ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 2.	6 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.1.1	Verify pressurizer pressure is greater than or equal to the limit specified in the COLR.	12 hours
SR 3.4.1.2	Verify RCS average temperature is less than or equal to the limit specified in the COLR.	12 hours
SR 3.4.1.3	----------NOTE---------- Required to be performed within 72 hours after $\geq$ 90% RTP. ---------- Verify RCS total flow rate is within the limit specified in the COLR.	24 months

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two RCS loops inoperable. OR Required RCS loop not in operation.	D.1 Place the Rod Control System in a condition incapable of rod withdrawal. AND D.2 Suspend operations that would cause introduction into the RCS, coolant with boron concentration less than required to meet SDM of LCO 3.1.1. AND D.3 Initiate action to restore one RCS loop to OPERABLE status and operation.	Immediately Immediately Immediately

APPLICABILITY: MODE 5 with RCS loops filled.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required RHR loop inoperable. AND One RHR loop OPERABLE.	A.1 Initiate action to restore a second RHR loop to OPERABLE status. OR A.2 Initiate action to restore required SG capable to remove decay heat.	Immediately Immediately
B. One or more SGs not capable of decay heat removal. AND One RHR loop OPERABLE.	B.1 Initiate action to restore a second RHR loop to OPERABLE status. OR B.2 Initiate action to restore a required SG capable to remove decay heat.	Immediately Immediately

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.12 Low Temperature Overpressure Protection (LTOP) – Reactor Coolant System Cold Leg Temperature (RCSCLT) > Safety Injection (SI) Pump Disable Temperature

LCO 3.4.12 LTOP shall be provided with:

a. a maximum of one SI pump capable of injecting into the RCS;

b. the emergency core cooling system (ECCS) accumulators isolated;

c. an OPERABLE Over Pressure Protection System (OPPS) with lift setting within the limits specified in the PTLR; and

d. two OPERABLE pressurizer power operated relief valves (PORVs).

----------NOTES----------

1. Both SI pumps may be run for ≤ 1 hour while conducting SI system testing providing there is a steam or gas bubble in the pressurizer and at least one isolation valve between the SI pump and the RCS is shut.

2. ECCS accumulator may be unisolated when accumulator pressure is less than the maximum RCS pressure for the existing RCS cold leg temperature allowed by the P/T limit curves provided in the PTLR.

APPLICABILITY: MODE 4 when any RCS cold leg temperature is ≤ the OPPS enable temperature specified in the PTLR and > the SI pump disable temperature specified in the PTLR.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.12.1	Verify a maximum of one SI pump is capable of injecting into the RCS.	12 hours
SR 3.4.12.2	Verify each ECCS accumulator is isolated.	Once within 12 hours and every 12 hours thereafter
SR 3.4.12.3	Verify PORV block valve is open for each required PORV.	72 hours
SR 3.4.12.4	----------NOTE---------- Not required to be performed until 12 hours after decreasing RCS cold leg temperature to ≤ the OPPS enable temperature specified in the PTLR. ---------- Perform a COT on OPPS.	31 days
SR 3.4.12.5	Perform CHANNEL CALIBRATION for each OPPS actuation channel.	24 months

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.13.1	Verify no SI pumps are capable of injecting into the RCS.	12 hours
SR 3.4.13.2	Verify each ECCS accumulator is isolated.	Once within 12 hours and every 12 hours thereafter
SR 3.4.13.3	----------NOTE---------- Only required to be performed when complying with LCO 3.4.13.b. ---------- Verify required RCS vent ≥ 3 square inches open.	12 hours for unlocked open vent valve(s) AND 31 days for other vent path(s)
SR 3.4.13.4	Verify PORV block valve is open for each required PORV.	72 hours

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.4.13.5	----------NOTE---------- Not required to be performed until 12 hours after decreasing RCS cold leg temperature to ≤ the OPPS enable temperature specified in the PTLR. ---------- Perform a COT on OPPS.	31 days
SR 3.4.13.6	Perform CHANNEL CALIBRATION for OPPS actuation channel.	24 months

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.4.17.2	----------NOTE---------- Only required to be performed in MODE 1. ----------	
	Verify reactor coolant DOSE EQUIVALENT I-131 specific activity ≤ 1.0 μCi/gm.	14 days AND Between 2 and 6 hours after a THERMAL POWER change of ≥ 15% RTP within a 1 hour period
SR 3.4.17.3	----------NOTE---------- Not required to be performed until 31 days after a minimum of 2 effective full power days and 20 days of MODE 1 operation have elapsed since the reactor was last subcritical for ≥ 48 hours. ----------	
	Determine $\bar{E}$ from a sample taken in MODE 1 after a minimum of 2 effective full power days and 20 days of MODE 1 operation have elapsed since the reactor was last subcritical for ≥ 48 hours.	184 days

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.4.1.2

Since Required Action A.1 allows a Completion Time of 2 hours to restore parameters that are not within limits, the 12 hour Surveillance Frequency for RCS average temperature is sufficient to ensure the temperature can be restored to a normal operation, steady state condition following load changes and other expected transient operations. The 12 hour interval has been shown by operating practice to be sufficient to regularly assess for potential degradation and to verify operation is within safety analysis assumptions.

SR 3.4.1.3

Measurement of RCS total flow rate once every 24 months allows the installed RCS flow instrumentation to be calibrated and verifies the actual RCS flow rate is greater than or equal to the minimum required RCS flow rate. This verification may be performed via a precision calorimetric heat balance or other means.

The Frequency of 24 months reflects the importance of verifying flow after a refueling outage when the core has been altered, which may have caused an alteration of flow resistance.

This SR is modified by Note that allows entry into MODE 1, without having performed the SR, and placement of the unit in the best condition for performing the SR. The Note states that the SR is required to be performed within 72 hours after reaching 90% RTP. This exception is appropriate since power ascension must be allowed for the flow measurement to be performed at a power level representative of rated power operations and some time is allowed to perform the test.

REFERENCES

1. USAR, Section 14.

BASES

ACTIONS (continued)

C.1 and C.2

If one RCS loop is not in operation, and the Rod Control System is capable of rod withdrawal, the Required Action is either to restore the RCS loop to operation or place the Rod Control System in a condition incapable of rod withdrawal (e.g., to de-energize all CRDMs by opening the RTBs or de-energizing the motor generator (MG) sets). When the Rod Control System is capable of rod withdrawal, it is postulated that a power excursion could occur in the event of an inadvertent control rod withdrawal. This mandates having the heat transfer capacity of two RCS loops in operation. If only one loop is in operation, the Rod Control System must be rendered incapable of rod withdrawal. The Completion Times of 1 hour to restore the required RCS loop to operation or defeat the Rod Control System is adequate to perform these operations in an orderly manner without exposing the unit to risk for an undue time period.

D.1, D.2, and D.3

If both RCS loops are inoperable or a required RCS loop is not in operation, except during conditions permitted by the Note in the LCO section, the Rod Control System must be placed in a condition incapable of rod withdrawal (e.g., all CRDM's de-energized by opening the RTBs or de-energizing the MG sets). All operations involving introduction of coolant into the RCS with boron concentration less than required to meet the minimum SDM of LCO 3.1.1 must be suspended, and action to restore one of the RCS loops to OPERABLE status and operation must be initiated. Suspending the introduction of coolant into the RCS with boron concentration less than required to meet the minimum SDM of LCO 3.1.1 is required to assure continued safe operation. With coolant added without forced circulation, unmixed

BASES

BACKGROUND (continued)

pump disable temperature, one PORV is the overpressure protection device that acts to terminate an increasing pressure event.

Limiting coolant input capability reduces the ability to provide core coolant addition. The LCO does not require the makeup control system deactivated or the SI actuation circuits blocked. Due to the lower pressures in the LTOP MODES and the expected core decay heat levels, the charging system can provide adequate flow. If conditions require the use of more than one SI pump for makeup in the event of loss of inventory, then pumps can be made available through manual actions.

In MODE 4, above the SI pump disable temperature, pressure relief consists of two PORVs with reduced lift settings provided by OPPS. Two PORVs are required for redundancy. One PORV has adequate relieving capability to prevent overpressurization for the required coolant input capability.

As designed for the LTOP function, each PORV is signaled to open by OPPS if the RCS pressure approaches the lift setpoint provided when OPPS is enabled. The OPPS monitors both RCS temperature and RCS pressure and indicates when a condition not acceptable in the PTLR limits is approached. The wide range RCS temperature setpoints indicate conditions requiring enabling OPPS.

The PTLR presents the OPPS setpoints for LTOP.

APPLICABLE SAFETY ANALYSES

Safety analyses (Ref. 2) demonstrate that the reactor vessel is adequately protected against exceeding the Reference 1 P/T limits. In MODES 1, 2, and 3, and in MODE 4 with RCS cold leg temperature exceeding the OPPS enable temperature specified in the PTLR, the pressurizer safety valves will prevent RCS pressure from exceeding the Reference 1 limits. At about the OPPS enable temperature specified in the PTLR and below, overpressure prevention falls to two OPERABLE PORVs or to a depressurized

BASES

ACTIONS

E.1 (continued)

The Completion Time considers the time required to place the plant in this Condition and the relatively low probability of an overpressure event during this time period due to increased operator awareness of administrative control requirements.

SURVEILLANCE REQUIREMENTS

SR 3.4.12.1 and SR 3.4.12.2

To minimize the potential for a low temperature overpressure event by limiting the mass input capability, one SI pump is verified incapable of injecting into the RCS and the ECCS accumulator discharge isolation valves are verified closed and deenergized.

The SI pump is rendered incapable of injecting into the RCS by employing at least two independent means to prevent a pump start such that a single failure or single action will not result in an injection into the RCS. This may be accomplished through the pump control switch being placed in pullout with a blocking device installed over the control switch that would prevent an unplanned pump start.

The ECCS accumulator motor operated isolation valves can be verified closed and deenergized by use of control board indication.

The Frequency of 12 hours is sufficient, considering other indications and alarms available to the operator in the control room, to verify the required status of the equipment.

BASES

BACKGROUND (continued)

relief capacity requires either two redundant RCS relief valves or a depressurized RCS and an RCS vent of sufficient size. One PORV or the open RCS vent is the overpressure protection device that acts to terminate an increasing pressure event.

Limiting coolant input capability reduces the ability to provide core coolant addition. The LCO does not require the makeup control system deactivated or the safety injection SI actuation circuits blocked. Due to the lower pressures in the LTOP MODES and the expected core decay heat levels, the charging system can provide adequate flow. If conditions require the use of an SI pump for makeup in the event of loss of inventory, the pump can be made available through manual actions.

The LTOP pressure relief consists of two PORVs with reduced lift settings provided by OPPS or a depressurized RCS and an RCS vent of sufficient size. Two PORVs are required for redundancy. One PORV has adequate relieving capability to prevent overpressurization for the required coolant input capability.

OPPS and PORV Requirements

As designed for the LTOP function, each PORV is signaled to open by OPPS if the RCS pressure approaches the lift setpoint provided when OPPS is enabled. The OPPS monitors both RCS temperature and RCS pressure and indicates when a condition not acceptable in the PTLR limits is approached. The wide range RCS temperature setpoints indicate conditions requiring enabling OPPS. The PTLR presents the OPPS setpoints for LTOP.

RCS Vent Requirements

Once the RCS is depressurized, a vent exposed to the containment atmosphere will maintain the RCS at containment ambient pressure

BASES

SURVEILLANCE REQUIREMENTS

SR 3.4.13.1 and SR 3.4.13.2 (continued)

pump control switch being placed in pullout with a blocking device installed over the control switch that would prevent an unplanned pump start.

The ECCS accumulator motor operated isolation valves can be verified closed and deenergized by use of control board indication.

The Frequency of 12 hours is sufficient, considering other indications and alarms available to the operator in the control room, to verify the required status of the equipment.

SR 3.4.13.3

The RCS vent of ≥ 3 square inches is proven OPERABLE by verifying its open condition either:

a. Once every 12 hours for a valve that is not locked, sealed, or secured in the open position.

b. Once every 31 days for other vent path(s) (e.g., a vent valve that is locked, sealed, or secured in position). A removed pressurizer safety valve or open manway also fits this category.

The passive vent path arrangement must only be open when required to be OPERABLE. This Surveillance is required if the vent is being used to satisfy the pressure relief requirements of LCO 3.4.13b.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.4.13.5 (continued)

A Note has been added indicating that this SR is not required to be performed until 12 hours after decreasing RCS cold leg temperature to ≤ the OPPS enable temperature specified in the PTLR. The COT may not have been performed before entry into the LTOP MODES. The 12 hour initial time considers the unlikehood of a low temperature overpressure event during this time.

SR 3.4.13.6

Performance of a CHANNEL CALIBRATION on OPPS is required every 24 months to adjust the whole channel so that it responds and the valve opens within the required range and accuracy to known input.

REFERENCES

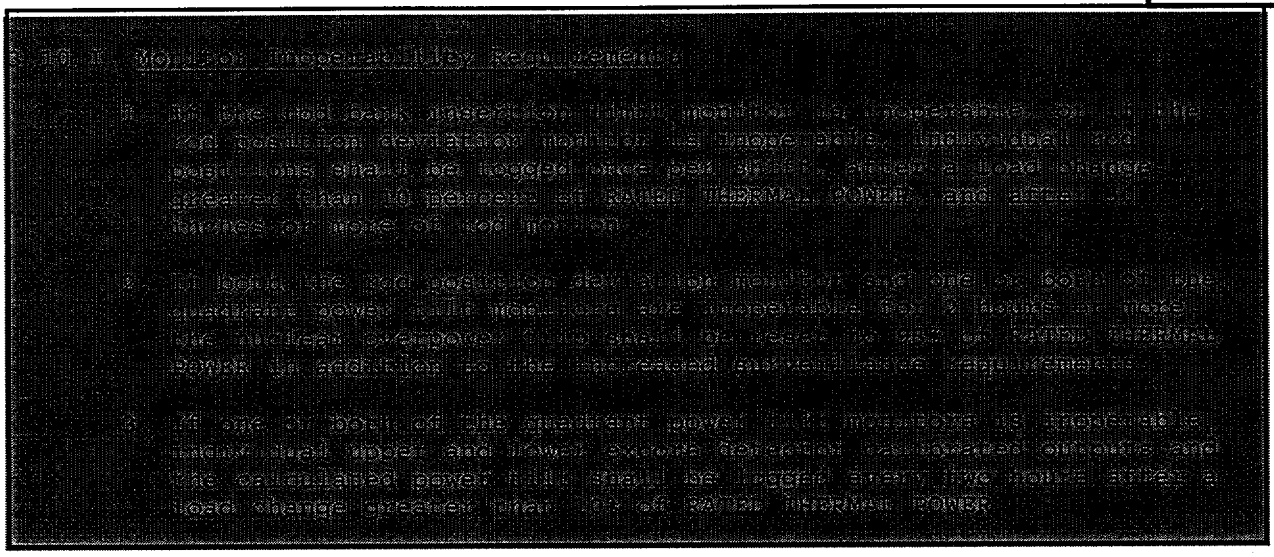
1. 10 CFR 50, Appendix G.
2. USAR, Section 4.4.
3. ASME, Boiler and Pressure Vessel Code, Section XI, Appendix G, with ASME Code Case N-514.

A3.4-00

~~TS.3-10-8~~
~~REV 92 3/13/90~~

R-2

Addressed Elsewhere



~~J. RCS Pressure, Temperature and Flow~~ - DNB ~~Limits Parameters~~

LCO3.4.1

R-9

The following DNB related parameters limits shall be maintained during POWER OPERATION:

LR3.4-01

a. Reactor Coolant System Tavg ≤ ~~limit specified in the COLR~~ ~~564°F~~
b. Pressurizer Pressure ≥ ~~limit specified in the COLR~~ ~~2220 psia~~*
c. Reactor Coolant Flow ≥ the value specified in the CORE OPERATING LIMITS REPORT

LCO3.4.1

With any of the above parameters exceeding its limit, restore the parameter to within its limit within 2 hours

LCO3.4.1

or reduce THERMAL POWER to ~~MODE 2~~ ~~less than 5% of RATED THERMAL POWER~~ within the next ~~6~~4 hours.

A3.4-08

L3.4-05

SR3.4.1.1
SR3.4.1.2
SR3.4.1.3

Compliance with a. and b. is demonstrated by verifying that each of the parameters is within its limits at least once each 12 hours. Compliance with c. ~~is demonstrated by~~ verifying ~~RCS total flow rate that the parameter~~ is within ~~its~~ limit specified in the COLR after each refueling cycle.

A3.4-100

Note: Required to be performed within 72 hours after ≥ 90% RTP.

M3.4-108

R-12

LCO3.4.1

L3.4-02

*Limit not applicable during either a THERMAL POWER ramp ~~increase~~ in excess of (5%) RATED THERMAL POWER per minute or a THERMAL POWER step ~~increase~~ in excess of (10%) RATED THERMAL POWER

~~with~~ at least one reactor coolant loop in operation when the Rod Control System is not capable of rod withdrawal.

M3.4-13

(except as specified in 3.1.A.1.b(2) and 3.1.A.1.b.(3) below).

(2) A reactor coolant loop may be inoperable for 72 hours ~~provided STARTUP OPERATION is discontinued until OPERABILITY is restored.~~ If OPERABILITY is not restored within the time specified, be in MODE 4~~reduce reactor coolant system average temperature below 350°F~~ within the next 12 ~~6~~ hours.

A3.4-14

LCO3.4.5 Cond A
LCO3.4.5 Cond B

A3.4-08
L3.4-16

(3) With both reactor coolant pumps inoperable or not in operation immediately:

L3.4-118

LCO3.4.5 Cond D

(a) ~~De-energize all~~ Place the control rod drive system in a condition incapable of rod withdrawal ~~mechanisms~~,

(b) Suspend all operations involving a reduction of RCS boron concentration,

R-9

LCO3.4.5 LCO Note

(c) Establish and maintain the core outlet temperature at least 10 °F below saturation temperature, and

LCO3.4.5 Cond D

(c) Initiate action to restore one reactor coolant pump to OPERABLE status and operation.*

~~If at least one reactor coolant pump is not restored to OPERABILITY and operation within 72 hours, reduce reactor coolant system average temperature to below 350°F within the next 12 hours. While applicable, this specification supercedes 3.1.A.1.b(2).~~

A3.4-18

* If the RCP shutdown or inoperability was due to preplanned work activities such as testing, switching, or maintenance, immediate restoration action is not required, but if at least one reactor coolant pump is not restored to operability and operation within 12 hours,

LCO3.4.5 NOTE

~~reduce reactor coolant system average temperature to~~

R-9

If one RCS loop is not in operation with Rod Control System capable of rod withdrawal, within one hour restore the loop to operation, or render the Rod Control System inoperable.

LCO3.4.5 Cond C

R-12

M3.4-17

New SRs, Verify RCS loops operating, verify SG capable of removing decay heat, verify breaker alignment for non-

SR3.4.5.1
SR3.4.5.2
SR3.4.5.3

M3.4-21

R-9

~~d.~~Reactor Coolant System, Mode 5, loops not filled~~Level Below or at the Reactor Vessel Flange~~

A3.4-08

LR3.4-24

(1) Both residual heat removal loops, ~~each consisting of a pump and its associated heat exchanger,~~ shall be OPERABLE with one in operation* (except as specified in 3.1.A.1.d.(2) below).

LCO3.4.8

(2) With one required ~~or both~~ residual heat removal loop(s) inoperable, ~~prompt~~immediately action shall be taken to restore the inoperable residual heat removal loop~~(s)~~ to an OPERABLE status~~.~~

LCO3.4.8 Cond A

and, if no RHR loops operable, or required RHR Loop not in operation, immediately suspend all operations involving reduction in RCS boron concentration and initiate action to restore one RHR Loop to OPERABLE status and in operation.

LCO3.4.8 Cond B

M3.4-33

R-9

~~During reduced inventory conditions, a~~ safety injection pump may be run as required to maintain adequate core cooling and RCS inventory~~ in the event of a loss of Residual Heat Removal System cooling~~.

LCO3.4.8 RA B.2

During reduced inventory conditions, a safety injection pump may be run as required to maintain adequate core cooling and RCS inventory.

LCO3.4.13 Note 2

R-12

M3.4-38

*All pumps may be shutdown for up to one hour per 8 hour period provided the reactor is subcritical, no operations are permitted that would cause dilution of the reactor coolant boron concentration and core outlet temperature is maintained at least 10°F below saturation temperature.

LCO3.4.6 LCO3.4.7 NOTE 1

*All pumps may be shutdown for up to one hour per 8 hour period provided the reactor is subcritical, no operations are permitted that would cause dilution of the reactor coolant boron concentration and core outlet temperature is maintained at least 10°F below saturation temperature and no RCS draining operations are permitted.

LCO3.4.8 NOTE 1

M3.4-34

R-9

One required RHR loop may be inoperable for $\leq$ 2 hours for surveillance provided that the other RHR loop is OPERABLE and in operation.

LCO3.4.7 LCO3.4.8 NOTE 2

L3.4-36

M3.4-37

New SRs, Verify required RHR loop in operation, verify breaker alignment for RHR pump not operating

SR3.4.8.1 SR3.4.8.2

R-9

(2) Reactor Coolant System average temperature greater than or equal to the temperature specified in the PTLR for disabling both safety injection pumps and below the Over Pressure Protection System Enable Temperature specified in the PTLR

LCO3.4.12

With Reactor Coolant System temperature greater than or equal to the temperature specified in the PTLR for disabling both safety injection pumps and less than the Over Pressure Protection System Enable Temperature specified in the PTLR; with a maximum of one SI pump capable of injecting into the RCS and the ECCS accumulators** isolated, both pressurizer power operated relief valves (PORVs) shall be OPERABLE (except as specified in 3.1.A.2.c.(2).(a) and 3.1.A.2.c.(2).(b) below) with the Over Pressure Protection System enabled, ~~the associated block valve open, and the associated backup air supply charged~~.

LCO3.4.12

M3.4-51

M3.4-52

LR3.4-53

LCO3.4.12 Cond A

If both SI pumps are capable of injecting into the RCS, prompt action shall be taken to make one incapable of injecting into the RCS.

M3.4-51

LCO3.4.12 Cond B,C

If an ECCS accumulator is not isolated as required, isolate the affected accumulator within 1 hour, or increase the RCS cold leg temperature > OPPS enable temperature specified in the PTLR within 12 hours or depressurize the accumulator to less than the maximum RCS pressure for the existing cold leg temperature allowed in the PTLR within 12 hours.

M3.4-52

R-12

R-9

LCO3.4.12 NOTE 2

**Accumulator isolation is only required when accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed by the P/T limit curves in the PTLR.

M3.4-52

M3.4-52
M3.4-54

SR3.4.12.1
SR3.4.12.2
SR3.4.12.3

New SRs, Verify no more than one SI pump capable of injecting into RCS every 12 hours, verify accumulator isolation valve isolated once within 12 hours and every 12 hours thereafter, verify PORV block valve open every 72 hours.

R-9

~~3.1.A.2.c.(2)~~.

LCO3.4.12 Cond D

(a) One PORV may be inoperable for 7 days.

L3.4-50

LCO3.4.12 Cond E

If these conditions cannot be met, be in MODE 5 within 8 hours and depressurize and vent the reactor coolant system through at least a 3 square inch vent within ~~the next~~ 12~~8~~ hours.

L3.4-50

LCO3.4.12 Cond E

(b) With both PORVs inoperable, be in MODE 5 within 8 hours and complete depressurization and venting of the RCS through at least a 3 square inch vent within 12~~8~~ hours.

(3) Reactor Coolant System average temperature below the temperature specified in the PTLR for disabling both safety injection pumps

LCO3.4.13

LCO3.4.13

With Reactor Coolant System temperature less than the temperature specified in the PTLR for disabling both safety injection pumps, when the head is on the reactor vessel and the reactor coolant system is not vented through a 3 square inch or larger vent; with both SI pumps incapable of injecting into the RCS and the ECCS accumulators** isolated, both Pressurizer power operated relief valves (PORVs) shall be OPERABLE (except as specified in 3.1.A.2.c.(3).(a) and 3.1.A.2.c.(3).(b) below) with the Over Pressure Protection System enabled, ~~the associated block valve open, and the associated backup air supply charged~~.

M3.4-51

M3.4-52

LR3.4-53

LCO3.4.13 Cond D

(a) One PORV may be inoperable for 24 hours.

LCO3.4.13 Cond E

If these conditions cannot be met, depressurize and vent the reactor coolant system through at least a 3 square inch vent within 8 hours.

LCO3.4.13 Cond E

(b) With both PORVs inoperable, complete depressurization and venting of the RCS through at least a 3 square inch vent within 8 hours.

M3.4-51

LCO3.4.13 Cond A

If one or both SI pumps are capable of injecting into the RCS, prompt action shall be taken to make both incapable of injecting into the RCS.

LCO3.4.13 Cond B

If an ECCS accumulator is not isolated as required, isolate the affected accumulator within 1 hour, or increase the RCS cold leg temperature > OPPS enable temperature specified in the PTLR within 12 hours or depressurize the accumulator to less than the maximum RCS pressure for the existing cold leg temperature allowed in the PTLR within 12 hours.

M3.4-52

R-12

SR3.4.13.1
SR3.4.13.2
SR3.4.13.3
SR3.4.13.4

New SRs, verify no SI capable of injecting into RCS every 12 hours, verify accumulator isolation valve isolated once within 12 hours and every 12 hours thereafter, verify RCS vent > 3 square inches 12 hours for unlocked open vent valve(s) and 31 days for other vent path(s), verify PORV block valve open every 72 hours.

R-9

M3.4-52
M3.4-54

NSHD Category	Change Number 3.4-	Discussion of Change
A	83	CTS 3.3.A.3 and 3.3.A.4. For clarity and to be consistent with the guidance of NUREG-1431, "MODE 4, MODE 5 when the SG primary system manways and pressurizer manway are closed and secured in position, and MODE 6 when the reactor vessel head is on and the SG primary system manways and pressurizer manway are closed and secured in position." have been included in the description of when this specification is applicable. This is acceptable since in the above MODES, there is a potential for over pressurization or over temperature concerns. If the manways may be open, the RCS cannot be overpressurized, therefore this Applicability Statement is consistent with the design and intent of PI operating practices. This is an administrative change since the plant is by definition in MODE 4 when the RCS temperature meets the criteria for the OPPS enable temperature.
M	84	CTS Table 4.1-1C, Item 25. For consistency with NUREG-1431, the functional test of the low temperature overpressure protection system will be performed monthly when the RCS temperature is below the LTOP enable temperature. Since CTS require this test each refueling outage, this is a more restrictive requirement. This change will provide additional assurance that the LTOP system will perform as required and is consistent with the surveillance interval for instrumentation providing similar plant protection.
M	85	Table 4.1-1C, Note 38. CTS do not specify a time frame within which this SR must be in compliance. Since ITS includes a time limit of 12 hours, this is a more restrictive change. This change conforms to the guidance of NUREG-1431 and is acceptable because it assures that the plant is maintained in a safe condition.

NSHD Category	Change Number 3.4-	Discussion of Change
LR	101	CTS 3.1.B.1.b. The CTS requires that an engineering evaluation be performed to determine the effects of the out-of-limit condition on the structural integrity of the RCS. This information is being relocated to the ITS Bases 3.4.3, Action A.1 and A.2 section. Therefore, besides restoring the RCS pressure and temperature to within limits, a determination will be made if the RCS is acceptable for continued operation. This is accomplished through an evaluation. The evaluation must verify the RCPB integrity remains acceptable and must be completed before continued operation. Several methods can be used, including an engineering evaluation, comparison with pre-analyzed transients in the stress analyses, new analyses, or inspection of the components. Relocating this CTS information to the Bases retains the CTS and provides additional guidance for performing this determination as required in Required Action A.2.
A	102	CTS 3.1.A.1.c.(1). The CTS states "...whenever the reactor coolant system average temperature is below 350 ^{0}F, except during REFUELING .. ." This has been changed to state in Mode 4 which is consistent with the Mode definition changes made in ITS 1.0. In MODE 4 the reactor temperature is 350 ^{0}F > T_{avg} > 200 ^{0}F. This is considered to be an Administrative change since the temperature limits stated in the CTS are the same as Mode 4. This change is consistent with NUREG-1431.

NSHD Category	Change Number 3.4-	Discussion of Change
M	108	CTS 3.10.J. CTS does not require the Reactor Coolant flow test at any specific power level or within any specific time frame. A new Note is included in ITS which requires the flow test to be performed within 72 hours after reaching 90% RTP. Since this places additional restrictions on plant operations, this is a more restrictive change. This change is acceptable because this Note allows the plant to increase power to a level which is representative of full power operations and allows sufficient time to perform the test.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.1.1	Verify pressurizer pressure is greater than or equal to the limit specified in the COLR ~~≥ [2200] psig~~.	12 hours TA3.4-109
SR 3.4.1.2	Verify RCS average temperature is less than or equal to the limit specified in the COLR ~~≤ [581] °F~~.	12 hours TA3.4-109
~~SR 3.4.1.3~~	~~Verify RCS total flow rate is ≥ [284,000] gpm.~~	~~12 hours~~ CL3.4-103
SR 3.4.1.34	----------NOTE---------- ~~Not R~~required to be performed within~~until~~ ~~7224~~ hours after ≥ ~~[~~90~~]~~% RTP. ---------- Verify ~~by precision heat balance that~~ RCS total flow rate is within the limit specified in the COLR~~≥ [284,000] gpm~~.	~~[~~24~~18]~~ months PA3.4-104 R-12 PA3.4-106 CL3.4-107 CL3.4-102 R-2

ACTIONS CONDITION (continued)	REQUIRED ACTION	COMPLETION TIME
D. ~~[~~Two~~]~~ RCS loops inoperable. OR ~~No~~Required RCS loop not in operation.	D.1 Place the Rod Control System in a condition incapable of rod withdrawal~~De-energize all CRDMs~~. AND D.2 Suspend~~all~~ operations that would cause introduction into the~~involving a reduction of~~ RCS, coolant with boron concentration less than required to meet SDM of LCO 3.1.1. AND D.3 Initiate action to restore one RCS loop to OPERABLE status and operation.	Immediately TA3.4-118 TA3.4-330 R-12 Immediately TA3.4-115 Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.5.1	Verify required RCS loops are in operation.	12 hours

(continued)

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3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.12 Low Temperature Overpressure Protection (LTOP) ~~System~~ - Reactor Coolant System Cold Leg Temperature (RCSCLT) > Safety Injection (SI) Pump Disable Temperature

CL3.4-162

R-9

LCO 3.4.12 ~~An~~ LTOP ~~System~~ shall be provided~~OPERABLE~~ with:

a) a maximum of ~~[~~one~~]~~ ~~[high pressure injection~~ SI ~~(HPI)]~~ pump ~~[and one charging pump]~~ capable of injecting into the RCS;

b) ~~and~~ the emergency core cooling system (ECCS) accumulators isolated;

CL3.4-163

c) an OPERABLE Over Pressure Protection System (OPPS) with lift setting within the limits specified in the PTLR; and ~~either a or b below.~~

~~a. Two RCS relief valves, as follows:~~

~~1.~~d) t~~T~~wo OPERABLE pressurizer power operated relief valves (PORVs) ~~with lift settings within the limits specified in the PTLR., or~~

R-12

~~[2. Two residual heat removal (RHR) suction relief valves with setpoints ≥ [436.5] psig and ≤ [463.5] psig, or]~~

~~[3. One PORV with a lift setting within the limits specified in the PTLR and one RHR suction relief valve with a setpoint ≥ [436.5] psig and ≤ [463.5] psig].~~

~~b. The RCS depressurized and an RCS vent of ≥ [2.07] square inches.~~

----------NOTES----------

1. Both SI pumps may be run for ≤ 1 hour while conducting SI system testing providing there is a steam or gas bubble in the pressurizer and at least one isolation valve between the SI pump and the RCS is shut.

