



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

August 9, 2013

Vice President, Operations  
Entergy Operations, Inc.  
River Bend Station  
5485 US Highway 61N  
St. Francisville, LA 70775

SUBJECT: RIVER BEND STATION, UNIT 1 – ENVIRONMENTAL ASSESSMENT AND  
FINDING OF NO SIGNIFICANT IMPACT RELATED TO EXEMPTION FROM  
THE REQUIREMENTS OF 10 CFR PART 50, APPENDIX J (TAC NO. ME9450)

Dear Sir or Madam:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to a request for exemption from specific requirements of Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix J, "Primary Reactor Containment leakage Testing for Water-Cooled Reactors," for the River Bend Station, Unit 1. This action is in response to related to Entergy Operations, Inc.'s application dated August 23, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12241A250). Specifically, the application requested a change to the definition of " $P_a$ " defined as "the calculated peak containment internal pressure related to the design basis accident..." The exemption modifies  $P_a$  to exclude a brief, localized pressure spike in the wetwell which would shift the calculated peak containment internal pressure above the long-term calculated peak pressure.

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

Sincerely,

A handwritten signature in cursive script that reads "Alan Wang".

Alan Wang, Project Manager  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-458

Enclosure:  
Environmental Assessment

cc w/encl: Distribution via Listserv

**ENCLOSURE**

**ENVIRONMENTAL ASSESSMENT AND  
FINDING OF NO SIGNIFICANT IMPACT**

**RIVER BEND STATION, UNIT 1**

**DOCKET NO. 50-458**

**NUCLEAR REGULATORY COMMISSION**

**[Docket Nos. 50-458; NRC-20YY-XXXX]**

**Entergy Operations, Inc.**

**River Bend Station, Unit No. 1**

**Environmental Assessment and Finding of No Significant Impact**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Environmental assessment and finding of no significant impact; issuance.

**ADDRESSES:** Please refer to Docket ID NRC-20YY-XXXX when contacting the NRC about the availability of information regarding this document. You may access information related to this document, which the NRC possesses and are publicly available, using any of the following methods:

- **Federal rulemaking Web site:** Go to <http://www.regulations.gov> and search for Docket ID NRC-20YY-XXXX. Address questions about NRC dockets to Carol Gallagher; telephone: 301-287-3422; e-mail: [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov).
- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may access publicly available documents online in the NRC Library at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search.](#)" For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov). The ADAMS accession number for each document referenced in this notice is provided the first time

that a document is referenced. The application for exemption dated August 23, 2012, is available electronically under ADAMS Accession No. ML12241A250.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

## **SUPPLEMENTARY INFORMATION:**

### **I. Introduction**

The U.S. Nuclear Regulatory Commission (NRC or the Commission) is considering issuance of an exemption from 10 CFR Part 50, Appendix J for Facility Operating License No. NPF-47, issued to Entergy Operations, Inc. (the licensee), for operation of the River Bend Station, Unit 1 (RBS), located in West Feliciana Parish, Louisiana. Therefore, as required by 10 CFR 51.21, the NRC performed an environmental assessment. Based on the results of the environmental assessment, the NRC is issuing a finding of no significant impact.

### **II. Environmental Assessment**

#### *Identification of the Proposed Action:*

The proposed action would exempt the licensee from certain provisions of 10 CFR 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors." This appendix requires that components which penetrate containment be periodically leak tested at the "P<sub>a</sub>," defined as the "calculated peak containment internal pressure related to the design basis accident specified either in the technical specification or associated bases." The NRC noted a conflict between Entergy's interpretation of P<sub>a</sub> and the literal reading of the definition of P<sub>a</sub> in the regulations.

For the extended power uprate, Entergy had re-performed the containment pressure analysis and determined that the calculated peak pressure in containment occurs in a localized area of the wetwell within a few seconds after a postulated main steamline break. The NRC believes that as defined in the regulations the value of  $P_a$  should have been revised. The new calculation demonstrates that the localized pressure in the wetwell quickly drops and equalizes throughout the containment to a value of 3.6 pounds per square inch gauge (psig). Entergy has stated it believes the new calculated long-term peak containment pressure of 3.6 psig is the correct value to be used for  $P_a$ . However, to avoid a large number of procedural changes to reflect this new peak value, Entergy did not propose to change the current Technical Specification (TS) value of  $P_a$  (7.6 psig).

