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Washington, DC 20555

H.B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261/RENEWED LICENSE NO. DPR-23

**Subject: Response to NRC Request for Additional Information Regarding License  
Amendment Request to Modify Technical Specification (TS) 3.4.12, Low  
Temperature Overpressure Protection (LTOP) System**

**References:**

1. NRC Electronic Mail, Requests for Additional Information (RAIs) for License Amendment Request to Modify TS 3.4.12, Low Temperature Overpressure Protection System; dated March 10, 2014, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14069A387).
2. License Amendment Request to Modify Technical Specification (TS) 3.4.12, Low Temperature Overpressure Protection (LTOP) System, dated September 10, 2013 (ADAMS Accession No. ML13262A008).

Ladies and Gentlemen:

By letter (Reference 2) to the U. S. Nuclear Regulatory Commission (NRC) dated September 10, 2013, (ADAMS Accession No. ML13262A008), Duke Energy submitted a license amendment request (LAR) for H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2. The proposed LAR would modify Technical Specification (TS) Surveillance Requirement 3.4.12.6 of TS 3.4.12, Low Temperature Overpressure Protection (LTOP) System with a Note that does not require that the surveillance be performed until 12 hours after decreasing the reactor coolant system cold leg temperature to less than or equal to 350°F, which is the temperature when LTOP operability controlled by TS 3.4.12 is credited. In addition, the FREQUENCY requirement is modified to simply 31 days.

By electronic mail transmission dated March 10, 2014, (ADAMS Accession No. 14069A387) (Reference 1) the NRC staff requested additional information needed to continue its review of the proposed license amendment.

Duke Energy's response to the request for additional information is provided in the enclosure to this letter.

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This letter contains no new Regulatory Commitments and no revision to existing Regulatory Commitments.

Should you have any questions regarding this submittal, please contact Mr. Richard Hightower, Manager, Nuclear Regulatory Affairs at (843) 857-1329.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on April 8, 2014.

Sincerely,



W. R. Gideon  
Site Vice President

WRG/jmw

Enclosure: H. B. Robinson Steam Electric Plant, Unit No. 2 Response to the NRC Request for Additional Information (RAI) Regarding License Amendment Request to Modify TS 3.4.12, Low Temperature Overpressure Protection System

cc: Mr. K. M. Ellis, NRC Senior Resident Inspector  
Mr. S. P. Lingam, NRC Project Manager, NRR  
Mr. V. M. McCree, NRC Region II Administrator

**Enclosure**

**H. B. Robinson Steam Electric Plant, Unit No. 2**

**Response to the NRC Request for Additional Information (RAI)**

**Regarding License Amendment Request to Modify TS 3.4.12, Low Temperature  
Overpressure Protection System**

**NRC REQUEST FOR ADDITIONAL INFORMATION (RAI)**

By letter dated September 10, 2013, Duke Energy Progress, Inc., the licensee, submitted a license amendment request (LAR). The proposed amendment would modify Technical Specification (TS) Surveillance Requirement (SR) 3.4.12.6 of TS 3.4.12, Low Temperature Overpressure Protection (LTOP) System, with a Note that does not require that the surveillance be performed until 12 hours after decreasing the reactor coolant system (RCS) cold leg temperature to less than or equal to 350 °F. In addition, the FREQUENCY requirement would be modified to simply 31 days.

Based on the its review of the amendment request, the Nuclear Regulatory Commission (NRC) staff has determined that additional information is required regarding the Note to TS SR 3.4.12.6 and FREQUENCY modifications.

**SRXB – RAI 1**

Please provide justification for adoption of NUREG-1431, Revision 3, "Standard Technical Specifications Westinghouse Plants," for TS SR 3.4.12.6 of TS 3.4.12, LTOP System. Please also provide a safety basis for the modification. This basis may include procedural controls, operator training, and related considerations. The basis may also include similar considerations that show that the consequences of such a simultaneous actuation are reasonably mitigated.

