

May 19, 1988

Docket Nos.: 50-413
and 50-414

Mr. H. B. Tucker, Vice President
Nuclear Production Department
Duke Power Company
422 South Church Street
Charlotte, North Carolina 28242

Dear Mr. Tucker:

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR STEAM GENERATOR TUBE PLUGGING AMENDMENTS,
CATAWBA NUCLEAR STATION, UNITS 1 AND 2 (TACS 66356/66357)

Enclosed is a copy of an "Environmental Assessment and Finding of No Significant Impact" for your information. This assessment relates to your application for amendments dated October 8, 1987, as supplemented December 3, 1987.

This assessment has been forwarded to the Office of the Federal Register for Publication.

Sincerely,

Original signed by:

Kahtan N. Jabbour, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II

Enclosure:
As stated

cc:
See next page

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Mr. H. B. Tucker
Duke Power Company

Catawba Nuclear Station

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UNITED STATES NUCLEAR REGULATORY COMMISSIONDUKE POWER COMPANY, et al.DOCKET NOS. 50-413 AND 50-414ENVIRONMENTAL ASSESSMENT AND FINDING OFNO SIGNIFICANT IMPACT

The United States 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, et al., (the licensee) for operation of the Catawba Nuclear Station, Units 1 and 2, located in York County, South Carolina.

ENVIRONMENTAL ASSESSMENTIdentification of Proposed Action:

The amendments would revise Technical Specification (TS) 3/4.4.5, "Steam Generators" and its bases. The revision would eliminate the requirement for plugging of a steam generator tube if the tube defects are located at least 1.60 inches below the top of the tubesheet. The associated bases 3/4.4.5 would be supplemented to distinguish between defects located at least 1.60 inches below the top of the tube sheet and those located elsewhere in the tubes.

These revisions to the Technical Specifications would be made in response to the licensee's application for amendments dated October 8, 1987, as supplemented December 3, 1987.

The Need for the Proposed Action:

The proposed amendments would avoid the plugging of steam generator tubes when the location of defects is such that plugging is unnecessary. The amendments, therefore, preclude the attendant radiation exposure which would

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otherwise be incurred by plant workers involved with tube plugging operations. The proposed amendments would also maintain operational flexibility by avoiding a loss of margin in reactor coolant system flow and therefore assist in assuring that minimum flow rates are maintained in excess of that required for operation at full power.

Environmental Impacts of the Proposed Action:

An evaluation was performed to demonstrate tube integrity under the postulated loss of coolant accident condition of secondary-to-primary differential pressure. Tube collapse strength characteristics indicate that the constraint provided to the tube by the tubesheet gives a significant margin between tube collapse strength and the limiting secondary-to-primary differential pressure condition, even in the presence of circumferential or axial indications.

Primary-to-secondary leakage in a steam generator during normal plant operation is limited by Technical Specifications. This limit, based on plant radiological release considerations, is applicable to a leak source within the tubesheet. Similarly, the evaluation considered accidents such as main steam line and feedwater line breaks which increase tube differential pressure and the driving head for a leak, and which, therefore, represent events with the largest potential for increasing primary-to-secondary leakage. The evaluation shows that, because of the effect of the hardroll, no increase in primary-to-secondary leakage would occur during or after an accident.

The Commission has reviewed these evaluations and test results and finds them acceptable. We find that, based on the operating limits on primary-to-secondary leakage and the results of the analysis of accident conditions, the proposed amendments would not cause any adverse changes in radiological impacts during normal operations as reported in the "Final Environmental Statement

Related to Operation of Catawba Nuclear Station, Units 1 and 2," NUREG-0921 (FES) dated January 1983, nor any adverse changes to radiological impacts of postulated accidents as reported in the FES. Therefore, no adverse change in radiological impacts to the environment would result from the proposed amendments.

The proposed amendments involve systems located entirely within the restricted area as defined in 10 CFR Part 20. They do not affect non-radiological plant effluents and have no other environmental impact. Therefore, the Commission concludes that there are no significant non-radiological environmental impacts associated with the proposed amendments.

Alternative to the Proposed Action:

Because we have concluded that no adverse environmental effects are associated with the proposed action, any alternatives would have equal or greater environmental impact and need not be selected.

The principal alternative would be to deny the requested amendments. That alternative, in effect, is the same as the "no action" alternative because either case would require the licensee to plug tubes in accordance with existing TS requirements. (As an alternative to plugging, the licensee could request further TS changes to allow repairs of tubes by a tube sleeving technique. Although sleeving would result in less loss of margin in available reactor coolant system flow, it would result in more than twice the dose to workers involved with sleeving installation than the dose resulting from

inserting of mechanical, removable plugs. Sleeving within the tubesheet region would also preclude further repairs of the same tube within its remaining tube length without substantial additional worker exposure associated with sleeve removal and replacement.) Neither plugging nor sleeving would reduce environmental impacts associated with correction of steam generator tube imperfections when compared to the proposed amendments, but both would result in reduced margins in reactor coolant system flow and increased occupational radiological exposure to plant workers.

Alternative Use of Resources:

This action does not involve the use of resources not previously considered in connection with the Nuclear Regulatory Commission's "Final Environmental Statement related to the operation of the Catawba Nuclear Plant, Units 1 and 2" NUREG-0921, dated January 1983.

Agencies and Persons Consulted:

The NRC staff has reviewed the licensee's request of October 8 and December 3, 1987, and did not consult other agencies or persons.

FINDING OF NO SIGNIFICANT IMPACT

The Commission has determined not to prepare an environmental impact statement for the proposed amendments.

Based upon this environmental assessment, we conclude that the proposed action will not have a significant adverse effect on the quality of the human environment.

For further details with respect to this action, see the request for the amendments dated October 8, 1987, and its supplement dated December 3, 1987, which are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D.C., and at the York County Library, 138 East Black Street, Rock Hill, South Carolina 29730.

Dated at Rockville, Maryland, this 23rd day of May 1988.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:

David B. Matthews, Director
Project Directorate II-3
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

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KJabbour

May 23, 1988

DOCKET NO.S. 50-413
50-414

MEMORANDUM FOR: Rules and Procedures Branch
Division of Rules and Records
Office of Administration

FROM: Office of Nuclear Reactor Regulation

SUBJECT: Catawba Nuclear Station, Units 1 and 2 (Duke Power Company, et al.)

One signed original of the *Federal Register* Notice identified below is enclosed for your transmittal to the Office of the Federal Register for publication. Additional conformed copies (5) of the Notice are enclosed for your use.

- Notice of Receipt of Application for Construction Permit(s) and Operating License(s).
- Notice of Receipt of Partial Application for Construction Permit(s) and Facility License(s); Time for Submission of Views on Antitrust Matters.
- Notice of Consideration of Issuance of Amendment to Facility Operating License.
- Notice of Receipt of Application for Facility License(s); Notice of Availability of Applicant's Environmental Report; and Notice of Consideration of Issuance of Facility License(s) and Notice of Opportunity for Hearing.
- Notice of Availability of NRC Draft/Final Environmental Statement.
- Notice of Limited Work Authorization.
- Notice of Availability of Safety Evaluation Report.
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- Order.
- Exemption.
- Notice of Granting Exemption.
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- Other: _____

Office of Nuclear Reactor Regulation

Enclosure:
As stated

Contact: Marilee Rood
Phone: 21487

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