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Catawba Nuclear Generation Department  
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**DUKE POWER**

November 15, 1995

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

Subject: Catawba Nuclear Station, Units 1 and 2  
Docket Nos. 50-413 and 50-414  
Proposed Technical Specifications (TS) Changes  
(TS 3.7.5)

Gentlemen:

Pursuant to 10CFR50.4 and 10CFR50.90, attached are license amendment requests to Appendix A, Technical Specifications, of Facility Operating Licenses NPF-35 and NPF-52 for Catawba Nuclear Station Units 1 and 2, respectively.

The proposed amendments modify TS Limiting Condition for Operation (LCO) 3.7.5 to raise the minimum water level of the standby nuclear service water pond (SNSWP) from 570 feet to 571 feet.

Attachment 1 contains a background and description of the enclosed amendment requests. Attachment 2 contains the required justification and safety evaluation. Pursuant to 10CFR50.91, Attachment 3 provides the analysis performed in accordance with the standards contained in 10CFR50.92 which concludes that the requested amendments do not involve a significant hazards consideration. Attachment 3 also contains an environmental impact analysis for the requested amendments. Attachment 4 contains the marked-up TS amendment pages for Catawba. Duke Power Company is forwarding a copy of this amendment request package to the appropriate South Carolina state official. Duke Power Company is requesting a thirty-day period following NRC approval of the proposed amendments to allow for implementation.

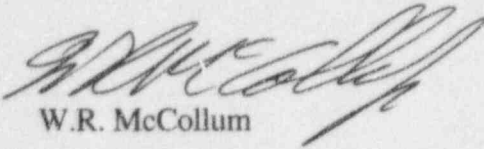
Should there be any questions concerning this amendment request package or should additional information be required, please call L.J. Rudy at (803) 831-3084.

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ADD 1

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Very truly yours,

A handwritten signature in dark ink, appearing to read 'W.R. McCollum', written in a cursive style.

W.R. McCollum

LJR/s

Attachments

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xc (with attachments):

S.D. Ebnetter, Regional Administrator

Region II

R.J. Freudenberger, Senior Resident Inspector

R.E. Martin, Senior Project Manager

ONRR

Max Batavia, Chief

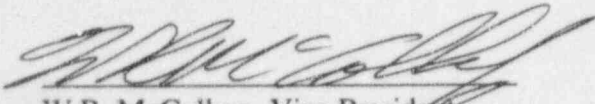
Bureau of Radiological Health, SC

Document Control Desk

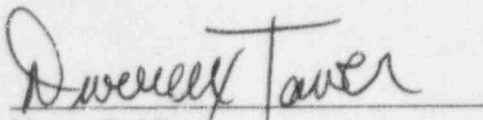
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W.R. McCollum, being duly sworn, states that he is Vice President of Duke Power Company; that he is authorized on the part of said Company to sign and file with the Nuclear Regulatory Commission these revisions to the Catawba Nuclear Station License Nos. NPF-35 and NPF-52; and that all statements and matters set forth therein are true and correct to the best of his knowledge.

  
W.R. McCollum, Vice President

Subscribed and sworn to before me this 15th day of November, 1995.

  
Notary Public

My commission expires:

JAN 23, 2005

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bxc (with attachments):

A.V. Carr

Z.L. Taylor

L.J. Rudy

S.W. Brown

D.R. Kulla

D.W. Bradley

M.J. Brady

W.E. Green

M.D. Furtick

R.G. Blessing

B.G. Addis

NCMPA-1

NCEMC

PMPA

SREC

Document Control File CN-801.01

Group File CN-801.01

ELL-EC050

**ATTACHMENT 1**

**BACKGROUND AND DESCRIPTION OF AMENDMENT REQUESTS**

## Background and Description of Amendment Requests

In mid-1994, the NRC conducted a Service Water System Operational Performance Inspection (SWSOPI) of the Catawba nuclear service water (RN) system. This inspection focused on the mechanical design, operational control, maintenance, and surveillance of the RN system. One of the purposes of the inspection was to verify that the RN system functional design is capable of meeting all thermal and hydraulic performance requirements. The results of the NRC SWSOPI are documented in Inspection Report Nos. 50-413, 414/94-17, dated September 9, 1994.

One of the issues raised as a result of the SWSOPI involved available inventory of the SNSWP. In December 1994, Catawba performed a survey of the SNSWP to verify this inventory. This survey indicated that the available SNSWP inventory was less than originally believed. The survey results showed approximately a 6% decrease in inventory from what was documented in the FSAR. It was determined that some siltation of the SNSWP had occurred, resulting in a decrease in available inventory. In addition, part of the discrepancy was determined to be due to the fact that the survey results for underwater contours were not completely reproducible due to the field methods used in the earlier surveys and due to the interpolation and judgement that was required when constructing contour lines. It was subsequently determined that in spite of the reduced inventory, the SNSWP remained operable. In a March 27, 1995 letter to the NRC, Catawba indicated that a plan was being pursued to resolve all outstanding SNSWP issues. This plan involved raising the minimum surface elevation of the SNSWP.

