

September 25, 2007

Mr. Kevin T. Walsh
Vice President of Operations
Entergy Operations, Inc.
17265 River Road
Killona, LA 70057-3093

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 (WATERFORD 3)-
ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT
IMPACT FOR EXEMPTIONS FROM 10 CFR 50.46 AND APPENDIX K - USE OF
OPTIMIZED ZIRLO™ FUEL ROD CLADDING (TAC NO. MD5426)

Dear Mr. Walsh:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for an exemption dates April 24, 2007. The proposed exemption would exempt Waterford 3 from the requirements of Title 10 of the *Code of Federal Regulations*, Section 50.46 and Appendix K.

The assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

/RA/

N. Kalyanam, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-382

Enclosure: Environmental Assessment

cc w/encl: See next page

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ADAMS Accession No.: ML072280001 * submitted by memo dated July 9, 2007, ** No Legal Objection

OFFICE	NRR/LPL4/PM	NRR/LPL4/LA	REBA/BC	OGC**	NRR/LPL4/BC
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DATE	8/27/07	8/27/07	07/09/07*	9/21/07	9/25/07

OFFICIAL RECORD COPY

Waterford Steam Electric Station, Unit 3

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UNITED STATES NUCLEAR REGULATORY COMMISSION

ENTERGY OPERATIONS INC.

WATERFORD STEAM ELECTRIC STATION, UNIT 3

ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT

DOCKET NO. 50-382

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of exemptions from Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Section 50.46 and Appendix K, for Facility Operating License No. NPF-38, issued to Entergy Operations, Inc. (Entergy, the licensee), for operation of the Waterford Steam Electric Station, Unit 3 (Waterford 3), located in St. Charles Parish, Louisiana. Therefore, as required by 10 CFR 51.21, the NRC is issuing this environmental assessment and finding of no significant impact.

ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action:

The proposed action would exempt the licensee from the requirements of 10 CFR Part 50, Section 50.46 and Appendix K to allow the use of Optimized ZIRLO™ fuel rod cladding as the allowable fuel rod cladding material. The proposed action is in accordance with Entergy's application dated April 24, 2007.

The Need for the Proposed Action:

The NRC's regulations in 10 CFR Part 50, Section 50.46 and Appendix K, make no provision for use of fuel rod clad in a material other than Zircaloy or ZIRLO™. Optimized ZIRLO™ has a lower tin content than either Zircaloy or ZIRLO™; therefore, use of Optimized

ZIRLO™ fuel rod clad calls for an exemption from 10 CFR Part 50, Section 50.46 and Appendix K.

For cladding with a lower tin content, corrosive resistance has been found to improve, as indicated by available industry data from the American Nuclear Society, the International Atomic Energy Agency, the Electric Power Research Institute, and Westinghouse Electric Corporation. The optimum tin level provides a reduced corrosion rate while maintaining the benefits of mechanical strength and resistance to accelerated corrosion from abnormal chemistry conditions. In addition, fuel rod internal pressures (resulting from increased fuel duty, use of integral fuel burnable absorbers and corrosion/temperature feedback effects) have become more limiting with respect to fuel rod design criteria. Reducing the associated corrosion buildup, and thus, minimizing temperature feedback effects, provides additional margin to fuel rod internal pressure design criteria. The NRC previously granted a similar exemption in July 2004 for Waterford 3 for use of Optimized ZIRLO™ in four lead-test assemblies.

Environmental Impacts of the Proposed Action:

The NRC staff has completed its safety evaluation of the proposed action and concludes that the proposed exemptions would continue to satisfy the underlying purpose of 10 CFR Part 50, Sections 50.46 and Appendix K, and will not increase the probability or consequences of accidents previously analyzed and would not affect facility radiation levels or facility radiological effluents.

The details of the staff's safety evaluation will be provided in the exemption that will be issued as part of the letter to the licensee approving the amendment to the regulation.

The proposed action will not significantly increase the probability or consequences of accidents. No changes are being made in the types of effluents that may be released off site. There is no significant increase in the amount of any effluent released off site. There is no

significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential non-radiological impacts, the proposed action does not have a potential to affect any historic sites. It does not affect non-radiological plant effluents and has no other environmental impact. Therefore, there are no significant non-radiological environmental impacts associated with the proposed action.

Accordingly, the NRC concludes that there are no significant environmental impacts associated with the proposed action.

Environmental Impacts of the Alternatives to the Proposed Action:

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the “no-action” alternative). Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the “no-action” alternative are similar.

Alternative Use of Resources:

The action does not involve the use of any different resources than those previously considered in the Final Environmental Statement for Waterford 3, dated September 1981.

Agencies and Persons Consulted:

In accordance with its stated policy, on August 17, 2007, the staff consulted with the Louisiana State official, Ms. Nan Calhoun of the Louisiana Department of Environmental Quality, regarding the environmental impact of the proposed action. The State official had no comments.

FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly,

the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letter dated April 24, 2007. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, Public File Area O1F21, 1555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room on the Internet at the NRC Website: <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC PDR Reference staff by telephone at 1-800-397-4209 or 301-415-4737, or send an email to pdr@nrc.gov.

Date at Rockville, Maryland, this 25th day of September 2007.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Nageswaran Kalyanam, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation