

WOLF CREEK

NUCLEAR OPERATING CORPORATION

Otto L. Maynard
Vice President Plant Operations

January 12, 1993
WO 93-0005

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

Subject: Docket No. 50-482: Special Report 93-001

Gentlemen:

The attached Special Report is being submitted in accordance with Technical Specification 3.3.3.4 concerning the inoperability of the 10-60 meter elevation delta temperature indication for the meteorological tower.

Very truly yours,

Otto L. Maynard
Vice President
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Special Report 93-001
Inoperable Meteorological Tower Instrumentation

On December 29, 1992, at approximately 0120 CST, the 10-60 meter elevation delta temperature (ΔT) indication for the meteorological tower was declared inoperable. Because this inoperability extended beyond a 7 day period, this Special Report is being submitted pursuant to Technical Specifications 3.3.3.4 and 6.9.2.

On December 29, 1992, at approximately 0120 CST, operations personnel identified that the 10-60 meter elevation ΔT indication for the meteorological tower was reading significantly higher than the 10-35 and 10-85 meter elevation ΔT indications. Work Request 06435-92 was initiated and Technical Specification 3.3.3.4, Action a, was entered for inoperability of a meteorological monitoring instrumentation channel. Technical Specification 3.3.3.4, Action a, requires that the instrumentation be returned to operable status within 7 days, or that a Special Report be submitted within the following 10 days.

A review of historical data for the 10-60 meter elevation ΔT indication revealed that erratic indications occur during high humidity conditions (i.e., rain, fog). The electronic circuitry for the 10-60 meter elevation ΔT loop was verified using procedure STS IC-890C, "Channel Calibration of Air Temperature Differential Meteorological Instrumentation," that simulates Resistance Temperature Detector (RTD) inputs with known resistance values. Ohmic values taken between the shield and the individual conductors of the RTD cables indicated an insulation breakdown in the 60 meter elevation cable. It was determined that this breakdown is causing the erratic readings during high humidity conditions. Since the 10-60 meter elevation ΔT indication cannot be considered operable during all weather conditions and was not able to be repaired within 7 days, this special report is being submitted to satisfy Technical Specification 3.3.3.4.

The 10-60 meter elevation ΔT indication can be considered operable during effectively dry weather conditions based on a review of trend data from the plant computer on the response of the indication. Thus, useful information is available depending on weather conditions. During high humidity weather conditions the erratic indication varies from an occasional spiking to a continuous high reading. However, the 10-35 and 10-85 meter elevation ΔT indications are available for back-up data when the 10-60 meter elevation ΔT indication is inoperable. On the basis of the current work schedule, the cabling for the 10, 35, 60, and 85 meter elevations of the meteorological tower will be replaced following the sixth refueling outage, but no later than August 31, 1993.

This is the first event in which the 10-60 meter elevation ΔT indication was inoperable for more than 7 days because of the weather conditions. Special Report 91-001 discusses inoperability of the 10 and 60 meter elevation wind speed indicators for more than 7 days because of inclement weather. However, in the case of the wind speed indicators, freezing precipitation caused the bearings of the transmitter to freeze to their housing, thereby restricting free movement of the transmitter due to the formation of an ice bridge between the rotating and stationary shaft. Plant Modification Request 03363 installed "ice shields" to minimize the occurrence of this previous problem.