

TABLE 3.2-1

DNB PARAMETERS

<u>PARAMETER</u>	<u>3 Loops in Operation</u>
Reactor Coolant System T_{avg}	$\leq 580.3^{\circ}\text{F}$
Pressurizer Pressure	$\geq 2220 \text{ psia}^*$
Reactor Coolant System Total Flow Rate	$\geq 274,900 \text{ gpm}^{**}$ <u>270,850</u>

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

**Includes a 2.0% flow measurement uncertainty.

BEAVER VALLEY - UNIT 2

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(Proposed Wording)

ATTACHMENT A

Beaver Valley Power Station, Unit No. 2
Proposed Technical Specification Change No. 62

Revise the Technical Specification as follows:

Remove Page

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Insert Page

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ATTACHMENT B

Beaver Valley Power Station, Unit No. 2 Proposed Technical Specification Change No. 62 REVISION OF TABLE 3.2-1 OF SPECIFICATION 3.2.5

A. DESCRIPTION OF AMENDMENT REQUEST

The proposed amendment would revise Table 3.2-1 of Technical Specification 3.2.5 titled "DNB PARAMETERS". The revision includes the lowering of the value for the reactor coolant system (RCS) total flow rate from $\geq 274,800$ gpm to $\geq 270,850$ gpm and the lowering of the 3.5% flow measurement uncertainty value, specified in the table footnote, to 2.0%.

B. BACKGROUND

Technical Specification 3.2.5 requires that the RCS flow be maintained within a limit of greater than or equal to 274,800 gpm, and contains a footnote stating that this flow limit includes a 3.5% flow measurement uncertainty. This limit placed on RCS flow along with RCS coolant temperature, and pressurizer pressure ensures that the minimum departure from nucleate boiling ratio (DNBR) will be met for each of the transients analyzed in the safety analyses. The current safety analyses assumes a total RCS thermal design flow rate of $\geq 265,500$ gpm.

The RCS total flow rate is measured on an 18 month frequency, as specified by Surveillance Requirement (SR) 4.2.5.2, to ensure that the plant remains within the assumptions of the safety analyses. This flow measurement is performed by conducting a heat balance using RCS heat input and steam generator secondary side heat output. The typical measurement uncertainty assigned to Westinghouse plants is 3.5%. Given this uncertainty factor, the value specified in Table 3.2-1 for RCS total flow rate is increased by 3.5% over the value assumed in the safety analyses (ie, 265,500 gpm plus 3.5% approximately equals 274,800 gpm).

C. JUSTIFICATION

The proposed reduction of the RCS flow measurement uncertainty from 3.5% to 2.0% and the resulting lowering of the required RCS total flow rate from $\geq 274,800$ gpm to $\geq 270,850$ gpm is based on a plant specific analysis for Beaver Valley Power Station (BVPS) Unit No. 2. This plant specific analysis was performed by Westinghouse Electric Corporation using the same methodology as provided in WCAP 12478 and WCAP 11366 Revision 2, titled "RTD Bypass Elimination Licensing Report For BVPS Unit No. 2" and "Westinghouse Setpoint Methodology for Protection Systems For BVPS Unit No. 2" respectively. A review of in-plant procedures used to calibrate the various instruments used when determining RCS total flow rate was performed. The test procedure used to conduct the heat balance which determines the RCS total flow rate

using thermodynamic equations was also reviewed. The information obtained by these reviews was then used in the determination of a flow measurement uncertainty value for BVPS Unit No. 2. The result of this analysis resulted in RCS flow measurement uncertainty of 1.9%. A value of 0.1% was then added to account for undetected feedwater venturi fouling. Potential fouling of the feedwater venturi which might not be detected could bias the results from the heat balance in a non-conservative manner. Therefore, a penalty of 0.1% was added to account for this factor. It should be noted that BVPS Unit No. 2 has not exhibited any evidence of feedwater venturi fouling as shown by our secondary side performance monitoring program. The addition of the 0.1% is strictly to add additional conservatism to the measured RCS total flow rate.

