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

December 19, 2008

Vice President, Operations
Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

SUBJECT: PALISADES NUCLEAR PLANT - INDIVIDUAL NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE AND OPPORTUNITY FOR HEARING (TAC NO. ME0161)

Dear Sir:

The U.S. Nuclear Regulatory Commission has forwarded the enclosed "Notice of Consideration of Issuance of Amendment to Facility Operating License and Opportunity for a Hearing," to the Office of the *Federal Register* for publication.

This notice relates to your application dated November 25, 2008, Agencywide Documents Access and Management System (ADAMS) Accession No. ML083360619, in which you request to revise Appendix A, Technical Specifications (TS), as they apply to the spent fuel pool storage requirements in TS section 3.7.16 and the criticality requirements for the Region I spent fuel pool (SFP) and north tilt pit fuel storage racks, in TS section 4.3.1.1.

The proposed change, in accordance with Title 10 of *Code of Federal Regulations* (10 CFR) § 50.68, Criticality accident requirements, would establish the effective neutron multiplication factor (Keff) limits for Region I storage racks based on analyses to maintain Keff less than 1.0 when flooded with unborated water, and less than, or equal to 0.95 when flooded with water having a minimum boron concentration of 850 parts per million during normal operations. The proposed change was evaluated for both normal operation and accident conditions. This proposed change provides an analysis that does not credit boron in the Carborundum® poison plates and incorporates a conservative swelling model of the plates in the Region I storage racks.

If you have any questions, please contact me at 301-415-8371.

Sincerely,

Mahesh Chawla, Project Manager
Plant Licensing Branch 3-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-255

Enclosure:
Notice of Consideration

cc w/encl: Distribution via ListServ

7590-01-P

UNITED STATES NUCLEAR REGULATORY COMMISSION

ENTERGY NUCLEAR OPERATIONS, INC.

DOCKET NO. 50-255

NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE, PROPOSED NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION, AND OPPORTUNITY FOR A HEARING

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. DPR-20 issued to Entergy Nuclear Operations, Inc. (ENO, the licensee) for operation of the Palisades Nuclear Plant located in Covert, Michigan.

The proposed amendment would revise Appendix A, Technical Specifications (TS), as they apply to the spent fuel pool (SFP) storage requirements in TS section 3.7.16 and the criticality requirements for the Region I SFP and north tilt pit fuel storage racks, in TS section 4.3.1.1.

The proposed change, in accordance with Title 10 of *Code of Federal Regulations* (10 CFR) § 50.68, Criticality accident requirements, would establish the effective neutron multiplication factor (Keff) limits for Region I storage racks based on analyses to maintain Keff less than 1.0 when flooded with unborated water, and less than, or equal to (≤) 0.95 when flooded with water having a minimum boron concentration of 850 parts per million (ppm) during normal operations. The proposed change was evaluated for both normal operation and accident conditions. This proposed change provides an analysis that does not credit boron in the Carborundum® poison plates and incorporates a conservative swelling model of the plates in the Region I storage racks.

Before issuance of the proposed license amendment, the Commission will have made findings required by the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations.

The Commission has made a proposed determination that the amendment request involves no significant hazards consideration. Under the Commission's regulations in Title 10 of the CODE OF FEDERAL REGULATIONS (10 CFR), Section 50.92, this means that operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   There is no significant increase in the probability of an accidental misloading of fuel assemblies into the spent fuel pool racks when considering the presence of soluble boron in the pool water for criticality control. Fuel assembly placement would continue to be controlled by approved fuel handling procedures and would be in accordance with the TS fuel storage rack configuration limitations.

   There is no significant increase in the consequences of the accidental misloading of fuel assemblies into the spent fuel pool racks because the criticality analyses demonstrate that the pool would remain subcritical with margin following an accidental misloading if the pool contains an adequate boron concentration. The TS 3.7.15 limitation on minimum spent fuel pool boron concentration and plant procedures ensure that an adequate boron concentration will be maintained.