CL3.4-164

R-9

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.4.12.~~23~~ Verify each ECCS accumulator is isolated.	X3.4-171 Once within 12 hours and every 12 hours thereafter
~~SR 3.4.12.4 Verify RHR suction valve is open for each required RHR suction relief valve.~~	~~12 hours~~ CL3.4-163
~~SR 3.4.12.5 NOTE Only required to be performed when complying with LCO 3.4.12.b.~~ ~~Verify RCS vent ≥ [2.07] square inches open.~~	~~12~~ CL3.4-163 ~~hours for unlocked open vent valve(s)~~ ~~AND~~ ~~31 days for locked open vent valve(s)~~

R-12

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ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Two PORVs inoperable for LCO 3.4.13.a. OR Required Action and associated Completion Time of Condition A, C, or D not met. OR OPPS inoperable.	E.1 Depressurize RCS and establish RCS vent of ≥ 3 square inches.	8 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.13.1	Verify no SI pumps are capable of injecting into the RCS.	12 hours
SR 3.4.13.2	Verify each ECCS accumulator is isolated.	Once within 12 hours and every 12 hours thereafter

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.4.13.3	----------NOTE---------- Only required to be performed when complying with LCO 3.4.13.b. ---------- Verify required RCS vent ≥ 3 square inches open.	R-9 12 hours for unlocked open vent valve(s) AND 31 days for other vent path(s)
SR 3.4.13.4	Verify PORV block valve is open for each required PORV.	72 hours
SR 3.4.13.5	----------NOTE---------- Not required to be performed until 12 hours after decreasing RCS cold leg temperature to ≤ the OPPS enable temperature specified in the PTLR. ---------- Perform a COT on OPPS.	R-12 31 days

PA3.4-101 PA3.4-211

to be calibrated and verifies the actual RCS flow rate is greater than or equal to the minimum required RCS flow rate. This verification may be performed via a precision calorimetric heat balance or other means.

The Frequency of 24~~[18]~~ months reflects the importance of verifying flow after a refueling outage when the core has been altered, which may have caused an alteration of flow resistance.

This SR is modified by a Note that allows entry into MODE 1, without having performed the SR, and placement of the unit in the best condition for performing the SR. The Note states that the SR is ~~not~~ required to be performed within 72~~until 24~~ hours after reaching ~~≥ [90%]~~ RTP. This exception is appropriate since power ascension must be allowed for the flow measurement to be performed at a power level representative of rated power operations and some time is allowed to perform the test~~heat balance requires the plant to be at~~

PA3.4-104

R-12

BASES

SURVEILLANCE REQUIREMENTS

SR 3.4.1.34 (continued)

~~a minimum of [90%] RTP to obtain the stated RCS flow accuracies. The Surveillance shall be performed within 24 hours after reaching [90%] RTP.~~

R-9

REFERENCES 1. UFSAR, Section 14~~[15]~~.

C.1 and C.2

If one~~the required~~ RCS loop is not in operation, and the ~~RTBs are closed and~~ Rod Control System is capable of rod withdrawal, the Required Action is either to restore the ~~required~~ RCS loop to operation or place the Rod Control System in a condition incapable of rod withdrawal (e.g., to de-energize all CRDMs by opening the RTBs or de-energizing the motor generator (MG) sets). When the ~~RTBs are in the closed position and~~ Rod Control System is capable of rod withdrawal, it is postulated that a power excursion could occur in the event of an inadvertent control rod withdrawal. This mandates having the heat transfer capacity of two RCS loops in operation. If only one loop is in operation, the Rod Control System must be rendered incapable of rod withdrawal~~RTBs must be opened~~. The Completion Times of 1 hour to restore the required RCS loop to operation or defeat the Rod Control System~~de-energize all CRDMs~~ is adequate to perform these operations in an orderly manner without exposing the unit to risk for an undue time period.

TA3.4-118

CL3.4-113

D.1, D.2, and D.3

TA3.4-330

If both~~[two]~~ RCS loops are inoperable or ~~no~~a required RCS loop is not in operation, except ~~as~~ during conditions permitted by the Note in the LCO section, the Rod Control System~~all CRDMs~~ must be placed in a condition incapable of rod withdrawal (e.g., all CRDM's de-energized by opening the RTBs or de-energizing the MG sets). All operations involving ~~a reduction~~introduction of coolant into the RCS with boron concentration less than required to meet the minimum SDM of LCO 3.1.1 must be suspended, and action to restore one of the RCS loops to OPERABLE status and operation must be initiated. ~~Boron dilution requires forced circulation for proper mixing, and opening the RTBs or de-energizing the MG sets removes the possibility of an inadvertent rod~~

R-12

TA3.4-118

TA3.4-115

CL3.4-117

PA3.4-229

(continued)

The LTOP System for In MODE 4, above the SI pump disable temperature, pressure relief consists of two PORVs with reduced lift settings provided by OPPS, or two residual heat removal (RHR) suction relief valves, or one PORV and one RHR suction relief valve, or a depressurized RCS and an RCS vent of sufficient size. Two PORVsRCS relief valves are required for redundancy. One PORVRCS relief valve has adequate relieving capability to preventkeep from overpressurization for the required coolant input capability. CL3.4-272 R-12

PORV Requirements

As designed for the LTOP functionSystem, each PORV is signaled to open by OPPS if the RCS pressure approaches the lift setpoint provided when OPPS is enableda limit determined by the LTOP actuation logic. The OPPSLTOP actuation logic monitors both RCS temperature and RCS pressure and indicates determines when a condition not acceptable in the PTLR limits is approached. The wide range RCS temperature setpoints indicate conditions requiring enabling OPPSions are auctioneered to select the lowest temperature signal.

The lowest temperature signal is processed through a function generator that calculates a pressure limit for that temperature. The calculated pressure limit is then compared with the indicated RCS pressure from a wide range pressure channel. If the indicated pressure meets or exceeds the calculated value, a PORV is signaled to open.

The PTLR presents the OPPSPORV setpoints for LTOP. The setpoints are normally staggered so only one valve opens during a low temperature overpressure transient. Having the setpoints of both valves within the limits in the PTLR ensures that the Reference 1 limits will not be exceeded in any analyzed event.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.4.12.1~~, [SR 3.4.12.2,]~~ and SR 3.4.12.~~23~~

To minimize the potential for a low temperature overpressure event by limiting the mass input capability, ~~a maximum of [one] [HPSI]~~ pump is~~[and a maximum of one charging pump] are~~ verified incapable of injecting into the RCS and the ECCS accumulator discharge isolation valves are verified closed and deenergized~~locked out~~. CL3.4-163

The ~~[HPSI]~~ pump~~[s] and charging pump[s] are~~ is rendered incapable of injecting into the RCS ~~through removing the power from the pumps by racking the breakers out under administrative control. An alternate method of LTOP control may be employed using~~by employing at least two independent means to prevent a pump start such that a single failure or single action will not result in an injection into the RCS. This may be accomplished through the pump control switch being placed in ~~[~~pullout ~~to lock] and at least one valve in the discharge flow path being closed~~ with a blocking device installed over the control switch that would prevent an unplanned pump start. CL3.4-273

CL3.4-273
X3.4-171

The ECCS accumulator motor operated isolation valves can be verified closed and deenergized by use of control board indication.

R-12

The Frequency of 12 hours is sufficient, considering other indications and alarms available to the operator in the

(continued)

This LCO provides RCS overpressure protection by restricting coolant input capability and ensuring adequate pressure relief capacity. In MODE 4, at or below the safety injection (SI) pump disable temperature, limiting coolant input capability requires both SI pumps incapable of injection into the RCS and isolating the emergency core cooling system (ECCS) accumulators. The pressure relief capacity requires either two redundant RCS relief valves or a depressurized RCS and an RCS vent of sufficient size. One PORV or the open RCS vent is the overpressure protection device that acts to terminate an increasing pressure event.

BACKGROUND (continued)

Limiting coolant input capability reduces the ability to provide core coolant addition. The LCO does not require the makeup control system deactivated or the SI actuation circuits blocked. Due to the lower pressures in the LTOP MODES and the expected core decay heat levels, the charging system can provide adequate flow. If conditions require the use of an SI pump for makeup in the event of loss of inventory, the pump can be made available through manual actions.

The LTOP pressure relief consists of two PORVs with reduced lift settings provided by OPPS or a depressurized RCS and an RCS vent of sufficient size. Two PORVs are required for redundancy. One PORV has adequate relieving capability to prevent overpressurization for the required coolant input capability.

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OPPS and PORV Requirements

As designed for the LTOP function, each PORV is signaled to open by OPPS if the RCS pressure approaches the lift setpoint provided when OPPS is enabled. The OPPS monitors both RCS temperature and RCS pressure and indicates when a condition not acceptable in the PTLR limits is approached. The wide range RCS temperature setpoints indicate conditions

(continued)

R-9

BASES (continued)

increased operator awareness of administrative control requirements.

SURVEILLANCE REQUIREMENTS

SR 3.4.13.1, and SR 3.4.13.2

To minimize the potential for a low temperature overpressure event by limiting the mass input capability, both SI pumps are verified incapable of injecting into the RCS and the ECCS accumulator discharge isolation valves are verified closed and deenergized.

The SI pumps are rendered incapable of injecting into the RCS by employing at least two independent means to prevent a pump start such that a single failure or single action will not result in an injection into the RCS. This may be accomplished through the pump control switch being placed in pullout with a blocking device installed over the control switch that would prevent an unplanned pump start.

The ECCS accumulator motor operated isolation valves can be verified closed and deenergized by use of control board indication.

R-12

The Frequency of 12 hours is sufficient, considering other indications and alarms available to the operator in the control room, to verify the required status of the equipment.

SR 3.4.13.3

(continued)

R-9

BASES (continued)

the control room, such as valve position indication, that verify that the PORV block valve remains open.

SR 3.4.13.5

Performance of a COT is required every 31 days on OPPS to verify and, as necessary, adjust the PORV lift setpoints. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL OPERATIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. The COT will verify the setpoints are within the PTLR allowed maximum limits in the PTLR. PORV actuation during this testing could depressurize the RCS and is not required.

A Note has been added indicating that this SR is not required to be performed until 12 hours after decreasing RCS cold leg temperature to ≤ the OPPS enable temperature specified in the PTLR. The COT may not have been performed before entry into the LTOP MODES. The 12 hour initial time considers the unlikehood of a low temperature overpressure event during this time.

R-12

SR 3.4.13.6

R-12

Performance of a CHANNEL CALIBRATION on OPPS is required every 24 months to adjust the whole channel so that it responds and the valve opens within the required range and accuracy to known input.

(continued)

Difference Category	Difference Number 3.4-	Justification for Differences
PA	104	The Note for PI ITS SR 3.4.1.3 (ISTS SR 3.4.1.4) was modified to require verification of RCS flow within 72 hours after reaching 90% RTP. PI CTS 3.10.J.c requires that the RCS flow be verified to be within its limits specified in the COLR after each refueling outage. The purpose of the SR is to measure RCS flow rate which allows for the installed RCS flow instrumentation to be calibrated and verifies actual RCS flow rate is greater than or equal to the minimum required RCS flow rate. PI currently performs this verification however, the CTS does not provide any specific time or RTP level as to when this verification must be performed. Allowing 72 hours will provide sufficient time to perform the necessary calculations, allow any potential RCS fluctuations following the startup to stabilize and provide more accurate determination. Seventy-two hours may also allow time to reach a higher power level more representative of full power operations at which the test results will be more accurate. Prior to this flow test at power there is assurance that the RCS flow is within limits since PI procedures require verification of RCS flow during low power physics testing. Even though the CTS does not require a specific time or RTP level, prudent operations would not allow PI to operate for a very long period of time at high power levels without performing this SR. In addition, during power escalation, various plant instrumentation and parameters are monitored to ensure that the reactor core is maintaining expected temperatures which provides further assurance that there is adequate RCS cooling (flow rate) until this verification can be performed.

M - More restrictive (GENERIC NSHD)
(M3.4-04, M3.4-06, M3.4-07, M3.4-11, M3.4-12, M3.4-13, M3.4-17, M3.4-21, M3.4-26, M3.4-31, M3.4-32, M3.4-33, M3.4-34, M3.4-37, M3.4-38, M3.4-41, M3.4-42, M3.4-43, M3.4-44, M3.4-45, M3.4-51, M3.4-52, M3.4-54, M3.4-57, M3.4-62, M3.4-63, M3.4-64, M3.4-72, M3.4-81, M3.4-84, M3.4-85, M3.4-108, M3.4-117, M3.4-123)

This proposed Technical Specifications revision involves modifying the Current Technical Specifications to impose more stringent requirements upon plant operations to achieve consistency with the guidance of NUREG-1431, correct discrepancies or remove ambiguities from the specifications. These more restrictive Technical Specifications have been evaluated against the plant design, safety analyses, and other Technical Specifications requirements to ensure the plant will continue to operate safely with these more stringent specifications.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed changes provide more stringent requirements for operation of the plant. These more stringent requirements do not result in operation that will increase the probability of initiating an analyzed event and do not alter assumptions relative to mitigation of an accident or transient event.

   These more restrictive requirements continue to ensure process variables, structures, systems, and components are maintained consistent with the safety analyses and licensing basis. Therefore, these changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed changes do not involve a physical alteration of the plant, that is, no new or different type of equipment will be installed, nor do they change the methods governing normal plant operation.

   These more stringent requirements do impose different operating restrictions. However, these operating restrictions are consistent with the boundaries established by the assumptions made in the plant safety analyses and licensing bases. Therefore, these changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 4.1-1C	11	SR	3.3.4.1	
Table 4.1-1C	11	SR	3.3.4.2	
Table 4.1-1C	12		Deleted - Boric Acid LAR	
Table 4.1-1C	13		Relocated - TRM	
Table 4.1-1C	14		CTS Deleted	
Table 4.1-1C	15	TABLE	3.3.1-1	16.b.2
Table 4.1-1C	15		Relocated - TRM	
Table 4.1-1C	16		Relocated - TRM	
Table 4.1-1C	17		Relocated - TRM	
Table 4.1-1C	18	SR	3.3.1.12	
Table 4.1-1C	19		Relocated - TRM	
Table 4.1-1C	20		Relocated - TRM	
Table 4.1-1C	21	SR	3.3.3.1	
Table 4.1-1C	21	SR	3.3.3.2	
Table 4.1-1C	21	SR	3.3.3.3	
Table 4.1-1C	22		CTS Deleted	
Table 4.1-1C	23		CTS Deleted	
Table 4.1-1C	24		Relocated - TRM	

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 4.1-1C	24	SR	3.3.6.5	
Table 4.1-1C	24	SR	3.3.6.2	
Table 4.1-1C	25	SR	3.4.12.4	
Table 4.1-1C	25	SR	3.4.12.5	
Table 4.1-1C	25	SR	3.4.13.5	
Table 4.1-1C	25	SR	3.4.13.6	
Table 4.1-1C	26		Relocated - TRM	
Table 4.1-1C	27		Relocated - TRM	
Table 4.1-1C	28		Relocated - TRM	
Table 4.1-1C	29	SR	3.3.3.1	
Table 4.1-1C	29	SR	3.3.3.2	
Table 4.1-1C	29	(Partial)	Relocated - TRM	
Table 4.1-1C	30		Relocated - Bases	
Table 4.1-1C	31		Relocated - TRM	
Table 4.1-1C	Note 30	SR	3.1.7.1	
Table 4.1-1C	Note 31		Deleted	
Table 4.1-1C	Note 32		Relocated - TRM	

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
4.6.B.3			Relocated - TRM	
4.6.B.4		(Partial)	Relocated - TRM	
4.6.B.4			3.8.6.6	
4.6.B.5			Deleted	
New		SR	3.8.4.2	
New		SR	3.8.4.3	
New		SR	3.8.7.1	
4.6.C		SR	3.4.9.2	
4.6.C		(Partial)	Relocated - Bases	

3.3.A.1.f. ~~Manual valves in the above systems that could (if one is improperly positioned) reduce injection flow below that assumed for accident analyses, shall be blocked and tagged in the proper position for injection.~~ LR3.5-11

LCO3.5.3 LCO Note

RHR system valves, however, may be positioned as necessary to regulate plant heatup or cooldown rates when the reactor is subcritical. ~~All changes in valve position shall be under direct administrative control.~~ LR3.5-11

~~g. The following valve conditions shall exist:~~ L3.5-317

SR3.5.2.1 SR3.5.2.3

(1) Safety injection system motor-operated valves 8801A, 8801B, 8806A (PI Unit 1 valve numbers Unit 1 32070, 32206 and 32073; Unit 2 valve numbers 32170, 32171, and 32176 respectively) ~~shall have valve position monitor lights OPERABLE and~~ shall be locked in the open position by having the motor control center supply breakers physically locked in the off position. R-12 A3.5-316 L3.5-317

SR3.5.2.1 SR3.5.2.3

(2) Safety injection system motor-operated valves 8816A and 8816B (PI Unit 1 valve numbers 32206 and 32207, Unit 2 valve numbers 32208 and 32209 respectively) shall be closed~~, shall have valve position monitor lights OPERABLE,~~ and shall have the motor control center supply breakers physically locked in the off position. R-12 R-5 M3.5-18

~~(3) Accumulator discharge valves 8800A and 8800B shall have position monitor lights and alarms OPERABLE.~~

~~(4) Residual Heat Removal System valves 8701A and 8701B shall have normal valve position indication OPERABLE.~~ R-8 R-12

A3.5-303 L3.5-317

2. During MODES 1, 2 and 3 ~~STARTUP OPERATION or POWER OPERATION, any one of the following conditions of inoperability may exist provided~~ R-12
STARTUP OPERATION is discontinued until OPERABILITY is restored. If OPERABILITY is not restored within the time specified, be in at least MODE 3 ~~HOT SHUTDOWN~~ within the next 6 hours and in MODE 4 ~~COLD SHUTDOWN~~ within ~~the following~~ 12 ~~30~~ hours. A3.5-306

LCO3.5.2

A3.5-303 L3.5-13 M3.5-314

~~a. One safety injection pump may be inoperable for 72 hours.~~ R-5

~~b. One residual heat removal pump may be inoperable for 72 hours.~~ LR3.5-14

~~c. One residual heat exchanger may be inoperable for 72 hours.~~ M3.5-308

LCO3.5.1 COND C

If Required Action and associated Completion Time of Condition A and B are not met, be in MODE 3 within 6 hours and reduce RCS pressure to < 1000 psig within 12 hours. R-5

L3.5-317

3.3.A.2.g. ~~The valve position monitor lights or alarms for motor operated valves specified in 3.3.A.1.g above may be inoperable for 72 hours provided the valve position is verified once each shift.~~ R-12

Addressed Elsewhere

~~3. A maximum of one safety injection pump shall be capable of injecting into the RCS whenever RCS temperature is less than the Over Pressure Protection System Enable Temperature specified in the COLR except that both SI pumps may be made for up to one hour while conducting the integrated SI test(s) when either of the following conditions is met:~~

~~(a) There is a steam or gas bubble in the pressurizer and an isolation valve between the SI pump and the RCS is shut, or~~

~~(b) The reactor vessel head is removed~~

~~4. No safety injection pumps or shall be capable of injecting into the RCS whenever RCS temperature is less than the temperature specified in the PTLR for disabling both safety injection pumps (except one or both pumps may be on as specified in 3.3.A.3 and 3.3.A.4.d.(2)).~~

~~5. Both reactor coolant system accumulators shall be isolated whenever RCS temperature is less than the Over Pressure Protection System Enable Temperature specified in the PTLR.~~

LCO3.5.4 New Action Statement which allows 8 hours to restore RWST boron concentration within limits when it is found outside the limits. L3.5-19

Addressed Elsewhere

~~This specification does not apply whenever the reactor coolant system accumulators are depressurized or the reactor vessel head is removed.~~

~~Other SI system tests and operations may also be conducted under these conditions.~~

~~This specification does not apply whenever the reactor vessel head is removed.~~

NSHD category	Change number 3.5-	Discussion Of Change
LR	11	CTS 3.3.A.1.f. Specific details on control of valve positions are relocated to the Bases. These details are not necessary in the TS since the LCO requirement that the systems are OPERABLE envelopes these requirements. This change is consistent with the guidance of NUREG-1431. Since the ITS Bases (under the Bases Control Program in Section 5.5 of the ITS) and plant procedures are licensee controlled, this change is less restrictive.
	12	Not used.
L	13	CTS 3.3.A.2. A new Condition B for LCO 3.5.2 has been included which requires that if one or more trains of ECCS are inoperable for longer than the 72 hours allowed by Condition A, than the plant must be placed in Mode 3 within 6 hours and Mode 4 within 12 hours. By reducing RCS temperatures to Mode 4, the plant is in a mode in which the LCO does not apply. Further reduction in RCS temperatures to cold shutdown is unnecessary and may be unsafe since RHR operability is required at lower temperatures. Therefore, only requiring the plant to go to MODE 4 vs the CTS requiring the plant to go to Cold Shutdown (Mode 5) is a Less Restrictive change. These changes are consistent with the guidance of NUREG-1431.

NSHD category	Change number 3.5-	Discussion Of Change
A	17	CTS 3.3.A.2.f. New Condition is added stating that if ECCS flow is less than 100% of the ECCS flow equivalent to a single OPERABLE ECCS train available, enter LCO 3.0.3 immediately. This new Action Statement is acceptable because it continues to require OPERABLE flow capacity equivalent to one ECCS train or 100% of the required flow. Thus the loss of function is limited to a single train of ECCS which is functionally equivalent to the CTS requirements. In addition, requiring the unit to be placed in LCO 3.0.3 is consistent with the CTS since the CTS would also require entry into LCO 3.0.C since the CTS does not have a specific action requirement associated with this condition. This change is consistent with the guidance of NUREG-1431.
M	18	3.3.A.1.g(3) and 3.3.A.2.g. CTS requires ECCS accumulator isolation valve position monitor lights and alarms OPERABLE as a primary means, along with administrative controls, to assure that the isolation valves are open. ITS, through SR 3.5.1.5, requires that the power is removed from these isolation valve operators when RCS pressure is greater than 2000 psig. In ITS, the primary means for maintaining these valves open is removal of power from the valve operators and the administrative controls on the power source and valve repositioning. Since ITS requires power removed from the valve operators, this is a more restrictive change. This change is acceptable since removal of power from the valves provides another means of assuring that the valves will not be mispositioned. This change is consistent with the guidance of NUREG-1431.

NSHD category	Change number 3.5-	Discussion Of Change
A	316	CTS 3.3.A.1.g.(1) and (2). These Action Statements were revised to include the PI specific valve numbers with their associated Westinghouse valve numbers. Both numbers are utilized in the control room. Therefore; to avoid confusion, both numbers are included in the ITS.
L	317	3.3.A.1.g. and 3.3.A.2.g CTS requires valve position monitor lights to be OPERABLE for SI valves and RHR valves, and requires valve position monitor lights and alarms to be OPERABLE for ECCS accumulator valves. These position monitoring lights and alarms may be inoperable for 72 hours. ITS requires the SI and ECCS accumulator valves monitored by these lights and alarms to be in the correct position and includes SRs which require frequent verification of valve position. ITS does not include requirements for operability of these valve position monitoring lights and alarms. Since these lights and alarms are not required to be operable, this is a less restrictive change. This change is acceptable because these are only valve position indications. The actual control of SI and ECCS accumulator valve position is the removal of power after the valves are in the proper position and the administrative controls on the power source and valve repositioning. Furthermore, ITS includes new SRs which requires frequent (every 12 hours) verification of valve position. It is not relevant how this determination is made. With respect to the ECCS accumulator lights and alarms, removal of power from these valves is a new ITS requirement which is a more restrictive requirement than CTS which does not require removal of power (See DOC M3.5-18).

NSHD category	Change number 3.5-	Discussion Of Change
L	317	(continued) The RHR valves (8701A and B) for which position monitoring is removed from Technical Specifications are valves in series with redundant isolation valves. By procedure, the series valve (8702A and B) in each line is required to be closed with the power removed from the breaker. Thus, position indication of these valves is only part of the means for assuring these lines are isolated along with: 1) removal of power from the valve operator of the series valves (8702A and B); 2) administrative controls on the power source for the series valves (8702A and B); and 3) administrative controls on repositioning of all four RHR valves (8701A, 8701B, 8702A, 8702B). These changes are consistent with the guidance of NUREG-1431.

M - More restrictive (GENERIC NSHD)
(M3.5-02, M3.5-03, M3.5-05, M3.5-06, M3.5-08, M3.5-10, M3.5-18, M3.5-308, M3.5-312, M3.5-313, M3.5-314)

This proposed Technical Specifications revision involves modifying the Current Technical Specifications to impose more stringent requirements upon plant operations to achieve consistency with the guidance of NUREG-1431, correct discrepancies or remove ambiguities from the specifications. These more restrictive Technical Specifications have been evaluated against the plant design, safety analyses, and other Technical Specifications requirements to ensure the plant will continue to operate safely with these more stringent specifications.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed changes provide more stringent requirements for operation of the plant. These more stringent requirements do not result in operation that will increase the probability of initiating an analyzed event and do not alter assumptions relative to mitigation of an accident or transient event.

   These more restrictive requirements continue to ensure process variables, structures, systems, and components are maintained consistent with the safety analyses and licensing basis. Therefore, these changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed changes do not involve a physical alteration of the plant, that is, no new or different type of equipment will be installed, nor do they change the methods governing normal plant operation.

   These more stringent requirements do impose different operating restrictions. However, these operating restrictions are consistent with the boundaries established by the assumptions made in the plant safety analyses and licensing bases. Therefore, these changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

LR - Less restrictive, Relocated details (GENERIC NSHD)
(LR3.5-11, LR3.5-14, LR3.5-21, LR3.5-23, LR3.5-24, LR3.5-26)

Some information in the Prairie Island Current Technical Specifications that is descriptive in nature regarding the equipment, system(s), actions or surveillances identified by the specification has been removed from the proposed specification and relocated to the proposed Bases, Updated Safety Analysis Report or licensee controlled procedures. The relocation of this descriptive information to the Bases of the Improved Technical Specifications, Updated Safety Analysis Report or licensee controlled procedures is acceptable because these documents will be controlled by the Improved Technical Specifications required programs, procedures or 10CFR50.59. Therefore, the descriptive information that has been moved continues to be maintained in an appropriately controlled manner.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed changes relocate detailed, descriptive requirements from the Technical Specifications to the Bases, Updated Safety Analysis Report or licensee controlled procedures. These documents containing the relocated requirements will be maintained under the provisions of 10CFR50.59, a program or procedure based on 10CFR50.59 evaluation of changes, or NRC approved methodologies. Since these documents to which the Technical Specifications requirements have been relocated are evaluated under 10CFR50.59 or its guidance, or in accordance with NRC approved methodologies, no increase in the probability or consequences of an accident previously evaluate will be allowed without prior NRC approval. Therefore, these changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   These proposed changes do not necessitate physical alteration of the plant, that is, no new or different type of equipment will be installed, or change parameters governing normal plant operation. The proposed changes will not impose any different requirements and adequate control of the information will be maintained. Thus, these changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

Specific NSHD for Change L3.5-317

CTS requires valve position monitor lights to be OPERABLE for SI valves and RHR valves, and requires valve position monitor lights and alarms to be OPERABLE for ECCS accumulator valves. These position monitoring lights and alarms may be inoperable for 72 hours. ITS requires the SI and ECCS accumulator valves monitored by these lights and alarms to be in the correct position and includes SRs which require frequent verification of valve position. The RHR valves (8701A, 8701B) monitored by these lights are isolation valves in series with redundant RHR isolation valves (8702A, 8702B). ITS does not include requirements for operability of these valve position monitoring lights and alarms. This change is acceptable because these are only valve position indications. The primary means for assuring the SI and ECCS accumulator valves are in the proper position is removal of power from the valve operators and administrative controls on valve repositioning and the power sources to the valve operators. ITS includes new SRs which requires frequent (every 12 hours) verification of SI and ECCS accumulator valve position. The primary means for assuring the affected RHR lines are isolated is removal of power from the redundant, series valve operators (8702A, 8702B) in accordance with plant procedures, administrative controls on valve repositioning (8701A, 8701B, 8702A, 8702B), and administrative controls on the power sources to the redundant, series valve operators (8702A, 8702B). These changes are consistent with the guidance of NUREG-1431.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The SI, RHR and ECCS accumulator valves and position monitoring equipment are not assumed to be initiators of an analyzed accident. Therefore, these changes do not involve a significant increase in the probability of an accident previously evaluated. These changes could reduce the equipment required for monitoring ECCS subsystem valve position. Since the ability of the ECCS to perform its safety function is not lost or degraded by removing valve position monitoring equipment from the Technical Specifications, these changes do not involve a significant increase in the consequences of an accident previously evaluated.

Specific NSHD for Change L3.5-317 (continued)

2. The proposed amendment will not create the possibility of a new or different kind of accident previously analyzed.

   The proposed changes do not involve a physical alteration of the plant, that is, no new or different type of equipment will be installed. The proposed changes will only more accurately define the minimum equipment required to be OPERABLE to perform the ECCS function while in this Condition. Therefore, these changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The proposed change will not involve a significant reduction in the margin of safety.

   The proposed change removes Technical Specification requirements for SI, RHR and ECCS accumulator valve position monitoring equipment to be operable. This monitoring equipment only provides indication of valve position and does not actually assure that the valves are in the proper position.

   The CTS primary means for assuring the SI valves were in the proper position was removal of power from the valve operators and administrative controls on valve repositioning and the power to the valve operators. ITS also requires the power to be removed from the valve operators and furthermore includes a new SR which requires frequent (every 12 hours) verification of valve position Administrative controls on valve repositioning and on the power to the valve operators will also continue to be exercised. Since this change only involves position monitoring equipment and new surveillance requirements have been included in ITS, this change does not involve a significant reduction in the margin of safety.