Therefore, the proposed value of 2.0% for RCS flow measurement uncertainty was derived from a plant specific analysis, using Westinghouse methodology, and contains an additional allowance for undetected feedwater venturi fouling.

D. SAFETY ANALYSIS

The proposed change to the RCS flow uncertainty does not affect the safety analyses which model RCS flow. A value of 265,500 gpm RCS total flow is used as an initial condition in the safety analyses. This proposed change will not alter this assumption. The flow uncertainty value provides an allowance for the various instrument inaccuracies that are introduced into the measured data when performing the RCS total flow measurement. The uncertainty value ensures that when a total RCS flow rate is measured, the actual RCS flow is greater than or equal to the minimum required flow rate of 265,500 gpm. The proposed lowering of the uncertainty factor will not affect the ability to demonstrate that the RCS total flow limit will continue to be met based on the BVPS Unit No. 2 plant specific review. Therefore, this proposed change is considered safe based on the plant specific evaluation which was performed to determine the proposed uncertainty factor of 2.0%. The proposed uncertainty factor will continue to ensure that actual RCS total flow rate is above the value assumed in the safety analyses for normal operating conditions and anticipated operational occurrences. The result of ensuring RCS total flow is above analyses limits proves that the minimum DNBR will be met for each of the transients analyzed and that the plant will remain within the limits which are prescribed for continued safe operation.

E. NO SIGNIFICANT HAZARDS EVALUATION

The no significant hazard considerations involved with the proposed amendment have been evaluated, focusing on the three standards set forth in 10 CFR 50.92(c) as quoted below:

The Commission may make a final determination, pursuant to the procedures in paragraph 50.91, that a proposed amendment to an operating license for a facility licensed under paragraph 50.21(b) or paragraph 50.22 or for a testing facility involves no significant hazards consideration, if operation of the facility in accordance with the proposed 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.

The following evaluation is provided for the no significant hazards consideration standards.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

The proposed change to the RCS flow uncertainty does not involve a significant increase in the probability or consequences of an accident previously evaluated. The RCS flow will continue to be monitored once per 12 hours in accordance with surveillance requirement 4.2.5.1.1. No new performance requirements are being imposed on the RCS in order to satisfy the revised flow uncertainty value of 2.0%. No new requirements must be considered by the safety analyses which model RCS flow since the thermal design value of 265,500 gpm remains unchanged. RCS flow is an assumed initial condition in the safety analyses and does not act as an initiator for any transient. The accident analyses are not affected by this proposed change and therefore no additional fuel failures or mass releases will result.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

There would be no change to system configurations, plant equipment or analysis as a result of this proposed amendment.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the change involve a significant reduction in a margin of safety?

The proposed change to the RCS flow uncertainty does not involve a significant reduction in the margin of safety. The uncertainty value is being reduced from 3.5% to 2.0% based on a BVPS Unit No. 2 plant specific evaluation which includes a review of calibration procedures and in-plant equipment based on the same methodology used in WCAP 12478 and WCAP 11366 Rev. 2 and provides a value which accounts for an appropriate margin of safety. Accident analyses are performed at a flow value of 265,500 gpm without the addition of the uncertainty factor and have shown acceptable results in all cases.

Therefore, the proposed change does not involve a significant reduction in the margin of safety.

F. NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

Based on the considerations expressed above, it is concluded that the activities associated with this license amendment request satisfies the no significant hazards consideration standards of 10 CFR 50.92(c) and, accordingly, a no significant hazards consideration finding is justified.

ATTACHMENT C

Beaver Valley Power Station, Unit No. 2
Proposed Technical Specification Change No. 62

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TABLE 3.2-1

DNB PARAMETERS

<u>PARAMETER</u>	<u>3 Loops in Operation</u>
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