

WOLF CREEK

NUCLEAR OPERATING CORPORATION

Robert C. Hagan
Vice President Engineering

August 17, 1995

ET 95-0084

U. S. Nuclear Regulatory Commission
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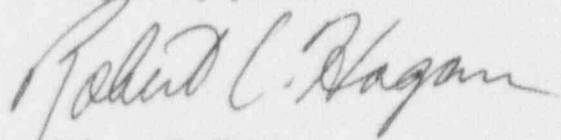
Subject: Docket 50-482: Initial Response to Generic Letter 92-01,
Revision 1, Supplement 1

Gentlemen:

Attached is Wolf Creek Nuclear Operating Corporation's response to Generic Letter 92-01, Revision 1, Supplement 1, "Reactor Vessel Structural Integrity." This generic letter supplement required that all addressees identify, collect and report any new data pertinent to analysis of structural integrity of their reactor pressure vessels. Also, the impact of that data on their reactor pressure vessel integrity analyses must be assessed relative to the requirements of 10 CFR 50.60, 10 CFR 50.61, Appendices G and H to 10 CFR Part 50, and any potential impact on low temperature overpressure limits or pressure-temperature limits. This response provides a description of actions taken and planned to be taken to locate all data relevant to the determination of reactor pressure vessel integrity for Wolf Creek Generating Station.

If you have any questions concerning this submittal, please contact me at (316) 364-8831, extension 4553, or Mr. Richard D. Flannigan at extension 4500.

Very truly yours,


Robert C. Hagan

RCH/jra

Attachment

cc: L. J. Callan (NRC), w/a
D. F. Kirsch (NRC), w/a
J. F. Ringwald (NRC), w/a
J. C. Stone (NRC), w/a

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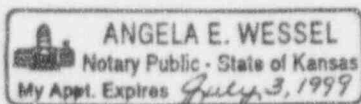
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STATE OF KANSAS)
) SS
COUNTY OF COFFEY)

Robert C. Hagan, of lawful age, being first duly sworn upon oath says that he is Vice President Engineering of Wolf Creek Nuclear Operating Corporation; that he has read the foregoing document and knows the content thereof; that he has executed that same for and on behalf of said Corporation with full power and authority to do so; and that the facts therein stated are true and correct to the best of his knowledge, information and belief.



By Robert C. Hagan
Robert C. Hagan
Vice President
Engineering

SUBSCRIBED and sworn to before me this 17th day of August, 1995.

Angela E. Wessel
Notary Public

Expiration Date July 3, 1999

Background

The NRC originally issued Generic Letter 92-01, Revision 1, "Reactor Vessel Structural Integrity," on March 6, 1992, to obtain information necessary to assess compliance with requirements regarding reactor pressure vessel integrity in view of certain concerns raised in its review of reactor pressure vessel integrity for the Yankee Nuclear Power Station. All licensees submitted the information requested by July 2, 1992. Following the receipt and review of licensee supplements responding to requests for additional information, the NRC completed its review of licensee responses to Generic Letter 92-01, Revision 1, in the fall of 1994. The NRC issued NUREG-1511, "Reactor Vessel Status Report," summarizing key aspects of the work in December 1994.

It has been demonstrated that some reactor pressure vessel integrity evaluations are very sensitive to consideration of data not previously utilized. For example, under certain conditions, changing the mean copper content for the limiting vessel beltline material by a few hundredths weight percent can change the predicted data for reaching the pressurized thermal shock screening criteria of 10 CFR 50.61 by several years. In addition, changes in estimates of mean copper content can affect the validity of pressurized thermal shock evaluations based on surveillance data. Consideration of additional, unreviewed reactor pressure vessel data can also affect evaluations for upper shelf energy, pressure-temperature limits, and low temperature overpressure limits.