The exemption would allow RBS to continue to use the pre-extended power uprate value of 7.6 psig rather than use the newly calculated localized pressure spike value of 9.3 psig in the wetwell for  $P_a$ . The NRC staff examined the licensee's rationale to support the exemption request and concluded that the use the value of 7.6 psig for  $P_a$  would meet the underlying purpose of 10 CFR Part 50, Appendix J. Supporting the use of this alternate value is:

- 1) the time for the pressure spike to occur and fall to equilibrium is 6 seconds, which is not sufficient time to release source terms from the core,
- 2) the pressure spike is also localized to the wetwell area which makes up roughly 10 percent of containment,
- 3) the number of containment penetrations in this area is limited. Therefore, the current  $P_a$  value of 7.6 psig meets the intent of 10 CFR 50, Appendix J by bounding the peak bulk containment pressure (3.6 psig) and assuring that leakage through the primary containment does not exceed allowable leakage rate values,

- 4) the calculated peak bulk containment pressure is 3.6 psig so the TS value of 7.6 is conservative for the use of determining containment leakage, and
- 5) this request is consistent with the determination that the NRC staff has reached for other licensees under similar conditions based on the same considerations.

Therefore, the  $P_a$  TS value of 7.6 psig meets the intent of 10 CFR 50, Appendix J by bounding the peak bulk containment pressure and assuring that leakage through the primary containment does not exceed allowable leakage rate values.

The proposed exemption would allow RBS to continue to use an alternate definition of  $P_a$  of 7.6 psig. This use of the alternate definition for  $P_a$  meets the intent of 10 CFR 50, Appendix J because it provides testing of the primary containment parameters at a bounding pressure that is calculated to be possible throughout containment over a sustained period following a design basis accident.

*The Need for the Proposed Action:*

The proposed exemption is needed to allow RBS to continue to use an alternate definition for  $P_a$  which results in the use of a lower pressure for Appendix J containment testing. Use of the lower pressure reduces the burden of modifying the test procedures, seeking NRC authorization to change the current TS value, and conducting the testing at the higher pressure. In addition, applying the literal definition for  $P_a$  would not serve the underlying purpose of the rule which is to test the primary containment parameters at a peak pressure calculated to exist over the long term following a design basis accident.

*Environmental Impacts of the Proposed Action:*

The NRC has completed its evaluation of the proposed action and concludes that the exemption described above meets the intended purpose of the requirements in 10 CFR 50, Appendix J. The lower calculated  $P_a$  value provides a representative bounding pressure for evaluating the leak-tight integrity of the primary reactor containment and related penetrations.

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 offsite. There is no significant increase in the amount of any effluent released offsite. 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 any foreseeable impacts to land, air, or water resources, including impacts to biota. In addition, there are also no known socioeconomic or environmental justice impacts associated with such proposed action. 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 alternative action 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," NUREG-1073, January 1985, for the RBS.

*Agencies and Persons Notified:*

In accordance with its stated policy, on August 6, 2013, the staff notified the Louisiana State official, Ji Wiley, of the Louisiana Department of Environmental Quality, Radiation Protection Division, regarding the environmental impact of the proposed action. The State official had no comments.

**III. 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 August 23, 2012.

Dated at Rockville, Maryland, this 9<sup>th</sup> day of August 2013.

For the Nuclear Regulatory Commission.



Michael T. Markley, Chief,  
Plant Licensing Branch IV,  
Division of Operating Reactor Licensing,  
Office of Nuclear Reactor Regulation.



August 9, 2013

Vice President, Operations  
Entergy Operations, Inc.  
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Sincerely,  
*/RA/*

Alan Wang, Project Manager  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-458

Enclosure:  
Environmental Assessment

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**ADAMS Accession Nos.** Letter ML13203A123; EA ML13203A126

OFFICE	NRR/DORL/LPL4/PM	NRR/DORL/LPL4/LA	NRR/DLR/RERB/BC
NAME	AWang	JBurkhardt	SKlementowicz for MWong
DATE	7/29/13	7/23/13	7/29/13
OFFICE	OGC - NLO	NRR/DORL/LPL4/BC	NRR/DORL/LPL4/PM
NAME	LSubin	MMarkley	Flyon for AWang
DATE	8/11/13	8/9/13	8/9/13

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