Attachment 2
Revised Technical Specifications

- Technical Specification 2.1.1.2 Safety Limits (page 2.0-1) is modified to read:

  2.1.1.2 With the reactor steam dome pressure ≥ 785 psig and core flow ≥ 10% rated core flow:

  The MCPR for ATRIUM-9X fuel shall be ≥ 1.13 for two recirculation loop operation or ≥ 1.14 for single recirculation loop operation. For all other fuel, the MCPR shall be ≥ 1.07 for two recirculation loop operation or ≥ 1.08 for single recirculation loop operation.

- Technical Specification 5.6.5 (b) Core Operating Limits Report (page 5.0-22) is changed to add new reference 13 which describes the use of an interim value for the additive constant uncertainty:

  13. Letter HDC:97:033 dated April 18, 1997, HD Curet (Siemens) to US NRC Document Control Desk, Interim Use of Increased ANFB Additive Constant Uncertainty.

- (Information Only) BASES Section 2.1.1.2 MCPR (pages B 2.0-3) is changed to acknowledge the use of an interim additive constant uncertainty for the SPC ATRIUM-9X fuel by inserting the following sentence (see attached page markup):

  Reference 7 describes the interim use of increased ANFB additive constant uncertainty for the SPC ATRIUM-9X fuel.

- (Information Only) BASES Section 2.0 References section (B 2.0-5) is changed to incorporate new reference 7:

  7. Letter HDC:97:033 dated April 18, 1997, HD Curet (Siemens) to US NRC Document Control Desk, Interim Use of Increased ANFB Additive Constant Uncertainty.

2.0 SAFETY LIMITS (SLs)

2.1 SLs

2.1.1 Reactor Core SLs

2.1.1.1 With the reactor steam dome pressure < 785 psig or core flow < 10% rated core flow:

THERMAL POWER shall be ≤ 25% RTP.

2.1.1.2 With the reactor steam dome pressure ≥ 785 psig and core flow ≥ 10% rated core flow:

~~MCPR shall be ≥ 1.07 for two recirculation loop operation or ≥ 1.08 for single recirculation loop operation.~~

2.1.1.3 Reactor vessel water level shall be greater than the top of active irradiated fuel.

2.1.2 Reactor Coolant System Pressure SL

Reactor steam dome pressure shall be ≤ 1325 psig.

2.2 SL Violations

With any SL violation, the following actions shall be completed within 2 hours:

2.2.1 Restore compliance with all SLs; and

2.2.2 Insert all insertable control rods.

Insert New MCPR Section

The MCPR for ATRIUM-9X fuel shall be ≥ 1.13 for two recirculation loop operation or ≥ 1.14 for single recirculation loop operation. For all other fuel, the MCPR shall be ≥ 1.07 for two recirculation loop operation or ≥ 1.08 for single recirculation loop operation.

5.6 Reporting Requirements

5.6.5 CORE OPERATING LIMITS REPORT (COLR) (continued)

12. WPPSS-FTS-131(A), Revision 1, "Applications Topical Report for BWR Design and Analysis," March 1996.

c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.6 Post Accident Monitoring (PAM) Instrumentation Report

When a report is required by Condition B or F of LCO 3.3.3.1, "Post Accident Monitoring (PAM) Instrumentation," a report shall be submitted within the following 14 days. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.

Insert New Reference 13

13. Letter HDC:97:033 dated April 18, 1997, HD Curet (Siemens) to US NRC Document Control Desk, Interim Use of Increased ANFB Additive Constant Uncertainty.

BASES

APPLICABLE SAFETY ANALYSES

2.1.1.1 Fuel Cladding Integrity (continued)

bundle flow for all fuel assemblies that have a relatively high power and potentially can approach a critical heat flux condition. The minimum bundle flow is > 28 x 10^3 lb/hr. The coolant minimum bundle flow and maximum flow area are such that the mass flux is > 0.25 x 10^6 lb/hr-ft^2. Full scale critical power tests taken at pressures down to 14.7 psia indicate that the fuel assembly critical power at 0.25 x 10^6 lb/hr-ft^2 is approximately 3.35 MWt. At 25% RTP, a bundle power of approximately 3.35 Mwt corresponds to a bundle radial peaking factor of > 2.9, which is significantly higher than the expected peaking factor. Thus, a THERMAL POWER limit of 25% RTP for reactor pressures < 785 psig is conservative.

2.1.1.2 MCPR

The MCPR SL ensures sufficient conservatism in the operating MCPR limit that, in the event of an AOO from the limiting condition of operation, at least 99.9% of the fuel rods in the core would be expected to avoid boiling transition. The margin between calculated boiling transition (i.e., MCPR = 1.00) and the MCPR SL is based on a detailed statistical procedure that considers the uncertainties in monitoring the core operating state. One specific uncertainty included in the SL is the uncertainty inherent in the critical power correlations. Reference 4 describes the methodology used in determining the MCPR SL for Siemens Power Corporation fuel. Reference 5 describes the methodology used in determining the MCPR SL for ABB CENO fuel.

Insert: Reference 7 describes the interim use of increased ANFB additive constant uncertainty for the SPC ATRIUM-9X fuel.

The critical power correlations are based on a significant body of practical test data, providing a high degree of assurance that the critical power, as evaluated by the correlation, is within a small percentage of the actual critical power. As long as the core pressure and flow are within the range of validity of the critical power correlations, the assumed reactor conditions used in defining the SL introduce conservatism into the limit because bounding high radial power factors and bounding flat local peaking distributions are used to estimate the number

(continued)

BASES (continued)

SAFETY LIMIT VIOLATIONS

Exceeding an SL may cause fuel damage and create a potential for radioactive releases in excess of 10 CFR 100, "Reactor Site Criteria," limits (Ref. 6). Therefore, it is required to insert all insertable control rods and restore compliance with the SL within 2 hours. The 2 hour Completion Time ensures that the operators take prompt remedial action and the probability of an accident occurring during this period is minimal.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 10.

2. ANF-1125(P)(A), Revision 0, including Supplements 1 and 2, April 1990.

3. UR-89-210-P-A, "SVEA-96 Critical Power Experiments on a Full Scale 24-Rod Sub-Bundle," October 1993.

4. ANF-524(P)(A), Revision 2, including Supplements 1 and 2, November 1990.

5. CENPD-300-P-A, "Reference Safety Report for Boiling Water Reactor Reload Fuel," July 1996.

6. 10 CFR 100.

Insert new Reference 7.

7. Letter HDC:97:033 dated April 18, 1997, HD Curet (Siemens) to US NRC Document Control Desk, Interim Use of Increased ANFB Additive Constant Uncertainty.

Attachment 3

Evaluation of Significant Hazards Considerations

Summary of Proposed Change:

The WNP-2 MCPR safety limits for the ATRIUM-9X fuel design are proposed to be increased from 1.07 to 1.13 for two loop operation and from 1.08 to 1.14 for single loop operation. The proposed changes are based on conservative calculations by SPC (Reference 3) using an interim ATRIUM-9X additive constant uncertainty (Reference 5). These new ATRIUM-9X additive constant uncertainty calculations are based on a larger pool of data than previous calculations (Reference 1).

No significant Hazards Determination:

Washington Public Power Supply System has evaluated the proposed changes to the Technical Specifications using the criteria established in 10CFR50.92(c) and has determined that they do not represent a significant hazards consideration as described below.

The operation of WNP-2 in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

The probability of an evaluated accident is derived from the probabilities of the individual precursors to that accident. The consequences of an evaluated accident are determined by the operability of plant systems designed to mitigate those consequences. Limits have been established consistent with NRC approved methods to ensure that fuel performance during normal, transient, and accident conditions is acceptable. The proposed Technical Specifications amendment conservatively establishes the ATRIUM-9X MCPR safety limit for WNP-2 such that the fuel is protected during normal operation as well as during plant transients or anticipated operational occurrences.

The probability of an evaluated accident is not increased by increasing the ATRIUM-9X MCPR safety limit to 1.13 (two loop operation) or 1.14 (single loop operation). The change does not require any physical plant modifications, physically affect any plant component, or entail changes in plant operation. Therefore, no individual precursors of an accident are affected.

This Technical Specification amendment proposes to change the MCPR safety limit for ATRIUM-9X fuel to protect the fuel during normal operation as well as during plant transients or anticipated operational occurrences. The method that is used to determine the ATRIUM-9X additive constant uncertainty is conservative, such that the resulting ATRIUM-9X MCPR safety limit is high enough to ensure that less than 0.1% of the fuel rods are expected to experience boiling transition if the limit is not violated. Operational limits will be established based on the proposed ATRIUM-9X MCPR safety limits to ensure that the safety limits are not violated. This will ensure that the fuel design safety criteria (more than 99.9% of the fuel rods avoid transition boiling during normal

operation as well as anticipated operational occurrences) is met. In addition, since the operability of plant systems designed to mitigate any consequences of accidents have not changed, the consequences of an accident previously evaluated are not expected to increase.

The operation of WNP-2 in accordance with the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated:

Creation of the possibility of a new or different kind of accident would require the creation of one or more new precursors of that accident. New accident precursors may be created by modifications of the plant configuration, including changes in allowable modes of operation. This Technical Specification submittal does not involve any modifications of the plant configuration or allowable modes of operation. This Technical Specification change results in added conservatism in the ATRIUM-9X MCPR safety limits due to analytical changes and use of an expanded database. Therefore, no new precursors of an accident are created and no new or different kinds of accidents are created.

The operation of WNP-2 in accordance with the proposed amendment will not involve a significant reduction in the margin of safety for the following reasons:

The MCPR safety limit provides a margin of safety by ensuring that less than 0.1% of the rods are expected to be in boiling transition if the MCPR limit is not violated. The proposed Technical Specification amendment is based on conservative calculations by SPC using the new ATRIUM-9X additive constant uncertainty. These new ATRIUM-9X additive constant uncertainty calculations are based on a lager pool of data than previous calculations (527 data points versus 82 data points). Additionally, the revised additive constant uncertainty is being conservatively applied to calculate a new ATRIUM-9X MCPR safety limit which is more restrictive than the current limit.

Because more conservative methods are being used to calculate and apply the additive constant uncertainty to the ATRIUM-9X MCPR safety limit calculation, a decrease in the margin of safety will not occur due to changing the ATRIUM-9X MCPR safety limit. The revised safety limit will continue to ensure that an appropriate level of fuel protection exists. Additionally, operational limits will be established based on the proposed ATRIUM-9X MCPR safety limit to ensure that the ATRIUM-9X MCPR safety limit is not violated. This will ensure that the fuel design safety criteria of more than 99.9% of the fuel rods avoiding transition boiling during normal operation as well as anticipated operational occurrences is met.

Attachment 4

Environmental Assessment Applicability Review

Washington Public Power Supply System has evaluated the proposed amendment against the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with 10CFR51.21. It has been determined that the proposed changes meet the criteria for categorical exclusion as provided for under 10CFR51.22(c)(9). This conclusion has been determined because the change requested does not pose a significant hazards considerations nor does it involve a significant increase in the amounts, or a significant change in the types of any effluent that may be released off-site. Additionally, this request does not involve a significant increase in individual or cumulative occupational radiation exposure.

Attachment 5

Revised Technical Specification pages

2.0 SAFETY LIMITS (SLs)

2.1 SLs

2.1.1 Reactor Core SLs

2.1.1.1 With the reactor steam dome pressure < 785 psig or core flow < 10% rated core flow:

THERMAL POWER shall be ≤ 25% RTP.

2.1.1.2 With the reactor steam dome pressure ≥ 785 psig and core flow ≥ 10% rated core flow:

The MCPR for ATRIUM-9X fuel shall be ≥ 1.13 for two recirculation loop operation or ≥ 1.14 for single recirculation loop operation. For all other fuel, the MCPR shall be ≥ 1.07 for two recirculation loop operation or ≥ 1.08 for single recirculation loop operation.

2.1.1.3 Reactor vessel water level shall be greater than the top of active irradiated fuel.

2.1.2 Reactor Coolant System Pressure SL

Reactor steam dome pressure shall be ≤ 1325 psig.

2.2 SL Violations

With any SL violation, the following actions shall be completed within 2 hours:

2.2.1 Restore compliance with all SLs; and

2.2.2 Insert all insertable control rods.

5.6 Reporting Requirements

5.6.5 CORE OPERATING LIMITS REPORT (COLR) (continued)

12. WPPSS-FTS-131(A), Revision 1, "Applications Topical Report for BWR Design and Analysis," March 1996.

13. Letter HDC:97:033 dated April 18, 1997, HD Curet (Siemens) to US NRC Document Control Desk, Interim Use of Increased ANFB Additive Constant Uncertainty.

c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.6 Post Accident Monitoring (PAM) Instrumentation Report

When a report is required by Condition B or F of LCO 3.3.3.1, "Post Accident Monitoring (PAM) Instrumentation," a report shall be submitted within the following 14 days. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.