

2.5 Reactor Servicing Equipment

The information in this section of the reference ABWR DCD, including all subsections, tables, and figures, is incorporated by reference with ~~no departures or supplements~~ the following departure.

STP DEP T1 2.5-1

2.5.6 Fuel Storage Facility

Design Description

The Fuel Storage Facility provides storage racks for the temporary and long-term storage of new and spent fuel and associated equipment. The new and spent fuel storage racks use the same configuration and prevents inadvertent criticality.

The racks are classified as non-safety-related.

The spent fuel racks provide storage for new and spent fuel in the spent fuel storage pool in the Reactor Building. New fuel, 40% of reactor core, is stored in the fuel storage vault in the Reactor Building. The racks are top loading, with fuel bail extended above the rack. The spent fuel racks have a minimum storage capacity of 270% of the reactor core, which is equivalent to a minimum of 2354 fuel storage positions. The new and spent fuel racks maintain a subcriticality of at least 5% Δk under dry or flooded conditions. The rack arrangement prevents accidental insertion of fuel assemblies between adjacent racks and allows flow to prevent the water from exceeding 100°C.

The racks are classified as Seismic Category I.

Inspections, Tests, Analyses and Acceptance Criteria

Table 2.5.6 provides a definition of the inspections, tests, and/or analyses, together with associated acceptance criteria, which will be undertaken for the new and spent fuel storage racks.

Table 2.5-6 Fuel Storage Facility

<u>Inspections, Tests, Analyses and Acceptance Criteria</u>		
<u>Design Commitment</u>	<u>Inspections, Tests, Analyses</u>	<u>Acceptance Criteria</u>
<u>1. The basic configuration of the new and spent fuel racks is described in Section 2.5.6.</u>	<u>1. Inspections of the as-built system will be Conducted</u>	<u>1. The as-built new and spent fuel storage racks conform with the basic configuration described in Section 2.5.6</u>
<u>2. The new and spent fuel racks maintain a subcriticality of at least 5% Δk under dry or flooded conditions.</u>	<u>2. Analyses will be performed to determine the keff of the as-built new and spent fuel racks.</u>	<u>2. An analysis report exists which concludes that the new and spent fuel racks have a subcriticality of at least 5% Δk under dry or flooded conditions.</u>
<u>3. The rack arrangement prevents accidental insertion of fuel assemblies between adjacent racks.</u>	<u>3. Inspections of the as-built new and spent fuel racks will be performed</u>	<u>3. The rack arrangement prevents accidental insertion of fuel assemblies between adjacent racks.</u>
<u>4. The rack arrangement allows flow to prevent the water from exceeding 100°C.</u>	<u>4. An analysis of the as-built spent fuel rack will be performed to determine the maximum water temperature.</u>	<u>4. An analysis report exists which concludes that the rack arrangement allows flow to prevent the water from exceeding 100°C.</u>