

DESIGN FEATURES

5.3 REACTOR CORE

FUEL ASSEMBLIES

5.3.1 The reactor core shall contain 241 fuel assemblies with each fuel assembly containing 236 fuel rods or burnable poison rods clad with Zircaloy-4. Each fuel rod shall have a nominal active fuel length of 150 inches and contain a maximum total weight of approximately 1950 grams uranium. Each burnable poison rod shall have a nominal active poison length of 136 inches. The initial core loading shall have a maximum enrichment of 3.35 weight percent U-235. Reload fuel shall be similar in physical design to the initial core loading and shall have a maximum enrichment of $\frac{4}{4}$ weight percent U-235.

4.05

CONTROL ELEMENT ASSEMBLIES

5.3.2 The reactor core shall contain 76 full-length and 13 part-length control element assemblies.

5.4 REACTOR COOLANT SYSTEM

DESIGN PRESSURE AND TEMPERATURE

5.4.1 The Reactor Coolant System is designed and shall be maintained:

- a. In accordance with the code requirements specified in Section 5.2 of the FSAR with allowance for normal degradation pursuant of the applicable surveillance requirements,
- b. For a pressure of 2500 psia, and
- c. For a temperature of 650°F, except for the pressurizer which is 700°F.

VOLUME

5.4.2 The total water and steam volume of the Reactor Coolant System is 13,900 + 300/-0 cubic feet at a nominal T_{avg} of 593°F.

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ATTACHMENT 2

A. DESCRIPTION OF THE TECHNICAL SPECIFICATION AMENDMENT REQUEST

The proposed amendment changes the Shutdown Margin versus Cold Leg Temperature curve as set forth in Technical Specification (T.S.) 3.1.1.2. The change is to the Hot Zero Power endpoint. The change is from $6.0\% \Delta \rho$ to $6.5\% \Delta \rho$.

B. PURPOSE OF THE TECHNICAL SPECIFICATION

The purpose of Technical Specification 3.1.1.2 is to ensure that an adequate shutdown margin is maintained in the reactor at all times.

C. NEED FOR THE TECHNICAL SPECIFICATION AMENDMENT

Due to the design of Cycle 2, the Cycle 2 moderator cooldown reactivity insertion curve is more adverse than the Cycle 1 curve. Because of the more adverse cooldown reactivity insertion curve for Cycle 2, the Shutdown Margin is required to be increased from $6\% \Delta \rho$ to $6.5\% \Delta \rho$ at zero power. The increase in margin is required to maintain the operation of Cycle 2 within the safety analysis.

D. BASIS FOR PROPOSED NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

1. The Commission has provided standards for determining whether a significant hazards consideration exists as stated in 10 CFR 50.92. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with a proposed amendment would not: (1) Involve a significant increase in the probability of 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.

A discussion of these standards as they relate to the amendment request follows:

Standard 1--Involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated because the proposed change ensures that the analysis of the most limiting accident, the Steam Line Break event for Cycle 2, is bounded by the reference cycle (Cycle 1) transient analysis. Therefore, there is no increase in the probability or consequences of an accident previously evaluated because operation of Cycle 2 is within the realm of operation, as experienced during Cycle 1.

Standard 2--Create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed change will not create the possibility of a new or different kind of accident from any accident previously evaluated because, by increasing the required shutdown margin at zero power, the Cycle 2 transient analysis is bounded by the reference cycle transient analysis. Requiring a larger shutdown margin does not subject the operation of Cycle 2 to any additional accidents. It restricts the Unit even further in its allowed operation. Therefore, there will be no increase in the possibility of a new or different kind of accident occurring.

Standard 3--Involve a significant reduction in a margin of safety.

The proposed change does not involve a significant reduction in a margin of safety because the shutdown margin at zero power is being increased to ensure the same margin of safety is maintained for Cycle 2 operation as it was for Cycle 1. The increased shutdown margin ensures that the most limiting event is bounded by the reference cycle transient analysis and thus maintaining margin.

2. The proposed amendment matches the guidance concerning the application of standards for determining whether or not a significant hazards consideration exists (51 FR 7751) by example:

- (iii) For a nuclear power reactor, a change resulting from a nuclear reactor core reloading, if no fuel assemblies significantly different from those found previously acceptable to the NRC for a previous core at the facility in question are involved. This assumes that no significant changes are made to the acceptable criteria for the Technical Specifications, the analytical methods used to demonstrate conformance with the Technical Specifications and regulations are not significantly changed, and that NRC has previously found such methods acceptable.

E. SAFETY EVALUATION FOR THE AMENDMENT REQUEST

The proposed Technical Specification amendment will not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the FSAR. The proposed change does not change or replace equipment or components important to safety. The change ensures that, during the operation of Cycle 2, a shutdown margin of the same magnitude as the margin required during Cycle 1 is maintained. By increasing the margin to $6.5\% \Delta \rho$, the Cycle 2 analysis is bounded by the reference cycle transient analysis. Therefore, there is no increase in the probability of occurrence of the consequences of an accident or malfunction of equipment.

The proposed Technical Specification amendment will not create the possibility for an accident or malfunction of a different type than any previously evaluated in the FSAR. The proposed change ensures that, during the operation of Cycle 2, a shutdown margin of the same magnitude as the margin required

during Cycle 1 is maintained. By increasing the margin to 6.5% $\Delta\rho$, the Cycle 2 analysis is bounded by the reference cycle transient analysis and restricts the Unit even further in its allowed operation. Therefore, there is no increase in the possibility for an accident or malfunction being created.

The proposed Technical Specification amendment will not reduce the margin of safety as defined in the basis for the Technical Specifications. The proposed change ensures that during the operation of Cycle 2, a shutdown margin of the same magnitude as the margin required during Cycle 1 is maintained. By increasing the margin to 6.5% $\Delta\rho$, the Cycle 2 analysis is bounded by the reference cycle transient analysis and, therefore, there is no reduction in the margin.

F. ENVIRONMENTAL IMPACT CONSIDERATION DETERMINATION

The proposed change request does not involve an unreviewed environmental question because operation of PVNGS Unit 1, in accordance with this change, would not:

1. Result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the staff's testimony to the Atomic Safety and Licensing Board; or
2. Result in a significant change in effluents or power levels; or
3. Result in matters not previously reviewed in the licensing basis for PVNGS which may have a significant environmental impact.

G. MARKED-UP TECHNICAL SPECIFICATION CHANGE PAGES

Limiting Conditions For Operation And Surveillance Requirements:

3/4 1-2a

