

WOLF CREEK

NUCLEAR OPERATING CORPORATION

Neil S. "Buzz" Carns
Chairman, President and
Chief Executive Officer

October 5, 1995

WM 95-0142

U. S. Nuclear Regulatory Commission
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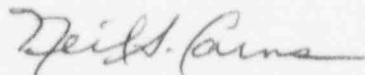
Reference: Letter dated September 11, 1995, from
J. E. Dyer, NRC/RIV, to N. S. Carns, WCNOG
(Inspection Report 50-482/95-17)
Subject: Docket No. 50-482: Reply to Notice of
Deviation 50-482/9517-01

Gentlemen:

Attached is Wolf Creek Nuclear Operating Corporation's (WCNOG's) reply to Notice of Deviation 50-482/9517-01. This deviation documented one example of WCNOG's failure to adequately maintain the required spacing between safety-related battery NK13 and its carrier rack.

WCNOG's response to this Notice of Deviation is in the attachment to this letter. If you should have any questions regarding this response, please contact me at (316) 364-8831, extension 4000, or Mr. William M. Lindsay at extension 8760.

Very truly yours,



Neil S. Carns

NSC/jad

Attachment

cc: L. J. Callan (NRC), w/a
J. E. Dyer (NRC), w/a
D. F. Kirsch (NRC), w/a
J. F. Ringwald (NRC), w/a
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Reply to Notice of Deviation 50-482/9517-01

Deviation 50-482/9517-01: The spacing of the NK13 battery rack end-to-cell gap exceeded seismic requirements. This end gap spacing was one-half inch, rather than the one-quarter inch required.

"Updated Safety Analysis Report (USAR) Section 3.10 (B), Table 3.10 (B)-1, lists batteries and battery racks as Seismic Category I instrumentation and electrical equipment as specified in Specification E-050.

Specification E-050 requires vendor technical manuals to be supplied with the applicable batteries.

The vendor supplied the NK13 battery per Specification E-050, with Vendor Technical Manual E-050-00016. The technical manual contained seismic installation instructions which required the battery rack end-to-cell gap to be 1/4 inch or less.

Contrary to the above, on July 18, 1995, the inspector noted that the NK13 battery end-to-cell gap was approximately 1/2 inch."

Reason for Deviation:

Description:

During a NRC inspection on July 18, 1995, the NRC inspector identified that the spacing of the gap between cell 15 of the NK13 Class 1E battery and the end stringers of the battery carrier rack, was potentially outside the limits specified in Vendor Technical Manual E-050-00016. The NK13 battery is located in the Control Building at the 2016 elevation. The gap or spacing in question was at the North-East corner of the battery.

The inspector informed the Shift Supervisor of the spacing concern. Corrective Work Request(WR) 03048-95 and Reportability Evaluation Request(RER) 95-19 were immediately issued. The distance of this end-to-cell gap was inspected by WCNOG personnel and was found to be larger than the tolerance allowed by vendor drawing E-050-00009. The spacing was one-half inch rather than the one-quarter inch maximum end gap allowed by design.

The Shift Supervisor determined the battery to be in operable condition. This decision was later substantiated by WCNOG Design Engineering in the evaluation documented in RER 95-19. Engineering also determined the seismic forces potentially involved with the additional one-quarter inch end-to-cell gap spacing were insufficient to have affected the battery, and were within qualification test margins.

Root Cause Investigation:

During May of 1985, the NK13 battery rack was shortened to eliminate an excessive end gap spacing as part of Plant Modification Request 00997. The work was performed and documented on WR 07958-85. The "as-left" spacing of the NK battery racks was checked and documented on WR 07958-85 prior to its closure on May 27, 1985. The change to the end gap between cell 15 and the battery rack that caused excessive spacing must have occurred sometime after the closure of WR 07958-85.

During WCNOG's third refueling outage (Fall 1988), the NK13 battery was disassembled, the post seals replaced, and new inter-cell connectors installed in accordance with WR 03991-88. This work was completed on November 3, 1988. As part of the reassembly of the battery, the cells must have been moved to allow the new inter-cell connectors to align better with the holes in the cell posts. Work Request 03991-88 did not specify to recheck the spacing of the gap between the cells and the ends of the battery rack.

During the fourth refueling outage (Spring 1990) the inter-cell connector between cells 14 and 15 was removed to allow for the negative post of cell 14 to have its post seal replaced. Cells 13, 14, and 15 have remained connected as a unit since the fourth refueling outage. It would be highly unlikely to move the three cells (as a unit) after that date due to their having a total combined weight of 639 pounds. The work request controlling this activity, WR 00399-90, also failed to require verification of the correct spacing.

Although it was not possible to establish exactly when the excess spacing of the end-to-cell gap occurred, the investigation concluded that the change to the end gap by cell 15 most probably resulted from the maintenance on NK13 during the third refueling outage. Work Request 03991-88 contained insufficient instruction to assure that the spacing of the gap was re-verified after re-assembly of the battery. This excess spacing, which exceeded Vendor Technical Manual E-050-00016 design specifications, most probably occurred between October 23 and November 3, 1988, and has existed since that time.

Corrective Steps Taken and Results Achieved:

The excessive spacing of the end-to-cell gap of the NK13 battery was corrected the day of discovery, July 18, 1995. Corrective Work Request 03048-95 documented work completion on July 18, 1995.

The spacing distance of other safety-related NK battery gaps was inspected to verify that the gaps met design criteria. No other discrepancies were identified.

In addition to the above corrective actions, as a potential enhancement to reliability, WCNOG System Engineering evaluated end gap spacing of non-safety related, non-seismically qualified batteries that were

similarly supported. This evaluation resulted in the following conclusions:

1. The design of the plant does not require these batteries for the safe shutdown of the plant, and, as such, they are not required to be seismically qualified.
2. Non-safety related batteries that are considered for Station Blackout are not required to be seismically designed since a seismic event is not postulated to occur during a Station Blackout.
3. Because none of the other components of the non-safety related battery systems are designed to meet seismic requirements, no added reliability would be gained by imposing seismically required gap spacing on the non-safety related, non-seismically qualified battery racks.

Corrective Steps That Were Taken To Avoid Further Deviations:

The work instructions of WR 03991-88 that were originally used to disassemble and assemble the NK13 battery during the third refueling outage did not provide instruction for checking the distances between the cells and the battery racks. This omission resulted in the incorrect end-to-cell spacing. These WR 03991-88 work instructions were subsequently incorporated into procedure MCE BA-001, "Battery Connector Assembly Maintenance."

Procedure MCE BA-001 was revised on September 28, 1995, to include a requirement to perform and document verification of the gap spacing of safety-related, seismically qualified batteries. This added instruction will prevent further deviation from spacing commitments.

Date When Corrective Action Will Be Completed:

Corrective actions have been completed. Compliance with the commitment to maintain correct spacing of the battery end-to-cell gap was restored July 18, 1995. Corrective actions to prevent recurrence were completed on September 28, 1995, with the issuance of procedure MCE BA-001, Revision 5.

Additional Information:

The revision to MCE BA-001, discussed above, will prevent further deviations. Additionally, WCNOG is replacing the NK batteries during the eighth refueling outage with AT&T Round Cells, a different design. The design of the Round Cell battery racks prevents movement of the individual cells and the need to maintain proper spacing. The new cells will sit in a shallow well in the new racks and be clamped into the rack. Therefore, the spacing of the new cells will be pre-determined and controlled by the design of the rack. The spacing of these Round Cell batteries will not, therefore, be inadvertently changed.