

Attachment 1

Revised Technical Specification Pages

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(Change Markups Follow Technical Specification Pages)

## DESIGN FEATURES

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### 5.3 REACTOR CORE

#### FUEL ASSEMBLIES

5.3.1 The reactor shall contain 157 fuel assemblies. Each assembly shall consist of a matrix of zirconium alloy, zircaloy-4, or ZIRLO™ fuel rods with an initial composition of natural or slightly enriched uranium dioxide (UO<sub>2</sub>) as fuel material.

Limited substitutions of zirconium alloy, zircaloy-4, ZIRLO™, or stainless steel filler rods for fuel rods, in accordance with NRC-approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC-approved codes and methods, and shown by tests or analyses to comply with all fuel safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in non-limiting core regions.

#### CONTROL ROD ASSEMBLIES

5.3.2 The reactor core shall contain 48 control rod assemblies. The control material shall be silver, indium and cadmium as approved by the NRC.

### 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 to the applicable Surveillance Requirements,
- b. For a pressure of 2485 psig, and
- c. For a temperature of 650°F, except for the pressurizer which is 680°F.

#### VOLUME

5.4.2 The total water and steam volume of the reactor coolant system is 9723 ± 100 cubic feet at a nominal T<sub>avg</sub> of 525°F.

### 5.5 METEOROLOGICAL TOWER LOCATION

5.5.1 The meteorological tower shall be located as shown on Figure 5.5-1.

## DESIGN FEATURES

### 5.6 FUEL STORAGE

#### CRITICALITY

- 5.6.1.1 The spent fuel storage racks are designed and shall be maintained with:
- a.  $K_{eff}$  less than or equal to 0.95 when flooded with unborated water, which includes conservative allowances for uncertainties and biases.
  - b. A nominal 10.75 inch center-to-center distance between fuel assemblies placed in the storage racks.
  - c. A maximum nominal enrichment of:
    1. 4.25 weight percent U-235 for Westinghouse LOPAR fuel assemblies.
    2. 5.0 weight percent U-235 for Westinghouse OFA or VANTAGE-5 fuel assemblies. Westinghouse OFA and VANTAGE-5 fuel with maximum nominal enrichments greater than 3.9 weight percent U-235 shall contain sufficient integral burnable absorbers such that a maximum reference fuel assembly  $K_{\infty}$  less than or equal to 1.455 at 68°F is maintained.
- 5.6.1.2 The new fuel pit storage racks are designed and shall be maintained with:
- a.  $K_{eff}$  less than or equal to 0.98, assuming aqueous foam moderation.
  - b. A nominal 21 inch center-to-center distance between new fuel assemblies placed in the storage racks.
  - c. A maximum nominal enrichment of:
    1. 4.25 weight percent U-235 for Westinghouse LOPAR fuel assemblies.
    2. 5.0 weight percent U-235 for Westinghouse OFA or VANTAGE-5 fuel assemblies. Westinghouse OFA and VANTAGE-5 fuel with maximum nominal enrichments greater than 3.9 weight percent U-235 shall contain sufficient integral burnable absorbers such that a maximum reference fuel assembly  $K_{\infty}$  less than or equal to 1.455 at 68°F is maintained.

#### DRAINAGE

- 5.6.2 The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 149.

#### CAPACITY

- 5.6.3 The spent fuel storage pool is designed and shall be maintained with a storage capacity limited to no more than 1407 fuel assemblies.

### 5.7 COMPONENT CYCLIC OR TRANSIENT LIMIT

- 5.7.1 The components identified in Table 5.7-1 are designed and shall be maintained within the cyclic or transient limits of Table 5.7-1.

## DESIGN FEATURES

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### 5.3 REACTOR CORE

#### FUEL ASSEMBLIES

5.3.1 The reactor shall contain 157 fuel assemblies. Each assembly shall consist of a matrix of zirconium alloy, zircaloy-4, or ZIRLO™ fuel rods with an initial composition of natural or slightly enriched uranium dioxide (UO<sub>2</sub>) as fuel material.

Limited substitutions of zirconium alloy, zircaloy-4, ZIRLO™, or stainless steel filler rods for fuel rods, in accordance with NRC-approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC-approved codes and methods, and shown by tests or analyses to comply with all fuel safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in non-limiting core regions.

#### CONTROL ROD ASSEMBLIES

5.3.2 The reactor core shall contain 48 control rod assemblies. The control material shall be silver, indium and cadmium as approved by the NRC.

### 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 to the applicable Surveillance Requirements,
- b. For a pressure of 2485 psig, and
- c. For a temperature of 650°F, except for the pressurizer which is 680°F.

#### VOLUME

5.4.2 The total water and steam volume of the reactor coolant system is 9723 ± 100 cubic feet at a nominal T<sub>avg</sub> of 525°F.