   The CTS primary means for assuring the ECCS accumulator valves were in the proper position was the valve position monitoring lights and alarms, and administrative controls on valve repositioning. ITS includes a new requirement for the power to be removed from the valve operators and furthermore includes a new SR which requires frequent (every 12 hours) verification of valve position Administrative controls on valve repositioning and on the power to the valve operators will also continue to be exercised. Since this change only involves position monitoring equipment and new requirements to remove valve power and perform surveillance on valve position have been included in ITS, this change does not involve a significant reduction in the margin of safety.

Specific NSHD for Change L3.5-317 (continued)

The CTS primary means for assuring the affected RHR lines are isolated is removal of power from the redundant, series valve operators (8702A, 8702B) in accordance with plant procedures, administrative controls on valve repositioning (8701A, 8701B, 8702A, 8702B), and administrative controls on the power sources to the redundant series valve operators (8702A, 8702B). Administrative controls on valve repositioning and on the power to the valve operators will also continue to be exercised. Since this change only involves position monitoring equipment and plant procedures continue to provide the primary means of assuring the RHR lines are isolated, this change does not involve a significant reduction in the margin of safety.

Therefore, these changes do not involve a significant reduction in margin of safety.

Therefore it is concluded this proposed change does not involve a significant hazards consideration. This change is consistent with the guidance of NUREG-1431.

ENVIRONMENTAL ASSESSMENT

The Nuclear Management Company has evaluated the proposed changes and determined that:

1. The changes do not involve a significant hazards consideration, or

2. The changes do not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or

3. The changes do not involve a significant increase in individual or cumulative occupational radiation exposure.

Accordingly, the proposed changes meet the eligibility criteria for categorical exclusion set forth in 10 CFR Part 51 Section 51.22(c)(9). Therefore, pursuant to 10 CFR Part 51 Section 51.22(b), an environmental assessment of the proposed changes is not required.

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 4.1-1C	11	SR	3.3.4.1	
Table 4.1-1C	11	SR	3.3.4.2	
Table 4.1-1C	12		Deleted - Boric Acid LAR	
Table 4.1-1C	13		Relocated - TRM	
Table 4.1-1C	14		CTS Deleted	
Table 4.1-1C	15	TABLE	3.3.1-1	16.b.2
Table 4.1-1C	15		Relocated - TRM	
Table 4.1-1C	16		Relocated - TRM	
Table 4.1-1C	17		Relocated - TRM	
Table 4.1-1C	18	SR	3.3.1.12	
Table 4.1-1C	19		Relocated - TRM	
Table 4.1-1C	20		Relocated - TRM	
Table 4.1-1C	21	SR	3.3.3.1	
Table 4.1-1C	21	SR	3.3.3.2	
Table 4.1-1C	21	SR	3.3.3.3	
Table 4.1-1C	22		CTS Deleted	
Table 4.1-1C	23		CTS Deleted	
Table 4.1-1C	24		Relocated - TRM	

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 4.1-1C	24	SR	3.3.6.5	
Table 4.1-1C	24	SR	3.3.6.2	
Table 4.1-1C	25	SR	3.4.12.4	
Table 4.1-1C	25	SR	3.4.12.5	
Table 4.1-1C	25	SR	3.4.13.5	
Table 4.1-1C	25	SR	3.4.13.6	
Table 4.1-1C	26		Relocated - TRM	
Table 4.1-1C	27		Relocated - TRM	
Table 4.1-1C	28		Relocated - TRM	
Table 4.1-1C	29	SR	3.3.3.1	
Table 4.1-1C	29	SR	3.3.3.2	
Table 4.1-1C	29	(Partial)	Relocated - TRM	
Table 4.1-1C	30		Relocated - Bases	
Table 4.1-1C	31		Relocated - TRM	
Table 4.1-1C	Note 30	SR	3.1.7.1	
Table 4.1-1C	Note 31		Deleted	
Table 4.1-1C	Note 32		Relocated - TRM	

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more secondary containment bypass leakage or inservice purge valve(s) leakage not within limit.	D.1 Restore leakage within limit.	4 hours
E. Containment purge blind flange or inservice purge blind flange leakage not within limit.	E.1 Restore leakage within limit.	1 hour
F. Required Action and associated Completion Time not met.	F.1 Be in MODE 3. AND F.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.3.1	Verify each 36-inch containment purge penetration blind flange is installed.	Prior to entering MODE 4 from MODE 5
SR 3.6.3.2	Verify each 18-inch containment inservice purge penetration is blind flanged and meets SR 3.6.1.1.	After each use of the 18-inch containment inservice purge system
SR 3.6.3.3	----------NOTE---------- Valves and blind flanges in high radiation areas may be verified by use of administrative controls. ----------	
	Verify each containment isolation manual valve and blind flange that is located outside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	92 days
SR 3.6.3.4	----------NOTE---------- Valves and blind flanges in high radiation areas may be verified by use of administrative means. ----------	
	Verify each containment isolation manual valve and blind flange that is located inside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.3.5	Verify the isolation time of each automatic power operated containment isolation valve is within limits.	In accordance with the Inservice Testing Program
SR 3.6.3.6	Perform leakage rate testing for 18 inch containment inservice purge valves with resilient seals.	Prior to system use
SR 3.6.3.7	Verify each automatic containment isolation valve that is not locked, sealed or otherwise secured in position, actuates to the isolation position on an actual or simulated actuation signal.	24 months
SR 3.6.3.8	Verify the combined leakage rate for all secondary containment bypass leakage paths is in accordance with the Containment Leakage Rate Testing Program.	In accordance with the Containment Leakage Rate Testing Program

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.1.2

Verifying that the maximum temperature differential between average containment and annulus air temperatures is less than or equal to 44 °F ensures that containment operation remains within the limits assumed for the containment analyses. Plant operating experience demonstrates that this limit can only be approached when the plant is in MODES 5 and 6. Requiring this temperature differential to be verified prior to entering MODE 4 from MODE 5 provides assurance this parameter is within acceptable limits prior to establishing conditions requiring containment integrity. Containment temperature monitoring instrumentation must be OPERABLE to perform this surveillance.

SR 3.6.1.3

Verifying that the minimum containment shell temperature is met ensures that adequate margin above NDTT exists. Plant operating experience demonstrates that this limit can only be approached when the plant is in MODES 5 and 6. Requiring containment shell temperature to be verified prior to entering MODE 4 from MODE 5 provides assurance that the shell temperature is above NDTT prior to establishing conditions requiring containment integrity. Containment temperature monitoring instrumentation must be OPERABLE to perform this surveillance.

REFERENCES

1. 10 CFR 50, Appendix J.

2. USAR, Section 14.

BASES

BACKGROUND

Inservice Purge System (18 inch purge valves) (continued)

building annulus. Normally, during MODES 1, 2, 3, and 4 the blind flanges provide the containment penetration isolation function. When ventilation of containment is required in MODES 1, 2, 3, and 4, the valves will be leak tested, and the blind flanges removed and replaced with a spool piece. Prior to system use, the automatic isolation valves and dampers are verified to be OPERABLE and a debris screen is installed on each line preventing foreign material from inhibiting the proper closing of the valves. When purge of containment is completed and inservice purge system operation is no longer required, the system is returned to its normal operating configuration with the spool pieces removed. The blind flanges are installed on penetrations42B and 43A (52 and 53 in Unit 2) and tested to meet the acceptance criteria of the Containment Leakage Rate Testing Program.

APPLICABLE SAFETY ANALYSES

The containment isolation valve LCO was derived from the assumptions related to minimizing the loss of reactor coolant inventory and establishing the containment boundary during major accidents. As part of the containment boundary, containment isolation valve OPERABILITY supports leak tightness of the containment. Therefore, the safety analyses of any event requiring isolation of containment is applicable to this LCO.

The DBAs that result in a release of radioactive material to the containment atmosphere are a loss of coolant accident (LOCA) and a rod ejection accident (Ref. 3). In the analyses for each of these accidents, it is assumed that containment isolation valves are either closed or function to close within the required isolation time following event initiation. This ensures that potential paths to the environment through containment isolation valves are minimized. The safety analyses assume that the 36 inch purge lines are blind flanged at event initiation.

BASES

LCO (continued)

Vent and drain valves located between two isolation devices are also containment isolation devices. Test connections located between two isolation valves are similar to vent and drain lines except that no valve may exist in the test line. A cap or blind flange, as applicable, must be installed on these vent, drain and test lines. A cap or blind flange installed on these lines make them "otherwise secured" for SR considerations.

The automatic power operated isolation valves are required to have isolation times within limits and to actuate on an automatic isolation signal. The 36 inch purge valves must be blind flanged in MODES 1, 2, 3, and 4. The valves covered by this LCO are listed in Reference 2.

The normally closed isolation valves are considered OPERABLE when manual valves are closed, automatic power operated valves are de-activated and secured in their closed position, blind flanges are in place, and closed systems are intact. These passive isolation valves/devices are those listed in Reference 2.

Inservice purge valves with resilient seals and secondary containment (shield building and auxiliary building special ventilation zone) bypass valves must meet additional leakage rate requirements. The other containment isolation valve leakage rates are addressed by LCO 3.6.1, "Containment," as Type C testing.

This LCO provides assurance that the containment isolation valves and purge valves will perform their designed safety functions to minimize the loss of reactor coolant inventory and establish the containment boundary during accidents.

BASES

ACTIONS (continued)

In the event containment isolation valve leakage results in exceeding the overall containment leakage rate acceptance criteria, Note 4 directs entry into the applicable Conditions and Required Actions of LCO 3.6.1.

A.1 and A.2

In the event one containment isolation valve in one or more penetration flow paths is inoperable, except for inservice purge penetrations or secondary containment bypass leakage not within limit, the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated or mechanically blocked power operated containment isolation valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. For a penetration flow path isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available one to containment. Required Action A.1 must be completed within 4 hours. The 4 hour Completion Time is reasonable, considering the time required to isolate the penetration and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4.

For affected penetration flow paths that cannot be restored to OPERABLE status within the 4 hour Completion Time and that have been isolated in accordance with Required Action A.1, the affected penetration flow paths must be verified to be isolated on a periodic basis. This is necessary to ensure that containment penetrations required to be isolated following an accident and no longer capable of being automatically isolated will be in the isolation position should an event occur. This Required Action does not

BASES

ACTIONS (continued)

B.1

With two containment isolation valves in one or more penetration flow paths inoperable, except for inservice purge penetration or secondary containment bypass leakage not within limits, the affected penetration flow path must be isolated within 1 hour. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated power operated valve, a closed manual valve, and a blind flange. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.1. In the event the affected penetration is isolated in accordance with Required Action B.1, the affected penetration must be verified to be isolated on a periodic basis per Required Action A.2, which remains in effect. This periodic verification is necessary to assure leak tightness of containment and that penetrations requiring isolation following an accident are isolated. The Completion Time of once per 31 days for verifying each affected penetration flow path is isolated is appropriate considering the fact that the valves are operated under administrative control and the probability of their misalignment is low.

Condition B is modified by a Note indicating this Condition is only applicable to penetration flow paths with two containment isolation valves. Condition A of this LCO addresses the condition of one containment isolation valve inoperable in this type of penetration flow path.

BASES

ACTIONS

C.1 and C.2 (continued)

necessary since this Condition is written to specifically address those penetration flow paths in a closed system.

Required Action C.2 is modified by two Notes. Note 1 applies to valves and blind flanges located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned. Therefore, the probability of misalignment of these valves, once they have been verified to be in the proper position, is small.

D.1

With the secondary containment bypass leakage rate (SR 3.6.3.8) or inservice purge valve(s) (SR 3.6.3.6) leakage is not within limit, the assumptions of the safety analyses are not met. Therefore, the leakage must be restored to within limit within 4 hours. Restoration can be accomplished by isolating the penetration(s) that caused the limit to be exceeded by use of one closed and de-activated automatic valve, closed manual valve, or blind flange.

BASES

ACTIONS

D.1 (continued)

When a penetration is isolated the leakage rate for the isolated penetration is assumed to be the actual pathway leakage through the isolation device. If two isolation devices are used to isolate the penetration, the leakage rate is assumed to be the lesser actual pathway leakage of the two devices. The 4 hour Completion Time is reasonable considering the time required to restore the leakage by isolating the penetration(s) and the relative importance of secondary containment bypass leakage and containment purge penetration valve(s) leakage to the overall containment function.

E.1

In the event containment purge blind flange leakage (SR 3.6.3.1) or inservice purge blind flange leakage (SR 3.6.3.2) are not within limits, the leakage rate must be restored within 1 hour to assure containment leakage rates are met. If containment purge blind flange leakage rate or inservice purge blind flange leakage rate limits are not met, it could be due to the blind flange not installed or improperly installed. If containment purge blind flange leakage rate or inservice purge blind flange leakage rate limits are not met, it could be due to the blind flange not installed or improperly installed. The 1 hour Completion Time provides a period of time to correct the problem commensurate with the importance of maintaining containment OPERABLE during MODES 1, 2, 3 and 4. This time period also ensures that the probability of an accident (requiring containment OPERABILITY) occurring during periods when blind flange leakage exceeds its limits is minimal.

BASES

ACTIONS (continued)

F.1 and F.2

If the Required Actions and associated Completion Times are not 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 6 hours and to MODE 5 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 3.6.3.1

Each 36 inch containment purge system penetration is required to be blind flanged when the plant is in MODES 1, 2, 3, and 4. This Surveillance is designed to ensure that the blind flange is installed prior to entering MODE 4 from MODE 5.

SR 3.6.3.2

This SR ensures that the 18-inch containment inservice purge penetrations are blind flanged after each use of the system. Since the inservice purge penetration blind flanges are part of the containment boundary, they are required to meet the Containment Leakage Rate Testing Program acceptance criteria required by SR 3.6.1.1 as required by this SR.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.3.3

This SR requires verification that each containment isolation manual valve and blind flange located outside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside of the containment boundary is within design limits. This SR does not require any testing or valve manipulation. Rather, it involves verification, through a system walkdown, that those containment manual valves and blind flanges outside containment and capable of being mispositioned are in the correct position. Since verification of manual valve and blind flange position for containment isolation valves outside containment is relatively easy, the 92 day Frequency is based on engineering judgment and was chosen to provide added assurance of the correct positions. The SR specifies that containment isolation valves that are open under administrative controls are not required to meet the SR during the time the valves are open. This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

The Note applies to valves and blind flanges located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted during MODES 1, 2, 3 and 4 for ALARA reasons. Therefore, the probability of misalignment of these containment isolation valves, once they have been verified to be in the proper position, is small.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.3.4

This SR requires verification that each containment isolation manual valve and blind flange located inside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside of the containment boundary is within design limits. For containment isolation manual valves and blind flanges inside containment, the Frequency of "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is appropriate since these containment isolation valves are operated under administrative controls and the probability of their misalignment is low. The SR specifies that containment isolation valves that are open under administrative controls are not required to meet the SR during the time they are open. This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

This Note allows valves and blind flanges located in high radiation areas to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of these containment isolation valves or blind flanges, once they have been verified to be in their proper position, is small.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.3.5

Verifying that the isolation time of each automatic power operated containment isolation valve is within limits is required to demonstrate OPERABILITY. The isolation time test ensures the valve will isolate in a time period less than or equal to that assumed in the safety analyses. The isolation time and Frequency of this SR are in accordance with the Inservice Testing Program.

SR 3.6.3.6

Since PI only uses the containment inservice purge system infrequently for short periods of time, this SR must be performed prior to each use of the system when containment integrity is required to assure that the valve leakage rate is within an acceptable value.

SR 3.6.3.7

Automatic containment isolation valves close on a containment isolation signal to prevent leakage of radioactive material from containment following a DBA. This SR ensures that each automatic containment isolation valve will actuate to its isolation position on a containment isolation signal. This surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass this Surveillance when performed. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.3.8

This SR ensures that the combined leakage rate of all secondary containment (shield building and auxiliary building special ventilation zone) bypass leakage paths is less than or equal to the specified leakage rate. This provides assurance that the assumptions in the safety analysis are met. The leakage rate of each bypass leakage path is assumed to be the maximum pathway leakage (leakage through the worse of the two isolation valves) unless the penetration is isolated by use of one closed and de-activated automatic valve, closed manual valve, or blind flange. In this case, the leakage rate of the isolated bypass leakage path is assumed to be the actual pathway leakage through the isolation device. If both isolation valves in the penetration are closed, the actual leakage rate is the lesser leakage rate of the two valves. The acceptance criteria and Frequency are provided by the Containment Leakage Rate Testing Program.

Bypass leakage is considered part of L_a.

REFERENCES

1. 10 CFR 50 Appendix A.
2. USAR, Section 5.2.
3. USAR, Section 14.
4. AEC "General Design Criteria for Nuclear Power Plant Construction Permits," Criteria 53, issued for comment, July 10, 1967, as referenced in USAR Section 1.2.

A3.6-00

3.6 CONTAINMENT SYSTEM

~~Applicability~~

~~Applies to the integrity of the containment system.~~

R-2

A3.6-09

~~Objective~~

~~To define the operating status of the containment system for plant operation.~~

Specification

A. Containment Integrity

A3.6-03

LCO3.6.1 1. A reactor in MODES 1, 2, 3 and 4 shall have ~~not be made or maintained critical nor shall reactor coolant system average temperature exceed 200°F unless~~ CONTAINMENT INTEGRITY ~~is~~ maintained.

2. If these conditions cannot be satisfied, within one hour initiate the action necessary to place the unit in MODE 3~~HOT SHUTDOWN~~, and be in at least MODE 3~~HOT SHUTDOWN~~ within the next 6 hours and in MODE 5~~COLD SHUTDOWN~~ within ~~the following~~ 3630 hours.

A3.6-03
A3.6-11

B. Vacuum Breaker System

LR3.6-16
A3.6-03

LCO3.6.8 1. Both valves in each of two vacuum breaker systems, ~~including actuating and power circuits,~~ shall be OPERABLE in MODES 1, 2, 3 and 4~~hen CONTAINMENT INTEGRITY is required~~ (except as specified in 3.6.B.2 and 3.6.B.3 below).

L3.6-90

R-12

LCO3.6.3 2 With one vacuum breaker inoperable with respect to its containment isolation function, apply the requirements of Specification 3.6.C.3, to the isolation valves associated with the inoperable vacuum breaker.

L3.6-83

LCO3.6.8A 3. One or both valves in one vacuum breaker train may be inoperable with respect to its vacuum relief function for 7 days.

LCO3.6.8B Vacuum breaker train not restored within 7 days, be in MODE 3 in 6 hours and MODE 5 in 36 hours.

M3.6-82

M3.6-17

R-9

C. Containment Isolation Valves

LCO3.6.3 1. ~~Non-automatic~~ containment isolation valves shall be OPERABLE. ~~locked closed or shall be~~

L3.6-21

Penetration flow paths may be unisolated intermittently under direct administrative control ~~and capable of being closed within one minute following an accident~~ when CONTAINMENT INTEGRITY is required (except as specified in 3.6.C.3 below).

A3.6-19

LCO3.6.3 Note 2 Separate Condition entry is allowed for each penetration flow path.

3.6.D. Containment Purge System

~~1. The 36-inch containment purge system double-gasketed blind flanges shall be installed whenever the reactor is above COLD SHUTDOWN. The 18-inch containment inservice purge system double-gasketed blind flanges shall be installed whenever the reactor is above COLD SHUTDOWN except as noted below.~~ LR3.6-36

LCO3.6.3 2. The inservice purge system may be operated in MODES 1, 2, 3 and 4~~above COLD SHUTDOWN~~ if the following conditions are met: A3.6-03

~~a. The debris screens are installed on the supply and exhaust ducts in containment.~~ LR3.6-36

SR3.6.3.6 b. The two automatic primary containment isolation valves in each duct that penetrates containment shall satisfactorily pass a local leak rate test prior to use. LR3.6-36

~~c. The two automatic primary containment isolation valves and the automatic shield building ventilation damper in each duct that penetrates containment shall be OPERABLE, including instruments and controls associated with them.~~

d. If an inservice purge system automatic primary containment isolation valve or automatic shield building ventilation damper becomes inoperable, apply the requirements of Specification 3.6.C.3. Addressed Elsewhere

SR3.6.3.2 e. The blind flanges ~~(i.e., 42B (53 in Unit 2) and 43A (52 in Unit 2))~~ shall be reinstalled and satisfactorily pass a local leak rate test, each time after the in-service purge system is used. LR3.6-36

A3.6-77

LCO3.6.3 Cond E

If a blind flange leakage rate on the 36-inch containment purge or inservice purge (when required) is not within limits due to not installed or not properly installed, the leakage rate shall be restored to within limits within 1 hour.

Addressed Elsewhere

R-12

~~E. Auxiliary Building Special Ventilation Zone Integrity~~

~~1. A reactor shall not be made or maintained critical nor shall reactor coolant system average temperature exceed 200°F unless AUXILIARY BUILDING SPECIAL VENTILATION ZONE INTEGRITY is maintained. If these conditions cannot be satisfied (except as specified in 3.6.E.2 and 3 below) within 24 hours, initiate the actions necessary to place both units in HOT SHUTDOWN and be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~

~~2. Openings in the Auxiliary Special Ventilation Zone are permitted provided they are under direct administrative control and can be reduced to less than 10 square feet in 1 of 6 minutes following an accident.~~

~~3. Valves and actuation circuits that isolate the Auxiliary Building Normal Ventilation System following an accident may be inoperable for 7 days provided the ventilation system can be manually isolated within 6 minutes following an accident.~~

3.6.J. Containment and Shield Building Air Temperature

SR3.6.1.2

1. The average temperature of the air in the containment vessel shall not exceed 44°F above the average temperature of the air in the shield building whenever in MODES 1, 2, 3 and 4~~CONTAINMENT INTEGRITY is required~~ (except as specified in 3.6.J.2 below). A3.6-03

M3.6-91

2. If this limit is exceeded and is not corrected within 1~~8~~ hours, be in at least MODE ~~3~~HOT SHUTDOWN within the next 6 hours and be in MODE 5~~COLD SHUTDOWN~~ R-12

A3.6-03

within ~~the following 30~~36 hours. A3.6-11

K. Containment Shell Temperature

SR3.6.1.3

1. Containment Shell Temperature shall be equal to or greater than 30°F whenever in MODES 1, 2, 3 and 4~~CONTAINMENT INTEGRITY is required~~ (except as specified in 3.6.K.2 below). A3.6-03

M3.6-91

2. If this limit is exceeded and is not corrected within 1~~8~~ hours, be in at least MODE 3~~HOT SHUTDOWN~~ within the next 6 hours and be in MODE 5~~COLD SHUTDOWN~~ within ~~the following 30~~ 36 hours. R-6 R-12

A3.6-03

A3.6-11

L. Electric Hydrogen Recombiners

LCO3.6.7

1. Both containment hydrogen recombiner systems shall be OPERABLE whenever the reactor is in MODES 1 and 2~~above HOT SHUTDOWN~~ (except as specified in 3.6.L.2 below). A3.6-03

2. One hydrogen recombiner system may be inoperable for 30 days.

If this Required Action and Completion Time is not met, be in MODE 3 within 6 hours. M3.6-39

NOTE: SR 3.0.4 is not applicable. L3.6-28 R-2

M. Containment Air Locks

LCO3.6.2

L3.6-75

Notes:

2. Separate Condition entry is allowed for each air lock.

A3.6-42

3. Enter LCO 3.6.1 Conditions when air lock leakage results in exceeding containment leakage rate acceptance criteria. R-2

1. Each containment air lock shall be OPERABLE with both doors closed whenever in MODES 1, 2, 3 and 4~~CONTAINMENT INTEGRITY is required~~ except as specified in 3.6.M.2 and 3 below; and except for entry and exit, when at least one air lock door shall be closed. A3.6-03

A3.6-49

Add LCO 3.6.2, Required Action A NOTE 1 - Required Actions A.1, A.2, and A.3 are not applicable if both doors in the same air lock are inoperable and Condition C is entered.

Add LCO 3.6.2, Required Action B NOTE 1 - Required Actions B.1, B.2, and B.3 are not applicable if both doors in the same air lock are inoperable and Condition C is entered. R-2

NSHD Category	Change Number 3.6-	Discussion of Change
	18	Not used.
A	19	CTS 3.6.C.1. In conformance with the guidance of NUREG-1431, a Note is included which allows separate Condition entry for each containment flow path. Since CTS 3.6.C.3 and 3.6.C.3(c) provide guidance for multiple valves in multiple penetrations, CTS allows separate Condition entry. Separate Condition entry will also apply to the containment isolation function of the vacuum breaker trains. Since the vacuum relief function of these trains are addressed by separate LCO 3.6.8 and the containment isolation functions of each train are independent of each other, this does not introduce any more or less restrictive changes. Therefore this explicit statement is an administrative change for all containment penetrations.
	20	Not used.
L	21	CTS 3.6.C.1. In conformance with the guidance of NUREG-1431, the CTS requirement to be capable of closing containment isolation valves under administrative control within one minute has been revised to allow penetrations to be unisolated intermittently. This proposed specification is functionally equivalent to the CTS in that the penetration flow path will remain under direct administrative control for the purpose of closing the flow path as soon as practicable upon discovery of a need for containment integrity. This capability will also apply to the vacuum breaker trains (VBTs). Since the same administrative controls apply, this change is also acceptable for the VBTs.

NSHD Category	Change Number 3.6-	Discussion of Change
A	22	CTS 3.6.C.1. In conformance with the guidance of NUREG-1431, requirements for inoperable or leaking barriers have been explicitly included in the ITS. If a system is made inoperable by closing a penetration barrier in accordance with Specification 3.6.3, then the applicable Condition and Required Actions for that system shall be entered. Also if penetration barrier leakage causes the overall containment leakage rate to exceed the allowable leakage rate, then the specification for Containment Integrity (3.6.1) must be entered. These Notes will also apply to the vacuum breaker trains (VBTs) which is appropriate since they also provide the vacuum relief function under ITS 3.6.8 and must meet leak tightness criteria which enable containment integrity to meet ITS 3.6.1 requirements. These provisions are the same as PI current practice therefore these changes are administrative.
A	23	CTS 3.6.C.3. The ISTS differentiates between penetration flow paths that depend on a closed system as one of the penetration barriers and those that do not use a closed system as one of the barriers. In conformance with ISTS, a Note is added to apply the CTS requirements to those penetrations which do not use a closed system as a barrier. Since the other changes required to conform to this ISTS specification are addressed separately below, this change is considered administrative. This change is consistent with the guidance of NUREG-1431.

NSHD Category	Change Number 3.6-	Discussion of Change
A	24	CTS 3.6.C.3. The ISTS establishes a separate Condition and Action Statement for penetration flow paths with two inoperable penetration barriers. Thus the clause, "penetration flow paths with one" is added to apply the CTS requirements to those penetration flow paths with a single inoperable barrier. Since the Condition for a penetration flow path with two inoperable barriers is addressed separately below, this change is considered administrative. This change is consistent with the guidance of NUREG-1431.
	25	Not used.
A	26	CTS 3.6.C.3(b). CTS allows a valve to be deactivated when a containment isolation valve is inoperable. Minor clarification of wording is provided to be consistent with the guidance of NUREG-1431. Since this change is a clarification which does not change or introduce any new plant operating requirements, this is an administrative change.
L	27	CTS 3.6.C.3(c). In conformance with the guidance of NUREG-1431, two additional options for isolating a penetration barrier, use of a blind flange or check valve, are included. Also a minor clarification that a manual valve may be locked closed has been made. Use of check valves includes the vacuum breaker train gravity check valves. These added options for isolating a flow path are acceptable because they assure that the flow through the penetration flow path is secured. Since new options are provided, plant operation is less restrictive.

NSHD Category	Change Number 3.6-	Discussion of Change
A	62	CTS 3.6.B.3. ITS Condition D has been added requiring that if the inservice purge valve(s) leakage is not within limits when the system is in service, then restore to within limits within 4 hours. This is an administrative change since the CTS contains the same requirements and Completion Times. The only difference is that the ITS gathers all these requirements into one Condition whereas the CTS provides these requirements in various locations within CTS 3.6.B.3. This change is consistent with NUREG-1431, Rev. 1. as revised by TSTF 207, Rev. 5.
L	63	CTS 4.4.B.3.c, 4.4.C, 4.4.E, 4.5.A.2.a, 4.5.B.3.d, and 4.5.B.3.f. Provision is included for this system test to be initiated by an actual or simulated signal. This change would allow the test requirements to be satisfied in the event the system actually initiates and thus prevents unnecessary additional testing. Since this change allows increased plant operation flexibility it is a less restrictive change. This change is consistent with the guidance of NUREG-1431.
LR	64	CTS 4.4.I.a, 4.4.I.b and 4.4.I.c. Specific details of how each hydrogen recombiner SR is performed have been relocated to the Bases since these details are unnecessary in the TS. Since the Bases are under the control of PI ITS Section 5.5, Bases Control Program, these requirements remain under regulatory controls. These changes are consistent with the guidance of NUREG-1431.
	65	Not used.

NSHD Category	Change Number 3.6-	Discussion of Change
L	76	CTS 1.0, Shield Building Integrity, Item 1. Item 1 of the Shield building integrity definition which provides the basis for ITS SR 3.6.10.1, requires both access doors to be closed. The normal condition of the plant is to keep both doors closed, except during entry and exit or when maintenance is being performed on the access. In accordance with the guidance of approved TSTF-18, Revision 1, this new SR will require verifying only one access door to be closed. This change is acceptable because one door closed in each access opening ensures that the infiltration of outside air of such a magnitude as to prevent maintaining the desired negative pressure does not occur. Since only one door will be verified to be closed, this is a less restrictive change.
A	77	CTS 3.6.D.2.e. CTS does not provide guidance for the condition when a blind flange has not been installed on the containment purge system penetrations or leakage limits are not met when a blind flange is not installed properly. New guidance is provided in ITS 3.6.3 Condition E which will allow 1 hour to restore leakage to within limits. Since CTS would require entry into LCO 3.0.C (ITS 3.0.3) in this plant condition, which would allow 1 hour to prepare for plant shut down, this is consistent with CTS and is considered an administrative change.

NSHD Category	Change Number 3.6-	Discussion of Change
	88	Not used.
M	89	CTS 3.3.B.2.a and 3.3.B.2.b. The CTS requirements that allows one containment fan cooler train to be out of service for 7 days and one containment spray train to be out of service for 72 hours are modified by the addition of "and 10 days from discovery of failure to meet the LCO" to be consistent with the guidance of NUREG-1431. Since these changes could limit the time that a containment fan cooler train or containment spray train is allowed out of service, these are more restrictive changes. These changes are acceptable since they do not introduce any unsafe plant conditions.