Minor Modification CE-5017, completed on June 15, 1995, changed the SNSWP outlet works so that water is retained up to elevation 572 feet 0 inches instead of the previous level of 571 feet 0 inches. This resulted in the minimum pond elevation being changed from 570 feet 0 inches to 571 feet 0 inches. This modification ensures that a sufficient volume of water is available for use of the SNSWP as the ultimate heat sink for postulated accidents under all meteorological conditions. The effect of the modification is to also increase the SNSWP surface area available for heat transfer.

This TS change modifies LCO 3.7.5 to raise the SNSWP minimum water level from 570 feet to 571 feet. No modifications to the corresponding TS Bases section are required in conjunction with this change.

**ATTACHMENT 2**

**JUSTIFICATION AND SAFETY EVALUATION**



## Justification and Safety Evaluation

This TS change is conservative in that it will result in the specification of a greater required inventory in the SNSWP. The TS limitations on SNSWP level (the TS temperature limitations for the SNSWP are not being changed) will ensure that sufficient cooling capacity will continue to be available using the SNSWP as the ultimate heat sink to both provide normal cooldown requirements for Catawba and to mitigate the effects of postulated accident conditions as required.

Catawba has analyzed the operability of the SNSWP using the new minimum level requirement of 571 feet. The operability analysis included the following assumptions:

- 1) The analysis utilized a uniform (i.e., no stratification) initial SNSWP temperature of 91.5F (the existing TS limit on SNSWP temperature).
- 2) The analysis took into account the volume that was added to the SNSWP by raising the minimum level from 570 feet to 571 feet (i.e., the overflow weir is now at elevation 572 feet).
- 3) All SNSWP heat loads, core decay and containment cooldown heat loads rejected by the LOCA and shutdown units, and RN inventory losses due to assured makeup to safety related systems have been accounted for.
- 4) Limiting case meteorological assumptions were utilized.

Utilizing the above assumptions and initial conditions, the maximum RN intake temperature realized during a simultaneous LOCA/cooldown was less than 97.6F. Equipment cooled by RN is environmentally qualified to a RN temperature of 100F. In addition, the NRC had previously imposed a 2.4F penalty as a result of concerns about the accuracy of the SNSWP model; therefore, even after taking into account the 2.4F penalty, the RN intake temperature remained below the required value of 100F. Also, the analysis confirmed that there was no SNSWP intake temperature greater than 91.5F during the first 12.5 hours of the event. (The longest period to reach peak containment pressure in FSAR accident analyses is 12.5 hours and RN intake temperature must remain below 92F during peak containment pressure transients for all design basis accidents; therefore, this criterion is also satisfied.)

Based on the above technical justification, Duke Power Company concludes that it is acceptable to raise the SNSWP minimum required level from 570 feet to 571 feet.

**ATTACHMENT 3**

**NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION  
AND ENVIRONMENTAL IMPACT ANALYSIS**

## No Significant Hazards Consideration Determination

As required by 10CFR50.91, this analysis is provided concerning whether the requested amendments involve significant hazards considerations, as defined by 10CFR50.92. Standards for determination that an amendment request involves no significant hazards considerations are if operation of the facility in accordance with the requested 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.

### Criterion 1

The requested amendments will not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed amendments will have no impact upon any accident probabilities, since the RN system is not an accident initiating system. It is an accident mitigating system. Accident consequences will not be affected, since the proposed amendments will require a greater surface area for heat transfer from the SNSWP water to the environment. It has been determined that with the required TS minimum water level of 571 feet and with the required TS temperature limit of 91.5F, the SNSWP will be capable of fulfilling all design basis requirements pertaining to accident mitigation.

### Criterion 2

The requested amendments will not create the possibility of a new or different kind of accident from any accident previously evaluated. As stated previously, the RN system is not an accident initiator. No change is being made to the plant which would cause the RN system to become an accident initiator. All relevant procedures will be changed as required, commensurate with the NRC issuance of the requested amendments. No accident causal mechanisms will be affected. The effect of the increased SNSWP level on the SNSWP dam was evaluated and found to be negligible.

### Criterion 3

The requested amendments will not involve a significant reduction in a margin of safety. As noted above, the SNSWP was evaluated with the new TS level requirement and was determined to be operable and capable of meeting all design basis requirements. No impact on any fission product barriers is created by the proposed changes. The proposed changes will ensure that the RN system remains capable of fulfilling its required accident mitigating functions. SNSWP temperature will continue to be monitored at an elevation of 568 feet, which is considered to be the highest elevation at which the average SNSWP surface temperature is accurately represented and minimally influenced by daily temperature swings due to variations in solar heat input, air temperature, and rainfall temperature.

## Environmental Impact Analysis

The proposed amendments have been reviewed against the criteria of 10CFR51.22 for environmental considerations. The proposed amendments do not involve a significant hazards consideration, nor increase the types and amounts of effluents that may be released offsite, nor

increase individual or cumulative occupational radiation exposures. Therefore, the proposed amendments meet the criteria given in 10CFR51.22(c)(9) for a categorical exclusion from the requirement for an Environmental Impact Statement.

**ATTACHMENT 4**

**PROPOSED TECHNICAL SPECIFICATION AMENDMENTS FOR CATAWBA**

Marked-up TS Pages