UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SOUTH CAROLINA ELECTRIC & GAS COMPANY

SOUTH CAROLINA PUBLIC SERVICE AUTHORITY

DOCKET NO. 50-395

VIRGIL C. SUMMER NUCLEAR STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 27
License No. NPF-12

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment to the Virgil C. Summer Nuclear Station, Unit No. 1 (the facility) Facility Operating License No. NPF-12 filed by the South Carolina Electric & Gas Company acting for itself and South Carolina Public Service Authority (the licensees), dated January 23, 1984, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;

   D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public;

   E. The issuance of this license amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is hereby amended by page changes to the Technical Specifications as indicated in the attachments to this license amendment and paragraph 2.C(2) of Facility Operating License No. NPF-12 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 27, are hereby incorporated into this license. South Carolina Electric & Gas Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Elinor G. Adensam

Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

Enclosure:
Technical Specification Changes

Date of Issuance: September 27, 1984

ATTACHMENT TO LICENSE AMENDMENT NO. 27

FACILITY OPERATING LICENSE NO. NPF-12

DOCKET NO. 50-395

Replace the following pagse of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change. Corresponding overleaf pages are also provided to maintain document completeness.

Amended Page	Overleaf Page
3/4 9-14	
3/4 9-15	
3/4 9-16	
B3/4 9-3	
5-6	5-5
5-7	5-8
5-7a	

REFUELING OPERATIONS

3/4.9.12 SPENT FUEL ASSEMBLY STORAGE

LIMITING CONDITION FOR OPERATION

3.9.12 The combination of initial enrichment and cumulative exposure for spent fuel assemblies stored in Regions 2 and 3 shall be within the acceptable domain of Figure 3.9-1 for Region 2 and Figure 3.9-2 for Region 3.

APPLICABILITY: Whenever irradiated fuel assemblies are in the spent fuel pool.

ACTION:

a. With the requirements of the above specification not satisfied, suspend all other movement of fuel assemblies and crane operations with loads in the fuel storage areas and move the non-complying fuel assemblies to Region 1. Until these requirements of the above specification are satisfied, boron concentration of the spent fuel pool shall be verified to be greater than or equal to 2000 ppm at least once per 8 hours.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.12 The burnup of each spent fuel assembly stored in Regions 2 and 3 shall be ascertained by careful analysis of its burnup history prior to storage in Region 2 or 3. A complete record of such analysis shall be kept for the time period that the spent fuel assembly remains in Region 2 or 3 of the spent fuel pool.