   There is no significant increase in the probability of a fuel assembly drop accident in the spent fuel pool when considering the presence of soluble boron in the spent fuel pool water for criticality control. The handling of fuel assemblies in the spent fuel is performed in borated water. The criticality analysis has showed the reactivity increase with a fuel assembly drop accident in both a vertical and horizontal orientation is bounded by the misloading accident. Therefore, the consequences of a fuel assembly drop accident in the spent fuel pool would not increase significantly due to the proposed change.

The spent fuel pool TS boron concentration requirement in TS 3.7.15 requires a minimum of 1720 ppm which bounds the analysis. Soluble boron has been maintained in the spent fuel pool water as required by TS and controlled by procedures. The present criticality safety analyses for Region II of the spent fuel pool credits the same soluble boron concentration of 850 ppm to maintain a Keff ≤ 0.95 under normal conditions and 1350 ppm to maintain a Keff ≤ 0.95 under accident scenarios as do the analyses for the proposed change for Region I. Crediting soluble boron in the Region I spent fuel pool criticality analysis would have no effect on normal pool operation and maintenance. Thus, there is no change to the probability or the consequences of the boron dilution event in the spent fuel pool.

Since soluble boron is maintained in the spent fuel pool water, implementation of the proposed changes would have no effect on the normal pool operation and maintenance. Also, since soluble boron is present in the spent fuel pool a dilution event has always been a possibility. The loss of substantial amounts of soluble boron from the spent fuel pool was evaluated as part of the analyses in support of this proposed amendment. The analyses use the same soluble boron concentrations as were used in previous analyses for Region II spent fuel storage racks. In the unlikely event that soluble boron in the spent fuel pool is completely diluted, the fuel in Region I of the spent fuel pool would remain subcritical by a design margin of at least 0.02 delta Keff, so the Keff of the fuel in Region I will remain below 1.0. Therefore, the limitations on boron concentration have not changed and would not result in a significant increase in the probability or consequences of a previously evaluated accident.

There is no increase in the probability or consequences of the loss of normal cooling to the spent fuel pool water, when considering the presence of soluble boron in the pool water for subcriticality control, since a high concentration of soluble boron is always maintained in the spent fuel pool.

The criticality analyses documented in AREVA NP report ANP-2779NP-001, "Palisades SFP Region I Criticality Evaluation," show, at a 0.95% [percent] probability and a 95% confidence level (95/95) that Keff is less than the regulatory limit in 10 CFR 50.68 of 0.95 under borated conditions, or a limit of 1.0 with unborated water. Therefore, the consequences of accidents previously evaluated are not increased.

Therefore, it is concluded that the proposed change does not significantly increase the probability or consequences of any accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No.

   Spent fuel handling accidents have been analyzed in Sections 14.11, "Postulated Cask Drop Accidents," and 14.19, "Fuel Handling Incident," of the Updated Final Safety Analysis Report. Criticality accidents in the spent fuel pool have been analyzed in previous criticality evaluations, which are the bases for the present TS.

The existing TS allow storage of fuel assemblies with a maximum planar average U-235 enrichment of 4.95 weight percent in the Region I fuel storage rack. The proposed specifications would restrict fuel enrichment to lower values in different areas of the Region I storage racks. The possibility of placing a fuel assembly with greater enrichment than allowed currently exists but is controlled by fuel manufacturer's procedures and plant handling procedures. Manufacturer's and plant procedu[r]al controls would remain in place. Lowering the allowed enrichments does not create a new or different kind of accident.

ENO considered the effects of a mispositioned fuel assembly. The proposed loading restrictions include locations that are prohibited from containing any fuel. Administrative controls are in place to restrict fuel moves to those locations. These include procedures to develop the plans for fuel movement and operate the fuel handling equipment. These procedures include appropriate reviews and verifications to ensure design requirements are maintained. ENO is also proposing to add new limiting conditions for operation and surveillance requirements in TS 3.7.16 to provide additional assurance that the requirements are met.

