ATTACHMENT B

PROPOSED CHANGES TO APPENDIX A,
TECHNICAL SPECIFICATIONS OF FACILITY
OPERATING LICENSES NPF-11 AND NPF-18

REVISED PAGES

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3/4 1-13	3/4 1-13
3/4 1-16	3/4 1-16
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SUMMARY OF PROPOSED TECHNICAL SPECIFICATION CHANGES

Unit 1 Technical Specifications

PAGE NO. (S)	DESCRIPTION OF CHANGES
IV	On Index page IV, section 3/4.1.4, the section on Rod Sequence Control System is omitted. The section on Rod Block Monitor, page 3/4 1-18 is changed to page 3/4 1-17. Section 3/4.1.5, Standby Liquid Control System, page 3/4 1-19 is changed to page 3/4 1-18. Section 3/4.1.6, Economic Generation Control System, page 3/4 1-23 is changed to page 3/4 1-22.
X	On Index page X, special test exception 3/4.10.2, is changed from "Rod Sequence Control System" to "Rod Worth Minimizer."
XVI	On Index page XVI, special test exception 3/4.10.2 Bases is changed from "Rod Sequence Control System" to "Rod Worth Minimizer."
XIX	On Index page XIX, Figure 3.1.5-1, page 3/4 1-21 is changed to page 3/4 1-20. Figure 3.1.5-2, page 3/4 1-22 is changed to page 3/4 1-21.
3/4 1-3	No changes on page 3/4 1-3.
3/4 1-4	In the "Control Rod Operability" Tech. Spec., surveillance requirement 4.1.3.1.2, is changed from "When above the low power setpoint of the RWM and RSCS,..." to "When above the low power setpoint of the RWM,..."
3/4 1-11	In the "Control Rod Drive Coupling" Tech. Spec., all references to RSCS are deleted. Action Statement a.1.a) is changed from, "If permitted by the RWM and RSCS,..." to "If permitted by the RWM,..." Action statement a.1.b) is changed from "if not permitted by the RWM or RSCS then until permitted by the RWM and RSCS" to "if not permitted by the RWM then until permitted by the RWM,"
3/4 1-13	In the "Control Rod Position Indication" Tech. Spec. 3.1.3.7., references to RSCS are changed to RWM. Action statement a.3.(a) is changed from "Within the low power setpoint of the RSCS,..." to "Within the low power setpoint of the RWM,...". Action statement a.3.(b) is changed from, "Greater than the low power setpoint of the RSCS,..." to "Greater than the low power of the RWM,...".

3/4 1-16	In the "Control Rod Program Controls, Rod Worth Minimizer" Tech. Spec. 3.1.4.1., the low power setpoint is changed from 20% thermal power to 10% thermal powe The Applicability statement is changed from, "...THERMAL POWER is less than or equal to 20% of RATED THERMAL POWER,...", to "...THERMAL POWER is less than or equal to 10% of RATED THERMAL POWER,...". Action statement b, "The provisions of Specification 3.0.4 are not applicable.", of the RWM Tech. Spec. (3.1.4.1) is changed to, action statement c, "The provisions of Specification 3.0.4 are not applicable, with the exception that control rod withdrawal for reactor startup shall not begin with the RWM inoperable". This will help minimize substitution of a second operator as the amendment requires. Since the RSCS Tech. Spec. is being deleted, the control of number of inoperable control rods must be transferred to the RWM Tech Spec as Action Statement b; "With an inoperable control rod(s), OPERABLE control rod movement may continue by bypassing the inoperable control rod(s) in the RWM provided that: 1. The position and bypassing of inoperable control rods is verified by a second licensed operator or other technically qualified member of the unit technical staff, and 2. There are not more than 3 inoperable control rods in any RWM group."
3/4 1-17	The "Control Rod Program Controls, Rod Sequence Control System" Tech. Spec. 3.1.4.2., is deleted in its entirety.
3/4 1-18	Page 3/4 1-18 is changed to page 3/4 1-17.
3/4 1-19	Page 3/4 1-19 is changed to page 3/4 1-18.
3/4 1-20	Page 3/4 1-20 is changed to page 3/4 1-19.
3/4 1-21	Page 3/4 1-21 is changed to page 3/4 1-20.
3/4 1-22	Page 3/4 1-22 is changed to page 3/4 1-21.
3/4 1-23	Page 3/4 1-23 is changed to page 3/4 1-22.
3/4 10-2	In "Special Test Exceptions, 3/4 10.2 Rod Sequence Control System", the entire Tech. Spec. is rewritten for RWM instead of RSCS. The title is changed from "Rod Sequence Control System" to "Rod Worth Minimizer".

Specification 3.10.2 is changed from "The sequence and constraints imposed on control rod groups by the rod sequence control system (RSCS) per Specification 3.1.4.2 may be suspended by bypassing the low power setpoint switches for the following tests, provided that the rod worth minimizer is OPERABLE per Specification 3.1.4.1." to "The Sequence constraints imposed on control rod groups by the rod worth minimizer (RWM) per Specification 3.1.4.1 may be suspended by bypassing the RWM for the following tests, provided that control rod movement prescribed for this testing is verified by a second licensed operator, or other technically qualified member of the unit technical staff, who is present at the reactor control console." Specification 3.10.2.d is changed from "Startup Test Program with the THERMAL POWER less than 20% of RATED THERMAL POWER.", to "Startup Test Program with the THERMAL POWER less than 10% of RATED THERMAL POWER " The Action statement is changed from "With the requirements of the above specification not satisfied, verify that the RSCS is OPERABLE per Specification 3.1.4.2." to "With the requirements of the above specification not satisfied, verify that the RWM is OPERABLE per Specification 3.1.4.1." Surveillance Requirement 4.10.2 is changed from "When the sequence constraints imposed on control rod groups by the RSCS are bypassed,..." to, "When the sequence constraints imposed on control rod groups by the RWM are bypassed,...". Surveillance Requirement 4.10.2.a, "That the RWM is OPERABLE per Specification 3.1.4.1, " is changed to "Deleted". Surveillance Requirement 4.10.2.b is changed from "That movement of control rods from 75% ROD DENSITY to the RSCS low power setpoint", to "That movement of control rods from 75% ROD DENSITY to the RWM low power setpoint...".

B 3/4 1-3

In Bases 3/4 1.4, "Control Rod Program Controls", all references to RSCS are deleted and the low power setpoint is changed from 20% to 10% of rated thermal power. Change "When THERMAL POWER is greater than 20% of RATED THERMAL POWER, there is no possible rod worth which, if dropped at the design rate of the velocity limiter, could result in a peak enthalpy of 280 cal/gm. Thus requiring the RSCS and RWM to be operable when THERMAL POWER is less than or equal to 20% of RATED THERMAL POWER provides adequate control." to "When THERMAL POWER is greater than 10% of RATED THERMAL POWER, there is no possible rod worth which, if dropped at the design rate of the velocity limiter, could result in a peak enthalpy of 280 cal/gm.

	Thus requiring the RWM to be operable when THERMAL POWER is less than or equal to 10% of RATED THERMAL POWER provides adequate control." Also change "The RSCS and RWM provides automatic supervision..." to "The RWM provides automatic supervision..."
B 3/4 10-1	In Bases section, change name of Special Test Exception 3/4.10.2 from "Rod Sequence Control System" to "Rod Worth Minimizer".

Unit 2 Technical Specifications

PAGE NO. (S)	DESCRIPTION OF CHANGES
IV	On Index page IV, section 3/4 1.4, the section on Rod Sequence Control System is omitted. The section on Rod Block Monitor, Page 3/4 1-18 is changed to page 3/4 1-17. Section 3/4.1.5, Standby Liquid Control System, page 3/4 1-19 is changed to page 3/4 1-18. Section 3/4.1.6, Economic Generation Control System, page 3/4 1-23 is changed to page 3/4 1-22.
X	On Index page X, special test exception 3/4.10.2, is changed from "Rod Sequence Control System" to "Rod Worth Minimizer."
XVI	On Index page XVI, special test exception 3/4.10.2 Bases is changed from "Rod Sequence Control System" to Rod Worth Minimizer."
XIX	On Index page XIX, Figure 3.1.5-1, page 3/4 1-21 is changed to page 3/4 1-20. Figure 3.1.5-2, page 3/4 1-22 is changed to page 3/4 1-3.
3/4 1-3	No changes on page 3/4 1-3.
3/4 1-4	In the "Control Rod Operability" Tech. Spec., surveillance requirement 4.1.3.1.2, is changed from "When above the low power setpoint of the RWM and RSCS,..." to "When above the low power setpoint of the RWM,..."

3/4 1-11 In the "Control Rod Drive Coupling" Tech. Spec., all references to RSCS are deleted. Action statement a.1.a) is changed from "If permitted by the RWM and RSCS,..." to "If permitted by the RWM,...". Action statement a.1.b) is changed from "if not permitted by the RWM or RSCS then until permitted by the RWM and RSCS," to "if not permitted by the RWM then until permitted by the RWM,"

3/4 1-13 In the "Control Rod Position Indication" Tech. Spec. 3.1.3.7., references to RSCS are changed to RWM. Action statement a.3.(a) is changed from, "Within the low power setpoint of the RSCS,..." to "Within the low power setpoint of the RWM,..." Action statement a.3.(b) is changed from, "Greater than the low power setpoint of the RSCS,..." to "Greater than the low power setpoint of the RWM,..."

