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March 27, 1991



DUKE POWER

March 27, 1991

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Subject: Oconee Nuclear Station
Docket Nos. 50-269,-270,-287
Generic Letter 90-06 Technical Specifications

Gentlemen:

By letter dated December 20, 1990 Duke provided the response to Generic Letter (GL) 90-06, Resolution of Generic Issue 70, "Power-Operated Relief Valve and Block Valve Reliability," and Generic Issue 94, "Additional Low-Temperature Overpressure Protection for Light Water Reactors." The staff positions regarding GI-94 did not apply to B&W designed plants. Based on the analysis and findings for GI-70, the NRC staff requested that actions be taken for Oconee to improve the reliability of PORVs and block valves. The response to each of the suggested actions was provided with the exception of issues associated with Technical Specifications. GL 90-06 recommends that Technical Specifications and Bases be amended in accordance with GL 90-06 Attachment A-4. As detailed in Attachment 1 changes to Oconee Technical Specifications have been determined to be inappropriate.

I declare under penalty of perjury that these statements are true and correct to the best of my knowledge.

Very Truly Yours,

A handwritten signature in cursive script that reads 'M. S. Tuckman'.

M. S. Tuckman

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ATTACHMENT 1
GENERIC LETTER 90-06
TECHNICAL SPECIFICATION REQUIREMENTS

Enclosure A to GL 90-06 provides the NRC Staff Position regarding PORV and block valve Technical Specifications (position 3.3):

For operating PWR plants, modify the limiting conditions of operation of PORVs and block valves in the technical specifications for Modes 1, 2, and 3 to incorporate the position adopted by the staff in recent licensing actions. Attachment A-4 is provided as guidance.

Oconee Nuclear Station Response:

Currently, Oconee Technical Specifications include limiting conditions for operation (LCO) of the PORV for Low Temperature Overpressure Protection (LTOP) only. LCOs are not included for Reactor Coolant System temperatures above which LTOP is required. A Selected Licensee Commitment has been provided in FSAR Chapter 16 to address the PORV as a Reactor Coolant System high point vent.

The modified Technical Specifications for B&W plants provided in GL 90-06 Attachment A-4 and the supporting regulatory analysis provided in NUREG 1316 have been evaluated against the Oconee design basis as established in the FSAR as well as Oconee specific risk assessments. As detailed below, the criteria of the NRC Interim Policy Statement on Technical Specification Improvements (52FR3788) were then applied to the results of this evaluation.

As discussed in NUREG-1316 Sections 3.2 and 5.3 the proposed improvements in GL 90-06 show only a small potential decrease in core melt probability considering reliance on the PORV for the following design basis safety related functions:

1. Mitigation of a steam generator tube rupture accident,
2. Low-temperature overpressure protection of the reactor vessel during startup and shutdown, or
3. Plant cooldown in compliance with BTP RSB 5-1.

As described in Oconee FSAR Section 15.9 Steam Generator Tube Rupture (SGTR) is a Design Basis Accident (DBA). Mitigation of a SGTR requires that the RCS be cooled and depressurized to terminate the leakage of reactor coolant to the secondary system. The FSAR analysis does not specify the method of depressurization, however several diverse means are available: normal pressurizer spray, auxiliary pressurizer spray, or the PORV.

The provisions of GL 90-06 regarding LTOP and plant cooldown in compliance with BTP RSB 5-1 are not applicable to Oconee. Specifically, GL 90-06 does not apply to B&W plants for LTOP since B&W plants maintain a pressurizer gas space as a means of controlling overpressure. GL 90-06 does not apply to Oconee for plant cooldown in compliance with BTP RSB 5-1 since Oconee was licensed prior to the Standard Review Plan and BTP RSB 5-1.

Section 5.3 of NUREG-1316 recognizes that without consideration of feed and bleed cooling, the recommendations of GL 90-06 for improving PORV and block valve reliability are not justified by the regulatory analysis. At Oconee certain beyond design basis events may be mitigated by use of feed and bleed cooling. Feed and bleed cooling is established by the High Pressure Injection (HPI) system feeding the RCS and discharging through the pressurizer PORV or safety valves. The HPI system is capable of achieving feed and bleed cooling without reliance on the PORV. The PORV was not explicitly considered for feed and bleed cooling in the Oconee PRA since only one of three relief paths is required for success. However, explicit consideration of an inoperable PORV produces a negligible increase in overall plant risk. As a result, any changes to PORV operability requirements based on feed and bleed cooling would not impact the Oconee PRA results.

Based on the above, the criteria of the Interim Policy Statement on Technical Specification Improvements were evaluated. The Policy Statement delineates three criteria which establish which constraints on design and operation of nuclear power plants belong in Technical Specifications in accordance with 10CFR50.36:

Criterion 1: Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

Duke Evaluation of Criterion 1: The PORV is not used to detect a significant abnormal degradation of the reactor coolant pressure boundary.

Criterion 2: A process variable that is an initial condition of a DBA or Transient Analyses that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

Duke Evaluation of Criterion 2: The PORV is not a process variable.

Criterion 3: A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a DBA or Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

Duke Evaluation of Criterion 3: The DBA or Transient applicable to Criterion 3 is the SGTR. Oconee FSAR Section 15.9 evaluates this DBA. The primary success path to mitigate the SGTR includes depressurization of the RCS to terminate the leakage of reactor coolant to the secondary system. The FSAR analysis does not explicitly identify the method used for depressurization, although normal pressurizer spray is assumed to be available. As described in the Oconee Emergency Operating Procedures (EOP) the following systems or components are methods to accomplish this function in order of preference: 1) normal pressurizer spray, 2) auxiliary pressurizer spray, and 3) manual actuation of the PORV. Thus, since several options are available to perform this function it is inappropriate to identify the PORV as the primary success path for mitigation of a SGTR.

Risk significance provisions: In addition to the three criteria, the Interim Policy Statement also recommends that constraints of prime importance in limiting the likelihood or severity of the accident sequences that are found to dominate risk be included within the Technical Specifications.

Duke Evaluation of risk significance provisions: As described above, the regulatory analysis provided in NUREG-1316 relies on use of the PORV to establish feed and bleed cooling to justify the recommendations of GL 90-06. Due to the capability of the HPI system to pump against the pressurizer safety valves, credit has not explicitly been taken for use of the PORV for feed and bleed cooling in the Oconee PRA since only one of three relief paths is required for success. Explicit consideration of an inoperable PORV produces a negligible increase in overall plant risk. As a result, any changes to PORV operability requirements based on feed and bleed cooling would not impact the Oconee PRA results. Therefore, use of the PORV for feed and bleed cooling is not a constraint of prime importance in limiting the likelihood or severity of the accident sequences that are found to dominate risk.

It is concluded from the above evaluation of the criteria in the NRC Interim Policy Statement that changes to Oconee Technical Specifications based on GL 90-06 are not appropriate.