EDWIN I. HATCH NUCLEAR PLANT
IMPROVED TECHNICAL SPECIFICATIONS

REVISION INSERTION INSTRUCTIONS
REVISION B

Page	Instruction
Cover sheet (U1 Improved Specifications)	Discard
3.6-13 through 3.6-15	Replace
3.8-5 through 3.8-9	Replace
3.8-15	Replace
3.8-31	Replace
3.8-39	Replace
Cover sheet (Unit 1 Improved Bases)	Discard
B 3.3-41	Replace
B 3.3-42A	Add
B 3.3-43	Replace
B 3.6-1	Replace
B 3.6-7	Replace
B 3.6-27	Replace
B 3.6-69	Replace
B 3.7-1	Replace
B 3.8-19	Replace
B 3.8-20A	Add
B 3.8-23	Replace
B 3.8-24A	Add
B 3.8-25	Replace
Blank with p. B 3.8-26 on back	Add (following p. B 3.8-25A)
B 3.8-55	Replace
B 3.8-61	Replace
B 3.8-63	Replace
B 3.8-64A	Add
B 3.8-65	Replace
Blank with p. B 3.8-66 on back	Add (following p. B 3.8-65A)
Cover sheet (U1 CTS Markup & DOC)[a]	Discard
CTS 3.1-7 (8 of 15)	Replace
CTS 3.1-9 (10 of 15)	Replace
9 (DOC ITS 3.3.1.1)	Replace
CTS 3.3-5 (8 of 9)	Replace
3A (DOC ITS 3.3.2.1) (following page 3)	Add
CTS 3.2-22 (1 of 9)	Replace
CTS 3.2-22a	Replace
CTS 3.2-42 (8 of 10)	Replace
CTS 3.2-43 (9 of 10)	Replace
CTS 3.2-42 (3 of 6)	Replace

a. In replacing each CTS page, reference the upper right corner for appropriate ITS section.

Revision B Insertion Instructions (continued)

Page	Instruction
(U1 CTS Markup & DOC) continued	
CTS 3.2-43 (4 of 6)	Replace
CTS 3.2-44 (5 of 6)	Replace
2 (DOC ITS 3.3.8.2)	Replace
CTS 3.2-42 (3 of 5)	Replace
CTS 3.2-21 (4 of 6)	Replace
CTS 3.2-46 (5 of 6)	Replace
3 (DOC ITS 3.6.1.1)	Replace
4 (DOC ITS 3.6.1.1)	Replace
CTS 3.7-10a (12 of 13)	Replace
1 (DOC ITS 3.6.1.4)	Replace
CTS 3.9-2 (2 of 13)	Replace
1 (DOC ITS 3.8.1)	Replace
CTS 3.9-2c (1 of 5)	Replace
CTS 3.9-3 (2 of 5)	Replace
1 (DOC ITS 3.8.4)	Replace
3 (DOC ITS 3.8.4)	Replace
CTS 3.12-2 (4 of 4)	Replace
CTS 6-15 (2 of 10)	Replace
Cover sheet **(U1 No Sig Hazards D'tion)**	Discard
9 (NSHD ITS 3.3.1.1)	Replace
3A & 3B (NSHD ITS 3.3.2.1)	Add
4 (NSHD ITS 3.3.8.2)	Replace
2 (NSHD ITS 3.6.1.1)	Replace
3 (NSHD ITS 3.8.4)	Add
Cover sheet **(U2 Improved Specifications)**	Discard
3.6-15	Replace
3.8-5 through 3.8-9	Replace
3.8-15	Replace
3.8-31	Replace
3.8-39	Replace
3.8-41	Replace
Cover sheet **(U2 Improved Bases)**	Discard
B 3.3-41	Replace
B 3.3-42A	Add (following p. B 3.3-42)
B 3.3-43	Replace
B 3.4-31	Replace
B 3.6-1	Replace
B 3.6-7	Replace
B 3.6-27	Replace
B 3.6-69	Replace
B 3.8-21	Replace
Blank (with p. B 3.8-22 on back)	Add (following p. B 3.8-21A)
B 3.8-23 through 3.8-25	Replace
Blank (with p. B 3.8-26 on back)	Add (following p. 3.8-25A)
B 3.8-55	Replace
B 3.8-56A	Add
B 3.8-61	Replace

Revision B Insertion Instructions (continued)

Page	Instruction
Cover sheet (U2 Improved Bases) (continued)	
B 3.8-63	Replace
B 3.8-64A	Add
B 3.8-65	Replace
Blank (with p. 3.8-66 on back)	Add (following p. 3.8-65A)
Cover sheet (U2 CTS Markup & DOC)[a]	Discard
9 (DOC ITS 3.3.1.1)	Replace
2 (DOC ITS 3.3.8.2)	Replace
3 and 4 (DOC ITS 3.6.1.1)	Replace
5 (DOC ITS 3.6.1.1)	Add
5 (DOC ITS 3.6.1.3)	Replace
CTS 3/4 6-9 (1 of 1)	Replace
1 (DOC ITS 3.6.1.4)	Replace
1A through 1F (DOC ITS 3.6.1.4)	Add
1 (DOC CTS 3/4.6.1.4)	Replace
CTS 3/4 8-3a & 3b (4 & 5 of 11)	Replace
1 and 2 (DOC ITS 3.8.1)	Replace
CTS 3/4 8-14 & 15 (2 & 3 of 5)	Replace
CTS 3/4 8-6 (5 of 5)	Replace
4 (DOC ITS 3.8.4)	Replace
2 (DOC ITS 3.8.6)	Replace
2A (DOC ITS 3.8.6)	Add
Cover sheet (U2 No Sig Hazards D'tion)	Discard
11 (NSHD ITS 3.3.1.1)	Replace
4 (NSHD ITS 3.3.8.2)	Replace
2 (NSHD ITS 3.6.1.1)	Replace
8 (NSHD ITS 3.6.1.3)	Replace
1 (NSHD ITS 3.6.1.4)	Add
1A (NSHD ITS 3.6.1.4)	Add
1 (NSHD CTS 3/4.6.1.4)	Replace
4 (NSHD ITS 3.8.4)	Replace
4A (NSHD ITS 3.8.4)	Add
Cover sheet (NUREG 1433 Comparison - Specs)	Discard
3.6-19	Replace
3.8-3	Replace
INSERT Notes 3.8.1.2	Replace
INSERT Notes 3.8.1.5	Replace
3.8-9	Replace
3.8-13	Replace
3.8-25	Replace
INSERT SRs 3.8.4.7A & 7B	Replace
3.8-27	Replace
INSERT SR 3.8.4.8	Add
3.8-37	Replace
INSERT A/B 3.8.7	Replace

a. In replacing each CTS page, reference the upper right corner for appropriate ITS section.

Revision B Insertion Instructions (continued)

Page	Instruction
Cover sheet (**NUREG 1433 Comparison - Bases**)	Discard
B 3.3-43	Replace
INSERT AA for Background, B 3.3.2.1	Add
B 3.3-45	Replace
B 3.6-1	Replace
B 3.6-7	Replace
B 3.6-33	Replace
INSERT A (following p. B 3.6-34)	Remove
B 3.6-81	Replace
B 3.6-95	Replace
B 3.7-1	Replace
B 3.8-17	Replace
INSERT SR 3.8.1.5 (continued)	Replace
INSERT SRs 3.8.1.6 & 3.8.1.7 (Unit 1)	Replace
INSERT SRs 3.8.1.6 & 3.8.1.7 (Unit 2)	Replace
B 3.8-21	Replace
B 3.8-49	Replace
INSERT FOR BACKGROUND BASES 3.8.4	Add
B 3.8-53	Replace
INSERT Action 3.8.4 A/B (Unit 1)	Replace
INSERT Action 3.8.4 A/B (Unit 1) (cont)	Replace
INSERT Action 3.8.4 A/B (Unit 2)	Replace
INSERT Action 3.8.4 A/B (Unit 2) (cont)	Replace
INSERT SR 3.8.4.1	Replace
INSERT SR 3.8.4.2	Replace
INSERT SR 3.8.4.4/5	Replace
B 3.8-55	Replace
INSERT SR 3.8.4.7A	Add
B 3.8-57	Replace
INSERT SR 3.8.4.7	Replace
INSERT SR 3.8.4.8A	Add
INSERT 3.8.4.8 Note	Replace
Cover sheet (**NUREG 1433 J for Deviation**)	Discard
3 (ITS 3.6)	Replace
9 & 10 (ITS 3.6)	Replace
3 & 4 (ITS 3.8)	Replace
4A (ITS 3.8)	Add
7A & 7B (ITS 3.8)	Add
8 (ITS 3.8)	Replace

UNIT 1 IMPROVED TECHNICAL SPECIFICATIONS

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.3	-------------------NOTES------------------- 1. Valves and blind flanges in high radiation areas may be verified by use of administrative means. 2. Not required to be met for PCIVs that are open under administrative controls. --- Verify each primary containment manual isolation valve and blind flange that is located inside primary containment and is required to be closed during accident conditions is closed.	Prior to entering MODE 2 or 3 from MODE 4 if primary containment was de-inerted while in MODE 4, if not performed within the previous 92 days
SR 3.6.1.3.4	Verify continuity of the traversing incore probe (TIP) shear isolation valve explosive charge.	31 days
SR 3.6.1.3.5	Verify the isolation time of each power operated and each automatic PCIV is within limits.	In accordance with the Inservice Testing Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.6	Verify each automatic PCIV, excluding EFCVs, actuates to the isolation position on an actual or simulated isolation signal.	18 months
SR 3.6.1.3.7	Verify each reactor instrumentation line EFCV actuates to restrict flow to within limits.	18 months
SR 3.6.1.3.8	Remove and test the explosive squib from each shear isolation valve of the TIP system.	18 months on a STAGGERED TEST BASIS
SR 3.6.1.3.9	Verify leakage rate through each MSIV is $\leq$ 11.5 scfh when tested at $\geq$ 28.0 psig.	-----NOTE----- SR 3.0.2 is not applicable. ------------- In accordance with 10 CFR 50, Appendix J, as modified by approved exemptions

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.10	Replace the valve seat of each 18 inch purge valve having a resilient material seat.	18 months
SR 3.6.1.3.11	Cycle each 18 inch excess flow isolation damper to the fully closed and fully open position.	18 months

3.6 CONTAINMENT SYSTEMS

3.6.1.4 Drywell Pressure

LCO 3.6.1.4 Drywell pressure shall be ≤ 1.75 psig.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Drywell pressure not within limit.	A.1 Restore drywell pressure to within limit.	1 hour
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.1.4.1 Verify drywell pressure is within limit.	12 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
D. Two or more required offsite circuits inoperable.	D.1	Declare required feature(s) with no offsite power available inoperable when the redundant required feature(s) are inoperable.	12 hours from discovery of Condition D concurrent with inoperability of redundant required feature(s)
	AND		
	D.2	Restore all but one required offsite circuit to OPERABLE status.	24 hours
E. One required offsite circuit inoperable. AND One required DG inoperable.	------------NOTE------------ Enter applicable Conditions and Required Actions of LCO 3.8.7, "Distribution Systems — Operating," when Condition E is entered with no AC power source to one 4160 V ESF bus. ----------------------------		
	E.1	Restore required offsite circuit to OPERABLE status.	12 hours
	OR		
	E.2	Restore required DG to OPERABLE status.	12 hours
F. Two or more (Unit 1 and swing) DGs inoperable.	F.1	Restore all but one Unit 1 and swing DGs to OPERABLE status.	2 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
G. Required Action and Associated Completion Time of Condition A, B, C, D, E, or F not met.	G.1	Be in MODE 3.	12 hours
	<u>AND</u>		
	G.2	Be in MODE 4.	36 hours
H. One or more required offsite circuits and two or more required DGs inoperable. <u>OR</u> Two or more required offsite circuits and one required DG inoperable.	H.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.1	Verify correct breaker alignment and indicated power availability for each required offsite circuit.	7 days
SR 3.8.1.2	------------------NOTES------------------ 1. Performance of SR 3.8.1.5 satisfies this SR. 2. All DG starts may be preceded by an engine prelube period and followed by a warmup period prior to loading. 3. A modified DG start involving idling and gradual acceleration to synchronous speed may be used for this SR as recommended by the manufacturer. When modified start procedures are not used, the time, voltage, and frequency tolerances of SR 3.8.1.5.a must be met. 4. For the swing DG, a single test will satisfy this Surveillance for both units, using the starting circuitry of Unit 1 and synchronized to 4160 V bus 1F for one periodic test, and the starting circuitry of Unit 2 and synchronized to 4160 V bus 2F during the next periodic test. 5. DG loadings may include gradual loading as recommended by the manufacturer. 6. Starting transients above the upper voltage limit do not invalidate this test.	(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.2	NOTES (continued) 7. Momentary transients outside the load range do not invalidate this test. 8. This Surveillance shall be conducted on only one DG at a time. --- Verify each DG: a. Starts from standby conditions and achieves steady state voltage ≥ 3740 V and ≤ 4243 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz; and b. Operates for ≥ 60 minutes at a load ≥ 1710 kW and ≤ 2000 kW.	As specified in Table 3.8.1-1
SR 3.8.1.3	Verify each day tank contains ≥ 900 gallons of fuel oil.	31 days
SR 3.8.1.4	Check for and remove accumulated water from each day tank.	184 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.5	-------------------NOTES------------------- 1. All DG starts may be preceded by an engine prelube period. 2. DG loadings may include gradual loading as recommended by the manufacturer. 3. Momentary load transients outside the load range do not invalidate this test. 4. This Surveillance shall be conducted on only one DG at a time. 5. For the swing DG, a single test will satisfy this Surveillance for both units, using the starting circuitry of Unit 1 and synchronized to 4160 V bus 1F for one periodic test and the starting circuitry of Unit 2 and synchronized to 4160 V bus 2F during the next periodic test. --- Verify each DG: a. Starts from standby conditions and achieves, in ≤ 12 seconds, voltage ≥ 3740 V and frequency ≥ 58.8 Hz and after steady state conditions are reached, maintains voltage ≥ 3740 V and ≤ 4243 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz; and b. Operates for ≥ 60 minutes at a load ≥ 2250 kW and ≤ 2400 kW for DGs 1A and 1C, and ≥ 2360 kW and ≤ 2425 kW for DG 1B.	184 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.8.1.6	-------------------NOTE-------------------- This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR. --- Verify automatic and manual transfer of unit power supply from the normal offsite circuit to the alternate offsite circuit.	18 months
SR 3.8.1.7	-------------------NOTES------------------- 1. This Surveillance shall not be performed in MODE 1 or 2, except for the swing DG. For the swing DG, this Surveillance shall not be performed in MODE 1 or 2 using the Unit 1 controls. Credit may be taken for unplanned events that satisfy this SR. 2. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. --- Verify each DG rejects a load greater than or equal to the single largest post-accident load, and: a. Following load rejection, the frequency is ≤ 65.5 Hz; and b. Within 3 seconds following load rejection, the voltage is ≥ 3740 V and ≤ 4580 V.	18 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.13	-------------------NOTES------------------- 1. This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated ≥ 2 hours loaded ≥ 2565 kW. Momentary transients outside of load range do not invalidate this test. 2. All DG starts may be preceded by an engine prelube period. 3. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. --- Verify each DG starts and achieves, in ≤ 12 seconds, voltage ≥ 3740 V and frequency ≥ 58.8 Hz; and after steady state conditions are reached, maintains voltage ≥ 3740 V and ≤ 4243 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.	18 months
SR 3.8.1.14	-------------------NOTE------------------- This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. --- Verify each DG: a. Synchronizes with offsite power source while loaded with emergency loads upon a simulated restoration of offsite power; b. Transfers loads to offsite power source; and c. Returns to ready-to-load operation.	18 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.15	-------------------NOTE------------------- This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. --- Verify with a DG operating in test mode and connected to its bus, an actual or simulated ECCS initiation signal overrides the test mode by: a. Returning DG to ready-to-load operation; and b. Automatically energizing the emergency load from offsite power.	18 months
SR 3.8.1.16	-------------------NOTE------------------- This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. --- Verify interval between each sequenced load block is within ± 10% of design interval for each load sequence timing device.	18 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.7	------------------NOTES------------------ 1. The modified performance discharge test in SR 3.8.4.8 may be performed in lieu of the service test in SR 3.8.4.7. 2. This Surveillance shall not be performed in MODE 1, 2, or 3, except for the swing DG battery. However, credit may be taken for unplanned events that satisfy this SR. --- Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test.	18 months
SR 3.8.4.8	------------------NOTE------------------ This Surveillance shall not be performed in MODE 1, 2, or 3, except for the swing DG battery. However, credit may be taken for unplanned events that satisfy this SR. --- Verify battery capacity is ≥ 80% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	60 months AND (continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.4.8 (continued)	12 months when battery shows degradation or has reached 85% of expected life with capacity < 100% of manufacturer's rating AND 24 months when battery has reached 85% of expected life with capacity ≥ 100% of manufacturer's rating
SR 3.8.4.9 For required Unit 2 DC Sources, the SRs of Unit 2 Specification 3.8.4 are applicable.	In accordance with applicable SRs

3.8 ELECTRICAL POWER SYSTEMS

3.8.7 Distribution Systems — Operating

LCO 3.8.7 The following AC and DC electrical power distribution subsystems shall be OPERABLE:

a. Unit 1 Division 1 and Division 2 and the swing bus AC and DC electrical power distribution subsystems; and

b. Unit 2 AC and DC electrical power distribution subsystems needed to support equipment required to be OPERABLE by LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," and LCO 3.8.1, "AC Sources—Operating."

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One or more required Unit 2 AC or DC electrical power subsystems inoperable.	A.1	Restore required Unit 2 AC and DC subsystem(s) to OPERABLE status.	7 days
B. One or more (Unit 1 or swing bus) DG DC electrical power distribution subsystems inoperable.	B.1	Restore DG DC electrical power distribution subsystem to OPERABLE status.	12 hours AND 16 hours from discovery of failure to meet LCO 3.8.7.a

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. One or more (Unit 1 or swing bus) AC electrical power distribution subsystems inoperable.	C.1	Restore AC electrical power distribution subsystem to OPERABLE status.	8 hours <u>AND</u> 16 hours from discovery of failure to meet LCO 3.8.7.a
D. One Unit 1 station service DC electrical power distribution subsystem inoperable.	D.1	Restore Unit 1 station service DC electrical power distribution subsystem to OPERABLE status.	2 hours <u>AND</u> 16 hours from discovery of failure to meet LCO 3.8.7.a
E. Required Action and associated Completion Time of Condition A, B, C, or D not met.	E.1 <u>AND</u> E.2	Be in MODE 3. Be in MODE 4.	12 hours 36 hours
F. Two or more electrical power distribution subsystems inoperable that result in a loss of function.	F.1	Enter LCO 3.0.3.	Immediately

UNIT 1 IMPROVED BASES

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.1.2.5 and SR 3.3.1.2.6 (continued)

Although the Surveillance could be performed while on IRM Range 3, the plant would not be expected to maintain steady state operation at this power level. In this event, the 12 hour Frequency is reasonable, based on the SRMs being otherwise verified to be OPERABLE (i.e., satisfactorily performing the CHANNEL CHECK) and the time required to perform the Surveillances.

SR 3.3.1.2.7

Performance of a CHANNEL CALIBRATION at a Frequency of 18 months verifies the performance of the SRM detectors and associated circuitry. The Frequency considers the plant conditions required to perform the test, the ease of performing the test, and the likelihood of a change in the system or component status. The neutron detectors are excluded from the CHANNEL CALIBRATION (Note 1) because they cannot readily be adjusted. The detectors are fission chambers that are designed to have a relatively constant sensitivity over the range and with an accuracy specified for a fixed useful life.

Note 2 to the Surveillance allows the Surveillance to be delayed until entry into the specified condition of the Applicability. The SR must be performed in MODE 2 within 12 hours of entering MODE 2 with IRMs on Range 2 or below. The allowance to enter the Applicability with the 18 month Frequency not met is reasonable, based on the limited time of 12 hours allowed after entering the Applicability and the inability to perform the Surveillance while at higher power levels. Although the Surveillance could be performed while on IRM Range 3, the plant would not be expected to maintain steady state operation at this power level. In this event, the 12 hour Frequency is reasonable, based on the SRMs being otherwise verified to be OPERABLE (i.e., satisfactorily performing the CHANNEL CHECK) and the time required to perform the Surveillances.

REFERENCES

1. NRC Safety Evaluation Report for Amendment 185, April 30, 1993.

B 3.3 INSTRUMENTATION

B 3.3.2.1 Control Rod Block Instrumentation

BASES

BACKGROUND

Control rods provide the primary means for control of reactivity changes. Control rod block instrumentation includes channel sensors, logic circuitry, switches, and relays that are designed to ensure that specified fuel design limits are not exceeded for postulated transients and accidents. During high power operation, the rod block monitor (RBM) provides protection for control rod withdrawal error events. During low power operations, control rod blocks from the rod worth minimizer (RWM) enforce specific control rod sequences designed to mitigate the consequences of the control rod drop accident (CRDA). During shutdown conditions, control rod blocks from the Reactor Mode Switch — Shutdown Position Function ensure that all control rods remain inserted to prevent inadvertent criticalities.

The purpose of the RBM is to limit control rod withdrawal if localized neutron flux exceeds a predetermined setpoint during control rod manipulations. It is assumed to function to block further control rod withdrawal to preclude a MCPR Safety Limit (SL) violation. The RBM supplies a trip signal to the Reactor Manual Control System (RMCS) to appropriately inhibit control rod withdrawal during power operation above the low power range setpoint. The RBM has two channels, either of which can initiate a control rod block when the channel output exceeds the control rod block setpoint. One RBM channel inputs into one RMCS rod block circuit and the other RBM channel inputs into the second RMCS rod block circuit. The RBM channel signal is generated by averaging a set of local power range monitor (LPRM) signals at various core heights surrounding the control rod being withdrawn. A signal from one average power range monitor (APRM) channel assigned to each Reactor Protection System (RPS) trip system supplies a reference signal for the RBM channel in the same trip system. This reference signal is used to determine which RBM range setpoint (low, intermediate, or high) is enabled. If the APRM is indicating less than the low power range setpoint, the RBM is automatically bypassed. The RBM is also automatically bypassed if a peripheral control rod is selected (Ref. 1). A rod block signal is also generated if an RBM Downscale trip or an Inoperable trip occurs. The Downscale trip will occur if the RBM channel signal

(continued)

BASES

BACKGROUND (continued)

decreases below the Downscale trip setpoint after the RBM signal has been normalized. The Inoperable trip will occur during the nulling (normalization) sequence, if: the RBM channel fails to null, too few LPRM inputs are available, a module is not plugged in, or the function switch is moved to any position other than "Operate." The Bypass Time Delay ensures that the normalized signal is passed to the trip logic within the appropriate time. The delay is between the time the signal is nulled to the reference and the signal is passed to the trip logic.

(continued)

BASES

BACKGROUND (continued)

The purpose of the RWM is to control rod patterns during startup and shutdown, such that only specified control rod sequences and relative positions are allowed over the operating range from all control rods inserted to 10% RTP. The sequences effectively limit the potential amount and rate of reactivity increase during a CRDA. Prescribed control rod sequences are stored in the RWM, which will initiate control rod withdrawal and insert blocks when the actual sequence deviates beyond allowances from the stored sequence. The RWM determines the actual sequence based position indication for each control rod. The RWM also uses feedwater flow and steam flow signals to determine when the reactor power is above the preset power level at which the RWM is automatically bypassed (Ref. 2). The RWM is a single channel system that provides input into both RMCS rod block circuits.

With the reactor mode switch in the shutdown position, a control rod withdrawal block is applied to all control rods to ensure that the shutdown condition is maintained. This Function prevents inadvertent criticality as the result of a control rod withdrawal during MODE 3 or 4, or during MODE 5 when the reactor mode switch is required to be in the shutdown position. The reactor mode switch has two channels, each inputting into a separate RMCS rod block circuit. A rod block in either RMCS circuit will provide a control rod block to all control rods.

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

1. Rod Block Monitor

The RBM is designed to prevent violation of the MCPR SL and the cladding 1% plastic strain fuel design limit that may result from a single control rod withdrawal error (RWE) event. The analytical methods and assumptions used in evaluating the RWE event are summarized in Reference 3. A statistical analysis of RWE events was performed to determine the RBM response for both channels for each event. From these responses, the fuel thermal performance as a function of RBM Allowable Value was determined. The Allowable Values are chosen as a function of power level. Based on the specified Allowable Values, operating limits are established.

(continued)

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

1. Rod Block Monitor (continued)

The RBM Function satisfies Criterion 3 of the NRC Policy Statement (Ref. 9).

Two channels of the RBM are required to be OPERABLE, with their setpoints within the appropriate Allowable Values, to ensure that no single instrument failure can preclude a rod block from this Function. The setpoints are calibrated consistent with applicable setpoint methodology (nominal trip setpoint).

Nominal trip setpoints are specified in the setpoint calculations. The nominal setpoints are selected to ensure that the setpoints do not exceed the Allowable Values between successive CHANNEL CALIBRATIONS. Operation with a trip setpoint less conservative than the nominal trip setpoint, but within its Allowable Value, is acceptable. Trip setpoints are those predetermined values of output at which an action should take place. The setpoints are compared to the actual process parameter (e.g., reactor power), and when the measured output value of the process parameter exceeds the setpoint, the associated device (e.g., trip unit) changes state. The analytic limits are derived from the limiting values of the process parameters obtained from the safety analysis. The Allowable Values are derived from the analytic limits, corrected for calibration, process, and some of the instrument errors. The trip setpoints are then determined accounting for the remaining instrument errors (e.g., drift). The trip setpoints derived in this manner provide adequate protection because instrumentation uncertainties, process effects, calibration tolerances, instrument drift, and severe environmental effects (for channels that must function in harsh environments as defined by 10 CFR 50.49) are accounted for.

The RBM is assumed to mitigate the consequences of an RWE event when operating ≥ 29% RTP. Below this power level, the consequences of an RWE event will not exceed the MCPR SL and, therefore, the RBM is not required to be OPERABLE (Ref. 3). When operating < 90% RTP, analyses (Ref. 3) have shown that with an initial MCPR ≥ 1.70, no RWE event will result in exceeding the MCPR SL. Also, the analyses demonstrate that when operating at ≥ 90% RTP with MCPR ≥ 1.40, no RWE event will result in exceeding the MCPR

(continued)

B 3.6 CONTAINMENT SYSTEMS

B 3.6.1.1 Primary Containment

BASES

BACKGROUND

The function of the primary containment is to isolate and contain fission products released from the Reactor Primary System following a Design Basis Accident (DBA) and to confine the postulated release of radioactive material. The primary containment consists of a steel lined, reinforced concrete vessel, which surrounds the Reactor Primary System and provides an essentially leak tight barrier against an uncontrolled release of radioactive material to the environment.

The isolation devices for the penetrations in the primary containment boundary are a part of the containment leak tight barrier. To maintain this leak tight barrier:

a. All penetrations required to be closed during accident conditions are either:

 1. capable of being closed by an OPERABLE automatic containment isolation system, or

 2. closed by manual valves, blind flanges, or de-activated automatic valves secured in their closed positions, except as provided in LCO 3.6.1.3, "Primary Containment Isolation Valves (PCIVs);"

b. The primary containment air lock is OPERABLE, except as provided in LCO 3.6.1.2, "Primary Containment Air Lock"; and

c. All equipment hatches are closed.

This Specification ensures that the performance of the primary containment, in the event of a DBA, meets the assumptions used in the safety analyses of References 1 and 2. SR 3.6.1.1.1 leakage rate requirements are in conformance with 10 CFR 50, Appendix J (Ref. 3), as modified by approved exemptions.

(continued)

BASES (continued)

APPLICABLE SAFETY ANALYSES

The safety design basis for the primary containment is that it must withstand the pressures and temperatures of the limiting DBA without exceeding the design leakage rate.

The DBA that postulates the maximum release of radioactive material within primary containment is a LOCA. In the analysis of this accident, it is assumed that primary containment is OPERABLE such that release of fission products to the environment is controlled by the rate of primary containment leakage.

Analytical methods and assumptions involving the primary containment are presented in References 1 and 2. The safety analyses assume a nonmechanistic fission product release following a DBA, which forms the basis for determination of offsite doses. The fission product release is, in turn, based on an assumed leakage rate from the primary containment. OPERABILITY of the primary containment ensures that the leakage rate assumed in the safety analyses is not exceeded.

The maximum allowable leakage rate for the primary containment (L_a) is 1.2% by weight of the containment air per 24 hours at the maximum peak containment pressure (P_a) of 53.6 psig (Ref. 1).

Primary containment satisfies Criterion 3 of the NRC Policy Statement (Ref. 4).

LCO

Primary containment OPERABILITY is maintained by limiting leakage to less than L_a, except prior to the first startup after performing a required 10 CFR 50, Appendix J, leakage test. At this time, the combined Type B and C leakage must be < 0.6 L_a, and the overall Type A leakage must be < 0.75 L_a. Compliance with this LCO will ensure a primary containment configuration, including equipment hatches, that is structurally sound and that will limit leakage to those leakage rates assumed in the safety analyses.

Individual leakage rates specified for the primary containment air lock are addressed in LCO 3.6.1.2.

(continued)

BASES

BACKGROUND (continued)

containment leakage rate to within limits in the event of a DBA. Not maintaining air lock integrity or leak tightness may result in a leakage rate in excess of that assumed in the unit safety analysis.

APPLICABLE SAFETY ANALYSES

The DBA that postulates the maximum release of radioactive material within primary containment is a LOCA. In the analysis of this accident, it is assumed that primary containment is OPERABLE, such that release of fission products to the environment is controlled by the rate of primary containment leakage. The primary containment is designed with a maximum allowable leakage rate (L_a) of 1.2% by weight of the containment air per 24 hours at the calculated maximum peak containment pressure (P_a) of 53.6 psig (Ref. 2). This allowable leakage rate forms the basis for the acceptance criteria imposed on the SRs associated with the air lock.

Primary containment air lock OPERABILITY is also required to minimize the amount of fission product gases that may escape primary containment through the air lock and contaminate and pressurize the secondary containment.

The primary containment air lock satisfies Criterion 3 of the NRC Policy Statement (Ref. 4).

LCO

As part of primary containment, the air lock's safety function is related to control of containment leakage rates following a DBA. Thus, the air lock's structural integrity and leak tightness are essential to the successful mitigation of such an event.

The primary containment air lock is required to be OPERABLE. For the air lock to be considered OPERABLE, the air lock interlock mechanism must be OPERABLE, the air lock must be in compliance with the Type B air lock leakage test, and both air lock doors must be OPERABLE. The interlock allows only one air lock door to be opened at a time. This provision ensures that a gross breach of primary containment does not exist when primary containment is required to be

(continued)

BASES

LCO (continued)

OPERABLE. Closure of a single door in each air lock is sufficient to provide a leak tight barrier following postulated events. Nevertheless, both doors are kept closed when the air lock is not being used for normal entry and exit from primary containment.

APPLICABILITY

In MODES 1, 2, and 3, a DBA could cause a release of radioactive material to primary containment. In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, the primary containment air lock is not required to be OPERABLE in MODES 4 and 5 to prevent leakage of radioactive material from primary containment.

ACTIONS

The ACTIONS are modified by Note 1, which allows entry and exit to perform repairs of the affected air lock component. If the outer door is inoperable, then it may be easily accessed to repair. If the inner door is the one that is inoperable, however, then a short time exists when the containment boundary is not intact (during access through the outer door). The allowance to open the OPERABLE door, even if it means the primary containment boundary is temporarily not intact, is acceptable due to the low probability of an event that could pressurize the primary containment during the short time in which the OPERABLE door is expected to be open. The OPERABLE door must be immediately closed after each entry and exit.

The ACTIONS are modified by a second Note, which ensures appropriate remedial measures are taken, if necessary, if air lock leakage results in exceeding overall containment leakage rate acceptance criteria. Pursuant to LCO 3.0.6, actions are not required, even if primary containment is exceeding its leakage limit. Therefore, the Note is added to require ACTIONS for LCO 3.6.1.1, "Primary Containment," to be taken in this event.

(continued)

BASES

REFERENCES (continued)	4.	10 CFR 50, Appendix J.
	5.	NRC No. 93-102, "Final Policy Statement on Technical Specification Improvements," July 23, 1993.

B 3.6 CONTAINMENT SYSTEMS

B 3.6.1.4 Drywell Pressure

BASES

BACKGROUND

The drywell pressure is limited during normal operations to preserve the initial conditions assumed in the accident analysis for a Design Basis Accident (DBA) or loss of coolant accident (LOCA).

APPLICABLE SAFETY ANALYSES

Primary containment performance is evaluated for the entire spectrum of break sizes for postulated LOCAs (Ref. 1). Among the inputs to the DBA is the initial primary containment internal pressure (Ref. 1). Analyses assume an initial drywell pressure of 1.75 psig. This limitation ensures that the safety analysis remains valid by maintaining the expected initial conditions and ensures that the peak LOCA drywell internal pressure does not exceed the maximum allowable of 62 psig.

The maximum calculated drywell pressure occurs during the reactor blowdown phase of the DBA, which assumes an instantaneous recirculation line break. The calculated peak drywell pressure for this limiting event is 53.6 psig (Ref. 1).

Drywell pressure satisfies Criterion 2 of the NRC Policy Statement (Ref. 2).

LCO

In the event of a DBA, with an initial drywell pressure ≤ 1.75 psig, the resultant peak drywell accident pressure will be maintained below the drywell design pressure.

APPLICABILITY

In MODES 1, 2, and 3, a DBA could cause a release of radioactive material to primary containment.

In MODES 4

(continued)

BASES (continued)

ACTIONS

A.1

If one CAD subsystem is inoperable, it must be restored to OPERABLE status within 30 days. In this Condition, the remaining OPERABLE CAD subsystem is adequate to perform the oxygen control function. However, the overall reliability is reduced because a single failure in the OPERABLE subsystem could result in reduced oxygen control capability. The 30 day Completion Time is based on the low probability of the occurrence of a LOCA that would generate hydrogen and oxygen in amounts capable of exceeding the flammability limit, the amount of time available after the event for operator action to prevent exceeding this limit, and the availability of the OPERABLE CAD subsystem and other hydrogen mitigating systems.

Required Action A.1 has been modified by a Note that indicates that the provisions of LCO 3.0.4 are not applicable. As a result, a MODE change is allowed when one CAD subsystem is inoperable. This allowance is provided because of the low probability of the occurrence of a LOCA that would generate hydrogen and oxygen in amounts capable of exceeding the flammability limit, the low probability of the failure of the OPERABLE subsystem, the amount of time available after a postulated LOCA for operator action to prevent exceeding the flammability limit, and the availability of other hydrogen mitigating systems.

B.1 and B.2

With two CAD subsystems inoperable, the ability to perform the hydrogen control function via alternate capabilities must be verified by administrative means within 1 hour. The alternate hydrogen control capabilities are provided by the Primary Containment Purge System. The 1 hour Completion Time allows a reasonable period of time to verify that a loss of hydrogen control function does not exist. In addition, the alternate hydrogen control system capability must be verified once per 12 hours thereafter to ensure its continued availability. Both the initial verification and all subsequent verifications may be performed as an administrative check by examining logs or other information

(continued)

BASES

ACTIONS

B.1 and B.2 (continued)

to determine the availability of the alternate hydrogen control system. It does not mean to perform the Surveillances needed to demonstrate OPERABILITY of the alternate hydrogen control system. If the ability to perform the hydrogen control function is maintained, continued operation is permitted with two CAD subsystems inoperable for up to 7 days. Seven days is a reasonable time to allow two CAD subsystems to be inoperable because the hydrogen control function is maintained and because of the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit.

With two CAD subsystems inoperable, one CAD subsystem must be restored to OPERABLE status within 7 days. The 7 day Completion Time is based on the low probability of the occurrence of a LOCA that would generate hydrogen in the amounts capable of exceeding the flammability limit, the amount of time available after the event for operator action to prevent exceeding this limit, and the availability of other hydrogen mitigating systems.