3/4 1-16 In the "Control Rod Program Controls, Rod Worth Minimizer" Tech. Spec. 3.1.4.1., the low power setpoint is changed from 20% thermal power to 10% thermal power. The Applicability statement is changed from, "... THERMAL POWER is less than or equal to 20% of RATED THERMAL POWER,...", to "... THERMAL POWER is less than or equal to 10% of RATED THERMAL POWER ,...". Action statement b, "The provisions of Specification 3.0.4. are not applicable.", of the RWM Tech. Spec. (3.1.4.1) is changed to, action statement c, "The provisions of Specification 3.0.4 are not applicable, with the exception that control rod withdrawal for reactor startup shall not begin with the RWM inoperable." This will help minimize substitution of a second operator as the amendment requires. Since the RSCS Tech Spec is being deleted, the control of number of inoperable control rods must be transferred to the RWM Tech Spec as Action Statement b; "With an inoperable control rod (s), OPERABLE control rod movement may continue by bypassing the inoperable control rod(s) in the RWM provided that: 1. The position and bypassing of inoperable control rods is verified by a second licensed operator or other technically qualified member of the unit technical staff, and 2. There are not more than 3 inoperable control rods in any RWM group."

3/4 1-17 The "Control Rod Program Controls, Rod Sequence Control System" Tech. Spec. 3.1.4.2., is deleted in its entirety.

3/4 1-18	Page 3/4 1-18 is changed to page 3/4 1-17.
3/4 1-19	Page 3/4 1-19 is changed to page 3/4 1-18.
3/4 1-20	Page 3/4 1-20 is changed to page 3/4 1-19.
3/4 1-21	Page 3/4 1-21 is change to page 3/4 1-20.
3/4 1-22	Page 3/4 1-22 is change to page 3/4 1-21.
3/4 1-23	Page 3/4 1-23 is change to page 3/4 1-22.
3/4 10-2	In "Special Test Exceptions, 3/4.10.2 Rod Sequence Control System", the entire Tech Spec is rewritten for RWM instead of RSCS. The title is changed from "Rod Sequence Control System" to "Rod Worth Minimizer". Specification 3.10.2 is changed from "The sequnce and constraints imposed on control rod groups by the rod sequence control system (RSCS) per Specification 3.1.4.2 may be suspended by bypassing the low power setpoint switches for the following tests, provided that the rod worth minimizer is OPERABLE per Specification 3.1.4.1." to "The Sequence constraints imposed on control rod groups by the rod worth minimizer (RWM) per Specification 3.1.4.1 may be suspended by bypassing the RWM for the following tests, provided that control rod movement prescribed for this testing is verified by a second licensed operator, or other technically qualified member of the unit technical staff, who is present at the reactor control console." Specification 3.10.2.d is changed from "Startup Test Program with the THERMAL POWER less than 20% of RATED THERMAL POWER.", to "Startup Test Program with the THERMAL POWER less than 10% of RATED THERMAL POWER." The Action statement is changed from "With the requirements of the above specification not satisified, verify that the RSCS is OPERABLE per Specification 3.1.4.2" to "With the requirements of the above specification not satisfied, verify that the RWM is OPERABLE per Specification 3.1.4.1." Surveillance Requirement 4.10.2 is changed from "When the sequence constraints imposed on control rod groups by the RSCS are bypassed, ..." to "When the sequence constraints imposed on control rod groups by the RWM are bypassed, ..." Surveillance Requirement 4.10.2.a, "That the RWM is OPERABLE per Specification 3.1.4.1," is changed to "Deleted". Surveillance Requirement 4.10.2.b is changed from "That movement of control rods from 75% ROD DENSITY to the RSCS low power setpoint", to "That movement of control rods from 75% ROD DENSITY to the RWM low power setpoint...".

B 3/4 1-3	In Bases 3/4.1.4, "Control Rod Program Controls", all references to RSCS are deleted and the low power setpoint is changed from 20% to 10% of rated thermal power. Change "When THERMAL POWER is greater than 20% of RATED THERMAL POWER, there is no possible rod worth which, if dropped at the design rate of the velocity limiter, could result in a peak enthalpy of 280 cal/gm. Thus requiring the RSCS and RWM to be operable when THERMAL POWER is less than or equal to 20% of RATED THERMAL POWER provides adequate control." to "When THERMAL POWER is greater than 10% of RATED THERMAL POWER, there is no possible rod worth which, if dropped at the design rate of the velocity limiter, could result in a peak enthalpy of 280 cal/gm. Thus requiring the RWM to be operable when THERMAL POWER is less than or equal 10% of RATED THERMAL POWER provides adequate control." Also change "The RSCS and RWM provides automatic supervision..." to "The RWM provides automatic supervision..."
B 3/4 10-1	In Bases section, change name of Special Test Exception 3/4.10.2 from "Rod Sequence Control System" to "Rod Worth Minimizer."

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

Rod Worth Minimizer

BASES

LIST OF FIGURES

LIMITING CONDITION FOR OPERATION (Continued)

ACTION (Continued)

2. If the inoperable control rod(s) is inserted:

a) Within 1 hour disarm the associated directional control valves* either: | 18

1) Electrically, or

2) Hydraulically by closing the drive water and exhaust water isolation valves.

b) Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.

3. The provisions of Specification 3.0.4 are not applicable. | 15

c. With more than 8 control rods inoperable, be in at least HOT SHUTDOWN within 12 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The scram discharge volume drain and vent valves shall be demonstrated OPERABLE by:

a. At least once per 31 days verifying each valve to be open**, and | 18

b. At least once per 92 days cycling each valve through at least one complete cycle of full travel.

4.1.3.1.2 When above the low power setpoint of the RWM and RSCS, all withdrawn control rods not required to have their directional control valves disarmed electrically or hydraulically shall be demonstrated OPERABLE by moving each control rod at least one notch:

a. At least once per 7 days, and

b. At least once per 24 hours when any control rod is immovable as a result of excessive friction or mechanical interference.

4.1.3.1.3 All control rods shall be demonstrated OPERABLE by performance of Surveillance Requirements 4.1.3.2, 4.1.3.4, 4.1.3.5, 4.1.3.6 and 4.1.3.7.

*May be rearmed intermittently, under administrative control, to permit testing associated with restoring the control rod to OPERABLE status. | 18

**These valves may be closed intermittently for testing under administrative control. | 18

REACTIVITY CONTROL SYSTEM

CONTROL ROD DRIVE COUPLING

LIMITING CONDITION FOR OPERATION

3.1.3.6 All control rods shall be coupled to their drive mechanisms.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 5*.

ACTION:

a. In OPERATIONAL CONDITION 1 and 2 with one control rod not coupled to its associated drive mechanism:

1. Within 2 hours, either:

a) If permitted by the RWM and RSCS, insert the control rod drive mechanism to accomplish recoupling and verify recoupling by withdrawing the control rod, and:

1) Observing any indicated response of the nuclear instrumentation, and

2) Demonstrating that the control rod will not go to the overtravel position.

b) If recoupling is not accomplished on the first attempt or, if not permitted by the RWM or RSCS then until permitted by the RWM and RSCS, declare the control rod inoperable and insert the control rod and disarm the associated directional control valves** either:

1) Electrically, or

2) Hydraulically by closing the drive water and exhaust water isolation valves.

2. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.

b. In OPERATIONAL CONDITION 5* with a withdrawn control rod not coupled to its associated drive mechanism, within 2 hours, either:

1. Insert the control rod to accomplish recoupling and verify recoupling by withdrawing the control rod and demonstrating that the control rod will not go to the overtravel position, or

2. If recoupling is not accomplished, insert the control rod and disarm the associated directional control valves** either:

a) Electrically, or

b) Hydraulically by closing the drive water and exhaust water isolation valves.

c. The provisions of Specification 3.0.4 are not applicable.

*At least each withdrawn control rod. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

**May be rearmed intermittently, under administrative control, to permit testing associated with restoring the control rod to OPERABLE status.

CONTROL ROD POSITION INDICATION

LIMITING CONDITION FOR OPERATION

3.1.3.7 The control rod position indication system shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 5*.

ACTION:

a. In OPERATIONAL CONDITION 1 or 2 with one or more control rod position indicators inoperable, within one hour:

1. Determine the position of the control rod by:

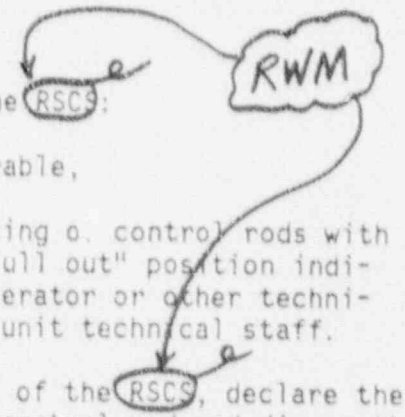
(a) Moving the control rod, by single notch movement, to a position with an OPERABLE position indicator,

(b) Returning the control rod, by single notch movement, to its original position, and

(c) Verifying no control rod drift alarm at least once per 12 hours, or

2. Move the control rod to a position with an OPERABLE position indicator, or

3. When THERMAL POWER is:



(a) Within the low power setpoint of the RSCS:

1) Declare the control rod inoperable,

2) Verify the position and bypassing of control rods with inoperable "Full in" and/or "Full out" position indicators by a second licensed operator or other technically qualified member of the unit technical staff.

