Docket No. 50-336

Attachment 3

Millstone Nuclear Power Station, Unit No. 2

Proposed Revisions to Technical Specifications

Cycle 6 Reload

April, 1983

Technical Specification Changes - Cycle 6 Reload

P. 2-2	Reduced Reactor Coolant Flow Rate
p. 2-4	Reduced Reactor Coolant Flow Rate
p. 3/4 1-26	CEA Drop Time
p. 3/4 2-4	Axial Shape Index Tent
p. 3/4 2-6	Revised planar radial peaking factor, Fxy.
p. 3/4 2-8	Revised Fxy, Fr limit curves
p. 3/4 2-9	Revised integrated radial peaking factor, Fr.
p. 3/4 2-14	Reduced Reactor Coolant Flow Rate
p. 3/4 7-4	Auxiliary Feedwater Pumps

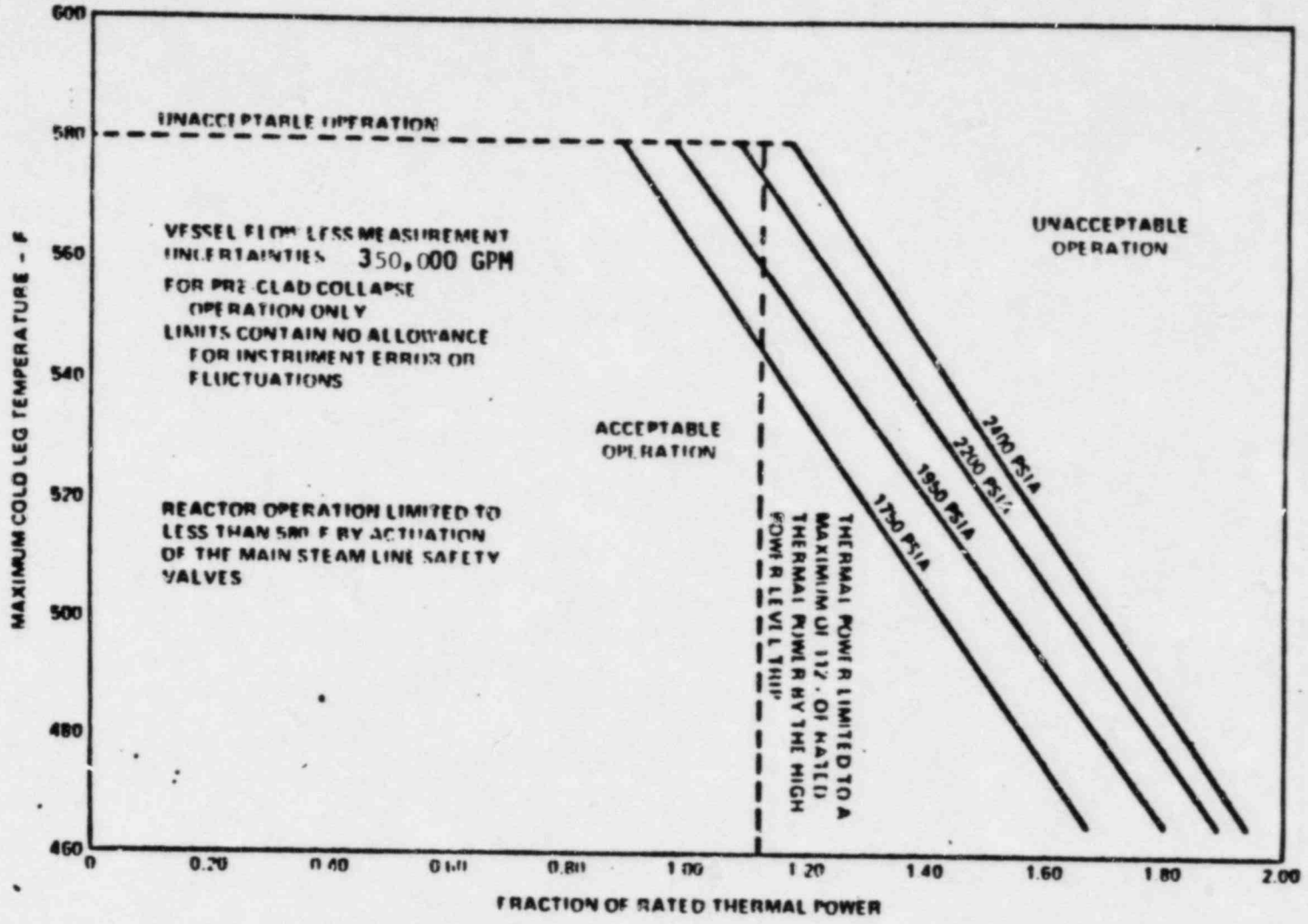

FIGURE 2.1-1 Reactor Core Thermal Margin Safety Limit – Four Reactor Coolant Pumps Operating

TABLE 2.2-1

REACTOR PROTECTIVE INSTRUMENTATION TRIP SETPOINT LIMITS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
1. Manual Reactor Trip	Not Applicable	Not Applicable
2. Power Level-High		
Four Reactor Coolant Pumps Operating	≤ 9.6% above THERMAL POWER, with a minimum setpoint of ≤ 14.6% of RATED THERMAL POWER, and a maximum of ≤ 106.6% of RATED THERMAL POWER.	≤ 9.7% above THERMAL POWER, with a minimum of ≤ 14.7% of RATED THERMAL POWER, and a maximum of ≤ 106.7% of RATED THERMAL POWER.
3. Reactor Coolant Flow - Low (1)		
Four Reactor Coolant Pumps Operating	≥ 91.7% of reactor coolant flow with 4 pumps operating*.	≥ 90.1% of reactor coolant flow with 4 pumps operating*.
4. Reactor Coolant Pump Speed - Low	≥ 830 rpm	≥ 823 rpm
5. Pressurizer Pressure - High	≤ 2400 psia	≤ 2408 psia
6. Containment Pressure - High	≤ 4.75 psig	≤ 5.23 psig
7. Steam Generator Pressure - Low (2) (5)	≥ 500 psia	≥ 492 psia
8. Steam Generator Water Level - Low (5)	≥ 36.0% Water Level - each steam generator	≥ 35.2% Water Level - each steam generator