C.1

If any Required Action cannot be met within the associated Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours. The allowed Completion Time of 12 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.3.1.1

Verifying that there is ≥ 2000 gallons of liquid nitrogen supply in each Nitrogen Storage Tank will ensure at least 7 days of post-LOCA CAD operation. This minimum volume of liquid nitrogen allows sufficient time after an accident to replenish the nitrogen supply for long term inerting. This is verified every 31 days to ensure that each subsystem is

(continued)

B 3.7 PLANT SYSTEMS

B 3.7.1 Residual Heat Removal Service Water (RHRSW) System

BASES

BACKGROUND

The RHRSW System is designed to provide cooling water for the Residual Heat Removal (RHR) System heat exchangers, required for a safe reactor shutdown following a Design Basis Accident (DBA) or transient. The RHRSW System is operated whenever the RHR heat exchangers are required to operate in the shutdown cooling mode or in the suppression pool cooling or spray mode of the RHR System.

The RHRSW System consists of two independent and redundant subsystems. Each subsystem is made up of a header, two 4000 gpm pumps, a suction source, valves, piping, heat exchanger, and associated instrumentation. Either of the two subsystems is capable of providing the required cooling capacity with two pumps operating to maintain safe shutdown conditions. The two subsystems are separated from each other by normally closed motor operated cross tie valves, so that failure of one subsystem will not affect the OPERABILITY of the other subsystem. The RHRSW System is designed with sufficient redundancy so that no single active component failure can prevent it from achieving its design function. The RHRSW System is described in the FSAR, Section 10.6, Reference 1.

Cooling water is pumped by the RHRSW pumps from the Altamaha River through the tube side of the RHR heat exchangers, and discharges to the circulating water flume. A minimum flow line from the pump discharge to the intake structure prevents the pump from overheating when pumping against a closed discharge valve.

The system is initiated manually from the control room. If operating during a loss of coolant accident (LOCA) or a loss of offsite power (LOSP), the system is automatically tripped to allow the diesel generators to automatically power only that equipment necessary. The system can be manually started any time the LOCA signal is manually overridden or clears. The system can be manually started any time after the LOSP signal is received.

(continued)

BASES (continued)

APPLICABLE SAFETY ANALYSES

The RHRSW System removes heat from the suppression pool to limit the suppression pool temperature and primary containment pressure following a LOCA. This ensures that the primary containment can perform its function of limiting the release of radioactive materials to the environment following a LOCA. The ability of the RHRSW System to support long term cooling of the reactor or primary containment is discussed in the FSAR, Sections 5.2 and 14.4.3 (Refs. 2 and 3, respectively). These analyses explicitly assume that the RHRSW System will provide adequate cooling support to the equipment required for safe shutdown. These analyses include the evaluation of the long term primary containment response after a design basis LOCA.

The safety analyses for long term cooling were performed for various combinations of RHR System failures. The worst case single failure that would affect the performance of the RHRSW System is any failure that would disable one subsystem of the RHRSW System. As discussed in the FSAR, Section 14.4.3 (Ref. 3) for these analyses, manual initiation of the OPERABLE RHRSW subsystem and the associated RHR System is assumed to occur 10 minutes after a DBA. The RHRSW flow assumed in the analyses is 4000 gpm per pump with two pumps operating in one loop. In this case, the maximum suppression chamber water temperature and pressure are approximately 210°F and 15 psig, respectively, well below the design temperature of 281°F and maximum allowable pressure of 62 psig.

The RHRSW System satisfies Criterion 3 of the NRC Policy Statement (Ref. 4).

LCO

Two RHRSW subsystems are required to be OPERABLE to provide the required redundancy to ensure that the system functions to remove post accident heat loads, assuming the worst case single active failure occurs coincident with the loss of offsite power.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.1.2

This SR helps to ensure the availability of the standby electrical power supply to mitigate DBAs and transients and maintain the unit in a safe shutdown condition, and verifies that the DGs are capable of proper startup, synchronizing, and accepting a load approximately 50% of the continuous load rating. This demonstrates DG capability while minimizing the mechanical stress and wear on the engine. A minimum run time of 60 minutes is required to stabilize engine temperatures, while minimizing the time that the DG is connected to the offsite source.

Although no power factor requirements are established by this SR, the DG is normally operated at a power factor between 0.8 lagging and 1.0. The 0.8 value is the design rating of the machine, while 1.0 is an operational limitation.

To minimize the wear on moving parts that do not get lubricated when the engine is not running, this SR has been modified by a Note (Note 2) to indicate that all DG starts for this Surveillance may be preceded by an engine prelube period and followed by a warmup prior to loading.

For the purposes of this testing, the DGs are started from standby conditions. Standby conditions for a DG mean that the diesel engine coolant and oil are being continuously circulated and temperature is being maintained consistent with manufacturer recommendations.

In order to reduce stress and wear on diesel engines, the DG manufacturer recommends a modified start in which the starting speed of DGs is limited, warmup is limited to this lower speed, and the DGs are gradually accelerated to synchronous speed prior to loading. These start procedures are the intent of Note 3.

SR 3.8.1.5.a requires that, at a 184 day Frequency, the DG starts from standby conditions and achieves required voltage and frequency within 12 seconds. The 12 second start requirement supports the assumptions in the design basis LOCA analysis of FSAR, Chapter 6 (Ref. 4). The 12 second start requirement is not applicable to SR 3.8.1.2 (see Note 3), when a modified start procedure as described above is used. If a modified start is not used, the

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.2 (continued)

12 second start voltage and frequency requirements of SR 3.8.1.5.a apply.

Since SR 3.8.1.5.a does require a 12 second start, it is more restrictive than SR 3.8.1.2, and it may be performed in lieu of SR 3.8.1.2. This procedure is the intent of Note 1.

To minimize testing of the swing DG, this SR is modified by a note (Note 4) to allow a single test (instead of two tests, one for each unit) to satisfy the requirements for both units, using the starting circuitry of one unit for one periodic test and the starting circuitry of the other unit during the next periodic test. This is allowed since the main purpose of the Surveillance, to ensure DG OPERABILITY, is still being verified on the proper frequency, the starting circuits historically have a very low failure rate, as compared to the DG itself, and that, while each starting circuit is only being tested every second test (due to the staggering of the tests), some portions of the starting circuits are common to both units. If the swing DG fails one of these Surveillance, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

Note 5 modifies this Surveillance to indicate that diesel engine runs for this Surveillance may include gradual loading, as recommended by the manufacturer, so that mechanical stress and wear on the diesel engine are minimized.

Note 6 modifies the Surveillance by stating that starting transients above the upper voltage limit do not invalidate this test.

Note 7 modifies this Surveillance by stating that momentary load transients because of changing bus loads do not invalidate this test.

Note 8 indicates that this Surveillance is required to be conducted on only one DG at a time in order to avoid common cause failures that might result from offsite circuit or grid perturbations.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.2 (continued)

The normal 31 day Frequency for SR 3.8.1.2 (see Table 3.8.1-1, "Diesel Generator Test Schedule") is consistent with Regulatory Guide 1.108 (Ref. 10). This Frequency provides adequate assurance of DG OPERABILITY, while minimizing degradation resulting from testing.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.5 (continued)

Note 3 modifies this Surveillance by stating that momentary voltage or load transients because of changing bus loads do not invalidate this test.

Note 4 indicates that this Surveillance is required to be conducted on only one DG at a time in order to avoid common cause failures that might result from offsite circuit or grid perturbations.

To minimize testing of the swing DG, Note 5 allows a single test (instead of two tests, one for each unit) to satisfy the requirements for both units, with the DG started using the starting circuitry of one unit and synchronized to the ESF bus of that unit for one periodic test and started using the starting circuitry of the other unit and synchronized to the ESF bus of that unit during the next periodic test. This is allowed since the main purpose of the Surveillance, to ensure DG OPERABILITY, is still being verified on the proper frequency, and each unit's starting circuitry and breaker control circuitry, which is only being tested every second test (due to the staggering of the tests), historically have a very low failure rate. If the swing DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

SR 3.8.1.6

Transfer of each 4.16 kV ESF bus power supply from the normal offsite circuit to the alternate offsite circuit demonstrates the OPERABILITY of the alternate circuit distribution network to power the shutdown loads. The 18 month Frequency of the Surveillance is based on engineering judgment taking into consideration the plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths.

Operating experience has shown that these components usually pass the SR when performed on the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.6 (continued)

This SR is modified by a Note. The reason for the Note is that, during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR.

This Surveillance tests the applicable logic associated with the Unit 1 swing bus. The comparable test specified in the Unit 2 Technical Specifications tests the applicable logic associated with the Unit 2 swing bus. Consequently, a test must be performed within the specified Frequency for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1 or 2 does not have applicability to Unit 2. As the Surveillance represents separate tests, the Unit 1 Surveillance should not be performed with Unit 1 in MODE 1 or 2 and the Unit 2 test should not be performed with Unit 2 in MODE 1 or 2.

SR 3.8.1.7

Each DG is provided with an engine overspeed trip to prevent damage to the engine. Recovery from the transient caused by the loss of a large load could cause diesel engine overspeed, which, if excessive, might result in a trip of the engine. This Surveillance demonstrates the DG load response characteristics and capability to reject the largest single load without exceeding predetermined voltage and frequency and while maintaining a specified margin to the overspeed trip. The largest single load for DGs 1A and 1C is a core spray pump at rated flow (1275 bhp). For DG 1B, the largest single load is a residual heat removal service water pump at rated flow (1225 bhp). This Surveillance may be accomplished by either a.) tripping the DG output breaker with the DG carrying greater than or equal to the largest single load while paralleled to offsite power or while solely supplying the bus, or b.) tripping the largest single load with the DG solely supplying the bus. Although Plant Hatch Unit 1 is not committed to IEEE-387-1984 (Ref. 12), this SR is consistent with the IEEE-387-1984 requirement that states the load rejection test is acceptable if the increase in diesel speed does not exceed 75% of the difference between synchronous speed and the

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.7 (continued)

overspeed trip setpoint, or 15% above synchronous speed, whichever is lower. For all DGs, this represents 65.5 Hz, equivalent to 75% of the difference between nominal speed and the overspeed trip setpoint.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.7 (continued)

The voltage and frequency specified are consistent with the nominal range for the DG. SR 3.8.1.7.a corresponds to the maximum frequency excursion, while SR 3.8.1.7.b is the voltage to which the DG must recover following load rejection. The 18 month Frequency is consistent with the recommendation of Regulatory Guide 1.108 (Ref. 10).

This SR is modified by two Notes. The reason for Note 1 is that, during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR.

In order to ensure that the DG is tested under load conditions that are as close to design basis conditions as possible, testing is performed with only the DG providing power to the associated 4160 V ESF bus. The DG is not synchronized with offsite power.

To minimize testing of the swing DG, Note 2 allows a single test (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit (no unit specific DG components are being tested). If the swing DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

SR 3.8.1.8

This Surveillance demonstrates the DG capability to reject a full load without overspeed tripping or exceeding the predetermined voltage limits. The DG full load rejection may occur because of a system fault or inadvertent breaker tripping. This Surveillance ensures proper engine generator load response under the simulated test conditions. This test simulates the loss of the total connected load that the DG experiences following a full load rejection and verifies that the DG does not trip upon loss of the load. These

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.8 (continued)

acceptance criteria provide DG damage protection. While the DG is not expected to experience this transient during an event, and continues to be available, this response ensures that the DG is not degraded for future application,

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.8 (continued)

including reconnection to the bus if the trip initiator can be corrected or isolated.

In order to ensure that the DG is tested under load conditions that are as close to design basis conditions as possible, testing must be performed using a power factor ≤ 0.88. This power factor is chosen to be representative of the actual design basis inductive loading that the DG would experience.

The 18 month Frequency is consistent with the recommendation of Regulatory Guide 1.108 (Ref. 10) and is intended to be consistent with expected fuel cycle lengths.

This SR is modified by four Notes. Note 1 states that momentary transients due to changing bus loads do not invalidate this test. The reason for Note 2 is that during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that would challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR. Note 3 is provided in recognition that if the offsite electrical power distribution system is lightly loaded (i.e., system voltages are high), it may not be possible to raise voltage without creating an overvoltage condition on the ESF bus. Therefore, to ensure the bus voltage, supplied ESF loads, and DG are not placed in an unsafe condition during this test, the power factor limit does not have to be met if grid voltage or ESF bus loading does not permit the power factor limit to be met when the DG is tied to the grid. When this occurs, the power factor should be maintained as close to the limit as practicable. To minimize testing of the swing DG, Note 4 allows a single test (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit (no unit specific DG components are being tested). If the swing DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.3.7 (continued)

system is intact, the fuel delivery piping is not obstructed, and the controls and control systems for manual fuel transfer are OPERABLE.

Since the fuel oil transfer pumps are being tested on a 31 day Frequency in accordance with SR 3.8.3.5, the 18 month Frequency has been determined to be acceptable based on engineering judgement and operating experience.

REFERENCES

1. FSAR, Section 8.4.
2. FSAR, Chapters 5 and 6.
3. FSAR, Chapter 14.
4. NRC No. 93-102, "Final Policy Statement on Technical Specification Improvements," July 23, 1993.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.4 DC Sources — Operating

BASES

BACKGROUND

The DC electrical power system provides the AC emergency power system with control power. It also provides both motive and control power to selected safety related equipment. As required by 10 CFR 50, Appendix A, GDC 17 (Ref. 1), the DC electrical power system is designed to have sufficient independence, redundancy, and testability to perform its safety functions, assuming a single failure. The DC electrical power system also conforms to the recommendations of Regulatory Guide 1.6 (Ref. 2) and IEEE-308 (Ref. 3).

The station service DC power sources provide both motive and control power to selected safety related and nonsafety related equipment. Each DC subsystem is energized by one 125/250 V station service battery and three 125 V battery chargers (two normally inservice chargers and one standby charger). Each battery is exclusively associated with a single 125/250 VDC bus. Each set of battery chargers exclusively associated with a 125/250 VDC subsystem cannot be interconnected with any other 125/250 VDC subsystem. The normal and backup chargers are supplied from the same AC load groups for which the associated DC subsystem supplies the control power. The loads between the redundant 125/250 VDC subsystem are not transferable except for the Automatic Depressurization System, the logic circuits and valves of which are normally fed from the Division 1 DC system.

The diesel generator (DG) DC power sources provide control and instrumentation power for their respective DG and their respective offsite circuit supply breakers. In addition, DG 1A power source provides circuit breaker control power for the respective Division I loads on 4160 VAC buses 1E and 1F, and DG 1C power source provides circuit breaker control power for the respective Division II loads on 4160 VAC buses 1F and 1G. Each DG DC subsystem is energized by one 125 V battery and two 125 V battery chargers (one normally inservice charger and one standby charger).

During normal operation, the DC loads are powered from the respective station service and DG battery chargers with the batteries floating on the system.

(continued)

BASES

ACTIONS

C.1 (continued)

If one of the required DC electrical power subsystems is inoperable (e.g., inoperable battery, inoperable battery charger(s), or inoperable battery charger and associated inoperable battery), the remaining DC electrical power subsystems have the capacity to support a safe shutdown and to mitigate an accident condition. Since a subsequent postulated worst case single failure could result in the loss of minimum necessary DC electrical subsystems to mitigate a postulated worst case accident, continued power operation should not exceed 2 hours. The 2 hour Completion Time is based on Regulatory Guide 1.93 (Ref. 7) and reflects a reasonable time to assess unit status as a function of the inoperable DC electrical power subsystem and, if the DC electrical power subsystem is not restored to OPERABLE status, to prepare to effect an orderly and safe unit shutdown.

D.1 and D.2

If the DC electrical power subsystem cannot be restored to OPERABLE status within the required Completion Time, the unit must be brought to a MODE in which the LCO does not apply. To achieve this status, the unit must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. The Completion Time to bring the unit to MODE 4 is consistent with the time required in Regulatory Guide 1.93 (Ref. 7).

E.1

Condition E corresponds to a level of degradation in the DC electrical power subsystems that causes a required safety function to be lost. When more than one DC source is lost, and this results in the loss of a required function, the plant is in a condition outside the accident analysis. Therefore, no additional time is justified for continued operation. LCO 3.0.3 must be entered immediately to commence a controlled shutdown.

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.8.4.1

Verifying battery terminal voltage while on float charge for the batteries helps to ensure the effectiveness of the charging system and the ability of the batteries to perform their intended function. Float charge is the condition in which the charger is supplying the continuous charge required to overcome the internal losses of a battery (or battery cell) and maintain the battery (or a battery cell) in a fully charged state. Voltage requirements are based on the nominal design voltage of the battery and are consistent with the initial voltages assumed in the battery sizing calculations. The voltage requirement for battery terminal voltage is based on the open circuit voltage of a lead-calcium cell of nominal 1.215 specific gravity. Without regard to other battery parameters, this voltage is indicative of a battery that is capable of performing its required safety function. The 7 day Frequency is consistent with manufacturer's recommendations and IEEE-450 (Ref. 8).

SR 3.8.4.2

Visual inspection to detect corrosion of the battery cells and connections, or measurement of the resistance of each inter-cell, inter-rack, inter-tier, and terminal connection, provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance.

The connection resistance limits are established to maintain connection resistance as low as reasonably possible to minimize the overall voltage drop across the battery and the possibility of battery damage due to heating of connections. The resistance values for each battery connection are located in the Technical Requirements Manual (Reference 9).

The Frequency for these inspections, which can detect conditions that can cause power losses due to resistance heating, is 92 days. This Frequency is considered acceptable based on operating experience related to detecting corrosion trends.

SR 3.8.4.3

Visual inspection of the battery cells, cell plates, and battery racks provides an indication of physical damage or

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.3 (continued)

abnormal deterioration that could potentially degrade battery performance.

The 18 month Frequency of the Surveillance is based on engineering judgment, taking into consideration the desired plant conditions to perform the Surveillance. Operating experience has shown that these components usually pass the SR when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

SR 3.8.4.4 and SR 3.8.4.5

Visual inspection and resistance measurements of inter-cell, inter-rack, inter-tier, and terminal connections provides an indication of physical damage or abnormal deterioration that could indicate degraded battery condition. The anti-corrosion material is used to help ensure good electrical connections and to reduce terminal deterioration. The visual inspection for corrosion is not intended to require removal of and inspection under each terminal connection.

The removal of visible corrosion is a preventive maintenance SR. The presence of visible corrosion does not necessarily represent a failure of this SR, provided visible corrosion is removed during performance of this Surveillance.

The connection resistance limits are established to maintain connection resistance as low as reasonably possible to minimize the overall voltage drop across the battery and the possibility of battery damage due to heating of connections. The resistance values for each battery connection are located in the Technical Requirements Manual (Reference 9).

The 18 month Frequency of the Surveillances is based on engineering judgment, taking into consideration the desired plant conditions to perform the Surveillance. Operating experience has shown that these components usually pass the SR when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.4.6

Battery charger capability requirements are based on the design capacity of the chargers (Ref. 4). According to Regulatory Guide 1.32 (Ref. 10), each battery charger supply is required to be based on the largest combined demands of the various steady state loads and the charging capacity to restore the battery from the design minimum charge state to the fully charged state, irrespective of the status of the unit during these demand occurrences. The minimum required amperes and duration ensures that these requirements can be satisfied.

The Frequency is acceptable, given the unit conditions required to perform the test and the other administrative controls existing to ensure adequate charger performance during these 18 month intervals. In addition, this Frequency is intended to be consistent with expected fuel cycle lengths.

SR 3.8.4.7

A battery service test is a special test of the battery's capability, as found, to satisfy the design requirements (battery duty cycle) of the DC electrical power system. The discharge rate and test length corresponds to the design duty cycle requirements as specified in Reference 4.

The Frequency of 18 months is consistent with the recommendations of Regulatory Guide 1.32 (Ref. 10) and Regulatory Guide 1.129 (Ref. 11), which state that the battery service test should be performed during refueling operations or at some other outage, with intervals between tests not to exceed 18 months.

This SR is modified by two Notes. Note 1 allows the performance of a modified performance discharge test in lieu of a service test.

The modified performance discharge test is a simulated duty cycle consisting of just two rates: the 1 minute rate published for the battery or the largest current load of the duty cycle, followed by the test rate employed for the performance test, both of which envelope the duty cycle of the service test. Since the ampere-hours removed by a rated

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.7 (continued)

1 minute discharge represent a very small portion of the battery capacity, the test rate can be changed to that for the performance test without compromising the results of the performance discharge test. The battery terminal voltage for the modified performance discharge test should remain above the minimum battery terminal voltage specified in the battery service test for the duration of time equal to that of the service test.

A modified performance discharge test is a test of the battery capacity and its ability to provide a high rate, short duration load (usually the highest rate of the duty cycle). This will often confirm the battery's ability to meet the critical period of the load duty cycle, in addition to determining its percentage of rated capacity. Initial conditions for the modified performance discharge test should be identical to those specified for a service discharge test.

The reason for Note 2 is that performing the Surveillance would remove a required DC electrical power subsystem from service, perturb the electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy the Surveillance. The swing DG DC battery is exempted from this restriction, since

(continued)

BASES

SURVEILLANCE REQUIREMNETS

SR 3.8.4.7 (continued)

it is required by both units' LCO 3.8.4 and cannot be performed in the manner required by the Note without resulting in a dual unit shutdown.

SR 3.8.4.8

A battery performance discharge test is a constant current capacity test to detect any change in the capacity determined by the acceptance test. Initial conditions consistent with IEEE-450 need to be met prior to the performing of a battery performance discharge test. The test results reflect the overall effects of usage and age.

A battery modified performance discharge test is described in the Bases for SR 3.8.4.7. Either the battery performance discharge test or the modified performance discharge test is acceptable for satisfying SR 3.8.4.8; however, only the modified performance discharge test may be used to satisfy SR 3.8.4.8, while satisfying the requirements of SR 3.8.4.7 at the same time.

The acceptance criteria for this Surveillance is consistent with IEEE-450 (Ref. 8) and IEEE-485 (Ref. 12). These references recommend that the battery be replaced if its capacity is below 80% of the manufacturer's rating. Although there may be ample capacity, the battery rate of deterioration is rapidly increasing.

The Frequency for this test is normally 60 months. If the battery shows degradation, or if the battery has reached 85% of its expected application service life and capacity is ≤ 100% of the manufacturers rating, the Surveillance Frequency is reduced to 12 months. However, if the battery shows no degradation but has reached 85% of its expected application service life, the Surveillance Frequency is only reduced to 24 months for batteries that retain capacity ≥ 100% of the manufacturer's rating. Degradation is indicated, according to IEEE-450 (Ref. 8), when the battery capacity drops by more than 10% of rated capacity from its capacity on the previous performance test or is more than 10% below the manufacturer's rating. All these Frequencies are consistent with the recommendations in IEEE-450 (Ref. 8).

This SR is modified by a Note. The reason for the Note is that performing the Surveillance would remove a required DC electrical power subsystem from service, perturb the electrical distribution system, and challenge safety

(continued)

BASES

SURVEILLANCE REQUIREMNETS

SR 3.8.4.8 (continued)

systems. Credit may be taken for unplanned events that satisfy the Surveillance. The swing DG DC battery is exempted from this restriction, since it is required by both

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.8 (continued)

units' LCO 3.8.4 and cannot be performed in the manner required by the Note without resulting in a dual unit shutdown.

SR 3.8.4.9

With the exception of this Surveillance, all other Surveillances of this Specification (SR 3.8.4.1 through SR 3.8.4.8) are applied only to the Unit 1 DC sources. This Surveillance is provided to direct that the appropriate Surveillances for the required Unit 2 DC sources are governed by the Unit 2 Technical Specifications. Performance of the applicable Unit 2 Surveillances will satisfy both any Unit 2 requirements, as well as satisfying this Unit 1 Surveillance Requirement.

The Frequency required by the applicable Unit 2 SR also governs performance of that SR for both Units.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 17.
2. Regulatory Guide 1.6.
3. IEEE Standard 308 - 1971.
4. FSAR, Section 8.5.
5. FSAR, Chapters 5 and 6.
6. FSAR, Chapter 14.
7. Regulatory Guide 1.93, December 1974.
8. IEEE Standard 450 - 1987.
9. Technical Requirements Manual.
10. Regulatory Guide 1.32, February 1977.
11. Regulatory Guide 1.129, December 1974.

(continued)

UNIT 1 MARKUP OF CURRENT TECHNICAL SPECIFICATIONS AND DISCUSSION OF CHANGES

3.3.1.1-1

Table 4.1-1

Reactor Protection System (RPS) Instrumentation Functional Test, Functional Test Minimum Frequency, and Calibration Minimum Frequency

Scram Number (a)	Source of Scram Trip Signal	Group (b)	Instrument Check Minimum Frequency	Instrument Functional Test Minimum Frequency (c)	Instrument Calibration Minimum Frequency
1	Mode Switch in SHUTDOWN	A	NA	Once/Operating Cycle	Not Applicable
2	Manual Scram	A	NA	Once/week	Not Applicable
3	IRM High High Flux	C	D	Once/Week (d)(n)	Once/Operating Cycle
	Inoperative	C	NA	Once/week (e)	NA
4	Reactor Vessel Steam Dome Pressure - High	D	S	Every 3 months	Once/Operating Cycle
5	Drywell Pressure - High	D	S	Every 3 months	Once/Operating Cycle
6	Reactor Vessel Water Level - Low (Level 3)	D	S	Every 3 months (g)	Once/Operating Cycle
7	Scram Discharge Volume High High Level				
	a. Float Switches	A	NA	Every 3 months	(h)
	b. Thermal Level Sensors	B	NA	Every 3 months	Once/Operating Cycle
8	APRM Fixed High-High Flux	B	S	Every 3 months (e)(i)	Once/Week (p), SA
	Inoperable	B	NA	Every 3 months (e)	NA
	Downscale	B	NA	Once/Week(e)	NA
	Flow Reference Simulated Thermal Power Monito[r]	B	S	Every 3 months (i)	Once/Week (p)(q), SA
	15% Flux	C	S	Once/Week during refueling (l)(m)	Once/Week during refueling (l)(m)
	LPRM	B	D	NA	Every 1000 Effective Full Power Hours

Specification 3.3.1.1

3.3.1.1-1

Notes for Table ~~4.1-1~~ (Cont'd)

k. The electrohydraulic control oil pressure sensors shall be set to trip at $\geq$600 psig control oil pressure. } Table 3.3.1.1-1, Function 4 Allowable Value

l. Perform within 24 hours of startup if not performed within the previous 7 days. (A.12)

m. When changing from the Run Mode to the Start and Hot Standby Mode, perform the required surveillance within 12 hours after entering the Start and Hot Standby Mode unless performed within the previous 7 days. (A.12) } Note to SR 3.3.1.1.4 and SR 3.3.1.1.10 — Note 2 to

n. The APRM, IRM and SRM channels shall be compared for overlap during each startup, if not performed within the previous 7 days. (M.3) } SR 3.3.1.1.6 SR 3.3.1.1.7

p. This calibration shall consist of the adjustment of the APRM channel to conform to the power values calculated by a heat balance during the Run Mode when thermal power $\geq$25% of rated thermal power. Adjust the APRM channel if the absolute difference $\geq$2%. } SR 3.3.1.1.2 — proposed Note to SR 3.3.1.1.2 (M.4)

q. This calibration shall consist of the adjustment of the APRM flow referenced simulated thermal power channel to conform to a calibrated flow signal. } SR 3.3.1.1.3

proposed SR 3.3.1.1.14 and SR 3.3.1.1.15 (M.5)

Specification 3.3.1.1

K:\wp\techsp\h\3&4U1TAB

TECHNICAL CHANGE - LESS RESTRICTIVE
(continued)

L.8 The CHANNEL FUNCTIONAL TEST (CFT) requirement for the float type switches has been extended from quarterly to once per 18 months. This new Frequency will reduce radiation exposure to plant personnel performing this Surveillance. The NRC issued this change as Amendment 193 to the Unit 1 TS by letter dated March 15, 1994. Analysis has also been performed (GENE-770-25-1092) that shows a negligible impact on safety with the Surveillance being performed every 18 months instead of the current 3 months. Since the CFT is part of a CHANNEL CALIBRATION (per the definition), and a CHANNEL CALIBRATION requirement is specified every 18 months (proposed SR 3.3.1.1.13), an actual CFT SR is not provided.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS

3.3.F. Operation with a Limiting Control Rod Pattern (for Rod Withdrawal Error, RWE)

Applicability (A.3)

A Limiting Rod Pattern for RWE exists when the MCPR is less than the value provided in the Core Operating Limits Report.

During operation with a Limiting Control Rod Pattern for RWE and when core thermal power is ≥ 30% (29) (M.6), either:

LCO 3.3.2.1 Table 3.3.2.1-1 Function 1

1. Both rod block monitor (RBM) channels shall be operable, or

Action A and B

2. If only one RBM channel is OPERABLE, control rod withdrawal shall be blocked within 24 hours, or. (L.2)

Action B

3. If neither RBM channel is OPERABLE, control rod withdrawal shall be blocked. within 1 hour (M.3)

4.3.F. Operation with a Limiting Control Rod Pattern (for Rod Withdrawal Error, RWE)

(B) (L.4)

During operation when a Limiting Control Rod Pattern for RWE exists and only one RBM channel is operable, an instrument functional test of the RBM shall be performed prior to withdrawal of the control rod(s). A Limiting Rod Pattern for RWE is defined by Specification 3.3.F.

G. Rod Worth Minimizer (RWM)

1. Operability

LCO 3.3.2.1 Table 3.3.2.1-1 Function 2

Whenever the reactor is in the Start & Hot Standby* or Run Mode below 10% rated thermal power, the RWM shall be OPERABLE.

Action C

a. With the RWM inoperable before the first 12 control rods are withdrawn on a startup, one startup per calendar year may be performed provided that control rod movement and compliance with the prescribed BPWS control rod pattern are verified by a second licensed operator or qualified member of the plant technical staff.

(A.5) proposed Required Action C.1

Action C

b. With the RWM inoperable after the first 12 control rods have been fully withdrawn on a startup, operation may continue provided that control rod movement and compliance with the

G. Rod Worth Minimizer (RWM)

1. Operability

(L.3)

a. The RWM shall be demonstrated OPERABLE in the Start and Hot Standby Mode prior to withdrawal of control rods for the purpose of making the reactor critical and in the Run Mode when the RWM is initiated during control rod insertion when reducing THERMAL POWER by: SR 3.3.2.1.2 SR 3.3.2.1.3

proposed Note to SR 3.3.2.1.3 (M.4)

(LA.2)

(1) Verifying proper annunciation of the selection error of at least one control rod which violates the prescribed withdrawal sequence loaded into the RWM, and

(2) Verifying the rod block function of the RWM by attempting to move a control rod that violates the prescribed withdrawal sequence loaded into the RWM.

Note to SR 3.3.2.1.2 (M.4)

*Entry into the Start and Hot Standby Mode 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.

TECHNICAL CHANGE - LESS RESTRICTIVE

"Specific"
(continued)

L.4 The proposed change will delete the requirement to test the other RBM channel when one channel is inoperable. Generically, the requirement for demonstrating operability of the redundant subsystems was originally chosen because there was a lack of plant operating history and a lack of sufficient equipment failure data. Since that time, plant operating experience has demonstrated that testing of the redundant subsystems when one subsystem is inoperable is not necessary to provide adequate assurance of system operability.

This change will allow credit to be taken for normal periodic surveillances as a demonstration of operability and availability of the remaining RBM channel. The periodic frequencies specified to demonstrate operability of the remaining channel has been shown to be adequate to ensure equipment operability. As stated in NRC Generic Letter 87-09, "It is overly conservative to assume that systems or components are inoperable when a surveillance requirement has not been performed. The opposite is in fact the case; the vast majority of surveillances demonstrate the systems or components in fact are operable." Therefore, reliance on the specified surveillance intervals does not result in a reduced level of confidence concerning the equipment availability. Also, the current Standard Technical Specifications (STS) and, more specifically, all the Technical Specifications approved for recently licensed BWR's accept the philosophy of system operability based on satisfactory performance of monthly, quarterly, refueling interval, post maintenance or other specified performance tests without requiring additional testing when another system is inoperable (except for diesel generator testing, which is not being changed).

(A.1) proposed LCO 3.3.3.1 Statement
proposed Applicability

Table ~~3.2-11~~ 3.3.3.1-1

INSTRUMENTATION WHICH PROVIDES SURVEILLANCE INFORMATION

Ref. No. (a) [Function]	Instrument (b)	Required Operable Instrument Channels	Type and Range (LA.1)	Action	Remarks (LA.1)
~~1~~ 2.b	Reactor Vessel Water Level	1 2 (M.1) Function c & d	Recorder -150" to +60" Indicator -150" to +60"	(c) (c)	(d) (d)
~~2~~ 2.a	Shroud Water Level	1 1	Recorder -317" to -17" Indicator -317" to -17"	(c) (c)	(d) (d)
~~3~~ 1	Reactor Pressure	1 2	Recorder 0 to 1500 psig Indicator 0 to 1500 psig	(c) (c)	(d) (d)
~~4~~ 4.a	Drywell Pressure	2	Recorder -10 to +90 psig	(c)	(d)
~~5~~ 10	Drywell Temperature	~~2~~ 6 (M.1)	Recorder 0 to 500°F	(c)	(d)
~~6~~	~~Suppression Chamber Air Temperature~~	~~2~~	Recorder 0 to 500°F	~~(c)~~	(d)
~~7~~ 9	Suppression Chamber Water Temperature	2 (Proposed Note C)	Recorder 0 to 250°F	(c)	(d)
~~8~~ 3 a & b	Suppression Chamber Water Level	2 2	Indicator 0 to 300" Recorder 0 to 30"	(c) (c)(e)	(d) (d)
~~9~~	~~Suppression Chamber Pressure~~	~~2~~	Recorder -10 to +90 psig	~~(c)~~	(d)
~~10~~	~~Rod Position Information System (RPIS)~~	~~1~~	28 Volt Indicating Lights	~~(c)~~	(d)
~~11~~ 7 and 8	Hydrogen and Oxygen Analyzer	~~1~~ 2 (M.1)	Recorder 0 to 5%	(i)	(d)
~~12~~	~~Post LOCA Radiation Monitoring System~~	~~1~~	Recorder Indicator 1 to 10^6 R/hr	(c) (c)	(d) (d)
~~13~~	~~a) Safety/Relief Valve Position Primary Indicator~~	~~1/SRV~~	Indicating Light at 85 psig	(f)	
	~~b) Safety/Relief Valve Position Secondary Indicator~~	~~1~~	Recorder 0 to 600°F	(f)	

(M.1) (B) (R.1)

The Action is provided in current Specification 3.7.A.6.c, later in this ITS markup.

