

August 9, 2005

Mr. Jeffrey S. Forbes  
Site Vice President  
Arkansas Nuclear One  
Entergy Operations, Inc.  
1448 S. R. 333  
Russellville, AR 72802

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT NO. 2 - NOTICE OF CONSIDERATION OF  
ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE TO  
ALLOW LOADING OF MPC-32 CANISTERS IN ARKANSAS NUCLEAR ONE,  
UNIT NO. 2, SPENT FUEL POOL (TAC NO. MC7648)

Dear Mr. Forbes:

The Commission has forwarded the enclosed "Notice of Consideration of Issuance of Amendment to Facility Operating License, Proposed no Significant Hazards Consideration Determination, and Opportunity for a Hearing," to the Office of the Federal Register for publication.

This notice relates to your July 21, 2005, application to allow use of Holtec MPC-32 dry shielded canisters to load spent fuel for dry storage at Arkansas Nuclear One, Unit No. 2.

Sincerely,

*/RA/*

Drew G. Holland, Project Manager, Section 1  
Project Directorate IV  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-368

cc w/encl: See next page

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Arkansas Nuclear One

cc:

Senior Vice President  
& Chief Operating Officer  
Entergy Operations, Inc.  
P. O. Box 31995  
Jackson, MS 39286-1995

Vice President, Operations Support  
Entergy Operations, Inc.  
P. O. Box 31995  
Jackson, MS 39286-1995

Director, Division of Radiation  
Control and Emergency Management  
Arkansas Department of Health  
4815 West Markham Street, Slot 30  
Little Rock, AR 72205-3867

Wise, Carter, Child & Caraway  
P. O. Box 651  
Jackson, MS 39205

Winston & Strawn  
1700 K Street, N.W.  
Washington, DC 20006-3817

Mr. Mike Schoppman  
Framatome ANP  
3815 Old Forest Road  
Lynchburg, VA 24501

Senior Resident Inspector  
U.S. Nuclear Regulatory Commission  
P. O. Box 310  
London, AR 72847

Regional Administrator, Region IV  
U.S. Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011-8064

County Judge of Pope County  
Pope County Courthouse  
Russellville, AR 72801

May 2005

UNITED STATES NUCLEAR REGULATORY COMMISSION

ENTERGY OPERATIONS, INCORPORATED

DOCKET NO. 50-368

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, NRC) is considering issuance of an amendment to Facility Operating License No. NFP-6, issued to Entergy Operations Incorporated (the licensee), for operation of Arkansas Nuclear One Unit 2 (ANO-2), located in Pope county.

The proposed amendment would define spent fuel loading restrictions for the Holtec International HI-STORM 100 Cask System Multi-Purpose Canister (MPC)-32. The licensee will be removing spent fuel from the spent fuel pool and placing it in dry storage as early as September 2005. This activity will restore the full-core offload capability at ANO-2.

The licensee believed that the calculation that considered the requirements of 10 CFR 50.68 for loading/unloading an MPC-32 met the criteria of 10 CFR 50.59 and 10 CFR 50.36, and did not require NRC review and approval. However, based on Regulatory Information Summary (RIS) 2005-05, "Regulatory Issues Regarding Criticality Analyses for Spent Fuel Pools and Independent Spent Fuel Storage Installations," the licensee submitted a pre-application letter to the NRC outlining the plans to submit a non-exigent technical specification (TS) change and justification for continued operations without prior NRC approval based on guidance contained in Administrative Letter 98-10, "Dispositioning of Technical

Specifications that are Insufficient to Assure Plant Safety," and Generic Letter 91-18, "Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability." In a teleconference between the licensee and the NRC staff held on July 19, 2005, the NRC stated that it did not believe ANO-2 was in compliance with 10 CFR 50.68 and, therefore, the proposed change required NRC approval prior to proceeding with cask loading activities.

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.

Pursuant to 10 CFR 50.91(a)(6) for amendments to be granted under exigent circumstances, the NRC staff must determine that the amendment request involves no significant hazards consideration. Under the Commission's regulations in 10 CFR 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 change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The fuel handling accidents described below can be postulated to increase reactivity. However, for these accident conditions, the double contingency principle of ANS N16.1-1975 is applied. This states that it is unnecessary to assume two unlikely, independent, concurrent events to ensure protection against a criticality accident. Thus, for accident conditions, the presence of soluble boron in the SFP [spent fuel pool] water can be assumed as a realistic initial condition since its absence would be a second unlikely event. Loading/unloading a storage cask in the SFP does not affect the previously

evaluated fuel handling accidents (i.e., criticality effects) in the SFP. The ANO-2 TS for SFP boron concentration ensures subcritical conditions in the SFP during fuel movement activities, whether within the SFP racks or to a storage cask during normal and accident conditions.

