ATTACHMENT TO DOCUMENT CONTROL DESK LETTER DATED JULY 8, 1988

Contents: Page 3/4 1-11 3/4 1-12 B 3/4 1-3 Attachment 1, Pages 43, 49 and 51

5 1

REACTIVITY CONTROL SYSTEMS

BORATED WATER SOURCE - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.5 As a minimum, one of the following borated water sources shall be OPERABLE:

- a. A boric acid storage system with:
 - 1. A minimum contained borated water volume of 20 gallons,
 - 2. Between 7000 and 7700 ppm of boron, and
 - 3. A minimum solution temperature of 65°F.
- b. The refueling water storage tank with:

51,500

- 1. A minimum contained borated water volume of 37,900 gallons,
- 2. A minimum boron concentration of 2300 ppm, and
- A minimum solution temperature of 40°F.

APPLICABILITY: MODES 5 and 6.

ACTION:

With no borated water source OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.1.2.5 The above required borated water source shall be demonstrated OPERABLE:

- a. At least once per 7 days by:
 - 1. Verifying the boron concentration of the water,
 - 2. Verifying the contained borated water volume, and
 - Verifying the boric acid storage tank solution temperature when it is the source of borated water.
- b. At least once per 24 hours by verifying the RWST temperature when it is the source of borated water and the outside air temperature is less than 40°F.

REACTIVITY CONTROL SYSTEMS

BORATED WATER SOURCES - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.6 As a minimum, the following borated water source(s) shall be OPERABLE as required by Specification 3.1.2.2:

a. A boric acid storage system with:

14,000

- 1. A minimum contained borated water volume of 13,200 gallons,
- 2. Between 700L and 7700 ppm of boron, and
- 3. A minimum solution temperature of 65°F.
- b. The refueling water storage tank with:
 - 1. A minimum contained borated water volume of 453,800 gallons,
 - 2. A minimum boron concentration of 2300 ppm, and
 - 3. A minimum solution temperature of 40°F.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- a. With the boric acid storage system inoperable and being used as one of the above required borated water sources, restore the storage system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and borated to a SHUTDOWN MARGIN equivalent to at least 2 percent delta k/k at 200°F; restore the boric acid storage system to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.
- b. With the refueling water storage tank inoperable, restore the tank to OPERABLE status within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

REACTIVITY CONTROL SYSTEMS

BASES

BORATION SYSTEMS (Continued)

MARGIN from expected operating conditions of 1.77% delta k/k or as required by Figure 3.1-3 after xenon decay and cooldown to 200°F. The maximum expected boration capability requirement occurs from full power equilibrium xenon conditions and is satisfied by 2475 gallons of 7000 ppm borated water from the boric acid storage tanks or 64.840 gallons of 2300 ppm borated water from the refueling water storage tank. 13269

With the RCS temperature below 200°F, one injection system is acceptable without single failure consideration on the basis of the stable reactivity condition of the reactor and the additional restrictions prohibiting CORE ALTERATIONS and positive reactivity changes in the event the single injection system becomes inoperable.

The limitation for a maximum of one centrifugal charging pump to be OPERABLE and the Surveillance Requirement to verify all charging pumps except the required OPERABLE pump to be inoperable below 275°F provides assurance that a mass addition pressure transient can be relieved by the operation of a single PORV.

The boron capability required below 200°F is sufficient to provide the required SHUTDOWN MARGIN of 1 percent delta k/k or as required by Figure 3.1-3 after xenon decay and cooldown from 200°F to 140°F. This condition is satisfied by either 2000 gallons of 7000 ppm borated water from the boric acid storage tanks or 9590 gallons of 2300 ppm borated water from the refueling water storage tank.

The contained water volume limits include allowance for water not available because of discharge line location and other physical characteristics.

The OPERABILITY of one boron injection system during REFUELING ensures that this system is available for reactivity control while in MODE 6.

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

The specifications of this section ensure that (1) acceptable power distribution limits are maintained, (2) the minimum SHUTDOWN MARGIN is maintained, and (3) limit the potential effects of rod misalignment on associated accident analyses. OPERABILITY of the control rod position indicators is required to determine control rod positions and thereby ensure compliance with the control rod alignment and insertion limits.

Amendment No. 61

7.5 Moderator Temperature Coefficient

Revisions to the VCSNS Technical Specifications for Moderator Temperature coefficient are proposed.