Specification 3.3.3.1

1 of 9

3.3.3.1-1
TABLE ~~3.2-11~~ (Continued)

INSTRUMENTATION WHICH PROVIDES SURVEILLANCE INFORMATION

Ref. No. (a)	Instrument (b)	Required Operable Operable Instrument Channels	Type and Range	Action	Remarks
4.c ~~14~~	Drywell High Range Pressure	2	Recorder 0 to 250 psig	(c)	(d)
5 ~~15~~	Drywell High Range Radiation	2 2	Indicator 1 to 10^7 R/Hr Recorder 1 to 10^7 R/Hr	(g) (g)	
16	Main Stack Post-Accident Effluent Monitor	1	Recorder $5x10^{-3}$ to $1x10^5$ $\mu Ci/cc$	(g)	(h)
17	Reactor Building Vent Plenum Post-Accident Effluent Monitor	1	Recorder $5x10^{-3}$ to $1x10^5$ $\mu Ci/cc$	(g)	(h)

A.6 LA.1 LA.1 R.1 R.1

proposed Functions 2.c, 2.d, 4.b, 6, 11, and 12, and Notes a+b

M.1 B

Specification 3.3.3.1

(A.1) proposed Note 1 to Surveillance Requirements

Table ~~4.2-8~~ 3.3.6.2-1

Check, Functional Test, and Calibration Minimum Frequency for Radiation Monitoring Systems Which Limit Radioactivity Release

Ref. No. (a)	Instrument	SR 3.3.6.2.1 Instrument Check Minimum Frequency (b)	Instrument Functional Test Minimum Frequency (c)	SR 3.3.6.2.3 Instrument Calibration Minimum Frequency (d)
1	Off-gas Post Treatment Radiation Monitors	Once/day	Once/month (f)	Every 3 months
~~2~~ 4	Refueling Floor Exhaust Vent Radiation Monitors	Once/day	~~Once/quarter (f)~~ (A.7)	Every 3 months
~~3~~ 3	Reactor Building Exhaust Vent Radiation Monitors	Once/day	~~Once/quarter (f)~~	Every 3 months
4	Control Room Intake Radiation Monitors	Once/day	Once/quarter (f)	Every 3 months
5	Main Steam Line Radiation Monitors	None	Once/week (f)	Every 3 months (g)

See Discussion of Changes for ITS: 3.3.6.1 and 3.3.7.1, and CTS: 3/4.2.H in this Section. (B) Specification 3.3.6.2

Notes for Table ~~4.2-8~~ 3.3.6.2-1

a. ~~The column entitled "Ref. No." is only for convenience so that a one-to-one relationship can be established between items in Table 4.2-8 and items in Table 3.2-8.~~ (A.1)

b. ~~Instrument checks are not required when these instruments are not required to be operable or are tripped. However, if instrument checks are missed, they shall be performed prior to returning the instrument to an operable status.~~ (A.4) SR 3.0.1

3.3.6.2-1
Notes for Table ~~4.2-6~~ (Cont'd)

c. Instrument functional tests are not required when the instruments are not required to be operable or are tripped. However, if instrument functional tests are missed, they shall be performed prior to returning the instrument to an operable status.

d. Instrument calibrations are not required when the instruments are not required to be operable or are tripped. However, if instrument calibrations are missed, they shall be performed prior to returning the instrument to an operable status.

(A.4) SR 3.0.1

e. Deleted.

f. This instrumentation is exempted from the instrument functional test definition. This instrument functional test will consist of injecting a simulated electrical signal into the measurement channels.

g. Standard current source used which provides an instrument channel alignment. Calibration using a radiation source shall be made once per operating cycle.

See Discussion of Changes for ITS: 3.3.6.1 and 3.3.7.1, and CTS: 3/4.2.H in this section, and ITS: 3.10.1, in Section 3.10 (B)

SR 3.3.6.2.5
Logic system functional tests ~~and simulated automatic actuation~~ (LA.3) shall be performed once each operating cycle for the following:

1. Secondary Containment Actuation

Specification 3.3.6.2

Table 4.2-8

Check, Functional Test, and Calibration Minimum Frequency for Radiation Monitoring Systems Which Limit Radioactivity Release

(A.1)

Ref. No. (a)	Instrument	Instrument Check Minimum Frequency (b)	Instrument Functional Test Minimum Frequency (c)	Instrument Calibration Minimum Frequency (d)
1	Off-gas Post Treatment Radiation Monitors	Once/day	Once/month (f)	Every 3 months
2	Refueling Floor Exhaust Vent Radiation Monitors	Once/day	Once/quarter (f)	Every 3 months
3	Reactor Building Exhaust Vent Radiation Monitors	Once/day	Once/quarter (f)	Every 3 months
4	Control Room Intake Radiation Monitors	SR 3.3.7.1.1 Once/day	SR 3.3.7.1.2 ~~Once/quarter (f)~~ (A.3)	SR 3.3.7.1.3 Every 3 months
5	Main Steam Line Radiation Monitors	None	Once/week (f)	Every 3 months (g)

Notes for Table 4.2-8

a. The column entitled "Ref. No." is only for convenience so that a one-to-one relationship can be established between items in Table 4.2-8 and items in Table 3.2-8. (A.1)

b. Instrument checks are not required when these instruments are not required to be operable or are tripped. However, if instrument checks are missed, they shall be performed prior to returning the instrument to an operable status. (A.4) SR 3.0.1

See Discussion of Changes for ITS: 3.3.6.1 and 3.3.6.2, and CTS: 3/4.2.H, in this Section, and ITS 3.10.1, in Section 3.10. (B)

Specification 3.3.7.1

Notes for Table 4.2-8 (Cont'd)

c. Instrument functional tests are not required when the instruments are not required to be operable or are tripped. However, if instrument functional tests are missed, they shall be performed prior to returning the instrument to an operable status. (A.4) SR 3.0.1

d. Instrument calibrations are not required when the instruments are not required to be operable or are tripped. However, if instrument calibrations are missed, they shall be performed prior to returning the instrument to an operable status.

e. Deleted.

f. This instrumentation is exempted from the instrument functional test definition. This instrument functional test will consist of injecting a simulated electrical signal into the measurement channels. (LA.3)

g. Standard current source used which provides an instrument channel alignment. Calibration using a radiation source shall be made once per operating cycle. See Discussion of Changes for CTS 3/4.2.H in this Section. (B)

SR 3.3.7.1.4

Logic system functional tests and simulated automatic actuation (LA.3) shall be performed once each operating cycle 18 months (A.5) for the following:

1. Secondary Containment Actuation

See Discussion of Changes for ITS: 3.3.6.2, in this Section.

Specification 3.3.7.1

Notes for Table 4.2-8 (Cont'd)

2. Standby Gas Treatment System Actuation

3. Steam Jnet Air Ejector Off-gas Actuation

4. Primary Containment Purge and Vent Valve Closure

SR 3.3.7.1.4

5. MCRECS Control Room Pressurization Mode Actuation

6. (Deleted)

7. Mechanical Vacuum Pump Isolation

See Discussion of Changes for ITS: 3.3.6.1 and 3.3.6.2 and CTS: 3/4.2.H in this section. B

The logic system functional test shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems. LA.3

Specification 3.3.7.1

TECHNICAL CHANGE - LESS RESTRICTIVE
(continued)

L.2 The allowed out of service time for one inoperable assembly is extended to 72 hours and for two inoperable assemblies is extended to one hour to provide sufficient time for the plant personnel to take corrective actions. With one assembly inoperable, the other assembly is fully capable of providing the necessary protection, thus, 72 hours provides time to repair the inoperable assembly and decreases the potential for a unit upset (that could result when power supplies are shifted, since power is initially lost to the RPS trip system and either RPS bus powered components). The time extension for two inoperable assemblies is minimal but necessary to allow consideration of plant conditions, available personnel and the appropriate actions.

L.3 A Note has been added to this Surveillance such that the Surveillance is only required to be performed when the unit is in MODE 4 ≥ 24 hours. Thus, the 184 day Frequency would not have to be met until a shutdown to MODE 4 ≥ 24 hours occurs. The performance of this Surveillance could result in half-scrams, actual valve isolations, and other plant perturbations, since if the assembly opens, power is lost. The test requirement has been changed to allow it to be performed while shutdown to minimize the impact of this Surveillance on plant operation. This is consistent with many of the of the more recently licensed BWRs and the BWR Standard Technical Specifications, NUREG 1433.

L.4 The time delay setting for the undervoltage trip has been extended from zero to ≤ 4 seconds. In addition, a time delay setting has been provided for the overvoltage and underfrequency trips. The NRC issued this change as Amendment 191 to the Unit 1 TS by letter dated November 24, 1993.

R.1

Table 4.2-8

Check, Functional Test, and Calibration Minimum Frequency for Radiation Monitoring Systems Which Limit Radioactivity Release

Ref. No. (a)	Instrument	Instrument Check Minimum Frequency (b)	Instrument Functional Test Minimum Frequency (c)	Instrument Calibration Minimum Frequency (d)
1	Off-gas Post Treatment Radiation Monitors	Once/day	Once/month (f)	Every 3 months
2	Refueling Floor Exhaust Vent Radiation Monitors	Once/day	Once/quarter (f)	Every 3 months
3	Reactor Building Exhaust Vent Radiation Monitors	Once/day	Once/quarter (f)	Every 3 months
4	Control Room Intake Radiation Monitors	Once/day	Once/quarter (f)	Every 3 months
5	Main Steam Line Radiation Monitors	None	Once/week (f)	Every 3 months (g)

B

LA.1 B

See Discussion of Changes for ITS: 3.3.6.1, 3.3.6.2, and 3.3.7.1, in this Section, and ITS: 3.10.1, in Section 3.10

Notes for Table 4.2-8

a. The column entitled "Ref. No." is only for convenience so that a one-to-one relationship can be established between items in Table 4.2-8 and items in Table 3.2-8.

b. Instrument checks are not required when these instruments are not required to be operable or are tripped. However, if instrument checks are missed, they shall be performed prior to returning the instrument to an operable status.

R.1

Current Specification 3/4.2.H

Table 3.2-10

INSTRUMENTATION WHICH MONITORS LEAKAGE INTO THE DRYWELL

Ref. No. (a)	Instrument (c)	Required Operable Channels per System	Setting	Remarks
1	Drywell Equipment Drain Sump Flow Integrator	1(b)(d)	Tech Spec 3.6.G.1.	The Limiting Conditions for operation of the Leakage Detection System are provided in Section 3.6.G.
2	Drywell Floor Drain Sump Flow Integrator	1(b)(d)	Tech Spec 3.6.G.1.	
3	Scintillation Detector for Monitoring Air Particulates	1(d)	(e)	
4	Scintillation Detector for Monitoring Radioiodine	1(d)	(e)	
5	GM Tubes for Monitoring Noble Gases	1(d)	(e)	

a. The column entitled "Ref. No." is only for convenience so that a one-to-one relationship can be established between items in Table 3.2-10 and items in Table 4.2-10.

b.1. Whenever the systems are required to be operable, there shall be one operable or tripped system. If this cannot be met, the indicated action shall be taken. ACTION A

b.2. One instrument channel may be inoperable for up to 6 hours to perform required surveillances prior to entering other applicable actions. NOTE to Surveillance Requirements

c. The two flow integrators, one for the equipment drain sump and the other for the floor drain sump, comprise one basic instrument system. Two sodium-iodide scintillation detectors, one for monitoring air particulates and one for monitoring radioiodine, comprise two basic instrument systems. A beta sensitive GM detector for monitoring noble gases comprises a fourth basic instrument system. An alternate system to determine the leakage flow is a manual system whereby the time between sump pump starts is monitored. This time interval will determine the leakage flow because the volume of the sump is known.

d. For administrative information; performs no control function.

e. High setpoint alarm will be set three times above background radiation. Failure alarm will be set below background radiation. Specific values will be established during system startup.

Specification 3.4.5

LA.2

Table 4.2-10

Check, Functional Test, and Calibration Minimum Frequency for Instrumentation Which Monitors Leakage into the Drywell

Ref. No. (a)	Instrument	Instrument Check Minimum Frequency (b)	Instrument Functional Test Minimum Frequency (c)	Instrument Calibration Minimum Frequency (d)
1	Drywell Equipment Drain Sump Flow Integrator	Once/day	Once/month	Every 3 months (LA.1)
2	Drywell Floor Drain Sump Flow Integrator	~~Once/day~~ (L.3)	Once/month SR 3.4.5.2	Every ~~3~~ 18 months
3	Scintillation Detector for Monitoring Air Particulates (L.1)	~~Once/day~~ 12 hours (M.1)	Once/month SR 3.4.5.2	SR 3.4.5.3 (B) Every ~~6~~ 18 months (L.4)
4	Scintillation Detector for monitoring Radioiodine	~~Once/day~~ 12 hours SR 3.4.5.1	Once/month SR 3.4.5.2	Every ~~6~~ 18 months
5	GM Tubes for Monitoring Noble Gases	~~Once/day~~ 12 hours	Once/month SR 3.4.5.2	Every ~~6~~ 18 months

Notes for Table 4.2-10

a. The column entitled "Ref. No." is only for convenience so that a one-to-one relationship can be established between items in Table 4.2-10 and items in Table 3.2-10. (A.2)

b. Instrument checks are not required when these instruments are not required to be operable ~~or are tripped~~ (A.2). However, if instrument checks are missed, they shall be performed prior to returning the instrument to an operable status. SR 3.0.1

c. Instrument functional tests are not required when the instruments are not required to be operable ~~or are tripped~~ (A.2). However, if instrument functional tests are missed, they shall be performed prior to returning the instrument to an operable status. SR 3.0.1

Specification 3.4.5

5 of 6

TECHNICAL CHANGES - LESS RESTRICTIVE

LC.1 (continued)

addressed by plant operational procedures and policies. Therefore, the continuous leak rate monitor, and associated actions are removed from the Technical Specification.

"Specific"

L.1 The value for P_a is being lowered to 53.6 psig. P_a is defined in the Technical Specifications as the peak containment internal pressure that is used for 10 CFR 50 Appendix J (leakage testing) purposes. The peak containment internal pressure, as related to 10 CFR 50 Appendix J, has traditionally been the calculated maximum pressure following a large break, design basis Loss of Coolant Accident (LOCA). For Hatch Unit 1, this break also results in the highest Final Safety Analysis Report (FSAR) analyzed accident pressures. The current Mark I Containment Long-Term Program analyses regarding the containment temperature and pressure responses following a LOCA are documented in Unit 1 FSAR Section 14.4.3.3.2. In addition, a more recent analysis, which increased the containment normal operating pressure limit from 0.75 psig to 1.75 psig is documented in GE-NE-A00-05873-02, dated April 1994.

The Hatch Unit 1 containment pressure response, due to a postulated design basis LOCA, was re-evaluated as part of the Mark I Containment Long-Term Program and is documented in NEDO-24570. The purpose of the Mark I Containment Long-Term Program was to "perform a complete reassessment of the suppression chamber (torus) design..." according to Appendix A of NUREG-0661. As a part of this complete reassessment, the Mark I Containment Long-Term Program included plant unique analyses of the containment LOCA pressure response using the Homogeneous Equilibrium Model (HEM) for vessel blowdown described in NEDO-21052 and the containment response model described in NEDO-10320. These plant-unique analyses and results were provided to the NRC in Georgia Power Company's letter dated January 26, 1983 (with later supplements) and approved by the NRC in a Safety Evaluation Report dated January 25, 1984. These approved analyses resulted in significantly lower containment peak pressures than submitted in the original FSAR. Subsequent to NRC approval, the Hatch Unit 1 FSAR was updated to reflect the new analyses and their results.

Since the Georgia Power Company Mark I Containment Long-Term Program submittal, revisions have been made to certain parameters used in the model to account for the Extended Operating Domain Analyses with reduced feedwater temperature. This revision has resulted in slightly higher peak containment LOCA analyses pressures from those presented in the 1983 submittal. Through the 10 CFR 50.59 safety evaluation process, the FSAR was updated to reflect these results. The current LOCA analyses, provided

TECHNICAL CHANGES - LESS RESTRICTIVE

L.1 (continued)

in the FSAR section referenced above, result in peak containment internal pressures of 51.6 psig for Unit 1.

As indicated in NEDO-24570, the peak containment pressure calculations for a design basis LOCA assumed an initial pressure of 0.75 psig. Also, the peak containment LOCA pressure is higher than the analyzed peak containment pressure for a Main Steam Line Break or small break LOCA inside containment. As indicated in GE-NE-A00-05873-02, the containment initial pressure was evaluated to be increased to 1.75 psig. The evaluation addressed the following issues:

- Short-term DBA-LOCA containment pressure and temperature
- Long-term DBA-LOCA containment pressure and temperature
- LOCA containment hydrodynamic loads
- Safety/relief valve loads
- Appendix J containment leakage requirements
- Other issues not related to this P_a change.

Based on the result of these evaluations, it was determined by the Mark I Containment Long-Term Program should be increased by 2 psig to 53.6 psig.

Therefore, peak containment internal pressure value of 53.6 psig for Unit 1 forms an acceptable basis for structural integrity as identified in the proposed Bases of the Technical Specifications. This pressure is significantly less than the containment design pressure of 56 psig and the ASME Code allowable of 62 psig.

L.2 A 1 hour time is proposed to allow restoration of the primary containment prior to requiring a unit shutdown. The new out of service time is based on engineering judgement of the relative risks associated with: 1) the probability of an event during the 1 hour requiring the primary containment; and 2) the plant transient and potential challenge of safety systems experienced by requiring a unit shutdown. The new time is consistent with the current Unit 2 Technical Specifications and with the BWR Standard Technical Specifications, NUREG 1433.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.7.A.7. Primary Containment Purge System	4.7.A.7. Primary Containment Purge System
a. When primary containment is required, all drywell and suppression chamber 18 inch purge supply and exhaust isolation valves shall be operable and in the fully closed position except when required for inerting, de-inerting, or pressure control. (A.5) (SR 3.6.1.3.1) (L.7 — Proposed addition reasons specified in Note to SR 3.6.1.3.1)	a. In addition to the requirements of Specification 4.7.D, each drywell and suppression chamber 18 inch purge supply and exhaust isolation valve shall be verified to be closed at least monthly. (SR 3.6.1.3.1)
b. Each drywell and suppression chamber 18 inch purge supply and exhaust isolation valve shall have a leakage rate as specified in 4.7.A.2. (A.6)	b. Each refueling outage each drywell and suppression chamber 18 inch purge supply and exhaust isolation valve with a resilient material seat shall be demonstrated operable by having its valve seat replaced and verifying that the leakage rate is within its limit. (SR 3.6.1.3.10) (A.7)
c. The drywell and suppression chamber 18 inch excess flow isolation dampers shall be operable at all times when the Unit 1 primary containment integrity is required and the 18 inch isolation valve(s) to the drywell or suppression chamber are open. (LCO 3.6.1.3) (B) (A.5) (M.6)	c. At least once per 2 years the dampers will be visually inspected and cycled to verify the dampers have no damage which renders them incapable of performing their design function. (M.7) (LA.3) (SR 3.6.1.3.11)
If these requirements cannot be met, close the drywell and suppression chamber 18 inch purge supply and exhaust isolation valve(s) or otherwise isolate the penetration(s) within 4 hours or fulfill the requirements of Specification 3.7.A.8. (ACTION A)	
B. Shutdown Requirements	
If Specification 3.7.A. cannot be met, an orderly shutdown shall be initiated and the reactor shall be brought to Hot Shutdown within 12 hours and shall be in the Cold Shutdown condition within the following 24 hours. (ACTION E)	

TECHNICAL CHANGE - MORE RESTRICTIVE

M.1 A Specification requiring drywell pressure to be ≤ 1.75 psig is being added. This is required since accident analyses, documented in the GE-NE-A00-05873-02, dated April 1994, assume this pressure at the start of an accident. Appropriate ACTIONS and Surveillance Requirements are also added. This is consistent with the BWR Standard Technical Specifications, NUREG 1433.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.9.A.2. Standby AC Power Supply (Diesel Generators 1A, 1B, and 1C) (Continued)	4.9.A.2. Standby AC Power Supply (Diesel Generators 1A, 1B, and 1C) (Continued)
a. Operability The diesel generator itself and its auxiliaries are operable. (LA.1)	a. Operability (A.2: Proposed Notes 1,3,5, 6 and 8 to SR 3.8.1.2)
	SR 3.8.1.2 — 1. Each diesel generator shall be manually started and loaded to demonstrate operational readiness in accordance with the frequency specified in Table 4.9-1 on a Staggered Test Basis.* Verify that each diesel starts from ambient condition, gradually load the generator to 1710-2000 kW** and operate for ≥ 60 minutes. A steady-state voltage of 4160 ± 420 volts and a steady-state frequency of 60 ± 1.2 Hz will be maintained. Verify the pressure in both diesel air start receivers to be ≥ 225 psig. (Proposed Note 2 to SR 3.8.1.2; L.1; L.2; M.10; L.1 proposed Note 1)
	(See Discussion of Changes for ITS 3.8.3, in this Section.)
	SR 3.8.1.5 — 2. At least once per 184 days, each diesel generator shall be started and verified to reach synchronous speed in ≤ 12 seconds, loaded to an indicated 2250-2400 kW** for 1A and 1C and 2360-2425 kW** for 1B in ≤ 120 seconds,* and operated for ≥ 60 minutes. The test will verify the diesel generator will achieve and maintain a steady-state voltage of 4160 ± 420 volts and a steady-state frequency of 60 ± 1.2 Hz.* (Proposed Note 4, A.2; proposed Note 2, L.3; M.10)

Note 4 to SR3.8.1.2 — *For the 1B (swing) diesel, a single test will satisfy the requirements for Unit 1 Specification 4.9.A.2.a.1 and Unit 2 Specification 4.8.1.1.2.a.4, with the diesel connected to one unit's emergency bus for one periodic test and connected to the emergency bus in the other unit during the next periodic test.

Note 5 to SR3.8.1.5 — A single 6-month (184-day) test for the 1B diesel will satisfy the requirements for Unit 1 Specification 4.9.A.2.a.2 and Unit 2 Specification 4.8.1.1.2.b. The 6-month test will be performed using the starting circuitry and emergency bus from one unit. The next 6-month test will be performed using the starting circuitry and emergency bus from the other unit.

Note 7 to SR3.8.1.2 and Note 3 to SR3.8.1.5 — **Momentary variations outside this band shall not invalidate the test.

ADMINISTRATIVE

A.1 Reformatting and renumbering requirements are in accordance with the BWR Standard Technical Specifications, NUREG 1433. As a result the Technical Specifications should be more readily readable, and therefore, understandable by plant operators as well as other users. During this reformatting and renumbering process, no technical changes (either actual or interpretational) to the Technical Specifications were made unless they were identified and justified. In the specific case of the Auxiliary Electrical Systems section, the new section number is 3.8. These general paragraphs in this section have been deleted since they provide general guidance that is discussed in other parts of the Technical Specifications or Bases.

A.2 Proposed Notes 1, 3, 5, 6, and 8 to SR 3.8.1.2, and Note 4 to SR 3.8.1.5 have been added. Note 1 to SR 3.8.1.2 allows SR 3.8.1.5 to satisfy SR 3.8.1.2, since it is more restrictive than SR 3.8.1.2. Note 3 to SR 3.8.1.2 allows the engine to be warmed up and gradually started. These methods are currently employed, and have been specifically added for clarity. Note 5 to SR 3.8.1.2 allows gradual loading. Note 6 to SR 3.8.1.2 allows for voltage transients prior to establishing steady state operation. Note 8 to SR 3.8.1.2 and Note 4 to SR 3.8.1.5 only allow a SR to be performed on one DG at a time. All of these are currently being performed, and have been specifically added for clarity. All of these changes are considered administrative.

A.3 The existing limitation on 18-month Surveillances to perform them "during shutdown" is more specifically presented in the proposed Surveillances. Each proposed SR contains a specific Note limiting the performance in certain MODES. While these limitations vary from SR to SR, each is consistent with the BWR Standard Technical Specifications, NUREG 1433, presentation (or bracketed option allowed based on plant specific justification) which defines the intent of "during shutdown" for each SR, and with the guidance of Generic Letter 91-04. Additionally, the Note clearly presents the practice taking credit for unplanned events, provided the necessary data is obtained. In addition, since the swing DG is common to both units, SRs that allow one SR performance to satisfy both units' requirements are allowed to be performed while one unit is not shutdown, provided the SR is being performed from the other unit. Since this is only a change in presentation, this change is considered administrative.

3.9.A.2. Standby AC Power Supply (Diesel Generators 1A, 1B, and 1C) (Continued)

b. Diesel Battery (125 Volt) (LA.1)
LCO 3.8.4.a Each 125-volt diesel battery is operable and capable of supplying the required load. (LA.1) (L.3)

c. Battery Charger (LA.1)
LCO 3.8.4.a An operable battery charger is available. Each battery charger shall have adequate capacity to restore its battery to full charge within 24 hours from a discharged condition while carrying the DC load. (LA.1)

d. Diesel Fuel
There shall be a minimum of 99,000 gallons of acceptable diesel fuel in the diesel fuel storage tanks and a minimum of 900 gallons in each diesel fuel day tank.

See Discussion of Changes for ITS: 3.8.1, in this Section.

See Discussion of Changes for ITS: 3.8.3, in this Section.

e. Fuel Oil Transfer Pumps
A fuel oil transfer pump shall be operable and capable of transferring fuel oil from the storage system to the day tank.

4.9.A.2. Standby AC Power Supply (Diesel Generators 1A, 1B, and 1C) (Continued)

b. Diesel Battery (125 Volt)
SR 3.8.4.1 and SR 3.8.4.7 Each 125-volt diesel battery shall be subjected to the same periodic surveillance as the plant batteries in Specification 4.9.A.3. (M.1) proposed SRs 3.8.4.2, 3.8.4.3, 3.8.4.4, 3.8.4.5, 3.8.4.6, 3.8.4.8

Proposed Note 1 to SR 3.8.4.7

c. Battery Charger
Indicators shall be provided to monitor the status of the battery charger supply. This instrumentation shall include indication of output current and output voltage. (LA.1) Proposed SR 3.8.4.9 (M.2)

d. Diesel Fuel

1. The quantity of diesel fuel available in each fuel storage tank and fuel day tank shall be measured and recorded concurrently with the operability test specified for the diesel in Specification 4.9.A.2.a.1.

2. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-65, is within the acceptable limits specified in Table 1 of ASTM D975-74 when checked for viscosity, water and sediment.

e. Fuel Oil Transfer Pumps

1. The operation of the diesel fuel oil transfer pumps to transfer fuel from the storage system to the day tank shall be demonstrated concurrent with the operability test specified for that diesel in Specification 4.9.A.2.a.1.

2. The operation of the diesel fuel oil transfer pumps to transfer fuel from each associated fuel storage tank to the day tank of each diesel, via the installed cross connection lines, shall be demonstrated at least once per 18 months during shutdown.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.9.A.3. 125/250 Volt DC Emergency Power System (Plant Batteries 1A and 1B)	4.9.A.3. 125/250 Volt DC Emergency Power System (Plant Batteries 1A and 1B)
LCO 3.8.4.b Both 125/250 volt plant batteries (1A and 1B) shall be operable and shall have an operable battery charger and ventilation system available for each. (A.1) (M.2) proposed LCO 3.8.4.c	(See Discussion of Changes for ITS: 3.8.6, in this Section.) a. Weekly Surveillance Every week the specific gravity and the voltage of the pilot cell and overall battery voltage shall be measured and recorded. Each 125 volt battery shall have a minimum of ~~105~~ 125 (M.3) volts at the battery terminals to be considered operable. SR 3.8.4.1
(M.1) proposed SRs 3.8.4.2, 3.8.4.3, 3.8.4.4, 3.8.4.5, 3.8.4.6, and 3.8.4.8 Proposed SR 3.8.4.9 (M.2)	b. Monthly Surveillance Every month measurements shall be made of voltage of each cell to the nearest 0.1 volt and the specific gravity of each cell. These measurements shall be recorded. Liquid level shall be checked visually.
(See Discussion of Changes for ITS: 3.8.7, in this Section.) (L.3) Proposed Note to SR 3.8.4.7	(A.2) SR 3.8.4.7 c. Refueling Outage Surveillance During each scheduled refueling outage, the batteries shall be subjected to a rated load discharge test. The specific gravity and voltage of each cell shall be determined after the discharge and recorded. (B)
4. Emergency 4160 Volt Buses (1E, 1F, and 1G) The emergency 4160 volt buses (1E, 1F, and 1G) shall be energized and operable.	4. Emergency 4160 Volt Buses (1E, 1F, and 1G) The emergency 4160 volt buses (1E, 1F, and 1G) shall be monitored to the extent that they are shown to be ready and capable of transmitting the emergency load.
5. Emergency 600 Volt Buses (1C and 1D) The emergency 600 volt buses (1C and 1D) shall be energized and operable.	5. Emergency 600 Volt Buses (1C and 1D) The emergency 600 volt buses (1C and 1D) shall be monitored to the extent that they are shown to be ready and capable of transmitting the emergency load.
6. Emergency 250 Volt DC to 600 Volt AC Inverters The emergency 250 volt DC to 600 volt AC inverters shall be energized and operable.	6. Emergency 250 Volt DC to 600 Volt AC Inverters a. The emergency 250 volt DC/600 volt AC inverters shall be monitored to the extent that they are shown to be ready and capable of transmitting the emergency load.

(See Discussion of changes for ITS: 3.5.1, in Section 3.5)

ADMINISTRATIVE

A.1 The proposed Technical Specifications present the station service and DG battery hardware components (battery and charger) in the DC sources LCO (proposed LCO 3.8.4). The battery cell parameters and DC Distribution buses are in separate LCOs (proposed LCOs 3.8.6 and 3.8.7, respectively.)

A.2 The Frequency of "each scheduled refueling outage" has been modified to be "18 months," since 18 months is a normal refueling outage schedule.

A.3 This general paragraph has been deleted since it provides general guidance that is discussed in other parts of the Technical Specifications or Bases.

A.4 The format of the proposed Technical Specifications would allow multiple Conditions to be simultaneously entered. Two or more DC sources could be inoperable, ACTIONS being taken in accordance with the Specification, and LCO 3.0.3 entry conditions not met. To preserve the existing intent for a unit shutdown, ACTION E is proposed.

TECHNICAL CHANGE - MORE RESTRICTIVE

M.1 Surveillances have been added consistent with the BWR Standard Technical Specifications. Proposed SRs 3.8.4.2, 3.8.4.3, 3.8.4.4, 3.8.4.5, 3.8.4.6, and 3.8.4.8 have been added for both the station service and DG batteries. SR 3.8.4.2 ensures the connection resistance is within limits or that no corrosion at the battery terminals is present every 92 days. SR 3.8.4.3 ensures the battery cells show no visual indication of physical damage or abnormal deterioration. SR 3.8.4.4 removes visible corrosion and coats the connections with anti-corrosion material. Both are required every 18 months. SR 3.8.4.5 ensures the connection resistance is within limits every 18 months. SR 3.8.4.6 verifies battery charger capability every 18 months. SR 3.8.4.8 requires a battery performance discharge test or a modified performance discharge test every 60 months. Also, a discharge test will be required every 12 months when a battery shows degradation or has reached 85% of expected life with capacity < 100% of manufacturer's rating and every 24 months when a battery has reached 85% of expected life with capacity ≥ 100% of manufacturer's rating. These new Surveillances are additional restrictions on plant operation.

M.2 Certain equipment needed to meet Unit 1 accident analysis is powered from Unit 2 DC sources. Currently, the Unit 2 DG DC sources are required since Unit 1 definition of OPERABILITY requires the necessary electrical power to be OPERABLE. To make the Technical Specifications more user friendly, the Unit 2 required sources have been added, similar to the already required Unit 1 sources. Since Unit 2 sources are now described, the current LCO and ACTIONS for Unit 1 sources has been modified to explicitly

TECHNICAL CHANGE - LESS RESTRICTIVE

"Generic"

LA.1 The details relating to system design and purpose have been relocated to the Bases. The design features and system operation are also described in the FSAR. Thus, the LCO has been written to require the Division 1 and 2 station service DC subsystem and the DG battery subsystems, as described in comment A.1 above. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Process in Chapter 5 of the Technical Specifications. Changes to the FSAR will be controlled by the provisions of 10 CFR 50.59.

"Specific"

L.1 The time to reach MODE 4, Cold Shutdown has been extended from 24 hours to 36 hours to provide the necessary time to shut down and cool down the plant in a controlled and orderly manner that is within the capabilities of the unit, assuming the minimum required equipment is OPERABLE. This extra time reduces the potential for a unit upset that could challenge safety systems. This time is consistent with the BWR Standard Technical Specifications, NUREG 1433.

L.2 Proposed ACTIONS A and B have been added to provide clarity as to what actions to take when a DG DC source is inoperable. The Completion Time for ACTION B (12 hours) is consistent with the proposed time (assuming both a DG and an offsite circuit are inoperable when the DC DG source is inoperable) in proposed LCO 3.8.1. ACTION A allows 7 days to restore the swing DG DC source, if it is inoperable due to SR 3.8.4.7 or SR 3.8.4.8. These two SRs result in the inoperability of the swing DG DC battery, which is common to both units. Therefore, 7 days is provided to perform the SR and return the DG to OPERABLE status. Without this allowance, a dual unit shutdown would be required to perform the SR.

L.3 A Note has been added to proposed SR 3.8.4.7 to allow the modified performance discharge test to be performed in lieu of the service test of SR 3.8.4.7. As stated in the BWR Standard Technical Specifications Bases, NUREG 1433 (proposed by NUREG change package NRC-15), this substitution is acceptable because SR 3.8.4.8 represents a more severe test of battery capacity than SR 3.8.4.7.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.12 A.2. Performance Requirements	4.12.A.2. Filter Testing
5.5.7.a 5.5.7.b a. The results of the in-place DOP and halogenated hydrocarbon tests at design flows on HEPA filters and charcoal absorber banks shall show ≥99-percent DOP removal and ≥99-percent halogenated hydrocarbon removal, respectively when tested in accordance with ANSI N510-1975. (A.2)	5.5.7 a. The tests and analysis shall be performed at least once per operating cycle, not to exceed 18 months, or after every 720 hours of system operation or following painting, fire or chemical release in any ventilation zone communicating with the system.
5.5.7.c b. The results of laboratory carbon sample analysis shall show ≥90-percent (M.2) radioactive methyl iodide removal when tested in accordance with RDT-M16-1T (25°C, 95-percent R.H.). (M.1)	5.5.7 b. DOP testing shall be performed after each complete or partial replacement of the HEPA filter bank or after any structural maintenance on the system housing.
(B) 5.5.7.d c. Fans shall be shown to operate within ±10-percent design flow when tested in accordance with ANSI N510-1975. (A.2)	5.5.7 c. Halogenated hydrocarbon testing shall be performed after each complete or partial replacement of the charcoal adsorber bank of after any structural maintenance on the system housing.

(M.2) 5.5.7.c Add Methyl iodide penetration values.

(A.1) NOTE 2 to 5.5.7

B. Isolation Valve Operability and Closing Time	B. Isolation Valve Testing
(Deleted)	(Deleted)

A.16

ANNUAL REPORTS (Continued)

6.9.1.5 Reports required on an annual basis shall include:

5.6.1 a. A tabulation on an annual basis of the number of station, utility and other personnel, including contractors, receiving exposures greater than 100 mrem/yr and their associated man rem exposure according to work and job functions,[2] e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling. The dose assignment to various duty functions may be estimates based on pocket dosimeter, TLD, or film badge measurements. Small exposures totalling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources shall be assigned to specific major work functions. (A.4 should)

5.6.4 b. Documentation of all challenges to safety/relief valves. M.1

A.5 c. The results of specific activity analysis in which the primary coolant exceeded the limits of Specification 3.6.F.1. The following information shall be included: (1) Reactor power history starting 48 hours prior to the first sample in which the limit was exceeded; (2) Results of the last isotopic analysis for radioiodine performed prior to exceeding the limit, results of analysis while limit was exceeded and results of one analysis after the radioiodine activity was reduced to less than limit. Each result should include date and time of sampling and the radioiodine concentrations; (3) Cleanup system flow history starting 48 hours prior to the first sample in which the limit was exceeded; (4) Graph of the I-131 concentration and one other radioiodine isotope concentration in microcuries per gram as a function of time for the duration of the specific activity above the steady-state level; and (5) The time duration when the specific activity of the primary coolant exceeded the radioiodine limit.

A.6 d. ~~Any other unit unique reports required on an annual basis.~~

5.6.2 ANNUAL RADIOLOGICAL ENVIRONMENTAL SURVEILLANCE REPORT[a]

5.6.2 6.9.1.6 The Annual Radiological Environmental Surveillance Report covering the radiological environmental surveillance activities related to the plant during the previous calendar year shall be submitted before May 1 (A.2: 15) of each year. The report shall include summaries, interpretations, and analyses of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in the ODCM and Sections IV.B.2, IV.B.3, and IV.C of Appendix I to 10 CFR Part 50.

INSERT 4 — M.2

B

NOTE 5.6.2 a. A single submittal may be made for a multiple-unit station. The submittal should combine those sections common to all units at the station.