### 5.5 METEOROLOGICAL TOWER LOCATION

5.5.1 The meteorological tower shall be located as shown on Figure 5.5-1.

## DESIGN FEATURES

### 5.6 FUEL STORAGE

#### CRITICALITY

- 5.6.1.1 The spent fuel storage racks are designed and shall be maintained with:
- a.  $K_{eff}$  less than or equal to 0.95 when flooded with unborated water, which includes conservative allowances for uncertainties and biases.
  - b. A nominal 10.75 inch center-to-center distance between fuel assemblies placed in the storage racks.
  - c. A maximum nominal enrichment of:
    1. 4.25 weight percent U-235 for Westinghouse LOPAR fuel assemblies.
    2. 5.0 weight percent U-235 for Westinghouse OFA or VANTAGE-5 fuel assemblies. Westinghouse OFA and VANTAGE-5 fuel with maximum nominal enrichments greater than 3.9 weight percent U-235 shall contain sufficient integral burnable absorbers such that a maximum reference fuel assembly  $K_{\infty}$  less than or equal to 1.455 at 68°F is maintained.
- 5.6.1.2 The new fuel pit storage racks are designed and shall be maintained with:
- a.  $K_{eff}$  less than or equal to 0.98, assuming aqueous foam moderation.
  - b. A nominal 21 inch center-to-center distance between new fuel assemblies placed in the storage racks.
  - c. A maximum nominal enrichment of:
    1. 4.25 weight percent U-235 for Westinghouse LOPAR fuel assemblies.
    2. 5.0 weight percent U-235 for Westinghouse OFA or VANTAGE-5 fuel assemblies. Westinghouse OFA and VANTAGE-5 fuel with maximum nominal enrichments greater than 3.9 weight percent U-235 shall contain sufficient integral burnable absorbers such that a maximum reference fuel assembly  $K_{\infty}$  less than or equal to 1.455 at 68°F is maintained.

#### DRAINAGE

- 5.6.2 The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 149.

#### CAPACITY

- 5.6.3 The spent fuel storage pool is designed and shall be maintained with a storage capacity limited to no more than 1407 fuel assemblies.

### 5.7 COMPONENT CYCLIC OR TRANSIENT LIMIT

- 5.7.1 The components identified in Table 5.7-1 are designed and shall be maintained within the cyclic or transient limits of Table 5.7-1.

## Changes marked with strike through or ***bold, italics.***

### DESIGN FEATURES

#### 5.3 REACTOR CORE

##### FUEL ASSEMBLIES

5.3.1 The reactor core shall contain 157 fuel assemblies with each fuel assembly containing 264 fuel rods clad with Zircaloy-4. Each assembly shall consist of a matrix of zirconium alloy, zircaloy-4, or ZIRLO™ fuel rods with an initial composition of natural or slightly enriched uranium dioxide (UO<sub>2</sub>) as fuel material. Each fuel rod shall have a nominal active fuel length of 144 inches. The initial core loading shall have a maximum nominal enrichment of 3.15 weight percent U-235. Reload fuel shall be similar in physical design to the initial core loading and shall have a maximum nominal enrichment of 4.25 weight percent U-235 for Westinghouse LOPAR fuel and a maximum nominal enrichment of 5.0 weight percent U-235 for Westinghouse OFA and VANTAGE 5 fuel. Westinghouse OFA and VANTAGE 5 fuel with maximum nominal enrichments greater than 3.9 weight percent U-235 shall contain sufficient integral burnable absorbers such that the requirements of specifications 5.6.1.1.c and 5.6.1.2.c are met. Westinghouse LOPAR fuel does not require integral burnable absorbers.

Limited substitutions of zirconium alloy, zircaloy-4, ZIRLO™, or stainless steel filler rods for fuel rods, in accordance with NRC-approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC-approved codes and methods, and shown by tests or analyses to comply with all fuel safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in non-limiting core regions.

##### CONTROL ROD ASSEMBLIES

5.3.2 The reactor core shall contain 48 full-length and no part-length control rod assemblies. The full-length control rod assemblies shall contain a nominal 142 inches of absorber material. The nominal values of absorber control material shall be 80 percent silver, 15 percent indium and 5 percent cadmium as approved by the NRC. All control rods shall be clad with stainless steel tubing.

#### 5.4 REACTOR COOLANT SYSTEM

##### DESIGN PRESSURE AND TEMPERATURE

5.4.1 The reactor coolant system is designed and shall be maintained:

- In accordance with the code requirements specified in Section 5.2 of the FSAR, with allowance for normal degradation pursuant to the applicable Surveillance Requirements,
- For a pressure of 2485 psig, and
- For a temperature of 650°F, except for the pressurizer which is 680°F.

##### VOLUME

5.4.2 The total water and steam volume of the reactor coolant system is 9723 ± 100 cubic feet at a nominal T<sub>avg</sub> of 525°F.

