


In the Matter of the Facility Operating License)
of) Docket No. 50-267
PUBLIC SERVICE COMPANY OF COLORADO)

OF THE
PUBLIC SERVICE COMPANY OF COLORADO
FOR THE
FORT ST. VRAIN NUCLEAR GENERATING STATION

8010160541

STATE OF COLORADO)
) ss.
CITY AND COUNTY OF DENVER)

O. R. Lee, being first duly sworn, deposes and says;
That he is Vice President of Production of Public Service
Company of Colorado, the Licensee herein; that he has read the
foregoing Application for Amendment to Appendix A of Facility
Operating License and knows the contents thereof, and that the
statements and matters set forth therein are true and correct
to the best of his knowledge, information and belief.

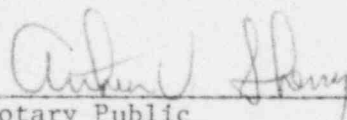


O. R. Lee

Subscribed and sworn to before me this 7TH day of October, 1980

Witness my hand and official seal.

My commission expires: October 7, 1983.



Notary Public

ATTACHMENT 1

REFERENCES

REFERENCES

- (1) Letter, Speis to Fuller, August 28, 1978
- (2) P-77196, September 20, 1977
- (3) P-78192, December 5, 1978
- (4) P-79038, February 5, 1979
- (5) P-77188, September 7, 1977
- (6) P-77228, November 16, 1977
- (7) I & E Inspection Report 77-03, G. L. Madsen to C. K. Millen, February 28, 1977
- (8) P-77092, March 29, 1977
- (9) Letter, G. L. Madsen to C. K. Millen, September 19, 1977
- (10) P-79012, January 11, 1979
- (11) P-79275, November 29, 1979

ATTACHMENT 2

METHODS EMPLOYED TO
ESTABLISH NEW SETPOINTS
AND
SUMMARY OF PROPOSED
TECHNICAL SPECIFICATION REVISIONS

1. Methods Employed to Establish New Setpoints

Four methods have been employed in establishing the new instrument trip settings and absolute values contained in this submittal. These are identified as Method A, Method B, Method C, and Method D.

Method A

The parameter value currently identified as the "Trip Setting" has been redefined to be the absolute value. A new instrument trip setting with a setpoint tolerance which is more conservative than the absolute value is specified. The minimum difference between the absolute value and the instrument trip setting is the instrumentation accumulated inaccuracy determined by the least squares method utilizing manufacturers' published accuracy data. Additionally, the calibration surveillance "as found" versus the "as left" data for these instrumentation channels were reviewed to ascertain whether decalibration or drift that occurs between calibrations does or does not routinely exceed the previously described channel accumulated accuracy. As would be expected due to the large number of instruments involved, occasionally instrument channels were found to drift outside of the specified accuracy range. These were reported in Reportable Occurrence Reports as required by the Technical Specification. For the setpoint revisions contained in this submittal, only the circulator seal malfunction (Item 8 of Table 4.4-3, LCO 4.4.1) has been a continuing problem. This was last documented in Reportable Occurrence No. 50-267/80-16.

In selecting plant protective system parameters to have instrument trip setpoints and absolute values specified by Method A, the prime consideration was that operating experience has shown that shifting the instrument trip setting closer to the normal operating level will not induce unnecessary trips to the plant protective system.

Method B

Operating experience at Fort St. Vrain has shown that some plant protective system parameters are frequent candidates to be tripped during plant transients which, in turn, can further aggravate the transient. In some cases, these have led to shutdown of helium circulators and shutdown of a coolant loop.

The frequency of these unnecessary trips to the plant protective system was increased by Nuclear Regulatory Commission actions and consequent interim operation agreements made by Public Service Company of Colorado in 1977. The net result was that plant protective system setpoints were adjusted as required utilizing the Method A procedure previously described. References (7) through (9) are the documentation of these actions and agreements.

1. Methods Employed to Establish New Setpoints (Continued)

Method B (continued)

In accordance with previously stated plans, a number of safety analyses supporting new absolute values and new instrument trip settings have been performed by General Atomic Company. Some of these have been previously submitted and the submittals are referenced herein. Newly completed and two previously submitted safety analyses are attached to this submittal. In all cases, the minimum difference between the absolute value and the instrument trip setting is equal to or greater than the accumulated channel inaccuracy as determined in Method A.

It is our judgement that incorporation of these new absolute values and instrument trip settings into the Fort St. Vrain Technical Specification will enhance plant safety and availability by not unnecessarily tripping the plant protective system. It is further our judgement that the proposed revised settings will not negate the safety function for which it was intended, not change the consequence of accidents evaluated in the Final Safety Analysis Report, and thus does not constitute an unreviewed safety question.

Method C

This method was applied only to the 140% thermal power scram. It is unique in that new hardware has been designed and fabricated to assure that a reactor scram occurs equal to or less than the absolute value of 140% power. This is accomplished by programming instrument trip setting against indicated power.

Method D

In some cases, plant protective system parameters have been included in the Technical Specification to ensure operator compliance with administrative procedures. In those cases, no credit was assumed for mitigation of accidents by those systems in the Final Safety Analysis Report. Therefore, specifying an absolute value for those parameters is not warranted. Specifically, those are the nominal 5% and 30% power rod withdrawal prohibits.