5.6.1 [2]This tabulation supplements the requirements of 20.2206 of 10 CFR Part 20.

UNIT 1 NO SIGNIFICANT HAZARDS DETERMINATION

L.8 CHANGE

The No Significant Hazards Determination evaluation is provided in Georgia Power Company letter from J.T. Beckham, Jr. to the NRC, dated September 20, 1993. The NRC issued this change as Amendment 193 to the Unit 1 Technical Specifications by letter dated March 15, 1994.

NO SIGNIFICANT HAZARDS DETERMINATION
ITS: SECTION 3.3.2.1 - CONTROL ROD BLOCK INSTRUMENTATION

L.4 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, Georgia Power Company has evaluated this proposed Technical Specifications change and determined it does not involve a significant hazards consideration based on the following:

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   This change does not result in any hardware or operating procedure changes. The RBM is not assumed to be an initiator of any analyzed event. This change redefines the method for demonstrating OPERABILITY of the remaining channel when a channel is declared inoperable. Since the other channel remains OPERABLE, redefining the method by which the channel is demonstrated OPERABLE does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not necessitate a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change will only redefine the method by which the remaining channel is verified OPERABLE when the other channel is declared inoperable. Redefining the method by which a channel is demonstrated OPERABLE does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change allows credit to be taken for normal periodic surveillances as a demonstration of OPERABILITY and availability of the remaining channel. Thus, this change eliminates the requirement to perform surveillances on a channel when the other channel is declared inoperable. The periodic frequencies specified to demonstrate OPERABILITY of the remaining components have been shown to be adequate to ensure equipment OPERABILITY. As stated in NRC Generic Letter 87-09, "It is overly conservative to assume that systems or components are inoperable when a surveillance

L.4 CHANGE
(continued)

requirement has not been performed. The opposite is in fact the case; the vast majority of surveillances demonstrate the systems or components in fact are operable." Therefore, reliance on the specified surveillance intervals does not result in a reduced level of confidence concerning the equipment availability.

Therefore, reliance on the normal surveillance requirement is judged to be an equivalent testing program as compared to the requirements being deleted. Thus, this change does not involve a significant reduction in a margin of safety.

L.4 CHANGE

The No Significant Hazards Determination evaluation is provided in GPC letter from J.T. Beckham, Jr. to the NRC, dated October 19, 1993. The NRC issued this change as Amendment 191 to the Unit 1 Technical Specifications by letter dated November 24, 1993.

L.1 CHANGE
(continued)

3. Does this change involve a significant reduction in a margin of safety?

The proposed change does not involve a significant reduction in the margin of safety because leakage testing and structural limits will continue to be met based on the peak containment pressure resulting from a design basis accident. The peak containment internal pressure of 53.6 psig continues to be within the containment internal maximum allowable pressure of 62 psig. There is no requirement for the test pressure to be higher than the peak accident pressure. The proposed change to P_a will not change the accident analyses and resultant radiological consequences for a postulated LOCA. The radiological consequences continue to be within the requirements of 10 CFR 100. The use of the revised P_a will ensure that the leakage rate is measured and calculated appropriately.

L.3 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, Georgia Power Company has evaluated this proposed Technical Specifications change and determined it does not involve a significant hazards consideration based on the following:

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The DC electrical power sources are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, the performance of a modified performance discharge test in lieu of a service discharge test will not increase the probability of any accident previously evaluated. The proposed SR continues to provide adequate assurance of OPERABLE batteries, since the modified performance discharge test represents a more severe test of battery capacity than does a service discharge test. Therefore, the proposed change does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety, since the proposed substitution of the modified performance discharge test for the service discharge test continues to provide adequate indication that the battery is capable of performing its design function.

UNIT 2 IMPROVED TECHNICAL SPECIFICATIONS

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.10	Verify leakage rate through each MSIV is ≤ 100 scfh, and a combined maximum pathway leakage ≤ 250 scfh for all four main steam lines, when tested at ≥ 28.8 psig. However, the leakage rate acceptance criteria for the first test following discovery of leakage through an MSIV not meeting the 100 scfh limit, shall be ≤ 11.5 scfh for that MSIV.	-------NOTE----- SR 3.0.2 is not applicable --------------- In accordance with 10 CFR 50, Appendix J, as modified by approved exemptions
SR 3.6.1.3.11	Replace the valve seat of each 18 inch purge valve having a resilient material seat.	18 months
SR 3.6.1.3.12	Cycle each 18 inch excess flow isolation damper to the fully closed and fully open position.	18 months

3.6 CONTAINMENT SYSTEMS

3.6.1.4 Drywell Pressure

LCO 3.6.1.4 Drywell pressure shall be ≤ 1.75 psig.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Drywell pressure not within limit.	A.1 Restore drywell pressure to within limit.	1 hour
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.1.4.1 Verify drywell pressure is within limit.	12 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two or more required offsite circuits inoperable.	D.1 Declare required feature(s) with no offsite power available inoperable when the redundant required feature(s) are inoperable.	12 hours from discovery of Condition D concurrent with inoperability of redundant required feature(s)
	AND	
	D.2 Restore all but one required offsite circuit to OPERABLE status.	24 hours
E. One required offsite circuit inoperable. AND One required DG inoperable.	------------NOTE------------ Enter applicable Conditions and Required Actions of LCO 3.8.7, "Distribution Systems — Operating," when Condition E is entered with no AC power source to one 4160 V ESF bus. ----------------------------	
	E.1 Restore required offsite circuit to OPERABLE status.	12 hours
	OR	
	E.2 Restore required DG to OPERABLE status.	12 hours
F. Two or more (Unit 2 and swing) DGs inoperable.	F.1 Restore all but one Unit 2 and swing DGs to OPERABLE status.	2 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
G. Required Action and Associated Completion Time of Condition A, B, C, D, E, or F not met.	G.1	Be in MODE 3.	12 hours
	AND		
	G.2	Be in MODE 4.	36 hours
H. One or more required offsite circuits and two or more required DGs inoperable. OR Two or more required offsite circuits and one required DG inoperable.	H.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.1	Verify correct breaker alignment and indicated power availability for each required offsite circuit.	7 days
SR 3.8.1.2	-------------------NOTES------------------- 1. Performance of SR 3.8.1.5 satisfies this SR. 2. All DG starts may be preceded by an engine prelube period and followed by a warmup period prior to loading. 3. A modified DG start involving idling and gradual acceleration to synchronous speed may be used for this SR as recommended by the manufacturer. When modified start procedures are not used, the time, voltage, and frequency tolerances of SR 3.8.1.5.a must be met. 4. For the swing DG, a single test will satisfy this Surveillance for both units, using the starting circuitry of Unit 2 and synchronized to 4160 V bus 2F for one periodic test, and the starting circuitry of Unit 1 and synchronized to 4160 V bus 1F during the next periodic test. 5. DG loadings may include gradual loading as recommended by the manufacturer. 6. Starting transients above the upper voltage limit do not invalidate this test.	(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.2	NOTES (continued) 7. Momentary transients outside the load range do not invalidate this test. 8. This Surveillance shall be conducted on only one DG at a time. --- Verify each DG: a. Starts from standby conditions and achieves steady state voltage ≥ 3740 V and ≤ 4243 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz; and b. Operates for ≥ 60 minutes at a load ≥ 1710 kW and ≤ 2000 kW.	As specified in Table 3.8.1-1
SR 3.8.1.3	Verify each day tank contains ≥ 900 gallons of fuel oil.	31 days
SR 3.8.1.4	Check for and remove accumulated water from each day tank.	184 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.5	-------------------NOTES------------------- 1. All DG starts may be preceded by an engine prelube period. 2. DG loadings may include gradual loading as recommended by the manufacturer. 3. Momentary load transients outside the load range do not invalidate this test. 4. This Surveillance shall be conducted on only one DG at a time. 5. For the swing DG, a single test will satisfy this Surveillance for both units, using the starting circuitry of Unit 2 and synchronized to 4160 V bus 2F for one periodic test and the starting circuitry of Unit 1 and synchronized to 4160 V bus 1F during the next periodic test. --- Verify each DG: a. Starts from standby conditions and achieves, in ≤ 12 seconds, voltage ≥ 3740 V and frequency ≥ 58.8 Hz and after steady state conditions are reached, maintains voltage ≥ 3740 V and ≤ 4243 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz; and b. Operates for ≥ 60 minutes at a load ≥ 2764 kW and ≤ 2825 kW for DG 2A, ≥ 2360 kW and ≤ 2425 kW for DG 1B, and ≥ 2742 kW and ≤ 2825 kW for DG 2C.	184 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.6	------------------NOTE------------------ This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR. -- Verify automatic and manual transfer of unit power supply from the normal offsite circuit to the alternate offsite circuit.	 18 months
SR 3.8.1.7	------------------NOTES------------------ 1. This Surveillance shall not be performed in MODE 1 or 2, except for the swing DG. For the swing DG, this Surveillance shall not be performed in MODE 1 or 2 using the Unit 2 controls. Credit may be taken for unplanned events that satisfy this SR. 2. For the swing DG, a single test at the specified Frequency will satisfy this Surveillance for both units. -- Verify each DG rejects a load greater than or equal to the single largest post-accident load, and: a. Following load rejection, the frequency is ≤ 65.5 Hz; and b. Within 3 seconds following load rejection, the voltage is ≥ 3740 V and ≤ 4580 V.	 18 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.13	-------------------NOTES------------------- 1. This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated ≥ 2 hours loaded ≥ 2565 kW. Momentary transients outside of load range do not invalidate this test. 2. All DG starts may be preceded by an engine prelube period. 3. For the swing DG, a single test at the specified Freouency will satisfy this Surveillance for both units. --- Verify each DG starts and achieves, in ≤ 12 seconds, voltage ≥ 3740 V and frequency ≥ 58.8 Hz; and after steady state conditions are reached, maintains voltage ≥ 3740 V and ≤ 4243 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.	18 months
SR 3.8.1.14	-------------------NOTE------------------- This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. --- Verify each DG: a. Synchronizes with offsite power source while loaded with emergency loads upon a simulated restoration of offsite power; b. Transfers loads to offsite power source; and c. Returns to ready-to-load operation.	18 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.15	------------------NOTE------------------ This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. -- Verify with a DG operating in test mode and connected to its bus, an actual or simulated ECCS initiation signal overrides the test mode by: a. Returning DG to ready-to-load operation; and b. Automatically energizing the emergency load from offsite power.	18 months
SR 3.8.1.16	------------------NOTE------------------ This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. -- Verify interval between each sequenced load block is within ± 10% of design interval for each load sequence timing device.	18 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.7	--------------------NOTES-------------------- 1. The modified performance discharge test in SR 3.8.4.8 may be performed in lieu of the service test in SR 3.8.4.7. 2. This Surveillance shall not be performed in MODE 1, 2, or 3, except for the swing DG battery. However, credit may be taken for unplanned events that satisfy this SR. --- Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test.	18 months
SR 3.8.4.8	-------------------NOTE-------------------- This Surveillance shall not be performed in MODE 1, 2, or 3, except for the swing DG battery. However, credit may be taken for unplanned events that satisfy this SR. --- Verify battery capacity is ≥ 80% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	60 months AND (continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.4.8 (continued)	12 months when battery shows degradation or has reached 85% of expected life with capacity < 100% of manufacturer's rating AND 24 months when battery has reached 85% of expected life with capacity ≥ 100% of manufacturer's rating
SR 3.8.4.9 For required Unit 1 DC Sources, the SRs of Unit 1 Specification 3.8.4 are applicable.	In accordance with applicable SRs

Table 3.8.6-1 (page 1 of 2)
Battery Cell Parameter Requirements

PARAMETER	CATEGORY A: LIMITS FOR EACH DESIGNATED PILOT CELL	CATEGORY B: LIMITS FOR EACH CONNECTED CELL	CATEGORY C: LIMITS FOR EACH CONNECTED CELL
Electrolyte Level	> Minimum level indication mark, and ≤ ¼ inch above maximum level indication mark(a)	> Minimum level indication mark, and ≤ ¼ inch above maximum level indication mark(a)	Above top of plates, and not overflowing
Float Voltage	≥ 2.13 V	≥ 2.13 V	> 2.07 V
Float Charging Current	(b)	(b)	(b)

(a) It is acceptable for the electrolyte level to temporarily increase above the specified maximum level during equalizing charges provided it is not overflowing.

(b) As applicable to each battery.

3.8 ELECTRICAL POWER SYSTEMS

3.8.7 Distribution Systems — Operating

LCO 3.8.7 The following AC and DC electrical power distribution subsystems shall be OPERABLE:

a. Unit 2 Division 1 and Division 2 and the swing bus AC and DC electrical power distribution subsystems; and

b. Unit 1 AC and DC electrical power distribution subsystems needed to support equipment required to be OPERABLE by LCO 3.6.4.7, "Standby Gas Treatment (SGT) System—Operating," LCO 3.7.4, "Main Control Room Environmental Control (MCREC) System," LCO 3.7.5, "Control Room Air Conditioning (AC) System," and LCO 3.8.1, "AC Sources—Operating."

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required Unit 1 AC or DC electrical power subsystems inoperable.	A.1 Restore required Unit 1 AC and DC subsystem(s) to OPERABLE status.	7 days
B. One or more (Unit 2 or swing bus) DG DC electrical power distribution subsystems inoperable.	B.1 Restore DG DC electrical power distribution subsystem to OPERABLE status.	12 hours <u>AND</u> 16 hours from discovery of failure to meet LCO 3.8.7.a

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. One or more (Unit 2 or swing bus) AC electrical power distribution subsystems inoperable.	C.1	Restore AC electrical power distribution subsystem to OPERABLE status.	8 hours AND 16 hours from discovery of failure to meet LCO 3.8.7.a
D. One Unit 2 station service DC electrical power distribution subsystem inoperable.	D.1	Restore Unit 2 station service DC electrical power distribution subsystem to OPERABLE status.	2 hours AND 16 hours from discovery of failure to meet LCO 3.8.7.a
E. Required Action and associated Completion Time of Condition A, B, C, or D not met.	E.1	Be in MODE 3.	12 hours
	AND		
	E.2	Be in MODE 4.	36 hours
F. Two or more electrical power distribution subsystems inoperable that result in a loss of function.	F.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify correct breaker alignments and voltage to required AC and DC electrical power distribution subsystems.	7 days

UNIT 2 IMPROVED BASES

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.1.2.5 and SR 3.3.1.2.6 (continued)

Although the Surveillance could be performed while on IRM Range 3, the plant would not be expected to maintain steady state operation at this power level. In this event, the 12 hour Frequency is reasonable, based on the SRMs being otherwise verified to be OPERABLE (i.e., satisfactorily performing the CHANNEL CHECK) and the time required to perform the Surveillances.

SR 3.3.1.2.7

Performance of a CHANNEL CALIBRATION at a Frequency of 18 months verifies the performance of the SRM detectors and associated circuitry. The Frequency considers the plant conditions required to perform the test, the ease of performing the test, and the likelihood of a change in the system or component status. The neutron detectors are excluded from the CHANNEL CALIBRATION (Note 1) because they cannot readily be adjusted. The detectors are fission chambers that are designed to have a relatively constant sensitivity over the range and with an accuracy specified for a fixed useful life.

Note 2 to the Surveillance allows the Surveillance to be delayed until entry into the specified condition of the Applicability. The SR must be performed in MODE 2 within 12 hours of entering MODE 2 with IRMs on Range 2 or below. The allowance to enter the Applicability with the 18 month Frequency not met is reasonable, based on the limited time of 12 hours allowed after entering the Applicability and the inability to perform the Surveillance while at higher power levels. Although the Surveillance could be performed while on IRM Range 3, the plant would not be expected to maintain steady state operation at this power level. In this event, the 12 hour Frequency is reasonable, based on the SRMs being otherwise verified to be OPERABLE (i.e., satisfactorily performing the CHANNEL CHECK) and the time required to perform the Surveillances.

REFERENCES

1. NRC Safety Evaluation Report for Amendment 125, April 30, 1993.

B 3.3 INSTRUMENTATION

B 3.3.2.1 Control Rod Block Instrumentation

BASES

BACKGROUND

Control rods provide the primary means for control of reactivity changes. Control rod block instrumentation includes channel sensors, logic circuitry, switches, and relays that are designed to ensure that specified fuel design limits are not exceeded for postulated transients and accidents. During high power operation, the rod block monitor (RBM) provides protection for control rod withdrawal error events. During low power operations, control rod blocks from the rod worth minimizer (RWM) enforce specific control rod sequences designed to mitigate the consequences of the control rod drop accident (CRDA). During shutdown conditions, control rod blocks from the Reactor Mode Switch — Shutdown Position Function ensure that all control rods remain inserted to prevent inadvertent criticalities.

The purpose of the RBM is to limit control rod withdrawal if localized neutron flux exceeds a predetermined setpoint during control rod manipulations. It is assumed to function to block further control rod withdrawal to preclude a MCPR Safety Limit (SL) violation. The RBM supplies a trip signal to the Reactor Manual Control System (RMCS) to appropriately inhibit control rod withdrawal during power operation above the low power range setpoint. The RBM has two channels, either of which can initiate a control rod block when the channel output exceeds the control rod block setpoint. One RBM channel inputs into one RMCS rod block circuit and the other RBM channel inputs into the second RMCS rod block circuit. The RBM channel signal is generated by averaging a set of local power range monitor (LPRM) signals at various core heights surrounding the control rod being withdrawn. A signal from one average power range monitor (APRM) channel assigned to each Reactor Protection System (RPS) trip system supplies a reference signal for the RBM channel in the same trip system. This reference signal is used to determine which RBM range setpoint (low, intermediate, or high) is enabled. If the APRM is indicating less than the low power range setpoint, the RBM is automatically bypassed. The RBM is also automatically bypassed if a peripheral control rod is selected (Ref. 1). A rod block signal is also generated if an RBM Downscale trip or an Inoperable trip occurs. The Downscale trip will occur if the RBM channel signal

(continued)

BASES

BACKGROUND (continued)

decreases below the Downscale trip setpoint after the RBM signal has been normalized. The Inoperable trip will occur during the nulling (normalization) sequence if: the RBM channel fails to null, too few LPRM inputs are available, a module is not plugged in, or the function switch is moved to any position other than "Operate." The Bypass Time Delay ensures that the normalized signal is passed to the trip logic within the appropriate time. The delay is between the time the signal is nulled to the reference and the signal is passed to the trip logic.

(continued)

BASES

BACKGROUND (continued)

The purpose of the RWM is to control rod patterns during startup and shutdown, such that only specified control rod sequences and relative positions are allowed over the operating range from all control rods inserted to 10% RTP. The sequences effectively limit the potential amount and rate of reactivity increase during a CRDA. Prescribed control rod sequences are stored in the RWM, which will initiate control rod withdrawal and insert blocks when the actual sequence deviates beyond allowances from the stored sequence. The RWM determines the actual sequence based position indication for each control rod. The RWM also uses feedwater flow and steam flow signals to determine when the reactor power is above the preset power level at which the RWM is automatically bypassed (Ref. 2). The RWM is a single channel system that provides input into both RMCS rod block circuits.

With the reactor mode switch in the shutdown position, a control rod withdrawal block is applied to all control rods to ensure that the shutdown condition is maintained. This Function prevents inadvertent criticality as the result of a control rod withdrawal during MODE 3 or 4, or during MODE 5 when the reactor mode switch is required to be in the shutdown position. The reactor mode switch has two channels, each inputting into a separate RMCS rod block circuit. A rod block in either RMCS circuit will provide a control rod block to all control rods.

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

1. Rod Block Monitor

The RBM is designed to prevent violation of the MCPR SL and the cladding 1% plastic strain fuel design limit that may result from a single control rod withdrawal error (RWE) event. The analytical methods and assumptions used in evaluating the RWE event are summarized in Reference 3. A statistical analysis of RWE events was performed to determine the RBM response for both channels for each event. From these responses, the fuel thermal performance as a function of RBM Allowable Value was determined. The Allowable Values are chosen as a function of power level. Based on the specified Allowable Values, operating limits are established.

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

1. Rod Block Monitor (continued)

The RBM Function satisfies Criterion 3 of the NRC Policy Statement (Ref. 9).

Two channels of the RBM are required to be OPERABLE, with their setpoints within the appropriate Allowable Values, to ensure that no single instrument failure can preclude a rod block from this Function. The setpoints are calibrated consistent with applicable setpoint methodology (nominal trip setpoint).

Nominal trip setpoints are specified in the setpoint calculations. The nominal setpoints are selected to ensure that the setpoints do not exceed the Allowable Values between successive CHANNEL CALIBRATIONS. Operation with a trip setpoint less conservative than the nominal trip setpoint, but within its Allowable Value, is acceptable. Trip setpoints are those predetermined values of output at which an action should take place. The setpoints are compared to the actual process parameter (e.g., reactor power), and when the measured output value of the process parameter exceeds the setpoint, the associated device (e.g., trip unit) changes state. The analytic limits are derived from the limiting values of the process parameters obtained from the safety analysis. The Allowable Values are derived from the analytic limits, corrected for calibration, process, and some of the instrument errors. The trip setpoints are then determined accounting for the remaining instrument errors (e.g., drift). The trip setpoints derived in this manner provide adequate protection because instrumentation uncertainties, process effects, calibration tolerances, instrument drift, and severe environmental effects (for channels that must function in harsh environments as defined by 10 CFR 50.49) are accounted for.

The RBM is assumed to mitigate the consequences of an RWE event when operating ≥ 29% RTP. Below this power level, the consequences of an RWE event will not exceed the MCPR SL and, therefore, the RBM is not required to be OPERABLE (Ref. 3). When operating < 90% RTP, analyses (Ref. 3) have shown that with an initial MCPR ≥ 1.70, no RWE event will result in exceeding the MCPR SL. Also, the analyses demonstrate that when operating at ≥ 90% RTP with MCPR ≥ 1.40, no RWE event will result in exceeding the MCPR

(continued)

ACTIONS

A.1 and A.2 (continued)

restore the activity level provides a reasonable time for temporary coolant activity increases (iodine spikes or crud bursts) to be cleaned up with the normal processing systems.

A Note to the Required Actions of Condition A excludes the MODE change restriction of LCO 3.0.4. This exception allows entry into the applicable MODE(S) while relying on the ACTIONS even though the ACTIONS may eventually require plant shutdown. This exception is acceptable due to the significant conservatism incorporated into the specific activity limit, the low probability of an event which is limiting due to exceeding this limit, and the ability to restore transient specific activity excursions while the plant remains at, or proceeds to power operation.

B.1, B.2.1, B.2.2.1, and B.2.2.2

If the DOSE EQUIVALENT I-131 cannot be restored to ≤ 0.2 μCi/gm within 48 hours, or if at any time it is > 4.0 μCi/gm, it must be determined at least once every 4 hours and all the main steam lines must be isolated within 12 hours. Isolating the main steam lines precludes the possibility of releasing radioactive material to the environment in an amount that is not well within the requirements of 10 CFR 100 during a postulated MSLB accident. Alternatively, the plant can be placed in MODE 3 within 12 hours and in MODE 4 within 36 hours. This option is provided for those instances when isolation of main steam lines is not desired (e.g., due to the decay heat loads). In MODE 4, the requirements of the LCO are no longer applicable.

The Completion Time of once every 4 hours is the time needed to take and analyze a sample. The 12 hour Completion Time is reasonable, based on operating experience, to isolate the main steam lines in an orderly manner and without challenging plant systems. Also, the allowed Completion Times for Required Actions B.2.2.1 and B.2.2.2 for placing the unit in MODES 3 and 4 are reasonable, based on operating experience, to achieve the required plant conditions from

(continued)

BASES

ACTIONS	B.1, B.2.1, B.2.2.1, and B.2.2.2 (continued) full power conditions in an orderly manner and without challenging plant systems.
SURVEILLANCE REQUIREMENTS	SR 3.4.6.1 This Surveillance is performed to ensure iodine remains within limit during normal operation. The 7 day Frequency is adequate to trend changes in the iodine activity level. This SR is modified by a Note that requires this Surveillance to be performed only in MODE 1 because the level of fission products generated in other MODES is much less.
REFERENCES	1. 10 CFR 100.11. 2. FSAR, Section 15.1.40. 3. NEDE-24011-P-A-9-US, "GE Standard Application for Reactor Fuel," Supplement for United States, September 1988. 4. NRC No. 93-102, "Final Policy Statement on Technical Specification Improvements," July 23, 1993.

B 3.6 CONTAINMENT SYSTEMS

B 3.6.1.1 Primary Containment

BASES

BACKGROUND

The function of the primary containment is to isolate and contain fission products released from the Reactor Primary System following a Design Basis Accident (DBA) and to confine the postulated release of radioactive material. The primary containment consists of a steel lined, reinforced concrete vessel, which surrounds the Reactor Primary System and provides an essentially leak tight barrier against an uncontrolled release of radioactive material to the environment.

The isolation devices for the penetrations in the primary containment boundary are a part of the containment leak tight barrier. To maintain this leak tight barrier:

a. All penetrations required to be closed during accident conditions are either:

   1. capable of being closed by an OPERABLE automatic containment isolation system, or

   2. closed by manual valves, blind flanges, or de-activated automatic valves secured in their closed positions, except as provided in LCO 3.6.1.3, "Primary Containment Isolation Valves (PCIVs);"

b. The primary containment air lock is OPERABLE, except as provided in LCO 3.6.1.2, "Primary Containment Air Lock"; and

c. All equipment hatches are closed.

This Specification ensures that the performance of the primary containment, in the event of a DBA, meets the assumptions used in the safety analyses of References 1 and 2. SR 3.6.1.1.1 leakage rate requirements are in conformance with 10 CFR 50, Appendix J (Ref. 3), as modified by approved exemptions.

(continued)

BASES (continued)

APPLICABLE SAFETY ANALYSES

The safety design basis for the primary containment is that it must withstand the pressures and temperatures of the limiting DBA without exceeding the design leakage rate.

The DBA that postulates the maximum release of radioactive material within primary containment is a LOCA. In the analysis of this accident, it is assumed that primary containment is OPERABLE such that release of fission products to the environment is controlled by the rate of primary containment leakage.

Analytical methods and assumptions involving the primary containment are presented in References 1 and 2. The safety analyses assume a nonmechanistic fission product release following a DBA, which forms the basis for determination of offsite doses. The fission product release is, in turn, based on an assumed leakage rate from the primary containment. OPERABILITY of the primary containment ensures that the leakage rate assumed in the safety analyses is not exceeded.

The maximum allowable leakage rate for the primary containment (L_a) is 1.2% by weight of the containment air per 24 hours at the maximum peak containment pressure (P_a) of 48.7 psig (Ref. 1).

Primary containment satisfies Criterion 3 of the NRC Policy Statement (Ref. 4).

LCO

Primary containment OPERABILITY is maintained by limiting leakage to less than L_a, except prior to the first startup after performing a required 10 CFR 50, Appendix J, leakage test. At this time, the combined Type B and C leakage must be < 0.6 L_a, and the overall Type A leakage must be < 0.75 L_a. Compliance with this LCO will ensure a primary containment configuration, including equipment hatches, that is structurally sound and that will limit leakage to those leakage rates assumed in the safety analyses.

Individual leakage rates specified for the primary containment air lock are addressed in LCO 3.6.1.2.

(continued)

BASES

BACKGROUND (continued)	containment leakage rate to within limits in the event of a DBA. Not maintaining air lock integrity or leak tightness may result in a leakage rate in excess of that assumed in the unit safety analysis.
APPLICABLE SAFETY ANALYSES	The DBA that postulates the maximum release of radioactive material within primary containment is a LOCA. In the analysis of this accident, it is assumed that primary containment is OPERABLE, such that release of fission products to the environment is controlled by the rate of primary containment leakage. The primary containment is designed with a maximum allowable leakage rate (L_a) of 1.2% by weight of the containment air per 24 hours at the calculated maximum peak containment pressure (P_a) of 48.7 psig (Ref. 2). This allowable leakage rate forms the basis for the acceptance criteria imposed on the SRs associated with the air lock. Primary containment air lock OPERABILITY is also required to minimize the amount of fission product gases that may escape primary containment through the air lock and contaminate and pressurize the secondary containment. The primary containment air lock satisfies Criterion 3 of the NRC Policy Statement (Ref. 4).
LCO	As part of primary containment, the air lock's safety function is related to control of containment leakage rates following a DBA. Thus, the air lock's structural integrity and leak tightness are essential to the successful mitigation of such an event. The primary containment air lock is required to be OPERABLE. For the air lock to be considered OPERABLE, the air lock interlock mechanism must be OPERABLE, the air lock must be in compliance with the Type B air lock leakage test, and both air lock doors must be OPERABLE. The interlock allows only one air lock door to be opened at a time. This provision ensures that a gross breach of primary containment does not exist when primary containment is required to be

(continued)

BASES

LCO (continued)

OPERABLE. Closure of a single door in each air lock is sufficient to provide a leak tight barrier following postulated events. Nevertheless, both doors are kept closed when the air lock is not being used for normal entry and exit from primary containment.

APPLICABILITY

In MODES 1, 2, and 3, a DBA could cause a release of radioactive material to primary containment. In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, the primary containment air lock is not required to be OPERABLE in MODES 4 and 5 to prevent leakage of radioactive material from primary containment.

ACTIONS

The ACTIONS are modified by Note 1, which allows entry and exit to perform repairs of the affected air lock component. If the outer door is inoperable, then it may be easily accessed to repair. If the inner door is the one that is inoperable, however, then a short time exists when the containment boundary is not intact (during access through the outer door). The allowance to open the OPERABLE door, even if it means the primary containment boundary is temporarily not intact, is acceptable due to the low probability of an event that could pressurize the primary containment during the short time in which the OPERABLE door is expected to be open. The OPERABLE door must be immediately closed after each entry and exit.

The ACTIONS are modified by a second Note, which ensures appropriate remedial measures are taken, if necessary, if air lock leakage results in exceeding overall containment leakage rate acceptance criteria. Pursuant to LCO 3.0.6, actions are not required, even if primary containment is exceeding its leakage limit. Therefore, the Note is added to require ACTIONS for LCO 3.6.1.1, "Primary Containment," to be taken in this event.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.1.3.10 (continued)

The Frequency is required by 10 CFR 50, Appendix J, as modified by approved exemptions; thus, SR 3.0.2 (which allows Frequency extensions) does not apply.

SR 3.6.1.3.11

The valve seats of each 18 inch purge valve (supply and exhaust) having resilient material seats must be replaced every 18 months. This will allow the opportunity for repair before gross leakage failure develops. The 18 month Frequency is based on engineering judgment and operational experience which shows that gross leakage normally does not occur when the valve seats are replaced on an 18 month Frequency.

SR 3.6.1.3.12

The Surveillance Requirement provides assurance that the excess flow isolation dampers can close following an isolation signal. The 18 month Frequency is based on vendor recommendations and engineering judgment. Operating experience has shown that these dampers usually pass the Surveillance when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

REFERENCES

1. FSAR, Chapter 15.
2. Technical Requirements Manual.
3. FSAR, Section 15.1.39.
4. FSAR, Section 6.2.
5. 10 CFR 50, Appendix J.
6. NRC No. 93-102, "Final Policy Statement on Technical Specification Improvements," July 23, 1993.

B 3.6 CONTAINMENT SYSTEMS

B 3.6.1.4 Drywell Pressure

BASES

BACKGROUND	The drywell pressure is limited during normal operations to preserve the initial conditions assumed in the accident analysis for a Design Basis Accident (DBA) or loss of coolant accident (LOCA).
APPLICABLE SAFETY ANALYSES	Primary containment performance is evaluated for the entire spectrum of break sizes for postulated LOCAs (Ref. 1). Among the inputs to the DBA is the initial primary containment internal pressure (Ref. 1). Analyses assume an initial drywell pressure of 1.75 psig. This limitation ensures that the safety analysis remains valid by maintaining the expected initial conditions and ensures that the peak LOCA drywell internal pressure does not exceed the maximum allowable of 62 psig. The maximum calculated drywell pressure occurs during the reactor blowdown phase of the DBA, which assumes an instantaneous recirculation line break. The calculated peak drywell pressure for this limiting event is 48.7 psig (Ref. 1). Drywell pressure satisfies Criterion 2 of the NRC Policy Statement (Ref. 2).
LCO	In the event of a DBA, with an initial drywell pressure ≤ 1.75 psig, the resultant peak drywell accident pressure will be maintained below the drywell design pressure.
APPLICABILITY	In MODES 1, 2, and 3, a DBA could cause a release of radioactive material to primary containment. In MODES 4

(continued)

BASES (continued)

LCO

Two primary containment hydrogen recombiners must be OPERABLE. This ensures operation of at least one primary containment hydrogen recombiner subsystem in the event of a worst case single active failure.

Operation with at least one primary containment hydrogen recombiner subsystem ensures that the post-LOCA hydrogen concentration can be prevented from exceeding the flammability limit.

APPLICABILITY

In MODES 1 and 2, the two primary containment hydrogen recombiners are required to control the hydrogen concentration within primary containment below its flammability limit of 4.0 v/o following a LOCA, assuming a worst case single failure.

In MODE 3, both the hydrogen production rate and the total hydrogen produced after a LOCA would be less than that calculated for the DBA LOCA. Also, because of the limited time in this MODE, the probability of an accident requiring the primary containment hydrogen recombiner is low. Therefore, the primary containment hydrogen recombiner is not required in MODE 3.

In MODES 4 and 5, the probability and consequences of a LOCA are low due to the pressure and temperature limitations in these MODES. Therefore, the primary containment hydrogen recombiner is not required in these MODES.

ACTIONS

A.1

With one primary containment hydrogen recombiner inoperable, the inoperable recombiner must be restored to OPERABLE status within 30 days. In this Condition, the remaining OPERABLE recombiner is adequate to perform the hydrogen control function. However, the overall reliability is reduced because a single failure in the OPERABLE recombiner could result in reduced hydrogen control capability. The 30 day Completion Time is based on the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit, the amount of time available after the event for operator action

(continued)

BASES

ACTIONS

A.1 (continued)

to prevent exceeding this limit, and the low probability of failure of the OPERABLE primary containment hydrogen recombiner.

Required Action A.1 has been modified by a Note indicating that the provisions of LCO 3.0.4 are not applicable. As a result, a MODE change is allowed when one recombiner is inoperable. This allowance is provided because of the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit, the low probability of the failure of the OPERABLE subsystem, and the amount of time available after a postulated LOCA for operator action to prevent exceeding the flammability limit.

B.1 and B.2

With two primary containment hydrogen recombiners inoperable, the ability to perform the hydrogen control function via alternate capabilities must be verified by administrative means within 1 hour. The alternate hydrogen control capabilities are provided by the Primary Containment Purge System or the Nitrogen Inerting System. The 1 hour Completion Time allows a reasonable period of time to verify that a loss of hydrogen control function does not exist. In addition, the alternate hydrogen control system capability must be verified once per 12 hours thereafter to ensure its continued availability. Both the initial verification and all subsequent verifications may be performed as an administrative check by examining logs or other information to determine the availability of the alternate hydrogen control system. It does not mean to perform the Surveillances needed to demonstrate OPERABILITY of the alternate hydrogen control system. If the ability to perform the hydrogen control function is maintained, continued operation is permitted with two hydrogen recombiners inoperable for up to 7 days. Seven days is a reasonable time to allow two hydrogen recombiners to be inoperable because the hydrogen control function is maintained and because of the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.2 (continued)

Note 6 modifies the Surveillance by stating that starting transients above the upper voltage limit do not invalidate this test.

Notes 7 modifies this Surveillance by stating that momentary load transients because of changing bus loads do not invalidate this test.

Note 8 indicates that this Surveillance is required to be conducted on only one DG at a time in order to avoid common cause failures that might result from offsite circuit or grid perturbations.

The normal 31 day Frequency for SR 3.8.1.2 (see Table 3.8.1-1, "Diesel Generator Test Schedule") is consistent with Regulatory Guide 1.108 (Ref. 9). This Frequency provides adequate assurance of DG OPERABILITY, while minimizing degradation resulting from testing.