**SRXB – RAI 2**

In the LAR, it is stated that there is a low probability for a low temperature overpressure event within this limited time period. The NRC staff notes that the LTOP will be armed for up to 12 hours in MODE 4, without a surveillance requirement verifying the operability of the power-operated relief valves (PORVs) instrumentation. Please provide additional detail about the low probability of a low temperature overpressure event occurrences by describing plant operational experience with LTOP events. How many LTOP events have occurred, and if any have occurred, have they occurred within 12 hours of entry into MODE 4?

**SRXB – RAI 3**

TS SR 3.4.12.6 is for the channel operational test to verify the PORV lift setpoint is within the maximum limits in the LTOP analyses and, as necessary, adjust the lift setpoint. Please provide any missed or failed surveillances related to TS SR 3.4.12.6.

**Duke Energy Response to SRXB - RAI 1:**

Surveillance Requirement (SR) 3.4.12.8 of the ISTS includes a Note that allows the completion of the performance of the Channel Operational Test (COT) for each required PORV to be delayed until 12 hours after entering into the applicable MODE in which the PORVs are required to provide Low Temperature Overpressure Protection (LTOP). The purpose of this Note is to provide time to establish the conditions necessary to perform the SR since at some plants the required COT cannot be performed until the plant is in the LTOP MODES.

HBRSEP Unit No. 2 Improved Technical Specifications (ITS) 3.4.12 is modified to delete this Note because the design of the LTOP System at HBRSEP Unit No. 2 is such that this SR can be performed prior to entering the LTOP MODES. However, it has been observed that although the SR can be performed prior to entering the LTOP MODES, in a TS-related rapid shutdown situation this requirement could unnecessarily delay transition from MODE 3 to MODE 4 due to the limited time frame creating inadequate resources for completion of the SR. To the end of reducing the possibility of such a delay during a TS-related rapid shutdown situation, HBRSEP Unit No. 2 desires to perform this SR subsequent to the plant entering the LTOP MODES.

The safety basis for the change to SR 3.4.12.8 consists of performing a COT of TS SR 3.4.12.6 via Maintenance Surveillance Test (MST)-007 within 12 hours after decreasing RCS temperature to  $\leq 350^{\circ}\text{F}$  (LTOP arming temperature) and every 31 days on each required PORV to verify and, as necessary, adjust its lift setpoint. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable COT of a relay. This is acceptable because all of the other required contacts of the relay are verified by other TS and non-TS tests at least once per refueling interval with applicable extensions. The COT will verify the setpoint is within the Pressure Temperature Limit Report (PTLR) allowed maximum limits in the PTLR. For HBRSEP, Unit No. 2, CHANNEL CALIBRATION per TS SR 3.4.12.7 in Loop Calibration Procedure (LP)-039, LP-004, Process Instrument Calibration Procedure (PIC)-006 and Engineering Surveillance Test (EST)-052 are performed at 18-month intervals and are in frequency during refueling outages.

**Duke Energy Response to SRXB - RAI 2:**

The following four (4) LTOP events have occurred at HBRSEP2.

- On November 2, 1993, PZR Power Operated Relief Valve PCV-456 actuated twice to relieve pressure when a Reactor Coolant Pump was started and Low Pressure Letdown Pressure Control Valve PCV-145 did not respond as expected to the pressure transient. Adverse Condition Report (ACR) 93-254). This event occurred coming out of an outage, not within 12 hours of entry into MODE 4. (RNP/94-0449)
- On March 30, 1987, PCV-456 opened to relieve a Reactor Cool pressure transient caused by a malfunction of the "B" charging pump. (RNP/88-0620)(RNP/87-1670) This event did not occur within 12 hours of entry into MODE 4.

- On October 16, 1989, PCV-456 opened to relieve a RCS pressure transient when RHR-759B was closed. Closure of RHR HX "B" Discharge valve RHR-759B isolated the RHR letdown line and PCV-145. (RNP/89-3661)(RNP/90-0683) This event did not occur within 12 hours of entry into MODE 4.

**Duke Energy Response to SRXB – RAI 2:**

Maintenance Surveillance Test, MST-007 performs SR 3.4.12.6. A current and historical Corrective Action Program (CAP) search was performed for Nuclear Condition Reports (NCRs) written on missed or failed surveillance tests; no such NCRs were revealed.