

# WOLF CREEK

NUCLEAR OPERATING CORPORATION

Clay C. Warren  
Vice President and Chief Operating Officer

SEP 23 1998

WO 98-0088

U. S. Nuclear Regulatory Commission  
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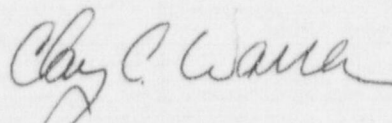
Subject: Docket No. 50-482: Special Report 98-003

Gentlemen:

Special Report 98-003 is being submitted in accordance with Wolf Creek Generating Station Technical Specification 3.3.3.6, Action Statement "A", regarding inoperability of the "B" train Reactor Vessel Level Indicating System (RVLIS) for greater than thirty days. Attachment I provides the Special Report. Attachment II lists WCNOC's commitments contained in this letter.

If you should have any questions regarding this report, please contact me at (316) 364-8831, extension 4485, or Mr. Michael J. Angus at extension 4077.

Very truly yours,

  
Clay C. Warren

CCW/rlr

Attachment I: Special Report 98-003  
Attachment II: List of Commitments

cc: W. D. Johnson (NRC), w/a  
E. W. Merschoff (NRC), w/a  
B. A. Smalldridge (NRC), w/a  
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## Special Report 98-003

### Background Information

The Reactor Vessel Level Indicating System (RVLIS) uses differential pressure measuring devices to measure reactor vessel level or relative void content of the circulating primary coolant system fluid. The RVLIS is used to assist in detecting the presence of a gas bubble or void in the reactor vessel, 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.

The RVLIS utilizes two trains of differential pressure cells 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. Resistance temperature detectors (RTDs) associated with the RVLIS are utilized to obtain a temperature measurement for fluid filled instrument lines inside containment during normal and post accident operation. This temperature measurement is used to correct the vessel level indication for fluid density changes associated with environmental temperature changes. RVLIS output indication is monitored in the main control room.

Wolf Creek Generating Station Technical Specification 3.3.3.6, Action Statement "A," allows 30 days to restore an inoperable RVLIS channel to operable status. The action statement also requires that a special report be submitted to the NRC within 14 days if the inoperable channel is not restored to operable status within the 30 days. The special report must outline the pre-planned alternate method of monitoring, provide the cause of the inoperability and the plans and schedule for restoring the channels to operable status.

### Description of Event:

On August 14, 1998, at 12:07 AM (CST), Wolf Creek Generating Station entered Technical Specification 3.3.3.6, Action Statement "A," due to the inoperability of the RVLIS "B" train. The computer point for the ambient air temperature output RTD (BBT1328) provided data that was 40 degrees Fahrenheit less than the reading of its "A" train equivalent. Since the subject RTD output temperature indication was providing undependable data, it could not be relied upon to perform its function of providing temperature compensation for the bottom of the vessel pressure input to RVLIS. In its current condition, the RTD would provide an indicated reactor vessel level that would be higher than the actual level. This condition is non-conservative for a loss of coolant accident (LOCA) event; therefore, the RVLIS "B" train was declared inoperable.

Work Request #98-011278 for surveillance test procedure STS IC 277C, "Channel Calibration of RVLIS 7300 Process Instrumentation Train "B"," was initiated for trouble shooting and calibration of computer point BBT1328. Extensive trouble shooting of the RVLIS Train "B" components was conducted; however, no definitive cause was found. The thirty days allowed by the action statement

to correct the inoperability of the device was exceeded on September 13, 1998, at 12:08 AM (CST).

**Pre-planned Alternate Methods of Monitoring RCS parameters:**

The "A" train RVLIS is operable and provides a reactor vessel water level indication in the control room. Additionally, reactor coolant system (RCS) temperatures and pressures are provided through the RCS sub-cooling monitor, which consists of redundant channels and output trains of thermocouple measurements, wide-range hot and cold leg RTD temperatures, and reactor pressure signals. These parameters are used by the system to display thermocouple temperatures and to calculate saturation temperatures and margin of saturation. The data provided by the 46 core exit thermocouples and pressurizer level indication can also be used to determine adequate reactor core cooling.

The loss of RVLIS is accounted for in the site Emergency Operating Procedures. The following Emergency Operating Procedures provide guidance on the actions to be taken in the event that RVLIS is unavailable.

- |   |           |
|---|-----------|
| - 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<br>Void in Vessel (Without RVLIS) | EMG ES-05 |

**Cause of the Inoperability:**

A definitive cause of the failure has not yet been identified. Based on the trouble shooting performed to date, the most likely cause for the failure is postulated to be the malfunction of the RTD located inside the containment building bio-shield.

**Plans and schedule for restoring the channel to OPERABLE status:**

Wolf Creek Nuclear Operating Corporation (WCNOC) is continuing to monitor and trend the RTD output. Work Order 98-202813-000 has been generated to track and implement the trending, troubleshooting and corrective actions associated with restoring "B" train RVLIS to OPERABLE status. WCNOC plans to inspect the RTD connections in the internal penetration enclosure while at power since a bio-shield entry is not required for this activity. Further troubleshooting and necessary corrective actions to restore the channel to operable status will be completed prior to startup from our tenth refueling outage, or during the next outage of sufficient duration should the plant be shutdown prior to the tenth refueling outage. The tenth refueling outage is scheduled for the Spring of 1999.



## LIST OF COMMITMENTS

The following table identifies those actions committed to by Wolf Creek Nuclear Operating Corporation (WONOC) 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. Michael J. Angus, Manager Licensing and Corrective Action at Wolf Creek Generating Station, (316) 364-8831, extension 4077.

COMMITMENT	Due Date/Event
Restore RVLIS "B" train to operable status.	Prior to startup from the tenth refueling outage, or during the next outage of sufficient duration should the plant be shutdown prior to the tenth refueling outage.