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June 30, 2011
LIC-11-0067

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

References: See Page 3

SUBJECT: Response to Second NRC Request for Additional Information (RAI) Re : License Amendment Request to Relocate Operating and Surveillance Requirements for the Power-Operated Relief Valve, Safety Valve Position, and Tail Pipe Temperature Instrumentation from Technical Specifications

This letter provides the Omaha Public Power District's (OPPDP's) response to the Nuclear Regulatory Commission's (NRC's) second request for additional information (RAI) regarding the license amendment request (LAR) to relocate the operating and surveillance requirements (SRs) for the power-operated relief valve (PORV), pressurizer safety valve (PSV) position and tail pipe temperature instrumentation from the Technical Specifications (TS).

In LAR 10-04 (Reference 2), OPPDP requested to relocate the operating and surveillance requirements for the PORV and PSV acoustic position and tail pipe temperature indication instrumentation from the Fort Calhoun Station (FCS), Unit No. 1, TS to licensee controlled documents.

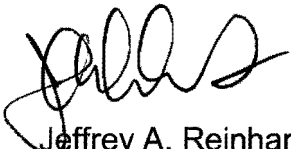
Based on a conference call held with the NRC staff on September 13, 2010, OPPDP supplemented the Reference 2 application to provide additional clarifying information regarding the tail pipe temperature position indication. As requested in Reference 3, OPPDP provided drawings (interconnection and equipment lists) and photographs of the control room indicators for the PORV/PSV acoustic and tail pipe temperature position indication instrumentation in Reference 4.

In Reference 5, the NRC provided three RAI questions related to References 2 and 4. OPPD's responses to the NRC's RAI questions were provided in Reference 6. Reference 7 transmitted the NRC's second round of RAI questions pertaining to LAR 10-04. OPPD's responses to the NRC's RAI questions transmitted in Reference 7 are provided in Attachment 1.

There are no regulatory commitments made in this letter.

If you should have any questions regarding this submittal, or require additional information, please contact Mr. Bill R. Hansher at 402-533-6894.

I declare under penalty of perjury that the foregoing is true and correct. Executed on June 30, 2011.



Jeffrey A. Reinhart
Site Vice President

JAR/KRW/dll

Attachment: 1. Response to Request for Additional Information

c: E. E. Collins, Jr., NRC Regional Administrator, Region IV
L. E. Wilkins, NRC Project Manager
J. C. Kirkland, NRC Senior Resident Inspector

Reference List

1. Docket No. 50-285
2. Letter from OPPD (J. A. Reinhart) to NRC (Document Control Desk), "License Amendment Request (LAR) 10-04, Proposed Changes to Relocate Operating and Surveillance Requirements for the Power Operated Relief Valve and Safety Valve Position and Tail Pipe Temperature Instrumentation," dated August 16, 2010 (LIC-10-0053) (ML102290067)
3. Letter from NRC (L. Wilkins) to OPPD (D. J. Bannister), "Fort Calhoun Station - Supplemental Information Needed for Acceptance of Requested Licensing Action Re: Amendment Request (TAC No. ME4542)," dated September 17, 2010 (NRC-10-0076) (ML102580129)
4. Letter from OPPD (J. A. Reinhart) to NRC (Document Control Desk), "Supplement to License Amendment Request (LAR) 10-04, Proposed Changes to Relocate Operating and Surveillance Requirements for the Power Operated Relief Valve and Safety Valve Position and Tail Pipe Temperature Instrumentation," dated September 27, 2010 (LIC-10-0085) (ML102720964)
5. Letter from NRC (L. E. Wilkins) to OPPD (D. J. Bannister), "Fort Calhoun Station, Unit 1 - Request for Additional Information Re: License Amendment Request to Relocate Operating and Surveillance Requirements for the Power Operated Relief Valve, Safety Valve Position, and Tailpipe Temperature Instrumentation from the Technical Specifications (TAC No. ME4542)," dated March 7, 2011 (NRC-11-0021) (ML110630179)
6. Letter from OPPD (J. A. Reinhart) to NRC (Document Control Desk), "Response to Request for Additional Information (RAI) Re: License Amendment Request to Relocate Operating and Surveillance Requirements for the Power Operated Relief Valve, Safety Valve Position, and Tail Pipe Temperature Instrumentation from the Technical Specifications," dated April 6, 2011 (LIC-11-0030) (ML110970356)
7. Letter from NRC (L. E. Wilkins) to OPPD (D. J. Bannister), "Fort Calhoun Station, Unit 1 - Request for Additional Information Re: License Amendment Request to Relocate Operating and Surveillance Requirements for the Power Operated Relief Valve, Safety Valve Position, and Tailpipe Temperature Instrumentation from the Technical Specifications (TAC No. ME4542)," dated May 26, 2011 (NRC-11-0058) (ML111430724)