The NRC recently became concerned that licensees might not necessarily have all of the data pertinent to the evaluation of the structural integrity of their reactor pressure vessels. This is particularly true where the reactor pressure vessel fabricator holds, or has held, the applicable data to be proprietary in nature. Such data include, but are not limited to: chemical composition, heat treatment, plate and forging manufacturing process records, reactor pressure vessel fabrication records, all mechanical property data (tensile, impact, fracture toughness), and surveillance data. Sources of data relevant to reactor pressure vessel structural integrity include material test reports from the steel producer, weld wire manufacturer, reactor pressure vessel fabricator, independent testing laboratories, and nuclear steam supply system (NSSS) vendor. The NRC has encouraged licensees to work closely with their respective vessel owners groups and NSSS vendor groups in response to Generic Letter 92-01, Revision 1, Supplement 1, to ensure that all sources of information pertinent to the analysis of the structural integrity of their reactor pressure vessels have been considered.

Generic Letter 92-01, Revision 1, Supplement 1, requires that licensees provide, within 90 days from the date of the generic letter, a description of those actions taken or planned to locate all data relevant to the determination of reactor pressure vessel integrity, or an explanation of why the existing database is considered complete as previously submitted. Also, the generic letter required that licensees provide, within 6 months from the date of the generic letter: an assessment of any change in best-estimate chemistry based on consideration of all relevant data; a determination of the need for use of the ratio procedure in accordance with the established Position 2.1 of Regulatory Guide 1.99, Revision 2, for those licensees that use surveillance data to provide a basis for the reactor pressure vessel integrity evaluation; and a written report providing any newly acquired data and the results of any necessary revision to the evaluation of reactor

pressure vessel integrity in accordance with the requirements of 10 CFR 50.60, 10 CFR 50.61, Appendices G and H to 10 CFR Part 50, and any potential impact on the low temperature overpressure or pressure-temperature limits in the technical specifications, or a certification that previously submitted evaluations remain valid.

Wolf Creek Nuclear Operating Corporation (WCNOC) Review

A review of the Combustion Engineering Materials Certification Reports for the beltline material of the Wolf Creek Generating Station (WCGS) reactor pressure vessel has been performed. No discrepancies have been found between the reports and the chemical contents previously reported to the NRC. The copper and nickel contents of WCGS's reactor pressure vessel plate material are very low when compared to the reactor pressure vessel plate and weld material in question. Based on this preliminary review of the chemical composition of WCGS's plate and weld material, along with the projected neutron fluence, there is reasonable assurance that the structural integrity of the WCGS reactor pressure vessel will be maintained until the end of the vessel life.

In reviewing NUREG-1511, "Reactor Vessel Status Report," WCNOC noted that the incorrect lower shell plate (R2508-1) was identified in the NUREG as the limiting beltline material for the WCGS reactor vessel. In addition, the projected neutron fluence used for RT_{PTS} determination needs to be updated to account for the effects of power rerating, which was implemented during Cycle 7 operation and expected higher capacity factors in future cycles. WCNOC will formally retransmit the correct information as part of the reactor vessel structural integrity review.

Industry Activities

As part of addressing the concerns identified in Generic Letter 92-01, WCNOC is attempting to identify sister plants that have the same reactor vessel material as our limiting weld or plate. WCNOC has reviewed the existing Westinghouse Owners Group reactor vessel material database and did not identify any sister plants.

WCNOC is aware of various industry efforts to locate all data relevant to the determination of reactor vessel integrity. Specifically, the Westinghouse Owners Group is sponsoring the preparation and updating of a database. Plans are also being made for the custody, maintenance, and continued availability of the RPVDATA database for the utility industry. The Westinghouse Owners Group intends to work with EPRI to facilitate the process through the newly established NEI Reactor Pressure Vessel Integrity Data Task Force. These activities will provide a comprehensive database available to utilities for evaluating reactor pressure vessel material properties. This information has been provided to the NRC in letter OG-95-066 dated August 11, 1995 from the Westinghouse Owners Group to the NRC.

Based upon the current schedule of the Westinghouse Owners Group development and implementation of the reactor pressure vessel database, a final response meeting Required Response (2) to Generic Letter 92-01, Revision 1, Supplement 1, will be submitted by July 1, 1996.