#### 5.5 METEOROLOGICAL TOWER LOCATION

5.5.1 The meteorological tower shall be located as shown on Figure 5.5-1.

## Changes marked with strike-through or ***bold, italics***.

### DESIGN FEATURES

#### 5.6 FUEL STORAGE

##### CRITICALITY

5.6.1.1 The spent fuel storage racks are designed and shall be maintained with:

- a. ~~a~~- $K_{eff}$  less than or equal to 0.95 when flooded with unborated water, which includes conservative allowances for uncertainties and biases. ~~This is assured by maintaining:~~
- b.~~a~~ A nominal 10.75 inch center-to-center distance between fuel assemblies placed in the storage racks.
- c.~~b~~ A maximum nominal enrichment of:
  - 1. 4.25 weight percent U-235 for Westinghouse LOPAR fuel assemblies.
  - 2. **5.0 weight percent U-235 for Westinghouse OFA or VANTAGE-5 fuel assemblies. Westinghouse OFA and VANTAGE-5 fuel with maximum nominal enrichments greater than 3.9 weight percent U-235 shall contain sufficient integral burnable absorbers such that a ~~e~~**  
~~————A maximum reference fuel assembly  $K_{\infty}$  less than or equal to 1.455 at 68°F for Westinghouse OFA and VANTAGE-5 fuel assemblies, is maintained.~~

5.6.1.2 The new fuel pit storage racks are designed and shall be maintained with:

- a. ~~—~~  $K_{eff}$  less than or equal to 0.98, assuming aqueous foam moderation. ~~This is assured by maintaining:~~
- b.~~a~~ A nominal 21 inch center-to-center distance between new fuel assemblies placed in the storage racks.
- c.~~b~~ A maximum nominal enrichment of:
  - 1. 4.25 weight percent U-235 for Westinghouse LOPAR fuel assemblies.
  - 2. **5.0 weight percent U-235 for Westinghouse OFA or VANTAGE-5 fuel assemblies. Westinghouse OFA and VANTAGE-5 fuel with maximum nominal enrichments greater than 3.9 weight percent U-235 shall contain sufficient integral burnable absorbers such that a ~~e~~**  
~~————A maximum reference fuel assembly  $K_{\infty}$  less than or equal to 1.455 at 68°F for Westinghouse OFA and VANTAGE-5 fuel assemblies, is maintained.~~

##### DRAINAGE

5.6.2 The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 149.

##### CAPACITY

5.6.3 The spent fuel storage pool is designed and shall be maintained with a storage capacity limited to no more than 1407 fuel assemblies.

##### 5.7 COMPONENT CYCLIC OR TRANSIENT LIMIT

5.7.1 The components identified in Table 5.7-1 are designed and shall be maintained within the cyclic or transient limits of Table 5.7-1.



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### DESIGN FEATURES

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Limited substitutions of zirconium alloy, zircaloy-4, ZIRLO™, or stainless steel filler rods for fuel rods, in accordance with NRC-approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC-approved codes and methods, and shown by tests or analyses to comply with all fuel safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in non-limiting core regions.

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##### VOLUME

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### DESIGN FEATURES

#### 5.6 FUEL STORAGE

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5.6.1.1 The spent fuel storage racks are designed and shall be maintained with:

- a. ~~a~~  $K_{eff}$  less than or equal to 0.95 when flooded with unborated water, which includes conservative allowances for uncertainties and biases. ~~This is assured by maintaining:~~
- b.~~a~~ A nominal 10.75 inch center-to-center distance between fuel assemblies placed in the storage racks.
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  - 1. 4.25 weight percent U-235 for Westinghouse LOPAR fuel assemblies.
  - 2. 5.0 weight percent U-235 for Westinghouse OFA or VANTAGE-5 fuel assemblies. Westinghouse OFA and VANTAGE-5 fuel with maximum nominal enrichments greater than 3.9 weight percent U-235 shall contain sufficient integral burnable absorbers such that a ~~a~~  $K_{\infty}$  less than or equal to 1.455 at 68°F for Westinghouse OFA and VANTAGE-5 fuel assemblies is maintained.

5.6.1.2 The new fuel pit storage racks are designed and shall be maintained with:

- a. ~~a~~  $K_{eff}$  less than or equal to 0.98, assuming aqueous foam moderation. ~~This is assured by maintaining:~~
- b.~~a~~ A nominal 21 inch center-to-center distance between new fuel assemblies placed in the storage racks.
- c.~~b~~ A maximum nominal enrichment of:
  - 1. 4.25 weight percent U-235 for Westinghouse LOPAR fuel assemblies.
  - 2. 5.0 weight percent U-235 for Westinghouse OFA or VANTAGE-5 fuel assemblies. Westinghouse OFA and VANTAGE-5 fuel with maximum nominal enrichments greater than 3.9 weight percent U-235 shall contain sufficient integral burnable absorbers such that a ~~a~~  $K_{\infty}$  less than or equal to 1.455 at 68°F for Westinghouse OFA and VANTAGE-5 fuel assemblies is maintained.

##### DRAINAGE

5.6.2 The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 149.

##### CAPACITY

5.6.3 The spent fuel storage pool is designed and shall be maintained with a storage capacity limited to no more than 1407 fuel assemblies.

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5.7.1 The components identified in Table 5.7-1 are designed and shall be maintained within the cyclic or transient limits of Table 5.7-1.