NSHD Category	Change Number 3.6-	Discussion of Change
L	90	CTS 3.6.B.1 and 3.6.B.2. CTS does not state that vacuum breaker train (VBT) action statements may be entered when one VBT is inoperable with respect to its vacuum relief capability and containment isolation action statements may be entered simultaneously for the other VBT inoperable with respect to its containment isolation function. ITS will allow entry into 3.6.8 Conditions for a VBT inoperable with respect to its vacuum relief function and simultaneous entry into 3.6.3 Conditions for a VBT inoperable with respect to its containment isolation function and therefore this is a less restrictive change. This change is acceptable as demonstrated in the following discussion. The VBT with inoperable vacuum relief capability is allowed by CTS and ITS to be inoperable for 7 days. During this time this VBT is still capable of isolating containment and the other train is capable of vacuum relief. The other VBT is unable to isolate containment. Within four hours ITS 3.6.3 Required Actions (RA) require the second train to be isolated. Depending on which VBT valve becomes unable to isolate containment and the nature of its inoperability, isolation of the second VBT within 4 hours may result in loss of vacuum relief capability of the second VBT. In this situation, ITS will require the plant to shut down in accordance with LCO 3.0.3 which will assure the plant is maintained in a safe condition. If isolation of the second VBT does not cause loss of vacuum relief capability, then the minimum functional requirements are met for the RAs of both 3.6.3 and 3.6.8 and the plant is allowed to operate for 7 days until vacuum relief is restored in the first VBT or the plant is required to shut down. This change is acceptable since both containment vacuum relief and isolation functions are met or ITS will require the plant to shut down. This change is consistent with the guidance of NUREG-1431.

NSHD Category	Change Number 3.6-	Discussion of Change
M	91	CTS 3.6.J.2 and 3.6.K.2. CTS allows 8 hours to correct the temperature of the containment shell or temperature differential between the containment air temperature and shield building annulus. Since these requirements are included as SRs in ITS Specification 3.6.1, ITS will only allow 1 hour to correct these conditions. Since less time is allowed this is a more restrictive change. This change is acceptable since these requirements are met prior to entry into the MODES of Applicability and then, due to the heat generated in containment during power operation these limits are always met during plant operation in the MODES of Applicability.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more secondary containment~~Shield building~~ bypass leakage or inservice purge valve(s) leakage not within limit.	D.1 Restore leakage within limit.	4 hours TA3.6-124 CL3.6-128 R-12
E. ~~One or more penetration flow paths with one or more~~ Ccontainment purge blind flange or inservice~~valves not within~~ purge blind flange~~valve~~ leakage not within limits.	E.1 Restore leakage within limits. ~~Isolate the affected penetration flow path by use of at least one [closed and de-activated automatic valve, closed manual valve, or blind flange].~~ ~~AND~~	~~124~~ hours (continued) R-12 CL3.6-126

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Required Action and associated Completion Time not met.	F.1 Be in MODE 3. AND F.2 Be in MODE 5.	6 hours 36 hours

R-12

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.3.1 Verify each 36-~~[42]~~-inch containment purge penetration blind flange is installed ~~valve is sealed closed, except for one purge valve in a penetration flow path while in Condition E of this LCO~~.	Prior to entering MODE 4 from MODE ~~5~~ 31 days CL3.6-127
SR 3.6.3.2 Verify each 18-~~[8]~~-inch containment inservice purge penetration~~valve~~ is blind flanged and meets SR 3.6.1.1~~closed, except when the [8] inch containment purge valves are open for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open~~.	After each use of the 18-inch containment inservice purge system ~~31 days~~ CL3.6-131 R-12

BASES

~~Frequency are consistent with the recommendations of Regulatory Guide 1.35 (Ref. 4).~~

SR 3.6.1.2

Verifying that the maximum temperature differential between average containment and annulus air temperatures is less than or equal to 44 °F ensures that containment operation remains within the limits assumed for the containment analyses. Plant operating experience demonstrates that this limit can only be approached when the plant is in MODES 5 and 6. Requiring this temperature differential to be verified prior to entering MODE 4 from MODE 5 provides assurance this parameter is within acceptable limits prior to establishing conditions requiring containment integrity. Containment temperature monitoring instrumentation must be OPERABLE to perform this surveillance.

CL3.6-103

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.1.3

Verifying that the minimum containment shell temperature is met ensures that adequate margin above NDTT exists. Plant operating experience demonstrates that this limit can only be approached when the plant is in MODES 5 and 6. Requiring containment shell temperature to be verified prior to entering MODE 4 from MODE 5 provides assurance that the shell temperature is above NDTT prior to establishing conditions requiring containment integrity. Containment temperature monitoring instrumentation must be OPERABLE to perform this surveillance.

CL3.6-104

R-12

REFERENCES

1. 10 CFR 50, Appendix J, Option B.
2. UFSAR, Section ~~[14]5~~.
3. ~~FSAR, Section [6.2].~~
4. ~~Regulatory Guide 1.35, Revision [1].~~

R-12

~~required to remain sealed closed during MODES 1, 2, 3, and 4. In this case, the single failure criterion remains applicable to the containment purge valves due to failure in~~

BASES

APPLICABLE SAFETY ANALYSES (continued)

~~the control circuit associated with each valve. Again, the purge system valve design precludes a single failure from compromising the containment boundary as long as the system is operated in accordance with the subject LCO.]~~

The containment isolation valves satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii) ~~the NRC Policy Statement~~.

LCO

Containment isolation valves form a part of the containment boundary. The containment isolation valves' safety function is related to minimizing the loss of reactor coolant inventory and establishing the containment boundary during a DBA.

PA3.6-213

The containment isolation devices covered by this LCO consist of isolation valves (manual valves, check valves, air operated valves, and motor operated valves), pipe and end caps, closed systems, and blind flanges.

PA3.6-214

Vent and drain valves located between two isolation devices are also containment isolation devices. Test connections located between two isolation valves are similar to vent and drain lines except that no valve may exist in the test line. A cap or blind flange, as applicable, must be installed on these vent, drain and test lines. A cap or blind flange installed on these lines make them "otherwise secured" for SR considerations.

R-12

(continued)

The automatic power operated isolation valves are required to have isolation times within limits and to actuate on an automatic isolation signal. The 36~~[42]~~ inch purge valves must be blind flanged in MODES 1, 2, 3, and 4~~maintained sealed closed [or have blocks installed to prevent full opening]~~. ~~[Blocked purge valves also actuate on an automatic signal.]~~ The valves covered by this LCO are listed in Reference 2~~along with their associated stroke times in the FSAR (Ref. 2)~~.

CL3.6-112

R-2

R-9

The normally closed isolation valves are considered OPERABLE when manual valves are closed, automatic power operated valves are de-activated and secured in their closed position, blind flanges are in place, and closed systems are intact. These passive isolation valves/devices are those listed in Reference 2~~1~~.

PA3.6-125

R-9

LCO (continued)

Inservice p~~P~~urge valves with resilient seals ~~[~~and secondary containment (shield building and auxiliary building special ventilation zone) bypass valves~~]~~ must meet additional leakage rate requirements. The other containment isolation valve leakage rates are addressed by LCO 3.6.1, "Containment," as Type C testing.

R-12

PA3.6-219

This LCO provides assurance that the containment isolation valves and purge valves will perform their designed safety functions to minimize the loss of reactor coolant inventory and establish the containment boundary during accidents.

(continued)

allow for continued operation, and subsequent inoperable containment isolation valves are governed by subsequent Condition entry and application of associated Required Actions.

The ACTIONS are further modified by a third Note, which ensures appropriate remedial actions are taken, if necessary, if the affected systems are rendered inoperable by an inoperable containment isolation valve.

PA3.6-216

In the event containment isolation valve~~the air lock~~ leakage results in exceeding the overall containment leakage rate acceptance criteria, Note 4 directs entry into the applicable Conditions and Required Actions of LCO 3.6.1.

A.1 and A.2

In the event one containment isolation valve in one or more penetration flow paths is inoperable, ~~t~~except for inservice purge penetrations~~valve~~ or secondary containment~~shield building~~ bypass leakage not within limit~~,~~, the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated or mechanically blocked power operated~~automatic~~ containment isolation valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. For a penetration flow path isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available one to containment. Required Action A.1 must be completed within 4 hours. The 4 hour Completion Time is reasonable, considering the time required to isolate the penetration and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4.

R-12

PA3.6-117

R-9

PA3.6-125

TA3.6-124

(continued)

Condition A has been modified by a Note indicating that this Condition is only applicable to those penetration flow paths with two containment isolation valves. For penetration flow paths with only one containment isolation valve and a closed system, Condition C provides the appropriate actions. R-2

Required Action A.2 is modified by ~~two~~a Notes. ~~that~~ Note 1 applies to isolation devices located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned. Therefore, the probability of misalignment of these devices once they have been verified to be in the proper position, is small. TA3.6-119

BASES

ACTIONS (continued)

B.1

With two containment isolation valves in one or more penetration flow paths inoperable, except for inservice purge penetration or secondary containment bypass leakage not within limits, the affected penetration flow path must be isolated within 1 hour. The method of isolation must include the use of at least one isolation barrier that cannot be TA3.6-124 R-12 PA3.6-125

(continued)

Condition C is modified by a Note indicating that this Condition is only applicable to those penetration flow paths with only one containment isolation valve and a closed system. The closed system must meet the requirements defined in Reference 2. This Note is necessary since this Condition is written to specifically address those penetration flow paths in a closed system.

R-2

Required Action C.2 is modified by ~~two~~ Notes. ~~that~~ Note 1 applies to valves and blind flanges located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned. Therefore, the probability of misalignment of these valves, once they have been verified to be in the proper position, is small.

TA3.6-119

D.1

With the secondary containment~~shield building~~ bypass leakage rate (SR 3.6.3.8) or inservice purge valve(s) (SR 3.6.3.6) leakage is not within limit, the assumptions of the safety analyses are not met. Therefore, the leakage must be restored to within limit within 4 hours. Restoration can be accomplished by isolating the penetration(s) that caused the limit to be exceeded by use of one closed and de-activated automatic valve, closed manual valve, or blind

TA3.6-124

R-12

CL3.6-128

R-12

(continued)

flange. When a penetration is isolated the leakage rate for the isolated penetration is assumed to be the actual pathway leakage through the isolation device. If two isolation devices are used to isolate the penetration, the leakage rate is assumed to be the lesser actual pathway leakage of the two devices. The 4 hour Completion Time is reasonable considering the time required to restore the leakage by isolating the penetration(s) and the relative importance of secondary containment bypass leakage and containment purge valve(s) leakage to the overall containment function.

~~E.1, E.2, and E.3~~

PA3.6-126

In the event ~~one or more~~ containment purge blind flange leakage (SR 3.6.3.1) or inservice purge blind flange leakage (SR 3.6.3.2) ~~valves in one or more penetration flow paths~~ are not within ~~the purge valve leakage~~ limits, the leakage rate must be restored within 1 hour to assure containment leakage rates are met. If containment purge blind flange leakage rate or inservice purge blind flange leakage rate limits are not met, it could be due to the blind flange not installed or improperly installed. If containment purge blind flange leakage rate or inservice purge blind flange leakage rate limits are not met, it could be due to the blind flange not installed or improperly installed. The 1 hour Completion Time provides a period of time to correct the problem commensurate with the importance of maintaining containment OPERABLE during MODES 1, 2, 3 and 4. This time period also ensures that the probability of an accident (requiring containment OPERABILITY) occurring during periods when blind flange leakage exceeds its limits is minimal. ~~purge valve leakage must be restored to within limits, or the affected penetration flow path must be isolated. The method of isolation must be by the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a [closed and de-activated automatic~~

R-12

(continued)

valve, closed manual valve, or blind flange]. A purge valve with resilient seals utilized to satisfy Required Action E.1 must have been demonstrated to meet the leakage requirements of SR 3.6.3.7. The specified Completion Time is reasonable, considering that one containment purge valve remains closed so that a gross breach of containment does not exist.

In accordance with Required Action E.2, this penetration flow path must be verified to be isolated on a periodic basis. The periodic verification is necessary to ensure that containment penetrations required to be isolated following an accident, which are no longer capable of being automatically isolated, will be in the isolation position should an event occur. This Required Action does not require any testing or valve manipulation. Rather, it involves verification, through a system walkdown, that those isolation devices outside containment capable of being mispositioned are in the correct position. For the

BASES

ACTIONS

E.1, E.2, and E.3 (continued)

isolation devices inside containment, the time period specified as "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the isolation devices and other administrative controls that will ensure that isolation device misalignment is an unlikely possibility.

For the containment purge valve with resilient seal that is isolated in accordance with Required Action E.1, SR 3.6.3.7 must be performed at least once every [92] days. This assures that degradation of the resilient seal is detected and confirms that the leakage rate of the containment

(continued)

~~purge valve does not increase during the time the penetration is isolated. The normal Frequency for SR 3.6.3.7, 184 days, is based on an NRC initiative, Generic Issue B-20 (Ref. 3). Since more reliance is placed on a single valve while in this Condition, it is prudent to perform the SR more often. Therefore, a Frequency of once per [92] days was chosen and has been shown to be acceptable based on operating experience.~~

F.1 and F.2

R-12

If the Required Actions and associated Completion Times are not 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 6 hours and to MODE 5 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.

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.6.3.1

CL3.6-127

Each 36~~[42]~~ inch containment purge system penetration~~valve~~ is required to be blind flanged when the plant is in MODES 1, 2, 3, and 4 ~~verified sealed closed at 31 day intervals~~. This Surveillance is designed to ensure that the blind flange is installed prior to entering MODE 4 from MODE 5~~a gross breach of containment is not caused by an inadvertent or spurious opening of a containment purge valve. Detailed analysis of the purge valves failed to conclusively demonstrate their ability to close during a LOCA in time to limit offsite doses. Therefore, these valves are required to be in the sealed closed position during MODES 1, 2, 3, and 4. A containment purge valve that is sealed closed must have motive power~~

(continued)

~~to the valve operator removed. This can be accomplished by de-energizing the source of electric power or by removing the air supply to the valve operator. In this application, the term "sealed" has no connotation of leak tightness. The Frequency is a result of an NRC initiative, Generic Issue B-24 (Ref. 4), related to containment purge valve use during plant operations. In the event purge valve leakage requires entry into Condition E, the Surveillance permits opening one purge valve in a penetration flow path to perform repairs.~~ CL3.6-131

SR 3.6.3.2

This SR ensures that the 18-inch containment inservice purge penetrations~~minipurge valves~~ are blind flanged after each use of the system~~closed as required or, if open, open for an allowable reason~~. Since the inservice purge penetration blind flanges are part of the containment boundary, they are required to meet the Containment Leakage Rate Testing Program acceptance criteria required by SR 3.6.1.1 as required by this SR~~If a purge valve is open in violation of this SR, the valve is considered inoperable. If the inoperable valve is not otherwise known to have excessive leakage when closed, it is not considered to have leakage outside of limits. The SR is not required to be met when the minipurge valves are open for the reasons stated. The valves may be opened for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open. The minipurge valves are capable of closing in the environment~~

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.3.2 (continued)

~~following a LOCA. Therefore, these valves are~~

(continued)

~~allowed to be open for limited periods of time. The 31 day Frequency is consistent with other containment isolation valve requirements discussed in SR 3.6.3.3.~~

PA3.6-223

SR 3.6.3.3

This SR requires verification that each containment isolation manual valve and blind flange located outside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside of the containment boundary is within design limits. This SR does not require any testing or valve manipulation. Rather, it involves verification, through a system walkdown, that those containment manual valves and blind flanges~~isolation valves~~ outside containment and capable of being mispositioned are in the correct position. Since verification of manual valve and blind flange position for containment isolation valves outside containment is relatively easy, the ~~92~~31 day Frequency is based on engineering judgment and was chosen to provide added assurance of the correct positions. The SR specifies that containment isolation valves that are open under administrative controls are not required to meet the SR during the time the valves are open. This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

X3.6-123

TA3.6-132

R-2

The Note applies to valves and blind flanges located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted during MODES 1, 2, 3 and 4

TA3.6-132

(continued)

for ALARA reasons. Therefore, the probability of misalignment of these containment isolation valves, once they have been verified to be in the proper position, is small.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.3.4

This SR requires verification that each containment isolation manual valve and blind flange located inside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside of the containment boundary is within design limits. For containment isolation manual valves and blind flanges inside containment, the Frequency of "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is appropriate since these containment isolation valves are operated under administrative controls and the probability of their misalignment is low. The SR specifies that containment isolation valves that are open under administrative controls are not required to meet the SR during the time they are open. This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

TA3.6-132

PA3.6-223

R-2

TA3.6-132

This Note allows valves and blind flanges located in high radiation areas to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted ~~during MODES 1, 2, 3, and 4, for ALARA reasons~~. Therefore, the probability of misalignment of these containment isolation valves or blind flanges, once they have been verified to be in their proper position, is small.

PA3.6-224

PA3.6-223

Difference Category	Difference Number 3.6-	Justification for Differences
PA	125	Clarification is provided on the type of valve which applies. The references to "manual" and "automatic" are not consistent within the TS and do not adequately include all of the applicable valves. In some instances, "power operated" is more appropriate than "automatic". In other places, "non-automatic" replaces "manual" to be more accurate.
CL	126	NUREG-1431 Condition E requirements for containment purge valves exceeding their leakage limits has been included in Condition D for the inservice (18 inch) purge system. CTS 3.6.D.1 and ITS SR 3.6.3.1 require the containment (36-inch) purge system to be blind flanged during plant operation and therefore containment purge valve leakage specifications are meaningless. In accordance with CTS 3.6.D.1, 3.6.D.2, ITS 3.6.3 Bases and SR 3.6.3.2, the inservice (18-inch) containment purge system is either blind flanged or its isolation valves are tested prior to use of the system. Upon completion of use of the system, the blind flanges are required to be installed and tested to meet the Containment Leakage Rate Testing Program. Thus ISTS Specification 3.6.3 Condition E has been revised to apply to the PI containment purge system and inservice purge system blind flange leakage.

Difference Category	Difference Number 3.6-	Justification for Differences
CL	127	This SR is modified to be consistent with CTS and proposed ITS 3.6.3 Bases which require the containment (36-inch) purge system to be blind flanged while at power.
CL	128	The containment inservice purge system is allowed to operate providing the system containment isolation valves have been tested to meet the applicable leakage rate limits. Condition D has been revised to include the Condition when the inservice purge valve(s) do not meet their leakage limits.
	129	Not used.
	130	Not used.
CL	131	This SR is modified to be consistent with CTS and proposed ITS 3.6.3 Bases which requires the inservice (18-inch) containment purge system to be blind flanged while at power except when in use. This change also states that the blind flanges are included in the Containment Leak Rate Testing Program.

Part G

PACKAGE 3.6

CONTAINMENT SYSTEMS

NO SIGNIFICANT HAZARDS DETERMINATION AND ENVIRONMENTAL ASSESSMENT

NO SIGNIFICANT HAZARDS DETERMINATION

The proposed changes to the Operating License have been evaluated to determine whether they constitute a significant hazards consideration as required by 10 CFR Part 50, Section 50.91 using the standards provided in Section 50.92.

For ease of review, the changes are evaluated in groupings according to the type of change involved. A single generic evaluation may suffice for some of the changes while others may require specific evaluation in which case the appropriate reference change numbers are provided.

A - Administrative (GENERIC NSHD)
(A3.6-00, A3.6-03, A3.6-05, A3.6-09, A3.6-11, A3.6-22, A3.6-23, A3.6-24, A3.6-26, A3.6-42, A3.6-48, A3.6-49, A3.6-54, A3.6-62, A3.6-77, A3.6-80)

Most administrative changes have not been marked-up in the Current Technical Specifications, and may not be specifically referenced to a discussion of change. This No Significant Hazards Determination (NSHD) may be referenced in a discussion of change by the prefix "A" if the change is not obviously an administrative change and requires an explanation.

These proposed changes are editorial in nature. They involve reformatting, renaming, renumbering, or rewording of existing Technical Specifications to provide consistency with NUREG-1431 or conformance with the Writer's Guide, or change of current plant terminology to conform to NUREG-1431. Some administrative changes involve relocation of requirements within the Technical Specifications without affecting their technical content. Clarifications within the new Prairie Island Improved Technical Specifications which do not impose new requirements on plant operation are also considered administrative.

M More restrictive (GENERIC NSHD)
(M3.6-04, M3.6-13, M3.6-14, M3.6-17, M3.6-28, M3.6-29, M3.6-31, M3.6-32, M-3.6-34, M3.6-37, M3.6-38, M3.6-39, M3.6-41, M3.6-44, M3.6-51, M3.6-52, M3.6-61, M3.6-68, M3.6-82, M3.6-89, M3.6-91)

This proposed Technical Specifications revision involves modifying the Current Technical Specifications to impose more stringent requirements upon plant operations to achieve consistency with the guidance of NUREG-1431, correct discrepancies or remove ambiguities from the specifications. These more restrictive Technical Specifications have been evaluated against the plant design, safety analyses, and other Technical Specifications requirements to ensure the plant will continue to operate safely with these more stringent specifications.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed changes provide more stringent requirements for operation of the plant. These more stringent requirements do not result in operation that will increases the probability of initiating an analyzed event and do not alter assumptions relative to mitigation of an accident or transient event.

   These more restrictive requirements continue to ensure process variables, structures, systems, and components are maintained consistent with the safety analyses and licensing basis. Therefore, these changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed changes do not involve a physical alteration of the plant, that is, no new or different type of equipment will be installed, nor do they change the methods governing normal plant operation.

   These more stringent requirements do impose different operating restrictions. However, these operating restrictions are consistent with the boundaries established by the assumptions made in the plant safety analyses and licensing bases. Therefore, these changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

Specific NSHD for Change L3.6-77

Not used.

Specific NSHD for Change L3.6-77 (continued)

Not used.

Specific NSHD for Change L3.6-90

CTS does not state that vacuum breaker train (VBT) action statements may be entered when one VBT is inoperable with respect to its vacuum relief capability and containment isolation action statements may be entered simultaneously for the other VBT inoperable with respect to its containment isolation function. ITS will allow entry into 3.6.8 Conditions for a VBT inoperable with respect to its vacuum relief function and simultaneous entry into 3.6.3 Conditions for a VBT inoperable with respect to its containment isolation function and therefore this is a less restrictive change. This change is acceptable since ITS Required Actions are adequate to assure that the minimal functional requirements are met to maintain the plant in a safe condition or the plant is shut down. This change is consistent with the guidance of NUREG-1431.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   This change allows one VBT to enter Specification 3.6.3 Conditions and simultaneously allows the other VBT to enter Specification 3.6.8 Conditions. This change does not involve a significant increase in the probability of an accident previously evaluated since VBTs are not assumed accident initiators. Since the two separate ITS Specifications' Required Actions will require that the minimum functional requirements are met for both vacuum relief capability and containment isolation, this change does not involve a significant increase in the consequences of a previously analyzed event.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed change does not involve a physical alteration of the plant. No new equipment is being introduced nor is any installed equipment being operated in a new or different manner. There is no change being made to the parameters within which the plant is operated. There are no setpoints, at which protective or mitigative actions are initiated, that are affected by this change. This change will not alter the manner in which equipment operation is initiated, nor will the function demands on credited equipment be changed. Therefore, the change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Specific NSHD for Change L3.6-90 (continued)

3. The proposed amendment will not involve a significant reduction in the margin of safety.

This change allows one VBT to enter Specification 3.6.3 Conditions and simultaneously allows the other VBT to enter Specification 3.6.8 Conditions. The VBT with inoperable vacuum relief capability is allowed by CTS and ITS to be inoperable for 7 days. During this time this VBT is still capable of isolating containment and the other train is capable of vacuum relief. The other VBT is unable to isolate containment. Within four hours ITS 3.6.3 Required Actions (RA) require the second train to be isolated. Depending on which VBT valve becomes unable to isolate containment and the nature of its inoperability, isolation of the second VBT within 4 hours may result in loss of vacuum relief capability of the second VBT. In this situation, ITS will require the plant to shut down in accordance with LCO 3.0.3 which will assure the plant is maintained in a safe condition. If isolation of the second VBT does not cause loss of vacuum relief capability, then the minimum functional requirements are met for the RAs of both 3.6.3 and 3.6.8 and the plant is allowed to operate for 7 days until vacuum relief is restored in the first VBT or the plant is required to shut down. This change does not involve a significant reduction in margin of safety since the minimum functional requirements are met for both containment vacuum relief and isolation functions or ITS will require the plant to shut down.

Therefore it is concluded this proposed change does not involve a significant hazards consideration. This change is consistent with the guidance of NUREG-1431.

ENVIRONMENTAL ASSESSMENT

The Nuclear Management Company has evaluated the proposed changes and determined that:

1. The changes do not involve a significant hazards consideration, or

2. The changes do not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or

3. The changes do not involve a significant increase in individual or cumulative occupational radiation exposure.

Accordingly, the proposed changes meet the eligibility criteria for categorical exclusion set forth in 10 CFR Part 51 Section 51.22(c)(9). Therefore, pursuant to 10 CFR Part 51 Section 51.22(b), an environmental assessment of the proposed changes is not required.

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 4.1-1C	11	SR	3.3.4.1	
Table 4.1-1C	11	SR	3.3.4.2	
Table 4.1-1C	12		Deleted - Boric Acid LAR	
Table 4.1-1C	13		Relocated - TRM	
Table 4.1-1C	14		CTS Deleted	
Table 4.1-1C	15	TABLE	3.3.1-1	16.b.2
Table 4.1-1C	15		Relocated - TRM	
Table 4.1-1C	16		Relocated - TRM	
Table 4.1-1C	17		Relocated - TRM	
Table 4.1-1C	18	SR	3.3.1.12	
Table 4.1-1C	19		Relocated - TRM	
Table 4.1-1C	20		Relocated - TRM	
Table 4.1-1C	21	SR	3.3.3.1	
Table 4.1-1C	21	SR	3.3.3.2	
Table 4.1-1C	21	SR	3.3.3.3	
Table 4.1-1C	22		CTS Deleted	
Table 4.1-1C	23		CTS Deleted	
Table 4.1-1C	24		Relocated - TRM	

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 4.1-1C	24	SR	3.3.6.5	
Table 4.1-1C	24	SR	3.3.6.2	
Table 4.1-1C	25	SR	3.4.12.4	
Table 4.1-1C	25	SR	3.4.12.5	
Table 4.1-1C	25	SR	3.4.13.5	
Table 4.1-1C	25	SR	3.4.13.6	
Table 4.1-1C	26		Relocated - TRM	
Table 4.1-1C	27		Relocated - TRM	
Table 4.1-1C	28		Relocated - TRM	
Table 4.1-1C	29	SR	3.3.3.1	
Table 4.1-1C	29	SR	3.3.3.2	
Table 4.1-1C	29	(Partial)	Relocated - TRM	
Table 4.1-1C	30		Relocated - Bases	
Table 4.1-1C	31		Relocated - TRM	
Table 4.1-1C	Note 30	SR	3.1.7.1	
Table 4.1-1C	Note 31		Deleted	
Table 4.1-1C	Note 32		Relocated - TRM	

3.7 PLANT SYSTEMS

3.7.4 Steam Generator (SG) Power Operated Relief Valves (PORVs)

LCO 3.7.4 Two SG PORV lines shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SG PORV line inoperable.	A.1 ----------NOTE---------- LCO 3.0.4 is not applicable. ---------- Restore SG PORV line to OPERABLE status.	7 days
B. Two SG PORV lines inoperable.	B.1 Restore one SG PORV line to OPERABLE status.	1 hour
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. AND C.2 Be in MODE 4.	6 hours 12 hours

B 3.7 PLANT SYSTEMS

B 3.7.4 Steam Generator (SG) Power Operated Relief Valves (PORVs)

BASES

BACKGROUND

The SG PORVs provide a method for cooling the unit to residual heat removal (RHR) entry conditions should the preferred heat sink via the Steam Dump System to the condenser be unavailable, as discussed in the USAR (Ref. 1). Cooldown is performed in conjunction with the Auxiliary Feedwater System providing makeup water to the steam generators.

One SG PORV line is provided for each steam generator. Each SG PORV line consists of one SG PORV and an associated block valve.

The upstream manual block valves permit SG PORV testing at power and provide an alternate means of isolation. The SG PORVs are equipped with pneumatic controllers to permit control of the cooldown rate.

A description of the SG PORVs is found in References 1 and 2.

APPLICABLE SAFETY ANALYSES

Automatic operation of the SG PORVs is not credited in the safety analyses. Rather, the SG PORVs may provide mitigation for accidents involving use of main steam safety valves.

In the steam generator tube rupture (SGTR) accident analysis presented in Reference 2, the SG PORV in the unaffected steam generator is assumed to be used by the operator to cool down the unit for accidents accompanied by a loss of offsite power. Prior to operator actions to cool down the unit, the main steam safety valves (MSSVs) are assumed to operate automatically to relieve steam and maintain the steam generator pressure below the design value. For the recovery from a SGTR event, the operator is required to perform a limited cooldown to establish adequate subcooling as a necessary

BASES

APPLICABLE SAFETY ANALYSES (continued)

step prior to terminating the primary to secondary break flow into the ruptured steam generator. The time required to terminate the primary to secondary break flow for a SGTR is more critical than the time required to cool down for this event and also for other accidents.

The SG PORVs are equipped with manual block valves in the event a SG PORV spuriously fails open or fails to close during use.

The SG PORVs satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

Two SG PORV lines are required to be OPERABLE to ensure that at least one SG PORV is available to conduct a unit cooldown following a SGTR.

Failure to meet the LCO can result in the inability to cool the unit to RHR entry conditions following an event in which the condenser is unavailable for use with the Steam Dump System.

A SG PORV is considered OPERABLE when it is capable of being remotely operated and when its associated block valve is open.

APPLICABILITY

In MODES 1, 2, and 3, the SG PORVs are required to be OPERABLE.

In MODE 4, a steam generator and the SG PORV are not relied upon for heat removal.

In MODE 5 or 6, a SGTR is not a credible event.

BASES (continued)

ACTIONS

A.1

With one required SG PORV line inoperable, action must be taken to restore OPERABLE status within 7 days.

The 7 day Completion Time allows for the redundant capability afforded by the remaining OPERABLE SG PORV lines, Steam Dump System, and MSSVs.

Required Action A.1 is modified by a Note indicating that LCO 3.0.4 does not apply.

B.1

With two SG PORV lines inoperable, action must be taken to restore one SG PORV to OPERABLE status. Since the block valve can be closed to isolate a SG PORV, some repairs may be possible with the unit at power.

The 1 hour Completion Time allows time to plan an orderly shutdown of the unit and is reasonable, based on the availability of the Steam Dump System and MSSVs, and the low probability of an event occurring during this period that would require the SG PORV lines.

C.1 and C.2

If the SG PORV lines cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 4 within 12 hours.

BASES

ACTIONS

C.1 and C.2 (continued)

The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.4.1

This SR ensures that the SG PORVs are tested through a full control cycle in accordance with the Inservice Testing Program. The SG PORV is isolated by the block valve for this test. Performance of inservice testing or use of a SG PORV during a unit cooldown may satisfy this requirement.

Operating experience has shown that these components usually pass the Surveillance when performed in accordance with the Inservice Testing Program. The Frequency is acceptable from a reliability standpoint.

SR 3.7.4.2

The function of the block valve is to isolate a failed open SG PORV. Manually cycling the block valve both closed and open demonstrates its capability to perform this function. Performance of inservice testing or use of the block valve during unit cooldown may satisfy this requirement.

Operating experience has shown that these components usually pass the Surveillance when performed. The Frequency is acceptable from a reliability standpoint.

BASES (continued)

REFERENCES

1. USAR, Section 11.4.

2. USAR, Section 14.

BASES (continued)

LCO

The CC trains are independent of each other to the degree that each has separate controls and power supplies and the operation of one does not depend on the other. In the event of a DBA, one CC train is required to provide the minimum heat removal capability assumed in the safety analysis for the systems to which it supplies cooling water. To ensure this requirement is met, two trains of CC must be OPERABLE. At least one CC train will operate assuming the worst case single active failure occurs coincident with a loss of offsite power.

A CC train is considered OPERABLE when:

a. The pump and associated surge tank are OPERABLE; and

b. The associated piping, valves, heat exchanger, and instrumentation and controls required to perform the safety related function are OPERABLE.

The isolation of CC from other components or systems may render those components or systems inoperable but does not affect the OPERABILITY of the CC System.

APPLICABILITY

In MODES 1, 2, 3, and 4, the CC System is a normally operating system, which must be prepared to perform its post accident safety functions, including but not limited to RCS heat removal, which is achieved by cooling the RHR heat exchanger.

In MODE 5 or 6, the OPERABILITY requirements of the CC System are determined by the systems it supports.

ACTIONS

A.1

Required Action A.1 is modified by a Note indicating that the applicable Conditions and Required Actions of LCO 3.4.6,

BASES

ACTIONS

A.1 and A.2 (continued)

In this Condition, the remaining OPERABLE safeguards traveling screen or open emergency bay sluice gate is adequate to provide the CL supply to any of the three vertical CL pumps during any design basis condition.

Required Action A.1 is modified by a Note which states the action is not required during testing periods of less than or equal to 24 hours. The 24 hours allows testing of the emergency cooling water line which may require the sluice gates to be closed. This is acceptable based on plant experience to perform the required testing during this time period and the OPERABILITY of the other emergency traveling screen.

The 4 hour Completion Time is based on the redundant capability afforded by the OPERABLE safeguards traveling screen.

The 90 day Completion Time is based on:

a. The redundant capability afforded by the remaining OPERABLE safeguards traveling screen;

b. The low risk impact of an inoperable safeguards traveling screen; and

c. The low probability of a high magnitude earthquake that could destroy Dam No. 3 during this time interval.

BASES

ACTIONS (continued)

B.1 and B.2

If both safeguards traveling screens are inoperable, action must be taken to verify one emergency bay sluice gate is open within 1 hour, and restore one safeguards traveling screen to OPERABLE status within 7 days.

In this Condition, the open emergency bay sluice gate is adequate to perform the CL supply function except in those cases where use of the Emergency CL Line is needed. As a result, overall reliability is reduced.

The 7 day Completion Time is based on the low probability of a design basis earthquake occurring during this time interval.

C.1 and C.2

If the Emergency CL Line is inoperable, action must be taken to verify one emergency bay sluice gate is open within 1 hour, and restore the Emergency CL Line to OPERABLE status within 7 days.

The 1 hour and 7 day Completion Times are reasonable based on the low probability of a design basis earthquake occurring during the 7 days that the Emergency CL Line is inoperable, the availability through the normal operating path and associated traveling screens, and the time required to reasonably complete the Required Actions.

BASES

ACTIONS (continued)

D.1 and D.2

If the Emergency CL Line or Safeguards Traveling Screen(s) cannot be restored to OPERABLE status within the associated Completion Time, the units must be placed in a MODE in which the LCO does not apply. To achieve this status, the units must be placed in at least MODE 3 within 6 hours and in MODE 5 within 36 hours.

The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.9.1

This SR verifies that the safeguards traveling screens can adequately filter (screen) water and that screens can backwash as needed.

This SR verifies that:

a. The backwash supply valve will open;

b. Backwash water pressure is sufficient; and

c. The safeguards traveling screens can turn.

The 92 day Frequency is based on operating experience that demonstrates this interval is sufficient to ensure screen and support equipment reliability.

REFERENCES

1. USAR, Section 10.4.

B 3.7 PLANT SYSTEMS

B 3.7.12 Auxiliary Building Special Ventilation System (ABSVS)

BASES

BACKGROUND

The ABSVS is a standby ventilation system, common to the two units, that is designed to collect and filter air from the Auxiliary Building Special Ventilation (ABSV) boundary following a loss of coolant accident (LOCA). The ABSV boundary contains those areas within the auxiliary building which have the potential for collecting significant containment leakage that could bypass the shield building and leakage from systems which could recirculate primary coolant during LOCA mitigation.

The ABSVS consists of two independent and redundant trains. Each train consists of a heater, a prefilter, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section for removal of gaseous activity (principally iodines), and a fan.

Ductwork, dampers, and instrumentation also form part of the system. The system initiates filtered ventilation of the ABSV boundary following receipt of a safety injection (SI) signal, high radiation signal or manual initiation.

The exhaust from the main condenser air ejector is directed to the ABSVS for filtering prior to exhausting from the plant via the shield building stack to mitigate steam generator tube leakage.

When the ABSVS actuates, the normal nonsafeguards supply and exhaust dampers close automatically, and the Auxiliary Building Normal Ventilation System supply and exhaust fans trip. The prefilters remove any large particles in the air, and with the heaters reduce the level of entrained water droplets present, to prevent excessive loading of the HEPA filters and charcoal adsorbers. The primary purpose of the heaters is to maintain the relative humidity at an acceptable level.

BASES

LCO (continued)

An ABSVS train is considered OPERABLE when its associated:

a. Fan is OPERABLE;

b. HEPA filter and charcoal adsorbers are capable of passing their design flow and performing their filtration functions;

c. Heater, ductwork, and dampers are OPERABLE and air circulation can be maintained; and

d. Instrumentation and controls are OPERABLE.

The ABSV boundary is OPERABLE if both of the following conditions can be met:

a. Openings in the ABSV boundary are under direct administrative control and can be reduced to less than 10 square feet within 6 minutes following an accident; and

b. Dampers and actuation circuits that isolate the Auxiliary Building Normal Ventilation System following an accident are OPERABLE or can be manually isolated within 6 minutes following an accident.

The LCO is modified by a Note allowing the ABSV boundary to be opened under administrative controls. As discussed above, openings must be closed to less than 10 square feet within 6 minutes following an accident.

APPLICABILITY

In MODES 1, 2, 3, and 4 for either unit, the ABSVS is required to be OPERABLE.

When both units are in MODE 5 or 6, the ABSVS is not required to be OPERABLE.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.12.4

The ABSVS initiates on a safety injection signal, high radiation signal or manual actuation. This SR verifies that each ABSVS train starts and operates on an actual or simulated safety injection actuation signal, on an actual or simulated high radiation signal and on manual initiation.

The 24 month Frequency is consistent with industry reliability experience for similar equipment. The 24 month Frequency is acceptable since this system usually passes the Surveillance when performed.

REFERENCES

1. USAR, Appendix G.
2. USAR, Section 10.3.
3. USAR, Section 14.
4. USAR, Section 6.7.
5. 10 CFR 100.11.

A3.7-00

3.4 STEAM AND POWER CONVERSION SYSTEM

R-2

~~Applicability~~

A3.7-01

~~Applies to the operating status of the steam and power conversion system.~~

~~Objective~~

A3.7-01

~~To specify minimum conditions of steam relieving capacity and auxiliary feed water supply necessary to assure the capability of removing decay heat from the reactor, and to limit the concentration of activity that might be released by steam relief to the atmosphere.~~

Specification

A. Steam Generator Safety and Power Operated Relief Valves

A3.7-02

1. A reactor shall not be in MODE 1, 2, and 3 ~~made or maintained critical nor shall reactor coolant system average temperature exceed 350°F~~ unless the following conditions are satisfied (except as specified in 3.4.A.2 below):

LCO3.7.1 Applic

LCO3.7.1

a. Ten steam generator safety valves shall be OPERABLE with lift settings of 1077, 1093, 1110, 1120 and 1131 psig ±3% except during testing.

LCO3.7.4

b. Both steam generator power-operated relief valves ~~lines~~ for that reactor are OPERABLE.

M3.7-121

R-12

LCO3.7.1 Cond A

One steam generator safety valve may be inoperable for 4 hours.

L3.7-03

A3.7-04

2. During MODEs 1, 2, and 3 ~~STARTUP OPERATION or POWER OPERATION~~, the following condition of inoperability may exist provided STARTUP OPERATION is discontinued until OPERABILITY is restored. ~~If~~ OPERABILITY is not restored within the time specified, be in at least

LCO3.7.1 Cond B

LCO3.7.4 Cond C

A3.7-05

MODE 3 ~~HOT SHUTDOWN~~ within the next 6 hours and Mode 4 ~~reduce reactor coolant system average temperature below 350°F~~ within 12 ~~the following 6~~ hours.

A3.7-06

LCO3.7.4 Cond A Cond B

a. One steam generator power-operated relief valve may be inoperable for 7 days, two SG PORVs may be inoperable for 1 ~~48~~ hours.

L3.7-07

R-11

NSHD category	Change number 3.7-	Discussion Of Change
LR	100	CTS 4.4.B.3.c. CTS requires verification that the ABSVS actuates on a high radiation signal in addition to an SI signal. The details of which signals actuate this system have been relocated to the Bases. ITS SR 3.7.12.4 requires verification that each ABSVS train actuates on an actual or simulated actuation signal. The Bases for this SR further defines that this SR must verify actuation on an SI, radiation signal or manual actuation. These specification details are unnecessary in ITS or the SR statement since the Specification requirement from ABSVS to be OPERABLE envelopes these requirements. Furthermore, SR 3.7.12.4 will test these features as defined in the Bases. Since the ITS Bases (under the Bases Control Program in Section 5.5 of the ITS) are licensee controlled, this change is less restrictive.
L	101	CTS 4.14.A and 4.15.A. The CTS requirement to test automatic initiation of this system at least every 18 months is not included. The ITS will require this system test every 24 months which will allow extension of the PI refueling outage cycle. A review of past test results for this system test showed that no problems were encountered during the performance of the test. Therefore, extension of the test to the refueling shutdown interval (up to 24 months) is acceptable.

NSHD category	Change number 3.7-	Discussion Of Change
	120	Not used.
M	121	CTS 3.4.A.1.b. CTS requires two steam generator-power operated relief valves (SG PORVs) to be OPERABLE. This has been changed for the ITS to require two SG PORV lines to be OPERABLE. Since this change will require more equipment to be OPERABLE this is a more restrictive change. This change is acceptable since this will not cause any unsafe plant conditions or tests and these lines are normally required to be operable for plant operation.

3.7 PLANT SYSTEMS

3.7.4 Steam Generator (SG) Power Operated Relief Valves (PORVs)~~Atmospheric Dump Valves (ADVs)~~ CL3.7-124

CL3.7-124

LCO 3.7.4 Two SG PORV~~[Three] ADV~~ lines shall be OPERABLE. R-12

APPLICABILITY: MODES 1, 2, and 3~~,~~ CL3.7-125
~~MODE 4 when steam generator is relied upon for heat removal~~.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SG PORV~~required ADV~~ line inoperable.	A.1 --------NOTE-------- LCO 3.0.4 is not applicable. ---------- Restore SG PORV ~~required ADV~~ line to OPERABLE status.	CL3.7-124 R-12 7 days R-12
B. Two SG PORV~~or more required ADV~~ lines inoperable.	B.1 Restore one SG PORV~~ADV~~ line to OPERABLE status.	PA3.7-353 CL3.7-124 R-12 ~~24~~1 hours~~s~~

B 3.7 PLANT SYSTEMS

B 3.7.4 Steam Generator(SG)Power Operated Relief Valves (PORVs)~~Atmospheric Dump Valves (ADVs)~~

BASES

CL3.7-124

BACKGROUND

The SG PORVs~~ADVs~~ provide a method for cooling the unit to residual heat removal (RHR) entry conditions should the preferred heat sink via the Steam Dump~~Bypass~~ System to the condenser ~~not~~be unavailable, as discussed in the UFSAR, ~~Section [10.3]~~ (Ref. 1). Cooldown~~This~~ is performed~~done~~ in conjunction with the Auxiliary Feedwater System providing makeup water to the steam generators~~cooling water from the condensate storage tank (CST)~~. ~~The ADVs may also be required to meet the design cooldown rate during a normal cooldown when steam pressure drops too low for maintenance of a vacuum in the condenser to permit use of the Steam Dump System.~~

CL3.7-242

CL3.7-242

One SG PORV~~ADV~~ line is provided for each ~~of the [four]~~ steam generators~~ is provided~~. Each SG PORV~~ADV~~ line consists of one SG PORV~~ADV~~ and an associated block valve.

R-12

The ~~ADVs are provided with~~ upstream manual block valves ~~to~~ permit ~~their being tested~~ SG PORV testing at power~~,~~ and ~~to~~ provide an alternate means of isolation. The SG PORVs~~ADVs~~ are equipped with pneumatic controllers to permit control of the cooldown rate.

CL3.7-242

~~The ADVs are usually provided with a pressurized gas suppl of bottled nitrogen that, on a loss of pressure in the normal instrument air supply, automatically supplies nitrogen to operate the ADVs. The nitrogen supply is sized to provide the sufficient pressurized gas to~~

CL3.7-242

~~for this event and also for other accidents. Thus, the SGTR is the limiting event for the ADVs. The number of ADVs required to be OPERABLE to satisfy the SGTR accident analysis requirements depends upon the number of unit loops and consideration of any single failure assumptions regarding the failure of one ADV to open on demand.~~

The SG PORVs~~ADVs~~ are equipped with manual block valves in the event ~~an~~ SG PORV~~ADV~~ spuriously fails ~~to~~ open or fails to close during use.

The SG PORVs~~ADVs~~ satisfy Criterion 3 of 10 CFR 50.36 (c)(2)(ii)~~the NRC Policy Statement~~.

CL3.7-244

LCO

~~Two[Three]~~ SG PORV~~ADV~~ lines are required to be OPERABLE. ~~One ADV line is required from each of [three] steam generators~~ to ensure that at least one SG PORV~~ADV~~ line is available to conduct a unit cooldown following ~~an~~ SGTR~~, in which one steam generator becomes unavailable, accompanied by a single, active failure of a second ADV line on an unaffected steam generator. The block valves must be OPERABLE to isolate a failed open ADV line. A closed block valve does not render it or its ADV line inoperable if operator action time to open the block valve is supported in the accident analysis~~.

R-12

R-12

Failure to meet the LCO can result in the inability to cool the unit to RHR entry conditions following an event in which

BASES

LCO (continued)

the condenser is unavailable for use with the Steam Dump~~Bypass~~ System.

~~An~~ SG PORV~~ADV~~ is considered OPERABLE when it is capable of ~~providing controlled relief of the main steam flow and capable of fully opening and closing on demand.~~being remotely operated and when its associated block valve is open.

CL3.7-244

APPLICABILITY

In MODES 1, 2, and 3~~, and in MODE 4, when a steam generator is being relied upon for heat removal~~, the SG PORVs~~ADVs~~ are required to be OPERABLE. CL3.7-125

In MODE 4, a steam generator and the SG PORV are not relied upon for heat removal.

In MODE 5 or 6, a~~n~~ SGTR is not a credible event.

ACTIONS

A.1

With one required SG PORV~~ADV~~ line inoperable, action must be taken to restore OPERABLE status within 7 days. R-12

The 7 day Completion Time allows for the redundant capability afforded by the remaining OPERABLE SG PORV~~ADV~~ lines, ~~a nonsafety grade backup in the~~ Steam Dump~~Bypass~~ System, and MSSVs. R-12

Required Action A.1 is modified by a Note indicating that LCO 3.0.4 does not apply.

B.1

With two ~~or more~~ SG PORV~~ADV~~ lines inoperable, action must be taken to restore~~all but~~ one SG PORV~~ADV~~ line to OPERABLE status. Since the block valve can be closed to isolate a~~n~~ SG PORV~~ADV~~, some repairs may be possible with the unit at power. R-12

The ~~24~~1 hour Completion Time allows time to plan an orderly shutdown of the unit and is reasonable ~~to repair inoperable ADV lines~~, based on the availability of the Steam Dump ~~Bypass~~ System and MSSVs, and the low probability of an event occurring during this period that would require the SG PORV~~ADV~~ lines. PA3.7-353 R-11 R-12

BASES

C.1 and C.2

If the SG PORV~~ADV~~ lines cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least

R-12

CL3.7-125

ACTIONS ~~C.1 and C.2 (continued)~~

MODE 3 within 6 hours, and in MODE 4~~, without reliance upon steam generator for heat removal,~~ within 12~~[18]~~ hours.

The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.4.1

~~To perform a controlled cooldown of the RCS, the ADVs must be able to be opened either remotely or locally and throttled through their full range.~~ This SR ensures that the SG PORVs~~ADVs~~ are tested through a full control cycle in accordance with the Inservice Testing Program~~at least once per fuel cycle~~. The SG PORV is isolated by the block valve for this test. Performance of inservice testing or use of a~~n~~ SG PORV~~ADV~~ during a unit cooldown may satisfy this requirement.

X3.7-130

Operating experience has shown that these components usually pass the Surveillance when performed~~at the [18] month Frequency~~ in accordance with the Inservice Testing Program. The Frequency is acceptable from a reliability standpoint.

X3.7-130

PA3.7-145 PA3.7-201

BASES

A CCW train is considered OPERABLE when:

a. The pump and associated surge tank are OPERABLE; and

b. The associated piping, valves, heat exchanger, and instrumentation and controls required to perform the safety related function are OPERABLE.

R-12

The isolation of CCW from other components or systems ~~not required for safety~~ may render those components or systems inoperable but does not affect the OPERABILITY of the CCW System.

APPLICABILITY In MODES 1, 2, 3, and 4, the CCW System is a normally operating system, which must be prepared to perform its post accident safety functions, including but not limited to~~primarily~~ RCS heat removal, which is achieved by cooling the RHR heat exchanger.

PA3.7-271

In MODE 5 or 6, the OPERABILITY requirements of the CCW System are determined by the systems it supports.

ACTIONS A.1

Required Action A.1 is modified by a Note indicating that the applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops – MODE 4," be entered if an inoperable CCW train results in an inoperable RHR loop. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components.

If one CCW train is inoperable, action must be taken to restore OPERABLE status within 72 hours. In this Condition, the

(continued)

PA3.7-201

CL3.7-154

BASES (continued)

A.1 and A.2

R-11

CL3.7-156

If one safeguards traveling screen is inoperable, action must be taken to verify an emergency bay sluice gate is open within 4 hours, and restore that safeguards traveling screen to OPERABLE status within 90 days.

In this Condition, the remaining OPERABLE safeguards traveling screen or open emergency bay sluice gate is adequate to provide the CL supply to any of the three vertical CL pumps during any design basis condition.

Required Action A.1 is modified by a Note which states the action is not required during testing periods of less than or equal to 24 hours. The 24 hours allows testing of the emergency cooling water line which may require the sluice gates to be closed. This is acceptable based on plant experience to perform the required testing during this time period and the OPERABILITY of the other emergency traveling screen.

R-12

The 4 hour Completion Time is based on the redundant capability afforded by the OPERABLE safeguards traveling screen.

The 90 day Completion Time is based on:

a. The redundant capability afforded by the remaining OPERABLE safeguards traveling screen;

b. The low risk impact of an inoperable safeguards traveling screen; and

c. The low probability of a high magnitude earthquake that could destroy Dam No. 3 during this time interval.

(continued)

PA3.7-172 PA3.7-201

BASES

~~serves to collect charcoal fines, and to back up the upstream HEPA filter should it develop a leak~~. The system initiates filtered ventilation of the ABSV boundary~~pump room~~ following receipt of a safety injection (SI) signal, high radiation signal or manual initiation.

R-12

The exhaust from the main condenser air ejector is directed to the ABSVS for filtering prior to exhausting from the plant via the shield building stack to mitigate steam generator tube leakage.

CL3.7-312

~~The ECCS PREACS is a standby system., aligned to bypass the system HEPA filters and charcoal adsorbers. During emergency operations, the ECCS PREACS dampers are realigned, and fans are started to begin filtration. Upon receipt of the actuating Engineered Safety Feature Actuation System signal(s), normal air discharges from the ECCS pump room isolate, and the stream of ventilation air discharges through the system filter trains.~~
When the ABSVS actuates, the normal nonsafeguards supply and exhaust dampers close automatically, and the Auxiliary Building Normal Ventilation System supply and exhaust fans trip. The prefilters remove any large particles in the air, and with the heaters reduce the level of ~~any~~ entrained water droplets present, to prevent excessive loading of the HEPA filters and charcoal adsorbers. The primary purpose of the heaters is to maintain the relative humidity at an acceptable level.

CL3.7-314

~~The ECCS PREACS is discussed in the FSAR, Sections [6.5.1], [9.4.5], and [15.6.5] (Refs. 1, 2, 3, respectively) since it~~The ABSVS ~~may be~~would typically only be used for ~~normal, as well as~~ post accident~~,~~ atmospheric cleanup functions. ~~The primary purpose of the heaters is to maintain the relative humidity at an acceptable level, consistent with iodine removal efficiencies per Regulatory Guide 1.52~~

(continued)

PA3.7-172 PA3.7-201

BASES

failure disables the other train ~~coincident with loss of offsite power~~.

This OPERABILITY requirement ensures that ~~Total system failure could result in~~ the atmospheric releases, in the event of a Design Basis Accident (DBA) in containment, from ~~the~~ ECCS pump ~~room~~ leakage and containment leakage which bypasses the shield building would not result in doses exceeding 10 CFR 100 limits (Ref. 5) ~~in the event of a Design Basis Accident (DBA)~~. CL3.7-321

~~ECCS PREACS is considered OPERABLE when the individual components necessary to maintain the ECCS pump room filtration are OPERABLE in both trains.~~ CL3.7-322
In order for the ABSVS to be OPERABLE, the Turbine Building roof exhauster fans must be capable of being de-energized within 30 minutes following a loss of coolant accident.

An ABSVS~~ECCS PREACS~~ train is considered OPERABLE when its associated: R-11

LCO (continued)

a. Fan is OPERABLE;

b. HEPA filter and charcoal adsorbers ~~are not excessively restricting flow, and~~ are capable of passing their design flow and performing their filtration functions; ~~and~~

c. Heater, ~~demister,~~ ductwork, ~~valves,~~ and dampers are OPERABLE and air circulation can be maintained; and R-12

d. Instrumentation and controls are OPERABLE. R-12

The ABSV boundary is OPERABLE if both of the following conditions can be met: CL3.7-174

(continued)

PA3.7-172 PA3.7-201

BASES

a. Associated Auxiliary Building Normal Ventilation System fans trip and dampers close; and

b. A measurable negative pressure is drawn within the ABSV boundary within 6 minutes after initiation, with a 10 square foot opening within the ABSV boundary.

The 92 day Frequency is based on the known reliability of equipment and the two train redundancy available.

SR 3.7.12.~~3~~4

The ABSVS initiates on a safety injection signal, high radiation signal or manual actuation. This SR verifies that each ABSVS~~ECCS PREACS~~ train starts and operates on an actual or simulated safety injection actuation signal, on an actual or simulated high radiation signal and on manual initiation.

R-12

The 24~~[18]~~ month Frequency is consistent with industry reliability experience for similar equipment. The 24 month Frequency is acceptable since this system usually passes the Surveillance when performed.~~that specified in Reference 4~~.

X3.7-137

PA3.7-326

~~SR 3.7.12.4~~

~~This SR verifies the integrity of the ECCS pump room enclosure. The ability of the ECCS pump room to maintain a negative pressure, with respect to potentially uncontaminated adjacent areas, is periodically tested to verify proper functioning of the ECCS PREACS. During the [post accident] mode of operation, the ECCS PREACS is designed to maintain a slight negative pressure in the ECCS pump room, with respect to adjacent areas, to prevent unfiltered LEAKAGE. The ECCS PREACS is designed to maintain a ≤ [-0.125] inches water gauge relative to atmospheric pressure at a flow rate of[3000] cfm from the ECCS pump room. The Frequency of [18] months is consistent with the guidance provided in NUREG-0800, Section 6.5.1 (Ref. 6).~~

PA3.7-327

Difference Category	Difference Number 3.7-	Justification for Differences
CL	266	NUREG-1431 discussion of the CC system safety functions and assumptions has been replaced with discussion appropriate for PI.
	267	Not used.
	268-270	Not used.
PA	271	Clarification is provided to indicate that RHR heat exchanger cooling is not the only function for which the CC system must be operable. This change has been made to be accurate and avoid operator confusion.
PA	272	Clarification is provided that this SR may be satisfied by a control room check of valve positions.
PA	273	At PI, this SR is unlikely to cause a plant transient and therefore may be performed at power. However, as noted in the added Bases discussion, the 24 month Frequency is necessary since there may be some times that performing the test at power could jeopardize plant operations.

M - More restrictive (GENERIC NSHD)
(M3.7-08, M3.7-12, M3.7-13, M3.7-14, M3.7-15, M3.7-16, M3.7-23, M3.7-26, M3.7-27, M3.7-30, M3.7-35, M3.7-37, M3.7-39, M3.7-40, M3.7-42, M3.7-46, M3.7-48, M3.7-49, M3.7-51, M3.7-52, M3.7-53, M3.7-55, M3.7-58, M3.7-59, M3.7-60, M3.7-61, M3.7-65, M3.7-73, M3.7-75, M3.7-76, M3.7-104, M3.7-107, M3.7-108, M3.7-109, M3.7-110, M3.7-115, M3.7-116, M3.7-119, M3.7-121)

This proposed Technical Specifications revision involves modifying the Current Technical Specifications to impose more stringent requirements upon plant operations to achieve consistency with the guidance of NUREG-1431, correct discrepancies or remove ambiguities from the specifications. These more restrictive Technical Specifications have been evaluated against the plant design, safety analyses, and other Technical Specifications requirements to ensure the plant will continue to operate safely with these more stringent specifications.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed changes provide more stringent requirements for operation of the plant. These more stringent requirements do not result in operation that will increase the probability of initiating an analyzed event and do not alter assumptions relative to mitigation of an accident or transient event.

   These more restrictive requirements continue to ensure process variables, structures, systems, and components are maintained consistent with the safety analyses and licensing basis. Therefore, these changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed changes do not involve a physical alteration of the plant, that is, no new or different type of equipment will be installed, nor do they change the methods governing normal plant operation.

   These more stringent requirements do impose different operating restrictions. However, these operating restrictions are consistent with the boundaries established by the assumptions made in the plant safety analyses and licensing bases. Therefore, these changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 4.1-1C	11	SR	3.3.4.1	
Table 4.1-1C	11	SR	3.3.4.2	
Table 4.1-1C	12		Deleted - Boric Acid LAR	
Table 4.1-1C	13		Relocated - TRM	
Table 4.1-1C	14		CTS Deleted	
Table 4.1-1C	15	TABLE	3.3.1-1	16.b.2
Table 4.1-1C	15		Relocated - TRM	
Table 4.1-1C	16		Relocated - TRM	
Table 4.1-1C	17		Relocated - TRM	
Table 4.1-1C	18	SR	3.3.1.12	
Table 4.1-1C	19		Relocated - TRM	
Table 4.1-1C	20		Relocated - TRM	
Table 4.1-1C	21	SR	3.3.3.1	
Table 4.1-1C	21	SR	3.3.3.2	
Table 4.1-1C	21	SR	3.3.3.3	
Table 4.1-1C	22		CTS Deleted	
Table 4.1-1C	23		CTS Deleted	
Table 4.1-1C	24		Relocated - TRM	

Current Technical Specification Cross-Reference

CTS Section	CTS Table Item Number	Section Type	ITS Section	ITS Table Item Number
Table 4.1-1C	24	SR	3.3.6.5	
Table 4.1-1C	24	SR	3.3.6.2	
Table 4.1-1C	25	SR	3.4.12.4	
Table 4.1-1C	25	SR	3.4.12.5	
Table 4.1-1C	25	SR	3.4.13.5	
Table 4.1-1C	25	SR	3.4.13.6	
Table 4.1-1C	26		Relocated - TRM	
Table 4.1-1C	27		Relocated - TRM	
Table 4.1-1C	28		Relocated - TRM	
Table 4.1-1C	29	SR	3.3.3.1	
Table 4.1-1C	29	SR	3.3.3.2	
Table 4.1-1C	29	(Partial)	Relocated - TRM	
Table 4.1-1C	30		Relocated - Bases	
Table 4.1-1C	31		Relocated - TRM	
Table 4.1-1C	Note 30	SR	3.1.7.1	
Table 4.1-1C	Note 31		Deleted	
Table 4.1-1C	Note 32		Relocated - TRM	

3.8 ELECTRICAL POWER SYSTEMS

3.8.3 Diesel Fuel Oil

LCO 3.8.3 The stored diesel generator (DG) fuel oil supply shall be within limits.

APPLICABILITY: When the DG(s) is required to be OPERABLE.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. DGs stored fuel oil supply: Unit 1 < 42,000 gal and > 36,000 gal; Unit 2 < 75,000 gal and > 65,000 gal.	A.1 Restore fuel oil supply to within limits.	48 hours
B. Required DG fuel oil tank with stored fuel oil properties not within limit(s).	B.1 Restore fuel oil tank properties to within limit(s).	7 days
C. Required Action and associated Completion Time of Condition B not met.	C.1 Isolate the associated DG fuel oil tank.	2 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Stored DG fuel oil supply: Unit 1 < 36,000 gal; Unit 2 < 65,000 gal. OR Required Action and associated Completion Time of Conditions A or C not met.	----------NOTE---------- Enter applicable Conditions and Required Actions of LCO 3.7.8, "CL System" when Condition D is entered as a result of stored fuel oil properties not within limits. ---------- D.1 Declare DGs inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify stored DG fuel oil supply contains: Unit 1 ≥ 42,000 gal; Unit 2 ≥ 75,000 gal of fuel.	31 days
SR 3.8.3.2	Verify fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program.	In accordance with the Diesel Fuel Oil Testing Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One battery inoperable.	B.1 Verify associated battery charger is OPERABLE. AND B.2 Verify other train battery is OPERABLE. AND B.3 Verify other train battery charger is OPERABLE. AND B.4 Restore battery to OPERABLE status	2 hours 2 hours 2 hours 8 hours
C. One DC electrical power subsystem inoperable for reasons other than Condition A or B.	C.1 Restore DC electrical power subsystem to OPERABLE status.	2 hours
D. Required Action and Associated Completion Time not met.	D.1 Be in MODE 3. AND D.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.4.1	Verify battery terminal voltage is greater than or equal to the minimum established float voltage.	7 days
SR 3.8.4.2	Verify each battery charger supplies ≥ 250 amps at greater than or equal to the minimum established float voltage for ≥ 4 hours. OR Verify each battery charger can recharge the battery to the fully charged state within 24 hours while supplying the demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	24 months
SR 3.8.4.3	----------NOTES---------- 1. The modified performance discharge test in SR 3.8.6.6 may be performed in lieu of SR 3.8.4.3. 2. This Surveillance shall not normally be performed in MODE 1, 2, 3, or 4. However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. ---------- 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.	24 months

3.8 ELECTRICAL POWER SYSTEMS

3.8.5 DC Sources-Shutdown

LCO 3.8.5 One DC electrical power subsystem shall be OPERABLE.