RESPONSE TO
REQUEST FOR ADDITIONAL INFORMATION
LICENSE AMENDMENT REQUEST TO RELOCATE OPERATING AND SURVEILLANCE
REQUIREMENTS FOR THE POWER-OPERATED RELIEF VALVE,
SAFETY VALVE POSITION, AND TAILPIPE TEMPERATURE
INSTRUMENTATION FROM THE TECHNICAL SPECIFICATIONS
OMAHA PUBLIC POWER DISTRICT
FORT CALHOUN STATION, UNIT NO.1
DOCKET NO. 50-285

By letter dated August 16, 2010, as supplemented by letters dated September 27, 2010, and April 6, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML 102290067, ML 102720964, and ML 110970356, respectively), Omaha Public Power District (OPPD, the licensee) requested changes to the Technical Specifications (TSs) for Fort Calhoun Station, Unit 1 (FCS). The proposed changes would relocate operating and surveillance requirements (SRs) for the power-operated relief valve (PORV) position, safety valve position, and tail pipe temperature instrumentation from the FCS TSs to the FCS Updated Safety Analysis Report (USAR). Specifically the proposed changes would revise:

- TS Table 2-5, "Instrumentation Operating Requirements for Other Safety Feature Functions"
- TS Table 3-3, "Minimum Frequencies for Checks, Calibrations and Testing of Miscellaneous Instrumentation and Controls"

TS Table 2-5, Functions 3, 4, and 5, the associated Notes a, b, c, and d, and TS Table 3-3, Functions 23 and 24, would be deleted from the FCS TSs and relocated to the FCS USAR. TS Table 3-3 Function 21 will be revised to be consistent with NUREG-1432, "Standard Technical Specifications, Combustion Engineering Plants," Revision 3.0. Additionally, the TS Table 2-5 associated Note e will be re-lettered as Note a and TS Table 2-5 footnote i to Note c will be deleted.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed and evaluated the information provided by the licensee and determined that the following information is needed in order to complete its evaluation.

1. By letter dated August 16, 2010, the licensee proposed to revise TS Table 3-3 as follows:

Item 21, *PORV Operation and Acoustic Position Indication* is being revised to delete the words "*and Acoustic Position Indication*."

Item 21.a, the frequency is being changed from "M" to "R" to reflect channel functional testing of PORV operation, which is more aligned with NUREG-1432 surveillance requirements.

The licensee also states:

The proposed change also revises SR 3.1, Table 3-3, Item 21 to maintain the existing channel functional test of the PORVs on a refueling frequency, which is aligned with NUREG 1432, *Standard Technical Specifications, Combustion Engineering Plants*, Revision 3 [STS].

Please provide the exact SR number of the STS to which the licensee is referring.

OPPD's Response to RAI #1:

These statements are in reference to NUREG 1432, *Standard Technical Specifications, Combustion Engineering Plants*, Revision 3, published June 2004, Surveillance Requirement (SR) 3.4.11.2, which requires that a complete cycle of each PORV is performed every 18 months.