9. Local Power Density - High (3)	Trip setpoint adjusted to not exceed the limit lines of Figures 2.2-1 and 2.2-2 (4).	Trip setpoint adjusted to not exceed the limit lines of Figures 2.2-1 and 2.2-2 (4).

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* Design Reactor Coolant flow with 4 pumps operating is 350,000 gpm.

CEA DROP TIME

LIMITING CONDITION FOR OPERATION

3.1.3.4 The individual full length (shutdown and control) CEA drop time, from a fully withdrawn position, shall be $\leq$ 2.75 seconds from when electrical power is interrupted to the CEA drive mechanism until the CEA reaches its 90 percent insertion position with:

a. $T_{avg} \geq 515°F$, and

b. All reactor coolant pumps operating.

APPLICABILITY: MODE 3.

ACTION:

a. With the drop time of any full length CEA determined to exceed the above limit, restore the CEA drop time to within the above limit prior to proceeding to MODE 1 or 2.

b. With the CEA drop times within limits but determined at less than full reactor coolant flow, operation may proceed provided THERMAL POWER is restricted to less than or equal to the maximum THERMAL POWER level allowable for the reactor coolant pump combination operating at the time of CEA drop time determination.

SURVEILLANCE REQUIREMENTS

4.1.3.4 The CEA drop time of full length CEAs shall be demonstrated through measurement prior to reactor criticality:

a. For all CEAs following each removal of the reactor vessel head,

b. For specifically affected individual CEAs following any maintenance on or modification to the CEA drive system which could affect the drop time of those specific CEAs, and

c. At least once per 18 months.