The cask configuration for the storage cask (MPC-32) is sufficiently similar to spent fuel racks in the SFP as to not induce new or different spent fuel assembly damage in the unlikely event of the occurrence of a fuel handling accident during storage cask loading/unloading activities. The fuel handling accident includes four drop scenarios (fuel drop horizontally on a cask, fuel drop on a fuel assembly, fuel drop next to a cask, and a fuel drop on the cask basket). The same equipment and procedural controls for controlling fuel within the SFP are utilized when loading/unloading a storage cask. In addition, the postulated fuel handling accidents associated with loading/unloading a storage cask are bounded by current ANO-2 TS SFP requirements for minimum boron concentration.

Loading/unloading a storage cask will have no impact on the boron dilution event probability. The same controls for prohibiting a dilution event during spent fuel movement activities in the SFP are in use when loading/unloading fuel in a cask located in the cask pit.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

Response: No.

The storage casks have the same basic design and control of a SFP rack. The cask cell walls are thicker than the SFP rack walls; the outside wall on the cask is thicker than the SFP racks and the space for mishandling is tighter than around the racks. When the cask loading pit gate is open and the Technical Specifications are applicable, the pit is in direct communications with the spent fuel pool. Boron concentrations and decay heat removal for fuel in the cask loading pit is controlled in the same manner as it is for fuel in the spent fuel pool proper.

An accident analysis for the MPC-32 was performed assuming the same SFP rack accidents that are discussed in the ANO-2 SAR [safety analysis report]. The ANO-2 TS boron concentration assures that a subcritical margin is maintained during any postulated accident condition (i.e.,  $k_{\text{eff}}$  [effective neutron multiplication coefficient] is less than or equal to 0.95).

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 change involve a significant reduction in a margin of safety?

Response: No.

The ANO-2 TSs require for criticality concerns in the SFP that  $k_{\text{eff}}$  remain less than or equal to 0.95. For the MPC-32, the criticality analysis demonstrated that when the ANO-2 TS for SFP boron concentration is met, a loading restriction is required to ensure  $k_{\text{eff}}$  remains less than or equal to 0.95. The proposed change to the ANO-2 TS will ensure the criticality margin is maintained.

Therefore, the proposed change does not involve a significant reduction in a 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 14 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 the 14-day notice period. However, should circumstances change during the notice period, such that failure to act in a timely way would result, for example, in derating or shutdown of the facility, the Commission may issue the license amendment before the expiration of the 14-day notice period, provided that its final determination is that the amendment involves no significant hazards consideration. The final determination will consider all public and State comments received. Should the Commission take this action, it will publish in the *Federal Register* a notice of 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, Rules and Directives Branch,

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. Written comments may also be delivered to Room 6D59, Two White Flint North, 11545 Rockville Pike, Rockville, Maryland, from 7:30 a.m. to 4:15 p.m. Federal workdays. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, 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 licensee may file a request for a hearing with respect to issuance of the amendment to the subject facility operating license and any person whose interest may be affected by this proceeding and who wishes to participate as a party in the proceeding must file a written request 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 and Issuance of Orders" in 10 CFR Part 2. Interested persons 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 01F21, 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/requestor is aware and on which the petitioner/requestor intends to rely to establish those facts or expert opinion. The petitioner/requestor must provide 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/requestor 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.

Nontimely requests and/or petitions and contentions will not be entertained absent a determination by the Commission or the presiding officer of the Atomic Safety and Licensing Board that the petition, request and/or the contentions should be granted based on a balancing of the factors specified in 10 CFR 2.309(c)(1)(i)-(viii).

A request for a hearing or a petition for leave to intervene must be filed 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; 2) courier, express mail, and expedited delivery services: Office of the Secretary, Sixteenth Floor, One White Flint North, 11555 Rockville Pike, Rockville, Maryland, 20852, Attention: Rulemaking and Adjudications Staff; 3) E-mail addressed to the Office of the Secretary, U.S. Nuclear Regulatory Commission, [HEARINGDOCKET@NRC.GOV](mailto:HEARINGDOCKET@NRC.GOV); or 4) facsimile transmission addressed to the Office of the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC, Attention: Rulemakings and Adjudications Staff at (301) 415-1101, verification number is (301) 415-1966. A copy of the request for hearing and petition for leave to intervene should also be sent to the Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and it is requested that copies be transmitted either by means of

facsimile transmission to 301-415-3725 or by e-mail to [OGCMailCenter@nrc.gov](mailto:OGCMailCenter@nrc.gov). A copy of the request for hearing and petition for leave to intervene should also be sent to Nicholas S. Reynolds, Esquire, Winston and Strawn, 1700 K Street, N.W., Washington, D.C. 20006-3817, attorney for the licensee.

For further details with respect to this action, see the application for amendment dated July 21, 2005, which is available for public inspection at the Commission's Public Document Room (PDR), located at One White Flint North, Public File Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the ADAMS Public Electronic Reading Room on the Internet at the NRC web site <http://www.nrc.gov/reading-rm.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@nrc.gov](mailto:pdr@nrc.gov).

Dated at Rockville, Maryland, this 9<sup>th</sup> day of August 2005.

FOR THE NUCLEAR REGULATORY COMMISSION  
**/RA/**

Drew G. Holland, Project Manager, Section 1  
Project Directorate IV  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation