

50-269/270/287



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

October 23, 1997

Mr. W. R. McCollum
Vice President, Oconee Site
Duke Energy Corporation
P. O. Box 1439
Seneca, SC 29679

SUBJECT: HIGH PRESSURE INJECTION SYSTEM AUGMENTED INSERVICE
INSPECTION PROGRAM - OCONEE NUCLEAR STATION UNITS 1, 2,
AND 3 (TAC NO. M98454)

Dear Mr. McCollum:

In April 1997, cracks were found in the pipe-to-safe-end weld and adjacent piping in the Oconee Unit 2 High Pressure Injection (HPI) System makeup and injection lines. One of the root causes of this condition was a failure of an augmented inspection (ISI) program designed to detect such cracks before leakage occurred. Subsequent inspections and corrective actions were conducted at Oconee Units 2 and 3. The ultrasonic examinations of this area of piping, and the safe-end base metal and pipe-to-valve weld on the Unit 1 HPI system injection lines, were performed in June 1997 to meet the requirements of the 1992 Edition with the 1993 Addenda of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (ASME Code), Section XI, Appendix VIII. The HPI nozzles and HPI nozzles inner radii were ultrasonically examined to meet the requirements of the 1989 Edition of the ASME Code Section XI, Appendix I. The HPI safe-end-to-HPI nozzle weld was ultrasonically examined to meet the requirements of the 1989 Edition of the ASME Code, Section XI, Appendix III.

On September 4, 1997, a teleconference was held between the staff and Duke Energy Corporation (Duke) to discuss the failure of the ISI program at Oconee Units 1, 2, and 3, and measures that would be taken at Oconee to correct the problem.

By letter dated August 6, 1997, Duke provided, in response to a staff request for information made during the teleconference, a revision to the Oconee third interval 10-year ISI program. This revision enhances and clarifies the general requirements of the Oconee ISI program, and also commits Duke to meet or exceed the requirements previously committed to in Generic Letter (GL) 85-20 regarding examination of HPI System components. By letter dated September 10, 1997, Duke provided additional information concerning the ultrasonic inspection procedures used in the examination of the HPI System components at Oconee Unit 1 during a cold shutdown on June 13, 1997.

The staff has reviewed the submittals and determined that the proposed augmentation of the third interval 10-year ISI program related to the HPI examinations is acceptable. The staff noted that, in accordance with the ISI program requirements, the fourth interval 10-year ISI program for the three Oconee units will be submitted 6 months prior to the start of the fourth interval 10-year ISI program. The fourth interval program will be reviewed by the staff when it is submitted.

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October 23, 1997

In addition, the staff has determined that these examinations satisfy the Oconee Unit 1 HPI ultrasonic examination commitment for inspection during the current Unit 1 refueling outage. However, the staff requests that you provide a commitment to perform all future ultrasonic examinations to meet the requirements of the 1992 Edition with the 1993 Addenda of the ASME Code, Section XI, Appendix VIII, or use calibration blocks (for inspection of the HPI nozzles, HPI nozzles inner radii, and HPI safe-end-to HPI nozzle weld) with cracks that simulate the type of crack observed in Oconee Unit 2.

Sincerely,

ORIGINAL SIGNED BY:

David E. LaBarge, Senior Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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In addition, the staff has determined that these examinations satisfy the Oconee Unit 1 HPI ultrasonic examination commitment for inspection during the current Unit 1 refueling outage. However, the staff requests that you provide a commitment to perform all future ultrasonic examinations to meet the requirements of the 1992 Edition with the 1993 Addenda of the ASME Code, Section XI, Appendix VIII, or use calibration blocks (for inspection of the HPI nozzles, HPI nozzles inner radii, and HPI safe-end-to HPI nozzle weld) with cracks that simulate the type of crack observed in Oconee Unit 2.

Sincerely,

A handwritten signature in dark ink, appearing to read 'D. LaBarge', with a stylized flourish at the end.

David E. LaBarge, Senior Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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cc: See next page

Oconee Nuclear Station

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