2. Summary of Proposed Technical Specification Revisions

Proposed revisions to 2.0 Definitions, Table 3.3.1 of LSSS 3.3, Tables 4.4-1 through 4.4-4 of LCO 4.4.1, Notes for Tables 4.4-1 through 4.4-4, and the Basis for Specification LCO 4.4.1 are included as Attachment 3.

The following is the discussion of each of the proposed revisions:

2. Summary of Proposed Technical Specification Revisions (continued)

A. Proposed Revision to Technical Specification 2.0, Definitions

Add new items d) and e) to 2.3, Instrumentation Surveillance, to define "Instrument Trip Setting" and "Absolute Value" as used in the proposed Fort St. Vrain Technical Specification revisions.

B. Proposed Setpoint Revisions - Method A

Table 3.3.1 of LSSS 3.3

- 1.b) High Reheat Steam Temperature
- 2.c) PCRV Pressure
- 2.d) Helium Circulator Penetration Interspace Pressure
- 2.e) Steam Generator Penetration Interspace Pressure

Table 4.4-1 of LCO 4.4.1

- 5. Reheat Steam Temperature - High
- 9. Main Steam Pressure - Low
- 12. High Reactor Building Temperature (Pipe Cavity)

Table 4.4-2 of LCO 4.4.1

- 1a. through 1f. Steam Pipe Rupture
- 2a. High Pressure, Pipe Cavity
- 2b. High Temperature, Pipe Cavity
- 2c. High Pressure, Under PCRV
- 2d. High Temperature, Under PCRV
- 5a. Steam Generator Penetration Overpressure Loop 1
- 5b. Steam Generator Penetration Overpressure Loop 2

Table 4.4-3 of LCO 4.4.1

- 4. Circulator Penetration Trouble
- 5. Circulator Drain Malfunction

2. Summary of Proposed Technical Specification Revisions (continued)

B. Proposed Setpoint Revisions - Method A (continued)

Table 4.4-3 of LCO 4.4.1 (continued)

- 6. Circulator Speed - High Steam
- 8. Circulator Seal Malfunctions
- 9. Circulator Speed High Water

Table 4.4-4 of LCO 4.4.1

- 1. Startup Channel - Low Count Rate

C. Proposed Setpoint Revisions - Method B

Table 4.4-1 of LCO 4.4.1

- 8. Hot Reheat Header Pressure - Low

The safety analysis supporting the proposed revision is included in Attachment 4.

Table 4.4-3 of LCO 4.4.1

- 1. Circulator Speed - Low

The safety analysis supporting the proposed revisions is included as Attachment 5.

- 2a. and 2b. Loop 1 and Loop 2 Fixed Feedwater, and Flow - Low (Both Circulators).

The safety analysis supporting the proposed revision is included as Attachment 6. It is noted that the safety analysis concluded that the absolute value could be 0% feedwater flow. However, in subsequent discussions, the Nuclear Regulatory Commission staff have objected to specifying 0% feedwater flow as an absolute value in the Technical Specification even if justified by the safety analysis. In consideration of these discussions, the absolute value has been increased to greater than or equal to 5%.

- 3. Loss of Circulator Bearing Water

The safety analysis supporting the proposed revision is included as Attachment 7.

2. Summary of Proposed Technical Specification Revisions (continued)

D. Proposed Setpoint Revisions - Method C

Table 3.3.1 of LSSS 3.3

1.a) High Neutron Flux

Table 4.4-1 of LCO 4.4.1

3a. Linear Channel - High, Channels 3, 4, 5

3b. Linear Channel - High, Channels 6, 7, 8

The description of the hardware and safety analysis supporting the programmed instrument trip setting for the initial core, GA Report GA-A13954, was submitted to the Nuclear Regulatory Commission on January 11, 1979, in our letter P-79012 (Reference 10). The justification for using the programmed instrument trip setting for the Cycle 2 core, GA Report GA-D15474, was submitted to the Nuclear Regulatory Commission on November 29, 1979, in our letter P-79275 (Reference 11).

As can be seen from the proposed revision to the Technical Specification tables the programmed instrument trip setting is not specified but is to be separately approved by the Nuclear Facility Safety Committee. This is consistent in that the programmed instrument setting is directly related to the sequence of withdrawing and inserting control rods which is approved by the Nuclear Facility Safety Committee for each refueling cycle per LCO 4.1.3 - Rod Sequence; Limiting Conditions for Operation.

E. Proposed Setpoint Revisions - Method D

Table 4.4-4 of LCO 4.4.1

2a. Linear Channel - Low Power RWP (Channels 3, 4, and 5)

2b. Linear Channel - Low Power RWP (Channels 6, 7, and 8)

3a. Linear Channel - High Power RWP (Channels 3, 4, and 5)

3b. Linear Channel - High Power RWP (Channels 6, 7, and 8)

2. Summary of Proposed Technical Specification Revisions (continued)

F. Proposed Revision to Notes for Tables 4.4-1 through 4.4-4

Add new Note (u) to describe the approval of the programmed instrument trip setting for the linear channel high level scram.

G. Proposed Revisions to Basis for Specification LCO 4.4.1

General - Revise the wording in the basis to reflect the use of absolute values and instrument trip settings in Tables 4.4-1 through 4.4-4.

Specific - Revise Item d) Rod Withdraw Prohibit Inputs

The analysis supporting the proposed revisions to the table as well as the Basis for LCO 4.4.1 is included as Attachment 8.