

November 21, 1991

Docket Nos. 50-413
and 50-414

Mr. M. S. Tuckman, Vice President
Catawba Site
Duke Power Company
P. O. Box 256
Clover, South Carolina 29710

Dear Mr. Tuckman:

SUBJECT: CATAWBA NUCLEAR STATION, UNITS 1 AND 2 - F (DELTA-I) PENALTY ON
OT DELTA-T INPUT (TAC NOS. M82113 AND M82114)

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 November 20, 1991, application to change the parameters in Technical Specification (TS) Table 2.2-1 to compensate for potential nonconservatisms in the F-Delta I (axial flux differences) portion to the Overtemperature-Delta T reactor trip function.

Sincerely,

ORIGINAL SIGNED BY:

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

Enclosure:
As stated

cc w/enclosure:
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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P. O. Box 256
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Robert E. Martin
Robert E. Martin, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/enclosure:
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UNITED STATES NUCLEAR REGULATORY COMMISSION

DUKE POWER COMPANY, ET AL.

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

The proposed amendments would change the parameters for Total Allowable (TA), Z and Sensor Error(s) and the footnotes in Technical Specification (TS) Table 2.2-1 for the Overtemperature-Delta Temperature (OTDT) trip setpoint.

The overtemperature OTDT reactor trip is designed to protect the reactor core from departure from nucleate boiling (DNB) over a range of temperatures and pressures. The setpoint for the OTDT trip is variable depending upon reactor coolant system temperature, pressurizer pressure, and axial flux difference. Due to a potential nonconservatism discovered in the methodology used to calculate the F-Delta I ($f(DI)$) reset portion of the OTDT trip function, it was determined that the positive side of the axial offset band was non-conservative for Catawba Unit 2. The $f(DI)$ reset portion of the trip function is designed to lower the trip setpoint when axial flux differences exceed predetermined limits. Since the limiting margins to DNB occur as the result of highly skewed power distributions, a slope change to the positive wing on the axial offset band is necessary in order to prevent the DNB limits from being exceeded. Therefore, an evaluation was performed to determine a new value for

the slope of the positive side of the axial offset band which conservatively bounds this operating region. This new slope value will be included as a Catawba Unit 2 specific value in the Technical Specifications. The value for Unit 1 will remain unchanged because it is based on different calculational methodology. These changes will restore the appropriate margin to the minimum DNBR for the Catawba Unit 2 Cycle 5 Reload Analysis.

The licensee has requested that this amendment be processed on an exigent basis pursuant to 10 CFR 50.91(a)(6). The licensee states that their evaluation and that of their vendor, Westinghouse Electric Corporation in this matter, resulted in a determination on October 21, 1991, that the resolution to the issue would require reanalysis and associated changes to the TS. The licensee had shut Unit 2 down on October 18, 1991, for entry into the current reloading outage. The performance of the additional analysis and proposed revision to the TS was completed by Westinghouse and provided to the licensee on November 13, 1991. The licensee's organizational elements then performed their review of the proposed TS changes. The licensee transmitted their application to the NRC on November 20, 1991. Catawba Unit 2 is currently scheduled to start up from refueling on December 14, 1991, and would need the proposed amendment to the TS prior to December 14, 1991, in order to permit entry into MODE 2. This schedule does not provide the requisite time for the publication of the appropriate Notice in the Federal Register for the 30 day period pursuant to 10 CFR 50.91(a)(2)(ii). Accordingly, the licensee has requested that this proposed amendment be processed on an exigent basis

pursuant to 10 CFR 50.91(a)(6)(vi). The staff has reviewed the schedular information and the actions undertaken by the licensee and finds that failure to process the amendment on an exigent basis would result in a delay in the startup of the unit past the currently scheduled date. Based on the information provided, it appears that the licensee's actions have reflected their best efforts to make a timely application for the needed changes to the TS.

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 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:

These proposed changes to the Technical Specifications do not involve a significant increase in the probability or consequences of an accident previously evaluated. Due to a potential nonconservatism discovered in the methodology used to calculate the $f(\Delta I)$ reset portion of the OTAT trip function, it was determined that the positive side of the axial offset band was non-conservative for Catawba Unit 2. The $f(\Delta I)$ reset portion of the trip function is designed to lower the trip setpoint when axial flux differences exceed predetermined limits. Since the limiting margins to DNB occur as the result of highly skewed power distributions, a slope change to the positive wing on the axial offset band is necessary in order to prevent the DNB limits from being exceeded. Therefore, an

evaluation was performed to determine a new value for the slope of the positive side of the axial offset band which conservatively bounds this operating region. Since this change ensures that the DNB limits are not exceeded the probability or consequences of an accident previously evaluated are not increased.

The changes to the Z and Allowable Value reflect the change in the positive wing of the axial offset band. As discussed in the Technical Justification, included in the Z value is an increase in the uncertainty associated with flux map accuracy. The Total Allowance, Z, and S values also change as a result of using Westinghouse Methodology to calculate the values instead of Duke methodology which was used to calculate the current values. Since these changes ensure that DNB limits are not exceeded, and systems used to mitigate an accident are not affected, the probability or consequences of an accident previously evaluated are not increased.

As discussed above the proposed changes to the Technical Specifications are being made to ensure that DNB limits are not exceeded. Because this change conservatively ensures that DNB limits are not exceeded, and because the operating of other plant systems are not affected, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

As discussed in the Technical Justification it has been determined that the positive side of the axial offset band was non-conservative for Catawba Unit 2. This change ensures that the non-conservatism in the Westinghouse Methodology is accounted for, therefore increasing 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 fifteen (15) 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 20555. The filing of requests for hearing and petitions for leave to intervene is discussed below.

By December 30, 1991, 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 2.714 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 a 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 amendment 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 the amendment is issued before the expiration of 30-days, the Commission will make a final determination on the issue of no significant hazards consideration. If a hearing is requested, 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.

Normally, the Commission will not issue the amendment until the expiration of the 15-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 15-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.


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 20555, 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 presiding 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 November 20, 1991, 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 21st day of November 1991.

FOR THE NUCLEAR REGULATORY COMMISSION


Robert E. Martin, Project Manager
Project Directorate
Division of Reactor Projects -
Office of Nuclear Reactor Regulation