2. **After the deletion of the words "*and Acoustic Position Indication*," TS Table 3-3, Item 21 will read "PORV Operation." However, SR 3.4.12.6, on page 3.4.12-4 of the STS, states: "Perform CHANNEL FUNCTIONAL TEST on each required PORV, excluding actuation" with a FREQUENCY of 31 days.**

Please explain the discrepancy and justify the proposed revision of the required SR frequency from "M" to "R."

OPPD's Response to RAI #2:

NUREG 1432, Revision 3, (STS), SR 3.4.12.6 refers to the performance of the CHANNEL FUNCTIONAL TEST on each required PORV, excluding actuation, on a frequency of 31 days. NUREG 1432, SR 3.4.12.6 is in relation to the low temperature overpressure protection (LTOP) system. The purpose of this SR, as described in NUREG 1432, Volume 2, Basis pages B 3.4.12-10 and B 3.4.12-11, is to verify the PORV open setpoints. This SR is fulfilled in the FCS TS by Specification 3.1, Table 3-3, Item 18a (CHANNEL FUNCTIONAL TEST (excluding actuation)). As delineated in the original license amendment request (Reference 2), Enclosure page 7, this "FCS TS surveillance requirement [3.1, Table 3-3, Item 18], remains unchanged by this LAR."

Therefore, as stated in response to RAI #1, OPPD's proposed revision to SR 3.1, Table 3-3, Item 21 to maintain the existing CHANNEL FUNCTIONAL TEST of the PORVs on a refueling frequency, is aligned with STS SR 3.4.11.2, which requires that a complete cycle of each PORV is performed every 18 months.

3. By letter dated August 16, 2010, the licensee proposed to relocate the TS for maintaining and testing the acoustic monitors and the tail pipe temperatures.

Please provide the NRC staff with the proposed wording in the USAR or Technical Requirements Manual that will supplant the revised TS. Also, please describe the plan for identifying what channels will be required, how frequently they are to be tested, and what specific functionality is to be demonstrated by the proposed functional tests. In addition, provide the NRC staff with a description of how the proposed functional testing is to be conducted for each piece of equipment being functionally tested.

OPPD's Response to RAI #3:

The requirements for the testing of both the PORV/PSV acoustic monitors and tail pipe temperature instruments will remain the same as they are currently described in the FCS TS. The existing surveillance tests will be converted to calibration procedures and executed via the Preventive Maintenance Program.

The following is the proposed wording to be included in the FCS Updated Safety Analysis Report (USAR) as part of implementation of the LAR:

4.3.9.4 Power Operated Relief Valves (PORV)

The operability and surveillance requirements for the PORV acoustic monitors and tail pipe temperature instrumentation were relocated from the Technical Specifications to the USAR in accordance with Technical Specification Amendment No. [XXX]. The requirements listed in Table 4.3-11b and Table 4.3-11c document the minimum requirements to ensure functional valve position indication is available when required.

In the event the number of channels in Table 4.3-11b falls below the limits given in the column entitled "Minimum Functional Channels," the reactor shall be placed in a hot shutdown condition within 12 hours. If minimum conditions are not met within 24 hours from time of discovering loss of functionality, the reactor shall be placed in a cold shutdown condition within the following 24 hours.

Table 4.3-11b – PORV Position Indication Functional Limits

Instrument	Minimum Functional Channels
1. Acoustic Position Indication - Direct	1 ^{(a)(c)}
2. Tail Pipe Temperature	1 ^{(b)(d)}

- a) One channel per valve.
- b) One RTD for both PORVs.
- c) If item 2 is functional, requirements are modified for item 1 to "Restore nonfunctional channels to functional status within 7 days or be in hot shutdown within 12 hours."
- d) If item 1 is functional, requirements are modified for item 2 to "Restore nonfunctional channels to functional status within 7 days or be in hot shutdown within 12 hours."