(b) Greater than the low power setpoint of the RSCS, declare the control rod inoperable, insert the control rod and disarm the associated directional control valves** either:

1) Electrically, or

2) Hydraulically by closing the drive water and exhaust water isolation valves.

4. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.

*At least each withdrawn control rod. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

**May be rearmed intermittently, under administrative control, to permit testing associated with restoring the control rod to OPERABLE STATUS.

REACTIVITY CONTROL SYSTEM

3/4.1.4 CONTROL ROD PROGRAM CONTROLS

ROD WORTH MINIMIZER

LIMITING CONDITION FOR OPERATION

3.1.4.1 The rod worth minimizer (RWM) shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2*, when THERMAL POWER is less than or equal to 20% of RATED THERMAL POWER, the minimum allowable low power setpoint.

INSERT PARAGRAPH "6" FROM INSERT B

ACTION:

a. With the RWM inoperable, verify control rod movement and compliance with the prescribed control rod pattern by a second licensed operator or other technically qualified member of the unit technical staff who is present at the reactor control console. Otherwise, control rod movement may be only by actuating the manual scram or placing the reactor mode switch in the Shutdown position.

c. The provisions of Specification 3.0.4 are not applicable, with the exception that control rod withdrawal for reactor startup shall not begin with the RWM inoperable.

SURVEILLANCE REQUIREMENTS

4.1.4.1 The RWM shall be demonstrated OPERABLE:

10%

a. In OPERATIONAL CONDITION 2 prior to withdrawal of control rods for the purpose of making the reactor critical, and in OPERATIONAL CONDITION 1 prior to reaching 20% of RATED THERMAL POWER when reducing THERMAL POWER, by verifying proper annunciation of the selection error of at least one out-of-sequence control rod.

b. In OPERATIONAL CONDITION 2 prior to withdrawal of control rods for the purpose of making the reactor critical, by verifying the rod block function by demonstrating inability to withdraw an out-of-sequence control rod.

c. In OPERATIONAL CONDITION 1 within one hour after RWM automatic initiation when reducing THERMAL POWER, by verifying the rod block function by demonstrating inability to withdraw an out-of-sequence control rod.

d. By verifying the control rod patterns and sequence input to the RWM computer is correctly loaded following any loading of the program into the computer.

*Entry into OPERATIONAL CONDITION 2 and withdrawal of selected control rods is permitted for the purpose of determining the OPERABILITY of the RWM prior to withdrawal of control rods for the purpose of bringing the reactor to criticality.

INSERT B

b. With an inoperable control rod(s), OPERABLE control rod movement may continue by bypassing the inoperable control rod(s) in the RWM provided that:

1. The position and bypassing of inoperable control rods is verified by a second licensed operator or other technically qualified member of the unit technical stall, and

2. There are not more than 3 inoperable control rods in any RWM group.

ROD SEQUENCE CONTROL SYSTEM

LIMITING CONDITION FOR OPERATION

3.1.4.2 The rod sequence control system (RSCS) shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2*#, when THERMAL POWER is less than or equal to 20% RATED THERMAL POWER, the minimum allowable low power setpoint.

ACTION:

a. With the RSCS inoperable:

1. Control rod withdrawal for reactor startup shall not begin.

2. Control rod movement shall not be permitted, except by a scram.

b. With an inoperable control rod(s), OPERABLE control rod movement may continue by bypassing the inoperable control rod(s) in the RSCS provided that:

1. The position and bypassing of inoperable control rods is verified by a second licensed operator or other technically qualified member of the unit technical staff, and

2. There are not more than 3 inoperable control rods in any RSCS group.

SURVEILLANCE REQUIREMENTS

4.1.4.2 The RSCS shall be demonstrated OPERABLE by:

a. Performance of a self-test prior to:

1. Each reactor startup, and

2. Rod inhibit mode automatic initiation when reducing THERMAL POWER.

b. Attempting to select and move an inhibited control rod:

1. After withdrawal of the first insequence control rod for each reactor startup, and

2. Within one hour after rod inhibit mode automatic initiation when reducing THERMAL POWER.

*See Special Test Exception 3.10.2.

#Entry into OPERATIONAL CONDITION 2 and withdrawal of selected control rods is permitted for the purpose of determining the OPERABILITY of the RSCS prior to withdrawal of control rods for the purpose of bringing the reactor to criticality.

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ROD BLOCK MONITOR

LIMITING CONDITION FOR OPERATION

3.1.4.3 Both rod block monitor (RBM) channels shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITION 1, when THERMAL POWER is greater than or equal to 30% of RATED THERMAL POWER.

ACTION:

a. With one RBM channel inoperable, verify that the reactor is not operating on a LIMITING CONTROL ROD PATTERN and restore the inoperable RBM channel to OPERABLE status within 24 hours; otherwise, place the inoperable rod block monitor channel in the tripped condition within the next hour.

b. With both RBM channels inoperable, place at least one inoperable rod block monitor channel in the tripped condition within one hour.

SURVEILLANCE REQUIREMENTS

4.1.4.3 Each of the above required RBM channels shall be demonstrated OPERABLE by performance of a:

a. CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION at the frequencies and for the OPERATIONAL CONDITIONS specified in Table 4.3.6-1.

b. CHANNEL FUNCTIONAL TEST prior to control rod withdrawal when the reactor is operating on a LIMITING CONTROL ROD PATTERN.

3/4.1.5 STANDBY LIQUID CONTROL SYSTEM

LIMITING CONDITION FOR OPERATION

3.1.5 The standby liquid control system shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 5*.

ACTION:

a. In OPERATIONAL CONDITION 1 or 2:

1. With one motor operated suction valve, one pump and/or one explosive valve inoperable, restore the inoperable suction valve, pump and/or explosive valve to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours.

2. With the standby liquid control system inoperable, restore the system to OPERABLE status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours.

b. In OPERATIONAL CONDITION 5*:

1. With one motor operated suction valve, one pump and/or one explosive valve inoperable, restore the inoperable suction valve, pump and/or explosive valve to OPERABLE status within 30 days or insert all insertable control rods within the next hour.

2. With the standby liquid control system inoperable, insert all insertable control rods within 1 hour.

SURVEILLANCE REQUIREMENTS

4.1.5 The standby liquid control system shall be demonstrated OPERABLE:

a. At least once per 24 hours by verifying that;

1. The available volume and temperature of the sodium pentaborate solution are within the limits of Figures 3.1.5-1 and 3.1.5-2, and

2. The heat tracing circuit is OPERABLE by verifying the indicated temperature to be $\geq$ 60°F on the local indicator.

*With any control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 31 days by;

1. Starting both pumps and recirculating demineralized water to the test tank.

2. Verifying the continuity of th explosive charge.

3. Determining that the concentration of boron in solution is within the limits of Figure 3.1.5-2 by chemical analysis.*

4. Verifying that each valve in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.

c. At least once per 18 months during shutdown by;

1. Initiating one of the standby liquid control system loops, including an explosive valve, and verifying that a flow path from the pumps to the reactor pressure vessel is available by pumping demineralized water into the reactor vessel. The replacement charge for the explosive valve shall be from the same manufactured batch as the one fired or from another batch which has been certified by having one of that batch successfully fired. Both injection loops shall be tested in 36 months.

2. Demonstrating that when tested pursuant to Specification 4.0.5, the minimum flow requirement of 41.2 gpm at a pressure of greater than or equal to 1220 psig is met.

