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United States Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

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

TECHNICAL SPECIFICATIONS (TS) SECTION 5.6.6, POST ACCIDENT MONITORING (PAM) INSTRUMENTATION REPORT, 14-DAY REPORT FOR THE INOPERABILITY OF PRESSURIZER POWER OPERATED RELIEF VALVES POSITION INDICATION

Ladies and Gentlemen:

Duke Energy Progress, Inc. hereby submits a report in accordance with H. B. Robinson Steam Electric Plant, Unit No. 2, Technical Specifications (TS) Section 3.3.3, Post Accident Monitoring Instrumentation, and TS 5.6.6, Post Accident Monitoring Instrumentation Report.

The report, which is provided as an attachment to this letter, is based on the inoperability of the Pressurizer Power Operated Relief Valves (PORVs) Position Indication.

The Pressurizer PORVs position indication will be post maintenance tested and returned to operable status prior to restart from the next refueling outage, which is currently scheduled to begin on May, 12, 2015, or during the first outage of sufficient duration.

If you should have any questions concerning this matter, please contact Richard Hightower, Manager – Nuclear Regulatory Affairs at (843) 857-1329.

Sincerely,

Sharon W. Peavyhouse

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Director – Nuclear Organization Effectiveness

Attachment

SWP/msc

cc: Mr. V. M. McCree, NRC, Region II
Ms. Martha Barillas, NRC, NRC Project Manager, NRR
NRC Resident Inspector

A001
NRR

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
TECHNICAL SPECIFICATIONS SECTION 5.6.6
POST ACCIDENT MONITORING INSTRUMENTATION 14-DAY
PRESSURIZER POWER OPERATED RELIEF VALVES POSITION INDICATION

Event Description

On March 18, 2015, Condition Report (CR) 738953 was written to determine if the Pressurizer Power Operated Relief Valve (PORV) limit switches met the Environmental Qualification (EQ) qualified life requirements as specified in Equipment Qualification Data Packages (EQDP)-2200. The EQDPs are the engineering technical documents that demonstrate that a component is qualified to perform its intended design function during a Design Basis Accident. The engineering analysis in these documents consider the normal conditions when determining the qualified life of an electrical component. These documents demonstrate (in part) H. B. Robinson Steam Electric Plant, Unit No. 2's compliance with the requirements of 10CFR50.49.

The background for the identified concern is that during the EQDP revision process for Engineering Change (EC) 80767 it was found that the Qualified Life required by 10CFR50.49 and Regulatory Guide 1.97 for the NAMCO limit switches was incorrect in EQDP-2200.

The actions for Technical Specifications (TS) Section 3.3.3, Post Accident Monitoring (PAM) Instrumentation, Table 3.3.3-1, Function 22, requires an inoperable PORV Position (Primary) channel to be restored to OPERABLE status within 7 days. If this indication is not restored within 7 days, a report in accordance with TS 5.6.6 is required within the following 14 days. TS 5.6.6 states that the report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the channel to operable status.

Preplanned Alternate Method of Monitoring

Based on the above evaluation, it is recommended by Engineering that the Pressurizer PORV limit switches be considered operable in all modes of operation except for mitigating a Design Basis Accident.

Standing Instruction 15-005, effective March 20, 2015 for Pressurizer PORV limit switches, outlines the alternate method of monitoring Pressurizer PORV position until they are returned to service:

Continuous monitoring capability:

- Pressurizer PORV Relief Line temperature annunciator and indication available on the Reactor Turbine Gauge Board (RTGB) as well as the Emergency Response Facility Information System (ERFIS)
- Pressurizer Relief Tank Level, Pressure and Temperature annunciators on the RTGB as well as the ERFIS data trends
- Pressurizer Level is available on the RTGB as well as the ERFIS

Event Based Monitoring Capability (Post Accident Monitoring):

- Pressurizer PORV Relief Line temperature
- Pressurizer Relief Tank Level, Pressure and Temperature
- Pressurizer Level

These indications are available to the operators directly on the RTGB and on the plant computer, thus are readily available to trend should they be required by an event. Annunciators are also available to alert the Control Room to changes in position of the Pressurizer PORVs. Should any of these indications fail, a work order will be initiated and performed on an emergent basis to ensure that the back-up methods for monitoring remain in place.

The TS Bases for TS 3.3.3, as it pertains to the Pressurizer PORV Limit Switches, states:

> "Each PORV is equipped with two stem mounted limit switches, which are seismically qualified and powered from an emergency power source, to provide the direct (primary) means of valve position indication, from fully closed to fully open."

As stated in the TS Bases for TS 3.3.3, the Pressurizer PORV Limit Switches provide a verification indication. This monitoring capability does not directly impact safety systems or the ability to mitigate the consequences of an accident.

Cause of the Inoperability

Draft and verified EQ Qualified Life calculations were completed on March 19, 2015 and showed the NAMCO Limit Switches are not currently qualified for their monitoring function during and following a Design Basis Accident. This calculation utilized more recent temperature data in determining the normal temperature conditions for the Pressurizer Cubicle. This data was derived from the plant computer and more accurately depicts the temperature environment in the Pressurizer Cubicle than was previously considered in the EQDP.

Based on the draft EQ Qualified Life analysis using the data derived from the plant computer, the subject Pressurizer PORV limit switches were determined to be qualified for a period of approximately 6 years. Current maintenance records indicate these switches were last replaced in 2002. The results are that the subject limit switches may not be capable of performing their intended design function during a Design Basis Accident.

Based on the draft EQ Qualified Life calculations discussed above, these switches could provide faulty or incorrect indications in the control room during a Design Basis Accident while performing their post-accident indicating function. It should be noted that this does not affect the day-to-day functionality of these limit switches, only their post-accident function.

Plans and Schedule for Restoring the Channel

The Pressurizer PORV limit switches are in the Pressurizer cubicle inside of the containment vessel. As a result, the environmental conditions are not suitable for online maintenance due to the local ambient temperature and radiation levels. Therefore, the Pressurizer PORV limit switches will be repaired and tested prior to restart from the next refueling outage, which is currently scheduled to begin on May 12, 2015, or during the first outage of sufficient duration.