January 10, 1991

Docket Nos. 50-413
and 50-414

Mr. M.S. Tuckman
Vice President -
Nuclear Operations
Duke Power Company
P.O. Box 1007
Charlotte, North Carolina 28201-1007

Dear Mr. Tuckman:

SUBJECT: CATAWBA UNITS 1 AND 2 - STEAM GENERATOR TUBE SLEEVING
(TAC NOS. 79167 AND 79168)

The Commission has forwarded the enclosed "Notice of Consideration of Issuance of Amendments to Facility Operating Licenses and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing" to the Office of the Federal Register for publication.

This notice relates to your December 19, 1990, application to allow the option of using the Babcock and Wilcox Recirculating Steam Generator Kinetic Sleeve Qualification tube repair process as an alternative other than plugging for handling defective steam generator tubes.

Sincerely,

Original signed by:

Robert E. Martin, Senior Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office Of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/encl.:
See next page

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UNITED STATES NUCLEAR REGULATORY COMMISSION

DUKE POWER COMPANY

DOCKET NOS. 50-413 AND 50-414

NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENTS TO FACILITY OPERATING LICENSES AND PROPOSED NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION AND OPPORTUNITY FOR HEARING

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of amendments to Facility Operating License Nos. NPF-35 and NPF-52 issued to Duke Power Company (the licensee) for operation of Catawba Nuclear Station, Units 1 and 2, located in York County, South Carolina.

The proposed amendments would provide the licensee with an alternative other than plugging for handling defective steam generator tubes. The amendments would allow the option of using the Babcock & Wilcox (B&W) Recirculating Steam Generator Kinetic Sleeve Qualification tube repair process as described in B&W Topical Report BAW-2045(P)-A. The licensee states that the topical report received NRC approval for such an application on January 4, 1990.

The amendments would involve changes to Surveillance Requirement 4.4.5, as identified in the application, to reflect the inclusion of sleeving in the surveillance acceptance criteria, to allow sleeving as an alternate to plugging tubes that exceed the repair limit, to reflect repaired tubes in the reporting requirements and in the Bases.

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

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The Commission has made a proposed determination that the request for amendments 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 amendments 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 the following analysis about the issue of no significant hazards consideration:

> Operation of Catawba in accordance with the proposed amendment would not involve a significant increase in the probability or consequences of an accident previously evaluated. Considering the function of the sleeve, the principal accident associated with this amendment is the steam generator tube rupture accident. The steam generator sleeve has been analyzed and tested to the operating and design conditions of the original tube as documented in Topical Report BAW-2045(P)-A. The Topical Report contains the design verification results from the analysis and confirmatory testing performed on the sleeve. The probability or consequences of this previously evaluated accident does not involve a significant increase since the sleeve meets the original tube design conditions and the structural integrity of the tube is maintained by the sleeving process, and surveillance requirements. The sleeve is less susceptible to the identified stress corrosion failure mechanisms of the original tube because of the B&W specified installation process and the use of improved material (Alloy Inconel 690); therefore, the potential for primary to secondary leakage is also reduced by the addition of a steam generator tube sleeve. The continued integrity of the sleeve will be verified by TS inspection requirements and the sleeve will be plugged in accordance with TSs, if necessary.
>
> Operation of Catawba in accordance with the proposed amendment would not create the possibility of a new or different kind of accident from any accident previously evaluated. The purpose of the sleeve is to repair a defective steam generator tube to maintain the function and integrity of the tube as opposed to plugging and removing the tube from service. The sleeve functions in essentially the same manner as the original tube and has been analyzed and tested for steam generator design conditions. The sleeve is less susceptible to the identified stress corrosion failure mechanisms of the original tube because of the B&W specified installation

process and the use of improved material (Alloy Inconel 690); therefore, the potential for primary to secondary leakage is also reduced by the addition of a steam generator tube sleeve. The continued integrity of the sleeve will be verified by TS inspection requirements and the sleeve will be plugged in accordance with TSs, if necessary. Repairing a steam generator tube to a serviceable condition utilizing the proposed sleeve process does not create the possibility of a new or different type of accident since the sleeve is a passive component with postulated failures that are similar to the original tube.

Operation of Catawba in accordance with the proposed amendment would not involve a significant reduction in a margin of safety. The structural integrity of the tube is maintained by the installation of the sleeve and the sleeve/tube weld. The potential for primary to secondary leakage is reduced by the addition of the steam generator tube sleeve. The sleeve is made of Alloy 690 and is not subject to the same failure mechanisms of the original tube.

