

UNITED STATES NUCLEAR REGULATORY COMMISSION

CATAWBA NUCLEAR STATION, UNITS 1 AND 2

DOCKET NOS. 50-413 AND 50-414

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 Nos. NFP-35 and NFP-52 issued to Duke energy Corporation (the licensee) for operation of the Catawba Nuclear Station, Units 1 and 2 located in York County, South Carolina.

The proposed amendment would revise Technical Specifications (TS) Sections 3.7.16, "Spent Fuel Assembly Storage," and 4.3, "Design Features: Fuel Storage." This License Amendment Request (LAR) presents revised storage criteria for low-enriched uranium fuel stored at Catawba. This is accomplished by taking partial credit for soluble boron in the Catawba spent fuel pools (SFPs), in accordance with the regulatory requirements of 10 CFR 50.68 (b). The TS bases for 3.3.15 and TS 4.3.3 would also be revised to change the number of usable storage cells in each of the Catawba SFPs from 1418 to 1421.

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:

First Standard

Does operation of the facility in accordance with the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The addition of the amount of soluble boron specified by Specification 4.3 has no impact on the probability or consequences of any previously evaluated accident. This addition of soluble boron requirements is not considered to be an initiator of any accidents nor does it influence how previously evaluated accidents are mitigated.

The increase in the number of usable storage cells in each of the Catawba SFPs [spent fuel pools] from 1418 to 1421 has no impact on the probability or consequences of any previously evaluated accident. This change makes the TS accurate based on the discussion in Reference 2. This correction in usable storage cells is not considered to be an initiator of any accidents nor does it influence how previously evaluated accidents are mitigated.

There is no increase in the probability of a fuel assembly drop accident in the spent fuel pools when allowing for credit to be taken for soluble boron to maintain an acceptable margin of subcriticality in the spent fuel pool. The method of handling fuel assemblies in the spent fuel pool is not affected by the changes made to the criticality analysis for the spent fuel pool or by the proposed TS [technical specification] changes. The handling of fuel assemblies during normal operation is unchanged, since the same equipment and procedures will be used.

The radiological consequences of a fuel assembly drop accident will not be adversely impacted due to taking credit for soluble boron for criticality control in the spent fuel pool in the criticality analysis. The criticality analysis showed that the consequences of a fuel assembly drop accident in the spent fuel pools are not affected when allowing for credit to be taken for soluble boron to maintain an acceptable margin of subcriticality in the spent fuel pool. As discussed in section 4.0 [ADAMS Accession No. ML0525590247], the radiological consequences of a weir gate drop accident will not be adversely impacted due to the proposed TS changes.

There is no increase in the probability or consequences of the accidental misloading of fuel assemblies into the spent fuel pool racks when allowing for credit to be taken for soluble boron to maintain an acceptable margin of subcriticality in the spent fuel pool. Fuel assembly placement and storage will continue to be controlled pursuant to approved fuel handling procedures and other approved processes to ensure compliance with the Technical Specification requirements. These procedures and processes will be revised as needed to comply with the revised requirements which would be imposed by the proposed Technical Specification changes.

Therefore, it is concluded that operation of Catawba Units 1 and 2 in accordance with these proposed changes does not involve a significant increase the probability of occurrence or consequences of an accident previously analyzed.

Second standard

Does operation of the facility in accordance with the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

Criticality and other related accidents within the spent fuel pool are not new or different types of accidents. They have been analyzed in the Updated Final Safety Analysis Report and in criticality analysis reports associated with specific licensing amendments. Specific accidents considered and evaluated include fuel assembly drop, accidental misloading of fuel assemblies into the spent fuel pool racks, significant changes in spent fuel pool water temperature, and a heavy load (weir gate) drop onto the spent fuel racks. The accident analysis in the Updated Final Safety Analysis Report remains bounding.

For the proposed amendment, the spent fuel pool dilution evaluation demonstrates that a dilution of the boron concentration in the spent fuel pool water which could increase the rack k_{eff} to greater than 0.95 continues to be a non-credible event. The proposed amendment regarding fuel storage requirements, number of usable storage cells, and amount of soluble boron in the spent fuel pool water specified by Specification 4.3 will have no effect on normal pool operations and maintenance. There are no changes in equipment design or in plant configuration. The Technical Specification changes will not result in the installation of any new equipment or modification of any existing equipment. Therefore, the proposed amendment will not result in the possibility of a new or different kind of accident.

Third standard

Does operation of the facility in accordance with the proposed amendment involve a significant reduction in the margin of safety?

Response: No.