SR 3.8.1.3

This SR provides verification that the level of fuel oil in the day tank is at or above the level at which fuel oil is automatically added. The level is expressed as an equivalent volume in gallons, and is selected to ensure adequate fuel oil for a minimum of 1 hour of DG operation at full load plus 10%. The actual amount required to meet the SR (900 gallons) will provide approximately 3.5 hours of DG operation at full load.

The 31 day Frequency is adequate to ensure that a sufficient supply of fuel oil is available, since low level alarms are provided and operators would be aware of any large uses of fuel oil during this period.

SR 3.8.1.4

Microbiological fouling is a major cause of fuel oil degradation. There are numerous bacteria that can grow in fuel oil and cause fouling, but all must have a water environment in order to survive. Removal of water from the fuel oil day tanks once every 184 days eliminates the necessary environment for bacterial survival.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.4 (continued)

This is a means of controlling microbiological fouling. In addition, it eliminates the potential for water entrainment

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.4 (continued)

in the fuel oil during DG operation. Water in the day tank may come from condensation, rain water, contaminated fuel oil, and breakdown of the fuel oil by bacteria. Checking for and removal of accumulated water minimizes fouling and provides data regarding the watertight integrity of the fuel oil system. The Surveillance Frequency is based on engineering judgment and has shown to be acceptable through operating experience. This SR is for preventive maintenance. The presence of water does not necessarily represent a failure of this SR provided that accumulated water is removed during performance of this Surveillance.

SR 3.8.1.5

This SR helps to ensure the availability of the standby electrical power supply to mitigate DBAs and transients and maintain the unit in a safe shutdown condition. This Surveillance verifies that the DGs are capable of a "fast cold" start, synchronizing, and accepting a load more closely simulating accident loads. A minimum run time of 60 minutes is required to stabilize engine temperatures, while minimizing the time that the DG is connected to the offsite source.

SR 3.8.1.5 requires that, at a 184 day Frequency, the DG starts from standby conditions and achieves required voltage and frequency within 12 seconds. The 12 second start requirement supports the assumptions in the design basis LOCA analysis of FSAR, Chapter 6 (Ref. 4).

For the purposes of this testing, the DGs are started from standby conditions. Standby conditions for a DG mean that the diesel engine coolant and oil are being continuously circulated and temperature is being maintained consistent with manufacturer recommendations.

Although no power factor requirements are established by this SR, the DG is normally operated at a power factor between 0.8 lagging and 1.0. The 0.8 value is the design rating of the machine, while 1.0 is an operational limitation.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.5 (continued)

The 184 day Frequency for SR 3.8.1.5 is a reduction in cold testing consistent with Generic Letter 84-15 (Ref. 7). This Frequency provides adequate assurance of DG OPERABILITY, while minimizing degradation resulting from testing.

To minimize the wear on moving parts that do not get lubricated when the engine is not running, this SR has been modified by a Note (Note 1) to indicate that all DG starts for this Surveillance may be preceded by an engine prelube period and followed by a warmup prior to loading.

Note 2 modifies this Surveillance to indicate that diesel engine runs for this Surveillance may include gradual loading, as recommended by the manufacturer, so that mechanical stress and wear on the diesel engine are minimized.

Note 3 modifies this Surveillance by stating that momentary voltage or load transients because of changing bus loads do not invalidate this test.

Note 4 indicates that this Surveillance is required to be conducted on only one DG at a time in order to avoid common cause failures that might result from offsite circuit or grid perturbations.

To minimize testing of the swing DG, Note 5 allows a single test (instead of two tests, one for each unit) to satisfy the requirements for both units, with the DG started using the starting circuitry of one unit and synchronized to the ESF bus of that unit for one periodic test and started using the starting circuitry of the other unit and synchronized to the ESF bus of that unit during the next periodic test. This is allowed since the main purpose of the Surveillance, to ensure DG OPERABILITY, is still being verified on the proper frequency, and each unit's starting circuitry and breaker control circuitry, which is only being tested every second test (due to the staggering of the tests), historically have a very low failure rate. If the swing DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.1.6

Transfer of each 4.16 kV ESF bus power supply from the normal offsite circuit to the alternate offsite circuit demonstrates the OPERABILITY of the alternate circuit distribution network to power the shutdown loads. The 18 month Frequency of the Surveillance is based on engineering judgment taking into consideration the plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths.

Operating experience has shown that these components usually pass the SR when performed on the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

This SR is modified by a Note. The reason for the Note is that, during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR.

This Surveillance tests the applicable logic associated with the Unit 2 swing bus. The comparable test specified in the Unit 1 Technical Specifications tests the applicable logic associated with the Unit 1 swing bus. Consequently, a test must be performed within the specified Frequency for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1 or 2 does not have applicability to Unit 1. As the Surveillance represents separate tests, the Unit 2 Surveillance should not be performed with Unit 2 in MODE 1 or 2 and the Unit 1 test should not be performed with Unit 1 in MODE 1 or 2.

SR 3.8.1.7

Each DG is provided with an engine overspeed trip to prevent damage to the engine. Recovery from the transient caused by the loss of a large load could cause diesel engine overspeed, which, if excessive, might result in a trip of the engine. This Surveillance demonstrates the DG load response characteristics and capability to reject the largest single load without exceeding predetermined voltage and frequency and while maintaining a specified margin to

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.7 (continued)

the overspeed trip. The largest single load for each DG is a residual heat removal service water pump at rated flow (1225 bhp). This Surveillance may be accomplished by either a.) tripping the DG output breaker with the DG carrying greater than or equal to the largest single load while paralleled to offsite power or while solely supplying the bus, or b.) tripping the largest single load with the DG solely supplying the bus. Although Plant Hatch Unit 2 is not committed to IEEE-387-1984, (Ref. 11), this SR is consistent with the IEEE-387-1984 requirement that states the load rejection test is acceptable if the increase in diesel speed does not exceed 75% of the difference between synchronous speed and the overspeed trip setpoint, or 15% above synchronous speed, whichever is lower. For all DGs, this represents 65.5 Hz, equivalent to 75% of the difference between nominal speed and the overspeed trip setpoint.

The voltage and frequency specified are consistent with the nominal range for the DG. SR 3.8.1.7.a corresponds to the maximum frequency excursion, while SR 3.8.1.7.b is the voltage to which the DG must recover following load rejection. The 18 month Frequency is consistent with the recommendation of Regulatory Guide 1.108 (Ref. 9).

This SR is modified by two Notes. The reason for Note 1 is that, during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR.

In order to ensure that the DG is tested under load conditions that are as close to design basis conditions as possible, testing is performed with only the DG providing power to the associated 4160 V ESF bus. The DG is not synchronized with offsite power.

To minimize testing of the swing DG, Note 2 allows a single test (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.7 (continued)

the test on either unit (no unit specific DG components are being tested). If the swing DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.1.8

This Surveillance demonstrates the DG capability to reject a full load without overspeed tripping or exceeding the predetermined voltage limits. The DG full load rejection may occur because of a system fault or inadvertent breaker tripping. This Surveillance ensures proper engine generator load response under the simulated test conditions. This test simulates the loss of the total connected load that the DG experiences following a full load rejection and verifies that the DG does not trip upon loss of the load. These acceptance criteria provide DG damage protection. While the DG is not expected to experience this transient during an event, and continues to be available, this response ensures that the DG is not degraded for future application, including reconnection to the bus if the trip initiator can be corrected or isolated.

In order to ensure that the DG is tested under load conditions that are as close to design basis conditions as possible, testing must be performed using a power factor ≤ 0.88. This power factor is chosen to be representative of the actual design basis inductive loading that the DG would experience.

The 18 month Frequency is consistent with the recommendation of Regulatory Guide 1.108 (Ref. 9) and is intended to be consistent with expected fuel cycle lengths.

This SR is modified by four Notes. Note 1 states that momentary transients due to changing bus loads do not invalidate this test. The reason for Note 2 is that during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that would challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR. Note 3 is provided in recognition that if the offsite electrical power distribution system is lightly loaded (i.e., system voltage is high), it may not be possible to raise voltage without creating an overvoltage condition on the ESF bus. Therefore, to ensure the bus voltage, supplied ESF loads, and DG are not placed in an unsafe condition during this test, the power factor limit does not have to be met if grid voltage or ESF bus loading does not permit the power factor limit to be met when the DG is tied to the

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.3.7 (continued)

system is intact, the fuel delivery piping is not obstructed, and the controls and control systems for manual fuel transfer are OPERABLE.

Since the fuel oil transfer pumps are being tested on a 31 day Frequency in accordance with SR 3.8.3.5, the 18 month Frequency has been determined to be acceptable based on engineering judgement and operating experience.

REFERENCES

1. FSAR, Section 9.5.4.
2. FSAR, Chapter 6.
3. FSAR, Chapter 15.
4. NRC No. 93-102, "Final Policy Statement of Technical Specification Improvements," July 23, 1993.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.4 DC Sources — Operating

BASES

BACKGROUND

The DC electrical power system provides the AC emergency power system with control power. It also provides both motive and control power to selected safety related equipment. As required by 10 CFR 50, Appendix A, GDC 17 (Ref. 1), the DC electrical power system is designed to have sufficient independence, redundancy, and testability to perform its safety functions, assuming a single failure. The DC electrical power system also conforms to the recommendations of Regulatory Guide 1.6 (Ref. 2) and IEEE-308 (Ref. 3).

The station service DC power sources provide both motive and control power to selected safety related and nonsafety related equipment. Each DC subsystem is energized by one 125/250 V station service battery and three 125 V battery chargers (two normally inservice chargers and one standby charger). Each battery is exclusively associated with a single 125/250 VDC bus. Each set of battery chargers exclusively associated with a 125/250 VDC subsystem cannot be interconnected with any other 125/250 VDC subsystem. The normal and backup chargers are supplied from the same AC load groups for which the associated DC subsystem supplies the control power. The loads between the redundant 125/250 VDC subsystem are not transferable except for the Automatic Depressurization System, the logic circuits and valves of which are normally fed from the Division 1 DC system.

The diesel generator (DG) DC power sources provide control and instrumentation power for their respective DG and their respective offsite circuit supply breakers. In addition, DG 2A power source provides circuit breaker control power for the respective Division I loads on 4160 VAC buses 2E and 2F, and DG 2C power source provides circuit breaker control power for the respective Division II loads on 4160 VAC buses 2F and 2G. Each DG DC subsystem is energized by one 125 V battery and two 125 V battery chargers (one normally inservice charger and one standby charger).

(continued)

BASES

BACKGROUND (continued)

During normal operation, the DC loads are powered from the respective station service and DG battery chargers with the batteries floating on the system.

(continued)

BASES

ACTIONS

C.1 (continued)

If one of the required DC electrical power subsystems is inoperable (e.g., inoperable battery, inoperable battery charger(s), or inoperable battery charger and associated inoperable battery), the remaining DC electrical power subsystems have the capacity to support a safe shutdown and to mitigate an accident condition. Since a subsequent postulated worst case single failure could result in the loss of minimum necessary DC electrical subsystems to mitigate a postulated worst case accident, continued power operation should not exceed 2 hours. The 2 hour Completion Time is based on Regulatory Guide 1.93 (Ref. 7) and reflects a reasonable time to assess unit status as a function of the inoperable DC electrical power subsystem and, if the DC electrical power subsystem is not restored to OPERABLE status, to prepare to effect an orderly and safe unit shutdown.

D.1 and D.2

If the DC electrical power subsystem cannot be restored to OPERABLE status within the required Completion Time, the unit must be brought to a MODE in which the LCO does not apply. To achieve this status, the unit must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. The Completion Time to bring the unit to MODE 4 is consistent with the time required in Regulatory Guide 1.93 (Ref. 7).

E.1

Condition E corresponds to a level of degradation in the DC electrical power subsystems that causes a required safety function to be lost. When more than one DC source is lost, and this results in the loss of a required function, the plant is in a condition outside the accident analysis. Therefore, no additional time is justified for continued operation. LCO 3.0.3 must be entered immediately to commence a controlled shutdown.

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.8.4.1

Verifying battery terminal voltage while on float charge for the batteries helps to ensure the effectiveness of the charging system and the ability of the batteries to perform their intended function. Float charge is the condition in which the charger is supplying the continuous charge required to overcome the internal losses of a battery (or battery cell) and maintain the battery (or a battery cell) in a fully charged state. Voltage requirements are based on the nominal design voltage of the battery and are consistent with the initial voltages assumed in the battery sizing calculations. The voltage requirement for battery terminal voltage is based on the open circuit voltage of a lead-calcium cell of nominal 1.215 specific gravity. Without regard to other battery parameters, this voltage is indicative of a battery that is capable of performing its required safety function. The 7 day Frequency is consistent with manufacturer's recommendations and IEEE-450 (Ref. 8).

SR 3.8.4.2

Visual inspection to detect corrosion of the battery cells and connections, or measurement of the resistance of each inter-cell, inter-rack, inter-tier, and terminal connection, provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance.

The connection resistance limits are established to maintain connection resistance as low as reasonably possible to minimize the overall voltage drop across the battery and the possibility of battery damage due to heating of connections. The resistance values for each battery connection are located in the Technical Requirements Manual (Reference 9).

The Frequency for these inspections, which can detect conditions that can cause power losses due to resistance heating, is 92 days. This Frequency is considered acceptable based on operating experience related to detecting corrosion trends.

SR 3.8.4.3

Visual inspection of the battery cells, cell plates, and battery racks provides an indication of physical damage or

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BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.3 (continued)

abnormal deterioration that could potentially degrade battery performance.

The 18 month Frequency of the Surveillance is based on engineering judgment, taking into consideration the desired plant conditions to perform the Surveillance. Operating experience has shown that these components usually pass the SR when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

SR 3.8.4.4 and SR 3.8.4.5

Visual inspection and resistance measurements of inter-cell, inter-rack, inter-tier, and terminal connections provides an indication of physical damage or abnormal deterioration that could indicate degraded battery condition. The anti-corrosion material is used to help ensure good electrical connections and to reduce terminal deterioration. The visual inspection for corrosion is not intended to require removal of and inspection under each terminal connection.

The removal of visible corrosion is a preventive maintenance SR. The presence of visible corrosion does not necessarily represent a failure of this SR, provided visible corrosion is removed during performance of this Surveillance.

The connection resistance limits are established to maintain connection resistance as low as reasonably possible to minimize the overall voltage drop across the battery and the possibility of battery damage due to heating of connections. The resistance values for each battery connection are located in the Technical Requirements Manual (Reference 9).

The 18 month Frequency of the Surveillances is based on engineering judgment, taking into consideration the desired plant conditions to perform the Surveillance. Operating experience has shown that these components usually pass the SR when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.4.6

Battery charger capability requirements are based on the design capacity of the chargers (Ref. 4). According to Regulatory Guide 1.32 (Ref. 10), each battery charger supply is required to be based on the largest combined demands of the various steady state loads and the charging capacity to restore the battery from the design minimum charge state to the fully charged state, irrespective of the status of the unit during these demand occurrences. The minimum required amperes and duration ensures that these requirements can be satisfied.

The Frequency is acceptable, given the unit conditions required to perform the test and the other administrative controls existing to ensure adequate charger performance during these 18 month intervals. In addition, this Frequency is intended to be consistent with expected fuel cycle lengths.

SR 3.8.4.7

A battery service test is a special test of the battery's capability, as found, to satisfy the design requirements (battery duty cycle) of the DC electrical power system. The discharge rate and test length corresponds to the design duty cycle requirements as specified in Reference 4.

The Frequency of 18 months is consistent with the recommendations of Regulatory Guide 1.32 (Ref. 10) and Regulatory Guide 1.129 (Ref. 11), which state that the battery service test should be performed during refueling operations or at some other outage, with intervals between tests not to exceed 18 months.

This SR is modified by two Notes. Note 1 allows the performance of a modified performance discharge test in lieu of a service test.

The modified performance discharge test is a simulated duty cycle consisting of just two rates: the 1 minute rate published for the battery or the largest current load of the duty cycle, followed by the test rate employed for the performance test, both of which envelope the duty cycle of the service test. Since the ampere-hours removed by a rated

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.7 (continued)

1 minute discharge represent a very small portion of the battery capacity, the test rate can be changed to that for the performance test without compromising the results of the performance discharge test. The battery terminal voltage for the modified performance discharge test should remain above the minimum battery terminal voltage specified in the battery service test for the duration of time equal to that of the service test.

A modified performance discharge test is a test of the battery capacity and its ability to provide a high rate, short duration load (usually the highest rate of the duty cycle). This will often confirm the battery's ability to meet the critical period of the load duty cycle, in addition to determining its percentage of rated capacity. Initial conditions for the modified performance discharge test should be identical to those specified for a service discharge test.

The reason for Note 2 is that performing the Surveillance would remove a required DC electrical power subsystem from service, perturb the electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy the Surveillance. The

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.7 (continued)

swing DG DC battery is exempted from this restriction, since it is required by both units' LCO 3.8.4 and cannot be performed in the manner required by the Note without resulting in a dual unit shutdown.

SR 3.8.4.8

A battery performance discharge test is a constant current capacity test to detect any change in the capacity determined by the acceptance test. Initial conditions consistent with IEEE 450 need to be met prior to the performing a battery performance discharge test. The test results reflect the overall effects of usage and age.

A battery modified performance discharge test is described in the Bases for SR 3.8.4.7. Either the battery performance discharge test or the modified performance discharge test is acceptable for satisfying SR 3.8.4.8; however, only the modified performance discharge test may be used to satisfy SR 3.8.4.8, while satisfying the requirements of SR 3.8.4.7 at the same time.

The acceptance criteria for this Surveillance is consistent with IEEE-450 (Ref. 8) and IEEE-485 (Ref. 12). These references recommend that the battery be replaced if its capacity is below 80% of the manufacturer's rating. Although there may be ample capacity, the battery rate of deterioration is rapidly increasing.

The Frequency for this test is normally 60 months. If the battery shows degradation, or if the battery has reached 85% of its expected application service life and capacity is ≤ 100% of the manufacturers rating, the Surveillance Frequency is reduced to 12 months. However, if the battery shows no degradation but has reached 85% of its expected application service life, the Surveillance Frequency is only reduced to 24 months for batteries that retain capacity ≥ 100% of the manufacturer's rating. Degradation is indicated, according to IEEE-450 (Ref. 8), when the battery capacity drops by more than 10% of rated capacity from its capacity on the previous performance test or is more than 10% below the manufacturer's rating. All these Frequencies are consistent with the recommendations in IEEE-450 (Ref. 8).

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.8 (continued)

This SR is modified by a Note. The reason for the Note is that performing the Survellance would remove a required DC electrical power subsystem from service, perturb the electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy the Surveillance. The swing DG DC battery is exempted from this restriction, since it is required by both

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.8 (continued)

units' LCO 3.8.4 and cannot be performed in the manner required by the Note without resulting in a dual unit shutdown.

SR 3.8.4.9

With the exception of this Surveillance, all other Surveillances of this Specification (SR 3.8.4.1 through SR 3.8.4.8) are applied only to the Unit 2 DC sources. This Surveillance is provided to direct that the appropriate Surveillances for the required Unit 1 DC sources are governed by the Unit 1 Technical Specifications. Performance of the applicable Unit 1 Surveillances will satisfy both any Unit 1 requirements, as well as satisfying this Unit 2 Surveillance Requirement.

The Frequency required by the applicable Unit 1 SR also governs performance of that SR for both Units.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 17.
2. Regulatory Guide 1.6.
3. IEEE Standard 308 - 1971.
4. FSAR, Sections 8.3.2.1.1 and 8.3.2.1.2
5. FSAR, Chapter 6.
6. FSAR, Chapter 15.
7. Regulatory Guide 1.93, December 1974.
8. IEEE Standard 450 - 1987.
9. Technical Requirements Manual.
10. Regulatory Guide 1.32, February 1977.
11. Regulatory Guide 1.129, December 1974.

(continued)

UNIT 2 MARKUP OF CURRENT TECHNICAL SPECIFICATIONS AND DISCUSSION OF CHANGES

TECHNICAL CHANGE - LESS RESTRICTIVE
(continued)

L.7 Applicability has been modified to only require RPS functions to be operable in Mode 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies. In addition, proposed ACTION H for MODE 5 only requires action to be initiated to fully insert control rods in core cells containing one or more fuel assemblies. Control rods withdrawn from or inserted into a core cell containing no fuel assemblies have a negligible impact on the reactivity of the core and therefore are not required to be operable with the capability to scram. Provided all rods otherwise remain inserted, the RPS functions serve no purpose and are not required. In this condition the required shutdown margin (LCO 3.1.1) and the required one-rod-out interlock (LCO 3.9.2) ensure no event requiring RPS will occur. The Actions for inoperable equipment in Mode 5 are also revised to be consistent with the proposed Applicability. Since all control rods are required to be fully inserted during fuel movement (LCO 3.9.1), the proposed applicable conditions cannot be entered while moving fuel. The only possible core alteration is control rod withdrawal which is adequately addressed by the proposed action.

L.8 The IRMs are added to the current exception to SR 4.0.4 (current Note d) since they are also required in Mode 2, but not in Mode 1, and the required surveillance cannot be performed in Mode 1 (prior to entry in the applicable Mode 2) without utilizing jumpers or lifted leads. Use of these devices is not recommended since minor errors in their use may significantly increase the probability of a reactor transient or event which is a precursor to a previously analyzed accident. Therefore, time is allowed to conduct the SR after entering the applicable mode. This frequency is consistent with the frequency for the APRMs which have similar function and surveillance requirements.

L.9 These surveillance tests are required to be performed periodically (quarterly) while in the applicable MODES. The required periodic Frequency has been determined to be sufficient verification that the APRMs are properly functioning. Performing a reactor startup does not impact the ability of the monitors to perform their required function. Therefore, an additional surveillance required to be performed "prior to a reactor startup" is an extraneous and unnecessary performance of a surveillance.

L.10 The CHANNEL FUNCTIONAL TEST (CFT) requirement for the float type switches has been extended from quarterly to once per 18 months. This new Frequency will reduce radiation exposure to plant personnel performing this Surveillance. The NRC issued this change as Amendment 133 to the Unit 2 TS by letter dated March 15, 1994. Analysis has also been performed (GENE-770-25-1092) that shows a negligible impact on safety with the Surveillance being performed every 18 months instead of the current 3 months. Since the CFT is part of a CHANNEL CALIBRATION (per the definition), and a CHANNEL CALIBRATION requirement is specified every 18 months (proposed SR 3.3.1.2.13), an actual CFT SR is not provided.

TECHNICAL CHANGE - LESS RESTRICTIVE

L.2
(continued)

capable of providing the necessary protection, thus, 72 hours provides time to repair the inoperable assembly and decreases the potential for a unit upset (that could result when power supplies are shifted, since power is initially lost to the RPS trip system and either RPS bus powered components). The time extension for two inoperable assemblies is minimal but necessary to allow consideration of plant conditions, available personnel and the appropriate actions.

L.3 A Note has been added to this Surveillance such that the Surveillance is only required to be performed when the unit is in MODE 4 ≥ 24 hours. Thus, the 184 day Frequency would not have to be met until a shutdown to MODE 4 ≥ 24 hours occurs. The performance of this Surveillance could result in half-scrams, actual valve isolations, and other plant perturbations, since if the assembly opens, power is lost. The test requirement has been changed to allow it to be performed while shutdown to minimize the impact of this Surveillance on plant operation. This is consistent with many of the of the more recently licensed BWRs and the BWR Standard Technical Specifications, NUREG 1433.

L.4 The time delay setting for the undervoltage trip has been extended from zero to ≤ 4 seconds. In addition, a time delay setting has been provided for the overvoltage and underfrequency trips. The NRC issued this change as Amendment 130 to the Unit 2 TS by letter dated November 24, 1993.

TECHNICAL CHANGE - MORE RESTRICTIVE

M.1 (continued)

This existing action would allow a startup and control rod withdrawal from cold conditions (e.g., < 212°F). Should leakages above limits be discovered while operating, the existing Action is non-specific as to the appropriate action to take. The proposed Actions provide the appropriate operational restriction, which is consistent in limitation and time to the existing LCO 3.0.3.

Therefore the proposed presentation and associated Actions for containment leakage rate beyond limits and structural integrity not within limits will result in establishing and maintaining the reactor in a cold shutdown, all-rods-in, condition until the leakage or structural integrity is corrected; resulting in increased safety to the allowances of the existing Action.

M.2 A Surveillance Frequency has been added. If this test fails two consecutive times, then it must be performed every 9 months (versus the current 18 months) until the test passes two consecutive times. This is an additional restriction on plant operation.

TECHNICAL CHANGE - LESS RESTRICTIVE

"Generic"

LA.1 Appendix J of 10 CFR 50 delineates certain requirements that must be within Technical Specifications, and others that are allowed to be detailed within the Bases of the Technical Specifications. The value of P_a, L_T and P_T are ones that Appendix J allows to be presented in the Bases. Based on the allowance of the regulation, P_a is proposed to be delineated in the Bases. L_T and P_T are not used at Plant Hatch for containment tests and will not be placed in the Bases. Future changes to P_a would be governed by 10 CFR 50.59 changes to the plant design basis for post-accident peak containment pressure. Refer to comment L.1 below for a description of the change to P_a.

"Specific"

L.1 The value for P_a is being lowered to 48.7 psig. P_a is defined in the Technical Specifications as the peak containment internal pressure that is used for 10 CFR 50 Appendix J (leakage testing) purposes. The peak containment internal pressure, as related to 10 CFR 50 Appendix J, has traditionally been the calculated maximum pressure following a large break, |

TECHNICAL CHANGE - LESS RESTRICTIVE

L.1 (continued)

design basis Loss of Coolant Accident (LOCA). For Hatch Unit 2, this break also results in the highest Final Safety Analysis Report (FSAR) analyzed accident pressures. The current Mark I Containment Long-Term Program analyses regarding the containment temperature and pressure responses following a LOCA are documented in Unit 2 FSAR Section 6.2.1.4. In addition, a more recent analysis, which increased the containment normal operating pressure limit from 0.75 psig to 1.75 psig is documented in GE-NE-A00-05873-02, dated April 1994.

The Hatch Unit 2 containment pressure response, due to a postulated design basis LOCA, was re-evaluated as part of the Mark I Containment Long-Term Program and is documented in NEDO-24569. The purpose of the Mark I Containment Long-Term Program was to "perform a complete reassessment of the suppression chamber (torus) design..." according to Appendix A of NUREG-0661. As a part of this complete reassessment, the Mark I Containment Long-Term Program included plant unique analyses of the containment LOCA pressure response using the Homogeneous Equilibrium Model (HEM) for vessel blowdown described in NEDO-21052 and the containment response model described in NEDO-10320. These plant-unique analyses and results were provided to the NRC in Georgia Power Company's letter dated January 26, 1983 (with later supplements) and approved by the NRC in a Safety Evaluation Report dated January 25, 1984. These approved analyses resulted in significantly lower inside containment peak pressures than submitted in the original FSAR. Subsequent to NRC approval, the Hatch Unit 2 FSAR was updated to reflect the new analyses and their results.

Since the Georgia Power Company Mark I Containment Long-Term Program submittal, revisions have been made to certain parameters used in the model to account for the Extended Operating Domain Analyses with reduced feedwater temperature. This revision has resulted in slightly higher peak containment LOCA analyses pressures from those presented in the 1983 submittal. Through the 10 CFR 50.59 safety evaluation process, the FSAR was updated to reflect these results. The current LOCA analyses, provided in the FSAR section referenced above, result in peak containment internal pressures of 46.7 psig for Unit 2.

As indicated in NEDO-24569, the peak containment pressure calculations for a design basis LOCA assumed an initial pressure of 0.75 psig. This limit corresponds to the containment pressure limit in current Unit 2 Specification 3.6.1.6. Also, the peak containment LOCA pressure is higher than the analyzed peak containment pressure for a Main Steam Line Break or small break LOCA inside containment.

TECHNICAL CHANGE - LESS RESTRICTIVE

L.1 (continued)

As indicated in GE-NE-A00-05873-02, the containment initial pressure was evaluated to be insreased to 1.75 psig. The evaluation addressed the following issues:

- Short-term DBA-LOCA containment pressure and temperature
- Long-term DBA-LOCA containment pressure and temperature
- LOCA containment hydrodynamic loads
- Safety/relief valve loads
- Appendix J containment leakage requirements
- Other issues not related to this P_a change.

Based on the result of these evaluations, it was determined that the value of P_a, determined by the Mark I Containment Long-Term Program, should be increased by 2 psig to 48.7 psig.

Therefore, the peak containment internal pressure value of 48.7 psig for Unit 2 forms an acceptable basis for structural integrity as identified in the Proposed Bases of the Technical Specifications. This pressure is significantly less than the containment design pressure of 56 psig and the ASME Code allowable of 62 psig.

TECHNICAL CHANGE - LESS RESTRICTIVE
(continued)

L.5 The phrase "actual or," in reference to the automatic isolation signal, has been added to the surveillance requirement for verifying that each PCIV actuates on an automatic isolation signal. This allows satisfactory automatic PCIV isolations for other than surveillance purposes to be used to fulfill the surveillance requirements. Operability is adequately demonstrated in either case since the PCIV itself cannot discriminate between "actual" or "simulated" signals.

L.6 Comment number not used.

L.7 It is proposed that the PCIV position check surveillance for manual isolation valves and blind flanges inside primary containment not be required to be performed each COLD SHUTDOWN unless the primary containment has been de-inerted. Without this exception to the normal requirement for performing this test, the primary containment would be required to be de-inerted solely to perform this test. This scenario would then also require the air lock door seal test be performed within the next 72 hours; creating unnecessary containment entries, cycling of the door seals, and man-power for testing. All these activities are generated to verify the position of valves secured in position in a very controlled area; an area which cannot be entered without major coordination and planning when inerted (and is almost never entered when inerted).

L.8 The allowable leakage limit has been increased to 100 scfh per MSIV and a combined maximum pathway leakage of ≤ 250 scfh for all four main steam lines has been added. The NRC issued this change as Amendment 132 to the Unit 2 TS by letter dated March 17, 1994.

L.9 An allowance is proposed for intermittently opening, under administrative control, closed primary containment isolation valves (other than the four valves discussed in A.1). The allowance is presented in proposed ACTIONS Note 1, and in Note 2 to SR 3.6.1.3.2 and SR 3.6.1.3.3. Opening of primary containment penetrations on an intermittent basis is required for performing surveillances, repairs, routine evolutions, etc.

PRIMARY CONTAINMENT INTERNAL PRESSURE

Specification 3.6.1.4

LIMITING CONDITION FOR OPERATION

LCO 3.6.1.4

3.6.1.6 ~~Primary containment~~ Drywell internal pressure shall ~~not exceed 0~~ be ≤ 1.75 psig.* ~~*~~

L.1 M.1 REV B

APPLICABILITY: CONDITIONS 1, 2 and 3.

ACTION:

Action A: With the ~~primary containment~~ Drywell internal pressure in excess of the specified limit, restore the internal pressure to within the limit within 1 hour or be
Action B: in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

SR 3.6.1.4.1

4.6.1.6 The ~~primary containment~~ Drywell internal pressure shall be determined to be less than or equal to ~~0~~ 1.75 psig at least once per 12 hours.

L.1 REV B

A.1

~~*Except when performing the test required by Specification 4.6.4.1.b or the Special Startup Test authorized by Amendment No. 2, or when either inerting or de-inerting (purging) primary containment as required by 3.6.6.4.~~

M.1 REV B

DISCUSSION OF CHANGES
ITS: SECTION 3.6.1.4 - DRYWELL PRESSURE

ADMINISTRATIVE

A.1 These allowances have been deleted. The first allowance is not needed since the specific Surveillance has been deleted (refer to ITS Section 3.6.1.8 for a Discussion of Changes for the deletion of the SR). The special Startup Test allowance has been deleted since the test is completed. Therefore, these deletions are considered administrative.

TECHNICAL CHANGE - MORE RESTRICTIVE

M.1 The allowance to exceed the drywell pressure limit during inerting and de-inerting has been deleted. This is an additional restriction on plant operation.

TECHNICAL CHANGE - LESS RESTRICTIVE

L.1 The drywell pressure limit is being increased to 1.75 psig. The current Technical Specifications limit for drywell pressure is 0.75 psig, which is the initial containment pressure value assumed in the safety analysis. An evaluation, GE-NE-A00-05873-02, dated April 1994, was performed to permit increasing the limit to 1.75 psig. This evaluation, which was reviewed and confirmed by Georgia Power Company, addresses the following issues that are affected by the pressure increase:

- Short-term DBA-LOCA containment pressure and temperature
- Long-term DBA-LOCA containment pressure and temperature
- Net positive suction head (NPSH) for pumps taking suction from the suppression pool
- LOCA containment hydrodynamic loads
- Safety/relief valve (S/RV) loads
- Appendix J containment leakage requirements
- Environmental Qualification (EQ)
- Anticipated transient without scram (ATWS)

TECHNICAL CHANGE - LESS RESTRICTIVE

L.1
(continued)

A. Short-Term DBA-LOCA Containment Pressure and Temperature

The analyses used as the basis for the FSAR short-term DBA-LOCA containment pressure and temperature used an initial drywell and wetwell pressure of 0.75 psig. Therefore, an increase in the initial (maximum operating) drywell and wetwell pressures of 1.75 psig is expected to produce an increase in the peak drywell pressure relative to the value obtained with an initial pressure of 0.75 psig.

The short-term drywell peak pressure is controlled by the break flow rate, the vent flow resistance, and the vent backpressure at the time of the peak drywell pressure. The vent backpressure at the time of the peak drywell pressure is established by the sum of the wetwell pressure at the time of the peak drywell pressure and the hydrostatic head at the vent exit. The wetwell pressure is established by the amount of non-condensible gas transferred from the drywell to the wetwell during the blowdown, by the suppression pool temperature at the time of the peak drywell pressure, and by the initial wetwell pressure.

If it is conservatively assumed that all noncondensible gas in the drywell has been transferred to the wetwell by the time of the peak drywell pressure, since the drywell volume is of similar size to the wetwell airspace volume. The increase in the wetwell pressure (and thus, the increase in the vent backpressure) at the time of peak drywell pressure will also be approximately equal to the sum of the increases in the initial drywell and wetwell pressures. Consequently, the increase in the peak drywell pressure will also be approximately equal to the sum of the increases in the initial drywell and wetwell pressures. Therefore, for a 1.0 psi increase in the initial drywell and wetwell pressures, the estimated increase in the peak short-term drywell pressure is 2.0 psi.

This estimate was confirmed by reviewing the results of a short-term analysis conducted for a similar plant with a Mark I Containment. The results of this analysis show that an increase in both the initial drywell and wetwell pressures from 0.75 to 2.0 psig results in < 1 psi increase in the peak drywell pressure. The current peak calculated drywell pressure is

TECHNICAL CHANGE - LESS RESTRICTIVE

L.1
(continued)

46.7 psig, and with a 2 psi increase, is well below the design pressure of 56 psig. (A 7 psi margin still remains.)

The peak drywell temperature during the DBA-LOCA is established by the saturation temperature at the peak drywell pressure. The short-term drywell temperature response (prior to initiation of drywell spray) will be controlled by the superheated steam temperature corresponding to the drywell pressure. For a 2 psi increase, the effect would be an approximate 2°F increase in the peak temperature. The current peak calculated drywell temperature is 290°F, and with a 2°F increase, is well below the design structural temperature of 340°F. (A 48°F margin still remains.) An increase in the initial pressure to 1.75 psig will have a negligible effect on the short-term DBA-LOCA wetwell temperature, since the wetwell temperature is controlled by the suppression pool temperature.