Furthermore, the existing TS contain limitations on the spent fuel pool boron concentration that conservatively bound the required boron concentration of the new criticality analyses. Currently, TS 3.7.15 requires a minimum boron concentration of 1720 ppm. Since soluble boron is maintained in the spent fuel pool water, implementation of the proposed changes would have no effect on the normal pool operation and maintenance. Since soluble boron is present in the spent fuel pool, a dilution event has always been a possibility. The loss of substantial amounts of soluble boron from the spent fuel pool was evaluated as part of the analysis in support of Amendment 207. That analysis also demonstrated that due to the large volume of unborated water that would need to be added and displaced, and the long duration of the event, the condition would be detected and corrected promptly. The analyses that support the current request use the same soluble boron concentrations as were used in previous analyses for Region II spent fuel storage racks. In the unlikely event that soluble boron in the spent fuel pool is completely diluted, the fuel in Region I of the spent fuel pool would remain subcritical by a design margin of at least 0.02 delta Keff, so the Keff of the fuel in Region I would remain below 1.0.

The combination of controls to prevent a mispositioned fuel assembly, ability to readily identify and correct a dilution event, and relatively high concentration of soluble boron supports a conclusion that a new or different kind of accident is not created.

Under the proposed amendment, no changes are made to the fuel storage racks themselves, to any other systems, or to any plant structures. Therefore, the change will not result in any other change in the plant configuration or equipment design.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

   Response: No.

Detailed analysis with approved and benchmarked methods has shown with a 95% probability at a 95% confidence level, that the Keff, of the Region I fuel storage racks in the spent fuel pool, including biases, tolerances and uncertainties is less than 1.0 with unborated water, and less than or equal to 0.95 with 850 ppm of soluble boron credited. In addition, the effects of abnormal and accident conditions have been evaluated to demonstrate that under credible conditions the Keff will not exceed 0.95 with 1350 ppm soluble boron credited. The current TS requirement for minimum spent fuel pool boron concentration is 1720 ppm, which provides assurance that the spent fuel pool would remain subcritical.

The current analysis basis for the Region II fuel storage racks is a maximum Keff of less than 1.0 when flooded with unborated water, and less than or equal to 0.95 when flooded with water having a boron concentration of 850 ppm. In addition, the Keff in accident or abnormal operating conditions is less than 0.95 with 1350 ppm of soluble boron. These values are not affected by the proposed change.

Therefore, it is concluded that the proposed change does not involve a significant reduction in the margin of safety.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

The Commission is seeking public comments on this proposed determination. Any comments received within 30 days after the date of publication of this notice will be considered in making any final determination.

Normally, the Commission will not issue the amendment until the expiration of 60 days after the date of publication of this notice. The Commission may issue the license amendment before expiration of the 60-day period provided that its final determination is that the amendment involves no significant hazards consideration. In addition, the Commission may issue the amendment prior to the expiration of the 30-day comment period should circumstances change during the 30-day comment period such that failure to act in a timely way would result, for example, in derating or shutdown of the facility. Should the Commission take action prior to the expiration of either the comment period or the notice period, it will publish in the *Federal Register* a notice of issuance. Should the Commission make a final No Significant

Hazards Consideration Determination, any hearing will take place after issuance. The Commission expects that the need to take this action will occur very infrequently.

Written comments may be submitted by mail to the Chief, Rulemaking, Directives and Editing Branch, TWB-05-B01M, Division of Administrative Services, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and should cite the publication date and page number of this *Federal Register* notice. 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 O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland.

The filing of requests for hearing and petitions for leave to intervene is discussed below.

Within 60 days after the date of publication of this notice, the person(s) may file a request for a hearing with respect to issuance of the amendment to the subject facility operating license and any person(s) whose interest may be affected by this proceeding and who wishes to participate as a party in the proceeding must file a written request via electronic submission through the NRC E-filing system for a hearing and a petition for leave to intervene. Requests for a hearing and a petition for leave to intervene shall be filed in accordance with the Commission's "Rules of Practice for Domestic Licensing Proceedings" in 10 CFR Part 2. Interested person(s) should consult a current copy of 10 CFR 2.309, which is available at the Commission's PDR, located at One White Flint North, Public File Area O1F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible from the Agencywide Documents Access and Management System's (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, http://www.nrc.gov/reading-rm/doc-collections/cfr/. If a request for a hearing or petition for leave to intervene is filed by the above date, the Commission or a presiding officer designated by the Commission or by the Chief Administrative Judge of the Atomic Safety and Licensing Board Panel, will rule on the request

and/or petition; and the Secretary or the Chief Administrative Judge of the Atomic Safety and Licensing Board will issue a notice of a hearing or an appropriate order.

