WOLF CREEK
NUCLEAR OPERATING CORPORATION

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Vice President Plant Operations

March 26, 1996

WO 96-0054

U. S. Nuclear Regulatory Commission
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Washington, D. C. 20555

Reference: WCNOC letter WO 96-0036, dated March 8, 1996, O. L. Maynard to NRC
Subject: Docket No. 50-482: Response to a Request for Additional Information Concerning WCNOC's Request for an Exigent Change to Technical Specifications to Implement Cycle 9 Reactor Coolant System Thermal Design Flow Reduction

Gentlemen:

The Reference transmitted an exigent change to Facility Operating License No. NPF-42 for Wolf Creek Generating Station (WCGS). The requested exigent change is needed to allow operation of the WCGS with decreased indicated Reactor Coolant System (RCS) flow, due to the effect of the Cycle 9 core reload geometry on hot leg streaming and its subsequent influence on indicated RCS flow. The requested exigent change is required to allow WCGS to operate at full rated power following restart after the eighth refueling outage, should the indicated flow be below the current minimum measured flow.

In a March 21, 1996 telephone conference between WCGS personnel and Mr. Jim Stone, WCGS Project Manager, and Mr. Harry Balukjian, NRR Reactor Systems Branch, Mr. Balukjian requested additional information regarding the Reference. Attached is a written response to Mr. Balukjian's request.

In accordance with 10 CFR 50.91, a copy of this letter, with attachments, is being provided to the designated Kansas State official.

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If you have any questions concerning this matter, please contact me at (316) 364-8831, extension 4450, or M.. Richard D. Flannigan, at extension 4500.

Very truly yours,

Otto L. Maynard

OLM/jra

Attachment

cc: G. W. Allen (KDHE), w/a
L. J. Callan (NRC), w/a
W. D. Johnson (NRC), w/a
J. F. Ringwald (NRC), w/a
J. C. Stone (NRC), w/a

ADDITIONAL INFORMATION CONCERNING WCNOC'S REQUEST FOR AN EXIGENT CHANGE TO TECHNICAL SPECIFICATIONS TO IMPLEMENT CYCLE 9 REACTOR COOLANT SYSTEM THERMAL DESIGN FLOW REDUCTION

In the March 21, 1996 telephone call between WCNOC and Mr. Jim Stone, WCGS Project Manager, and Mr. Harry Balukjian, NRR Reactor Systems Branch, Mr. Balukjian requested additional information to determine which of the 25 accidents analyzed in WCNOC's March 8, 1996 exigent change request were the most limiting with respect to the effects on the departure from nucleate boiling ratio (DNBR), overpressure, radiation dose, and small break LOCA effects. Each of these four areas were discussed by WCNOC in the phone call, and are summarized below.

The limiting ANS Condition II event, with respect to DNBR is the Complete Loss of Flow event (USAR 15.3.2). The Cycle 9 safety analysis limit, based on the Westinghouse WRB-2 critical heat flux correlation, is 1.76. The minimum DNBR for the Complete Loss of Flow event for Cycle 9 with the 3.5% reduction in thermal design flow is 1.77.

The Turbine Trip event (USAR 15.2.3) is the limiting event with respect to RCS system overpressurization. The revised analysis with 3.5% reduced thermal design flow results in a peak RCS pressure of 2735 psia. Because the acceptance criteria for an ANS Condition II event is 110% of the RCS Design pressure, i.e., 2750 psia, the Turbine Trip event is shown to meet the acceptance criteria.

The USAR Chapter 15 events analyzed to determine offsite dose to a receptor in either the exclusion area or low population zone are analyzed assuming RCS conditions at the applicable acceptance criteria limits or have no dependence on the RCS flowrate. Therefore, since the USAR Chapter 15 events reanalyzed for the thermal design flow reduction continue to meet the applicable acceptance criteria, the results of the radiological consequences analyses reported in the USAR continue to remain valid.

The current analysis of record for large and small break LOCA are based on the reanalyses that were performed in 1992 to support the WCGS rerating program. The analyses cover a range of vessel average temperatures with a lower bound of 570 °F and an upper bound of 588.4 °F. Because WCGS will be operating with a vessel average temperature of 586.5 °F and the results of the analyses show that the LOCA events are bounding at the lower bound temperature, the reduced thermal design flow condition is bounded by the current LOCA analyses reported in the USAR.