---NOTE---
Service Building DC electrical power subsystem components may be used to replace safeguards DC electrical power subsystem component when the required safeguards DC electrical power subsystem is inoperable due to testing, maintenance, or replacement.

APPLICABILITY: MODES 5 and 6,
During movement of irradiated fuel assemblies.

ACTIONS

---NOTE---
LCO 3.0.3 is not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required battery charger inoperable.	A.1 Restore battery charger to OPERABLE status.	8 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One required DC electrical power subsystem inoperable for reasons other than Condition A. OR Required Action and associated Completion Time of Condition A not met.	B.1 Suspend CORE ALTERATIONS. AND B.2 Suspend movement of irradiated fuel assemblies. AND B.3 Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration. AND B.4 Initiate action to restore required DC electrical power subsystems to OPRERABLE status.	Immediately Immediately Immediately Immediately

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.5.1	----------NOTE---------- The following SRs are not required to be performed: SR 3.8.4.2 and SR 3.8.4.3. ---------- For DC sources required to be OPERABLE, the following SRs are applicable: SR 3.8.4.1 SR 3.8.4.2 SR 3.8.4.3	In accordance with applicable SRs

3.8 ELECTRICAL POWER SYSTEMS

3.8.6 Battery Parameters

LCO 3.8.6 Battery parameters for Train A and Train B batteries shall be within limits.

APPLICABILITY: When associated DC electrical power subsystems are required to be OPERABLE.

ACTIONS

----------NOTE----------
Separate Condition entry is allowed for each battery.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One battery with one or more battery cells float voltage < 2.07 V.	A.1 Perform SR 3.8.4.1. AND A.2 Perform SR 3.8.6.1. AND A.3 Restores affected cell voltage ≥ 2.07 V.	8 hours 8 hours 24 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One battery with float current > 2 amps.	B.1 Perform SR 3.8.4.1. AND B.2 Restore battery float current to ≤ 2 amps.	8 hours 24 hours
----------NOTE---------- Required Action C.2 shall be completed if electrolyte level was below the top of plates. ----------	----------NOTE---------- Required Actions C.1 and C.2 are only applicable if electrolyte level was below the top of plates. ----------	
C. One battery with one or more cells electrolyte level less than minimum established design limits.	C.1 Restore electrolyte level to above top of plates. AND C.2 Verify no evidence of leakage. AND C.3 Restore electrolyte level to greater than or equal to minimum established design limits.	8 hours 12 hours 31 days

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One battery with pilot cell electrolyte temperature less than minimum established design limits.	D.1 Restore battery pilot cell temperature to ≥ minimum established design limits.	12 hours
E. The battery in each train with battery parameters not within limits.	E.1 Restore battery parameters for battery in one train to within limits.	8 hours
F. Required Action and associated Completion Time of Condition A, B, C, D, or E not met. OR One battery with one or more battery cells float voltage < 2.07 V and float current > 2 amps.	F.1 Declare associated battery inoperable.	Immediately

3.8 ELECTRICAL POWER SYSTEMS

3.8.7 Inverters-Operating

LCO 3.8.7 Four Reactor Protection Instrument AC inverters shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One Reactor Protection Instrument AC inverter inoperable.	A.1 Verify Reactor Protection Instrument AC panel with inoperable inverter is powered from Panel 117 (Unit 2 - Panel 217).	2 hours
	OR	
	A.2 Verify Reactor Protection Instrument AC panel with inoperable inverter is powered from its inverter bypass source.	2 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Two required Reactor Protection Instrument AC inverters inoperable.	----------NOTE---------- Enter applicable Conditions and Required Actions of LCO 3.8.9, "Distribution Systems-Operating" with any Reactor Protection Instrument AC panel de-energized. ----------	
	B.1 Verify no more than one Reactor Protection Instrument AC panel is powered from Panel 117 (Unit 2 – Panel 217).	2 hours
	AND	
	B.2 Verify one or both Reactor Protection Instrument AC panel(s) is powered from an inverter bypass source.	2 hours
	AND	
	B.3 Restore one inverter to OPERABLE status.	8 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	6 hours
	AND	
	C.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify correct inverter voltage and alignment to required Reactor Protection Instrument AC panels.	7 days

3.8 ELECTRICAL POWER SYSTEMS

3.8.8 Inverters-Shutdown

LCO 3.8.8 One Reactor Protection Instrument AC inverter shall be OPERABLE.

APPLICABILITY: MODES 5 and 6,
During movement of irradiated fuel assemblies.

ACTIONS

----------NOTE----------
LCO 3.0.3 not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required inverter inoperable.	A.1 Suspend CORE ALTERATIONS. AND A.2 Suspend movement of irradiated fuel assemblies. AND A.3 Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration. AND	Immediately Immediately Immediately

3.8 ELECTRICAL POWER SYSTEMS

3.8.9 Distribution Systems-Operating

LCO 3.8.9 Train A and Train B safeguards AC and DC, and Reactor Protection Instrument AC electrical power distribution subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more safeguards AC electrical power distribution subsystems inoperable.	----------NOTE---------- Enter applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources - Operating," for DC trains made inoperable by inoperable power distribution subsystems. ----------	
	A.1 Declare affected required supported feature(s) inoperable.	Immediately
	OR	
	A.2 Restore safeguards AC electrical power distribution subsystems to OPERABLE status.	8 hours AND 16 hours from discovery of failure to meet LCO

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One or more safeguards DC electrical power distribution subsystems inoperable.	B.1 Declare affected required supported feature(s) inoperable. OR B.2 Restore safeguards DC electrical power distribution subsystems to OPERABLE status.	Immediately 2 hours AND 16 hours from discovery of failure to meet LCO
C. One Reactor Protection Instrument AC Panel inoperable.	C.1 Declare affected required supported feature(s) inoperable. OR C.2 Restore Reactor Protection Instrument AC Panel to OPERABLE status.	Immediately 2 hours AND 16 hours from discovery of failure to meet LCO

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3. AND D.2 Be in MODE 5.	6 hours 36 hours
E. Two trains with inoperable distribution subsystems that result in a loss of safety function. OR Two or more Reactor Protection Instrument AC Panels inoperable.	E.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.9.1	Verify correct breaker and switch alignments and voltage to safeguards AC, DC, and Reactor Protection Instrument AC electrical power distribution subsystems.	7 days

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.3 (continued)

characteristics, do not invalidate this test. Note 3 indicates that this Surveillance should be conducted on only one DG at a time in order to avoid common cause failures that might result from path or grid perturbations. Note 4 stipulates a prerequisite requirement for performance of this SR. A successful DG start must precede this test to credit satisfactory performance.

SR 3.8.1.4

This SR provides verification that the level of fuel oil in the day tank is at least 300 gallons (Unit 2 - 425 gallons) which is at or below the level at which fuel oil is automatically added. The level is selected to ensure adequate fuel oil for a minimum of 2 hours for Unit 1 (1 hour of DG operation at full load plus 10% for Unit 2).

The 31 day Frequency is adequate to assure 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

This Surveillance demonstrates that each required fuel oil transfer pump operates and transfers fuel oil from its associated storage tank to its associated day tank. This is required to support continuous operation of standby power sources. This Surveillance provides assurance that the fuel oil transfer pump is OPERABLE, the fuel oil piping system is intact, the fuel delivery piping is not obstructed, and the controls and control systems for automatic fuel transfer systems are OPERABLE.

BASES

LCO (continued)

The DG must be capable of starting, accelerating to required speed and voltage, and connecting to its respective Safeguards bus on detection of bus undervoltage. The DG will be ready to load within 10 seconds of receiving a start signal. The DG must be capable of accepting required loads within the assumed loading sequence intervals, and continue to operate until offsite power can be restored to the Safeguards buses. These capabilities are required to be met from a variety of initial conditions such as DG in standby with the engine hot or DG in standby at ambient conditions.

Proper sequencing of loads is a required function for DG OPERABILITY.

A Note has been added allowing the LCO not being applicable for a period of 8 hours during the performance of SR 3.8.1.10. This is acceptable since the DG(s) are available for operation and the primary offsite source can be made available within a short time.

APPLICABILITY

The AC sources required to be OPERABLE in MODES 5 and 6 and during movement of irradiated fuel assemblies provide assurance that:

a. Systems to provide adequate coolant inventory makeup are available for the irradiated fuel assemblies in the core;

b. Systems needed to mitigate a fuel handling accident are available;

c. Systems necessary to mitigate the effects of events that can lead to core damage during shutdown are available; and

BASES

ACTIONS

A.1 (continued)

is acceptable based on the remaining capacity (> 12 days), the fact that procedures will be initiated to obtain replenishment, and the low probability of an event during this brief period.

B.1

This Condition is entered as a result of a failure to meet the acceptance criterion of SR 3.8.3.2. If fuel oil properties in a DG fuel oil tank are not within limits, actions must be taken to restore the fuel oil properties to within limits. If the fuel oil properties in the fuel oil tank are not within limits, it does not mean failure of the fuel oil to burn properly in the diesel engine, and particulate concentration is unlikely to change significantly between Surveillance Frequency intervals, and proper engine performance has been recently demonstrated (in accordance with the Diesel Fuel Oil Testing Program), it is prudent to allow a brief period prior to declaring the associated DG inoperable or isolating the associated fuel oil tank. Therefore the 7 day Completion Time allows for further evaluation, resampling and re-analysis of the DG fuel oil.

C.1

With a Required Action and associated Completion Time of Condition B not met, the associated fuel oil tank must be isolated within 2 hours. Isolation of a specific fuel oil tank may not make the associated DG inoperable since the DG can take suction from another fuel oil tank. Isolation of the associated fuel oil tank may cause entry into Conditions A or D which could result in the DG being inoperable.

BASES (continued)

ACTIONS

A.1, A.2, A.3 and A.4

Condition A represents one battery charger inoperable (e.g., the voltage limit of SR 3.8.4.1 is not maintained). Required Actions A.1 and A.2 verify that the associated battery and other train charger are OPERABLE within 2 hours. This time provides for returning the inoperable charger to OPERABLE status or verifying that the associated battery and other train charger are OPERABLE and no loss of function exists.

Required Action A.3 requires, within 2 hours, that the diesel generator and safeguards equipment on the other train are verified to be OPERABLE. This verification ensures that the redundant train is OPERABLE ensuring that the plant will be able to mitigate an event as analyzed in the USAR (Ref. 3).

Required Action A.4 limits the restoration time for the inoperable battery charger to 8 hours. The 8 hour Completion Time reflects a reasonable time to effect restoration of the qualified battery charger to OPERABLE status.

B.1, B.2, B.3, and B.4

Condition B represents one battery inoperable. With one battery inoperable, the DC bus is being supplied by the OPERABLE battery charger. Any event that results in a loss of the AC bus supporting the battery charger will also result in loss of DC to that train. Recovery of the AC bus, especially if it is due to a loss of offsite power, will be hampered by the fact that many of the components necessary for the recovery (e.g., diesel generator control and field flash, AC load shed and diesel generator output circuit breakers, etc.) likely rely upon the battery. Required Actions B.1, B.2, and B.3

BASES

ACTIONS

B.1, B.2, B.3, and B.4 (continued)

verify that the associated battery charger, the other train battery and associated charger are OPERABLE within 2 hours. This time provides for either returning the inoperable battery to OPERABLE status or verifying that the associated charger and other train battery and charger are OPERABLE therefore, ensuring no loss of function exists.

Required Action B.4 requires the inoperable battery to be restored to OPERABLE within 8 hours. The 8 hour limit allows sufficient time to effect restoration of an inoperable battery given that the majority of the conditions that lead to battery inoperability (e.g., loss of battery charger, battery cell voltage less than 2.07 V, etc.) are identified in Specifications 3.8.4, 3.8.5, and 3.8.6 together with additional specific completion times.

C.1

Condition C represents one train 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 train. The 2 hour limit is consistent with the allowed time for an inoperable DC distribution system train.

If one of the required DC electrical power subsystems is inoperable for reasons other than Condition A or B (e.g., inoperable battery charger and associated inoperable battery), the remaining DC electrical power subsystem has 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

BASES

ACTIONS

C.1 (continued)

case accident, continued power operation should not exceed 2 hours. The 2 hour Completion Time 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 inoperable DC safeguards 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 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging plant systems. The Completion Time to bring the unit to MODE 5 is consistent with other standard shutdown conditions.

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 battery chargers, which support 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 and maintain the battery in a fully charged state while supplying the continuous steady state loads of the associated DC subsystem. On float charge, battery cells will receive adequate

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.1 (continued)

current to optimally charge the battery. The voltage requirements are based on the nominal design voltage of the battery and are consistent with the minimum float voltage established by the battery manufacturer (2.20 Vpc or 128 V at the battery terminals). This voltage maintains the battery plates in a condition that supports maintaining the grid life (expected to be approximately 20 years). The 7 day Frequency is consistent with manufacturer recommendations.

SR 3.8.4.2

This SR verifies the design capacity of the battery chargers. The battery charger supply is recommended to be based on the largest combined demands of the various steady state loads and the charging capacity to restore the battery to the fully charged state, irrespective of the status of the unit during these demand occurrences. The minimum required amperes and duration ensure that these requirements can be satisfied.

This SR provides two options. One option requires that each battery charger be capable of supplying 250 amps at the minimum established float voltage for 4 hours. The ampere requirements are based on the USAR (Ref. 2). The voltage requirements are based on the charger voltage level after a response to a loss of AC power. The time period is sufficient for the charger temperature to have stabilized and to have been maintained for at least 2 hours.

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.8.4.2 (continued)

The other option requires that each battery charger be capable of recharging the battery after a discharge test coincident with supplying the demands of the various continuous steady state loads, after the battery discharge to the bounding design basis event discharge state. The duration for this test may be longer than the charger sizing criteria since the battery recharge is affected by float voltage, temperature, and the exponential decay in charging current. The battery is fully recharged when the measured charging current is $\leq$ 2 amps.

The Surveillance 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 24 month intervals. In addition, this Frequency is intended to be consistent with expected fuel cycle lengths.

SR 3.8.4.3

A battery service test is a special test of the battery capability, as found, to satisfy the design requirements (battery duty cycle) of the DC electrical power system. The discharge rate and test length should correspond to the design duty cycle requirements as specified in Reference 2.

The battery service test should be performed during refueling operations, or at some other outage, with intervals between tests not to exceed 24 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.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.3 (continued)

The reason for Note 2 is that performing the Surveillance would perturb the electrical distribution system and challenge safety systems. This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow portions of the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g. post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed partial Surveillance, a successful partial Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the Surveillance are performed in MODE 1 or 2. Risk insights or deterministic methods may be used for the assessment.

REFERENCES

1. AEC "General Design Criteria for Nuclear Power Plant Construction Permits." Criterion 39, issued for comment July 10, 1976, as referenced in USAR, Section 1.2.

2. USAR, Section 8

3. USAR, Section 6.

BASES (continued)

LCO

The DC electrical power subsystem, consisting of a battery one battery charger and the corresponding control equipment and interconnecting cabling within the train, is required to be OPERABLE to support one train of the distribution systems required OPERABLE by LCO 3.8.10, "Distribution Systems - Shutdown." This ensures the availability of sufficient DC electrical power sources to operate the unit in a safe manner and to mitigate the consequences of postulated events during shutdown (e.g., fuel handling accidents).

A Note has been added to the LCO allowing the service building DC electrical power subsystem components to be used in lieu of the required safeguards DC electrical power subsystem components when the required safeguards DC electrical power subsystem is inoperable due to testing, maintenance, or replacement. The service building DC power electrical components include the battery, associated battery charger, and the interconnecting cabling. When any of the service building DC power electrical components are used in lieu of the safeguards DC electrical power subsystem components, they are required to be maintained in accordance with Specification 5.5.15 for monitoring various battery parameters that is based on the recommendations of IEEE Standard 450-1995, "IEEE Recommended Practice For Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries For Stationary Applications" (Ref. 3).

BASES

ACTIONS (continued)

A.1

Condition A represents one train with one required battery charger inoperable (e.g., the voltage limit of SR 3.8.4.1 is not maintained).

Required Action A.1 limits the restoration time for the inoperable battery charger to 8 hours. The 8 hour Completion Time reflects a reasonable time to effect restoration of the qualified battery charger to OPERABLE status.

B.1, B.2, B.3, and B.4

Condition B represents one train with one required DC electrical power subsystem inoperable for reasons other than Condition A or if the Required Actions and associated Completion Time of Condition A are not met. In this Condition there may not be adequate DC power available to support the subsystems required by LCO 3.8.10. Therefore, conservative actions are required (i.e., to suspend CORE ALTERATIONS, movement of irradiated fuel assemblies, and operations involving positive reactivity additions) that assure the minimum SDM or boron concentration limit is met to assure continued safe operation. Introduction of coolant inventory must be from sources that have a boron concentration greater than that required in the RCS for minimum SDM or refueling boron concentration. This may result in an overall reduction in RCS boron concentration, but provides acceptable margin to maintaining subcritical operation. Introduction of temperature changes including temperature increases when operating with a positive MTC must also be evaluated to ensure they do not result in a loss of required SDM.

BASES

ACTIONS

B.1, B.2, B.3, and B.4 (continued)

Suspension of these activities shall not preclude completion of actions to establish a safe conservative condition. These actions minimize probability of the occurrence of postulated events. It is further required to immediately initiate action to restore the required DC electrical power subsystem and to continue this action until restoration is accomplished in order to provide the necessary DC electrical power to the unit safety systems.

The Completion Time of immediately is consistent with the required times for actions requiring prompt attention. The restoration of the required DC electrical power subsystems should be completed as quickly as possible in order to minimize the time during which the unit safety systems may be without sufficient power.

SURVEILLANCE REQUIREMENTS

SR 3.8.5.1

SR 3.8.5.1 requires performance of all Surveillances required by SR 3.8.4.1 through SR 3.8.4.3. Therefore, see the corresponding Bases for LCO 3.8.4 for a discussion of each SR.

This SR is modified by a Note. The reason for the Note is to preclude requiring the OPERABLE DC sources from being discharged below their capability to provide the required power supply or otherwise rendered inoperable during the performance of SRs. It is the intent that these SRs must still be capable of being met, but actual performance is not required.

REFERENCES

1. USAR Section 6.
2. USAR Section 14.
3. IEEE-450-1995.

BASES (continued)

ACTIONS

A Note has been added to provide clarification that, for this LCO, separate Condition entry is allowed for each battery. This is acceptable, since Required Actions for each Condition provide appropriate compensatory actions.

A.1, A.2, A.3 and A.4

With one or more cells in one battery < 2.07 V, the battery cell is degraded. Within 8 hours verification of the required battery charger OPERABILITY is made by monitoring the battery terminal voltage (SR 3.8.4.1) and of the overall battery state of charge by monitoring the battery float charge current (SR 3.8.6.1). This assures that there is still sufficient battery capacity to perform the intended function. Therefore, the affected battery is not required to be considered inoperable solely as a result of one or more cells in one battery < 2.07 V, and continued operation is permitted for a limited period up to 24 hours.

Since the Required Actions only specify "perform," a failure of SR 3.8.4.1 or SR 3.8.6.1 acceptance criteria does not result in this Required Action not met. However, if one of the SRs is failed the appropriate Condition(s), depending on the cause of the failures, is entered. If SR 3.8.6.1 is failed then there may not be assurance that there is still sufficient battery capacity to perform the intended function and the battery must be declared inoperable immediately.

BASES

ACTIONS (continued)

B.1 and B.2

One battery with float > 2 amps indicates that a partial discharge of the battery capacity has occurred. This may be due to a temporary loss of a battery charger or possibly due to one or more battery cells in a low voltage condition reflecting some loss of capacity. Within 8 hours verification of the required battery charger OPERABILITY is made by monitoring the battery terminal voltage. If the terminal voltage is found to be less than the minimum established float voltage there are two possibilities, the battery charger is inoperable or is operating in the current limit mode. Condition A addresses charger inoperability. If the charger is operating in the current limit mode after 8 hours that is an indication that the battery has been substantially discharged. The time to return the battery to its fully charged condition in this case is a function of the battery charger capacity, the amount of loads on the associated DC system, the amount of the previous discharge, and the recharge characteristic of the battery. The charge time can be extensive, and there is not adequate assurance that it can be recharged within 12 hours (Required Action B.2). The battery must therefore be declared inoperable.

If the float voltage is found to be satisfactory but there are one or more battery cells with float voltage less than 2.07 V, the associated "OR" statement in Condition F is applicable and the battery must be declared inoperable immediately. If float voltage is satisfactory and there are no cells less than 2.07 V there is good assurance that, within 12 hours, the battery will be restored to its fully charged condition (Required Action B.2) from any discharge that might have occurred due to a temporary loss of the battery charger.

BASES

ACTIONS

B.1 and B.2 (continued)

A discharged battery with float voltage (the charger setpoint) across its terminals indicates that the battery is on the exponential charging current portion (the second part) of its recharge cycle. The time to return a battery to its fully charged state under this condition is simply a function of the amount of the previous discharge and the recharge characteristic of the battery. Thus there is good assurance of fully recharging the battery within 24 hours, avoiding a premature shutdown with its own attendant risk and the battery is not inoperable.

If the condition is due to one or more cells in a low voltage condition but still greater than 2.07 V and float voltage is found to be satisfactory, this is not indication of a substantially discharged battery and 24 hours is a reasonable time prior to declaring the battery inoperable.

Since Required Action B.1 only specifies "perform," a failure of SR 3.8.4.1 acceptance criteria does not result in the Required Action not met. However, if SR 3.8.4.1 is failed, the appropriate Condition(s), depending on the cause of the failure, is entered.

C.1, C.2, and C.3

With one battery with one or more cells electrolyte level above the top of the plates, but below the minimum established design limits, the battery still retains sufficient capacity to perform the intended function. Therefore, the affected battery is not required to be considered inoperable solely as a result of electrolyte level not met. Within 31 days the minimum established design limits for electrolyte level must be re-established.

BASES

ACTIONS

C.1, C.2, and C.3 (continued)

With electrolyte level below the top of the plates there is a potential for dryout and plate degradation. Required Actions C.1 and C.2 address this potential (as well as provisions in Specification 5.5.15, Battery Monitoring and Maintenance Program). They are modified by a note that indicates they are only applicable if electrolyte level is below the top of the plates. Within 8 hours level is required to be restored to above the top of the plates. The Required Action C.2 requirement to verify that there is no leakage by visual inspection and the Specification 5.5.15.b item to initiate action to equalize and test in accordance with manufacturer's recommendation are taken from Annex D of IEEE Standard 450-1995. They are performed following the restoration of the electrolyte level to above the top of the plates. Based on the results of the manufacturer's recommended testing the battery may have to be declared inoperable and the affected cells replaced.

D.1

With one battery with pilot cell temperature less than the minimum established design limits, 12 hours is allowed to restore the temperature to within limits. A low electrolyte temperature limits the current and power available. Since the battery is sized with margin, while battery capacity is degraded, sufficient capacity exists to perform the intended function and the affected battery is not required to be considered inoperable solely as a result of the pilot cell temperature not met.

BASES

ACTIONS (continued)

E.1

With batteries in the redundant trains with battery parameters not within limits there is not sufficient assurance that battery capacity has not been affected to the degree that the batteries can still perform their required function, given that redundant batteries are involved. With redundant batteries involved this potential could result in a total loss of function on multiple systems that rely upon the batteries. The longer Completion Times specified for battery parameters on non-redundant batteries not within limits are therefore not appropriate, and the parameters must be restored to within limits on at least one train within 8 hours.

F.1

With one or more batteries with any battery parameter outside the allowances of the Required Actions for Condition A, B, C, D, or E, sufficient capacity to supply the design load requirement is not assured and the corresponding battery must be declared inoperable. Additionally, discovering one or more batteries in one train with one or more battery cells float voltage less than 2.07 V and float current greater than 2 amps indicates that the battery capacity may not be sufficient to perform the intended functions. The battery must therefore be declared inoperable immediately.

SURVEILLANCE REQUIREMENTS

SR 3.8.6.1

Verifying battery float current while on float charge is used to determine the state of charge of the battery. Float charge is the condition in which the charger is supplying the continuous charge required to overcome the internal losses of a battery and maintain the

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.6.1 (continued)

battery in a charged state. The float current requirements are based on the float current indicative of a charged battery. Use of float current to determine the state of charge of the battery is consistent with IEEE-450 (Ref. 1). The 7 day Frequency is consistent with IEEE-450 (Ref. 1).

This SR is modified by a Note that states the float current requirement is not required to be met when battery terminal voltage is less than the minimum established float voltage of SR 3.8.4.1. When this float voltage is not maintained the Required Actions of LCO 3.8.4 ACTION A are being taken, which provide the necessary and appropriate verifications of the battery condition. Furthermore, the float current limit of 2 amps is established based on the nominal float voltage value and is not directly applicable when this voltage is not maintained.

SR 3.8.6.2 and SR 3.8.6.5

Optimal long term battery performance is obtained by maintaining a float voltage greater than or equal to the minimum established design limits provided by the battery manufacturer, which corresponds to 128 V at the battery terminals, or 2.20 Vpc. This provides adequate over-potential, which limits the formation of lead sulfate and self discharge, which could eventually render the battery inoperable. Float voltages in this range or less, but greater than 2.07 Vpc, are addressed in Specification 5.5.15. SRs 3.8.6.2 and 3.8.6.5 require verification that the cell float voltages are equal to or greater than the short term absolute minimum voltage of 2.07 V. The Frequency for cell voltage verification every 31 days for pilot cell and 92 days for each connected cell is consistent with IEEE-450 (Ref. 1).

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.6.3

The limit specified for electrolyte level ensures that the plates suffer no physical damage and maintains adequate electron transfer capability. The Frequency is consistent with IEEE-450 (Ref. 1).

SR 3.8.6.4

This Surveillance verifies that the pilot cell temperature is greater than or equal to the minimum established design limit (i.e., 60°F). Pilot cell electrolyte temperature is maintained above this temperature to assure the battery can provide the required current and voltage to meet the design requirements. Temperatures lower than assumed in battery sizing calculations act to inhibit or reduce battery capacity. The Frequency is consistent with IEEE-450 (Ref. 1).

SR 3.8.6.6

A battery performance discharge 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.

Either the battery performance discharge test or the modified performance discharge test is acceptable for satisfying SR 3.8.6.6.

A modified 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 test.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.6.6 (continued)

It may consist of just two rates; for instance the one minute rate 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 one minute discharge represents 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 must 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.

The acceptance criteria for this Surveillance are consistent with IEEE-450 (Ref. 1) and IEEE-485 (Ref. 4). 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. Furthermore, the battery is sized to meet or exceed the assumed duty cycle loads when the battery design capacity reaches this 80% limit.

The Surveillance Frequency for this test is normally 60 months. If the battery shows degradation, or if the battery has reached 85% of its expected life and capacity is $< 100\%$ of the manufacturer's rating, the Surveillance Frequency is reduced to 12 months. However, if the battery shows no degradation but has reached 85% of its expected life, the Surveillance Frequency is only reduced to 24 months for batteries that retain capacity $\geq 100\%$ of the manufacturer's ratings. Degradation is indicated, according to IEEE-450 (Ref. 1), when the battery capacity drops by more than 10% relative to its capacity on the previous performance test or when it is $\geq 10\%$ below the manufacturer's rating. These Frequencies are consistent with the recommendations in IEEE-450 (Ref. 1).

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.6.6 (continued)

This SR is modified by a Note. The reason for the Note is that performing the Surveillance would perturb the electrical distribution system and challenge safety systems. This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow portions of the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g. post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed partial Surveillance, a successful partial Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the Surveillance are performed in MODE 1 or 2. Risk insights or deterministic methods may be used for the assessment.

REFERENCES

1. IEEE-450-1995.

2. USAR, Chapter 8.

3. USAR, Chapter 14.

4. IEEE-485-1983, June 1983

BASES

APPLICABLE SAFETY ANALYSES (continued)

b. A worst case single failure.

Inverters satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

The inverters ensure the availability of AC electrical power for the systems instrumentation required to shut down the reactor and maintain it in a safe condition after an anticipated operational occurrence (AOO) or a postulated DBA.

Maintaining the required inverters OPERABLE ensures that the redundancy incorporated into the design of the RPS and ESFAS instrumentation and controls is maintained. The four inverters ensure an uninterruptible supply of AC electrical power to the Reactor Protection Instrument AC Panels even if the 4 kV Safeguards buses are de-energized.

OPERABLE inverters require the associated Reactor Protection Instrument AC Panel to be powered by the inverter with power supply to the inverter from a 125 VDC station battery. Normally, the power supply is from an internal AC source via rectifier with the station battery available as the uninterruptible power supply.

APPLICABILITY

The inverters are required to be OPERABLE in MODES 1, 2, 3, and 4 to ensure that:

a. Acceptable fuel design limits and reactor coolant pressure boundary limits are not exceeded as a result of AOOs; and

b. Adequate core cooling is provided, and containment OPERABILITY and other vital functions are maintained in the event of a postulated DBA.

Inverter requirements for MODES 5 and 6 are covered in the Bases for LCO 3.8.8, "Inverters-Shutdown."

BASES (continued)

ACTIONS

A.1 and A.2

With one Reactor Protection Instrument AC inverter inoperable, Required Action A.1 and A.2 require verification, within 2 hours, the Reactor Protection Instrument AC Panel with an inoperable inverter is powered from Panel 117 (Unit 2 - 217) or verify that the Reactor Protection Instrument AC Panel with an inoperable inverter is powered from its inverter bypass source.

Plant design provides acceptable alternate methods of powering a Reactor Protection Instrument AC panel with an inoperable inverter. Panel 117 (Unit 2 - Panel 217), by plant design, can provide reliable power to a Reactor Protection Instrument AC panel. Alternatively, a Reactor Protection Instrument AC panel may be powered by an inverter internal bypass. In the event an inverter becomes inoperable, the the inverter static transfer bypass switch will automatically bypass, thus providing power to the associated Reactor Protection Instrument AC panel and maintain OPERABILITY. Required Actions A.1 and A.2 require verification that only one Reactor Protection Instrument AC panel is powered from Panel 117 (Unit 2 - Panel 217) or an inverter bypass source. This verification must be completed within 2 hours.

B.1, B.2, and B.3

With two Reactor Protection Instrument AC inverters inoperable, the associated Reactor Protection Instrument AC panels are considered to be inoperable unless they are energized from Panel 117 (Unit 2 - Panel 217) or they are automatically re-energized by their inverter static transfer switch.

