September 02, 2014

ULNRC-06139

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

Ladies and Gentlemen:

DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
UNION ELECTRIC CO.
FACILITY OPERATING LICENSE NPF-30
SPECIAL REPORT 2014-01 – PAM REPORT
INOPERABILITY OF A POST ACCIDENT
MONITORING (PAM) INSTRUMENT

Enclosed Special Report 2014-01 (PAM Report) addresses inoperability of the Reactor Vessel Level Indicating System (RVLIS). Since the period of inoperability for the Reactor Vessel Level Indicating System (RVLIS) has exceeded the Completion Times specified within Technical Specification (TS) 3.3.3 Condition A and Condition C, TS 3.3.3 Condition B and Condition F require submittal of a report in accordance with TS 5.6.8, "PAM Report."

No new commitments are identified in this correspondence. None of the material in this report is considered proprietary by Union Electric.

If you have any questions or require additional information, please contact Mr. Thomas Elwood, Supervising Engineer, Regulatory Affairs and Licensing at 314-225-1905.

Sincerely,

Barry L. Cox
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CSP
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Special Report 2014-01

PAM Report

Requirement

Callaway Plant Unit 1 Technical Specification (TS) 3.3.3, "Post Accident Monitoring (PAM) Instrumentation," contains requirements for the Reactor Vessel Level Indicating System (RVLIS) instrumentation. TS 3.3.3 Limiting Condition For Operation (LCO) requires two channels of RVLIS instrumentation to be Operable while in MODES 1, 2, and 3. With one of the required RVLIS instruments inoperable for more than 30 days, Required Action B.1 specifies, "Initiate action in accordance with Specification 5.6.8." With two of the required RVLIS instruments inoperable for more than 7 days, Required Action F.1 also specifies, "Initiate action in accordance with Specification 5.6.8."

TS 5.6.8, "PAM Report," states: "When a report is required by Condition B or F of LCO 3.3.3, "Post Accident Monitoring (PAM) Instrumentation," a report shall be submitted within the following 14 days. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status."

Background:

The Reactor Vessel Level Indicating System (RVLIS) provides an indication of reactor vessel level from the bottom of the reactor vessel to the top of the reactor under natural (narrow range) and forced (wide range) circulation conditions. In addition to the two differential pressure transmitters that support this function, resistance temperature detectors (RTDs) are provided on the sensing lines to these transmitters to allow for density compensation of the fluid within the sensing lines. This system solely supports the Post Accident Monitoring functions required by Technical Specification 3.3.3 Function 5.

Summary of the PAM Instrument Inoperability

On August 7, 2014, B Train RVLIS was declared inoperable due to intermittent spiking within the narrow range (static) level indication. This loop was restored to service on August 18, 2014 following replacement of the power supply card for this instrument loop.

On August 19, 2014, A Train RVLIS was declared inoperable due to a failed RTD input to the narrow range (static) and wide range (dynamic) level indications. From a review of the plant computer archives, evidence exists that this input had been experiencing performance concerns back to July 3, 2014.

On August 26, 2014, B Train RVLIS was again declared inoperable due to intermittent spiking within the narrow range level indication. Additional reviews of the plant computer archives determined that intermittent spiking concerns in this instrument loop appear to have been present dating back to April 2014.

Preplanned Alternate Method of Monitoring

An alternate means of monitoring, as described in TS Bases 3.3.3 Required Action F.1, is monitoring the core exit thermocouples, pressurizer level indication, and Reactor Coolant System subcooling monitor indication. These three parameters provide diverse information for verifying adequate core cooling.

Cause of the Inoperability

Further troubleshooting has determined that the cause of the intermittent spiking within the B Train level indications is attributed to a concern with the narrow range level transmitter. The cause of the A Train failure is still under evaluation.

Plans and Schedule for Restoring the Instrumentation Channel to OPERABLE status

Plans for replacing the B Train narrow range level transmitter are under development, with a forecast completion date not yet established.

Plans have not been developed for restoring the A Train level indications to service since the cause of this failed RTD input has not yet been determined.