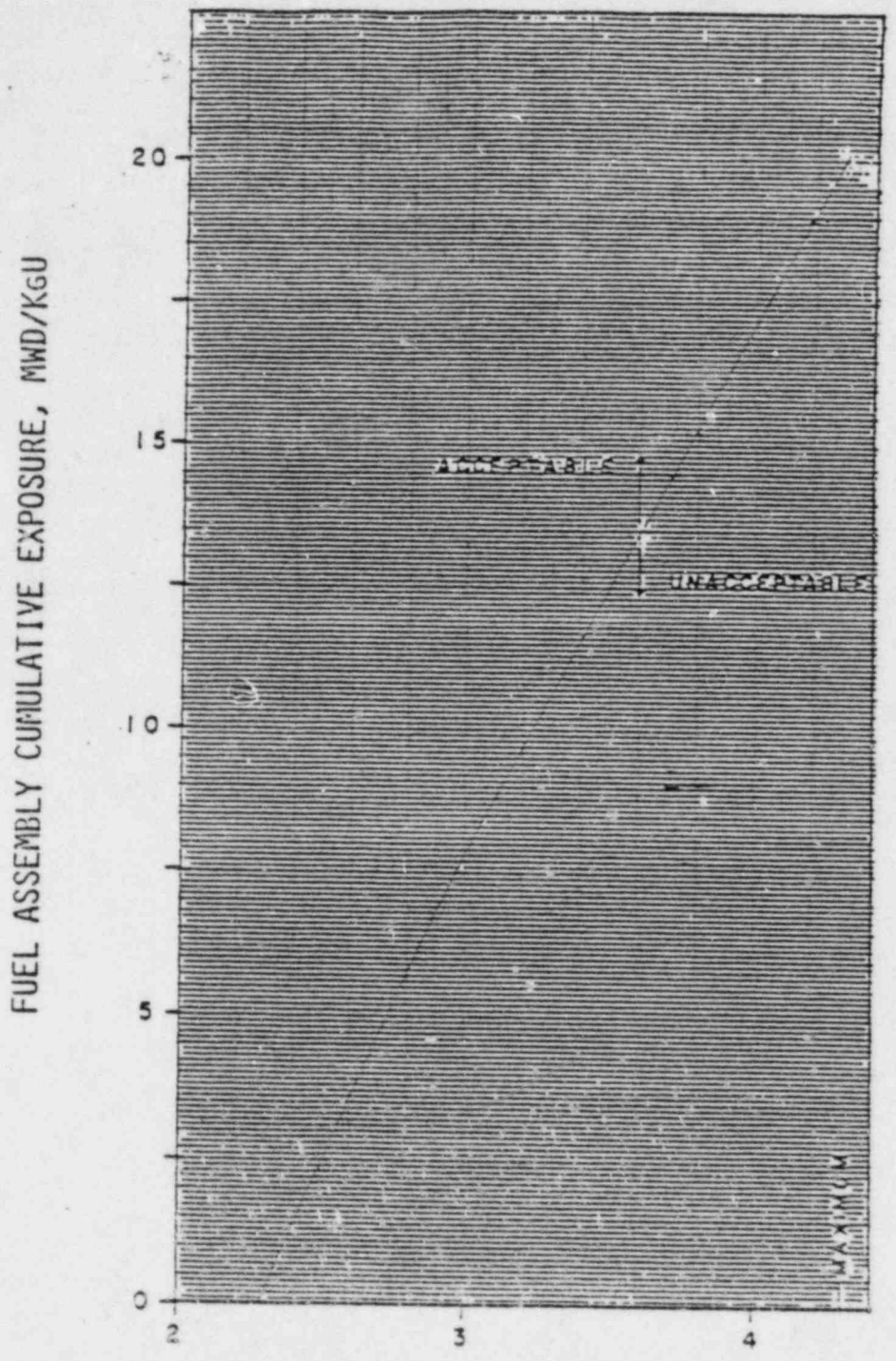


FIGURE 3.9-1 MINIMUM REQUIRED FUEL ASSEMBLY EXPOSURE AS A FUNCTION OF INITIAL