For this reason a Note has been included in Condition B requiring the entry into the Conditions and Required Actions of LCO 3.8.9,

BASES

ACTIONS

B.1, B.2, and B.3 (continued)

"Distribution Systems — Operating." This ensures that the Reactor Protection Instrument AC Panel is re-energized within 2 hours. Plant design provides acceptable alternate methods of powering Reactor Protection Instrument AC panels with an inoperable inverter. Panel 117 (Unit 2 - Panel 217), by plant design, can provide reliable power to a Reactor Protection Instrument AC panel. Alternatively, a Reactor Protection Instrument AC panel may be powered by an inverter internal bypass. In the event an inverter becomes inoperable, the inverter static transfer bypass switch will automatically bypass, thus providing power to the associated Reactor Protection Instrument AC panel and maintain OPERABILITY. Therefore, based on plant design, Required Actions B.1 and B.2 require verification that no more than one Reactor Protection Instrument AC inverter will be powered from Panel 117 (Unit 2 - Panel 217) and one or both Reactor Protection Instrument AC panel(s) are powered from an inverter bypass source. This verification must be completed within 2 hours.

Required Action B.3 allows 8 hours to fix the inoperable inverter and return it to service. The 8 hour limit is based upon engineering judgment, taking into consideration the time required to repair an inverter and the additional risk to which the unit is exposed because of the inverter inoperability. This has to be balanced against the risk of an immediate shutdown, along with the potential challenges to safety systems such a shutdown might entail. When the Reactor Protection Instrument AC Panel is powered from its alternate source, it is relying upon interruptible AC electrical power sources (offsite and onsite). The uninterruptible inverter source to the Reactor Protection Instrument AC Panel is the preferred source for powering instrumentation trip setpoint devices.

BASES

ACTIONS (continued)

C.1 and C.2

If the inoperable devices or components 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 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.8.7.1

This Surveillance verifies that the inverters are functioning properly with all required circuit breakers closed and Reactor Protection Instrument AC Panels energized from the inverter. The verification of proper voltage output ensures that the required power is readily available for the instrumentation of the RPS and ESFAS connected to the Reactor Protection Instrument AC Panels. The 7 day Frequency takes into account the redundant capability of the inverters and other indications available in the control room that alert the operator to inverter malfunctions.

REFERENCES

1. USAR, Section 8.
2. USAR, Section 14.

BASES

APPLICABILITY (continued)

c. Systems necessary to mitigate the effects of events that can lead to core damage during shutdown are available; and

d. Instrumentation and control capability is available for monitoring and maintaining the unit in a cold shutdown condition or refueling condition.

Inverter requirements for MODES 1, 2, 3, and 4 are covered in LCO 3.8.7.

ACTIONS

LCO 3.0.3 is not applicable while in MODES 5 and 6. However, since irradiated fuel assembly movement can occur in MODE 1, 2, 3, or 4, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 5 or 6, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, 3, or 4, the fuel movement is independent of reactor operations. Entering LCO 3.0.3 while in MODE 1, 2, 3, or 4 would require the unit to be shutdown unnecessarily.

A.1, A.2, A.3, and A.4

If the required inverter is inoperable, the remaining OPERABLE Reactor Protection Instrument AC Panel power supplies as required by LCO 3.8.10, "Distribution Systems-Shutdown," may be capable of supporting sufficient required features to allow continuation of CORE ALTERATIONS, fuel movement, or operations with a potential for positive reactivity additions. Therefore, the allowance for sufficiently conservative actions is made (i.e., to suspend CORE ALTERATIONS, movement of irradiated fuel assemblies, and operations involving positive reactivity additions that could result in loss of required SDM (MODE 5) or boron concentration (MODE 6)).

BASES

ACTIONS

A.1, A.2, A.3, and A.4 (continued)

Suspending positive reactivity additions that could result in failure to meet the minimum SDM or boron concentration limit is required to assure continued safe operation. Introduction of coolant inventory must be from sources that have a boron concentration greater than that required in the RCS for minimum SDM or refueling boron concentration. This may result in an overall reduction in RCS boron concentration, but provides acceptable margin to maintaining subcritical operation. Introduction of temperature changes including temperature increases when operating with a positive MTC must also be evaluated to ensure they do not result in a loss of required SDM.

Suspension of these activities shall not preclude completion of actions to establish a safe conservative condition. These actions minimize the probability of the occurrence of postulated events. It is further required to immediately initiate action to restore the required inverter and to continue this action until restoration is accomplished in order to provide the necessary inverter power to the unit safety systems.

The Completion Time of immediately is consistent with the required times for actions requiring prompt attention. The restoration of the required inverter should be completed as quickly as possible in order to minimize the time the unit safety systems may be without power.

SURVEILLANCE REQUIREMENTS

SR 3.8.8.1

This Surveillance verifies that the required inverter is functioning properly with all required circuit breakers closed and Reactor

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.8.1 (continued)

Protection Instrument AC Panel energized from the inverter. The verification of proper voltage output ensures that the required power is readily available for the instrumentation connected to the Reactor Protection Instrument AC Panel. The 7 day Frequency takes into account the reliability of the instrument panel power sources and other indications available in the control room that alert the operator to malfunctions.

REFERENCES None.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.9 Distribution Systems-Operating

BASES

BACKGROUND

The onsite safeguards AC and DC electrical power distribution systems are divided by train into two redundant and independent electrical power distribution subsystems. The onsite Reactor Protection Instrument AC Distribution System is divided by channels into four separate subsystems (Ref. 1).

Each AC electrical power subsystem consists of a safeguards 4 kV bus and two 480 V buses. These in turn supply power to distribution panels and motor control centers (MCCs). Each safeguards 4 kV bus has two offsite sources of power as well as a dedicated onsite diesel generator (DG) source. Each safeguards 4 kV bus is normally connected to an offsite source. After a loss of this offsite power source, a transfer to the alternate offsite source is accomplished by a load sequencer, initiated by bus undervoltage relays. If all offsite sources are unavailable, the onsite emergency DG supplies power to the safeguards 4 kV bus. Control power for the 4 kV and 480 V bus breakers is supplied from the safeguards DC distribution system. Additional description of the safeguards AC system may be found in the Bases for LCO 3.3.4, "4 kV Safeguards Bus Voltage Instrumentation," and the Bases for LCO 3.8.1, "AC Sources-Operating."

The AC electrical power distribution system for each train includes the safety related buses and MCCs shown in Table B 3.8.9-1.

The 120 V Reactor Protection Instrument AC Panels are arranged in four load groups and are normally powered from inverters. An alternate power supply for the instrument panels is the inverter bypass transformer powered from the same MCC as the associated inverter. Another alternate power supply is from the unit 208/120

BASES

APPLICABLE SAFETY ANALYSES (continued)

a. An assumed loss of all offsite power; and

b. A worst case single failure.

The distribution systems satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

The required power distribution subsystems listed in Table B 3.8.9-1 ensure the availability of safeguards AC, DC, and Reactor Protection Instrument AC electrical power for the systems required to shut down the reactor and maintain it in a safe condition after an anticipated operational occurrence (AOO) or a postulated DBA. The safeguards AC, DC, and Reactor Protection Instrument AC electrical power distribution subsystems are required to be OPERABLE.

Maintaining the Train A and Train B safeguards AC and DC, and Reactor Protection Instrument AC electrical power distribution subsystems OPERABLE ensures that the redundancy incorporated into the design of ESF is not defeated. Therefore, a single failure within any system or within the electrical power distribution subsystems will not prevent safe shutdown of the reactor. This does not preclude redundant safeguards 4 kV buses from being powered from the same offsite path.

OPERABLE AC electrical power distribution subsystems require the associated buses and MCCs to be energized to their proper voltages. OPERABLE DC electrical power distribution subsystems require the associated panels to be energized to their proper voltage from either the associated battery or charger. OPERABLE Reactor Protection Instrument AC electrical power distribution subsystems require the associated panels to be energized to their proper voltage.

BASES (continued)

APPLICABILITY The electrical power distribution subsystems are required to be OPERABLE in MODES 1, 2, 3, and 4 to ensure that:

a. Acceptable fuel design limits and reactor coolant pressure boundary limits are not exceeded as a result of AOOs; and

b. Adequate core cooling is provided, and containment OPERABILITY and other vital functions are maintained in the event of a postulated DBA.

Electrical power distribution subsystem requirements for MODES 5 and 6 are covered in the Bases for LCO 3.8.10, "Distribution Systems-Shutdown."

ACTIONS A.1 and A.2

With one or more safeguards AC electrical power distribution subsystems, inoperable, the remaining AC electrical power distribution subsystems are capable of supporting the minimum safety functions necessary to shut down the reactor and maintain it in a safe shutdown condition, assuming no single failure. The overall reliability is reduced, however, because a single failure in the remaining power distribution subsystems could result in the minimum required ESF functions not being supported. Therefore, there are two Required Actions that can be taken. Required Action A.1 would allow declaring the affected supported feature(s), being powered from the inoperable portion of the safeguards AC electrical power distribution system, inoperable. If Required Action A.1 is used, LCO 3.0.6 would also be entered to verify that no loss of function would exist. If LCO 3.0.6 identifies that a loss of function did exist, Condition E would be entered. Required Action A.2 requires safeguards AC electrical power, distribution subsystems to be restored to OPERABLE status within 8 hours.

BASES

ACTIONS

A.1 and A.2 (continued)

The worst scenario is one train without AC power (i.e., no offsite power to the train and the associated DG inoperable). In this Condition, the unit is more vulnerable to a complete loss of AC power. It is, therefore, imperative that the unit operator's attention be focused on minimizing the potential for loss of power to the remaining train by stabilizing the unit, and on restoring power to the affected train. The 8 hour time limit before requiring a unit shutdown in this Condition is acceptable because of:

a. The potential for decreased safety if the unit operator's attention is diverted from the evaluations and actions necessary to restore power to the affected train, to the actions associated with taking the unit to shutdown within this time limit; and

b. The potential for an event in conjunction with a single failure of a redundant component in the train with AC power.

The second Completion Time for Required Action A.2 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition A is entered while, for instance, a DC bus is inoperable and subsequently restored OPERABLE, the LCO may already have been not met for up to 2 hours. This could lead to a total of 10 hours, since initial failure of the LCO, to restore the AC distribution system. At this time, a DC circuit could again become inoperable, and AC distribution restored OPERABLE. This could continue indefinitely.

The Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time the LCO was initially not

BASES

ACTIONS

A.1 and A.2 (continued)

met, instead of the time Condition A was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

Required Action A.1 and A.2 are modified by a Note that requires the applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources - Operating," to be entered for DC trains made inoperable by inoperable AC power distribution subsystems. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components. Inoperability of a distribution system can result in loss of charging power to batteries and eventual loss of DC power. This Note ensures that the appropriate attention is given to restoring charging power to batteries, if necessary, after loss of distribution systems.

B.1 and B.2

With one or more safeguards DC electrical power distribution subsystem panel(s) inoperable, the remaining safeguards DC electrical power distribution subsystem is capable of supporting the minimum safety functions necessary to shut down the reactor and maintain it in a safe shutdown condition, assuming no single failure. The overall reliability is reduced, however, because a single failure in the remaining safeguards DC electrical power distribution subsystem could result in the minimum required ESF functions not being supported. Therefore, there are two Required Actions that can be taken. Required Action B.1 would allow declaring the affected supported feature(s), being powered from the inoperable portion of the safeguards DC panel, inoperable. If Required Action B.1 is

BASES

ACTIONS

B.1 and B.2 (continued)

used, LCO 3.0.6 would also be entered to verify that no loss of function would exist. If LCO 3.0.6 identifies that a loss of function did exist, Condition E would be entered. Required Action B.2 requires the DC panels be restored to OPERABLE status within 2 hours by powering the bus from the associated battery, charger, or portable charger.

The worst case scenario is one train without safeguards DC power; potentially with both the battery significantly degraded and the associated charger nonfunctioning. In this situation, the unit is significantly more vulnerable to a complete loss of all DC power. It is, therefore, imperative that the operator's attention focus on stabilizing the unit, minimizing the potential for loss of power to the remaining trains and restoring power to the affected train.

This 2 hour limit is more conservative than Completion Times allowed for the vast majority of components that would be without power. Taking exception to LCO 3.0.2 for components without adequate DC power, which would have Required Action Completion Times shorter than 2 hours, is acceptable because of:

a. The potential for decreased safety by requiring a change in unit conditions (i.e., requiring a shutdown) while allowing stable operations to continue;

b. The potential for decreased safety by requiring entry into numerous applicable Conditions and Required Actions for components without DC power and not providing sufficient time for the operators to perform the necessary evaluations and actions for restoring power to the affected train; and

c. The potential for an event in conjunction with a single failure of a redundant component.

BASES

ACTIONS

B.1 and B.2 (continued)

The second Completion Time for Required Action B.2 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition B is entered while, for instance, an AC bus is inoperable and subsequently returned OPERABLE, the LCO may already have been not met for up to 8 hours. This could lead to a total of 10 hours, since initial failure of the LCO, to restore the DC distribution system. At this time, an AC train could again become inoperable, and DC distribution restored OPERABLE. This could continue indefinitely.

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition B was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

C.1 and C.2

With one Reactor Protection Instrument AC panel inoperable, the remaining OPERABLE Reactor Protection Instrument AC panels are capable of supporting the minimum safety functions necessary to shut down the unit and maintain it in the safe shutdown condition. Overall reliability is reduced, however, since an additional single failure could result in the minimum ESF functions not being supported. Therefore, there are two Required Actions that can be taken. Required Action C.1 would allow declaring the affected

BASES

ACTIONS C.1 and C.2 (continued)

supported feature(s) being powered from the inoperable portion of the Reactor Protection Instrument AC panel, inoperable. If Required Action C.1 is used, LCO 3.0.6 would also be entered to verify that no loss of function would exist. If LCO 3.0.6 identifies that a loss of function did exist, Condition E would be entered. Required Action C.2 requires the Reactor Protection Instrument AC Panel to be restored to OPERABLE status within 2 hours by powering the panel from the associated inverter , inverter bypass transformer, or interruptible panel.

Condition C represents one Reactor Protection Instrument AC Panel without power. In this situation, the unit is significantly more vulnerable to a complete loss of all noninterruptible power. It is, therefore, imperative that the operator's attention focus on stabilizing the unit, minimizing the potential for loss of power to the remaining instrument panels and restoring power to the affected instrument panel.

This 2 hour limit is more conservative than Completion Times allowed for the vast majority of components that are without adequate instrument AC power. Taking exception to LCO 3.0.2 for components without adequate instrument AC power, that would have the Required Action Completion Times shorter than 2 hours if declared inoperable, is acceptable because of:

a. The potential for decreased safety by requiring a change in unit conditions (i.e., requiring a shutdown) and not allowing stable operations to continue;

BASES

ACTIONS C.1 and C.2 (continued)

b. The potential for decreased safety by requiring entry into numerous applicable Conditions and Required Actions for components without adequate instrument AC power and not providing sufficient time for the operators to perform the necessary evaluations and actions for restoring power to the affected train; and

c. The potential for an event in conjunction with a single failure of a redundant component.

The 2 hour Completion Time takes into account the importance to safety of restoring the Reactor Protection Instrument AC Panel to OPERABLE status, the redundant capability afforded by the other OPERABLE instrument panels, and the low probability of a DBA occurring during this period.

The second Completion Time for Required Action C.2 establishes a limit on the maximum allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition C is entered while, for instance, an AC bus is inoperable and subsequently returned OPERABLE, the LCO may already have been not met for up to 8 hours. This could lead to a total of 10 hours, since initial failure of the LCO, to restore the vital bus distribution system. At this time, an AC train could again become inoperable, and vital bus distribution restored OPERABLE. This could continue indefinitely.

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock."

BASES

ACTIONS

C.1 and C.2 (continued)

This will result in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition C was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

D.1 and D.2

If the inoperable distribution 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 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging plant systems.

E.1

Condition E addresses two trains with inoperable distribution subsystems that result in a loss of safety function, adequate core cooling, containment OPERABILITY and other vital functions for DBA mitigation would be compromised. Condition E also addresses two or more Reactor Protection Instrument AC Panels inoperable. If the plant is in this Condition, an immediate plant shutdown in accordance with LCO 3.0.3 is required.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.9.1

This Surveillance verifies that the required safeguards AC, DC, and Reactor Protection Instrument AC electrical power distribution systems, presented in Table B.3.8.9-1, are functioning properly, with the correct circuit breaker and switch alignment. The correct breaker and switch alignment ensures the appropriate separation and independence of the electrical divisions is maintained, and the appropriate voltage is available to each required subsystem. The verification of proper voltage ensures that the required voltage is readily available for motive as well as control functions for critical system loads. Various indications are available to the operators which demonstrate correct voltage for the subsystems. The 7 day Frequency takes into account the redundant capability of the safeguards AC, DC, and Reactor Protection Instrument AC electrical power distribution subsystems, and other indications available in the control room that alert the operator to subsystem malfunctions.

REFERENCES

1. USAR, Section 8.
2. USAR, Section 14.

Table B 3.8.9-1 (page 1 of 1)
Safeguards AC and DC Electrical Power Distribution Systems

TYPE	DISTRIBUTION EQUIPMENT	UNIT 1 TRAIN A AND B	UNIT 2 TRAIN A AND B
Safeguards AC	4 kV Buses	15, 16	25, 26
	480 V Buses	111, 112, 121, 122	211, 212, 221, 222
	Motor Control Centers	1A1, 1A2	2A1, 2A2
		1AB1*, 1AB2*	1AB1*, 1AB2*
		1AC1, 1AC2	2AC1, 2AC2
		1K1, 1K2, 1KA2	2K1, 2K2, 2KA2
		1L1, 1L2	2L1, 2L2
		1LA1, 1LA2	2LA1, 2LA2
		1M1, 1M2	2M1, 2M2
		1MA1*, 1MA2*	1MA1*, 1MA2*
		1R1, 1S1	2R1, 2S1
		1T1*, 1T2*	1T1*, 1T2*
		1TA1, 1TA2	2TA1, 2TA2
		1X1, 1X2	2X1, 2X2
Safeguards DC	125 VDC Panels	11, 12	21, 22
		15, 16	25, 26
		14*, 19*	14*, 19*
		17*, 18*	17*, 18*
		151, 161	27, 28
		152, 162	251, 261
		153, 163	252, 262
		191	253, 263
Reactor Protection Instrument AC	120 VAC Panels	111, 112, 113, 114	211, 212, 213, 214

* Denotes MCC's or Panels that are transferable between units.

~~TS 3.7-1~~
~~REV 110 (overflow)~~

A3.8-01

LCO3.8.1

(b) Unit 2~~: D5 and D6~~ diesel generators are OPERABLE and capable of supplying the onsite 4KV Safeguards Distribution System and a stored fuel oil supply of 75,000 gallons ~~is available for D5 and D6 diesel generators in the Unit 2 interconnected diesel fuel oil storage tanks.~~ If not within limits, restore within 48 hours.

LR3.8-02

LCO3.8.3 COND A

L3.8-12

LCO3.8.4

6. Both batteries with their associated chargers and both dc safeguard systems shall be OPERABLE.

LR3.8-02

LCO3.8.7 Cond A and B

7. No more than one of the Instrument AC Panels 111, 112, 113 and 114 (Unit 2 panels: 211, 212, 213 and 214) shall be powered from Panel 117 (Unit 2 panel: 217) or its associated instrument inverter bypass source Four Reactor Protection Instrument AC Bus inverters shall be OPERABLE.

R-12

Add LCOs 3.8.2, 3.8.5, 3.8.6, 3.8.8, and 3.8.10

M3.8-04

LCO3.8.2

LCO 3.8.2 AC SOURCES - SHUTDOWN This LCO identifies the AC electrical power sources that are required to be OPERABLE during plant SHUTDOWN.

LCO3.8.5

LCO 3.8.5 One DC electrical power subsystem shall be OPERABLE in MODES 5 and 6, During movement of irradiated fuel assemblies.

A3.8-23

Add Action NOTE - LCO 3.0.3 is not applicable

R-12

LCO3.8.6

LCO 3.8.6 Battery parameters for Train A and B batteries shall be within limits when associated DC electrical power subsystems are required to be OPERABLE.

R-12

LCO3.8.8

LCO 3.8.8 Inverters - SHUTDOWN This LCO requires one inverter shall be OPERABLE.

LCO3.8.10

LCO 3.8.10 DISTRIBUTION SYSTEMS - SHUTDOWN This LCO requires necessary portions of the safeguards AC, DC, and reactor protection instrument AC electrical power distribution subsystems to be OPERABLE to support equipment required to be OPERABLE.

A3.8-01

3.7.B. ~~During STARTUP OPERATION or POWER OPERATION, any of the following conditions of inoperability may exist for the times specified, provided STARTUP OPERATION is discontinued until OPERABILITY is restored.~~ If OPERABILITY is not restored within the time specified, place the affected unit(s) in at least ~~HOT SHUTDOWN~~ MODE 3 within the next 6 hours and be in ~~COLD SHUTDOWN~~ MODE 5 within the following 30 hours.

A3.8-17

R-4

LCO3.8.9 COND D

LCO3.8.1 COND F

LCO3.8.4 COND D

LCO3.8.7 COND C

M3.8-64

R-12

1. One diesel generator ~~may be~~ inoperable for 7 days and 14 days from discovery of failure to meet LCO (TS 3.7.A.1 and 3.7.A.5) ~~provided (a) the OPERABILITY of the other diesel generator is demonstrated* by~~ performance of surveillance requirement 3.8.1.2 ~~4.6.A.1.e~~ within 24 hours or determine OPERABLE DG is not inoperable due to common cause failure within 24 hours. Declare required feature(s) supported by the inoperable DG inoperable when its required redundant feature(s) is inoperable 4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s). ~~**, (b) all engineered safety features equipment associated with the operable diesel generator is OPERABLE, (c)~~ the two required paths from the grid to the plant 4 kV safeguards distribution system are OPERABLE ~~and (d)~~ the OPERABILITY of the ~~two required~~ paths ~~from the grid~~ shall be verified OPERABLE within 1 hour and ~~at least~~ once per 8 hours thereafter.

LCO3.8.1 COND B

M3.8-06

L3.8-59

R-3

L3.8-07

A3.8-10

SR 3.8.1.2

2. One ~~of the two required~~ paths ~~from the grid to the unit 4 kV safeguards distribution system may be~~ inoperable for 7 days and 14 days from discovery of failure to meet LCO (TS 3.7.A.1 and 3.7.A.5) ~~provided (a) D1 and D2 (Unit 2: D5 and D6) diesel generators are already operating or are demonstrated to be OPERABLE by sequentially performing surveillance requirement 4.6.A.1.e on each diesel generator within 24 hours and (b)~~ the OPERABLE path ~~from the grid~~ shall be verified OPERABLE within 1 hour and ~~at least~~ once per 8 hours thereafter.

LCO3.8.1 COND A

M3.8-64

L3.8-09

R-8

3. One ~~of the two required~~ paths ~~from the grid to the unit 4 kV safeguards distribution system~~ and one diesel generator ~~may be~~ inoperable for 12 hours ~~provided, (a) the OPERABILITY of the other diesel generator is demonstrated* by performance of Surveillance Requirement 4.6.A.1.e within 8 hours **, (b) all engineered safety features equipment associated with the OPERABLE diesel generator is OPERABLE, and (c) the OPERABLE path from the grid shall be verified OPERABLE within 1 hour and at least once per 8 hours thereafter.~~

LCO3.8.1 COND D

L3.8-09

A3.8-10

A3.8-01

3.7.B.5. ~~D1 and D2 (Unit 2: D5 and D6)~~ Two diesel generators ~~may be~~ inoperable for 2 hours ~~provided the~~ two required paths from the grid to the unit 4 kV safeguards distribution system are OPERABLE and the OPERABILITY of the two required paths from the grid are verified OPERABLE within 1 hour.

LCO3.8.1 COND E

LCO3.8.3

Add LCO 3.8.3, Required Action B:
Required DG fuel oil tank with stored fuel oil properties not within limits, Restore the fuel oil tank properties to within limits within 7 days

M3.8-14

Add LCO 3.8.3, Required Action C:
Required Action and associated Completion Time of Condition B not met, isolate the associated DG fuel oil tank within 2 hours.

M3.8-14

R-12

Add LCO 3.8.3, Condition D:
Stored DG fuel oil supply for unit 1 < 40,000 gallons; unit 2 < 64,000 gallons OR Required Action and associated Completion Time of Conditions A and C not, declare associated DGs inoperable immediately. Add Note - Enter applicable Conditions and Required Actions of LCO 3.7.8, "CL System" when Condition D is entered as a result of stored fuel oil properties not within limits.

M3.8-14

A3.8-68

R-11

LCO3.8.9 COND A

~~One 4 kV safeguards bus (and/or its associated 480V buses including associated~~ one or more safeguards AC electrical power distribution subsystems inoperable, declare associated required supported feature(s) inoperable immediately, OR restore to OPERABLE within 8 hours and 16 hours from discovery of failure to meet LCO ~~motor control centers) may be may be inoperable or not fully energized for 8 hours provided the redundant 4 kV safeguards bus and its associated 480 V safeguards buses are verified OPERABLE and the diesel generator and safeguards equipment associated with the redundant train are OPERABLE.~~

L3.8-16

M3.8-67

A3.8-63

L3.8-09

R-12

7. One battery charger ~~may be~~ inoperable, restore the battery charger to OPERABLE status within for 8 hours verify ~~provided, (a)~~ its associated battery is OPERABLE, ~~(b)~~ its redundant counterpart is verified OPERABLE, ~~and (c)~~ the diesel generator and safeguards equipment associated with its counterpart are OPERABLE within 2 hours.

LCO3.8.4 COND A

M3.8-18

8. One battery ~~may be~~ inoperable for 8 hours verify ~~provided~~ the other battery and both battery chargers remain OPERABLE within 2 hours.

M3.8-19

LCO3.8.4 COND B

R-2

9. ~~In addition to the requirements of Specification TS.3.7.A.7 a second inverter supplying Instrument AC Panels 111, 112, 113, and 114 may (Unit 2 panels 211, 212, 213 and 214) be powered from an inverter bypass source for 8 hours.~~

L3.8-09

LR3.8-02

~~TS 3.7.3~~

ITS LCO3.8.7 Cond. A

Add ITS 3.8.4 Condition C. M3.8-65

Add LCO 3.8.7, Condition A: A3.8-20
One required Reactor Protection Instrument AC inverter inoperable, verify only one Reactor Protection Instrument AC inverter is powered from Panel 117 (217) and only one Reactor Protection Instrument AC Panel if powered from its bypass source, within 2 hours.

R-12

ITS LCO3.8.7 Cond. B

Add LCO 3.8.7, Condition B: A3.8-20
Two required Reactor Protection Instrument AC inverter inoperable, verify within 2 hours no more than one Reactor Protection Instrument AC inverter is powered from Panel 117 (217) and one or both Reactor Protection Instrument AC Panel is powered from an inverter bypass source, and restore the inverter to OPERABLE status within 8 hours. A NOTE requires that entry into applicable Conditions and Required Actions of LCO 3.8.9 if any Reactor Protection Instrument AC Panel is de-energized.

R-12

ITS LCO3.8.9 Cond. C

Add LCO 3.8.9, Condition C: M3.8-21
One reactor protection instrument AC Panel inoperable declare associated required supported feature(s) inoperable immediately, OR restore to OPERABLE status within 2 hours and 16 hours from discovery of failure to meet LCO.

ITS LCO3.8.9 Cond. B

M3.8-21

Add LCO 3.8.9, Condition B: L3.8-16
One or more safeguards DC electrical power distribution subsystems inoperable, declare associated required supported feature(s) inoperable immediately OR restore to OPERABLE status within 2 hours and 16 hours from discovery of failure to meet LCO. M3.8-67

L3.8-09

ITS LCO3.8.9 Cond. E

Add LCO 3.8.9, Condition E: A3.8-22
Two trains with inoperable distribution subsystems that result in a loss of safety function or two or more Reactor Protection Instrument AC Panels inoperable OR two or more Reactor Protection Instrument AC Panels inoperable, enter LCO 3.0.3 immediately. L3.8-16

R-12

LCO3.8.3 APPLIC.

Add LCO 3.8.3 Applicability A3.8-01
"When the DG(s) is required to be OPERABLE"

ITS LCO3.8.5 Cond. A, and B

ADD LCO 3.8.5, Conditions A and B. M3.8-04

ITS LCO3.8.6 Cond. A, B, C, D, E, and F

ADD LCO 3.8.6, Conditions A, B, C, D, E, and F. M3.8-04

A3.8-01

B. Station Batteries

SR3.8.6.2
SR3.8.6.4

~~1.~~ Verify Each battery ~~shall be tested~~ each month. ~~Tests shall include measuring~~ voltage of each cell > 2.07 ~~to the nearest hundredth volt,~~ and measuring the temperature ~~and density~~ of a pilot cell in each battery > minimum established design limits. LR3.8-43 A3.8-53

SR3.8.4.1

Verify battery terminal voltage is greater or equal to the minimum established float voltage every 7 days. M3.8-52

SR3.8.6.3

2. ~~The following additional measurements shall be made~~ Verify every ~~three~~ months: ~~the density and height of electrolyte in every cell, the amount~~ level of water ~~added to~~ each cell is greater than or equal to minimum established design limits, ~~and the temperature of each fifth cell.~~ LR3.8-43 M3.8-50

3. ~~All measurements shall be recorded and compared with previous data to detect signs of deterioration or need of equalization charge according to the manufacturer's recommendation.~~ LR3.8-43

SR3.8.6.6

4. The batteries shall be subjected to a performance test discharge or a modified performance discharge test to verify capacity is > 80% of manufacturer's rating ~~during the first refueling and once~~ every five years M3.8-24

and 12 months when battery shows degradation, or has reached 85% of the expected life with capacity < 100% of manufacturer's rating and 24 months when battery has reached 85% of the expected life with capacity > 100% of manufacturer's rating ~~thereafter Battery voltage shall be monitored as a function of time to establish that the battery performs as expected during heavy discharge~~ A3.8-62

~~and that all electrical connections are tight.~~ LR3.8-45

5. ~~Integrity of Station Battery fuses shall be checked once each day when the battery charger is running.~~ L3.8-46

SR3.8.4.2

R-12

M3.8-47

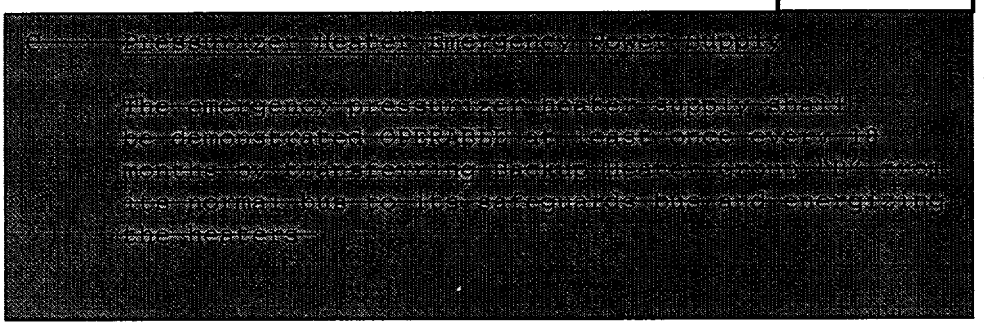
Add SR 3.8.4.2:
Verify each battery charger supplies > 250 amps at greater than or equal to the minimum established float voltage for > 4 hours, or verify each battery charger can recharge the battery to the fully charged state within 24 hours while supplying the demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state every 24 months.