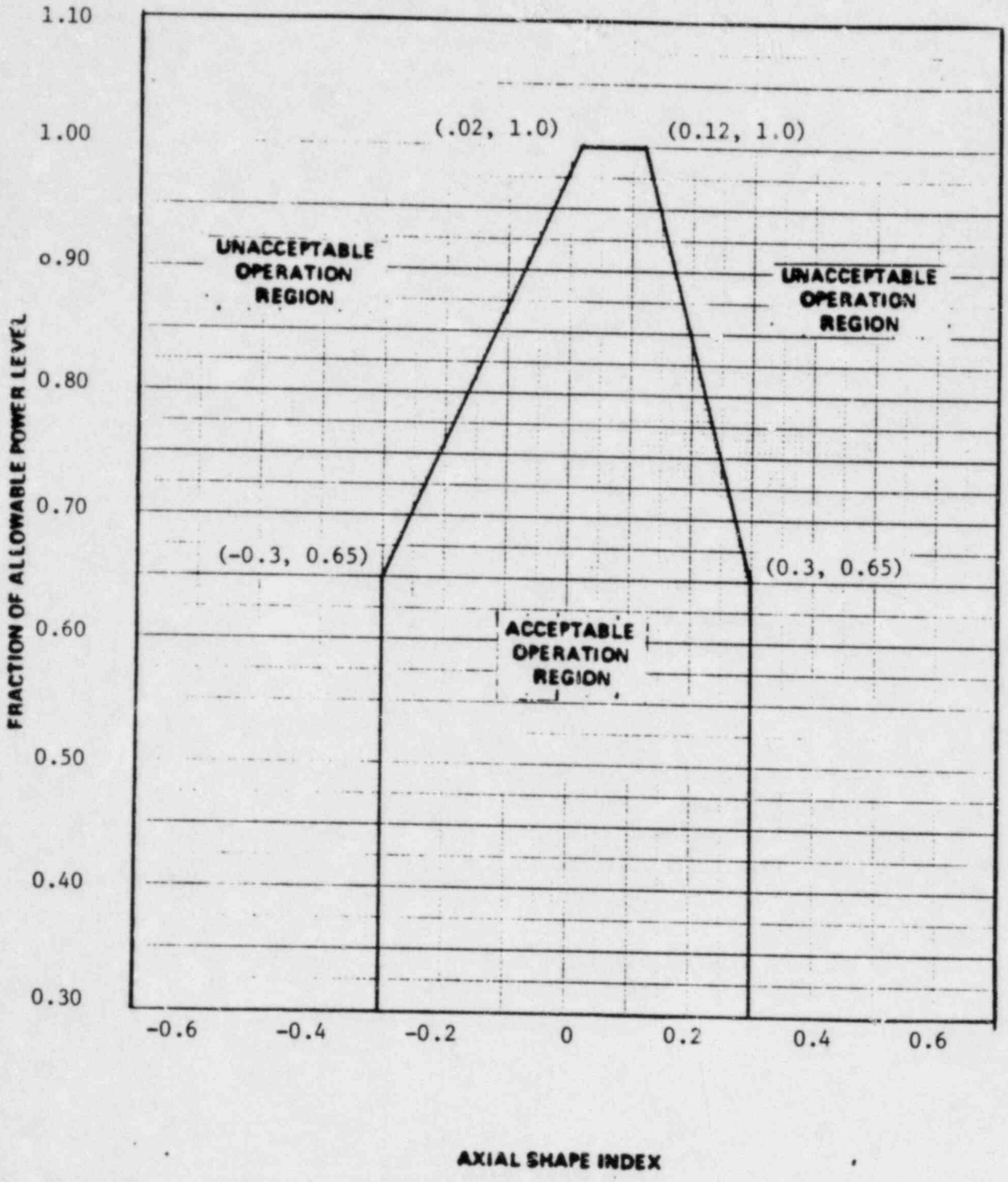

FIGURE 3.2-2 AXIAL SHAPE INDEX vs Fraction of Allowable Power Level per Specification 4.2.1.2c

POWER DISTRIBUTION LIMITS

TOTAL PLANAR RADIAL PEAKING FACTOR - F^T_{xy}

LIMITING CONDITION FOR OPERATION

3.2.2 The calculated value of F^T_{xy}, defined as $F^T_{xy} = F_{xy}(1+T_q)$, shall be limited to $\leq$ 1.615.

APPLICABILITY: MODE 1*.