The proposed Technical Specification changes and the resulting spent fuel storage operating limits will provide adequate safety margin to ensure that the stored fuel assembly array will always remain subcritical. Those limits are based on a plant specific criticality analysis (Attachment 4 [ADAMS Accession No. ML0525590247]) . This methodology takes partial credit for soluble boron in the spent fuel pool and requires conformance with the following NRC acceptance criteria for preventing criticality outside the reactor:

1. k_{eff} shall be less than 1.0 if fully flooded with unborated water, which includes an allowance for uncertainties at a 95% probability, 95% confidence (95/95) level; and
2. k_{eff} shall be less than or equal to 0.95 if flooded with borated water, which includes an allowance for uncertainties at a 95/95 level.

The criticality analysis utilized partial credit for soluble boron (200 ppm) to ensure the maximum 95/95 k_{eff} will be less than or equal to 0.95 under normal circumstances, and storage configurations have been defined using a 95/95 k_{eff} calculation to ensure that the spent fuel rack k_{eff} will be less than 1.0 with no soluble boron. The loss of substantial amounts of soluble boron from the spent fuel pool which could lead to exceeding a k_{eff} of 0.95 has been evaluated and shown to be not credible. Therefore, it is concluded that this change does not involve a significant reduction in the margin of safety.

The increase in the number of usable storage cells in each of the Catawba SFPs from 1418 to 1421 has no impact on the margin of safety. This change just makes the TS accurate based on the discussion in Reference 2. This correction in usable storage cells 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, 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, 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 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" 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 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 requestors/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 and that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding. 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.

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; 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 email to OGCMailCenter@nrc.gov. A copy of the request for hearing and petition for leave to intervene should also be sent to Ms. Lisa F. Vaughn, Legal Department (PB05E), Duke Energy Corporation, 422 South Church Street, Charlotte, North Carolina 28201-1006, attorney for the licensee.

The Commission hereby provides notice that this is a proceeding on an application for a license amendment falling within the scope of section 134 of the Nuclear Waste Policy Act of 1982 (NWPA), 42 U.S.C. 10154. Under section 134 of the NWPA, the Commission, at the

request of any party to the proceeding, must use hybrid hearing procedures with respect to “any matter which the Commission determines to be in controversy among the parties.”

The hybrid procedures in section 134 provide for oral argument on matters in controversy, preceded by discovery under the Commission’s rules and the designation, following argument of only those factual issues that involve a genuine and substantial dispute, together with any remaining questions of law, to be resolved in an adjudicatory hearing. Actual adjudicatory hearings are to be held on only those issues found to meet the criteria of section 134 and set for hearing after oral argument.

The Commission’s rules implementing section 134 of the NWPA are found in 10 CFR Part 2, Subpart K, “Hybrid Hearing Procedures for Expansion of Spent Fuel Storage Capacity at Civilian Nuclear Power Reactors.” Under those rules, any party to the proceeding may invoke the hybrid hearing procedures by filing with the presiding officer a written request for oral argument under 10 CFR 2.1109. To be timely, the request must be filed together with a request for hearing/petition to intervene, filed in accordance with 10 CFR 2.309. If it is determined a hearing will be held, the presiding officer must grant a timely request for oral argument. The presiding officer may grant an untimely request for oral argument only upon a showing of good cause by the requesting party for the failure to file on time and after providing the other parties an opportunity to respond to the untimely request. If the presiding officer grants a request for oral argument, any hearing held on the application must be conducted in accordance with the hybrid hearing procedures. In essence, those procedures limit the time available for discovery and require that an oral argument be held to determine whether any contentions must be resolved in an adjudicatory hearing. If no party to the proceeding timely requests oral argument, and if all untimely requests for oral argument are denied, then the usual procedures in 10 CFR Part 2, Subpart L apply.

For further details with respect to this action, see the application for amendment dated September 13, 2005, 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 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 pdrc@nrc.gov.

Dated at Rockville, Maryland, this 9th day of November 2005.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Farideh E. Saba, Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

requests oral argument, and if all untimely requests for oral argument are denied, then the usual procedures in 10 CFR Part 2, Subpart L apply.

For further details with respect to this action, see the application for amendment dated September 13, 2005, 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 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@nrc.gov.

Dated at Rockville, Maryland, this 9th day of November 2005.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

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SUBJECT: CATAWBA NUCLEAR STATION, UNITS 1 AND 2 RE: NOTICE OF
CONSIDERATION OF ISSUANCE OF AMENDMENTS (TAC NOS. MC8439
AND MC8440)

Dated: November 9, 2005

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