B. Long-Term DBA-LOCA Containment Pressure and Temperature

FSAR Figure 6.2-25 shows that approximately 0.7 psig was used as the initial value for the drywell and wetwell pressure. The long-term DBA-LOCA drywell and wetwell pressures are approximately equal due to operation of the suppression chamber-to-drywell vacuum breakers. The vacuum breakers are designed to fully open following a DBA-LOCA when drywell pressure drops below the vacuum breaker setpoint of 0.5 psid. This occurs when the blowdown phase of the LOCA is terminated and cold ECCS water overflows from the vessel into the drywell, cooling and depressurizing the drywell. In the long-term, this effect on the drywell and wetwell pressures due to an increase in the initial drywell and wetwell pressures will be less than the effect on the short-term pressures. This is due to the redistribution of noncondensible gases between the wetwell and the drywell after the suppression chamber-to-drywell vacuum breakers open. Therefore, long-term pressures are expected to increase by the change in the initial drywell pressure (or wetwell pressure, given that the two are equal), or approximately 1 psi, not accounting for temperature changes in the drywell and wetwell airspaces during the event.

If the increase due to long-term drywell and wetwell airspaces heatup is considered, the additional incremental effect on the

TECHNICAL CHANGE - LESS RESTRICTIVE

L.1
(continued)

long-term pressures will be small (about 0.2 psi). A conservative assumption is that the long-term pressure increase is the same as the short-term pressure increase. Since the current long-term peak DBA-LOCA pressure is 14 psig, a 2 psi increase is still well below the design pressure of 56 psig. (A margin of 40 psi still remains.) In addition, the long-term DBA-LOCA peak drywell and wetwell temperatures (after initiation of drywell sprays), which are controlled by the saturation temperature corresponding to the drywell conditions, will be negligibly affected by the initial pressure increase. (Conservatively, the temperature increase will be 2°F, similar to the short-term DBA-LOCA temperature increase.)

C. Net Positive Suction Head (NPSH) for Pumps Taking Suction from the Suppression Pool

The parameters which affect available NPSH are suppression pool temperature, suppression pool water level, and wetwell airspace pressure. The effect of the increase in the initial pressure is an increase in the wetwell airspace during pump operation. This increase in the wetwell airspace pressure will result in an increase in the available NPSH. Therefore, there is no adverse impact on available NPSH of increasing the initial drywell pressure limit.

D. LOCA Containment Hydrodynamic Loads

The defined LOCA hydrodynamic loads are loads due to pool swell, vent thrust, condensation oscillation, and chugging.

The dominant input parameters for the pool swell tests include the drywell pressurization rate to the time of vent clearing, vent flow resistance, vent submergence, and initial drywell-to-wetwell pressure difference. The drywell pressurization rate is a function of the vessel break flow, and the drywell and vent volumes. These are negligibly affected by the initial drywell pressure. The pool swell tests are based on a zero drywell-to-wetwell pressure difference. Based on sensitivity studies, higher values of initial drywell-to-wetwell pressure differences will result in lower pool swell loads. This is due to the reduction in the vent water leg and, therefore, in the pressure required to clear the vents. The other remaining dominant parameters (vent resistance and vent submergence) are not expected during normal operation, the pool swell design loads

TECHNICAL CHANGE - LESS RESTRICTIVE

L.1
(continued)

will not be adversely impacted by the increase in drywell pressure.

Vent thrust loads result from imbalances and flow momentum changes in the vent system. The dominant parameters which affect the vent thrust loads include vessel break flow, vent geometry (and flow resistance), and the resulting drywell-to-wetwell pressure differences and flow rates throughout the vent system. The 1 psi increase in the drywell and wetwell pressures will have a negligible effect on break flow and vent flow resistance. Since the drywell-to-wetwell pressure differences and flow rates are controlled by the vent resistance and vessel break flow, the expected effect on these parameters will also be negligible.

The condensation oscillation and chugging loads are affected by steam mass and energy flux through the vents (which is a function of break flow rate and vent configuration), air content of the vent flow, and suppression pool water temperature. The 1 psi increase in initial drywell pressure will slightly increase the air content in the vent flow. This will tend to have a mitigating effect on the steam condensation loads due to condensation oscillation and chugging. The other parameters will be negligibly affected. Therefore, the initial pressure increase will not have an adverse impact on the condensation oscillation and chugging design loads.

E. Safety/Relief Valve (S/RV) Loads

The S/RV loads defined include loads on the S/RV discharge line (SRVDL) piping and the hydrodynamic loads on the torus.

Loads on the SRVDL piping during S/RV actuation will be mainly controlled by the S/RV opening setpoint, S/RV flow rate, SRVDL geometry, and the water leg in the SRVDL. An increase in the wetwell pressure relative to the pipe pressure prior to S/RV actuation could delay water clearing and increase pressure loads in the pipe. However, the SRVDLs are equipped with vacuum breakers in the drywell portion of the piping. An increase in the wetwell operating pressure will produce a similar increase in the SRVDL pressure prior to S/RV actuation. Therefore, the effect of an increase in the wetwell pressure on the S/RV piping

TECHNICAL CHANGE - LESS RESTRICTIVE

L.1
(continued)

loads will be negligible since the drywell-to-wetwell pressure difference is normally greater than or equal to zero.

The effect of wetwell and SRVDL pipe pressures before S/RV actuation on peak torus pressures was examined during the 1/4 scale S/RV tests. The pipe initial pressure will not be lower than the wetwell initial pressure due to the vacuum breakers on the SRVDL. The tests show that peak torus pressures are relatively insensitive to initial wetwell and pipe pressures.

F. Appendix J Containment Leakage Requirements

The Surveillance and leakage rate requirements are based on and in conformance with 10 CFR 50, Appendix J. The value of P_a used in testing is proposed to be 48.7 psig, which includes the 2 psi increase in peak pressure due to the initial drywell pressure increase from 0.75 psig to 1.75 psig. Therefore, this increase in initial drywell pressure will not adversely impact the leakage rate requirements since they are also being modified to account for the change. In addition, the current Technical Specifications value for P_a is 57.5 psig, which is greater than the actual peak pressure, even accounting for the 2 psi increase.

G. Environmental Qualification (EQ)

Based on a review of the current EQ pressure envelope, the EQ pressure envelope bounds the current peak calculated pressures. Generally, margins in the pressure envelope are greater than 2 psi. However, there are regions on the envelope where the margins are less than 2 psi, such as where the pressure envelope was set equal to the small steam line break drywell pressure (near 1800 seconds) and near 20 seconds and 10^6 seconds where the EQ envelope equals the calculated DBA-LOCA containment pressure. Based on engineering judgment, this small increase will not adversely impact EQ of components inside containment, since the time that the EQ envelope is exceeded is very small.

The effect of a 2 psi increase on short-term and long-term drywell temperature responses is estimated to be approximately 2°F, as described earlier. A review of the current EQ temperature curves shows that there are generally large margins to the temperature EQ envelope. The only exception is near 150

TECHNICAL CHANGE - LESS RESTRICTIVE

L.1
(continued)

G. Environmental Qualification (EQ) (continued)

seconds where the EQ envelope equals the drywell temperature calculated for the 0.5 ft^2 steam line break. In this instance, it has been determined by engineering judgement, that this small conservative increase will not adversely impact the EQ of components inside containment, since the time that the EQ envelope is exceeded is small.

H. Anticipated Transient Without Scram (ATWS)

GE document NEDO-24222 provides the results of generic studies of ATWS events, including the calculated pool temperature and containment pressure response. The results of this study for a plant similar in design to Hatch Unit 2 for ATWS with a two pump standby liquid control system (similar to the Hatch Unit 2 design) and without alternate rod insertion (which Hatch Unit 2 employs) show that the peak containment pressure is 11 psig. With a 2 psi increase, the peak pressure is still well below the design pressure of 56 psig. (A 43 psi margin still remains.)

Based on the results of the evaluations described above, an increase in the drywell initial pressure limit from 0.75 psig to 1.75 psig will not result in exceeding any design margins. In addition, while there are small time periods of the EQ envelope where an increase in the initial drywell pressure limit may result in exceeding the EQ pressure and temperature envelopes by small amounts, it has been determined that this will not adversely impact EQ requirements.

TECHNICAL CHANGE - LESS RESTRICTIVE

"Specific"

L.1 This Specification is being deleted. The NRC issued this change as Amendment 132 to the Unit 2 TS by letter dated March 17, 1994.

SURVEILLANCE REQUIREMENTS (Continued)

moved to LCO 3.8.3 A.10

6. Verifying the pressure in both diesel air start receivers to be ≥ 225 psig.

L.8 SR3.8.1.5 proposed Note 1 proposed Note 4 proposed Note 2 L9 A.4 M.8

b. At least once per 184 days by verifying the diesel starts from ambient condition and accelerates to synchronous speed in ≤ 12 seconds is loaded to 2764-2825 kW* for diesel generator 2A, 2360-2425 kW* for diesel generator 1B, and 2742-2825 kW* for diesel generator 2C in ≤ 120 seconds, achieves and maintains a steady-state voltage of 4160 ± 420 volts and a steady-state frequency of 60 ± 1.2 HZ, and operates for ≥ 60 minutes thereafter.**

moved to LCO 3.8.3 A.10

c. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-65, is within the acceptable limits specified in Table 1 of ASTM D975-74 when checked for viscosity, water and sediment.

d. At least once per 18 months during shutdown by: A.5

LA.2

1. Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.***

Note 3 to SR3.8.1.5 *Momentary variations outside this band shall not invalidate the test.

Note 5 to SR3.8.1.5 **A single 6-month (184-day) test for the 1B diesel will satisfy the requirements for Unit 1 Specification 4.9.A.2.a.2 and Unit 2 Specification 4.8.1.1.2.b. The 6-month test will be performed using the starting circuitry and emergency bus for one unit. The next 6-month test will be performed using the starting circuitry and emergency bus from the other unit.

LA.2 ***For the 1B diesel generator, a single diesel inspection every 18 months will satisfy the requirements of Unit 1 Specification 4.9.A.2.a.3 and Unit 2 Specification 4.8.1.1.2.d.1.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

SR 3.8.1.16 2. Verifying that the automatic load sequence timer is OPERABLE with the interval between each load block within ± 10% of its design interval.

SR 3.8.1.7 3. Verifying the diesel generator capability to reject its largest single shutdown (emergency) load while maintaining voltage at 4160 ± 420 volts. For diesel generator 2A, this will be the 2A Residual Heat Removal Service Water (RHRSW) pump at rated flow; for diesel generator 1B this would be either the 1C or 2C RHRSW pump at rated flow; for diesel generator 2C this would be either the 2B or 2D RHRSW pump at rated flow. During these load rejection tests, the diesel generator shall not exceed the nominal speed plus 75% of the difference between nominal speed and the overspeed trip setpoint, or 15% above nominal speed, which ever is lower.* LA.3 A.6

Note 2 to SR 3.8.1.7

*For the 1B diesel generator a single partial load rejection test every 18 months will satisfy the requirements of Unit 1 Specification 4.9.A.2.a.4 and Unit 2 Specification 4.8.1.1.2.d.3.

DISCUSSION OF CHANGES
ITS: SECTION 3.8.1 - AC SOURCES—OPERATING

ADMINISTRATIVE

A.1 The details relating to the required day tank level have been moved to a Surveillance Requirement (proposed SR 3.8.1.3). No technical changes are being made; therefore, this change is considered administrative in nature.

A.2 AC sources are considered a support system to the Distribution System (proposed LCO 3.8.7). In the event AC Sources are inoperable such that a distribution subsystem were inoperable, the proposed LCO 3.0.6 would allow taking only the AC Sources ACTIONS; taking exception to taking the AC Distribution System ACTIONS. Since the AC Sources ACTIONS are not sufficiently conservative in this event, specific direction to take appropriate ACTIONS for the Distribution System is added (proposed Note to ACTION E). This format and construction implements the existing treatment of this condition within the framework of Improved Technical Specification methods.

A.3 The format of the proposed Technical Specifications would allow multiple Conditions to be simultaneously entered. Three or more sources could be inoperable, ACTIONS being taken in accordance with the Specification, and LCO 3.0.3 entry conditions not met. To preserve the existing intent for LCO 3.0.3 entry, ACTION H is proposed.

A.4 Proposed Notes 1, 3, 5, 6, and 8 to SR 3.8.1.2, and Note 4 to SR 3.8.1.5 have been added. Note 1 to SR 3.8.1.2 allows SR 3.8.1.5 to satisfy SR 3.8.1.2, since it is more restrictive than SR 3.8.1.2. Note 3 to SR 3.8.1.2 allows the engine to be warmed up and gradually started. These methods are currently employed, and have been specifically added for clarity. Note 5 to SR 3.8.1.2 allows gradual loading. Note 6 to SR 3.8.1.2 allows for voltage transients prior to establishing steady state operation. Note 8 to SR 3.8.1.2 and Note 4 to SR 3.8.1.5 allow a SR to be performed on only one DG at a time. All of these are currently being performed, and have been specifically added for clarity. All of these changes are considered administrative in nature.

A.5 The existing limitation on 18-month Surveillances to perform them "during shutdown" is more specifically presented in the proposed Surveillances. Each proposed SR contains a specific Note limiting the performance in certain MODES. While these limitations vary from SR to SR, each is consistent with the BWR Standard Technical Specifications, NUREG 1433 presentation (or bracketed option allowed based on plant specific justification) which defines the intent of "during shutdown" for each SR, and with the guidance of Generic Letter 91-04. Additionally, the Note clearly presents the allowance of the current practice of taking credit for unplanned events, provided the necessary data is obtained.

ADMINISTRATIVE

A.5 (continued)

In addition, since the swing DG is common to both units, SRs that allow one performance to satisfy both units' requirements are allowed to be performed while one unit is not shutdown, provided the SR is being performed from the other unit. Since this is only a change in presentation of current practice, this change is considered administrative.

A.6 These two possible values for the overspeed trip point are fixed by the design of the DG unit. The appropriate value (i.e., the most limiting, which is 65.5 Hz) is presented in the proposed Technical Specifications. This presentation eliminates the basis for the accepted value from the Technical Specifications, moving it to the Bases. Since there is no difference in the requirement, this is an editorial presentation preference only.

A.7 Proposed Note 1 to SRs 3.8.1.9, 3.8.1.10, and 3.8.1.17 and Note 2 to SR 3.8.1.13 have been added. This allows an engine prelube prior to DG start. The current Specifications do not prohibit this allowance and the addition is provided for clarity. As such, it is considered administrative in nature.

A.8 The technical content of this requirement is being moved to Chapter 5.0 of the proposed Technical Specifications in accordance with the format of the BWR Standard Technical Specifications, NUREG 1433. Any technical changes to this requirement will be addressed with the content of proposed Specification 5.6.2.

A.9 The requirement to perform this Surveillance after the 24 hour run has been deleted. As indicated by the *** footnote, it is acceptable to perform the test after a ≥ 2 hour run at ≥ 2565 kW. Therefore, since it is already allowed to be performed in this manner, this change is considered administrative.

A.10 The technical content of current Specifications 4.8.1.1.2.a.2, 4.8.1.1.2.a.3, 4.8.1.1.2.a.6, 4.8.1.1.2.c, and 4.8.1.1.2.d.13 is being moved to LCO 3.8.3. The technical content of Specifications 4.8.1.1.3.a.4, 4.8.1.1.3.c, and 4.8.1.1.3.d is being moved to LCO 3.8.4 and LCO 3.8.5. The technical content of Specifications 4.8.1.1.3.a.1,2,3, and 4.8.1.1.3.b is being moved to LCO 3.8.6. This is in accordance with the format of the BWR Standard Technical Specifications, NUREG 1433. Any technical changes to these requirements are addressed with the content of the proposed LCOs.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

moved to LCO 3.8.6

(A.1) 2. The pilot cell specific gravity, corrected to 77°F, is ≥ 1.205,

3. The pilot cell voltage is ≥ 2.0 volts, and

SR3.8.4.1 4. The overall battery voltage is ≥ ~~120~~ 125 volts. on float charge (M.2)

(A.1) b. At least once per 92 days by verifying that:

moved to LCO 3.8.6

1. The voltage of each connected cell is ≥ 2.0 volts under float charge and has not decreased more than 0.17 volts from the value observed during the original acceptance test,

2. The specific gravity, corrected to 77°F, of each connected cell is ≥ 1.205 and has not decreased more than 0.02 from the value observed during the previous test, and

3. The electrolyte level of each connected cell is between the minimum and maximum level indication marks.

c. At least once per 18 months by verifying that:

SR3.8.4.3 1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration,

SR3.8.4.4 2. The cell-to-cell and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material, and (L.2)

SR3.8.4.6 3. The battery charger will supply at least 400 amperes at a minimum of 129 volts for at least ~~2~~ 1 hours. (L.3)

d. At least once per 18 months, during shutdown, by verifying that either: (A.3) (B)

SR3.8.4.7 1. The battery capacity is adequate to supply and maintain in OPERABLE status all of the actual emergency loads for 2 hours when the battery is subjected to a battery service test, or (LA.2)

Proposed Note 1 to SR 3.8.4.7 (L.4)

2. The battery capacity is adequate to supply a dummy load of the applicable profile given in Figure 3.8.2.3-1 while maintaining the battery terminal voltage ≥ 105 volts. (LA.2)

SURVEILLANCE REQUIREMENTS (Continued)

LA.3

M.3 proposed 2nd and 3rd Frequencies

3. At the completion of either of the above tests, the battery charger shall be demonstrated capable of recharging its battery at a rate of at least 150 amperes while supplying normal D.C. loads. The battery shall be charged to at least 95% capacity in ≤ 24 hours.

A.3

SR 3.8.4.8 e. At least once per 60 months during shutdown by verifying that the battery capacity is at least 80% of the manufacturers rating when subjected to a performance discharge test. This performance discharge test shall be performed subsequent to the satisfactory completion of the required battery service test. L.4 B

or modified performance discharge test. L.5

proposed SR 3.8.4.2 and SR 3.8.4.5 M.3

proposed SR 3.8.4.9 M.1

4.8.1.1.3 Each diesel generator battery and battery charger shall be demonstrated OPERABLE:

SR3.8.4.1 a. At least once per 7 days by verifying that:

See Discussion of Changes for ITS: 3.8.6, in this section.

1. The electrolyte level of each pilot cell is between the minimum and maximum level indication marks,

2. The pilot cell specific gravity, corrected to 77°F, is ≥ 1.205,

3. The pilot cell voltage is ≥ 2.0 volts, and

SR3.8.4.1 4. The overall battery voltage is ≥ ~~120~~ 125 volts on float charge M.2

b. At least once per 92 days by verifying that:

1. The voltage of each connected cell is ≥ 2.0 volts under float charge and has not decreased more than 0.17 volts from the value observed during the original acceptance test,

2. The specific gravity, corrected to 77°F, of each connected cell is ≥ 1.205 and has not decreased more than 0.02 from the value observed during the previous test, and

3. The electrolyte level of each connected cell is between the minimum and maximum level indication marks.

c. At least once per 18 months by verifying that:

SR3.8.4.3 1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration,

SR3.8.4.4 2. The cell-to-cell and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material, and L.2

SR3.8.4.6 3. The battery charger will supply at least 100 amperes at a minimum of 129 volts for at least ~~4~~ 1 hour~~s~~. L.3

SR3.8.4.8 d. At least once per 60 months ~~during shutdown~~ by verifying that the battery capacity is at least 80% of the manufacturers rating when subjected to a performance discharge test or modified performance discharge test. ~~This performance discharge test shall be performed subsequent to the satisfactory completion of the required battery service test.~~ A.3 L.5 B A.4

proposed 2nd and 3rd Frequencies M.3

Proposed SR 3.8.4.9 M.1

Proposed SR3.8.4.2, SR3.8.4.5, and SR3.8.4.7 M.3

TECHNICAL CHANGE - LESS RESTRICTIVE
(continued)

L.4 This requirement has been deleted since there is no reason to perform two discharge tests, one right after the other. One test should be sufficient to demonstrate battery OPERABILITY. The service test is a test which ensures the battery will perform as required in the accident analysis. The performance discharge test is a design test of the battery. Since the service test demonstrates proper OPERABILITY, there is no reason to require a second subsequent test. In addition, a Note has been added to proposed SR 3.8.4.7 to allow the modified performance discharge test to be performed in lieu of the service test of SR 3.8.4.7. As stated in the BWR Standard Technical Specifications Bases, NUREG 1433, (proposed by NUREG change package NRC-15) this substitution is acceptable, because SR 3.8.4.8 represents a more severe test of battery capacity than SR 3.8.4.7.

L.5 An allowance to perform a modified performance discharge test in lieu of a performance discharge test has been added to this Surveillance. The modified performance discharge test is a simulated duty cycle consisting of just two rates: 1 one minute rate published for the battery or the largest current load of the duty cycle, followed by the test rate employed for the performance test. Since the ampere-hours removed by a rated 1 minute discharge represent a very small portion of the battery capacity, the test rate can be changed to that for the performance test without compromising the results of the performance discharge test.

TECHNICAL CHANGE - LESS RESTRICTIVE

"Generic"

LA.1 These requirements basically measure degradation of the given cell. Degradation does not necessarily mean that the entire battery is inoperable. "Degradation" is proposed to suffice for the Technical Specifications requirement, while allowing the details of the definition of "degradation" to be relocated to the plant procedures. Degradation will now affect the Frequency of a battery performance discharge test (proposed SR 3.8.4.8).

The original acceptance test values were specified to be within 2.20 to 2.25 volts per cell (VPC). The 0.17 volt decrease specified in the current specification corresponds to 2.03 to 2.08 volts per cell. Therefore, it could be construed that the structure of the new specification covers the value and frequency of the old specification (0.17 from 2.25, and 92 days for the Category B limits), as well as the relocation of the specific cell deterioration from degradation value.

"Specific"

L.1 A 31 day Completion Time for restoring battery cell parameters has been provided (Required Action A.3). This Completion Time is considered acceptable since sufficient battery capacity exists to perform the intended function and to allow time to fully restore battery cell parameters to normal limits. This change is consistent with IEEE Battery Working Group (BWG) recommendations in a letter from B. M. Radimer (IEEE BWG) to S. K. Aggarwal (NRC) dated August 2, 1988. To support this new time, two additional requirements have been added. Required Action A.1 has been provided to verify pilot cell electrolyte level and float voltage are within allowable values (Category C limits) within 1 hour when Category A or B parameters are not within limits. This change provides a quick indication of the status of the remainder of the battery cells. Required Action A.2 has been provided to verify battery cell parameters for all the cells are within Category C limits within 24 hours when Category A or B parameters are not within limits. These Category C values are the limits at which the battery would be considered immediately inoperable. This change provides assurance the battery is still capable of performing its intended function. If Category C limits are not met, or the Category A and B limits are not restored within 31 days, proposed ACTION B requires the affected battery to be declared inoperable (and the appropriate ACTIONS of proposed LCOs 3.8.4 or 3.8.5 taken).

In addition, a Note has been added to the ACTIONS to provide more explicit instructions for proper application of the Actions for Technical Specifications compliance. In conjunction with the proposed Specification 1.3, "Completion Times," the Note ("Separate Condition entry is allowed for each ....") and "one or more" provides direction consistent with the intent of the proposed Action.

TECHNICAL CHANGE - LESS RESTRICTIVE

"Specific" (continued)

L.2 This allowance is acceptable based on guidance from Appendix A to IEEE-450. The level excursion allowed is temporary due to gas generation during the equalizing charge and would be expected to return to normal.

UNIT 2 NO SIGNIFICANT HAZARDS DETERMINATION

L.10 CHANGE

The No Significant Hazards Determination evaluation is provided in Georgia Power Company letter from J.T. Beckham, Jr. to the NRC, dated September 20, 1993. Subsequently, the NRC issued this change as Amendment 133 to the Unit 2 TS by letter dated March 15, 1994.

L.4 CHANGE

The No Significant Hazards Determination evaluation is provided in Georgia Power Company letter from J.T. Beckham, Jr. to the NRC, dated October 19, 1993. Subsequently, the NRC issued this change as Amendment 130 to the Unit 2 TS by letter dated November 24, 1993.

L.1 CHANGE
(continued)

3. Does this change involve a significant reduction in a margin of safety?

The proposed change does not involve a significant reduction in the margin of safety because leakage testing and structural limits will continue to be met based on the peak containment pressure resulting from a design basis accident. The peak containment internal pressure of 48.7 psig continues to be within the containment internal maximum allowable pressure of 62 psig. There is no requirement for the test pressure to be higher than the peak accident pressure. The proposed change to P_a will not change the accident analyses and resultant radiological consequences for a postulated LOCA. The radiological consequences continue to be within the requirements of 10 CFR 100. The use of the revised P_a will ensure that the leakage rate is measured and calculated appropriately.

L.8 CHANGE

The allowed MSIV leakage is being revised from 11.5 to 100 scfh per valve and a combined maximum pathway leakage of 250 scfh for all four main steam lines is being added. The No Significant Hazards Determination for this change is provided in GPC letter dated January 6, 1994, and February 3, 1994, from J. T. Beckham, Jr. to the NRC. Subsequently, the NRC issued this change as Amendment 132 to the Unit 2 TS by letter dated March 17, 1994.

NO SIGNIFICANT HAZARDS DETERMINATION
ITS: SECTION 3.6.1.4 - DRYWELL PRESSURE

L.1 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, Georgia Power Company has evaluated this proposed Technical Specifications change and determined it does not involve a significant hazards consideration based on the following:

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated in changing the initial drywell pressure because the primary containment is designed to accommodate, without exceeding the design leakage rate and with sufficient margin, the calculated pressure and temperature conditions resulting from a LOCA. This meets the requirement of 10 CFR 50, Appendix A, Criterion 50 for the containment to retain its integrity during a design basis accident. Satisfactory leak rate testing at the value of the peak calculated containment pressure following a LOCA provides the assurance that any release of radioactive materials will be restricted to the provisions of 10 CFR 100 as provided in the safety analyses. The probability or consequences of an accident are not significantly increased, because there is no change to the containment design basis or the ability of the containment to perform the required function of preventing the release of radioactivity to the environment.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated since the design features of the primary containment, as required by Criterion 16 of 10 CFR 50, Appendix A, are not altered. Testing at the calculated peak design basis LOCA pressure demonstrates that the primary containment and associated systems provide an acceptable barrier against the uncontrolled release of radioactivity to the environment. No new failure mode is introduced by changing the initial containment pressure, since the assurance of integrity at the calculated accident pressure is maintained by testing at the appropriate value.

3. Does this change involve a significant reduction in a margin of safety?

   The proposed amendment does not involve a significant reduction in the margin of safety, because leakage testing and structural limits will continue to be met based on the peak containment pressure resulting from a design basis accident. The peak contaiment internal pressure of 51.6 psig continues to be within the containment internal maximum allowable

L.1 CHANGE
(continued)

pressure of 62 psig. The proposed change to the initial containment pressure does not change the resultant radiological consequences for a postulated LOCA. The radiological consequences continue to be within the requirements of 10 CFR 100.

NO SIGNIFICANT HAZARDS DETERMINATION
CTS: SECTION 3/4.6.1.4 - MSIV LEAKAGE CONTROL SYSTEM

L.1 CHANGE

This specification is being deleted. The No Significant Hazards Determination for this change is provided in GPC letter dated January 6, 1994, and February 3, 1994. The NRC issued this change as Amendment 132 to the Unit 2 TS by letter dated March 17, 1994.

L.4 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, Georgia Power Company has evaluated this proposed Technical Specifications change and determined it does not involve a significant hazards consideration based on the following:

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The DC electrical power sources are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, the performance of a modified performance discharge test in lieu of a service discharge test will not increase the probability of any accident previously evaluated. The proposed SR continues to provide adequate assurance of OPERABLE batteries since a modified performance discharge test represents a more severe test of battery capacity than a service discharge test. Therefore, the proposed change does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the proposed substitution of the modified performance discharge test, in lieu of a service discharge test, continues to provide adequate indication that the battery is capable of performing its design function.

L.5 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, Georgia Power Company has evaluated this proposed Technical Specifications change and determined it does not involve a significant hazards consideration based on the following:

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The DC electrical power sources are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, the performance of a modified performance discharge test in lieu of a service discharge test will not increase the probability of any accident previously evaluated. The proposed SR continues to provide adequate assurance of OPERABLE batteries, since the modified performance discharge test represents a more severe test of battery capacity than does a service discharge test. Therefore, the proposed change does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety, since the proposed substitution of the modified performance discharge test for the service discharge test continues to provide adequate indication that the battery is capable of performing its design function.

NUREG 1433 COMPARISON DOCUMENT - SPECIFICATIONS

3.6 CONTAINMENT SYSTEMS

3.6.1.4 Drywell Pressure

LCO 3.6.1.4 Drywell pressure shall be [≤ 0.75 psig].

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. Drywell pressure not within limit.	A.1	Restore drywell pressure to within limit.	1 hour
B. Required Action and associated Completion Time not met.	B.1	Be in MODE 3.	12 hours
	AND		
	B.2	Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.4.1	Verify drywell pressure is within limit.	12 hours

3.6 CONTAINMENT SYSTEMS

3.6.1.5 Drywell Air Temperature

A2

LCO 3.6.1.5 Drywell average air temperature shall be ≤ [135]°F.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Drywell average air temperature not within limit.	A.1 Restore drywell average air temperature to within limit.	8 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.1.5.1 Verify drywell average air temperature is within limit.	24 hours

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.3.1 Determine OPERABLE DG(s) are not inoperable due to common cause failure. OR B.3.2 Perform SR 3.8.1.2 for OPERABLE DG(s). AND B.4 Restore [required] DG to OPERABLE status.	[24] hours [24] hours 72 hours AND 6 days from discovery of failure to meet LCO
C. Two [required] offsite circuits inoperable.	C.1 Declare required feature(s) inoperable when the redundant required feature(s) are inoperable. AND C.2 Restore one [required] offsite circuit to OPERABLE status.	12 hours from discovery of Condition C concurrent with inoperability of redundant required feature(s) 24 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One [required] offsite circuit inoperable. AND One [required] DG inoperable.	-------------NOTE------------- Enter applicable Conditions and Required Actions of LCO 3.8.8, "Distribution Systems—Operating," when Condition D is entered with no AC power source to one division. ------------------------------	
	D.1 Restore [required] offsite circuit to OPERABLE status.	12 hours
	OR	
	D.2 Restore [required] DG to OPERABLE status.	12 hours
E. Two [or three] [required] DGs inoperable.	E.1 Restore one [required] DG to OPERABLE status.	2 hours

(continued)

INSERT Notes 3.8.1.2

4. For the swing DG, a single test will satisfy this Surveillance for both units, using the starting circuitry of Unit 1 and synchronized to 4160 V bus 1F for one periodic test, and the starting circuitry of Unit 2 and synchronized to 4160 V bus 2F during the next periodic test.

5. DG loadings may include gradual loading as recommended by the manufacturer.

6. ~~Momentary~~ Starting transients above the upper voltage limit ~~prior to loading~~ do not invalidate this test.

7. Momentary transients outside the load range do not invalidate this test.

8. This Surveillance shall be conducted on only one DG at a time.

INSERT Notes 3.8.1.5

(P5) 2. DG loadings may include gradual loading as recommended by the manufacturer.

3. ~~Momentary transients above the upper voltage limit prior to loading do not invalidate this test.~~

(P5) ~~4.~~ 3. Momentary load transients outside the load range do not invalidate this test.

(P5) ~~5.~~ 4. This Surveillance shall be conducted on only one DG at a time.

(P2) ~~6.~~ 5. For the swing DG, a single test will satisfy this Surveillance for both units, using the starting circuitry of Unit 1 and synchronized to 4160 V bus 1F for one periodic test and the starting circuitry of Unit 2 and synchronized to 4160 V bus 2F during the next periodic test.

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.9	------------------NOTES------------------ 1. This Surveillance shall not be performed in MODE 1 or 2. 2. Credit may be taken for unplanned events that satisfy this SR. -- Verify each DG operating at a power factor ≤ [0.9] rejects a load ≥ [978] kW, and: a. Following load rejection, the frequency is ≤ [65.5] Hz; b. Within [3] seconds following load rejection, the voltage is ≥ [3740] V and ≤ [4580] V; and c. Within [6] seconds following load rejection, the frequency is ≥ [58.8] Hz and ≤ [61.2] Hz.	[18 months]
SR 3.8.1.10	------------------NOTES------------------ 1. This Surveillance shall not be performed in MODE 1 or 2. 2. Credit may be taken for unplanned events that satisfy this SR. -- Verify each DG operating at a power factor ≤ [0.9] does not trip and voltage is maintained ≤ [4800] V during and following a load rejection of ≥ [1710] kW and ≤ [2000] kW.	[18 months]

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.11	------------------NOTES------------------ 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1, 2, or 3. 3. Credit may be taken for unplanned events that satisfy this SR. -- Verify on an actual or simulated loss of offsite power signal: a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. DG auto-starts from standby condition and: 1. energizes permanently connected loads in ≤ [12] seconds, 2. energizes auto-connected shutdown loads through [automatic load sequencer], 3. maintains steady state voltage ≥ [3740] V and ≤ [4580] V, 4. maintains steady state frequency ≥ [58.8] Hz and ≤ [61.2] Hz, and 5. supplies permanently connected and auto-connected shutdown loads for ≥ [5] minutes.	[18 months]

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.14 (12)	-------------------NOTES------------------- 1. Momentary transients outside the load and power factor ranges do not invalidate this test. 2. ~~This Surveillance shall not be performed in MODE 1 or 2.~~ 3. ~~Credit may be taken for unplanned events that satisfy this SR.~~ (Insert Notes 3.8.1.12) (P2) --- Verify each DG operating at a power factor ≤ ~~[0.9]~~ 0.88 operates for ≥ 24 hours: a. For ≥ [2] hours loaded ≥ ~~[3100]~~ 3000 kW and ~~≤ [3400] kW~~; and b. For the remaining hours of the test loaded ≥ ~~[2850]~~ 2775 kW and ≤ ~~[3150]~~ 2825 kW. (P1)	[18 months] (P1)
SR 3.8.1.15 (13) (P9)	-------------------NOTES------------------- 1. This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated ≥ [2] hours loaded ≥ ~~[1710]~~ 2565 kW ~~and ≤ [2000] kW~~. (P19) (P18) Momentary transients outside of load range do not invalidate this test. 2. All DG starts may be preceded by an engine prelube period. 3. For the same DG a single test at the specified frequency will satisfy this Surveillance for both ... (P2) --- Verify each DG starts and achieves, in ≤ [12] seconds, voltage ≥ [3740] V ~~and ≤ [4584] V~~ and frequency ≥ [58.8] Hz ~~and ≤ [61.2] Hz~~ and after steady state conditions are reached maintains voltage ≥ 3740 V and ≤ 4243 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz. (P12)	[18 months] (P1)

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.18 (14) (P9)	------NOTES------ 1. This Surveillance shall not be performed in MODE 1, 2, or 3. (However,) 2. Credit may be taken for unplanned events that satisfy this SR. ------ Verify each DG: a. Synchronizes with offsite power source while loaded with emergency loads upon a simulated restoration of offsite power; b. Transfers loads to offsite power source; and c. Returns to ready-to-load operation. (P9)	(GA2) [18 months] (P1)
[SR 3.8.1.17 (15)	------NOTES------ 1. This Surveillance shall not be performed in MODE 1, 2, or 3. (However,) 2. Credit may be taken for unplanned events that satisfy this SR. ------ Verify with a DG operating in test mode and connected to its bus, an actual or simulated ECCS initiation signal overrides the test mode by: a. Returning DG to ready-to-load operation[; and] (P1) [b. Automatically energizing the emergency load from offsite power.]	(GA2) [18 months] (P1)]

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.4.1	Verify battery terminal voltage is ≥ [120] V on float charge.	7 days
SR 3.8.4.2	Verify no visible corrosion at terminals and connectors. OR Verify connection resistance [is ≤ [1.5E-4 ohm] for inter-cell connections, ≤ [1.5E-4 ohm] for inter-rack connections, ≤ [1.5E-4 ohm] for inter-tier connections, and ≤ [1.5E-4 ohm] for terminal connections].	92 days
SR 3.8.4.3	Verify cells, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration.	[12] months
SR 3.8.4.4	Remove visible corrosion and verify cell to cell and terminal connections are clean and tight, and coated with anti-corrosion material.	[12] months
SR 3.8.4.5	Verify connection resistance [is ≤ [1.5E-4 ohm] for inter-cell connections, ≤ [1.5E-4 ohm] for inter-rack connections, ≤ [1.5E-4 ohm] for inter-tier connections, and ≤ [1.5E-4 ohm] for terminal connections].	[12] months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.8.4.6	-----NOTES----- 1. This Surveillance shall not be performed in MODE 1, 2, or 3. 2. Credit may be taken for unplanned events that satisfy this SR. ----- Verify each required battery charger supplies ≥ [400 amps for station service subsystems, and ≥ 100 amps for DG subsystems] at ≥ [129] V for ≥ [4] hours.	P22 [18 months] P1 P1
SR 3.8.4.7	-----NOTES----- 1. SR 3.8.4.8 may be performed in lieu of SR 3.8.4.7 once per 60 months. P42 Insert SR 3.8.4.7A Insert SR 3.8.4.7B CA.14 2. This Surveillance shall not be performed in MODE 1, 2, or 3, except for the swing DG battery. However, 3. Credit may be taken for unplanned events that satisfy this SR. ----- Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test.	P2 GA2 P1 [18 months]

(continued)

INSERT SR 3.8.4.7A

The modified performance discharge test in

INSERT SR 3.8.4.7B

the service test in

B

HATCH UNIT 1 & UNIT 2

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.8	------------------NOTES------------------ 1. This Surveillance shall not be performed in MODE 1, 2, or 3, except for the swing DG battery. However, 2. Credit may be taken for unplanned events that satisfy this SR. -- Verify battery capacity is ≥ [80]% of the manufacturer's rating when subjected to a performance discharge test. Insert 3.8.4.8 GA 14 Insert SR 3.8.4.8 Frequency GA 5	60 months AND -----NOTE------ Only applicable when battery shows degradation or has reached [85]% of expected life -------------- 12 months

Insert SR 3.8.4.9 P2

P 2 GA 2 P1 B

3.8 ELECTRICAL POWER SYSTEMS

3.8.5 DC Sources—Shutdown

LCO 3.8.5 DC electrical power subsystems shall be OPERABLE to support the DC electrical power distribution subsystem(s) required by LCO 3.8.10, "Distribution Systems—Shutdown."