ACTION:

With F^T_{xy} > 1.615, within 6 hours either:

a. Reduce THERMAL POWER to bring the combination of THERMAL POWER and F^T_{xy} to within the limits of Figure 3.2-3 and withdraw the full length CEAs to or beyond the Long Term Steady State Insertion Limit of Specification 3.1.3.6; or

b. Be in at least HOT STANDBY.

SURVEILLANCE REQUIREMENTS

4.2.2.1 The provisions of Specification 4.0.4 are not applicable.

4.2.2.2 F^T_{xy} shall be calculated by the expression $F^T_{xy} = F_{xy}(1+T_q)$ and F^T_{xy} shall be determined to be within its limit at the following intervals:

a. Prior to operation above 70 percent of RATED THERMAL POWER after each fuel loading,

b. At least once per 31 days of accumulated operation in MODE 1, and

c. Within four hours if the AZIMUTHAL POWER TILT (T_q) is > 0.02.

*See Special Test Exception 3.10.2.

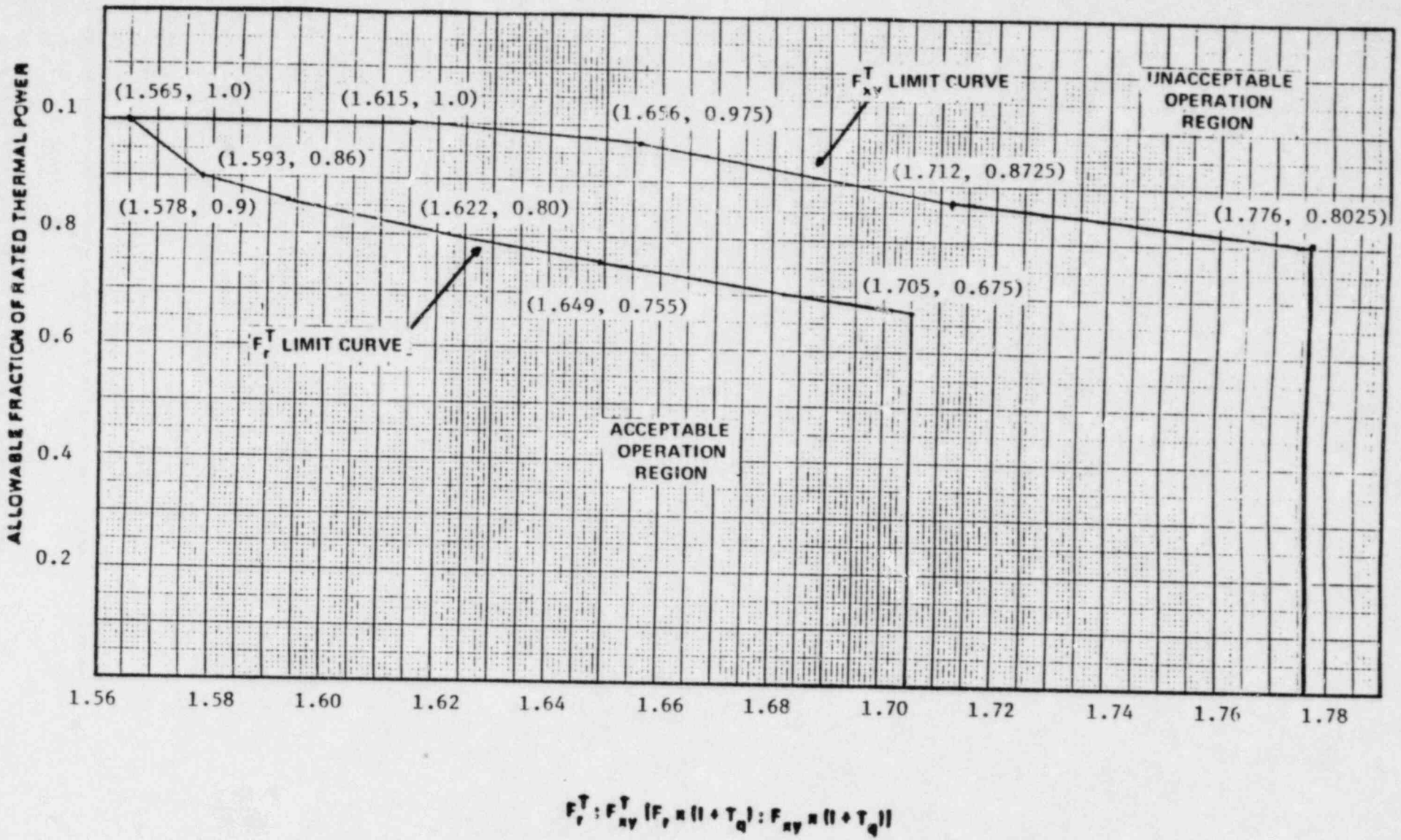

FIGURE 3.2-3 Total Radial Peaking Factor Versus Allowable Fraction of RATED THERMAL POWER

POWER DISTRIBUTION LIMITS

TOTAL INTEGRATED RADIAL PEAKING FACTOR - F_r^T

LIMITING CONDITION FOR OPERATION

3.2.3 The calculated value of F_r^T, defined as $F_r^T = F_r(1+T_q)$, shall be limited to $\leq$ 1.565.

APPLICABILITY: MODE 1*.

ACTION:

With F_r^T > 1.565, within 6 hours either:

a. Reduce THERMAL POWER to bring the combination of THERMAL POWER and F_r^T to within the limits of Figure 3.2-3 and withdraw the full length CEAs to or beyond the Long Term Steady State Insertion Limits of Specification 3.1.3.6; or