ENRICHMENT TO PERMIT STORAGE IN REGION 2

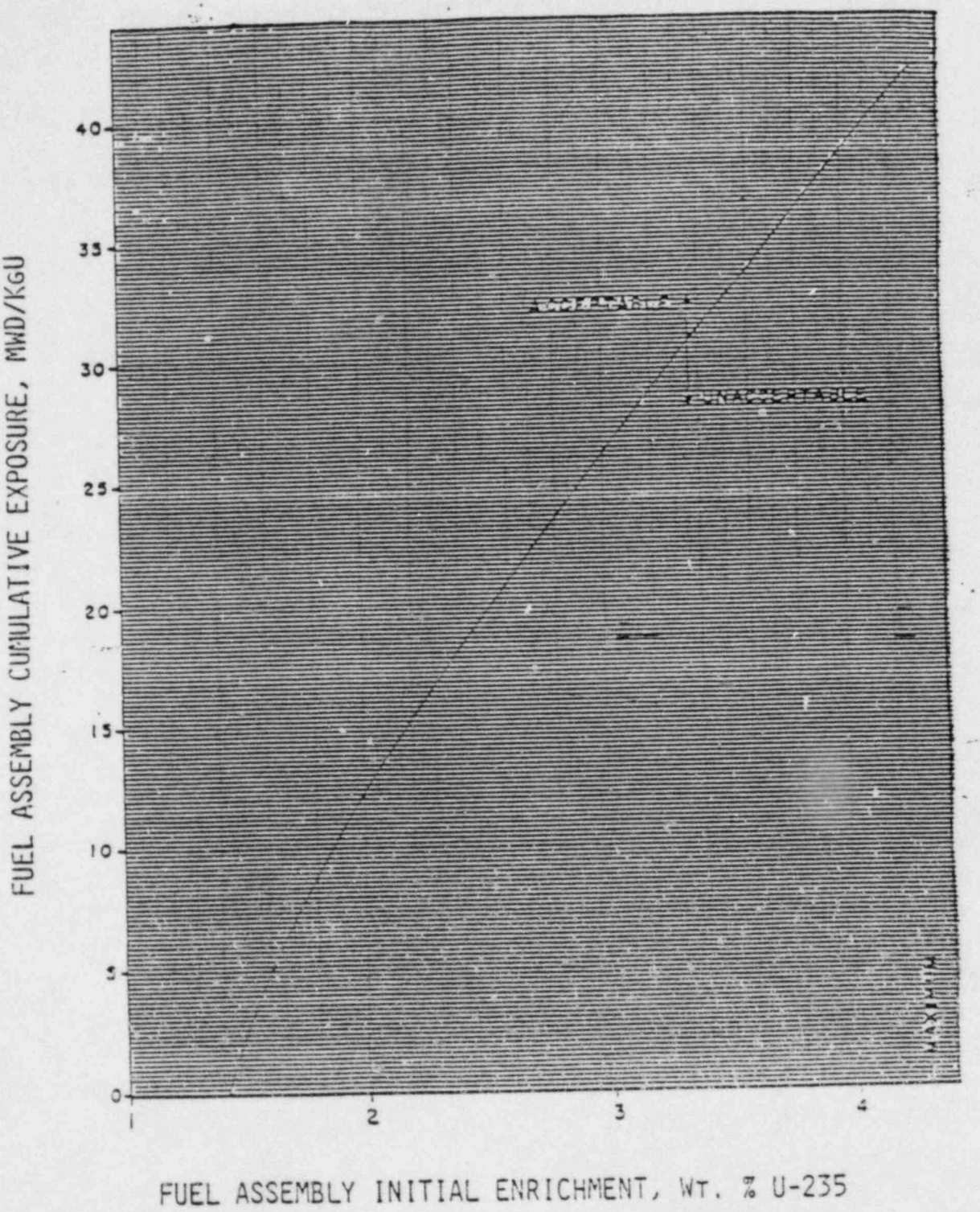
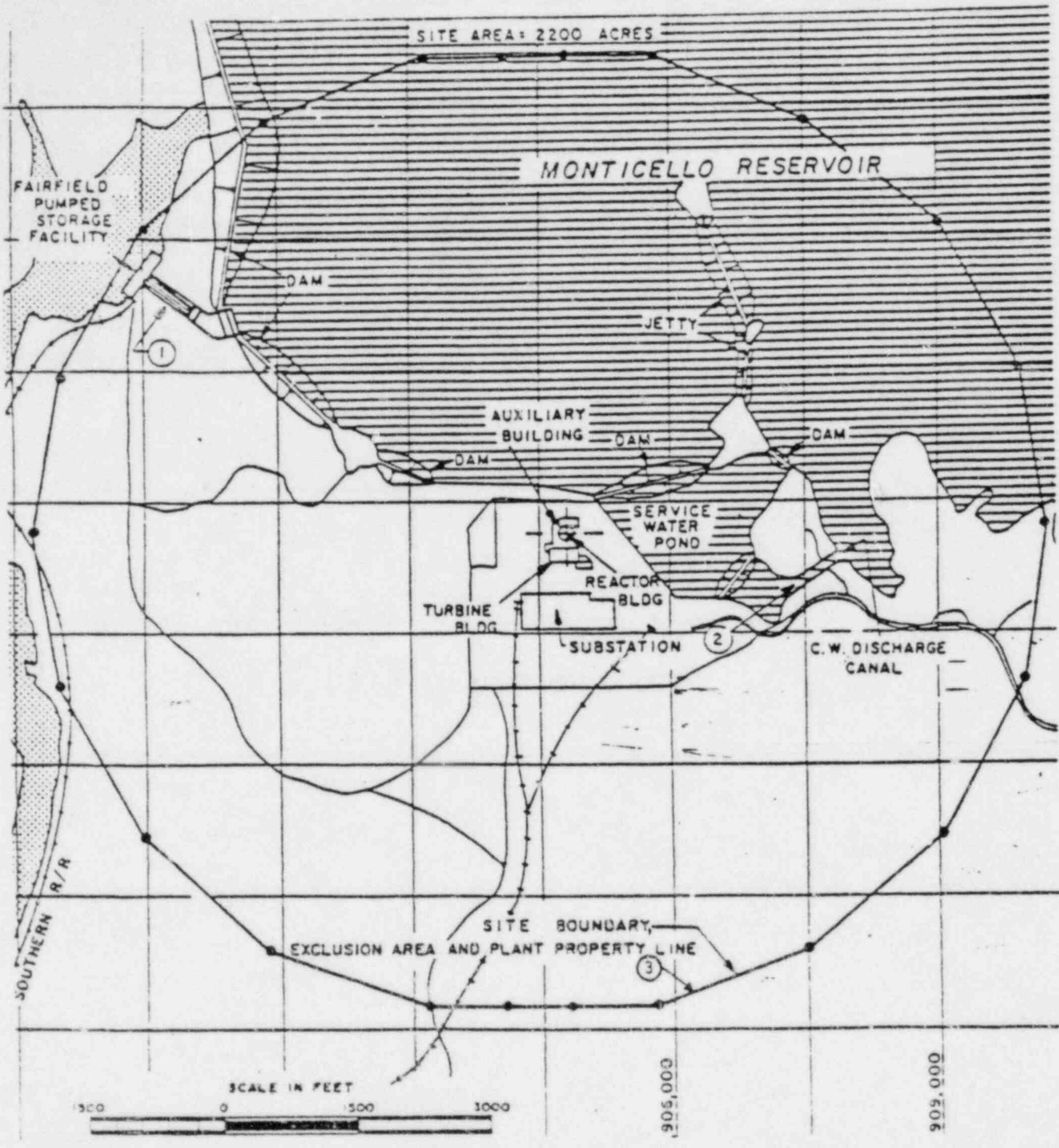