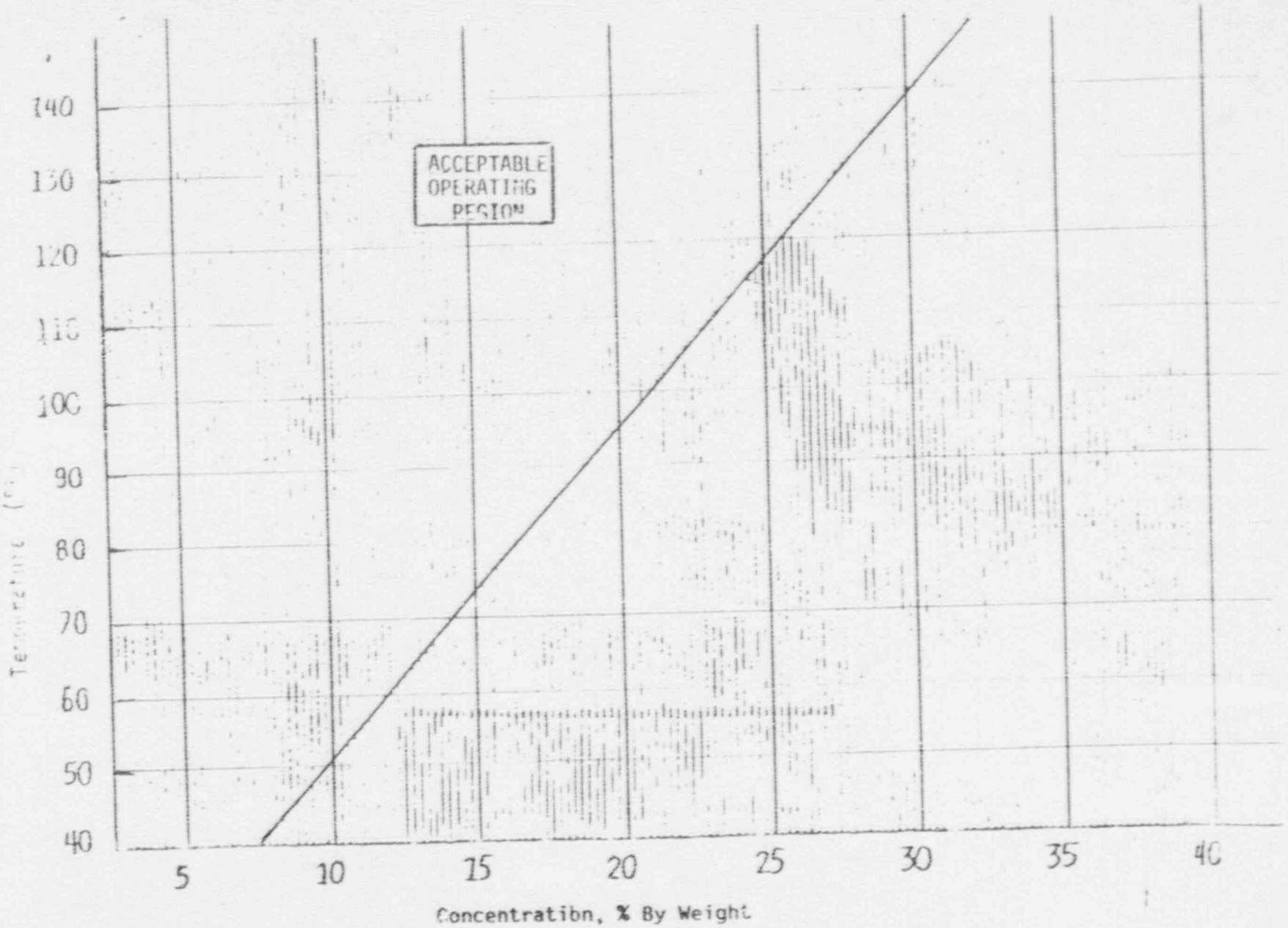
3. Demonstrating that the pump relief valve setpoint is less than or equal to 1400 psig and verifying that the relief valve does not actuate during recirculation to the test tank.

4. **Demonstrating that all heat traced piping between the storage tank and the reactor vessel is unblocked by verifying flow from the storage tank to the motor operated suction valve and then draining and flushing the piping with demineralized water.

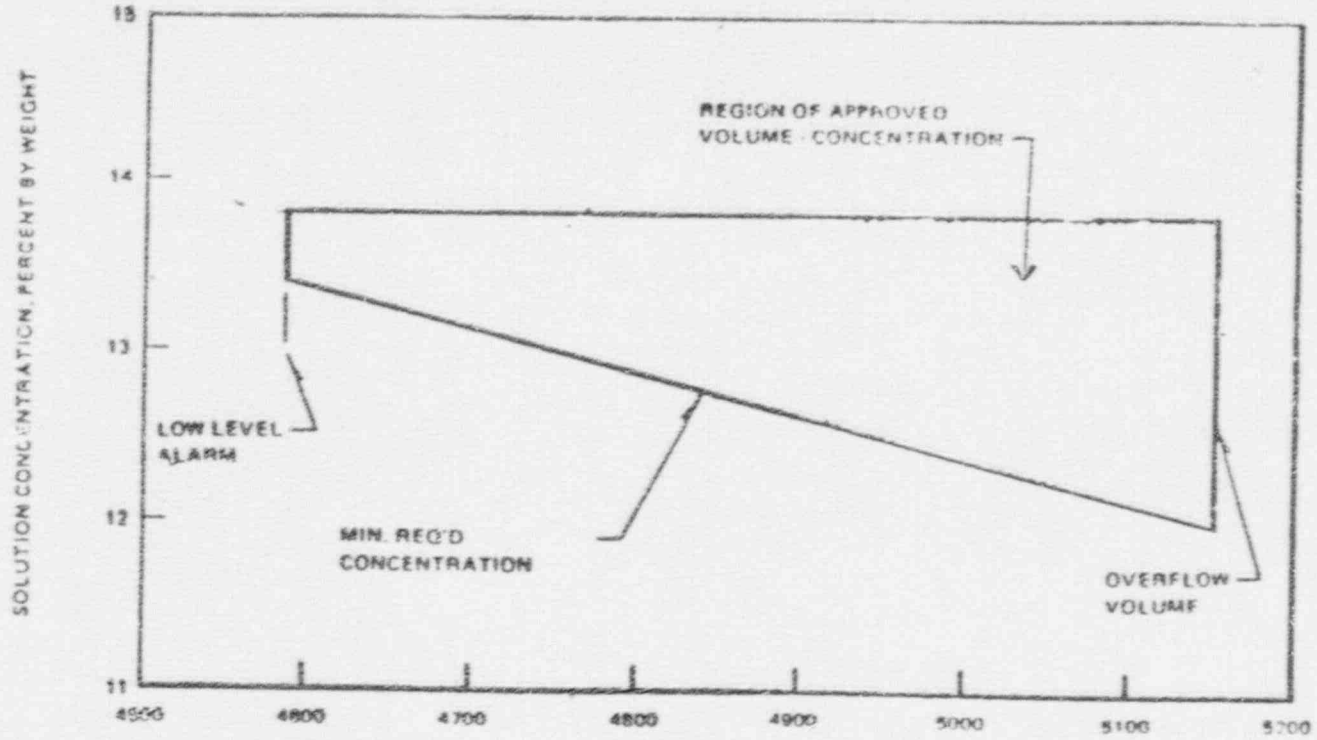
5. Demonstrating that the storage tank heaters are OPERABLE by verifying the expected temperature rise for the sodium pentaborate solution in the storage tank after the heaters are energized.

*This test shall also be performed anytime water or boron is added to the solution or when the solution temperature drops below the limit of Figure 3.1.5-1.

**This test shall also be performed whenever the heat tracing circuit has been found to be inoperable and may be performed by any series of sequential, overlapping or total flow path steps such that the entire flow path is included.



SODIUM PENTABORATE SOLUTION TEMPERATURE/CONCENTRATION REQUIREMENTS
Figure 3.1.5-1



Sodium Pentaborate ($Na_2B_{10}O_{16} \cdot 10\ H_2O$)
Volume/Concentration Requirements

Figure 3.1.5-2

3/4.1.6 ECONOMIC GENERATION CONTROL SYSTEM

LIMITING CONDITION FOR OPERATION

3.1.6 The economic generation control system may be in operation with automatic flow control provided that:

a. Core flow is $\geq$ 65% of rated core flow, and

b. THERMAL POWER is greater than or equal to 20% of RATED THERMAL POWER.

APPLICABILITY: OPERATIONAL CONDITION 1.

ACTION: With core flow less than 65% of rated core flow or THERMAL POWER less than 20% of RATED THERMAL POWER, cease operation under the economic generation control system.

SURVEILLANCE REQUIREMENTS

4.1.6 The economic generation control system shall be demonstrated OPERABLE by:

a. Calculating current efficiency and, using a nominal curve of effiency versus THERMAL POWER, verifying that the EGC lower MW$_e$ setpoint will maintain core flow > 65% of rated core flow and THERMAL POWER $\geq$ 20% of RATED THERMAL POWER:

1. Prior to entry into EGC operation, and

2. At least once per 12 hours while operating in EGC.

b. Verifying that current core flow is > 65% of rated core flow and THERMAL POWER is $\geq$ 20% of RATED THERMAL POWER:

1. Prior to entry into EGC operation, and

2. At least once per 12 hours while operating in EGC.

ROD WORTH MINIMIZER

SPECIAL TEST EXCEPTIONS

3/4.10.2 ROD SEQUENCE CONTROL SYSTEM

LIMITING CONDITION FOR OPERATION

3.10.2 The sequence constraints imposed on control rod groups by the rod sequence control system (RSCS) per Specification 3.1.4.2 may be suspended by bypassing the low power setpoint switches for the following tests, provided that the rod worth minimizer is OPERABLE per Specification 3.1.4.1.

INSERT PARAGRAPH 3.10.2 FROM INSERT "A"

a. Shutdown margin demonstrations, Specification 4.1.1.

b. Control rod scram, Specification 4.1.3.2.

c. Control rod friction measurements.

d. Startup Test Program with the THERMAL POWER less than 10% of RATED THERMAL POWER.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

1

With the requirements of the above specification not satisfied, verify that the RSCS is OPERABLE per Specification 3.1.4.2.

RWM

SURVEILLANCE REQUIREMENTS

4.10.2 When the sequence constraints imposed on control rod groups by the RSCS are bypassed, verify;

a. That the RWM is OPERABLE per Specification 3.1.4.1

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b. That movement of control rods from 75% ROD DENSITY to the RSCS low power setpoint is limited to the approved control rod withdrawal sequence during scram and friction tests,

c. That movement of control rods during shutdown margin demonstrations is limited to the prescribed sequence per Specification 3.10.3, and

d. Conformance with this specification and test procedures by a second licensed operator or other technically qualified member of the unit technical staff.