Insert LCO 3.8.5 (P2)

APPLICABILITY: MODES 4 and 5,
During movement of irradiated fuel assemblies in the [secondary] containment.

(P1) Unit 1 Unit 2 only

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required DC electrical power subsystems inoperable.	A.1 Declare affected required feature(s) inoperable.	Immediately
	<u>OR</u>	
	A.2.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>	
(P1) Unit 1 Unit 2 only	A.2.2 Suspend movement of irradiated fuel assemblies in the [secondary] containment.	Immediately
	<u>AND</u>	
		(continued)

INSERT SR 3.8.4.8

or a modified performance discharge test

B

HATCH UNIT 1 & UNIT 2

(P7)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2.4 Initiate action to restore [required] inverters to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.8.1	Verify correct inverter voltage, [frequency,] and alignments to [required] AC vital buses.	7 days

3.8 ELECTRICAL POWER SYSTEMS

3.8.9 Distribution Systems—Operating

LCO 3.8.9 [Division 1] and [Division 2] AC, DC, [and AC vital bus] electrical power distribution subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One AC electrical power distribution subsystem inoperable.	A.1 Restore AC electrical power distribution subsystems to OPERABLE status.	8 hours AND 16 hours from discovery of failure to meet LCO
[B. One AC vital bus inoperable.	B.1 Restore AC vital bus distribution subsystems to OPERABLE status.	2 hours AND 16 hours from discovery of failure to meet LCO]
C. One [station service] DC electrical power distribution subsystem inoperable.	C.1 Restore DC electrical power distribution subsystems to OPERABLE status.	2 hours AND 16 hours from discovery of failure to meet LCO

(continued)

NRC-20 affects but not incorporated because loss of both station service will result in loss of function

INSERT A/B 3.8.7

A. One or more required Unit 2 AC or DC electrical power subsystems inoperable.	A.1	Restore required Unit 2 AC and DC subsystem(s) to OPERABLE status.	7 days
B. One Unit 1 or swing bus DG DC electrical power distribution subsystems inoperable.	B.1	Restore DG DC electrical power distribution subsystem to OPERABLE status.	12 hours AND 16 hours from discovery of failure to meet LCO 3.8.7.a

NUREG 1433 COMPARISON DOCUMENT - BASES

B 3.3 INSTRUMENTATION

B 3.3.2.1 Control Rod Block Instrumentation

BASES

BACKGROUND

Control rods provide the primary means for control of reactivity changes. Control rod block instrumentation includes channel sensors, logic circuitry, switches, and relays that are designed to ensure that specified fuel design limits are not exceeded for postulated transients and accidents. During high power operation, the rod block monitor (RBM) provides protection for control rod withdrawal error events. During low power operations, control rod blocks from the rod worth minimizer (RWM) enforce specific control rod sequences designed to mitigate the consequences of the control rod drop accident (CRDA). During shutdown conditions, control rod blocks from the Reactor Mode Switch—Shutdown Position Function ensure that all control rods remain inserted to prevent inadvertent criticalities.

The purpose of the RBM is to limit control rod withdrawal if localized neutron flux exceeds a predetermined setpoint during control rod manipulations. It is assumed to function to block further control rod withdrawal to preclude a MCPR Safety Limit (SL) violation. The RBM supplies a trip signal to the Reactor Manual Control System (RMCS) to appropriately inhibit control rod withdrawal during power operation above the low power range setpoint. The RBM has two channels, either of which can initiate a control rod block when the channel output exceeds the control rod block setpoint. One RBM channel inputs into one RMCS rod block circuit and the other RBM channel inputs into the second RMCS rod block circuit. The RBM channel signal is generated by averaging a set of local power range monitor (LPRM) signals at various core heights surrounding the control rod being withdrawn. A signal from one average power range monitor (APRM) channel assigned to each Reactor Protection System (RPS) trip system supplies a reference signal for the RBM channel in the same trip system. This reference signal is used to determine which RBM range setpoint (low, intermediate, or high) is enabled. If the APRM is indicating less than the low power range setpoint, the RBM is automatically bypassed. The RBM is also automatically bypassed if a peripheral control rod is selected (Ref. 1).

insert AA (B)

P.26

(continued)

BASES

BACKGROUND (continued)

The purpose of the RWM is to control rod patterns during startup, such that only specified control rod sequences and relative positions are allowed over the operating range from all control rods inserted to 10% RTP. The sequences effectively limit the potential amount and rate of reactivity increase during a CRDA. Prescribed control rod sequences are stored in the RWM, which will initiate control rod withdrawal and insert blocks when the actual sequence deviates beyond allowances from the stored sequence. The RWM determines the actual sequence based position indication for each control rod. The RWM also uses feedwater flow and steam flow signals to determine when the reactor power is above the preset power level at which the RBM is automatically bypassed (Ref. 2). The RWM is a single channel system that provides input into both RMCS rod block circuits.

With the reactor mode switch in the shutdown position, a control rod withdrawal block is applied to all control rods to ensure that the shutdown condition is maintained. This Function prevents inadvertent criticality as the result of a control rod withdrawal during MODE 3 or 4, or during MODE 5 when the reactor mode switch is required to be in the shutdown position. The reactor mode switch has two channels, each inputting into a separate RMCS rod block circuit. A rod block in either RMCS circuit will provide a control rod block to all control rods.

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

1. Rod Block Monitor

The RBM is designed to prevent violation of the MCPR SL and the cladding 1% plastic strain fuel design limit that may result from a single control rod withdrawal error (RWE) event. The analytical methods and assumptions used in evaluating the RWE event are summarized in Reference 3. A statistical analysis of RWE events was performed to determine the RBM response for both channels for each event. From these responses, the fuel thermal performance as a function of RBM Allowable Value was determined. The Allowable Values are chosen as a function of power level. Based on the specified Allowable Values, operating limits are established.

(continued)

INSERT AA for Background Section, B 3.3.2.1

A rod block signal is also generated if an RBM Downscale trip or an Inoperable trip occurs, since this could indicate a problem with the RBM channel. The Downscale trip will occur if the RBM channel signal decreases below the Downscale trip setpoint after the RBM signal has been normalized. The Inoperable trip will occur during the nulling (normalization) sequence, if: the RBM channel fails to null, too few LPRM inputs are available, a module is not plugged in, or the function switch is moved to any position other than "Operate." The Bypass Time Delay ensures that the normalized signal is passed to the trip logic within the appropriate time. The delay is between the time the signal to the reference is nulled and the signal is passed to the trip logic.

B

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

1. Rod Block Monitor (continued)

The RBM Function satisfies Criterion 3 of the NRC Policy Statement.

Two channels of the RBM are required to be OPERABLE, with their setpoints within the appropriate Allowable Value for the associated power range, to ensure that no single instrument failure can preclude a rod block from this Function. The actual setpoints are calibrated consistent with applicable setpoint methodology.

Nominal trip setpoints are specified in the setpoint calculations. The nominal setpoints are selected to ensure that the setpoints do not exceed the Allowable Values between successive CHANNEL CALIBRATIONS. Operation with a trip setpoint less conservative than the nominal trip setpoint, but within its Allowable Value, is acceptable. Trip setpoints are those predetermined values of output at which an action should take place. The setpoints are compared to the actual process parameter (e.g., reactor power), and when the measured output value of the process parameter exceeds the setpoint, the associated device (e.g., trip unit) changes state. The analytic limits are derived from the limiting values of the process parameters obtained from the safety analysis. The Allowable Values are derived from the analytic limits, corrected for calibration, process, and some of the instrument errors. The trip setpoints are then determined accounting for the remaining instrument errors (e.g., drift). The trip setpoints derived in this manner provide adequate protection because instrumentation uncertainties, process effects, calibration tolerances, instrument drift, and severe environment errors (for channels that must function in harsh environments as defined by 10 CFR 50.49) are accounted for.

The RBM is assumed to mitigate the consequences of an RWE event when operating ≥ 29% RTP. Below this power level, the consequences of an RWE event will not exceed the MCPR SL and, therefore, the RBM is not required to be OPERABLE (Ref. 3). When operating < 90% RTP, analyses (Ref. 3) have shown that with an initial MCPR ≥ 1.70, no RWE event will result in exceeding the MCPR SL. Also, the analyses demonstrate that when operating at ≥ 90% RTP with MCPR ≥ 1.40, no RWE event will result in exceeding the MCPR

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

1. Rod Block Monitor (continued)

SL (Ref. 3). Therefore, under these conditions, the RBM is also not required to be OPERABLE.

2. Rod Worth Minimizer

(p.26) In addition, the Reference analysis (Generic BPWS analysis) may be modified by plant specific evaluations.

The RWM enforces the banked position withdrawal sequence (BPWS) to ensure that the initial conditions of the CRDA analysis are not violated. The analytical methods and assumptions used in evaluating the CRDA are summarized in References 4, 5, 6, and 7. The BPWS requires that control rods be moved in groups, with all control rods assigned to a specific group required to be within specified banked positions. Requirements that the control rod sequence is in compliance with the BPWS are specified in LCO 3.1.6, "Rod Pattern Control."

(p.12) The RWM Function satisfies Criterion 3 of the NRC Policy Statement (Ref. 9).

(p.48)

Since the RWM is a ~~hardwired~~ system designed to act as a backup to operator control of the rod sequences, only one channel of the RWM is available and required to be OPERABLE (Ref. 7). Special circumstances provided for in the Required Action of LCO 3.1.3, "Control Rod OPERABILITY," and LCO 3.1.6 may necessitate bypassing the RWM to allow continued operation with inoperable control rods, or to allow correction of a control rod pattern not in compliance with the BPWS. The RWM may be bypassed as required by these conditions, but then it must be considered inoperable and the Required Actions of this LCO followed.

Compliance with the BPWS, and therefore OPERABILITY of the RWM, is required in MODES 1 and 2 when THERMAL POWER is $\leq$ 10% RTP. When THERMAL POWER is > 10% RTP, there is no possible control rod configuration that results in a control rod worth that could exceed the 280 cal/gm fuel damage limit during a CRDA (Refs. 5 and 7). In MODES 3 and 4, all control rods are required to be inserted into the core; therefore, a CRDA cannot occur. In MODE 5, since only a single control rod can be withdrawn from a core cell containing fuel assemblies, adequate SDM ensures that the consequences of a CRDA are acceptable, since the reactor will be subcritical.

(continued)

B 3.6 CONTAINMENT SYSTEMS

B 3.6.1.1 Primary Containment

BASES

BACKGROUND

The function of the primary containment is to isolate and contain fission products released from the Reactor Primary System following a Design Basis Accident (DBA) and to confine the postulated release of radioactive material. The primary containment consists of a steel lined, reinforced concrete vessel, which surrounds the Reactor Primary System and provides an essentially leak tight barrier against an uncontrolled release of radioactive material to the environment.

The isolation devices for the penetrations in the primary containment boundary are a part of the containment leak tight barrier. To maintain this leak tight barrier:

a. All penetrations required to be closed during accident conditions are either:

   1. capable of being closed by an OPERABLE automatic Containment Isolation System, or

   2. closed by manual valves, blind flanges, or de-activated automatic valves secured in their closed positions, except as provided in LCO 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)";

b. The primary containment air lock is OPERABLE, except as provided in LCO 3.6.1.2, "Primary Containment Air Lock"; and

c. ~~The pressurized sealing mechanism associated with a penetration is OPERABLE, except as provided in LCO 3.6.1.[ ].~~

GP.2 — All equipment hatches are closed. (P.2)

This Specification ensures that the performance of the primary containment, in the event of a DBA, meets the assumptions used in the safety analyses of References 1 and 2. SR 3.6.1.1.1 leakage rate requirements are in conformance with 10 CFR 50, Appendix J (Ref. 3), as modified by approved exemptions.

(continued)

BASES (continued)

APPLICABLE SAFETY ANALYSES

The safety design basis for the primary containment is that it must withstand the pressures and temperatures of the limiting DBA without exceeding the design leakage rate.

The DBA that postulates the maximum release of radioactive material within primary containment is a LOCA. In the analysis of this accident, it is assumed that primary containment is OPERABLE such that release of fission products to the environment is controlled by the rate of primary containment leakage.

Analytical methods and assumptions involving the primary containment are presented in References 1 and 2. The safety analyses assume a nonmechanistic fission product release following a DBA, which forms the basis for determination of offsite doses. The fission product release is, in turn, based on an assumed leakage rate from the primary containment. OPERABILITY of the primary containment ensures that the leakage rate assumed in the safety analyses is not exceeded.

(P.2)

The maximum allowable leakage rate for the primary containment (L_a) is [1.2]% by weight of the containment air per 24 hours at the maximum peak containment pressure (P_a) of [57.5] psig ~~or [0.84]% by weight of the containment air per 24 hours at the reduced pressure of P_t ([28.8] psig)~~ (Ref. 1). (P.35)

(P.2) * U1 only (53.6) * U2 only (48.7)

Primary containment satisfies Criterion 3 of the NRC Policy Statement (Ref. 4) (P.36).

LCO

Primary containment OPERABILITY is maintained by limiting leakage to ~~within the acceptance criteria of 10 CFR 50, Appendix J (Ref. 3)~~. Compliance with this LCO will ensure a primary containment configuration, including equipment hatches, that is structurally sound and that will limit leakage to those leakage rates assumed in the safety analyses.

(Insert A) (GP.1)

Individual leakage rates specified for the primary containment air lock are addressed in LCO 3.6.1.2.

(continued)

BASES

BACKGROUND (continued)

containment leakage rate to within limits in the event of a DBA. Not maintaining air lock integrity or leak tightness may result in a leakage rate in excess of that assumed in the unit safety analysis. SR 3.6.1.1.1 leakage rate requirements conform with 10 CFR 50, Appendix J (Ref. 2), as modified by approved exemptions.

GP.3

APPLICABLE SAFETY ANALYSES

The DBA that postulates the maximum release of radioactive material within primary containment is a LOCA. In the analysis of this accident, it is assumed that primary containment is OPERABLE, such that release of fission products to the environment is controlled by the rate of primary containment leakage. The primary containment is designed with a maximum allowable leakage rate (L_a) of 1.2% by weight of the containment air per 24 hours at the calculated maximum peak containment pressure (P_a) of ~~67.5~~ psig (Ref. ~~3~~). This allowable leakage rate forms the basis for the acceptance criteria imposed on the SRs associated with the air lock.

P.38 — * U1 only 53.6 — * U2 only 48.7 — 2 P.36 — B

Primary containment air lock OPERABILITY is also required to minimize the amount of fission product gases that may escape primary containment through the air lock and contaminate and pressurize the secondary containment.

The primary containment air lock satisfies Criterion 3 of the NRC Policy Statement (Ref. 4) P.36.

LCO

As part of primary containment, the air lock's safety function is related to control of containment leakage rates following a DBA. Thus, the air lock's structural integrity and leak tightness are essential to the successful mitigation of such an event.

The primary containment air lock is required to be OPERABLE. For the air lock to be considered OPERABLE, the air lock interlock mechanism must be OPERABLE, the air lock must be in compliance with the Type B air lock leakage test, and both air lock doors must be OPERABLE. The interlock allows only one air lock door to be opened at a time. This provision ensures that a gross breach of primary containment does not exist when primary containment is required to be

(continued)

BASES

LCO (continued)

OPERABLE. Closure of a single door in each air lock is sufficient to provide a leak tight barrier following postulated events. Nevertheless, both doors are kept closed when the air lock is not being used for normal entry and exit from primary containment.

APPLICABILITY

In MODES 1, 2, and 3, a DBA could cause a release of radioactive material to primary containment. In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, the primary containment air lock is not required to be OPERABLE in MODES 4 and 5 to prevent leakage of radioactive material from primary containment.

ACTIONS

The ACTIONS are modified by Note 1, which allows entry and exit to perform repairs of the affected air lock component. If the outer door is inoperable, then it may be easily accessed to repair. If the inner door is the one that is inoperable, however, then a short time exists when the containment boundary is not intact (during access through the outer door). The ~~ability~~ to open the OPERABLE door, even if it means the primary containment boundary is temporarily not intact, is acceptable due to the low probability of an event that could pressurize the primary containment during the short time in which the OPERABLE door is expected to be open. The OPERABLE door must be immediately closed after each entry and exit.

The ACTIONS are modified by a second Note, which ensures appropriate remedial measures are taken ~~when~~ necessary. Pursuant to LCO 3.0.6, actions are not required, even if primary containment is exceeding its leakage limit. Therefore, the Note is added to require ACTIONS for LCO 3.6.1.1, "Primary Containment," to be taken in this event.

<u>A.1, A.2, and A.3</u>

With one primary containment air lock door inoperable, the OPERABLE door must be verified closed (Required Action A.1) in the air lock. This ensures that a leak tight primary

(continued)

B 3.6 CONTAINMENT SYSTEMS

B 3.6.1.4 Drywell Pressure

BASES

BACKGROUND

The drywell pressure is limited during normal operations to preserve the initial conditions assumed in the accident analysis for a Design Basis Accident (DBA) or loss of coolant accident (LOCA).

APPLICABLE SAFETY ANALYSES

Primary containment performance is evaluated for the entire spectrum of break sizes for postulated LOCAs (Ref. 1). Among the inputs to the DBA is the initial primary containment internal pressure (Ref. 1). Analyses assume an initial drywell pressure of [0.75 psig]. This limitation ensures that the safety analysis remains valid by maintaining the expected initial conditions and ensures that the peak LOCA drywell internal pressure does not exceed the maximum allowable of [62] psig.

The maximum calculated drywell pressure occurs during the reactor blowdown phase of the DBA, which assumes an instantaneous recirculation line break. The calculated peak drywell pressure for this limiting event is ~~[57.5]~~ psig (Ref. 1). U1 only *53.6 ... 48.7* U2 only

Drywell pressure satisfies Criterion 2 of the NRC Policy Statement (Ref. 2).

LCO

In the event of a DBA, with an initial drywell pressure ≤ [0.75 psig], the resultant peak drywell accident pressure will be maintained below the drywell design pressure.

APPLICABILITY

In MODES 1, 2, and 3, a DBA could cause a release of radioactive material to primary containment. In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, maintaining drywell pressure within limits is not required in MODE 4 or 5.

(continued)

BASES (continued)

ACTIONS

A.1

With drywell pressure not within the limit of the LCO, drywell pressure must be restored within 1 hour. The Required Action is necessary to return operation to within the bounds of the primary containment analysis. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.1.1, "Primary Containment," which requires that primary containment be restored to OPERABLE status within 1 hour.

B.1 and B.2

If drywell pressure cannot be restored to within limit within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.1.4.1

Verifying that drywell pressure is within limit ensures that unit operation remains within the limit assumed in the primary containment analysis. The 12 hour Frequency of this SR was developed, based on operating experience related to trending of drywell pressure variations during the applicable MODES. Furthermore, the 12 hour Frequency is considered adequate in view of other indications available in the control room, including alarms, to alert the operator to an abnormal drywell pressure condition.

REFERENCES (P.36)

1. FSAR, Section ~~[6.2]~~. (S 5.2 and 14.4.3) *U1 only

(Insert Ref.)

*Unit 2 only (P.21)

BASES

ACTIONS

A.1 (continued)

to prevent exceeding this limit, and the low probability of failure of the OPERABLE primary containment hydrogen recombiner.

Required Action A.1 has been modified by a Note indicating that the provisions of LCO 3.0.4 are not applicable. As a result, a MODE change is allowed when one recombiner is inoperable. This allowance is provided because of the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit, the low probability of the failure of the OPERABLE subsystem, and the amount of time available after a postulated LOCA for operator action to prevent exceeding the flammability limit.

B.1 and B.2

(P.2) ~~[Reviewer's Note: This Condition is only allowed for units with an alternate hydrogen control system acceptable to the technical staff.]~~

With two primary containment hydrogen recombiners inoperable, the ability to perform the hydrogen control function via alternate capabilities must be verified by administrative means within 1 hour. The alternate hydrogen control capabilities are provided by the ~~{~~Primary Containment (Purge) ~~Inerting~~ System ~~or one subsystem of the Containment Atmosphere Dilution System}~~ (P.2) or the Nitrogen Inerting System. The 1 hour Completion Time allows a reasonable period of time to verify that a loss of hydrogen control function does not exist. ~~[Reviewer's Note: The following is to be used if a non-Technical Specification alternate hydrogen control function is used to justify this Condition.~~ (P.2) In addition, the alternate hydrogen control system capability must be verified ~~every~~ (6A.4 → once per) 12 hours thereafter to ensure its continued availability. ~~{Both}~~ the ~~{initial}~~ verification ~~{and all subsequent verifications}~~ may be performed as an administrative check by examining logs or other information to determine the availability of the alternate hydrogen control system. It does not mean to perform the Surveillances needed to demonstrate OPERABILITY of the alternate hydrogen control system. If the ability to perform the hydrogen control function is maintained, (B)

(continued)

UNIT 2 ONLY

BASES

ACTIONS

B.1 and B.2 (continued)

continued operation is permitted with two hydrogen recombiners inoperable for up to 7 days. Seven days is a reasonable time to allow two hydrogen recombiners to be inoperable because the hydrogen control function is maintained and because of the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit.

C.1

If any Required Action and associated Completion Time cannot be met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours. The allowed Completion Time of 12 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.3.1.1

Performance of a system functional test for each primary containment hydrogen recombiner ensures that the recombiners are OPERABLE and can attain and sustain the temperature necessary for hydrogen recombination. In particular, this SR verifies that the minimum heater sheath temperature increases to ≥ {1200}°F in ≤ {1.5} hours and that it is maintained > {1150}°F and < {1300}°F for ≥ {4} hours thereafter to check the ability of the recombiner to function properly (and to make sure that significant heater elements are not burned out). Operating experience has shown that these components usually pass the Surveillance when performed at the {18} month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

(P.2)

SR 3.6.3.1.2

This SR ensures there are no physical problems that could affect recombiner operation. Since the recombiners are

(continued)

ACTIONS

B.1 and B.2 (continued)

GA.4 → once per

the alternate hydrogen control system capability must be verified ~~every~~ 12 hours thereafter to ensure its continued availability. {Both} the {initial} verification {and all subsequent verifications} may be performed as an administrative check by examining logs or other information to determine the availability of the alternate hydrogen control system. It does not mean to perform the Surveillances needed to demonstrate OPERABILITY of the alternate hydrogen control system. If the ability to perform the hydrogen control function is maintained, continued operation is permitted with two CAD subsystems inoperable for up to 7 days. Seven days is a reasonable time to allow two CAD subsystems to be inoperable because the hydrogen control function is maintained and because of the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit.

P.2 B

With two CAD subsystems inoperable, one CAD subsystem must be restored to OPERABLE status within 7 days. The 7 day Completion Time is based on the low probability of the occurrence of a LOCA that would generate hydrogen in the amounts capable of exceeding the flammability limit, the amount of time available after the event for operator action to prevent exceeding this limit, and the availability of other hydrogen mitigating systems.

C.1

If any Required Action cannot be met within the associated Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours. The allowed Completion Time of 12 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems.

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.6.3.4.1

Verifying that there is ≥ [4350] (2000) gal of liquid nitrogen supply in ~~the CAD System~~ (each Nitrogen Storage Tank) will ensure at least [7] days of post-LOCA CAD operation. This minimum volume of liquid nitrogen allows sufficient time after an accident to replenish the nitrogen supply for long term inerting. This is verified every 31 days to ensure that ~~the~~ (each sub) system is capable of performing its intended function when required. The 31 day Frequency is based on operating experience, which has shown 31 days to be an acceptable period to verify the liquid nitrogen supply and on the availability of other hydrogen mitigating systems.

SR 3.6.3.4.2

Verifying the correct alignment for manual, power operated, and automatic valves in each of the CAD subsystem flow paths provides assurance that the proper flow paths exist for system operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since these valves were verified to be in the correct position prior to locking, sealing, or securing.

A valve is also allowed to be in the nonaccident position provided it can be aligned to the accident position within the time assumed in the accident analysis. This is acceptable because the CAD System is manually initiated. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position.

The 31 day Frequency is appropriate because the valves are operated under procedural control, improper valve position would only affect a single subsystem, the probability of an event requiring initiation of the system is low, and the system is a manually initiated system.

REFERENCES

1. Regulatory Guide 1.7, Revision [2].
2. FSAR, Section [ ]. (5.2.4.9)

(Insert Ref)

B 3.7 PLANT SYSTEMS

B 3.7.1 Residual Heat Removal Service Water (RHRSW) System

BASES

BACKGROUND

The RHRSW System is designed to provide cooling water for the Residual Heat Removal (RHR) System heat exchangers, required for a safe reactor shutdown following a Design Basis Accident (DBA) or transient. The RHRSW System is operated whenever the RHR heat exchangers are required to operate in the shutdown cooling mode or in the suppression pool cooling or spray mode of the RHR System.

The RHRSW System consists of two independent and redundant subsystems. Each subsystem is made up of a header, two [4000] gpm pumps, a suction source, valves, piping, heat exchanger, and associated instrumentation. Either of the two subsystems is capable of providing the required cooling capacity with ~~one~~ two pumps operating to maintain safe shutdown conditions. The two subsystems are separated from each other by normally closed motor operated cross tie valves, so that failure of one subsystem will not affect the OPERABILITY of the other subsystem. The RHRSW System is designed with sufficient redundancy so that no single active component failure can prevent it from achieving its design function. The RHRSW System is described in the FSAR, Section [9.2.7] 10.6 <unit 1> <UNIT 2>, Reference 1.

Cooling water is pumped by the RHRSW pumps from the [Altamaha River] through the tube side of the RHR heat exchangers, and discharges to the [circulating water flume]. A minimum flow line from the pump discharge to the intake structure prevents the pump from overheating when pumping against a closed discharge valve.

The system is initiated manually from the control room. If operating during a loss of coolant accident (LOCA) or a loss of offsite power (LOSP), the system is automatically tripped to allow the diesel generators to automatically power only that equipment necessary. ~~to reflood the core.~~ The system can be manually ~~started any time 10 minutes after the LOCA, or manually~~ started any time the LOCA signal is manually overridden or clears. The system can be manually started any time after the LOSP signal is received.

(P.2) (P.18) (P.16) (P.9)

(continued)

BASES (continued)

APPLICABLE SAFETY ANALYSES

The RHRSW System removes heat from the suppression pool to limit the suppression pool temperature and primary containment pressure following a LOCA. This ensures that the primary containment can perform its function of limiting the release of radioactive materials to the environment following a LOCA. The ability of the RHRSW System to support long term cooling of the reactor or primary containment is discussed in the FSAR, Chapters [6] and [15] (Refs. 2 and 3, respectively). These analyses explicitly assume that the RHRSW System will provide adequate cooling support to the equipment required for safe shutdown. These analyses include the evaluation of the long term primary containment response after a design basis LOCA.

The safety analyses for long term cooling were performed for various combinations of RHR System failures. The worst case single failure that would affect the performance of the RHRSW System is any failure that would disable one subsystem of the RHRSW System. As discussed in the FSAR, Section [6.2.1.4.3] (Ref. 4) for these analyses, manual initiation of the OPERABLE RHRSW subsystem and the associated RHR System is assumed to occur [10] minutes after a DBA. The RHRSW flow assumed in the analyses is [4000] gpm per pump with two pumps operating in one loop. In this case, the maximum suppression chamber water temperature and pressure are [206.4]°F and [36.59] psig, respectively, well below the design temperature of [340]°F and maximum allowable pressure of [62] psig.

The RHRSW System satisfies Criterion 3 of the NRC Policy Statement.

LCO

Two RHRSW subsystems are required to be OPERABLE to provide the required redundancy to ensure that the system functions to remove post accident heat loads, assuming the worst case single active failure occurs coincident with the loss of offsite power.

An RHRSW subsystem is considered OPERABLE when:

a. Two pumps are OPERABLE; and

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.2 and SR 3.8.1.7 (continued)

(see Note 3) of SR 3.8.1.2), when a modified start procedure as described above is used. If a modified start is not used, the 12 second start requirement of SR 3.8.1.7 applies.

Since SR 3.8.1.7 does requires a 12 second start, it is more restrictive than SR 3.8.1.2, and it may be performed in lieu of SR 3.8.1.2. This procedure is the intent of Note 1 of SR 3.8.1.2.

The normal 31 day Frequency for SR 3.8.1.2 (see Table 3.8.1-1, "Diesel Generator Test Schedule") is consistent with Regulatory Guide 1.9 (Ref. 3). The 184 day Frequency for SR 3.8.1.7 is a reduction in cold testing consistent with Generic Letter 84-15 (Ref. 7). These Frequencies provides adequate assurance of DG OPERABILITY, while minimizing degradation resulting from testing.

SR 3.8.1.3

This Surveillance verifies that the DGs are capable of synchronizing and accepting greater than or equal to the equivalent of the maximum expected accident loads. A minimum run time of 60 minutes is required to stabilize engine temperatures, while minimizing the time that the DG is connected to the offsite source.

Although no power factor requirements are established by this SR, the DG is normally operated at a power factor between [0.8 lagging] and [1.0]. The [0.8] value is the design rating of the machine, while [1.0] is an operational limitation, [to ensure circulating currents are minimized]. The load band is provided to avoid routine overloading of the DG. Routine overloading may result in more frequent teardown inspections in accordance with vendor recommendations in order to maintain DG OPERABILITY.

The normal 31 day Frequency for this Surveillance (see Table 3.8.1-1) is consistent with Regulatory Guide 1.9 (Ref. 3).

(continued)

P10 Note 6 modifies the Surveillance by stating that starting transients above the upper voltage limit do not invalidate this test. B

BASES

SURVEILLANCE REQUIREMENTS

~~SR 3.8.1.3 (continued)~~

Note ~~1~~ 5 modifies this Surveillance to indicate that diesel engine runs for this Surveillance may include gradual loading, as recommended by the manufacturer, so that mechanical stress and wear on the diesel engine are minimized.

P5 Insert SR 3.8.1.2 Notes 5-8 (for 18 SR 3.8.1.19)

Note ~~2~~ 7 modifies this Surveillance by stating that momentary transients because of changing bus loads do not invalidate this test. ~~Similarly, momentary power factor transients above the limit do not invalidate the test.~~ P15

Note ~~3~~ 8 indicates that this Surveillance ~~should~~ is required to be conducted on only one DG at a time in order to avoid common cause failures that might result from offsite circuit or grid perturbations. P18

~~Note 4 stipulates a prerequisite requirement for performance of this SR. A successful DG start must precede this test to credit satisfactory performance.~~ P5

SR 3.8.1.~~4~~ 3 P9

This SR provides verification that the level of fuel oil in the day tank ~~[and engine mounted tank]~~ is at or above the level at which fuel oil is automatically added. The level is expressed as an equivalent volume in gallons, and is selected to ensure adequate fuel oil for a minimum of 1 hour of DG operation at full load plus 10%.

P26 The actual amount required to meet the SR (500 gallons) will provide approximately 2.5 hours of DG operation at full load.

The 31 day Frequency is adequate to ensure that a sufficient supply of fuel oil is available, since low level alarms are provided and ~~facility~~ operators would be aware of any large uses of fuel oil during this period.

SR 3.8.1.~~5~~ 4 P9

Microbiological fouling is a major cause of fuel oil degradation. There are numerous bacteria that can grow in fuel oil and cause fouling, but all must have a water environment in order to survive. Removal of water from the fuel oil day ~~[and engine mounted]~~ tanks once every ~~[31]~~ days eliminates the necessary environment for bacterial survival. P1

(continued)

INSERT SR 3.8.1.5 (continued)

To minimize the wear on moving parts that do not get lubricated when the engine is not running, this SR has been modified by a Note (Note 1) to indicate that all DG starts for this Surveillance may be preceded by an engine prelube period and followed by a warmup prior to loading.

Note 2 modifies this Surveillance to indicate that diesel engine runs for this Surveillance may include gradual loading, as recommended by the manufacturer, so that mechanical stress and wear on the diesel engine are minimized.

Note 3 modifies this Surveillance by stating that momentary voltage or load transients because of changing bus loads do not invalidate this test.

Note 4 indicates that this Surveillance is required to be conducted on only one DG at a time in order to avoid common cause failures that might result from offsite circuit or grid perturbations.

To minimize testing of the swing DG, Note 5 allows a single test (instead of two tests, one for each unit) to satisfy the requirements for both units, with the DG started using the starting circuitry of one unit and synchronized to the ESF bus of that unit for one periodic test and started using the starting circuitry of the other unit and synchronized to the ESF bus of that unit during the next periodic test. This is allowed since the main purpose of the Surveillance, to ensure DG OPERABILITY, is still being verified on the proper frequency, and each unit's starting circuitry and breaker control circuitry, which is only being tested every second test (due to the staggering of the tests), historically have a very low failure rate. If the swing DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

INSERT **SR 3.8.1.6** (Unit 1 version)

This Surveillance tests the applicable logic associated with the Unit 1 swing bus. The comparable test specified in the Unit 2 Technical Specifications tests the applicable logic associated with the Unit 2 swing bus. Consequently, a test must be performed within the specified Frequency for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1 or 2 does not have applicability to Unit 2. As the Surveillance represents separate tests, the Unit 1 Surveillance should not be performed with Unit 1 in MODE 1 or 2 and the Unit 2 test should not be performed with Unit 2 in MODE 1 or 2.