b. Be in at least HOT STANDBY.

SURVEILLANCE REQUIREMENTS

4.2.3.1 The provisions of Specification 4.0.4 are not applicable.

4.2.3.2 F_r^T shall be calculated by the expression $F_r^T = F_r(1+T_q)$ and F_r^T shall be determined to be within its limit at the following intervals:

a. Prior to operation above 70 percent of RATED THERMAL POWER after each fuel loading,

b. At least once per 31 days of accumulated operation in MODE 1, and

c. Within four hours if the AZIMUTHAL POWER TILT (T_q) is > 0.020.

4.2.3.3 F_r shall be determined each time a calculation of F_r^T is required by using the incore detectors to obtain a power distribution map with all full length CEAs at or above the Long Term Steady State Insertion Limit for the existing Reactor Coolant Pump Combination.

4.2.3.4 T_q shall be determined each time a calculation of F_r^T is required and the value of T_q used to determine F_r^T shall be the measured value of T_q.

* See Special Test Exception 3.10.2.

TABLE 3.2-1

DNB MARGIN

Parameter	LIMITS Four Reactor Coolant Pumps Operating
Cold Leg Temperature	≤ 549°F
Pressurizer Pressure	≥ 2225 psia*
Reactor Coolant Flow Rate	≥ 350,000 gpm
AXIAL SHAPE INDEX	Figure 3.2-4

*Limit not applicable during either a THERMAL POWER ramp increase in excess of 5% of RATED THERMAL POWER per minute or a THERMAL POWER step increase of greater than 10% of RATED THERMAL POWER.

PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 At least three independent steam generator auxiliary feedwater pumps and associated flow paths shall be OPERABLE with:

a. Two feedwater pumps, each capable of being powered from separate OPERABLE emergency busses, and

b. One feedwater pump capable of being powered from an OPERABLE steam supply system.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With one auxiliary feedwater pump inoperable, restore the required auxiliary feedwater pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

b. With two auxiliary feedwater pumps inoperable be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.

c. With three auxiliary feedwater pumps inoperable, immediately initiate corrective action to restore at least one auxiliary feedwater pump to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.7.1.2 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

a. At least once per 31 days by:

1. Starting each pump from the control room,

2. Verifying that:

a) Each motor driven pump develops a discharge pressure of >1070 psig on recirculation flow, and

b) The steam turbine driven pump develops a discharge pressure of $\geq$ 1080 psig on recirculation flow when the secondary steam supply pressure is greater than 800 psig. The provisions of Specification 4.04 are not applicable for entry into Mode 3.

Docket No. 50-336

Attachment 4

Millstone Nuclear Power Station, Unit No. 2

Discussion of Proposed Revisions

to Technical Specifications

April, 1983

Proposed Technical Specification Changes

The purpose of this attachment is to provide an explanation for each of the changes proposed in Attachment 3.

- Reduced Reactor Coolant Flow Rate - This proposed change effects pp. 2-2, 2-4, and 3/4 2-14 of the Technical Specifications. It involves lowering the required primary coolant flow rate from 362,500 gpm to 350,000 gpm. This new lower flow is established to correspond to a plugging level of 2500 steam generator tubes.

- CEA Drop Time - This proposed change to p. 3/4 1-26 of the Technical Specifications involves a revision of the CEA drop time. At the beginning of Cycle 3, four small flow hole test assemblies were put into the core under CEA locations in an effort to mitigate the guide tube wear problem. At that time, the CEA drop time was changed from 2.75 seconds to 3.1 seconds due to a larger dashpot effect realized with the reduced flow holes. This design is no longer being used as the "guide tube wear" fix at Millstone Unit 2 and the four test assemblies will be removed from the core during the 1983 refueling. As such, the CEA drop time is proposed to be changed back to the original value. The measured value of CEA drop time determined during startup testing for past refuelings has been well below 2.75 seconds.

- New Axial Shape Index Tent - The change to p. 3/4 2-4 involves a new axial shape index (ASI) monitoring tent for figure 3.2-2 of the Technical Specifications. This tent is used to verify the kw/ft limit of 15.6 which is the input to the LOCA analyses. Operation within the tent ensures that the maximum local power is less than 15.6 kw/ft. and thus satsifies the TS surveillance requirement. It should be noted that under normal conditions the kw/ft surveillance limit is verified with the incore monitoring system and the only time the ASI tent is used is if the incore system is inoperable.

- Revised total planar peaking factor, Fxy, curve - This change effects pp. 3/4 2-6 and 3/4 2-8 of the Technical Specifications and involves restoring the planar radial peaking factor, Fxy, monitoring limits back to the original Beginning of Cycle (BOC) 5 values. The Cycle 6 licensing analyses support this proposed revision.

- Revised total radial peaking factor (Fr) curve - This proposed change effects pp. 3/4 2-8 and 3/4 2-9 of the Technical Specifications. In comparing the BOC 5 values to BOC 6 values, the required primary flow is being reduced by 5.4% (370,000 gpm to 350,000 gpm). Although the current licensed primary coolant flow rate is 362,600 gpm, BOC 5 values are being used since these values correspond with those of the last transient analysis. The Cycle 4 Reload Safety Analyses have shown that the DNB analysis penalty which results from a reduction of 2% in primary flow can be offset with an approximate 1% reduction in Fr. Therefore, the 4% reduction in allowable Fr more than offsets the penalty associated with a 5.4% reduction in primary flow. The Cycle 6 licensing analyses support this proposed revision.

- Auxiliary Feedwater Pumps - These proposed changes make Millstone Unit 2 Technical Specifications, specifically p. 3/4 7-4, consistent with NUREG-212, Revision 2 Standard Technical Specifications for Combustion Engineering Pressurized Water Reactors. In addition, the proposed revision modifies the Technical Specifications to reflect the actual plant conditions applicable to Mode 4 under which there is insufficient steam to allow the steam turbine driven auxiliary feedwater pump to meet the required discharge pressure.