INSERT A

3.10.2 The sequence constraints imposed on control rod groups by the Rod Worth Minimizer (RWM) per Specification 3.1.4.1 may be suspended by means of bypassing the RWM for the following tests, provided that control rod movement prescribed for this testing is verified by a second licensed operator, or other technically qualified member of the unit technical staff, who is present at the reactor control console.

CONTROL RODS (Continued)

In addition, the automatic CRD charging water header low pressure scram (see Table 2.2.1-1) initiates well before any accumulator loses its full capability to insert the control rod. With this added automatic scram feature, the surveillance of each individual accumulator check valve is no longer necessary to demonstrate adequate stored energy is available for normal scram action.

Control rod coupling integrity is required to ensure compliance with the analysis of the rod drop accident in the FSAR. The overtravel position feature provides the only positive means of determining that a rod is properly coupled and therefore this check must be performed prior to achieving criticality after completing CORE ALTERATIONS that could have affected the control rod drive coupling integrity. The subsequent check is performed as a backup to the initial demonstration.

In order to ensure that the control rod patterns can be followed and therefore that other parameters are within their limits, the control rod position indication system must be OPERABLE.

The control rod housing support restricts the outward movement of a control rod to less than 3 inches in the event of a housing failure. The amount of rod reactivity which could be added by this small amount of rod withdrawal is less than a normal withdrawal increment and will not contribute to any damage to the primary coolant system. The support is not required when there is no pressure to act as a driving force to rapidly eject a drive housing.

The required surveillance intervals are adequate to determine that the rods are OPERABLE and not so frequent as to cause excessive wear on the system components.

3/4.1.4 CONTROL ROD PROGRAM CONTROLS

Control rod withdrawal and insertion sequences are established to assure that the maximum insequence individual control rod or control rod segments which are withdrawn at any time during the fuel cycle could not be worth enough to result in a peak fuel enthalpy greater than 280 cal/gm in the event of a control rod drop accident. The specified sequences are characterized by homogeneous, scattered patterns of control rod withdrawal. When THERMAL POWER is greater than 20% of RATED THERMAL POWER, there is no possible rod worth which, if dropped at the design rate of the velocity limiter, could result in a peak enthalpy of 280 cal/gm. Thus requiring the RSCS and RWM to be OPERABLE when THERMAL POWER is less than or equal to 20% of RATED THERMAL POWER provides adequate control.

10%

The RSCS and RWM provide automatic supervision to assure that out-of-sequence rods will not be withdrawn or inserted.

The analysis of the rod drop accident is presented in Section 15.4.9 of the FSAR and the techniques of the analysis are presented in a topical report, Reference 1, and two supplements, References 2 and 3.

3/4.10 SPECIAL TEST EXCEPTIONS

BASES

3/4.10.1 PRIMARY CONTAINMENT INTEGRITY

The requirement for PRIMARY CONTAINMENT INTEGRITY is removed during the period when open vessel tests are being performed during the low power PHYSICS TESTS.

3/4.10.2 ROD SEQUENCE CONTROL SYSTEM

ROD WORTH MINIMIZER

In order to perform the tests required in the technical specifications it is necessary to bypass the sequence restraints on control rod movement. The additional surveillance requirments ensure that the specifications on heat generation rates and shutdown margin requirements are not exceeded during the period when these tests are being performed and that individual rod worths do not exceed the values assumed in the safety analysis.

3/4.10.3 SHUTDOWN MARGIN DEMONSTRATIONS

Performance of shutdown margin demonstrations with the vessel head removed requires additional restrictions in order to ensure that criticality does not occur. These additional restrictions are specified in this LCO.

3/4.10.4 RECIRCULATION LOOPS

This special test exception permits reactor criticality under no flow conditions and is required to perform certain startup and PHYSICS TESTS while at low THERMAL POWER levels.

3/4.10.5 OXYGEN CONCENTRATION

Relief from the oxygen concentration specifications is necessary in order to provide access to the primary containment during the intial startup and testing phase of operation. Without this access the startup and test program could be restricted and delayed.

3/4.10.6 TRAINING STARTUPS

This special test exception permits training startups to be performed with the reactor vessel depressurized at low THERMAL POWER and temperature while controlling RCS temperature with one RHR subsystem aligned in the shutdown cooling mode in order to minimize contaminated water discharge to the radioactive waste disposal system.

3/4.10.7 CONFIRMATORY FLOW INDUCED VIBRATION TEST

This special test exception permits the primary containment to be open and the RCIC system to be inoperable during performance of the required test provided that the test is performed prior to the initial criticality of the reactor and the heatup to and maintenance of HOT SHUTDOWN is not performed with nuclear heat.

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

ROD WORTH MINIMIZER

BASES

LIST OF FIGURES

LIMITING CONDITION FOR OPERATION (Continued)

ACTION (Continued)

2. If the inoperable control rod(s) is inserted:

a) Within 1 hour disarm the associated directional control valves* either:

1) Electrically, or

2) Hydraulically by closing the drive water and exhaust water isolation valves.

b) Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.

3. The provisions of Specification 3.0.4 are not applicable.

c. With more than 8 control rods inoperable, be in at least HOT SHUTDOWN within 12 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The scram discharge volume drain and vent valves shall be demonstrated OPERABLE by:

a. At least once per 31 days verifying each valve to be open**, and

b. At least once per 92 days cycling each valve through at least one complete cycle of full travel.

4.1.3.1.2 When above the low power setpoint of the RWM and RSCS, all withdrawn control rods not required to have their directional control valves disarmed electrically or hydraulically shall be demonstrated OPERABLE by moving each control rod at least one notch:

a. At least once per 7 days, and

b. At least once per 24 hours when any control rod is immovable as a result of excessive friction or mechanical interference.

4.1.3.1.3 All control rods shall be demonstrated OPERABLE by performance of Surveillance Requirements 4.1.3.2, 4.1.3.4, 4.1.3.5, 4.1.3.6, and 4.1.3.7.

*May be rearmed intermittently, under administrative control, to permit testing associated with restoring the control rod to OPERABLE status.
**These valves may be closed intermittently for testing under administrative control.

LIMITING CONDITION FOR OPERATION

3.1.3.6 All control rods shall be coupled to their drive mechanisms.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 5*.

ACTION:

a. In OPERATIONAL CONDITIONS 1 and 2 with one control rod not coupled to its associated drive mechanism:

1. Within 2 hours, either:

a) If permitted by the RWM and RSCS, insert the control rod drive mechanism to accomplish recoupling and verify recoupling by withdrawing the control rod, and:

1) Observing any indicated response of the nuclear instrumentation, and

2) Demonstrating that the control rod will not go to the overtravel position.

b) If recoupling is not accomplished on the first attempt or, if not permitted by the RWM or RSCS then until permitted by the RWM and RSCS, declare the control rod inoperable and insert the control rod and disarm the associated directional control valves** either:

1) Electrically, or

2) Hydraulically by closing the drive water and exhaust water isolation valves.

2. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.

b. In OPERATIONAL CONDITION 5* with a withdrawn control rod not coupled to its associated drive mechanism, within 2 hours, either:

1. Insert the control rod to accomplish recoupling and verify recoupling by withdrawing the control rod and demonstrating that the control rod will not go to the overtravel position, or

2. If recoupling is not accomplished, insert the control rod and disarm the associated directional control valves** either:

a) Electrically, or

b) Hydraulically by closing the drive water and exhaust water isolation valves.

c. The provisions of Specification 3.0.4 are not applicable.

*At least each withdrawn control rod. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

**May be rearmed intermittently, under administrative control, to permit testing associated with restoring the control rod to OPERABLE status.

REACTIVITY CONTROL SYSTEM

CONTROL ROD POSITION INDICATION

LIMITING CONDITION FOR OPERATION

3.1.3.7 The control rod position indication system shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 5*.

ACTION:

a. In OPERATIONAL CONDITION 1 or 2 with one or more control rod position indicators inoperable within one hour:

1. Determine the position of the control rod by:

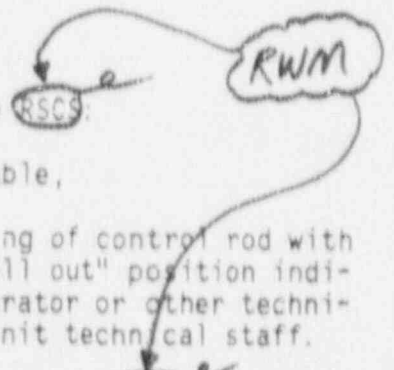
(a) Moving the control rod, by single notch movement, to a position with an OPERABLE position indicator,

(b) Returning the control rod, by single notch movement, to its original position, and

(c) Verifying no control rod drift alarm at least once per 12-hours, or

2. Move the control rod to a position with an OPERABLE position indicator, or

3. When THERMAL POWER is:



(a) Within the low power setpoint of the RSCS:

(1) Declare the control rod inoperable,

(2) Verify the position and bypassing of control rod with inoperable "Full in" and/or "Full out" position indicators by a second licensed operator or other technically qualified member of the unit technical staff.

b) Greater than the low power setpoint of the RSCS, declare the control rod inoperable, insert the control rod and disarm the associated directional control valves** either:

(1) Electrically, or

(2) Hydraulically by closing the drive water and exhaust water isolation valves.

4. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.

*At least each withdrawn control rod. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

**May be rearmed intermittently, under administrative control, to permit testing associated with restoring the control rod to OPERABLE status.