The BDL limits are increased from $0 \Delta K/K/^{\circ}F$ for the all rods withdrawn (BOL, HZP) to +7.0 pcm/°F from HZP to 70% rated power with a negative linear ramp from +7.0 pcm/°F at 70% power to 0.0 pcm/°F at HFP. This change is required due to the increased RCS boron concentrations for VANTAGE 5 and the positive shift in moderator coefficient caused by the larger H/U ratio and small MTU loading for the smaller (compared to LOPAR) VANTAGE 5 fuel rod.

The EOL limits are also increased (more negative) to accommodate longer fuel cycles and extended fuel burnup.

7.6 Borated Water Sources

The technical specification requirements for borated water sources during all operating modes were evaluated to determine if current limits remain applicable for the transition to VANTAGE 5 fuel. The bases for the technical specification were preserved by current limits except for the minimum contained borated water volume in the boric acid storage system during Modes 1-4 and the refueling water storage tank during Mides 5 and 6. Small increases in the minimum contained water volumes for these conditions are requested.

7.7 Rod Drop Time

The VANTAGE 5 guide thimbles are identical to those in the LOPAP Jesijn except for a reduction in the guide thimble diameter and length above the dashpot.

TABLE 7.1 VIRGIL SUMMER TECHNICAL SPECIFICATION CHANGES FOR CYCLE 5 RELOAD

PAGE	SECTION	DESCRIPTION OF CHANGE	JUSTIFICATION
2-1	2.1.1	Delete reference to two loop operation	Two loop operation is not currently licensed
2-2	Figure 2.1-1	Core limits are revised	Core limits are revised for Vantage 5 fuel due to ITDP, new peaking factors and reduced RCS flow
2-5 2-8 2-9 2-10	Table 2.2-1	Setpoints and Thermal Design Flow (TDF) are changed	Setpoints and TDF are consistent with the new safety limits, instrument uncertainty and reduced flow
B 2-1	Bases 2.1.1	Discussion of Thermal and Hydraulic analysis	The analysis is based on ITDP methodology and the WRB-1 and -2 correlations
B 2-4	Bases 2.2.1	DNBR limit replaced by "safety analysis DNBR limit"	Future changes in analyses will not require a change in Bases
3/4 1-3a	Figure 3.1-3	Changed shutdown margin for Modes 3, 4 and 5	This is based on reanalysis of boron dilution with Vantage 5 fuel
3/4 1-4	3.1.1.3	Charged the MTC limits	This is based on Vantage 5 fuel
3/4 1-5	4.1.1.3	Changed the MTC Limits	This is based on Vantage 5 fuel
3/4 1-11	3.1.2.5.6	changed minimum borated water volume for RWST	This is based on VANTAGE 5 fuel and uptonded fuel cycles.
3/4 1-12	3.1.2.6.a	Changed minimum borated water volume for boric acid system	This is based on Vantage 5 fuel and extended fuel cycles
3/4 1-19	3.1.3.4	Changed rod drop time	This is based on Vantage 5
3/4 2.1, 3/4 2-2, 3/4 2-3	3.2.1	Changed AFD requirements	This is based on Vantage 5 fuel, RAOC and base load operation

S

TABLE 7.1 VIRGIL SUMMER TECHNICAL SPECIFICATION CHANGES FOR CYCLE 5 RELOAD

PAGE	SECTION	DESCRIPTION OF CHANGE	JUSTIFICATION
3/4 5-6	4.5.2	Changed charging pump flow balance limit to reflect testing with recirculation	This is based on the revised safety analyses, where the charging pump recirculation was not isolated during the accidents
3/4 10-2	4.10.2.2	Changed surveillance section numbers to reflect use of FQ as opposed to Fxy surveillance	Reflects correct specification rumbers for FQ surveillance
B 3/4 1-2	3/4 1.1.3	Changed MTC limits	This is based on Vantage 5 fuel
B 3/4 1-3	3/4.1.2	Changed boration volumes	This updates minimum boration requirements.
B 3/4 2-1 B 3/4 2-2 B 3/4 2-3 B 3/4 2-4 B 3/4 2-5	3/4.2, 3/4.2.1, 3/4.2.2 and 3/4.2.3	Changed F(Q), DNB limit, deleted Fxy, and revised discussion of AFD	This is based on optimized selection of parameters, Vantage 5 fuel, ITDP, RAOC and baseload operation
B 3/4 5-1	3/4.5.1	Added comment for borated water and secondary pipe ruptures	The accumulators are actuated in the steam line break analysis
6-18	6.9.1.11	Change discussion of peaking factor report	This is based on Vantage 5 fuel, RAOC and base load operation. The approved methodology is referenced