FIGURE 3.9-2 MINIMUM REQUIRED FUEL ASSEMBLY EXPOSURE AS A FUNCTION OF INITIAL ENRICHMENT TO PERMIT STORAGE IN REGION 3

3/4.9.12 SPENT FUEL ASSEMBLY STORAGE

The restrictions placed on spent fuel assemblies stored in Regions 2 and 3 of the spent fuel pool ensure inadvertent criticality will not occur.



LIQUID RELEASES

(1) FAIRFIELD PUMPED STORAGE FACILITY PENSTOCKS
(A) LIQUID WASTE PROCESSING SYSTEM
(B) PROCESSED STEAM GENERATOR BLOWDOWN

(2) CIRCULATING WATER DISCHARGE CANAL
(A) UNPROCESSED STEAM GENERATOR BLOWDOWN
(B) TURBINE BUILDING FLOOR DRAINS

GASEOUS RELEASES

(3) SITE BOUNDARY FOR GASEOUS RELEASES

SOUTH CAROLINA ELECTRIC & GAS CO.
VIRGIL C. SUMMER NUCLEAR STATION

Location of Liquid Release Points

FIGURE 5.1-4

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 fuel rod shall have a nominal active fuel length of 144 inches and contain a maximum total weight of 1766 grams uranium. The initial core loading shall have a maximum enrichment of 3.2 weight percent U-235. Reloaded fuel shall be similar in physical design to the initial core loading and shall have a maximum enrichment of 4.3 weight percent U-235.