ROD WORTH MINIMIZER

LIMITING CONDITION FOR OPERATION

3.1.4.1 The rod worth minimizer (RWM) shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2*, when THERMAL POWER is less than or equal to 20% of RATED THERMAL POWER, the minimum allowable low power setpoint.

INSERT PARAGRAPH "b" FROM INSERT B

ACTION:

a. With the RWM inoperable, verify control rod movement and compliance with the prescribed control rod pattern by a second licensed operator or other technically qualified member of the unit technical staff who is present at the reactor control console. Otherwise, control rod movement may be only by actuating the manual scram or placing the reactor mode switch in the Shutdown position.

c. The provisions of Specification 3.0.4 are not applicable, with the exception that control rod withdrawal for reactor startup shall not begin with the RWM inoperable.

SURVEILLANCE REQUIREMENTS

4.1.4.1 The RWM shall be demonstrated OPERABLE:

10%

a. In OPERATIONAL CONDITION 2 prior to withdrawal of control rods for the purpose of making the reactor critical, and in OPERATIONAL CONDITION 1 prior to reaching 20% of RATED THERMAL POWER when reducing THERMAL POWER, by verifying proper annunciation of the selection error of at least one out-of-sequence control rod.

b. In OPERATIONAL CONDITION 2 prior to withdrawal of control rods for the purpose of making the reactor critical, by verifying the rod block function by demonstrating inability to withdraw an out-of-sequence control rod.

c. In OPERATIONAL CONDITION 1 within 1 hour after RWM automatic initiation when reducing THERMAL POWER, by verifying the rod block function by demonstrating inability to withdraw an out-of-sequence control rod.

d. By verifying the control rod patterns and sequence input to the RWM computer is correctly loaded following any loading of the program into the computer.

*Entry into OPERATIONAL CONDITION 2 and withdrawal of selected control rods is permitted for the purpose of determining the OPERABILITY of the RWM prior to withdrawal of control rods for the purpose of bringing the reactor to criticality.

INSERT B

b. With an inoperable control rod(s), OPERABLE control rod movement may continue by bypassing the inoperable control rod(s) in the RWM provided that:

1. The position and bypassing of inoperable control rods is verified by a second licensed operator or other technically qualified member of the unit technical stall, and

2. There are not more than 3 inoperable control rods in any RWM group.

LIMITING CONDITION FOR OPERATION

3.1.4.2 The rod sequence control system (RSCS) shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2*#, when THERMAL POWER is less than or equal to 20% RATED THERMAL POWER, the minimum allowable low power setpoint.

ACTION:

a. With the RSCS inoperable:

1. Control rod withdrawal for reactor startup shall not begin.
2. Control rod movement shall not be permitted, except by a scram.

b. With an inoperable control rod(s), OPERABLE control rod movement may continue by bypassing the inoperable control rod(s) in the RSCS provided that:

1. The position and bypassing of inoperable control rods is verified by a second licensed operator or other technically qualified member of the unit technical staff, and
2. There are not more than 3 inoperable control rods in any RSCS group.

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SURVEILLANCE REQUIREMENTS

4.1.4.2 The RSCS shall be demonstrated OPERABLE by:

a. Performance of a self-test prior to:

1. Each reactor startup, and
2. Rod inhibit mode automatic initiation when reducing THERMAL POWER.

b. Attempting to select and move an inhibited control rod:

1. After withdrawal of the first insequence control rod for each reactor startup, and
2. Within one hour after rod inhibit mode automatic initiation when reducing THERMAL POWER.

*See Special Test Exception 3.10.2.

#Entry into OPERATIONAL CONDITION 2 and withdrawal of selected control rods is permitted for the purpose of determining the OPERABILITY of the RSCS prior to withdrawal of control rods for the purpose of bringing the reactor to criticality.

ROD BLOCK MONITOR

LIMITING CONDITION FOR OPERATION

3.1.4.3 Both rod block monitor (RBM) channels shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITION 1, when THERMAL POWER is greater than or equal to 30% of RATED THERMAL POWER.

ACTION:

a. With one RBM channel inoperable, verify that the reactor is not operating on a LIMITING CONTROL ROD PATTERN and restore the inoperable RBM channel to OPERABLE status within 24 hours; otherwise, place the inoperable rod block monitor channel in the tripped condition within the next hour.

b. With both RBM channels inoperable, place at least one inoperable rod block monitor channel in the tripped condition within one hour.

SURVEILLANCE REQUIREMENTS

4.1.4.3 Each of the above required RBM channels shall be demonstrated OPERABLE by performance of a:

a. CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION at the frequencies and for the OPERATIONAL CONDITIONS specified in Table 4.3.6-1.

b. CHANNEL FUNCTIONAL TEST prior to control rod withdrawal when the reactor is operating on a LIMITING CONTROL ROD PATTERN.

3/4.1.5 STANDBY LIQUID CONTROL SYSTEM

LIMITING CONDITION FOR OPERATION

3.1.5 The standby liquid control system shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 5*.

ACTION:

a. In OPERATIONAL CONDITION 1 or 2:

1. With one motor operated suction valve, one pump and/or one explosive valve inoperable, restore the inoperable suction valve, pump and/or explosive valve to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours.

2. With the standby liquid control system inoperable, restore the system to OPERABLE status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours.

b. In OPERATIONAL CONDITION 5*:

1. With one motor operated suction valve, one pump and/or one explosive valve inoperable, restore the inoperable suction valve, pump and/or explosive valve to OPERABLE status within 30 days or insert all insertable control rods within the next hour.

2. With the standby liquid control system inoperable, insert all insertable control rods within 1 hour.

SURVEILLANCE REQUIREMENTS

4.1.5 The standby liquid control system shall be demonstrated OPERABLE:

a. At least once per 24 hours by verifying that;

1. The available volume and temperature of the sodium pentaborate solution are within the limits of Figures 3.1.5-1 and 3.1.5-2, and

2. The heat tracing circuit is OPERABLE by verifying the indicated temperature to be $\geq$ 60°F on the local indicator.

*With any control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 31 days by;

1. Starting both pumps and recirculating demineralized water to the test tank.

2. Verifying the continuity of the explosive charge.

3. Determining that the concentration of boron in solution is within the limits of Figure 3.1.5-2 by chemical analysis.*

4. Verifying that each valve in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.

c. At least once per 18 months during shutdown by;

1. Initiating one of the standby liquid control system loops, including an explosive valve, and verifying that a flow path from the pumps to the reactor pressure vessel is available by pumping demineralized water into the reactor vessel. The replacement charge for the explosive valve shall be from the same manufactured batch as the one fired or from another batch which has been certified by having one of that batch successfully fired. Both injection loops shall be tested in 36 months.

2. Demonstrating that when tested pursuant to Specification 4.0.5, the minimum flow requirement of 41.2 gpm at a pressure of greater than or equal to 1220 psig is met.

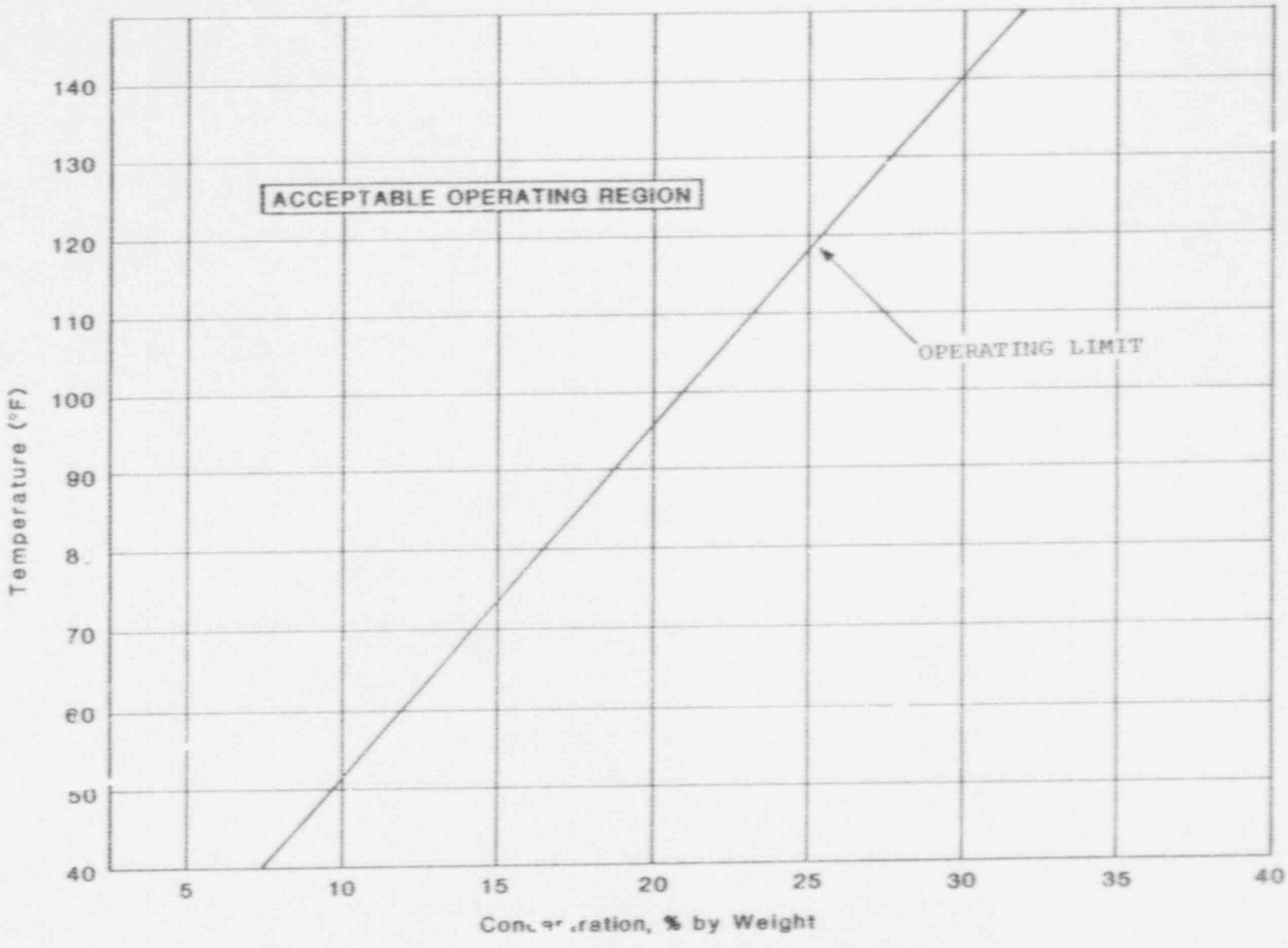
3. Demonstrating that the pump relief valve setpoint is less than or equal to 1400 psig and verifying that the relief valve does not actuate during recirculation to the test tank.