As required by 10 CFR 2.309, a petition for leave to intervene shall set forth with particularity the interest of the petitioner in the proceeding, and how that interest may be affected by the results of the proceeding. The petition should specifically explain the reasons why intervention should be permitted with particular reference to the following general requirements: 1) the name, address and telephone number of the requestor or petitioner; 2) the nature of the requestor's/petitioner's right under the Act to be made a party to the proceeding; 3) the nature and extent of the requestor's/petitioner's property, financial, or other interest in the proceeding; and 4) the possible effect of any decision or order which may be entered in the proceeding on the requestor's/petitioner's interest. The petition must also identify the specific contentions which the petitioner/requestor seeks to have litigated at the proceeding.

Each contention must consist of a specific statement of the issue of law or fact to be raised or controverted. In addition, the petitioner/requestor shall provide a brief explanation of the bases for the contention and a concise statement of the alleged facts or expert opinion which support the contention and on which the petitioner intends to rely in proving the contention at the hearing. The petitioner/requestor must also provide references to those specific sources and documents of which the petitioner is aware and on which the petitioner intends to rely to establish those facts or expert opinion. The petition must include sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact. Contentions shall be limited to matters within the scope of the amendment under consideration. The contention must be one which, if proven, would entitle the petitioner to relief. A petitioner/requestor who fails to satisfy these requirements with respect to at least one contention will not be permitted to participate as a party.

Those permitted to intervene become parties to the proceeding, subject to any limitations in the order granting leave to intervene, and have the opportunity to participate fully in the conduct of the hearing.

If a hearing is requested, the Commission will make a final determination on the issue of no significant hazards consideration. The final determination will serve to decide when the hearing is held. If the final determination is that the amendment request involves no significant hazards consideration, the Commission may issue the amendment and make it immediately effective, notwithstanding the request for a hearing. Any hearing held would take place after issuance of the amendment. If the final determination is that the amendment request involves a significant hazards consideration, any hearing held would take place before the issuance of any amendment.

All documents filed in NRC adjudicatory proceedings, including a request for hearing, a petition for leave to intervene, any motion or other document filed in the proceeding prior to the submission of a request for hearing or petition to intervene, and documents filed by interested governmental entities participating under 10 CFR 2.315(c), must be filed in accordance with the NRC E-Filing rule, which the NRC promulgated on August 28, 2007 (72 FR 49139). The E-Filing process requires participants to submit and serve all adjudicatory documents over the internet, or in some cases to mail copies on electronic storage media. Participants may not submit paper copies of their filings unless they seek a waiver in accordance with the procedures described below.

To comply with the procedural requirements of E-Filing, at least ten (10) days prior to the filing deadline, the petitioner/requestor must contact the Office of the Secretary by e-mail at hearing.docket@nrc.gov, or by calling (301) 415-1677, to request (1) a digital ID certificate, which allows the participant (or its counsel or representative) to digitally sign documents and access the E-Submittal server for any proceeding in which it is participating; and/or (2) creation of an electronic docket for the proceeding (even in instances in which the petitioner/requestor

(or its counsel or representative) already holds an NRC-issued digital ID certificate). Each petitioner/requestor will need to download the Workplace Forms Viewer™ to access the Electronic Information Exchange (EIE), a component of the E-Filing system. The Workplace Forms Viewer™ is free and is available at http://www.nrc.gov/site-help/e-submittals/install-viewer.html. Information about applying for a digital ID certificate is available on NRC's public website at http://www.nrc.gov/site-help/e-submittals/apply-certificates.html.