Table 4.3-11c – PORV Position Indication Functional Testing Requirements

<u>Channel</u>	<u>Function</u>	<u>Frequency</u>	<u>Method</u>
Acoustic Position Indication – Direct	Test	Monthly	Channel Functional Test
	Calibrate	Refueling	Channel Calibration
Tail Pipe Temperature	Check	Monthly	Channel Check
	Calibrate	Refueling	Channel Calibration

4.3.10 Pressurizer Safety Valves

The operability and surveillance requirements for the Pressurizer Safety Valves acoustic monitors and tail pipe temperature instrumentation were relocated from the Technical Specifications to the USAR in accordance with Technical Specification Amendment No. [XXX]. The requirements listed in Table 4.3-12a and Table 4.3-12b document the minimum requirements to ensure functional valve position indication is available when required.

In the event the number of channels in Table 4.3-12a falls below the limits given in the column entitled "Minimum Functional Channels," the reactor shall be placed in a hot shutdown condition within 12 hours. If minimum conditions are not met within 24 hours from time of discovering loss of functionality, the reactor shall be placed in a cold shutdown condition within the following 24 hours.

Table 4.3-12a – Pressurizer Safety Valve Position Indication Functional Limits

Instrument	Minimum Functional Channels
1. Acoustic Position Indication	1 ^{(a)(c)}
2. Tail Pipe Temperature	1 ^{(b)(d)}

- a) One channel per valve.
- b) Two RTDs, one for each code safety.
- c) If item 2 is functional, requirements are modified for item 1 to "Restore nonfunctional channels to functional status within 7 days or be in hot shutdown within 12 hours."
- d) If item 1 is functional, requirements are modified for item 2 to "Restore nonfunctional channels to functional status within 7 days or be in hot shutdown within 12 hours."

Table 4.3-12b – Pressurizer Safety Valve Position Indication Functional Testing Requirements

<u>Channel</u>	<u>Function</u>	<u>Frequency</u>	<u>Method</u>
Acoustic Position Indication	Test	Monthly	Channel Functional Test
	Calibrate	Refueling	Channel Calibration
Tail Pipe Temperature	Check	Monthly	Channel Check
	Calibrate	Refueling	Channel Calibration

4. Please describe how the requirements for establishing limiting conditions for operation as described in paragraph 50.36(c)(2)(ii)(A) of Title 10 of the *Code of Federal Regulations* (10 CFR) Criterion 1 is still satisfied with respect to the detection of significant degradation of the reactor coolant pressure boundary associated with pressurizer steam leakage, after the proposed amendment goes into effect. In addition, please list the equipment and qualifications (e.g., EQ, seismic, power supply, etc.) that will fulfill this function.

OPPD Response to RAI #4:

10 CFR 50.36(c)(2)(ii) states, in part, that "A technical specification limiting condition for operation [LCO] of a nuclear reactor must be established for each item meeting one or more of the following criteria:

- (A) Criterion 1 - Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary...

The reactor coolant system pressure boundary leakage limits are addressed in TS LCO 2.1.4. Although the PORV/PSV instruments provide indication of possible RCS leakage, they are not used to implement TS 2.1.4. Additionally, in OPPD's response to RG 1.97, Revision 2 (Reference 6.9 of Reference 2), OPPD committed several instrument loops to fulfill monitoring of the reactor coolant pressure boundary. Those instruments and their associated qualifications are as follows:

- RCS Pressure
 - PT-105/115, *Pressurizer RC-4 Wide Range Pressure Transmitter*
 - Class 1E Power Supply
 - Seismic 1
 - EQ
 - Technical Specifications Section 3.1, Table 3-3, Item 16

- Containment Pressure
 - PT-783/784, *Containment Pressure Wide Range Pressure Transmitter*
 - Class 1E Power Supply
 - Seismic 1
 - EQ
 - Technical Specifications Section 3.1, Table 3-3, Item 28

- Containment Sump Water Level
 - LT-387A/B/C/D, *Level Transmitter [Containment/Sump Access Level]*
 - LT-388A/B/C/D, *Level Transmitter [Containment/Sump Access Level]*
 - Class 1E Power Supply
 - Seismic 1
 - EQ
 - Technical Specifications Section 3.1, Table 3-3, Item 27