

WOLF CREEK

NUCLEAR OPERATING CORPORATION

Stephen L. Smith
Plant Manager

December 15, 2014

WO 14-0092

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Subject: Technical Specification 5.6.8 – Post Accident Monitoring (PAM) Report

Gentlemen:

The Attachment provides the PAM Report for the inoperability of the Reactor Coolant System (RCS) Hot Leg Temperature (Wide Range) Function for greater than 30 days. Wolf Creek Generating Station Technical Specification (TS) 5.6.8, "PAM Report," requires the submittal of the report within 14 days after entry into Condition B of TS 3.3.3, "Post Accident Monitoring (PAM) Instrumentation." Condition B of TS 3.3.3 was entered on December 2, 2014. This condition was entered due to a RCS hot leg wide range temperature channel (Table 3.3.3.-1, Function 2) being inoperable.

This letter contains no commitments. If you have any questions concerning this matter, please contact me at (620) 364-4093, or Mr. Steven R. Koenig at (620) 364-4041.

Sincerely,



Stephen L. Smith

SLS/rit

Attachment

cc: M. L. Dapas (NRC), w/a
C. F. Lyon (NRC), w/a
N. F. O'Keefe (NRC), w/a
Senior Resident Inspector (NRC), w/a

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Technical Specification 5.6.8 - Post Accident Monitoring (PAM) Report

Background

On November 2, 2014, Control Room operators observed the loop 2 Reactor Coolant System (RCS) hot leg wide range temperature indication (BB TI-423A) failing high. At 1427 hours Central Standard Time (CST), Technical Specification (TS) 3.3.3, "Post Accident Monitoring (PAM) Instrumentation," Condition A was entered when the RCS hot leg wide range temperature indication was determined to be inoperable. TS Table 3.3.3-1, Function 2, "Reactor Coolant System (RCS) Hot Leg Temperature (Wide Range)," requires 2 channels be OPERABLE. Required Action A.1 of TS 3.3.3 requires restoring the required channel to OPERABLE status within 30 days. On December 2, 2014, TS 3.3.3 Condition B was entered when the Required Action and associated Completion Time of Condition A was not met. Required Action B.1 requires initiation of action in accordance with TS 5.6.8, "Pam Report," and requires that a report be submitted within 14 days after entry into Condition B.

The RCS hot leg wide range temperature is a Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," Type A, Category 1 variable provided for verification of core cooling and long term surveillance. RCS hot leg wide range temperature provides input to the core subcooling monitor or may be used to manually determine RCS subcooling margin. Each of the four hot legs has one wide range, thermowell-mounted resistance temperature detector (RTD). These are separate from the narrow range RTDs providing input to the Reactor Protection System. The wide range channels provide indication over a range of 0 °F to 700 °F. RCS loops 1 and 2 have hot leg wide range Class 1E temperature indications in the Control Room.

Preplanned Alternate Method of Monitoring

The loop 2 RCS hot leg wide range temperature indication (BB TI-423A) is functioning at this time and providing valid data. Although functioning, this channel will not be declared OPERABLE until repairs are made and retests completed that confirm the condition that caused the initial erratic indication is corrected. The loop 1 RCS hot leg wide range temperature indication (BB TI-413A) has remained OPERABLE. Additional PAM instrumentation that provides for verification of core cooling and long term surveillance include RCS cold leg wide range temperature (Function 3), RCS wide range pressure (Function 4), reactor vessel water level indication (Function 5), and core exit temperature (Functions 14, 15, 16, and 17).

Cause of Inoperability

A review of data identified that on November 2, 2014, at approximately 1145 CST, the loop 2 RCS hot leg wide range temperature indication started to slowly increase, starting at 622 °F and peaking at 627 °F at 1500 CST. Temperature remained at 627 °F for approximately one hour and then slowly decreased and stabilized at 618 °F at approximately 0300 CST on November 3, 2014. Troubleshooting activities initiated on November 5, 2014 included checking the interior and exterior containment penetration cable connections. On November 26, 2014, procedure STS IC-530D, "Channel Calibration Wide Range Temperature and Wide Range Pressure Instrumentation Protection Set One," was utilized to perform a channel calibration of the resistance to voltage card. The troubleshooting activities did not find a definitive cause for the erratic indication. The most likely cause for the erratic indication was determined to be a cable connection at the loop 2 RCS hot leg wide range temperature RTD (BB TE-423A).

Plans and Schedule for Restoring the Instrumentation Channel of the Function to Operable Status

As the loop 2 RCS hot leg wide range temperature RTD (BB TE-423A) is inside the secondary shield wall, replacement of the RTD at power cannot be performed due to radiological conditions in this area that prohibit access by plant personnel. Replacement of the RTD is planned for Refueling Outage 20 (Spring 2015) unless the RTD is replaced during a forced outage prior to the refueling outage.