4. **Demonstrating that all heat traced piping between the storage tank and the reactor vessel is unblocked by verifying flow from the storage tank to the motor operated suction valve and then draining and flushing the piping with demineralized water.

5. Demonstrating that the storage tank heaters are OPERABLE by verifying the expected temperature rise for the sodium pentaborate solution in the storage tank after the heaters are energized.

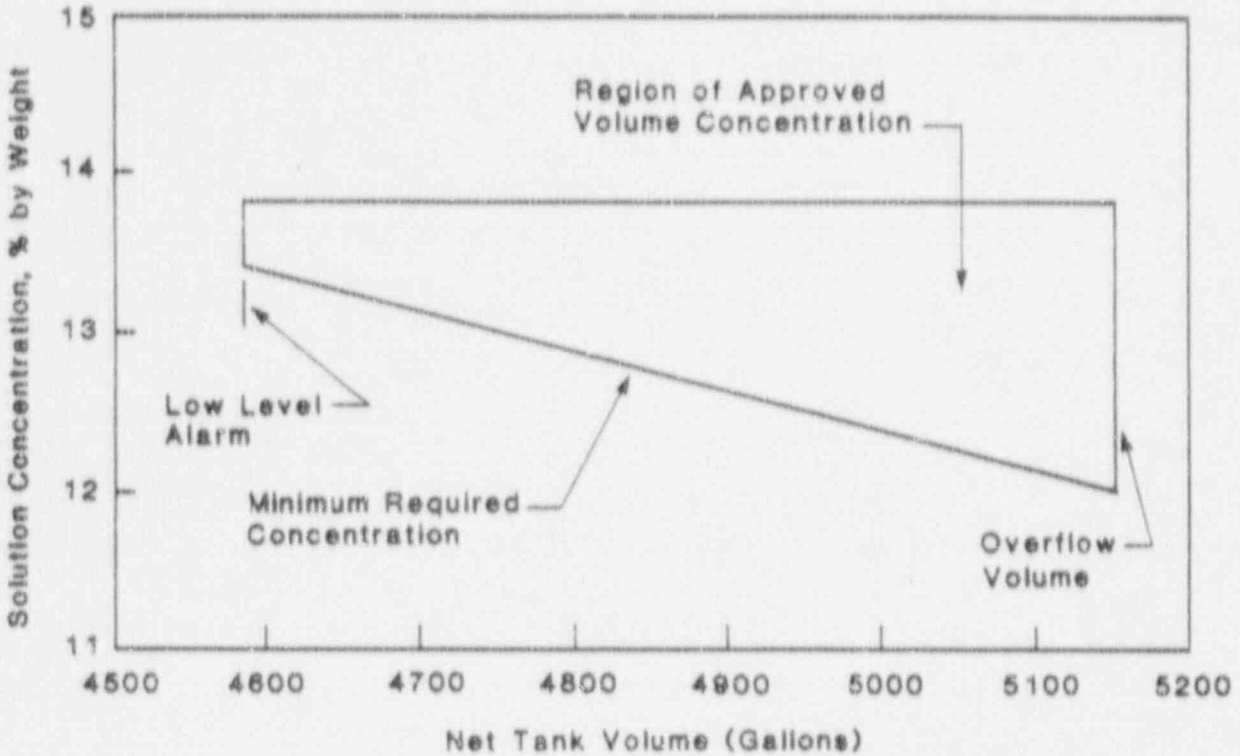
*This test shall also be performed anytime water or boron is added to the solution or when the solution temperature drops below the limit of Figure 3.1.5-1.

**This test shall also be performed whenever the heat tracing circuit has been found to be inoperable and may be performed by any series of sequential, overlapping or total flow path steps such that the entire flow path is included.



SODIUM PENTABORATE SOLUTION TEMPERATURE / CONCENTRATION REQUIREMENTS

Figure 3.1.5-1



SODIUM PENTABORATE ($Na_2B_{10}O_{16}$ $10H_2O$)
VOLUME/CONCENTRATION REQUIREMENTS

Figure 3.1.5-2

3/4.1.6 ECONOMIC GENERATION CONTROL SYSTEM

LIMITING CONDITION FOR OPERATION

3.1.6 The economic generation control system may be in operation with automatic flow control provided that:

a. Core flow is $\geq$ 65% of rated core flow, and

b. THERMAL POWER is greater than or equal to 20% of RATED THERMAL POWER.

APPLICABILITY: OPERATIONAL CONDITION 1.

ACTION: With core flow less than 65% of rated core flow or THERMAL POWER less than 20% of RATED THERMAL POWER, cease operation under the economic generation control system.

SURVEILLANCE REQUIREMENTS

4.1.6 The economic generation control system shall be demonstrated OPERABLE by:

a. Calculating current efficiency and, using a nominal curve of effiency versus THERMAL POWER, verifying that the EGC lower MW setpoint will maintain core flow > 65% of rated core flow and THERMAL POWER $\geq$ 20% of RATED THERMAL POWER:

1. Prior to entry into EGC operation, and

2. At least once per 12 hours while operating in EGC.

b. Verifying that current core flow is > 65% of rated core flow and THERMAL POWER is $\geq$ 20% of RATED THERMAL POWER:

1. Prior to entry into EGC operation, and

2. At least once per 12 hours while operating in EGC.

ROD WORTH MINIMIZER

SPECIAL TEST EXCEPTIONS

3/4.10.2 ROD SEQUENCE CONTROL SYSTEM

LIMITING CONDITION FOR OPERATION

3.10.2 The sequence constraints imposed on control rod groups by the rod sequence control system (RSCS) per Specification 3.1.4.2 may be suspended by bypassing the low power setpoint switches for the following tests, provided that the rod worth minimizer is OPERABLE per Specification 3.1.4.1.

INSERT PARAGRAPH 3.10.2 FROM INSERT "A"

a. Shutdown margin demonstrations, Specification 4.1.1.

b. Control rod scram, Specification 4.1.3.2.

c. Control rod friction measurements.

d. Startup Test Program with the THERMAL POWER less than 10% (20%) of RATED THERMAL POWER.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

With the requirements of the above specification (1) not satisfied, verify that the RSCS is OPERABLE per Specification 3.1.4.2.

RWM

SURVEILLANCE REQUIREMENTS

4.10.2 When the sequence constraints imposed on control rod groups by the RSCS are bypassed, verify;

a. That the RWM is OPERABLE per Specification 3.1.4.1,

b. That movement of control rods from 75% ROD DENSITY to the RSCS low power setpoint is limited to the approved control rod withdrawal sequence during scram and friction tests,

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c. That movement of control rods during shutdown margin demonstrations is limited to the prescribed sequence per Specification 3.10.3, and

d. Conformance with this specification and test procedures by a second licensed operator or other technically qualified member of the unit technical staff.

INSERT A

3.10.2 The sequence constraints imposed on control rod groups by the Rod Worth Minimizer (RWM) per Specification 3.1.4.1 may be suspended by means of bypassing the RWM for the following tests, provided that control rod movement prescribed for this testing is verified by a second licensed operator, or other technically qualified member of the unit technical staff, who is present at the reactor control console.

CONTROL RODS (Continued)

In addition, the automatic CRD charging water header low pressure scram (see Table 2.2.1-1) initiates well before any accumulator loses its full capability to insert the control rod. With the added automatic scram feature, the surveillance of each individual accumulator check valve is no longer necessary to demonstrate adequate stored energy is available for normal scram action.

Control rod coupling integrity is required to ensure compliance with the analysis of the rod drop accident in the FSAR. The overtravel position feature provides the only positive means of determining that a rod is properly coupled and therefore this check must be performed prior to achieving criticality after completing CORE ALTERATIONS that could have affected the control rod drive coupling integrity. The subsequent check is performed as a backup to the initial demonstration.

