June 3, 2005

Mr. Joseph E. Venable
Vice President Operations
Entergy Operations, Inc.
17265 River Road
Killona, LA 70066-0751

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 (WATERFORD 3) - RE: RESPONSE TO GENERIC LETTER 2004-01, "REQUIREMENTS FOR STEAM GENERATOR TUBE INSPECTIONS," (TAC NO. MC4864)

Dear Mr. Venable:

On August 30, 2004, the U. S. Nuclear Regulatory Commission (NRC) issued Generic Letter (GL) 2004-01, "Requirements for Steam Generator Tube Inspections." The purpose of GL 2004-01 was to obtain information that would enable the NRC staff to determine whether licensee's steam generator tube inspection programs comply with the existing tube inspection requirements (the plant Technical Specifications) in conjunction with Appendix B to Part 50 of Title 10 of the *Code of Federal Regulations*.

By letter dated October 27, 2004, you responded to GL 2004-01 for Waterford 3. The NRC staff has reviewed the response and has concluded that the response to the GL is acceptable. The staff's evaluation is attached.

If you have any questions, please call me at 301-415-1480.

Sincerely,

/RA/

N. Kalyanam, Project Manager, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-382

Enclosure: As stated

cc w/encl: See next page

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DATE	6/3/05	6/2/05	4-29-05	6/3/05

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EVALUATION OF THE RESPONSE TO GENERIC LETTER 2004-01

WATERFORD STEAM ELECTRIC STATION, UNIT 3

ENTERGY OPERATIONS, INC. (ENTERGY)

On August 30, 2004, the U. S. Nuclear Regulatory Commission (NRC) issued Generic Letter (GL) 2004-01, "Requirements for Steam Generator Tube Inspections." The purpose of GL 2004-01 was to obtain information that would enable the NRC staff to determine whether the licensee's steam generator (SG) tube inspection programs comply with the existing tube inspection requirements (the plant Technical Specifications (TSs)) in conjunction with Appendix B to Part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR Part 50, Appendix B).

Licensees who concluded that its SG tube inspections have not been or are not being performed consistent with the NRC's position on the requirements in the TSs in conjunction with 10 CFR Part 50, Appendix B, were requested to submit a safety assessment. As part of this safety assessment, licensees were to address whether their safety basis for limiting inspections within the tubesheet constitutes a change to the "method of evaluation" for establishing the structural and leakage integrity of the tube-to-tubesheet joint. The NRC staff requested this information because it was expected that the licensees' safety basis relied on a mechanical expansion joint rather than the tube-to-tubesheet weld. Since the original tube-to-tubesheet joint was most likely designed by demonstrating that the stresses in the tube, weld, and tubesheet satisfy the allowable stress values in Section III of the American Society of Mechanical Engineers, Boiler and Pressure Vessel Code (ASME Code) (or other similar standard), the NRC staff questioned whether the safety basis for limiting inspections relied on demonstrating that the expansion joint satisfied some criteria (e.g., minimum tube pullout load criteria, allowable leakage) beyond those specified in Section III of the ASME Code.

By letter dated October 27, 2004, Entergy responded to GL 2004-01 for Waterford Steam Electric Station, Unit 3 (Waterford 3). In its response, Entergy concludes that the safety basis used to support the tube inspection practices does not constitute a change to the method of evaluation.

Entergy states that the Waterford 3 flaws located a certain distance below the top of the tubesheet do not have any safety implications. The safety basis, utilized to support this statement, relies on a mechanical interference fit between the tube and the tubesheet for establishing the tube-to-tubesheet joint (i.e., forming the reactor coolant pressure boundary).

However, for many plants (if not all), the original design of the SG gave no credit for this interference fit since the weld between the tube and the tubesheet ensured the integrity of the tube-to-tubesheet joint. In fact, the design rules (Section III of the ASME Code) do not address the use of an interference fit for maintaining pressure boundary integrity. Although Entergy does not provide the basis for its conclusion that the Waterford 3 safety assessment does not constitute a change in the method of evaluation, the NRC staff concludes that the overall response to the GL is acceptable, since the licensee indicated that the tube inspection practices at Waterford 3 are not consistent with the NRC staff position, and that this has been entered into the licensee's corrective action program.

Further the licensee has committed to increasing the depth of tubesheet inspections starting with the spring 2005 refueling outage, and that it would base its inspection on the assessment contained in Topical Report WCAP-16208-P, Rev. 0. The licensee also committed to submitting a license amendment to clarify its SG tube inspection practices in the tubesheet region. The application for this amendment was submitted on March 15, 2005.

This completed the NRC staff's efforts on TAC No. MC4864.

Principal Contributor: J. Terrell

Date: June 3, 2005

Waterford Steam Electric Station, Unit 3

cc:

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