CONTROL ROD ASSEMBLIES

5.3.2 The reactor core shall contain 48 full length control rod assemblies. The full length control rod assemblies shall contain a nominal 142 inches of absorber material. The nominal values of absorber material shall be 80 percent silver, 15 percent indium and 5 percent cadmium. 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:

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 9407 ± 100 cubic feet at a nominal T_{avg} of 586.8°F.

5.5 METEOROLOGICAL TOWER LOCATION

5.5.1 The meteorological tower shall be located as shown on Figure 5.1-1.

5.6 FUEL STORAGE

CRITICALITY

5.6.1.1 The spent fuel storage racks consist of 1276 individual cells, each of which accommodates a single fuel assembly. The cells are grouped into 3 regions. Region 1 is designated for storage of freshly discharged fuel assemblies with enrichments up to 4.3 weight percent U-235. The cells in Region 2 are reserved for accommodating fuel assemblies with initial enrichments of 4.3 weight percent U-235 and a minimum burnup of 20,000 MWD/MTU. Both regions 1 and 2 are poisoned. Region 3 cells are capable of accommodating fuel assemblies with initial enrichments of 4.3 weight percent U-235 and a minimum burnup of 42,000 MWD/MTU. The spent fuel storage racks are designed and shall be maintained with:

a. A K_{eff} equivalent to less than or equal to 0.95 when flooded with unborated water, which includes a conservative allowance for uncertainties as described in Section 4.3 of the FSAR.

b. Nominal center-to-center distance between fuel assemblies of 10.4025" in Region 1, 10.4025" x 10.1875" in Region 2, and 10.116" in Region 3.

5.6.1.2 The new fuel storage racks are designed and shall be maintained with a nominal 21 inch center-to-center distance between new fuel assemblies such that K_{eff} will not exceed 0.98 when fuel having a maximum enrichment of 4.3 weight percent U-235 is in place and various densities of unborated water are assumed including aqueous foam moderation. The K_{eff} of $\leq$0.98 includes the conservative allowance for uncertainties described in Section 4.3 of the FSAR.

DRAINAGE

5.6.2 The spent fuel pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 460'3".

CAPACITY

5.6.3 The spent fuel pool is designed and shall be maintained with a storage capacity limited to no more than 1276 fuel assemblies, 242 in Region 1, 99 in Region 2, and 935 in Region 3.

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.

TABLE 5.7-1

COMPONENT CYCLIC OR TRANSIENT LIMITS

COMPONENT	CYCLIC OR TRANSIENT LIMIT	DESIGN CYCLE OR TRANSIENT
Reactor Coolant System	200 heatup cycles at $\leq$ 100°F/hr and 200 cooldown cycles at < 100°F/hr.	Heatup cycle - T_{avg} from $\leq$ 200°F to $\geq$ 550°F. Cooldown cycle - T_{avg} from $\geq$ 550°F to $\leq$ 200°F.
	200 pressurizer cooldown cycles at $\leq$ 200°F/hr.	Pressurizer cooldown cycle temperatures from $\geq$ 650°F to $\leq$ 200°F.
	80 loss of load cycles, without immediate turbine or reactor trip.	$\geq$ 15% of RATED THERMAL POWER to 0% of RATED THERMAL POWER.
	40 cycles of loss of offsite A.C. electrical power.	Loss of offsite A.C. electrical ESF Electrical System.
	400 reactor trip cycles.	100% to 0% of RATED THERMAL POWER.
	10 inadvertent auxiliary spray actuation cycles.	Spray water temperature differential > 320°F.
	50 leak tests.	Pressurized to $\geq$ 2485 psig.
	5 hydrostatic pressure tests.	Pressurized to $\geq$ 3107 psig.
	200 large stepload decrease with steam dump	Load decreases of more than 10% RATED THERMAL POWER occurring in 1 minute or less.
Secondary System	1 steam line break.	Break in a > 6 inch steam line.
	5 hydrostatic pressure tests.	Pressurized to $\geq$ 1350 psig.