In order to ensure that the control rod patterns can be followed and therefore that other parameters are within their limits, the control rod position indication system must be OPERABLE.

The control rod housing support restricts the outward movement of a control rod to less than 3 inches in the event of a housing failure. The amount of rod reactivity which could be added by this small amount of rod withdrawal is less than a normal withdrawal increment and will not contribute to any damage to the primary coolant system. The support is not required when there is no pressure to act as a driving force to rapidly eject a drive housing.

The required surveillance intervals are adequate to determine that the rods are OPERABLE and not so frequent as to cause excessive wear on the system components.

3/4.1.4 CONTROL ROD PROGRAM CONTROLS

Control rod withdrawal and insertion sequences are established to assure that the maximum insequence individual control rod or control rod segments which are withdrawn at any time during the fuel cycle could not be worth enough to result in a peak fuel enthalpy greater than 280 cal/gm in the event of a control rod drop accident. The specified sequences are characterized by homogeneous, scattered patterns of control rod withdrawal. When THERMAL POWER is greater than 20% of RATED THERMAL POWER, there is no possible rod worth which, if dropped at the design rate of the velocity limiter, could result in a peak enthalpy of 280 cal/gm. Thus requiring the RSCS and RWM to be OPERABLE when THERMAL POWER is less than or equal to 20% of RATED THERMAL POWER provides adequate control.

The RSCS and RWM provide automatic supervision to assure that out-of-sequence rods will not be withdrawn or inserted.

The analysis of the rod drop accident is presented in Section 15.4.9 of the FSAR and the techniques of the analysis are presented in a topical report, Reference 1, and two supplements, References 2 and 3.

The RBM is designed to automatically prevent fuel damage in the event of erroneous rod withdrawal from locations of high power density during high power operation. Two channels are provided. Tripping one of the channels will block erroneous rod withdrawal soon enough to prevent fuel damage. This system backs up the written sequence used by the operator for withdrawal of control rods.

3/4.10 SPECIAL TEST EXCEPTIONS

BASES

3/4.10.1 PRIMARY CONTAINMENT INTEGRITY

The requirement for PRIMARY CONTAINMENT INTEGRITY is removed during the period when open vessel tests are being performed during the low power PHYSICS TESTS.

3/4.10.2 ROD SEQUENCE CONTROL SYSTEM → ROD WORTH MINIMIZER

In order to perform the tests required in the technical specifications it is necessary to bypass the sequence restraints on control rod movement. The additional surveillance requirments ensure that the specifications on heat generation rates and shutdown margin requirements are not exceeded during the period when these tests are being performed and that individual rod worths do not exceed the values assumed in the safety analysis.

3/4.10.3 SHUTDOWN MARGIN DEMONSTRATIONS

Performance of shutdown margin demonstrations with the vessel head removed requires additional restrictions in order to ensure that criticality does not occur. These additional restrictions are specified in this LCO.

3/4.10.4 RECIRCULATION LOOPS

This special test exception permits reactor criticality under no flow conditions and is required to perform certain startup and PHYSICS TESTS while at low THERMAL POWER levels.

3/4.10.5 OXYGEN CONCENTRATION

Relief from the oxygen concentration specifications is necessary in order to provide access to the primary containment during the intial startup and testing phase of operation. Without this access the startup and test program could be restricted and delayed.

3/4.10.6 TRAINING STARTUPS

This special test exception permits training startups to be performed with the reactor vessel depressurized at low THERMAL POWER and temperature while controlling RCS temperature with one RHR subsystem aligned in the shutdown cooling mode in order to minimize contaminated water discharge to the radioactive waste disposal system.

3/4.10.7 CONFIRMATORY FLOW INDUCED VIBRATION TEST

This special test exception permits the primary containment to be open and the RCIC system to be inoperable during performance of the required test provided that the test is performed prior to the initial criticality of the reactor and the heatup to and maintenance of HOT SHUTDOWN is not performed with nuclear heat.

ATTACHMENT C

EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATION

The proposed Operating License/Technical Specification Amendment has been evaluated to determine whether or not there is a Significant Hazards Consideration based on the questions provided by 10 CFR 50.92 requirements. In addition, the evaluation was measured against the criteria used to establish safety limits, the limiting safety system settings, and the limiting conditions for operations. The results of the evaluation determined that the proposed amendment would not:

1. Involve a significant increase in the probability or 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 the margin of safety.

The proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated because:

1. An extensive probabilistic study performed by the NRC staff (letter and enclosure from B.C. Rysche, NRR to R. Fraley, ACRS dated June 1, 1976, "Generic Item II A-2 Control Rod Drop Accident (BWRs)") in conjunction with the extensive use of BPWS rod patterns, and improved RWM reliability demonstrates that the RSCS/RWM can be considered an acceptable system of rod pattern control in protecting against the Design Limit Rod Drop Accident (RDA). Thus, the RSCS is redundant in function to the RWM. Eliminating the RSCS does not eliminate the control rod pattern monitoring function performed by the RWM. The probability of an accident occurring is not increased, since RSCS does not affect the potential of a rod drop event and the proposed changes do not remove control rod drive coupling checks or instrument response verifications. When operation proceeds in accordance with this change, the probability or consequences of an accident is not increased.

2. Improved methodologies in the RDA analysis methods (e.g. BNL-NUREG 28109, "Thermal Hydraulic Effects on Control Drop Accident in a BWR, October 1980) have shown that when above 10 percent power no RDA can occur with the peak fuel enthalpy being greater than the RDA design limit of 280 cal/gm. The installed sensors for RWM LPSP actuation are capable of providing actuation within the revised limits. When operation proceeds in accordance with this change, the probability or consequences of an accident is not increased.

3. The RSCS duplicates the function of the RWM. While the RWM is operable, the RSCS is not needed since the RWM prevents control rod pattern error. In the event the RWM is out of service, the proposed Technical Specifications require that control rod movement and compliance with the prescribed control rod pattern be verified by a second licensed operator or technically qualified member of the technical staff. The verification process is controlled procedurally to ensure a high quality, independent review of control rod movement. All of these actions demonstrate consistency and applicability to those conclusions reached in the NRC SER, and substantiate the conclusion that there will be no increase in the consequences of an RDA as previously evaluated as a result of eliminating the RSCS and lowering the RWM LPSP.

The proposed changes do not create the possibility of a new or different kind of accident previously evaluated because:

1. The only protective function of the RSCS is preventing the Design Limit RDA. Eliminating the RSCS does not change any other plant protective functions or systems, thus the change does not create any new accident mode.

2. The only protective function of the RWM is preventing the Design Limit RDA. Lowering the setpoint of the RWM from 20 percent power to 10 percent power does not change any other plant protective functions or systems. Thus the change does not create any new accident mode.

The proposed changes do not involve a significant reduction in the margin of safety because:

1. Elimination of the RSCS will not reduce the margin of safety. The RWM will protect against the peak fuel enthalpy being greater than the RDA design limit of 280 cal/gm in the event of a control rod drop. The consequences of transients or accidents are not increased by this change beyond those previously evaluated and accepted at LaSalle Station.

2. Lowering the setpoint of the RWM from 20 percent power to 10 percent power will not reduce the margin of safety. Calculations performed by GE and 3NL have shown that even with the maximum single control rod position error, and most multiple error patterns, above 10 percent power no RDA can occur with the peak fuel enthalpy being greater than the RDA design limit of 280 cal/gm in the event of a control rod drop. The consequences of transients or accidents are not increased by this change beyond those previously evaluated and accepted at LaSalle Station.

3. GE has provided technical justification for the proposed changes in Topical Report NEDE-24011-P-A and associated references which justify the acceptability of the proposed changes. The NRC has reviewed and accepted the GE analysis and provided guidelines for licensees wanting to make the changes proposed in NEDE-24011-P-A and approved in the NRC SER issued December 27, 1987 to J.S. Charnley of General Electric. The proposed changes are consistent with those approved in the NRC SER and the guidelines set forth therein. Therefore, there is no significant reduction in the margin of safety.

Conclusion

Guidance has been provided in 51.44 FR 7744 for the application of standards to license change requests for determination of the existence of significant hazards considerations. This document provides examples of amendments which are considered unlikely to involve significant hazards considerations.

This proposed amendment does not involve a significant relaxation of the criteria used to establish safety limits, a significant relaxation of the bases for the limiting safety system settings or a significant relaxation of the bases for the limiting conditions for operations. Therefore, based on the guidance provided in the Federal Register and the criteria established in 10 CFR 50.92 (e), the proposed change does not constitute a significant hazards consideration.

ATTACHMENT D

ENVIRONMENTAL ASSESSMENT STATEMENT APPLICABILITY REVIEW

Commonwealth Edison has evaluated the proposed amendment against the criteria for the identification of licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR 51.20. It has been determined that the proposed changes meet the criteria for a categorical exclusion as provided under 10 CFR 51.22 (c) (9). This conclusion has been determined because the changes being requested do not pose a significant hazards consideration or do not involve a significant increase in the amounts, and no significant changes in the types, of any effluents that may be released offsite. Additionally, this request does not involve a significant increase in individual or cumulative occupational radiation exposure.

NRC

SAFETY EVALUATION REPORT

APPROVING AMENDMENT 17

TO

NEDE-24011-P

9/88