the duration of the test. The test average was 187.34 BHP, as noted above.

According to Stewart & Stevens, they expected small fluctuations in dynamometer readings around the dynamometer set point. The CGID specified 188 BHP, which is consistent with SOD FPOO requirements; however, a range or tolerance for the duration of the test should have been specified. There was discussion about a tolerance of+/- 5% during testing; but, this was not confirmed prior to approval of the test report.

CAR CONTINUATION SHEET

1. CAR No: 16-058	2. Activity No: S-16-51	3. Page 2 of 3

Verification:
Investigative actions were evaluated and found to be acceptable, as documented in CBFO CAP acceptance memorandum CBFO:OQA:MRB:BA:17-1123:UFC 2300.00 dated 11 April 2017.

CAUSAL ANALYSIS
Not required for this CAR.

ACTIONS TO PRECLUDE RECURRENCE

1. *Brief Engineering personnel on WP 09-CN3040 requirements for verification of critical characteristics through testing, with emphasis on attention to detail when developing and approving test acceptance criteria.*
2. *Review procedures that involve testing for the purpose of design verification, such as WP 09-CN3040, WP 09-SU.01, WP 09-CN3018, and WP 10-WC3017, to determine if they should be revised to require independent review of test acceptance criteria and results to ensure that design requirements, including critical characteristics contained in CGIDs, are met.*

COMMITMENTS	***DUE DATES***
Brief Engineering personnel on WP 09-CN3040 requirements for testing	*December 12, 2016*
Review WP 09-CN3040, WP 09-SU.01, WP 09-CN3018, and WP 10-WC3017, to determine if they should be revised to require independent review of test acceptance criteria and results	*February 14, 2017*
Revise procedures, for example WP 09-CN3040, if needed	*March 17, 2017*
Close NCR 2016-042 and NCR 2016-043	*September 30, 2016*
Provide closure documentation to NWP Quality Assurance	*April 4, 2017*
NWP QA, transmit closure documentation to the CBFO	*April 11, 2017*

Verification:
Verified actions to preclude recurrence are acceptable through review of supporting documentation submitted in the CAR 16-058 closure package. The reviewed documentation included:

1. Training material used to brief engineering personnel on WP 09-CN3040 requirements for testing.
2. Attendance sheets, Learning Management System (LMS) screenshot and letters of memorandum supporting briefing of engineering personnel on WP 09-CN3040 requirements for testing.
3. Letter from Bob Beeman, Acting Manager, NWP Engineering Programs, to D.K. Ploetz, dated 28 November 2017, supporting the review of procedures to determine the need for revision to require independent review of test acceptance criteria and results. Procedures reviewed included:
    - WP 09-CN3040 Commercial Grade Item Dedication (CGID)
    - WP 09-SU.01 WIPP Start-Up Test Program

CAR CONTINUATION SHEET

1. CAR No: 16-058	2. Activity No: S-16-51	3. Page 3 of 3

- WP 09-CN3018 Design Verification
- WP 10-WC3017 Post Maintenance Testing

Results of this review concluded that independent verification is "built into the processes as written." No revisions were made.

4. Disposition documentation of NWP NCR #2016-42, dated 16 August 2016
5. Disposition documentation of NWP NCR #2016-43, dated 28 September 2016

CLOSURE ACCEPTANCE

Based on the results of the review of the objective evidence included in the CAR 16-058 closure package, it is recommended that CAR 16-058 be closed.

FOR

Verification Performed By: Bobby Hunt, CTAC

12/19/17
Date