INSERT **SR 3.8.1.7** (Unit 1 version)

The largest single load for DGs 1A and 1C is a core spray pump at rated flow (1275 bhp). For DG 1B, the largest single load is a residual heat removal service water pump at rated flow (1225 bhp). This surveillance may be accomplished by either a) tripping the DG output breaker with the DG carrying greater than or equal to the largest single load while paralleled to offsite power or while solely supplying the bus, or b) tripping the largest single load with the DG solely supplying the bus. Although Plant Hatch Unit 1 is not committed to IEEE-387-1984 (Ref. 12), this SR is consistent with the IEEE-387-1984 requirement that states

B

INSERT **SR 3.8.1.6** (Unit 2 version)

This Surveillance tests the applicable logic associated with the Unit 2 swing bus. The comparable test specified in the Unit 1 Technical Specifications tests the applicable logic associated with the Unit 1 swing bus. Consequently, a test must be performed within the specified Frequency for each unit. The Note specifying the restriction for not performing the test while the unit is in MODE 1 or 2 does not have applicability to Unit 1. As the Surveillance represents separate tests, the Unit 2 Surveillance should not be performed with Unit 2 in MODE 1 or 2 and the Unit 1 test should not be performed with Unit 1 in MODE 1 or 2.

INSERT **SR 3.8.1.7** (Unit 2 version)

The largest single load for each DG is a residual heat removal service water pump at rated flow (1225 bhp). This Surveillance may be accomplished by either a.) tripping the DG output breaker with the DG carrying greater than or equal to the largest single load while paralleled to offsite power or while solely supplying the bus, or b.) tripping the largest single load with the DG solely supplying the bus. Although Plant Hatch Unit 2 is not committed to IEEE-387-1984 (Ref. 11), this SR is consistent with the IEEE-387-1984 requirement that states

B

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.8 (continued)

and 1B, this represents 65.5 Hz, equivalent to 75% of the difference between nominal speed and the overspeed trip setpoint.

The time, voltage, and frequency tolerances specified in this SR are derived from Regulatory Guide 1.9 (Ref. 3) recommendations for response during load sequence intervals. The [6] seconds specified is equal to 60% of the 10 second load sequence interval associated with sequencing the residual heat removal (RHR) pumps during an undervoltage on the bus concurrent with a LOCA. The voltage and frequency specified are consistent with the design range of the equipment powered by the DG. SR 3.8.1.9.a corresponds to the maximum frequency excursion, while SR 3.8.1.9.b and SR 3.8.1.9.c are steady state voltage and frequency values to which the system must recover following load rejection. The [18 month] frequency is consistent with the recommendation of Regulatory Guide 1.108 (Ref. 9).

In order to ensure that the DG is tested under load conditions that are as close to design basis conditions as possible, testing must be performed using a power factor ≤ [0.9]. This power factor is chosen to be representative of the actual design basis inductive loading that the DG would experience.

This SR is modified by two Notes. The reason for Note 1 is that, during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, plant safety systems. Note 2 acknowledges that credit may be taken for unplanned events that satisfy this SR.

[Reviewer's Note: The above MODE restrictions may be deleted if it can be demonstrated to the staff, on a plant specific basis, that performing the SR with the reactor in any of the restricted MODES can satisfy the following criteria, as applicable:

a. Performance of the SR will not render any safety system or component inoperable;]

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.9 (continued)

b. Performance of the SR will not cause perturbations to any of the electrical distribution systems that could result in a challenge to steady state operation or to plant safety systems; and

c. Performance of the SR, or failure of the SR, will not cause, or result in, an AOO with attendant challenge to plant safety systems.

(P1) (P2) (P26) Insert SR 3.8.1.7 note

SR 3.8.1.10 8 (P9)

This Surveillance demonstrates the DG capability to reject a full load without overspeed tripping or exceeding the predetermined voltage limits. The DG full load rejection may occur because of a system fault or inadvertent breaker tripping. This Surveillance ensures proper engine generator load response under the simulated test conditions. This test simulates the loss of the total connected load that the DG experiences following a full load rejection and verifies that the DG does not trip upon loss of the load. These acceptance criteria provide DG damage protection. While the DG is not expected to experience this transient during an event, and continues to be available, this response ensures that the DG is not degraded for future application, including reconnection to the bus if the trip initiator can be corrected or isolated.

In order to ensure that the DG is tested under load conditions that are as close to design basis conditions as possible, testing must be performed using a power factor ≤ [0.9] (0.88) (P1). This power factor is chosen to be representative of the actual design basis inductive loading that the DG would experience.

The [18 month] Frequency is consistent with the recommendation of Regulatory Guide 1.108 (Ref. 9) (Ref. 10) (P9) and is intended to be consistent with expected fuel cycle lengths.

This SR is modified by two (four) (P9) Notes. The reason for Note 1 2 is that during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that would challenge continued steady state operation and, as a result, plant safety systems.

(GP3) Note 1 states that momentary transients due to changing bus loads do not invalidate this test.

(continued)

P11 Insert SR 3.8.3.7 P11

BASES

P19

SURVEILLANCE REQUIREMENTS

SR 3.8.3.6 (continued)

failure of this SR, provided that accumulated sediment is removed during performance of the Surveillance.

REFERENCES

P1 P29

1. FSAR, Section [9.5.2]. 9.5.4 Unit 2; 8.4 Unit 1
2. Regulatory Guide 1.137.
3. ANSI N195, 1976.
2. 4. FSAR, Chapter [6]. Unit 2; Chapters 5 and 6 Unit 1
3. 5. FSAR, Chapter [15]. Unit 2; 14 Unit 1
6. ASTM Standards: D4054-[ ]; D975-[ ]; D4176-[ ]; D1522-[ ]; D2622-[ ]; and D2276-[ ]. <WOG-13 C11 NOT SHOWN>
7. ASME, Boiler and Pressure Vessel Code, Section XI.

P31 4. INSERT REF

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.4 DC Sources—Operating

BASES

BACKGROUND

The DC electrical power system provides the AC emergency power system with control power. It also provides both motive and control power to selected safety related equipment. ~~Also, these DC subsystems provide DC electrical power to inverters, which in turn power the AC vital buses.~~ As required by 10 CFR 50, Appendix A, GDC 17 (Ref. 1), the DC electrical power system is designed to have sufficient independence, redundancy, and testability to perform its safety functions, assuming a single failure. The DC electrical power system also conforms to the recommendations of Regulatory Guide 1.6 (Ref. 2) and IEEE-308 (Ref. 3).

The station service DC power sources provide both motive and control power to selected safety related ~~equipment, as well as circuit breaker control power for the~~ nonsafety related ~~4160 V, and all 600 V and lower, AC distribution systems.~~ Each DC subsystem is energized by one 125/250 V station service battery and three 125 V battery chargers (two normally inservice chargers and one ~~spare~~ charger). Each battery is exclusively associated with a single 125/250 VDC bus. Each set of battery chargers exclusively associated with a 125/250 VDC subsystem cannot be interconnected with any other 125/250 VDC subsystem. The normal and backup chargers are supplied from the same AC load groups for which the associated DC subsystem supplies the control power. The loads between the redundant 125/250 VDC subsystem are not transferable except for the Automatic Depressurization System, the logic circuits and valves of which are normally fed from the Division 1 DC system.

The diesel generator (DG) DC power sources provide control and instrumentation power for their respective DG. In addition, DG 2A and 2C ~~DC~~ power source provide circuit breaker control power for the loads on ~~the~~ 4160 ~~V 2E, 2F, and 2G emergency buses.~~ Each DG DC subsystem is energized by one 125 V battery and ~~one~~ 125 V battery charger. ~~Provisions exist for connecting a portable alternate battery charger.~~

During normal operation, the DC loads are powered from the battery chargers with the batteries floating on the system.

(continued)

INSERT FOR BACKGROUND SECTION BASES 3.8.4

Unit 1 Unit 2 Unit 1 Unit 2 Unit 1 Unit 2

VAC buses 1 (or 2)E and 1 (or 2)F, and DG 1 (or 2)C power source provides circuit breaker control power for the respective Division II loads on 4160 VAC buses 1 (or 2)F and 1 (or 2)G.

Unit 1 Unit 2 Unit 1 Unit 2

B

BASES (continued)

ACTIONS

A.1

Condition A represents one division with a loss of ability to completely respond to an event, and a potential loss of ability to remain energized during normal operation. It is therefore imperative that the operator's attention focus on stabilizing the unit, minimizing the potential for complete loss of DC power to the affected division. The 2 hour limit is consistent with the allowed time for an inoperable DC Distribution System division.

If one of the required DC electrical power subsystems is inoperable (e.g., inoperable battery, inoperable battery charger(s), or inoperable battery charger and associated inoperable battery), the remaining DC electrical power subsystems have the capacity to support a safe shutdown and to mitigate an accident condition. Since a subsequent worst case single failure could, however, result in the loss of minimum necessary DC electrical subsystems to mitigate a worst case accident, continued power operation should not exceed 2 hours. The 2 hour Completion Time is based on Regulatory Guide 1.93 (Ref. 6) and reflects a reasonable time to assess unit status as a function of the inoperable DC electrical power subsystem and, if the DC electrical power subsystem is not restored to OPERABLE status, to prepare to effect an orderly and safe unit shutdown.

B.1 and B.2

If the station service DC electrical power subsystem cannot be restored to OPERABLE status within the required Completion Time, the unit must be brought to a MODE in which the LCO does not apply. To achieve this status, the unit must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. The Completion Time to bring the unit to MODE 4 is consistent with the time required in Regulatory Guide 1.93 (Ref. 6).

(continued)

BASES

ACTIONS (continued)

C.1

If the DG DC electrical power subsystem cannot be restored to OPERABLE status in the associated Completion Time, the associated DG may be incapable of performing its intended function and must be immediately declared inoperable. This declaration also requires entry into applicable Conditions and Required Actions for an inoperable DG, LCO 3.8.1, "AC Sources—Operating."

SURVEILLANCE REQUIREMENTS

SR 3.8.4.1

Verifying battery terminal voltage while on float charge for the batteries helps to ensure the effectiveness of the charging system and the ability of the batteries to perform their intended function. Float charge is the condition in which the charger is supplying the continuous charge required to overcome the internal losses of a battery (or battery cell) and maintain the battery (or a battery cell) in a fully charged state. The voltage requirements are based on the nominal design voltage of the battery and are consistent with the initial voltages assumed in the battery sizing calculations. The 7 day Frequency is consistent with manufacturers recommendations and IEEE-450 (Ref. 7).

SR 3.8.4.2

Visual inspection to detect corrosion of the battery cells and connections, or measurement of the resistance of each inter-cell, inter-rack, inter-tier, and terminal connection, provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance.

The connection resistance limits ~~established for this SR must be no more than 20% above the resistance as measured during installation or not above the ceiling value established by the manufacturer.~~

The Frequency for these inspections, which can detect conditions that can cause power losses due to resistance heating, is 92 days. This Frequency is considered

(continued)

INSERT **Action 3.8.4 A/B** (Unit 1 version)

A.1

If one or more of the required Unit 2 DG DC electrical power subsystems is inoperable (e.g., inoperable battery, inoperable battery charger(s), or inoperable battery charger and associated inoperable battery), or if the swing DG DC electrical power subsystem is inoperable due to performance of SR 3.8.4.7 or SR 3.8.4.8, and a loss of function has not occurred as described in Condition E, the remaining DC electrical power subsystems have the capacity to support a safe shutdown and to mitigate an accident condition. In the case of an inoperable Unit 2 DG DC electrical power subsystem, since a subsequent postulated worst case single failure could result in the loss of certain safety functions (e.g., SGT System), continued power operation should not exceed 7 days. The 7 day Completion Time takes into account the capacity and capability of the remaining DC sources, and is based on the shortest restoration time allowed for the systems affected by the inoperable DC source in the respective system Specification.

In the case of an inoperable swing DG DC electrical power subsystem, since a subsequent postulated worst case single failure could result in the loss of minimum necessary DC electrical subsystems to mitigate a postulated worst case accident, continued power operation should also not exceed 7 days. The 7 day Completion Time is based upon the swing DG DC electrical power subsystem being inoperable due to performance of SR 3.8.4.7 or SR 3.8.4.8. Performance of these two SRs will result in inoperability of the DC battery. Since this battery is common to both units, more time is provided to restore the battery, if the battery is inoperable for performance of required Surveillances, to preclude the need to perform a dual unit shutdown to perform these Surveillances. The swing DG DC electrical power subsystem also does not provide power to the same type of equipment as the other DG DC sources (e.g., breaker control power for 4160 V loads is not provided by the swing DG battery). The Completion Time also takes into account the capacity and capability of the remaining DC sources.

INSERT Action 3.8.4 A/B (continued) (Unit 1 version)

B.1

If a Unit 1 or swing DG DC electrical power subsystem is inoperable (for reasons other than Condition A), the remaining DC electrical power subsystems have the capacity to support a safe shutdown and to mitigate an accident condition. Since a subsequent postulated worst case single failure could result in the loss of minimum necessary DC electrical subsystems to mitigate a postulated worst case accident, continued power operation should not exceed 12 hours. The 12 hour Completion Time provides a period of time to correct the problem commensurate with the importance of maintaining the DG DC electrical power subsystem OPERABLE. (The DG DC electrical power subsystem affects both the DG and the offsite circuit, as well as the breaker closure power for various 4160 V AC loads, but does not affect 125/250 V DC station service loads).

INSERT **Action 3.8.4 A/B** (Unit 2 version)

A.1

If one or more of the required Unit 1 DG DC electrical power subsystems is inoperable (e.g., inoperable battery, inoperable battery charger(s), or inoperable battery charger and associated inoperable battery), or if the swing DG DC electrical power subsystem is inoperable due to performance of SR 3.8.4.7 or SR 3.8.4.8, and a loss of function has not occurred as described in Condition E, the remaining DC electrical power subsystems have the capacity to support a safe shutdown and to mitigate an accident condition. In the case of an inoperable Unit 1 DG DC electrical power subsystem, since a subsequent postulated worst case single failure could result in the loss of certain safety functions (e.g., SGT System), continued power operation should not exceed 7 days. The 7 day Completion Time takes into account the capacity and capability of the remaining DC sources, and is based on the shortest restoration time allowed for the systems affected by the inoperable DC source in the respective system Specification.

In the case of an inoperable swing DG DC electrical power subsystem, since a subsequent postulated worst case single failure could result in the loss of minimum necessary DC electrical subsystems to mitigate a postulated worst case accident, continued power operation should also not exceed 7 days. The 7 day Completion Time is based upon the swing DG DC electrical power subsystem being inoperable due to performance of SR 3.8.4.7 or SR 3.8.4.8. Performance of these two SRs will result in inoperability of the DC battery. Since this battery is common to both units, more time is provided to restore the battery, if the battery is inoperable for performance of required Surveillances, to preclude the need to perform a dual unit shutdown to perform these Surveillances. The swing DG DC electrical power subsystem also does not provide power to the same type of equipment as the other DG DC sources (e.g., breaker control power for 4160 V loads is not provided by the swing DG battery). The Completion Time also takes into account the capacity and capability of the remaining DC sources.

INSERT **Action 3.8.4 A/B** (continued) (Unit 2 version)

B

B.1

If a Unit 2 or swing DG DC electrical power subsystem is inoperable (for reasons other than Condition A), the remaining DC electrical power subsystems have the capacity to support a safe shutdown and to mitigate an accident condition. Since a subsequent postulated worst case single failure could result in the loss of minimum necessary DC electrical subsystems to mitigate a postulated worst case accident, continued power operation should not exceed 12 hours. The 12 hour Completion Time provides a period of time to correct the problem commensurate with the importance of maintaining the DG DC electrical power subsystem OPERABLE. (The DG DC electrical power subsystem affects both the DG and the offsite circuit, as well as the breaker closure power for various 4160 V AC loads, but does not affect 125/250 V DC station service loads).

INSERT <u>SR 3.8.4.1</u>

The voltage requirement for battery terminal voltage is based on the open circuit voltage of a lead-calcium cell of nominal 1.215 specific gravity. Without regard to other battery parameters, this voltage is indicative of a battery that is capable of performing its required safety function.

INSERT SR 3.8.4.2

are established

(P.41) to maintain connection resistance as low as reasonably possible to minimize the overall voltage drop across the battery and the possibility of battery damage due to heating of connections. (P26) The resistance values for each battery connection are located in the Technical Requirements Manual (Reference 9). B

INSERT SR 3.8.4.4/5

(P.41) are established to maintain connection resistance as low as reasonably possible to minimize the overall voltage drop across the battery and the possibility of battery damage due to heating of connections. The resistance values for each battery connection are located in the Technical Requirements Manual (Reference 9).

The 18 month Frequency of the Surveillances is based on engineering judgment, taking into consideration the desired plant conditions to perform the Surveillance. Operating experience has shown that these components usually pass the SR when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.2 (continued)

acceptable based on operating experience related to detecting corrosion trends.

SR 3.8.4.3

Visual inspection of the battery cells, cell plates, and battery racks provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance.

Insert SR 3.8.4.3

P1

The 12 month Frequency for this SR is consistent with IEEE-450 (Ref. 7), which recommends detailed visual inspection of cell condition and rack integrity on a yearly basis.

SR 3.8.4.4 and SR 3.8.4.5

Visual inspection and resistance measurements of inter-cell, inter-rack, inter-tier, and terminal connections provides an indication of physical damage or abnormal deterioration that could indicate degraded battery condition. The anti-corrosion material is used to help ensure good electrical connections and to reduce terminal deterioration. The visual inspection for corrosion is not intended to require removal of and inspection under each terminal connection.

REVIEWER'S NOTE NOT SHOWN — FROM WOG-13; C5

The removal of visible corrosion is a preventive maintenance SR. The presence of visible corrosion does not necessarily represent a failure of this SR, provided visible corrosion is removed during performance of this Surveillance.

Insert SR 3.8.4.4/5

See insert for comment numbers

The connection resistance limits for this SR must be no more than 20% above the resistance as measured during installation, or not above the ceiling value established by the manufacturer.

P1

The 12 month Frequency of these SRs is consistent with IEEE-450 (Ref. 7), which recommends detailed visual inspection of cell condition and inspection of cell to cell and terminal connection resistance on a yearly basis.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.4.6

Battery charger capability requirements are based on the design capacity of the chargers (Ref. 3). According to Regulatory Guide 1.32 (Ref. 8), the battery charger supply is required to be based on the largest combined demands of the various steady state loads and the charging capacity to restore the battery from the design minimum charge state to the fully charged state, irrespective of the status of the unit during these demand occurrences. The minimum required amperes and duration ensures that these requirements can be satisfied.

The Frequency is acceptable, given the unit conditions required to perform the test and the other administrative controls existing to ensure adequate charger performance during these [18 month] intervals. In addition, this Frequency is intended to be consistent with expected fuel cycle lengths.

This SR is modified by two Notes. The reason for Note 1 is that performing the Surveillance would remove a required DC electrical power subsystem from service, perturb the electrical distribution system, and challenge safety systems. Note 2 is added to this SR to acknowledge that credit may be taken for unplanned events that satisfy the Surveillance.

SR 3.8.4.7

A battery service test is a special test of the battery's capability, as found, to satisfy the design requirements (battery duty cycle) of the DC electrical power system. The discharge rate and test length corresponds to the design duty cycle requirements as specified in Reference 4.

The Frequency of [18 months] is consistent with the recommendations of Regulatory Guide 1.32 (Ref. 8) and Regulatory Guide 1.129 (Ref. 9), which state that the battery service test should be performed during refueling operations or at some other outage, with intervals between tests not to exceed [18 months].

This SR is modified by three Notes. Note 1 to SR 3.8.4.7 allows the once per 60 months performance of SR 3.8.4.8 in

(continued)

INSERT SR 3.8.4.7A

a modified performance discharge test in lieu of a service test.

The modified performance discharge test is a simulated duty cycle consisting of just two rates: the 1 minute rate published for the battery or the largest current load of the duty cycle, followed by the test rate employed for the performance test, both of which envelope the duty cycle of the service test. Since the ampere-hours removed by a rated 1 minute discharge represent a very small portion of the battery capacity, the test rate can be changed to that of the service test.

A modified performance discharge test is a test of the battery capacity and its ability to provide a high rate, short duration load (usually the highest rate of the duty cycle). This will often confirm the battery's ability to meet the critical period of the load duty cycle, in addition to determining its percentage of rated capacity. Initial conditions for the modified performance discharge test should be identical to those specified for a service discharge test.

B

SURVEILLANCE REQUIREMENTS

SR 3.8.4.7 (continued)

lieu of SR 3.8.4.7. This substitution is acceptable because SR 3.8.4.8 represents a more severe test of battery capacity than SR 3.8.4.7. The reason for Note 2 is that performing the Surveillance would remove a required DC electrical power subsystem from service, perturb the electrical distribution system, and challenge safety systems. Note 3 is added to this SR to acknowledge that credit may be taken for unplanned events that satisfy the Surveillance.

SR 3.8.4.8

A battery performance test is a test of constant current capacity of a battery, normally done in the as found condition, after having been in service, to detect any change in the capacity determined by the acceptance test. The test is intended to determine overall battery degradation due to age and usage.

The acceptance criteria for this Surveillance is consistent with IEEE-450 (Ref. 7) and IEEE-485 (Ref. 10). These references recommend that the battery be replaced if its capacity is below 80% of the manufacturer's rating. A capacity of 80% shows that the battery rate of deterioration is increasing, even if there is ample capacity to meet the load requirements.

The Frequency for this test is 60 months, or every 12 months if the battery shows degradation or has reached 85% of its expected life. Degradation is indicated, according to IEEE-450 (Ref. 7), when the battery capacity drops by more than 10% relative to its capacity on the previous performance test or when it is 10% below the manufacturer's rating. All these Frequencies are consistent with the recommendations in IEEE-450 (Ref. 7).

This SR is modified by two Notes. The reason for Note 1 is that performing the Surveillance would remove a required DC electrical power subsystem from service, perturb the electrical distribution system, and challenge safety systems. Note 2 is added to this SR to acknowledge that credit may be taken for unplanned events that satisfy the Surveillance.

(continued)

4. FSAR, Sections 8.3.2.1.1 and 8.3.2.1.2 Unit 2
Section 8.5 Unit 1

BASES (continued)

REFERENCES

1. 10 CFR 50, Appendix A, GDC 17.
2. Regulatory Guide 1.6.
3. IEEE Standard 308, -1978.
4. FSAR, Chapter [6]. (5) Chapters 5 and 6 Unit 1; Unit 2
5. FSAR, Chapter [15]. (6) 14 Unit 1; Unit 2
6. Regulatory Guide 1.93, December 1974. (7)
7. IEEE Standard 450, - 1987. (8)
8. Regulatory Guide 1.32, February 1977. (10)
9. Regulatory Guide 1.129, December 1974. (11)
10. IEEE Standard 485, -1983. (12)

9. Technical Requirements Manual

(P29)

(P31) 13. INSERT Ref

INSERT SR 3.8.4.7

The swing DG DC battery is exempted from this restriction, since it is required by both units' LCO 3.8.4 and cannot be performed in the manner required by the Note without resulting in a dual unit shutdown.

INSERT SR 3.8.4.8A

A battery modified performance discharge test is described in the Bases for SR 3.8.4.7. Either the battery performance discharge test or the modified performance discharge test is acceptable for satisfying SR 3.8.4.8; however, only the modified performance discharge test may be used to satisfy SR 3.8.4.8, while satisfying the requirements of SR 3.8.4.7 at the same time.

INSERT SR 3.8.4.8 Note

The swing DG DC battery is exempted from this restriction, since it is required by both units' LCO 3.8.4 and cannot be performed in the manner required by the Note without resulting in a dual unit shutdown.

B

NUREG 1433 COMPARISON DOCUMENT - JUSTIFICATION FOR DEVIATION

PLANT SPECIFIC DIFFERENCES (continued)

P.14 An SR has been added consistent with current Plant Hatch Technical Specifications. The excess flow isolation dampers are required to be OPERABLE to support the purge valve Technical Specification allowances. Thus, this SR demonstrates that the dampers are OPERABLE.

P.15 This allowance has been deleted since the Plant Hatch design includes only one solenoid for each LLS valve.

P.16 The Frequency has been changed to "In accordance with the Inservice Testing Program," consistent with other Frequencies for similar components covered by the IST Program. The current IST Frequency is 92 days, so no technical change is made.

P.17 This Specification has been deleted for Unit 1, since Unit 1 does not have this system installed. For Unit 2, this Specification has been deleted as justified in the Georgia Power Company letters from J.T. Beckham to the NRC, dated January 6, 1994 and February 3, 1994. Subsequently, the NRC issued this change as Amendment 132 to the Unit 2 TS by letter dated March 17, 1994.

P.18 An ACTION has been added to allow both RHR suppression pool cooling subsystems to be inoperable for up to 8 hours prior to requiring a unit shutdown. This ACTION is allowed in the current Hatch Unit 2 TS (Hatch Unit 1 does not have a TS requirement on this system), and is consistent with the NUREG ACTION provided when two RHR suppression pool spray subsystems are inoperable (LCO 3.6.2.4, ACTION B). The reasons for allowing 8 hours is similar to the reasons why 8 hours is allowed for suppression pool spray; the proposed 8 hour Completion Time provides some time to restore at least one subsystem, yet is short enough that operating an additional 8 hours is not risk significant. In addition, if one of the two subsystems is restored prior to the expiration of the 8 hours, a unit shutdown is averted. Thus, the potential of a unit scram occurring during the shutdown required by the NUREG ACTIONS, which then could result in the need for a subsystem when it is inoperable, has been decreased. The first Condition of Condition B has been modified to reflect the addition by deleting the words "of Condition A", since this Condition now applies both to current Condition A, as well as new Condition B.

PLANT SPECIFIC DIFFERENCES (continued)

P.55 The proper description of the system has been provided.

P.56 Unit 1 uses a CAD System, not H_2 Recombiners and the Drywell Cooling System. Thus the reference to the other systems has been changed.

P.57 The safety analysis for Plant Hatch Unit 2 does not assume an initial oxygen concentration. However, the Specification does meet criterion 4 of the NRC Policy Statement, thus it is retained for this reason.

P.58 As described in comment No. P.27, the Unit 1 secondary containment includes both the common refueling floor and the Unit 1 reactor building. Due to the design of the buildings, the reactor building can be separated from the common refueling floor such that Unit 1 secondary containment only includes the common refueling floor. This "modified" containment is currently licensed to be used when Unit 1 is not in MODES 1, 2, and 3. Since the OPDRVS applicability has been added and it affects the reactor building, "modified" containment is not allowed during OPDRVs. This description is included in appropriate places.

P.59 This phrase has been deleted since Plant Hatch safety analysis does not assume a wind angle.

P.60 The filter tests are not all in accordance with RG 1.52, Rev.2. However they are in accordance with the VFTP. Thus, this is the reference mentioned in the Bases.

P.61 The MSIV leakage limit for Plant Hatch Unit 2 was proposed to be changed per GPC letter dated January 6, 1994, and subsequently, the NRC issued this change as Amendment 132 to the Unit 2 TS by letter dated March 17, 1994. Amendment 132 includes the 250 scfh limit and the requirement to reduce leakage to $\leq$ 11.5 scfh if an MSIV exceeds the 100 scfh limit. Further technical discussion is provided in the GPC January 6, 1994, letter and the corresponding NRC SER dated March 17, 1994.

P.62 The acceptance criteria time has been changed to $\leq$ 100 seconds, consistent with the time in the SR (in the Technical Specifications) and the safety analysis.

P.63 The Unit 1 safety analysis does not have the same level of detail as the Unit 2 analysis. Therefore, the Unit 1 Bases has been modified to reflect that the Unit 2 FSAR analysis is appropriate for Unit 1. See comment No. P.46.

GENERIC APPROVED/PENDING CHANGES TO NUREG 1433

GP.1 Changed to be consistent with NUREG change package BWR-14 Items C.1, C.3, C.4, and C.6.

GP.2 Changed to be consistent with NUREG change package BWR-15 Items C.1, C.2, C.3, C.4, C.5, C.6, C.7, C.8, C.9, C.10, C.11, C.13, C.14, C.15, C.17, and C.19.

GP.3 Changed to be consistent with NUREG change package BWR-16 Items C.3, C.4, C.7, C.8, C.9, C.15, C.20, C.22, C.23, C.24, C.25, C.26, and C.28.

GA.4 Change approved per package BWR-06 Items C.4 and C.5, 5/20/93.

GA.5 Change approved per package BWR-04 Items C.7 and C.8, 4/22/93.

GA.6 Change approved per package NRC-02 Item C.15, 5/20/93.

GA.7 Change approved per package NRC-07 Item C.1, Rev. 1, 12/16/93.

PLANT SPECIFIC DIFFERENCES

P.10 The upper voltage limit is restricted for steady state operation (refer to Discussion of Change "M.8" in the markup of the current Technical Specifications). However it is not the intent that starting voltage excursions be considered a failure of the DG Surveillance.

P.11 Due to the Plant Hatch design, both fuel oil transfer pumps are needed to ensure fuel oil transfer capability in the event of a design basis accident coincident with a single active failure. The Plant Hatch requirement for fuel oil requires that the five tanks (one per DG) have sufficient fuel oil to provide for four DGs for 7 days. Four tanks do not carry enough fuel oil to power the four remaining DGs (assuming the single failure is a DG). Thus, this is why capability to transfer fuel from one tank to a different DG is required. Each tank has two associated fuel transfer pumps, and while the pumps are 100% capacity pumps, their power supplies are such that the loss of a power supply with one pump already inoperable could result in the loss of ability to transfer the fuel oil from that tank. Therefore, since this fuel oil is being credited, both fuel oil transfer pumps per required tank are needed.

A 30 day Completion time is proposed for when one pump is inoperable since the fuel oil can still be transferred assuming no additional single failures, and in some cases, can be transferred if the single failure does not affect the power supply to the remaining pump. In addition, since the NUREG assumed only one pump was required, it placed the requirement in DG LCO 3.8.1. Since both are now required at Plant Hatch, it has been placed in DG fuel oil LCO 3.8.3 for consistency with other fuel oil requirements. The SR has also been moved to this new location.

P.12 The current licensing basis at Plant Hatch provides for each DG reaching only "synchronous speed" initially on each fast start, and applies the voltage and frequency range limitations only for "steady state" operation.

P.13 The plant specific single largest load component/load value is proposed to be supplied with the following criteria: "greater than or equal to the single largest post accident load." This presentation supplies the necessary Technical Specifications requirement while avoiding the confusion associated with a specific values and/or a specific component. When utilizing a value, constructing the test to trip the component operating at full load may not quite result in meeting the value, but should satisfy the test

PLANT SPECIFIC DIFFERENCES (continued)

P.13 (continued)

requirement since the largest load was rejected satisfactorily.

P.14 These limits imposed on return to steady state frequency following a single load rejection, are controlled by plant procedures, and are not presented as specific TS requirements. The specific criteria referenced would not be appropriate for certain methods of performing this test, e.g., if performed while the DG was loaded only with the single largest load. Furthermore, this criteria is not currently included in the Plant Hatch licensing basis. The specified voltage is the nominal [illegible] voltage range and is consistent with the CTS voltage range.

P.15 At Plant Hatch this test is only performed with the DG separated from offsite power (as detailed in the proposed Bases). In this case, a specific power factor requirement is not appropriate since power factor will be determined solely by the connected equipment. Therefore, the portions of Generic change BWR-17 Items C.2 and C.3 regarding power factor are omitted.

P.16 On the initial DG start the minimum DG parameters (e.g., frequency) are the limits which must be reached within 12 seconds, and the ranges apply to steady state operation. This is in agreement with the current Plant Hatch Technical Specifications, and is clarified with these proposed changes.

P.17 With offsite power available, all loads remain energized. The Plant Hatch design does not sequence loads onto offsite power. Verification that components remain energized from offsite power is already accomplished with various system functional tests required by individual system Specifications.

P.18 Typographical/grammatical error or Writer's Guide convention corrected.

P.19 Corrected for current Plant Hatch licensing basis. In addition, NUREG SR 3.8.3.6 is a preventive maintenance type of SR. This type of SR is generally allowed to be plant controlled and not controlled by Technical Specifications. This is similar to the current DG inspection SR that has been removed from TS.

P.20 Comment number not used.

PLANT SPECIFIC DIFFERENCES (continued)

P.41 The bracketed values of resistance specified in the NUREG are vendor recommended values; that is, values at which some action should be taken, not necessarily when the OPERABILITY of the battery is in question. In addition, the safety analyses do not assume a specific battery resistance value, but typically assume the batteries will supply adequate power.

Connection resistance is determined by the contact resistance between the connector and battery post, as well as the material, shape, and length of the connector bar/cable. Contact resistance is affected by the irregularity of contact surfaces, the level of corrosion between contact surfaces, and the tightness of the connection. The type of connection is determined by the location of the connection (inter-cell, inter-tier, inter-rack, and terminal) and is characterized by connectors varying in shape and length. The allowable resistance range for each type of connection is different for a particular battery. Since batteries of different sizes may require connectors of different sizes and lengths, connection resistance is often different from one plant to another and from one battery to another.

A single OPERABILITY resistance value for each battery connection type is not practical. The key issue is the overall battery resistance. Between surveillances, the resistance of each connection varies independently from all the others. Some of these connection resistances may be higher or lower than others, and the battery may still be able to perform its function and should not be considered inoperable.

The proposed Hatch ITS include the surveillance to survey the battery resistances to ensure they are within limits. These limits will be specified in the Technical Requirements Manual. This allows appropriate battery resistance values to be specified and the levels at which action will be taken if: 1.) the manufacturer recommended values are exceeded and 2.) when the OPERABILITY of a battery is questioned.

Current procedures address resistance values and evaluate changes in resistance values.

Please note that the CTS do not include a surveillance equivalent to SR 3.8.4.5 and SR 3.8.4.2. As identified in

PLANT SPECIFIC DIFFERENCES

P.41
(continued)

the Markup of the Current Technical Specifications Section 3.8.4 M.1 (Unit 1) and M.3 (Unit 2), these surveillances are additional requirements, even without specific resistance values.

Based on the above discussion, we believe the Hatch ITS proposed specification is appropriate. In summary, the NUREG values specified tend to be manufactures' values, not OPERABILITY values. The configuration of the batteries will lead to several different values, not just three. Hatch CTS do not include these requirements, and we currently have procedures for performing battery inspections.

P.42 The substitution of a modified performance discharge test for a service test may be helpful to gather additional data points for trending capacity as a battery nears its end of life, but before more frequent testing would normally be required. For this reason, this substitution should be allowed, though not required. Since the modified performance discharge test envelopes the duty cycle of the service test, thus making it a harsher test on the battery, it may be substituted for the service test at any time. (This is stated in the draft revision of IEEE-450.) Also, to simplify procedures, the use of a modified performance test may be substituted for the service test throughout the life of the battery. Design configuration controls should verify the continued enveloping of the service test duty cycle by that of the modified performance discharge test.

JUSTIFICATION FOR DEVIATION FROM NUREG 1433
ITS: SECTION 3.8 - ELECTRICAL POWER SYSTEMS

GENERIC APPROVED/PENDING CHANGES TO NUREG 1433

GA.1 Change approved per package BWR-07 Item C.1, 9/8/93.

GA.2 Change approved per package BWOG-05 Item C.1, 5/20/93.

GP.3 Changed to be consistent with NUREG change package BWR-17 Items C.2, C.3, C.4, C.5, C.6, C.7, C.9, C.10, C.11, C.12, and C.13.

GA.4 Change approved per package WOG-13 Item C.4, C.5, C.8, C.9 and C.12; 9/15/93, 7/28/93, and 4/22/93.

GA.5 Change approved per package WOG-14 Item C.1, 5/20/93.

GA.6 Change approved per package CEOG-01 Items A, C.1, C.3; 6/29/93 and 7/28/93.

GA.7 Change approved per package NRC-02 Item C.1, 7/28/93.

GP.8 Changed to be consistent with NUREG change package BWR-18 Item C.64 and C.65.

GA.9 Change approved per package WOG-26 Item C.4, 7/28/93.

GA.10 Change approved per package BWR-08 Item C.1 and C.4, 10/7/93.

GP.11 Changed to be consistent with NUREG change package BWR-18 Item C.2.

GP.12 Comment number not used.

GP.13 Changed to be consistent with NUREG change package BWR-22 Item C.1.

GA.14 Changed to be consistent with NUREG change package NRC-15, Item C.1, 4/30/94.

GP.15 Changed to be consistent with NUREG change package NRC-20.