

Duke Power Company
Catawba Nuclear Generation Department
4800 Concord Road
York, SC 29745

D. L. REHN
Vice President
(803) 831-3205 Office
(803) 831-3426 Fax



DUKE POWER

October 31, 1994

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 Changes
Removal of Steam Generator Power Operated Relief Valve Stroke Times
from Technical Specification Tables 3.6-2a and 3.6-2b

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 requested amendments remove the stroke times for the steam generator power operated relief valves from Technical Specification Tables 3.6-2a and 3.6-2b.

Attachment 1 contains a background and description of the enclosed amendment request. 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 significant hazards. Attachment 3 also contains an environmental impact analysis for the requested amendments. Attachment 4 contains the marked-up Technical Specification amendment pages for Catawba. Duke Power Company is forwarding a copy of this amendment request package to the appropriate South Carolina state official.

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

Very truly yours,

D.L. Rehn

9411220203 941031
PDR ADDCK 05000413
P PDR

A001
11/1

Document Control Desk
Page 2
October 31, 1994

LJR/s

Attachments

xc (W/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

American Nuclear Insurers

M&M Nuclear Consultants

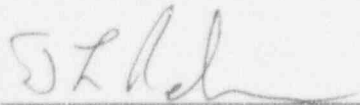
INPO Records Center

Document Control Desk

Page 3

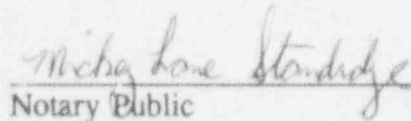
October 31, 1994

D.L. Rehn, 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 this revision 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.



D.L. Rehn, Vice President

Subscribed and sworn to before me this 31st day of October, 1994.



Notary Public

My commission expires:

June 26th 2002

ATTACHMENT 1

BACKGROUND AND DESCRIPTION OF AMENDMENT REQUEST

Background

The steam generator power operated relief valves (PORVs) are part of the main steam vent to atmosphere (SV) system at Catawba. Valves 1 and 2 SV 1, 7, 13, and 19 comprise the steam generator PORVs for Unit 1 and 2, respectively. Each valve is pneumatically opened (air or nitrogen) and fails closed to the safe position (via a spring actuator) on loss of power or air/nitrogen. The function of the SV PORVs is as follows:

- They are used to prevent lifting of the main steam safety valves during mild secondary side pressure transients. They are also used if necessary to assist in reseating a main steam safety valve by bleeding down steam line pressure below the blowdown setpoint.
- They are used to mitigate the consequences of a postulated steam generator tube rupture (SGTR) accident concurrent with a loss of offsite power (i.e., they provide a safety-grade means of depressurization via use of the PORVs on the non-faulted steam generators). They are also used to achieve residual heat removal system initiation temperature per Branch Technical Position RSB 5-1.
- They function as isolation valves and therefore receive an engineered safety feature (ESF) signal to close. Technical Specification (TS) Tables 3.6-2a and 3.6-2b (Unit 1 and 2 Containment Isolation Valves, respectively) require that they be able to close in 5 seconds or less. For testing purposes, the valve actuator spring is assumed to be the only motive force available to close the PORV.

The purpose of this proposed amendment is to request that the PORV stroke times be removed from TS Tables 3.6-2a and 3.6-2b. The PORV actuators have difficulty developing enough closing thrust to adequately overcome all of the friction loads within the valves; therefore, difficulty exists in consistently meeting the present 5-second closing stroke time requirement. This change is being requested on the basis that the PORVs do not receive an actual containment isolation signal; therefore, it is justified in removing the stroke times from TS Tables 3.6-2a and 3.6-2b.

In 1988, several design changes were made to enhance the operation of the SV PORVs. The first was a change in the packing material. The new packing was designed to provide better stem sealing, but it also increased stem drag. The plug/piston ring was also changed from a single piece design to a double wedge style design. The new piston ring provided better sealing and greater assurance that the PORVs would open against maximum assumed differential pressure. However, the upgrade in piston ring design (like the packing upgrade) also increased stem drag.

Valve diagnostic testing has shown that the combined effects of packing and piston ring drag have resulted in difficulty in meeting the 5-second closing time requirement. In 1993, the actuators for the PORVs were modified to incorporate a third spring to assist in valve closure. Although the addition of the third spring resulted in improved valve performance, difficulty still exists in meeting the 5-second closure time requirement for certain valves.

Description of Amendment Request

TS Tables 3.6-2a and 3.6-2b are modified to remove the required closing stroke time of the SV PORVs of less than or equal to 5 seconds (replace " ≤ 5 " seconds with "NA").

No changes to the Bases section of the TS are required in conjunction with these changes.