Once a petitioner/requestor has obtained a digital ID certificate, had a docket created, and downloaded the EIE viewer, it can then submit a request for hearing or petition for leave to intervene. Submissions should be in Portable Document Format (PDF) in accordance with NRC guidance available on the NRC public website at http://www.nrc.gov/site-help/e-submittals.html. A filing is considered complete at the time the filer submits its documents through EIE. To be timely, an electronic filing must be submitted to the EIE system no later than 11:59 p.m. Eastern Time on the due date. Upon receipt of a transmission, the E-Filing system time-stamps the document and sends the submitter an e-mail notice confirming receipt of the document. The EIE system also distributes an e-mail notice that provides access to the document to the NRC Office of the General Counsel and any others who have advised the Office of the Secretary that they wish to participate in the proceeding, so that the filer need not serve the documents on those participants separately. Therefore, applicants and other participants (or their counsel or representative) must apply for and receive a digital ID certificate before a hearing request/petition to intervene is filed so that they can obtain access to the document via the E-Filing system.

A person filing electronically may seek assistance through the "Contact Us" link located on the NRC website at http://www.nrc.gov/site-help/e-submittals.html or by calling the NRC electronic filing help Desk, which is available between 8:00 a.m. and 8:00 p.m., Eastern Time, Monday through Friday. The electronic filing Help Desk can be contacted by telephone at 1-866-672-7640 or by e-mail at MSHD.Resource@nrc.gov.

Participants who believe that they have a good cause for not submitting documents electronically must file a motion, in accordance with 10 CFR 2.302(g), with their initial paper filing requesting authorization to continue to submit documents in paper format. Such filings must be submitted by: (1) first class mail addressed to the Office of the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Rulemaking and Adjudications Staff; or (2) courier, express mail, or expedited delivery service to the Office of the Secretary, Sixteenth Floor, One White Flint North, 11555 Rockville, Pike, Rockville, Maryland, 20852, Attention: Rulemaking and Adjudications Staff. Participants filing a document in this manner are responsible for serving the document on all other participants. Filing is considered complete by first-class mail as of the time of deposit in the mail, or by courier, express mail, or expedited delivery service upon depositing the document with the provider of the service.

Non-timely requests and/or petitions and contentions will not be entertained absent a determination by the Commission, the presiding officer, or the Atomic Safety and Licensing Board that the petition and/or request should be granted and/or the contentions should be admitted, based on a balancing of the factors specified in 10 CFR § 2.309(c)(1)(i)-(viii). To be timely, filings must be submitted no later than 11:59 p.m. Eastern Time on the due date.

Documents submitted in adjudicatory proceedings will appear in NRC's electronic hearing docket which is available to the public at http://ehd.nrc.gov/ehd_proceeding/home.asp, unless excluded pursuant to an order of the Commission, an Atomic Safety and Licensing Board, or a Presiding Officer. Participants are requested not to include personal privacy information, such as social security numbers, home addresses, or home phone numbers in their filings. With respect to copyrighted works, except for limited excerpts that serve the purpose of the adjudicatory filings and would constitute a Fair Use application, Participants are requested not to include copyrighted materials in their submissions.

For further details with respect to this license amendment application, see the application for amendment dated November 25, 2008, which is available for public inspection at the Commission's PDR, located at One White Flint North, File Public Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System's (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, 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, 301-415-4737, or by e-mail to pdr.resource@nrc.gov.

Dated at Rockville, Maryland, this 19th day of December.

FOR THE NUCLEAR REGULATORY COMMISSION

Mahesh Chawla, Project Manager
Plant Licensing Branch 3-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

December 19, 2008

Vice President, Operations
Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

SUBJECT: PALISADES NUCLEAR PLANT - INDIVIDUAL NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE AND OPPORTUNITY FOR HEARING (TAC NO. ME0161)

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Sincerely,
/RA/
Mahesh Chawla, Project Manager
Plant Licensing Branch 3-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-255
Enclosure:
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ADAMS Accession Nos.: PKG ML083570401 LTR ML083370059 FRN ML083570414

OFFICE	NRR/LPL3-1/PM	NRR/LPL3-1/LA	NRR/OGC	NRR/LPL3-1/BC
NAME	M Chawla	B Tully	NLO/STurk	L James
DATE	12/12/08	12/12/08	12/17/08	12/19/08

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