~~PS-4.6-3~~

~~REV 91 10/27/89~~
~~(overflow)~~

A3.8-01

Addressed elsewhere



SR3.8.7.1

Add SR 3.8.7.1:
Verify correct inverter voltage and alignment to required Reactor Protection Instrument AC Panels every 7 days.

M3.8-49

SR3.8.4.3

M3.8-66

Add SR 3.8.4.3

R-12

NSHD category	Change number 3.8-	Discussion Of Change
L	09	(continued) ITS 3.8.9 Conditions A, B, and C provide an option to declare the associated required supported feature(s) inoperable. This is considered to be a less restrictive change since the ITS provides an option. This change is consistent with NUREG-1431. CTS ** states that the performance of CTS SR 4.6.A.1.e (PI ITS 3.8.2) is required to be completed regardless of when the inoperable DG is restored to OPERABLE. This requirement does not exist in the ITS. If the SR is not due to be performed and not being used to demonstrate OPERABILITY of the DG, then it does not have to be completed once started. This is considered to be a less restrictive change and consistent with NUREG-1431.

NSHD category	Change number 3.8-	Discussion Of Change
M	14	New Specification. ITS LCO 3.8.3, Conditions B, C and D for the Diesel Fuel Oil have been added to the CTS requirements. ITS Condition B was added requiring the fuel oil properties of the stored fuel oil be tested every 7 days to be within the limits of the Diesel Fuel Oil Testing Program. CTS 4.6.A.1 requires testing of the stored diesel fuel oil on a monthly basis. The increase in frequency constitutes a more restrictive change and is consistent with NUREG-1431. ITS Condition C has been added requiring that if the DG stored fuel oil cannot be restored to within limits within 7 days, isolate the subject storage tank within 2 hours. This is a new action which is not contained in the CTS. The addition of this Condition constitutes a more restrictive change. ITS Condition D has been added requiring that if the stored fuel oil falls below the analyzed fuel oil needed to support the PI safety analysis, the DGs are to be declared inoperable. This Condition is not included in the ITS and places a more restrictive condition on the plant. Incorporating these ITS requirements constitutes a more restrictive change since these additional Conditions, Required Actions, or Completion Times that are not currently in the CTS and requires additional plant personnel actions. This change is consistent with NUREG-1431.

NSHD category	Change number 3.8-	Discussion Of Change
L	16	CTS 3.7.B.6. CTS 3.7.B.6 allows restoration times for one 4 kV safeguards bus inoperable. ITS LCO 3.8.9, Conditions A and B allow one "or more" electrical power distributions systems to be inoperable for the same times, respectively. Concurrently, however, ITS LCO 3.8.9 Condition E is also added to require that if two or more Reactor Protection Instrument AC Panels are inoperable, resulting in a loss of function, enter ITS 3.0.3 immediately. The combination of the "or more" addition to ITS LCO 3.8.9 Conditions A and B and the addition of Condition E, along with ITS LCO 3.0.6, Safety Function Determination Program, ensure that with the loss of any electrical power distribution system, no loss of function will occur without the appropriate action. Therefore, this less restrictive change will have a negligible impact on safety.
A	17	CTS 3.7.B. CTS states that "any of the following conditions of inoperability may exist ..." This requirement prevents two or more of the listed conditions from existing at the same time. The limitation that only one condition of inoperability may exist is not explicitly stated in ISTS. In ISTS, these conditions may be in more than one specification. However, in the NUREG-1431 format, the SFDP exists to provide a mechanism to assure that entry into multiple TS Conditions will not result in loss of safety function. Thus, the SFDP limits these conditions from simultaneous existence when there is a loss of safety function. The Maintenance Rule will also assure that multiple equipment inoperabilities are evaluated for reduction of plant safety. Since the ITS includes provisions to address this clause, there is no net change in plant safety and this is an administrative change.

NSHD category	Change number 3.8-	Discussion Of Change
A	20	New Specification. ITS LCO 3.8.7, Condition A has been added to the CTS. This Condition requires that when one required reactor protection instrument AC Panel inverter is inoperable, verify within 2 hours that only one Reactor Protection Instrument AC inverter is powered from Panel 117 (217) and only one Reactor Protection Instrument AC Panel is powered from its bypass source. This is only an editorial change reformatting and clarifying the CTS requirements. In addition, ITS Condition B has been added for when two required Reactor Protection Instrument AC inverters inoperable, within 2 hours verify that no more than one inverter is powered from Panel 117 (217) and one or both powered from an inverter bypass source and restore one inverter to OPERABLE status within 8 hours. The 8 hour restoration time is consistent with CTS 3.7.B.9. The Note requires entry into applicable Conditions and Required Actions of LCO 3.8.9 with any instrument AC Panel de-energized. This change is considered to be administrative since it is consistent with the intent of the CTS and NUREG-1431.

NSHD category	Change number 3.8-	Discussion Of Change
M	21	New requirements. Add LCO 3.8.9, Conditions B and C. Condition B states that with one or more safeguards DC electrical power distribution subsystem inoperable, restore to OPERABLE status within 2 hours and 16 hours from discovery of failure to meet the LCO. Condition C states that with one reactor protection instrument AC panel inoperable, restore the panel to OPERABLE status within 2 hours and 16 hours from discovery of failure to meet the LCO. Required Actions B.1 and C.1 are discussed in DOC M3.8-67. The 2 hour Completion Time is consistent with the guidance of Regulatory Guide 1.93. Even though PI is not committed to this Regulatory Guide, the 2 hour Completion Time is acceptable to PI and consistent with the actions that would be performed during this time. The second Completion Time establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failure the meet the LCO. The Completion Times take into account the importance of safety or restoring the equipment to OPERABLE status, the redundant capability afforded by the other OERABLE equipment, and the low probability of a DBA occurring during this period. These new requirements and Completion Times represent more restrictive changes since they are not currently in the CTS. These changes are consistent with NUREG-1431.

NSHD category	Change number 3.8-	Discussion Of Change
A	22	New Specification. LCO 3.8.9, Condition E has been added stating that with two trains with inoperable distribution subsystems that result in a loss of safety function, or two or more Reactor Protection Instrument AC Panels inoperable, enter LCO 3.0.3 immediately. Although not specifically stated as a Condition in the CTS, current operating practices would require entry into LCO 3.0.3 since there would not be any specific Action to enter. In other words, the rules of usage for the CTS would require LCO 3.0.3 entry. Specifically stating this Action in the ITS only provides clarification and does not add any requirements or Actions. This change is considered to be administrative and consistent with NUREG-1431.

NSHD category	Change number 3.8-	Discussion Of Change
A	23	CTS 3.7.B. Current PI TS do not contain shutdown TSs and allow service building DC electrical power subsystem components to be used in lieu of safeguards DC electrical power subsystem components when both safeguards DC electrical power subsystems are inoperable due to maintenance, testing, or repairs. This practice is acceptable since the PI service building DC electrical power subsystem components are designed to be an acceptable replacement for the safeguards DC electrical power subsystem components. This is considered to be an Administrative change since current procedures, plant design, and past operating practices have utilized the service building DC electrical power subsystem components as incorporated into the ITS. In addition, an ACTIONS Table Note has been added stating that LCO 3.0.3 is not applicable. This Note has been added for clarification and is consistent with the intent of the CTS. Although a specific note in the CTS, PI has not considered entering LCO 3.0.C (ITS 3.0.3) to be applicable when the unit is on Modes 5, or 6 which is consistent with the ISTS. In the situation where irradiated fuel assemblies are being moved, when the unit is in Modes 1, 2, 3, or 4, PI does not enter LCO 3.0.C when one DC electrical power subsystem is inoperable. Since this is consistent with the intent of the CTS, this is considered to be an Administrative change.

NSHD category	Change number 3.8-	Discussion Of Change
M	24	CTS 4.6.B.4. CTS 4.6.B.4 requires that the batteries shall be subjected to a performance test discharge every 5 years. The ISTS requires that the batteries be subjected to a performance test discharge or a modified performance discharge test to verify the capacity of the battery is $\geq$ 80% of the manufacturer's rating every 5 years and 12 months when battery shows degradation, or has reached 85% of the expected life with capacity < 100% of manufacturer's rating and 24 months when battery has reached 85% of the expected life with capacity $\geq$ 100% of manufacturer's rating. The additional testing at 12 months and 24 months is not required by CTS or CLB. This additional testing and requirements constitutes a more restrictive change and is consistent with NUREG-1431, Rev. 2. Although this is a more restrictive change, it is not considered to be a safety issue since the additional testing and increased Frequencies ensure the batteries are still able to perform their intended safety function.
A	25	CTS 4.6.A.1.b. CTS 4.6.A.1.b requires that the "fuel level in the" fuel oil storage tank be verified at least once each month. ITS SR 3.8.3.1 requires verification of the total available fuel oil quantity. Since the fuel oil supply at PI comprises a system of multiple interconnected tanks, the level in any individual tank is not relevant. This change provides a more accurate description of the PI design and current operating practices. This change is considered to be Administrative and consistent with guidance of NUREG-1431. In addition, the diesel fuel from the fuel storage tank is to be verified to be within limits specified in Table 1 of ASTM D975-77 when checked for viscosity, water, and sediment. These requirements are being relocated to the Diesel Fuel Oil Testing Program and other Licensee Controlled Documents. This is consistent with NUREG-1431.
	26	Not used.

NSHD category	Change number 3.8-	Discussion Of Change
M	27	New SR. The ITS adds SR 3.8.1.1 which verifies correct breaker alignment and indicated power availability for each qualified path every 7 days. This SR is not required by the CTS. Since this SR adds specific actions and an associated Frequency, this is a more restrictive change. This change is consistent with NUREG-1431.
L	28	CTS 4.6.A.1.e. ITS SR 3.8.1.2 Notes 1 and 3 are added in accordance with NUREG-1431. Note 1 allows credit to be taken for the performance of SR 3.8.1.6 which encompasses SR 3.8.1.2, only with a Frequency of 184 days. Note 3 allows a modified DG start involving idling and gradual acceleration to synchronous speed to satisfy SR 3.8.1.2. The CTS does not allow the performance of a modified start test to satisfy SR 3.8.1.2; therefore, the DG would be tested again. This would result in excessive testing and operation of the DGs which is contrary to NRC, industry, and manufacturer's efforts to reduce unnecessary testing of SSCs. This change is considered to be less restrictive and consistent with NUREG-1431.
L	29	CTS 4.6.A.1.e. ITS SR 3.8.1.3 Note 2 was added which states that a momentary transient outside the load range does not invalidate the test. Momentary transients may occur for various reasons during loading, unloading, and steady state operation of the DG. However, these transients are quickly restored to within the limits and do not reflect an inability of the DG system to fulfill its function. Therefore, these transients should not be considered as a failure of the Surveillance. This change is considered to be less restrictive and consistent with NUREG-1431.

NSHD category	Change number 3.8-	Discussion Of Change
A	30	CTS 4.6.A.1.e. ITS SR 3.8.1.3 Note 3 was added which states that this Surveillance shall be conducted on only one DG at a time. This is a clarification as to how the testing should be performed. Since this is consistent with how PI currently conducts this testing, this is considered to be an administrative change which is consistent with NUREG-1431.
M	31	CTS 4.6.A.1.e. ITS SR 3.8.1.3 added Note 4 which states that this SR shall be preceded by and immediately following, without shutdown, a successful performance of SR 3.8.1.2 or 3.8.1.6. The CTS requires SR 4.6.A.1.e (PI ITS SR 3.8.1.3) to be performed on a monthly basis, however the CTS does not require SR 4.6.A.1.e to be preceded by, and immediately following without shutdown, a successful performance of an additional DG SR (PI ITS SR 3.8.1.2 or 3.8.1.6). The ITS however, does impose this limitation on the DG load test which is considered to be a more restrictive change. This change is consistent with NUREG-1431.
	32	Not used.
	33	Not used.

NSHD category	Change number 3.8-	Discussion Of Change
LR	34	CTS 4.6.A.3.a. CTS 4.6.A.3.a requires that every 18 months that each diesel generator be thoroughly inspected in accordance with procedures prepared in consideration of the manufacturer's recommendations for this class of standby service. The ITS does not incorporate this requirement nor does it meet the NRC Criteria to be included in the Technical Specifications. Therefore, this requirement is being relocated to the TRM or other Licensee Controlled Document. This change is consistent with NUREG-1431, Rev. 1. Reference DOC 3.8.A-51 for manual loading the generator.
L	35	CTS 4.6.A.3. The surveillance interval for various testing of the diesel generators is being increased from 18 months to 24 months to accommodate extended refueling cycles. In accordance with CTS 3.0.2, the 18 month Frequency is fixed at a maximum and not to be extended beyond 24 months. This change is acceptable since it is within the bounds of the CTS, there is to any time dependent degradation on equipment, no instrumentation drift, nor historical operability issues associated with this increased Frequency. This change is consistent with NUREG-1431, Rev. 1, and the guidance provided by GL 91-04.
L	36	CTS 4.6.A.3.b and e. CTS 4.6.A.3.b and e are revised to add the word "actual" in reference to the test signals used to actuate the DGs. The CTS wording "simulate" does not allow for an actual signal to be applied in meeting the Specification. The revised wording will allow the plant to take credit for an actual signal to initiate the protective function being tested, as well as a simulated signal. Therefore, this change is less restrictive. This clarification is consistent with NUREG-1431.

NSHD category	Change number 3.8-	Discussion Of Change
LR	37	CTS 4.6.A.3.b.3. CTS 4.6.A.3.b.3 requires that during the loss of offsite power in conjunction with a SI signal test, that operation of the emergency lighting system shall be ascertained. This requirement is not in the ITS since it does not meet the NRC Criteria for inclusion in the Technical Specifications. This requirement will be relocated to the TRM or other Licensee Controlled Documents. This change is consistent with NUREG-1431.
A	38	CTS 4.6.A.1.e, 4.6.A.2.c, and 4.6.A.3.b.2. Various places in the CTS, it is stated that manufacturer's recommendations regarding engine prelube and "shutdown procedures where possible" are to be used for conducting various DG SRs. This statement does not provide any pertinent information nor does it meet any of the NRC criteria for inclusion in the ITS. PI procedures for DG testing are consistent with the guidance provided by the manufacturer, therefore, this statement can be deleted. This is considered to be an Administrative change consistent with the philosophy of NUREG-1431.

NSHD category	Change number 3.8-	Discussion Of Change
A	39	CTS 4.6.A.1.c. ITS SR 3.8.3.2 has added a new requirement to verify the fuel oil properties of new and stored fuel oil are tested and maintained within the limits of the PI Diesel Fuel Oil Testing Program. Adding this requirement is consistent with the current operating practices and considered to be an administrative change. This change is consistent with NUREG-1431.
A	40	CTS 4.6.A.1.d. CTS 4.6.A.1.d requires verification that " ... the fuel oil transfer pump can be started and transfers ... ." PI ITS SR 3.8.1.5 revises this statement by replacing the phrase "pump can be started" with "system operates". In order for the system to operate, the pump must be operating and therefore must have been started. This change is editorial in nature, but provides a more accurate description and intent for the fuel oil transfer system. This change is Administrative and is consistent with NUREG-1431.
M	41	New SRs. The CTS does not have specific shutdown Technical Specifications. In adopting the ITS, PI also had to accept the ITS LCOs 3.8.2, 3.8.5, 3.8.6, 3.8.8, and 3.8.10. PI did modify the subject LCOs to be applicable to PI. Accepting these new requirements resulted in additional requirements, actions, and manpower thus, being considered to be a more restrictive change consistent with NUREG-1431.

NSHD category	Change number 3.8-	Discussion Of Change
M	42	New SR. ITS SR 3.8.9.1 and 3.8.10.1 have been added. SR 3.8.9.1 requires verification of the correct breaker alignments and voltage to safeguards AC, DC, and reactor protection instrument AC electrical power distribution subsystems within 7 days. SR 3.8.10.1 also requires breaker alignment verification. Since this is a new requirement and does require additional operator action, this change is considered to be more restrictive. This change is consistent with NUREG-1431.

NSHD category	Change number 3.8-	Discussion Of Change
LR	43	CTS 4.6.B.1, 2, and 3. The CTS contains the following information that does not meet the criteria of 10 CFR 50.36 (c)(2)(ii) for inclusion into the ITS: CTS 4.6.B.1 states in part that "Tests shall include measuring voltage of each cell to the nearest hundredth volt, and measuring the temperature and density of a pilot cell in each battery." The requirement to measure each cell to the nearest hundredth volt and the density of each cell does not meet the NRC criteria for inclusion into the ITS; therefore, it will be relocated to a Licensee Controlled Document. CTS 4.6.B.2 states, "The following additional measurements shall be made every three months: the density and height of electrolyte in every cell, the amount of water added to each cell, and the temperature of each fifth cell." The requirement to verify water level of each cell is reworded and retained in PI ITS SR 3.8.6.3. The rest of the CTS SR is being relocated to a Licensee Controlled Document since it does not meet the NRC criteria for inclusion into the ITS. CTS 4.6.B.3 states, "All measurements shall be recorded and compared with previous data to detect signs of deterioration or need of equalization charge according to the manufacturer's recommendations." This information will be relocated to a Licensee Controlled Document since it does not meet the NRC criteria for inclusion into the ITS.

NSHD category	Change number 3.8-	Discussion Of Change
LR	44	CTS 4.6.A.3.c. CTS 4.6.A.3.c contains various information about the DG full load carrying capability for an interval of not less than 103 to 110 percent of the continuous rating of the emergency DG, and information about the 90% of its continuous rating. This information does not meet the NRC criteria for inclusion into the ITS and is therefore being relocated to the ITS Bases, USAR or other Licensee Controlled Documents. This change is consistent with NUREG-1431.
LR	45	CTS 4.6.B.4. CTS 4.6.B.4 requires, in part, that during the performance of this SR, verify that all electrical connections are tight. This CTS requirement is a specific detail that is relocated to the Battery Maintenance Program required by ITS Specification 5.5.15. This change is less restrictive because the Battery Maintenance Program is under licensee control. This change is acceptable since the Battery Maintenance Program remains under the regulatory controls of 10 CFR 50.59.
L	46	CTS 4.6.B.5. The CTS requires that the integrity of Station Battery fuses be checked once every day when the battery charger is running. This SR is being deleted. In accordance with PI design, there is a fuse disconnect switch which would alarm in the Control Room if the subject fuse blows. In addition, ISTS, SR 3.8.4.1 requires weekly checks on battery voltage. If the subject fuse is blown, not only would the alarm be received, but the battery would not pass the weekly check as required by the NUREG-1431, Rev. 2.

NSHD category	Change number 3.8-	Discussion Of Change
M	47	New ITS SR 3.8.4.2 has been added. This SR requires verification that each battery charger supplies ≥ 250 amps at greater than or equal to the minimum established float voltage for ≥ 4 hours or verify each charger can recharge the battery to the fully charged state within 24 hours while supplying the demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state every 24 months. Adding this SR requires additional actions and testing that is not currently required by the CTS or plant procedures. Therefore, the addition of this SR constitutes a more restrictive change. This change is consistent with NUREG-1431, Rev. 2.
	48	Not used.
M	49	New SR. ITS 3.8.7.1 has been added which states, "Verify correct inverter voltage and alignment to the Reactor Protection Instrumentation AC panels and inverter bypass source every 7 days." This change is considered to be more restrictive since the CTS nor operating procedures do not specifically require this action or Frequency. This change requires additional operator action and testing and is therefore considered to be more restrictive. This change is consistent with NUREG-1431.

NSHD category	Change number 3.8-	Discussion Of Change
M	50	CTS 4.6.B.2. CTS 4.6.B.2 requires, in part, to measure the amount (level) of water in each cell every three months. The ITS requires that the water level of each battery cell be verified monthly. The requirements in the CTS and NUREG are essentially the same and would be considered to be an administrative change, however, NUREG-1431, Rev. 2 increases the Frequency from three months to monthly. This increase in Frequency is considered to be a more restrictive change.
A	51	CTS 4.6.A.1.e. CTS 4.6.A.1.e refers to manually synchronizing to the generator. The word "manually" is being deleted since this is the only way the DG can be synchronized. Therefore, specifically specifying how the DG is synchronized does not provide any important detail in the ITS. This is considered to be an Administrative change consistent with NUREG-1431.
M	52	CTS 4.6.B.1. CTS 4.6.B.1 requires that the batteries be tested each month. ITS 3.8.4.1 changes the Frequency from monthly to 7 days. The 7 days has been changed to be consistent with IEEE-450 and NUREG-1431, Rev. 2. Since the ITS substantially shortened the SR Frequency, this is considered to be a more restrictive change. In addition, ITS SR 3.8.4.1 requires verification that the battery terminal voltage is greater than the minimum float voltage. This is a new requirement to PI and is not in the CTS. Therefore; the addition of a new requirement is considered to be a more restrictive change. The increase in Frequency is not considered to be a safety issue since it complies with industry standards. In addition, the increased Frequency ensures that the battery is performing as designed, there is not degradation, and it will perform its intended safety function.

NSHD category	Change number 3.8-	Discussion Of Change
A	53	CTS 4.6.B.1. CTS 4.6.B.1 states, "Each battery "shall be tested" ... ." ITS SR 3.8.4.1 revises this to "Verify that each battery ... ." Replacing the word "tested" with "verify" is an administrative change. This change is consistent with NUREG-1431, Rev. 2.
A	54	Not used.
M	55	CTS 4.6.A.3.b.2 states in part that, "... the diesels start on the auto-start signal and energize the emergency buses ... ". This has been revised by changing "buses" to "loads". CTS only requires energizing the buses which actually verifies that the diesel generators start. This CTS requirement does not require any verification of any loads. Therefore, requiring verification of the loads is a more restrictive change instead of just verifying the diesel generators start.
A	56	CTS 3.7.A provides descriptive wording describing MODES 1, 2, 3, and 4. The ISTS does not use descriptive wording for identifying MODES; therefore the PI ITS have been revised to be consistent with NUREG-1431, Rev. 2.

NSHD category	Change number 3.8-	Discussion Of Change
A	57	CTS 3.7.B Footnote* states the "other diesel generator (DG) need not be tested if the DG inoperability is due to preplanned preventative maintenance or testing. This Footnote is not included in the ITS. ITS LCO 3.8.1, Condition B, is applicable when a DG is inoperable, will require determination that the OPERABLE DG is not inoperable due to common cause failure. Since the first DG is inoperable due to testing or preplanned preventative maintenance, it is readily apparent that the "other DG" is not in maintenance or testing and therefore, not inoperable due to common cause failure. Further testing of the "other DG" will not be required. Since further testing of the "other DG" will not be required in ITS, this is an Administrative change.
A	58	CTS 4.6.A.1.e has been revised to add specific words "standby conditions". This is consistent with the rest of the CTS SR which states that the diesel generator should be started in consideration of the manufacturer's recommendations which is to prelube, warm-up, and gradually load the DG. PI defines standby conditions for the DG that the DG engine coolant and oil temperatures are being maintained consistent with manufacturer's recommendations.

NSHD category	Change number 3.8-	Discussion Of Change
L	59	CTS 3.7.B.1. CTS 3.7.B.1 has been revised to add a provision to determine that the OPERABLE DG is not inoperable due to common cause failure within 24 hours. The 24 hour Completion Time is discussed in DOC M3.8-06. The flexibility provided in the ITS allowing a determination be performed on the OPERABLE DG, to ensure it is not inoperable due to a common cause failure, is a less restrictive change from the CTS. Under the CTS, if one DG is inoperable, one of the actions is to demonstrate, by performance of an SR, that the other DG is OPERABLE. Therefore, the CTS does not allow any relief in determining that the other DG is not inoperable due to common cause failure. The CTS would require the other DG to be started and determined OPERABLE, unless the initial DG inoperability was a result of preplanned maintenance or testing. Allowing a determination to be made for a common cause failure, for the OPERABLE DG, is acceptable since the OPERABLE DG successfully completed its last SR, the SR Frequency has not expired, and there is no common cause failure associated with the OPERABLE DG. Therefore it is safe to state that the OPERABLE DG will perform its intended safety function if called upon. This change is consistent with NUREG-1431, Rev. 1.

NSHD category	Change number 3.8-	Discussion Of Change
A	60	CTS 4.6.A.2.a. CTS 4.6.A.2.a has been revised by reformatting CTS voltage and frequency testing requirements to be more consistent with NUREG-1431, Rev. 1. The CTS SR requires that the DGs start and achieve a specific voltage and frequency within 10 seconds. Per PI operating practices, the DGs are started from standby conditions in accordance with manufacturer's recommendations. Though not specifically stated in the SR, this has been PIs intent and practice. Once the DGs have been started and reached their specified voltage and frequency ranges, within the 10 seconds, the DGs are also verified to maintain their voltage and frequency within a specific range to prove steady state operations. The same CTS requirements are maintained in the ITS therefore, making this an Administrative change.
L	61	CTS 4.6.A.2.b. CTS 4.6.A.2.b requires that the diesel generator (DG) be manually synchronized and loaded to at least 1650 kW (Unit 2: 5100 kW to 5300 kW) in less than or equal to 60 seconds and operate for at least one hour once every 6 months. This requirement is not included in the PI ITS. Since this will require less testing of plant equipment, this is a less restrictive change. This change is acceptable since industry experience has shown that loading diesels within the requirements of this specification may eventually harm the DG and reliability and capability are established through other tests. This change is consistent with NUREG-1431, Rev. 2.
A	62	CTS 4.6.B.4. CTS 4.6.B.4 requires that a discharge test be performed on the batteries during the first refueling and once every five years thereafter. This SR includes monitoring the voltage as a function of time to establish that the battery performs as expected during a heavy discharge. This part of the SR is included in ITS SR 3.8.6.6. Therefore, this change is consistent with NUREG-1431, Rev. 2.

NSHD category	Change number 3.8-	Discussion Of Change
A	63	CTS 3.7.B.6 requires that one 4 kV safeguards bus and/or its associated 480V bus including associated MCC may be inoperable or not fully energized for 8 hours provided that the 4 kV safeguards bus and its associated 480 V safeguards buses are verified to be OPERABLE and the DGs and safeguards equipment associated with the redundant train are OPERABLE. Based on PI design, current operating practices, and the intent of the CTS, PI may declare an individual safeguard AC electrical power distribution MCC or safeguards DC electrical power distribution Panel inoperable instead of declaring the entire distribution system or bus inoperable. When declaring the individual MCC or Panel inoperable in accordance with CTS, an evaluation has been performed to see what TS equipment was powered from the inoperable MCC or Panel. This CTS allowance and operating practice is formalized and included into the ITS. The ITS now provides clearer and more distinct Conditions, Required Actions, and Completion Times to assist the operator by specifically reformatting the CTS allowing the restoration of the inoperable MCCs or panels to OPERABLE status, by grouping the MCCs or panels and associated Completion Times, in accordance with Table B 3.8.9-1.

NSHD category	Change number 3.8-	Discussion Of Change
M	64	CTS 3.7.B.1 and 3.7.B.2. The CTS requirements that allows one diesel generator to be out of service for 7 days and one offsite path to be out of service for 7 days are modified by the addition of "and 14 days from discovery of failure to meet the LCO" to be consistent with the guidance of NUREG-1431. Since these changes could limit the time that a diesel generator or offsite circuit is allowed out of service, these are more restrictive changes. These changes are acceptable since they do not introduce any unsafe plant conditions. This is consistent with NUREG-1431.

NSHD category	Change number 3.8-	Discussion Of Change
M	65	New Condition CTS has been revised to add ITS LCO 3.8.4, Condition C which requires that with one DC electrical power subsystem inoperable for reasons other than Conditions A or B, to restore the DC electrical power subsystem to OPERABLE status within 2 hours. This is a new requirement for PI which is not in the CTS nor CLB therefore making it a more restrictive change. This Condition represents that with one train inoperable, there is a potential of a loss of ability to completely respond to an event and a potential loss of ability to remain energized during normal operations. In this Condition, it is imperative that the operator's attention focus on stabilizing the unit and minimizing the potential for complete loss of DC power to the affected train. The 2 hour limit is consistent with the allowed time for an inoperable DC distribution system train. The 2 hour Completion Time 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 and initiate an orderly and safe shutdown of the plant.
M	66	New SR 3.8.4.3 adds a battery service test which is a special test of battery capability, as found, to satisfy the design requiremetns of the DC electrical power system. Adding this SR is a more restrictive change since it is not currently requried by the CTS. This test is acceptable since it provides added assurance that the batteries remain capable of performing their intended function. The Frequency of 24 months is consistent with PI refueling outage which is when this SR needs to be performed. This change is consistent with NUREG-1431.

NSHD category	Change number 3.8-	Discussion Of Change
M	67	CTS 3.7.B.6 and new LCO 3.8.9 Completion Times. The CTS requirements that allow one or more safeguards AC electrical power distribution subsystem to be inoperable for 8 hours. This is modified by the addition of "and 16 hours from discovery of failure to meet the LCO" to be consistent with the guidance of NUREG-1431. Since these changes could limit the time that the safeguards AC electrical power distribution subsystem is allowed out of service, this is considered to be a more restrictive change. These changes are acceptable since they do not introduce any unsafe plant conditions. This is consistent with NUREG-1431.
A	68	New Note. A new Note has been added to NUREG-1431, LCO 3.8.3 Condition D requiring that if the diesel fuel oil cannot be restored to within limits, declare the DGs inoperable and "enter applicable Conditions and Required Actions of LCO 3.7.8, "CL System" when Condition D is entered as a result of stored fuel oil properties not within limits." The PI design for the DGs and diesel driven CL pumps is a shared common fuel oil storage tank system. The contents of the tank are controlled under ITS 5.5.11, "Diesel Fuel Oil Testing Program." In the event that the subject fuel oil properties are not within limits, ITS 3.8.3 provides specific Required Actions to restore the fuel oil to within limits or declare the DGs inoperable immediately. There are no separate Required Actions for the diesel driven CL pumps. If the fuel oil in the storage tanks is not within limits for the DGs, it is also not within limits for the diesel driven CL pumps. Providing this Note in the ITS maintains CTS and provides assurance that the quality of the fuel oil for the diesel driven CL pumps is maintained to within standards and ensuring the pumps remain OPERABLE. Since this change maintains CTS, this is considered an Administrative change.