ATTACHMENT 2

JUSTIFICATION AND SAFETY EVALUATION

Justification and Safety Evaluation

On December 15, 1992, Duke Power Company submitted a proposed TS amendment for Catawba Unit 2 in support of Cycle 6 operation. (This submittal was supplemented on February 5, 1993 and March 18, 1993.) One of the TS changes in this submittal pertained to the required maximum stroke time of the steam generator main feedwater to auxiliary feedwater nozzle isolation valves, auxiliary nozzle temper valves, steam generator feedwater containment isolation valves, steam generator feedwater purge valves, main steam isolation valves, and main steam isolation bypass control valves. Specifically, this submittal proposed removal of the numerical value of the stroke time for these valves from TS Tables 3.6-2a and 3.6-2b.

Justification for this change was that the above valves do not receive a containment isolation signal. (There are two types of containment isolation signals that can be generated at Catawba; they are: 1) ST or Containment Isolation Signal (Phase A Containment Isolation) and 2) SP or Containment Spray Signal (Phase B Containment Isolation). In addition, the ST Signal is also activated by a SS or Safety Injection Signal.)

In the above submittal, it was noted that according to Table 3-104, Active Valves, of the Catawba Final Safety Analysis Report (FSAR), the above valves are actuated by a signal other than the SS, ST, or SP signal. These signals include main steam isolation, feedwater isolation, low nuclear service water pit level, and others. In Table 3-104, all of the above valves are clarified by a footnote which indicates that they are actuated by signals other than SS, ST, or SP. In the above submittal, it was noted that these valves receive no containment isolation signal and that credit for the operation of these valves is not taken in the Catawba dose analysis. The submittal concluded that a maximum stroke time, as stated in TS Tables 3.6-2a and 3.6-2b, was therefore not applicable for these valves.

On March 23, 1993, the NRC issued Amendments 107 and 101 for Catawba Units 1 and 2, respectively. These amendments approved the removal of the maximum stroke times from TS Tables 3.6-2a and 3.6-2b for the above valves.

Examination of FSAR Table 3-104 indicates that the SV PORVs also are actuated by signals other than SS, ST, and SP. Also, no credit for the 5-second closure time for the SV PORVs is assumed in the Catawba dose analysis. Therefore, the above justification which was utilized for removal of the maximum stroke time from TS Tables 3.6-2a and 3.6-2b for the above-mentioned valves is also applicable for the SV PORVs. For the purposes of isolating the steam lines, the isolation times which are applicable to these valves are specified in TS Table 3.3-5, Engineered Safety Features Response Times. TS Table 3.3-5 specifies a 10-second requirement for steam line isolation. Since the SV PORVs receive a signal to close on steam line isolation, the effects of the isolation of these valves should be evaluated based on their ESF function, not a containment isolation function. Analysis has shown that a 10-second ESF response time for these valves as required by TS Table 3.3-5 results in acceptable plant response.

Finally, the SV PORVs at Catawba will continue to be periodically tested under the IWV program required by Section XI of the ASME Code, as they have always been.

Based on the above, Duke Power Company concludes that approval of the proposed amendment will not be inimical to public health and safety.

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.

In 48FR14870, the Commission has set forth examples of amendments that are considered not likely to involve significant hazards considerations. Example (vi) describes a change which either may result in some increase to the probability or consequences of a previously-analyzed accident or may reduce in some way a safety margin, but where the results of the change are clearly within all acceptable criteria with respect to the system or component specified in the Standard Review Plan. In this case, the proposed amendment is similar to example (vi) in that it removes the required isolation time of the steam generator PORVs from TS Tables 3.6-2a and 3.6-2b; however, no adverse impact upon accident analyses is created as a result.

Criterion 1

The requested amendments will not involve a significant increase in the probability or consequences of an accident previously evaluated. The effects of the delays in isolation times on the various transients affected have been analyzed and found to be acceptable. Since these valves do not receive a containment isolation signal, and no credit is taken for operation of these valves in the dose analysis for a containment isolation function, a maximum stroke time does not apply for containment isolation.

Criterion 2

The requested amendments will not create the possibility of a new or different kind of accident from any accident previously evaluated. SV PORV closure (provided the valves are not already closed at the start of the transient) is a response to a transient already in progress. The possibility of a spurious SV PORV opening will not be affected by the requested amendments. No equipment or component reconfiguration will occur as a result of this change. Finally, no changes to plant procedures are being made which would affect any accident causal mechanisms.

Criterion 3

The requested amendments will not involve a significant reduction in a margin of safety. The isolation times which are applicable to these valves are specified in TS Table 3.3-5, Engineered Safety Features Response Times. The effects of the isolation of these valves was evaluated based on their ESF function, not a containment isolation function, and determined to be acceptable.

Based upon the preceding analyses, Duke Power Company concludes that the requested amendments do not involve a significant hazards consideration.

Environmental Impact Analysis

The proposed Technical Specification amendment has been reviewed against the criteria of 10CFR51.22 for environmental considerations. The proposed amendment does 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 amendment meets the criteria given in 10CFR51.22(c)(9) for a categorical exclusion from the requirement for an Environmental Impact Statement.