

WOLF CREEK

NUCLEAR OPERATING CORPORATION

Britt T. McKinney
Site Vice President

APR 15 2003

WO 03-0024

U. S. Nuclear Regulatory Commission
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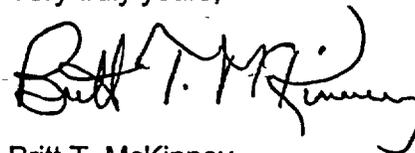
Subject: Docket No. 50-482: Special Report 2003-001

Gentlemen:

Special Report 2003-001, related to the unavailability of Post Accident Monitoring (PAM) equipment, is being submitted in accordance with Wolf Creek Generating Station Technical Specification 5.6.8, "PAM Report." This report contains information regarding the inoperability of both "A" and "B" trains of Reactor Vessel Level Indicating System (RVLIS) for greater than seven days. Attachment I provides the Special Report. Attachment II lists Wolf Creek Nuclear Operating Corporation's commitments contained in this letter.

If you have any questions concerning this matter, please contact me at (620) 364-4112, or Mr. Tony Harris at (620) 364-4038.

Very truly yours,



Britt T. McKinney

BTM/rlg

Attachment I: Special Report 2003-001
Attachment II: List of Commitments

cc:

J. N. Donohew (NRC), w/a
D. N. Graves (NRC), w/a
E.W. Merschoff (NRC), w/a
Senior Resident Inspector (NRC), w/a

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Special Report
2003-001

Background Information

The Reactor Vessel Level Indicating System (RVLIS) is used to assist in detecting the presence of a gas bubble or void in the reactor vessel, to assist in detecting the approach to inadequate core cooling, and to provide indication of the formation of a void in the reactor coolant system during forced flow conditions.

There are two trains of RVLIS, each utilizing two differential pressure transmitters: Narrow Range and Wide Range that measure the pressure drop from the bottom of the reactor vessel to the top. This measurement provides an indication of the reactor vessel water level or relative void content of the fluid surrounding the core. Each RVLIS train includes narrow and wide range measurements to cover different flow behaviors, ranging from no reactor coolant pump operation to any combination of reactor coolant pumps running.

The outputs from the transmitters are density compensated and displayed on four reactor vessel water level indicators in the Main Control Room. The four level indicators are divided into two separate channels, each containing both Narrow Range and Wide Range indications. For the purposes of Technical Specification 3.3.3, a channel is considered a train.

The Limiting Condition for Operation (LCO) for Technical Specification (T.S.) 3.3.3, "Post Accident Monitoring (PAM) Instrumentation," requires two channels of reactor vessel water level indication (i.e., RVLIS) to be OPERABLE in MODES 1, 2, and 3. Required Action C.1 requires restoring all but one channel to OPERABLE status in 7 days with two or more required channels inoperable. Condition E of TS 3.3.3 applies when the Required Action and associated Completion Time of Condition C is not met. Required Action E.1 requires entering Condition G and following the directions of Specification 5.6.8, "PAM Report." Specification 5.6.8 requires a report be submitted outlining the preplanned alternate method for monitoring, the cause of the inoperability, and the plans and schedule for restoring the RVLIS channels to OPERABLE status.

Description of Event:

Both "A" and "B" trains of RVLIS in the Main Control Room are pegged high (>120%), which is consistent with the plant computer point indication of 122.8%. Based upon discussion with vendor representatives and industry peers, WCGS engineering has concluded that this reading is approximately 12% higher than should be expected. Our investigation concluded that, contrary to vendor recommendations, the channels were not adjusted when operating with Reactor Coolant System (RCS) full flow, at normal operating temperature and pressure, following the normal instrument calibrations that are performed during cold shutdown conditions. Therefore, it was concluded that the RVLIS does not provide accurate indication.

WCGS declared both "A" and "B" trains of RVLIS INOPERABLE on March 25, 2003 at 10:00 AM (CST), and entered Condition C of LCO 3.3.3. Investigation into the root cause of this condition, and the development of necessary corrective actions, is currently in progress.

Preplanned Alternate Methods Of Monitoring RCS parameters:

Alternate means of monitoring reactor vessel level are available to operators in the Main Control Room while RVLIS is not OPERABLE:

1. Core exit thermocouples indications: Instruments are located in the Main Control Room on panel RP81A/B and through monitoring of the Nuclear Plant Information System (NPIS) computer display.
2. Pressurizer level indication: Main Control Room indicators BBLI0459A, BBLI0460A and BBLI0461.
3. Reactor Coolant System Subcooling Monitor: Indicators BBT11390A and BBT11390B are located in the Main Control Room. In the event the subcooling monitor is not available, this information may be obtained using steam tables available in the Main Control Room along with Wide Range Resistance Temperature instruments or the core thermocouples.

While RVLIS indication is used in a limited way in WCGS Emergency Operating Procedures, guidance is provided in these procedures to direct operators to use the above alternate instrumentation should RVLIS be unavailable. Such guidance is provided in the following procedures:

Critical Safety Function Status Trees	EMG F-0
Response To Degraded Core Cooling	EMG FR-C2
Response To Saturated Core Conditions	EMG FR-C3
Response To Inadequate Core Cooling	EMG FR-C1
Natural Circulation Cooldown With Steam Void In Vessel (Without RVLIS)	EMG ES-05

Cause of inoperability:

Both "A" and "B" trains of RVLIS were determined to be INOPERABLE due to the variances between the levels indicated on the Main Control Room panels, level information provided by the plant process computer, and values determined from voltage readings within the level indication transmitter that feeds into the indicator circuitry. While the investigation into the root cause for these inconsistencies is currently in progress, preliminary analysis indicates these variances were caused by calibration procedures that lack correct instrument scaling information.

Plans and schedule for restoring the instrumentation channels of the function to operable status.

RVLIS transmitters are located outside containment in the Auxiliary Building. The sensing bellows that must be filled and vented during calibration of these instrument channels are located inside the Containment bioshield, close to the reactor vessel head. Therefore, calibrations are only done during shutdown periods. As such, the following actions will be taken during the next refueling outage, scheduled to begin in October 2003:

WCGS will perform troubleshooting and the necessary repair and testing of transmitter instruments associated with RVLIS.

RVLIS calibration practices will be revised to include adjustments of these instruments at appropriate plant conditions such that RVLIS remains reliable after power ascension. Subsequent to the above changes, WCGS will perform adjustments of the RVLIS instruments at the proper power, pressure, temperature, and RCS full flow conditions.

LIST OF COMMITMENTS

The following table identifies those actions committed to by Wolf Creek Nuclear Operating Corporation (WCNOC) in this document. Any other statements in this submittal are provided for information purposes and are not considered to be commitments. Please direct questions regarding these commitments to Mr. Tony Harris, WCNOC Manager Regulatory Affairs, at (620) 364-4038.

COMMITMENT	Due Date/Event
WCGS will perform troubleshooting and the necessary repair and testing of transmitter instruments associated with RVLIS.	During the next refueling outage, scheduled to begin in October 2003:
RVLIS calibration practices will be revised to include adjustments of these instruments at appropriate plant conditions such that RVLIS indication remains reliable after power ascension.	During the next refueling outage, scheduled to begin in October 2003