The Catawba LOCA [Loss of Coolant Accident] analysis in Chapter 15 of the FSAR takes into account the effect of plugged tubes on primary coolant flow. The LOCA analysis assumes a worst case where 10% of the tubes are plugged. The effects of sleeve installation (versus tube plugging) on steam generator performance, heat transfer, flow restriction, and steam generation capacity were analyzed and described in the B&W Topical Report. The results show that plugging one tube is equivalent to the heat transfer reduction of sleeving 48 tubes, the primary flow reduction of sleeving 20 tubes, and the loss of steam generation of capacity of sleeving 40 tubes. In summary, the tube sleeving does not result in a reduction of the margin assumed in the LOCA analysis since it is bounded by the limits for tube plugging.

The Commission's staff has reviewed the licensee's analysis, and based on this review, it appears that the three standards of 10 CFR 50.92 are satisfied.

Therefore, based on the above considerations, the Commission has made a proposed determination 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. The Commission will not normally make a final determination unless it receives a request for a hearing.

Written comments may be submitted by mail to the Regulatory Publications Branch, Division of Freedom of Information and Publications Services, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and should cite the publication date and page number of this FEDERAL REGISTER notice. Written comments may also be delivered to Room P-223, Phillips Building, 7920 Norfolk Avenue, Bethesda, Maryland, from 7:30 a.m. to 4:15 p.m. Copies of written comments received may be examined at the NRC Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC. The filing of requests for hearing and petitions for leave to intervene is discussed below.

By February 19, 1991 , the licensee may file a request for a hearing with respect to issuance of the amendments to the subject facility operating licenses 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 petition for leave to intervene. Request for a hearing and petitions 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 2.714 which is available at the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC 20555 and at the Local Public Document Room located at the York County Library, 138 East Black Street, Rock Hill, South Carolina 29730. If a request for a hearing or petition for leave to intervene is filed by the above date, the Commission or an Atomic Safety and Licensing Board, designated by the Commission or by the Chairman of the Atomic Safety and Licensing Board Panel, will rule on the request and/or petition and the Secretary or the designated Atomic Safety and Licensing Board will issue a notice of hearing or an appropriate order.

As required by 10 CFR §2.714, 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 factors: (1) the nature of the petitioner's right under the Act to be made party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any order which may be entered in the proceeding on the petitioner's interest. The petition should also identify the specific aspect(s) of the subject matter of the proceeding as to which petitioner wishes to intervene. Any person who has filed a petition for leave to intervene or who has been admitted as a party may amend the petition without requesting leave of the Board up to fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, but such an amended petition must satisfy the specificity requirements described above.

Not later than fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, a petitioner shall file a supplement to the petition to intervene which must include a list of the contentions which are sought to be litigated in the matter. Each contention must consist of a specific statement of the issue of law or fact to be raised or controverted. In addition, the petitioner shall provide a brief explanation of the bases of 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 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. Petitioner 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 amendments under consideration. The contention must be one which, if proven, would entitle the petitioner to relief. A petitioner who fails to file such a supplement which satisfies 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, including the opportunity to present evidence and cross-examine witnesses.

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 request for amendments involves no significant hazards consideration, the Commission may issue the amendments and make them effective, notwithstanding the request for a hearing. Any hearing held would take place after issuance of the amendments.

If a final determination is that the amendments involve a significant hazards consideration, any hearing held would take place before the issuance of any amendment.

Normally, the Commission will not issue the amendments until the expiration of the 30-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

amendments before the expiration of the 30-day notice period, provided that its final determination is that the amendments involve no significant hazards consideration. The final determination will consider all public and State comments received. Should the Commission take this action, it will publish a notice of issuance and provide for opportunity for a hearing after issuance. The Commission expects that the need to take this action will occur very infrequently.

A request for a hearing or a petition for leave to intervene must be filed with the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Services Branch, or may be delivered to the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC, by the above date. Where petitions are filed during the last ten (10) days of the notice period, it is requested that the petitioner promptly so inform the Commission by a toll-free telephone call to Western Union at 1-(800) 325-6000 (in Missouri 1-(800) 342-6700). The Western Union operator should be given Datagram Identification Number 3737 and the following message addressed to David B. Matthews: (petitioner's name and telephone number), (date petition was mailed), (plant name), and (publication date and page number of this FEDERAL REGISTER notice). A copy of the petition should also be sent to the Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and to Mr. Albert Carr, Duke Power Company, 422 South Church Street, Charlotte, North Carolina 28242, attorney for the licensee.

Nontimely filings of petitions for leave to intervene, amended petitions, supplemental petitions and/or requests for hearing 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 based upon a balancing of the factors specified in 10 CFR 2.714(a)(1)(i)-(v) and 2.714(d).

For further details with respect to this action, see the application for amendment dated December 19, 1990, which is available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC 20555 and at the Local Public Document Room located at the York County Library, 138 East Black Street, Rock Hill, South Carolina 29730.

Dated at Rockville, Maryland, this 10th day of January, 1991.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert Martin

Robert E. Martin, Senior Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation