ADMINISTRATIVE

A.5 (cont'd) for an inoperable ECCS without such references. Therefore, the existing reference in CTS Table 3.3.3-1 ACTION 37 to "take the ACTION required by Specification 3.8.1.1 or 3.8.1.2" serves no functional purpose, and its removal is purely an administrative difference in presentation.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 CTS Tables 3.3.3-1 and 4.3.3.1-1 require the LOP instruments to be OPERABLE during MODES 4 and 5 only when the associated ESF equipment is required to be OPERABLE (as stated in footnote ** to Table 3.3.3-1 and Table 4.3.3.1-1). The Applicability is being changed to be when the associated DG is required to be OPERABLE by LCO 3.8.2, "AC Sources — Shutdown," which in ITS 3.3.8.1 requires the LOP instrumentation to be OPERABLE not only during MODES 4 and 5, but also during movement of irradiated fuel assemblies in the secondary containment (which could be when the unit is defueled). This will ensure the DGs can be properly actuated at all times when they are required to be OPERABLE and is an additional restriction on plant operation.

M.2 CTS Table 3.3.3-1 footnote (d) allows a delay in entering the associated Action statement during performance of Surveillances. This Note has been clarified to provide direct indication of the intent of the current wording. The current words "provide at least one other OPERABLE channel/instrument in the same trip system is monitoring that parameter" are intended to ensure that the trip capability of the Function is maintained. However, it does not provide this assurance for this logic system design (which is a two-out-of-two design). Therefore, ITS 3.3.8.1 Surveillance Requirements Note 2 will only allow the 2 hour delay from entering into the associated Conditions and Required Actions for a channel placed in an inoperable status solely for performance of required Surveillances provided the associated Function maintains initiation capability for two DGs and associated 4.16 kV emergency buses. This is a more restrictive change and will ensure accident analysis assumptions are met when the Note is being used.

M.3 Not used. 6

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 CTS 3.3.3 requires the Trip Setpoints to be set consistent with the values shown in the Trip Setpoint column of Table 3.3.3-2. CTS 3.3.3 Action a requires inoperable channels to be restored to OPERABLE status with trip setpoints adjusted consistent with the Trip Setpoint values. These details are to be relocated to the Technical Requirements Manual (TRM) and the references to these setpoints in CTS 3.3.3 are deleted. The Allowable Value is the required limitation for the associated Function and this value is retained in the Technical Specifications. These relocated Trip Setpoints are not required to be in the Technical Specifications to provide adequate protection of the public health and safety. The TRM will be incorporated by reference into the LaSalle 1 and 2 UFSAR at ITS implementation. Any changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59.

LA.2 The detail in CTS 4.3.3.2 relating to methods (simulated automatic operation) for performing the LOGIC SYSTEM FUNCTIONAL TEST is proposed to be relocated to the Bases. This detail is not necessary to ensure the OPERABILITY of the loss of power instrumentation. The requirements of ITS 3.3.8.1 and proposed SR 3.3.8.1.5 are adequate to ensure the loss of power instruments are maintained OPERABLE. Therefore, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.3 System design details in CTS Tables 3.3.3-1 and 3.3.3-2 are proposed to be relocated to the Bases. Details relating to system design (the total number of channels provided in the design, the number of channels required to generate a trip and the types of relays) are unnecessary in the LCO. These details are not necessary to ensure the OPERABILITY of the loss of power instrumentation. The requirements of ITS 3.3.8.1 and the associated Surveillance Requirements are adequate to ensure the loss of power instruments are maintained OPERABLE. Therefore, the relocated details are not required to be in the ITS

TECHNICAL CHANGES - LESS RESTRICTIVE

LA.3 (cont'd) to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LD.1 The Frequency for performing the LOGIC SYSTEM FUNCTIONAL TEST of CTS 4.3.3.2 and CHANNEL FUNCTIONAL TEST of CTS 4.3.3.1 (as part of the CHANNEL CALIBRATION requirement) has been extended from 18 months to 24 months in proposed SR 3.3.8.1.5 and SR 3.3.8.1.3 respectively. These SRs ensures that LOP Instrumentation logic will function as designed to ensure proper response during an analyzed event. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.2 and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.2 and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical maintenance and surveillance data have shown that these tests normally pass their Surveillances at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. The LOP instrumentation including the actuating logic is designed to be single failure proof and therefore, is highly reliable.

Based on the inherent system and component reliability, the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval. The review of historical surveillance data also demonstrated that there are no failures that would invalidate this conclusion. In addition, the proposed 24 month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

Furthermore, as stated in the NRC Safety Evaluation Report (dated August 2, 1993) relating to extension of the Peach Bottom Atomic Power Station, Unit Numbers 2 and 3 surveillance intervals from 18 to 24 months:

"Industry reliability studies for boiling water reactors (BWRs), prepared by the BWR Owners Group (NEDC-30936P) show that the overall safety systems' reliabilities are not dominated by the reliabilities of the logic system, but by that of the mechanical components, (e.g., pumps and valves), which are consequently

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd) tested on a more frequent basis. Since the probability of a relay or contact failure is small relative to the probability of mechanical component failure, increasing the Logic System Functional Test interval represents no significant change in the overall safety system unavailability."

Based on the above discussion, the impact, if any, of this change on system availability is minimal.

LE.1 The Frequency for performing the CHANNEL CALIBRATION of CTS 4.3.3.1 has been extended from 18 months to 24 months in proposed SR 3.3.8.1.4. This SR ensures that LOP Instrumentation will function as designed to ensure proper response during an analyzed event. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.2 and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.2 and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991.

Extending the SR Frequency is acceptable because the electrical power sources along with the LOP initiation logic are designed to be single failure proof and therefore are highly reliable. Furthermore, the impacted LOP instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraphs, listed by CTS Trip Function number, identify the make, manufacturer and model number and the drift evaluations performed:

Trip Function D.1: 4.16 kV Emergency Bus Undervoltage— Loss of Voltage

This function is performed by ABB ITE-27, GE NGV-13A, undervoltage relays, and GE SAM-11A bus undervoltage timer relays. The relays' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

B

LE.1
(cont'd)

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history, demonstrates that there are no failures that would invalidate the conclusion that the impact, if any on system availability is minimal from a change to a 24-month surveillance frequency. In addition, the proposed 24-month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

LF.1 This change revises the Current Technical Specifications (CTS) Allowable Values to the Improved Technical Specifications (ITS) Allowable Values. ITS Section 3.3 reflects Allowable Values consistent with the philosophy of BWR ISTS, NUREG-1434, Rev. 1. These Allowable Values have been established consistent with the methods described in ComEd's Instrument Setpoint Methodology (Nuclear Engineering Standard NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy"). For most cases, the Allowable Value determinations were calculated using plant specific operating and surveillance trend data or an allowance as provided for by the Instrument Setpoint Methodology. For all other cases, vendor documented performance specifications for drift were used. The Allowable Value verification used actual plant operating and surveillance trend information to ensure the validity of the developed Allowable Value. All changes to safety analysis limits applied in the methodologies were evaluated and confirmed as ensuring safety analysis licensing acceptance limits are maintained. All design limits applied in the methodologies were confirmed as ensuring that applicable

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

LE.1 The Frequency for performing the CHANNEL CALIBRATION requirement of CTS 4.8.3.4.b has been extended from 18 months to 24 months in proposed SR 3.3.8.2.2. The subject SR ensures that the RPS electric power monitoring assemblies will trip at the specified Allowable Values. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.2 and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.2 and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Extending the SR Frequency is acceptable because the RPS electric power monitoring instrumentation is designed to be highly reliable. Furthermore, the impacted RPS electric power monitoring assembly logic cards have been evaluated based on manufacturer and model number to determine the logic cards projected drift values.

The RPS electric power monitoring assembly logic cards are manufactured by General Electric, model number 148C6118G002. The breaker trip functions provided by the logic cards are overvoltage, undervoltage and underfrequency with adjustable time delays available for each function. The logic cards' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the RPS electric power monitoring assemblies and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability is minimal from a change to a 24-month surveillance frequency. In addition, the proposed 24-month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

<CTS>

<Table 3.3.1.1-1>
<Table 4.3.1.1-1>
<Table 2.2.1-1>

Table 3.3.1.1-1 (page 2 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	
2. Average Power Range Monitors (continued)						
c. Fixed Neutron Flux — High	1	2 [1] ~~2~~	F [2] ~~G~~	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.8 SR 3.3.1.1.9 SR 3.3.1.1.11 SR 3.3.1.1.15 SR 3.3.1.1.17	≤ ~~[120]~~ 120 [1] % RTP	A
d. Inop	1,2	2 [1] ~~2~~	G [2] ~~H~~	SR 3.3.1.1.8 SR 3.3.1.1.9 SR 3.3.1.1.15	NA	
3. Reactor Vessel Steam Dome Pressure — High	1,2	~~[2]~~ [1]	G [2] ~~H~~	[4] ~~SR 3.3.1.1.1~~ SR 3.3.1.1.9 ~~[SR 3.3.1.1.10]~~ SR 3.3.1.1.~~13~~ 10 [4] SR 3.3.1.1.15 SR 3.3.1.1.17	≤ ~~[1079.7]~~ 1059.0 [1] psig	A
4. Reactor Vessel Water Level — Low, Level 3	1,2	~~[2]~~ [1]	G [2] ~~H~~	SR 3.3.1.1.1 SR 3.3.1.1.9 [4] ~~[SR 3.3.1.1.10]~~ SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.17	≥ ~~[10.8]~~ 11.0 [1] inches	A
~~5. Reactor Vessel Water Level — High, Level 8~~	~~≥ 25% RTP~~	~~[2]~~	~~G~~	~~SR 3.3.1.1.1~~ ~~SR 3.3.1.1.9~~ ~~[SR 3.3.1.1.10]~~ ~~SR 3.3.1.1.13~~ ~~SR 3.3.1.1.15~~ ~~SR 3.3.1.1.17~~	~~≤ [54.1] inches~~ [2]	B
5 [2] ~~6~~. Main Steam Isolation Valve — Closure	1	~~[8]~~ [1]	F [2] ~~I~~	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.17	≤ ~~[7]~~ 13.7 [1] % closed	
6 [2] ~~7~~. Drywell Pressure — High	1,2	~~[2]~~ [1]	G [2] ~~H~~	[4] ~~SR 3.3.1.1.1~~ SR 3.3.1.1.9 ~~[SR 3.3.1.1.10]~~ SR 3.3.1.1.13 SR 3.3.1.1.15	≤ ~~[1.43]~~ 1.93 [1] psig	A

(continued)

<CTS>

<Table 3.3.1-1>
<Table 4.3.1.1-1>
<Table 2.2.1-1>

Table 3.3.1.1-1 (page 3 of 3)
Reactor Protection System Instrumentation

7 - 2 FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
7. Scram Discharge Volume Water Level — High					
a. Transmitter/Trip Unit	1,2	~~2~~ 1	~~F~~ G - 2, H - 2	~~SR 3.3.1.1.1~~ SR 3.3.1.1.9 ~~SR 3.3.1.1.10~~ SR 3.3.1.1.13 SR 3.3.1.1.15 4	≤ ~~[67]% of full scale~~ 767 ft 8.55 in elevation 1 A
	5(a)	~~2~~ 1	~~G~~ G - 2	~~SR 3.3.1.1.1~~ SR 3.3.1.1.9 ~~SR 3.3.1.1.10~~ SR 3.3.1.1.13 SR 3.3.1.1.15 4	≤ ~~[67]% of full scale~~ 767 ft 8.55 in elevation 1 A
b. Float Switch	1,2	~~2~~ 1	~~F~~ H - 2	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ ~~[65] inches~~ 767 ft 8.55 in elevation 1 A
	5(a)	~~2~~ 1	~~G~~	SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ ~~[65] inches~~ 767 ft 8.55 in elevation 1 A
8 - 2 ~~9.~~ Turbine Stop Valve ~~Closure, Trip Oil Pressure — Low~~ Closure 5	≥ ~~[40]~~ 25 - 1 % RTP	~~4~~ 1	E	SR 3.3.1.1.9 ~~SR 3.3.1.1.10~~ SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.16 SR 3.3.1.1.17 4	≥ ~~[37] psig~~ 8.9% closed 1 B
9 - 2 ~~10.~~ Turbine Control Valve Fast Closure, Trip Oil Pressure — Low	≥ ~~[40]~~ 25 - 1 % RTP	~~2~~ 1	E	SR 3.3.1.1.9 ~~SR 3.3.1.1.10~~ SR 3.3.1.1.13 SR 3.3.1.1.15 SR 3.3.1.1.16 SR 3.3.1.1.17 4	≥ ~~[600]~~ 425.5 - 1 psig A
10 - 2 ~~11.~~ Reactor Mode Switch — Shutdown Position	1,2	~~2~~ 1	~~F~~ G - 2	SR 3.3.1.1.12 SR 3.3.1.1.15	NA
	5(a)	~~2~~ 1	~~G~~ H - 2	SR 3.3.1.1.12 SR 3.3.1.1.15	NA
11 - 2 ~~12.~~ Manual Scram	1,2	~~2~~ 1	~~F~~ G - 2	SR 3.3.1.1.5 SR 3.3.1.1.15	NA
	5(a)	~~2~~ 1	~~G~~ H - 2	SR 3.3.1.1.5 SR 3.3.1.1.15	NA

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

<CTS>

SURVEILLANCE REQUIREMENTS

NOTE

<Table 3.3.4.2-1, footnote (a)> When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours ~~,~~ provided the associated Function maintains EOC-RPT trip capability. 3

	SURVEILLANCE	FREQUENCY
<4.3.4.2.1> <Table 4.3.4.2.1-1>	SR 3.3.4.1.1 Perform CHANNEL FUNCTIONAL TEST.	~~[92]~~ days 2
	~~[SR 3.3.4.1.2 Calibrate the trip units.~~	~~[92] days]~~ 4
<4.3.4.2.1> <Table 4.3.4.2.1-1> <Table 4.3.4.2.1-2>	SR 3.3.4.1 ~~3~~ 2 (4) Perform CHANNEL CALIBRATION. The Allowable Values shall be: (1) a. TSV – Closure, ~~Trip Oil Pressure—Low~~ ~~≥ [37] psig~~ ≤ 8.9% closed (1) (2) b. TCV – Fast Closure, Trip Oil Pressure—Low: ≥ ~~[42]~~ 42.5 psig. (2)	~~[18]~~ 24 months (2)
<4.3.4.2.2>	SR 3.3.4.1 ~~4~~ 3 (4) Perform LOGIC SYSTEM FUNCTIONAL TEST, including breaker actuation.	~~[18]~~ 24 months (2)
<Table 4.3.4.2.1-1, footnote (a)>	SR 3.3.4.1 ~~5~~ 4 Verify TSV – Closure ~~Trip Oil Pressure—Low~~ and TCV – Fast Closure, Trip Oil Pressure—Low Functions are not bypassed when THERMAL POWER is ≥ ~~[40]~~ 25 % RTP. (1) (2)	~~[18]~~ 24 months

(continued)

B

A

<CTS>

<Table 3.3.3-1>
<Table 3.3.3-2>
<Table 4.3.3.1-1>

Table 3.3.5.1-1 (page 1 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Low Pressure Coolant Injection-A (LPCI) and Low Pressure Core Spray (LPCS) Subsystems					
a. Reactor Vessel Water Level—Low Low Low, Level 1	1,2,3, 4(a), 5(a)	~~2~~ (b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.~~5~~ 4 SR 3.3.5.1.~~6~~ 5 ~~SR 3.3.5.1.7~~	≥ ~~-152.5~~ -147.0 inches
b. Drywell Pressure—High	1,2,3	~~2~~ (b)	B	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.~~5~~ 4 SR 3.3.5.1.~~6~~ 5 ~~SR 3.3.5.1.7~~	≤ ~~1.44~~ 1.77 psig
c. LPCI Pump A Start—Time Delay Relay	1,2,3, 4(a), 5(a)	1	C	SR 3.3.5.1.2 ~~SR 3.3.5.1.4~~ SR 3.3.5.1.~~6~~ 5	≥ [ ] seconds 10 and ≤ [ ] 5.5 seconds
d. ~~Reactor Steam~~ Dome Pressure—Low (Injection Permissive)	1,2,3	~~1~~ 2	D	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.~~5~~ 4 SR 3.3.5.1.~~6~~ 5 ~~SR 3.3.5.1.7~~	≥ ~~[ ]~~ 490 psig and ≤ ~~[ ]~~ 522 psig
	4(a), 5(a)	~~1~~ 2	B	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.~~5~~ 4 SR 3.3.5.1.~~6~~ 5 ~~SR 3.3.5.1.7~~	≥ ~~[ ]~~ 490 psig and ≤ ~~[ ]~~ 522 psig
e. LPCS Pump Discharge Flow—Low (Bypass)	1,2,3, 4(a), 5(a)	1	D	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ SR 3.3.5.1.~~6~~ 5	≥ [ ] 1240 gpm and ≤ [ ] 1835 gpm
f. LPCI Pump A Discharge Flow—Low (Bypass)	1,2,3, 4(a), 5(a)	1	D	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 SR 3.3.5.1.3 ~~SR 3.3.5.1.5~~ SR 3.3.5.1.~~6~~ 5	≥ [ ] 1330 gpm and ≤ [ ] 2144 gpm
~~g.~~ h. Manual Initiation	1,2,3, 4(a), 5(a)	~~2~~ 1	C	SR 3.3.5.1.~~6~~ 5	NA

(continued)

per LCO 3.5.2, "ECCS—Shutdown"

(a) When associated ECCS subsystem(s) are required to be OPERABLE.

(b) Also required to initiate the associated ~~Technical Specifications (TS) required functions~~ diesel generator (DG).

Insert Function 1.g

<CTS>

<Table 3.3.3-1>
<Table 3.3.3-2>
<Table 4.3.3.1-1>

Table 3.3.5.1-1 (page 2 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE 5
2. LPCI B and LPCI C Subsystems					
a. Reactor Vessel Water Level — Low Low Low, Level 1	1,2,3, 4(a),5(a)	~~2~~ 5 (b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 4 SR 3.3.5.1.~~[illegible]~~ 4 SR 3.3.5.1.~~[illegible]~~ 5 4 ~~SR 3.3.5.1.7~~ 6	≥ ~~-152.5~~ -147.0 inches A
b. Drywell Pressure — High	1,2,3	~~2~~ (b)	B	~~SR 3.3.5.1.1~~ 8 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 4 SR 3.3.5.1.~~[illegible]~~ 4 SR 3.3.5.1.~~[illegible]~~ 5 4 ~~SR 3.3.5.1.7~~ 6	≤ ~~1.44~~ 1.77 psig A
c. LPCI Pump B Start — Time Delay Relay	1,2,3, 4(a),5(a)	~~1~~	C	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.~~[illegible]~~ 5 4	~~≥ [illegible] seconds and~~ 10 ≤ ~~5.25~~ 5.5 seconds B
d. Reactor Steam Dome Pressure — Low (Injection Permissive)	1,2,3	~~[illegible]~~ 2	~~B~~ D 1	~~SR 3.3.5.1.1~~ 8 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 4 SR 3.3.5.1.~~[illegible]~~ 4 SR 3.3.5.1.~~[illegible]~~ 5 4 ~~SR 3.3.5.1.7~~ 6	≥ ~~[illegible]~~ 490 psig and ≤ ~~[illegible]~~ 522 psig A
	4(a),5(a)	~~[illegible]~~ 2	B	~~SR 3.3.5.1.1~~ 8 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 4 SR 3.3.5.1.~~[illegible]~~ 4 SR 3.3.5.1.~~[illegible]~~ 5 4 ~~SR 3.3.5.1.7~~ 6	≥ ~~[illegible]~~ 490 psig and ≤ ~~[illegible]~~ 522 psig
e. 5 ~~LPCI Pump B and LPCI Pump C Discharge Flow — Low (Bypass)~~	1,2,3, 4(a),5(a)	~~1 per pump~~ 2	3 D ~~[illegible]~~	8 ~~SR 3.3.5.1.2~~ SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.3 4 ~~SR 3.3.5.1.[illegible]~~ 8 SR 3.3.5.1.~~[illegible]~~ 5	≥ ~~[illegible]~~ 1330 gpm and ≤ ~~[illegible]~~ 2144 gpm
~~f.~~ g. Manual Initiation 9 2	1,2,3, 4(a),5(a)	~~[illegible]~~	8 C 4	SR 3.3.5.1.~~[illegible]~~ 5 4	NA 5

Insert Function 2.f 2

(continued)

(a) When associated ECCS 9 ~~subsystem(s) are required to be OPERABLE~~ per LCO 3.5.2 9.

(b) Also required to initiate the associated ~~ATS required functions~~ DG 5.

<CTS>

<Table 3.3.3-1>
<Table 3.3.3-2>
Table 4.3.3.1-1>

Table 3.3.5.1-1 (page 4 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE 5	
4. Automatic Depressurization System (ADS) Trip System A	(c) 3	5				
a. Reactor Vessel Water Level — Low Low Low, Level 1	1, 2(c), 3(c)	~~2~~	E 3	SR 3.3.5.1.1 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 4 SR 3.3.5.1.~~5~~ 4 SR 3.3.5.1.~~6~~ 5	≥ ~~-152.5~~ -147.0 inches	A
b. Drywell Pressure — High	1, 2(c), 3(c)	~~2~~	E	~~SR 3.3.5.1.1~~ 8 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 4 SR 3.3.5.1.~~5~~ 4 SR 3.3.5.1.~~6~~ 5	≤ ~~1.44~~ 1.77 psig	A
c. ADS Initiation Timer	1, 2(c), 3(c)	~~1~~	F	SR 3.3.5.1.2 ~~SR 3.3.5.1.4~~ SR 3.3.5.1.~~6~~ 5 4	≤ ~~117~~ 118 seconds	B
d. Reactor Vessel Water Level — Low, Level 3 (Confirmatory)	1, 2(c), 3(c)	~~1~~ 1	E 3	SR 3.3.5.1.1 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 4 SR 3.3.5.1.~~5~~ 4 SR 3.3.5.1.~~6~~ 5	≥ ~~10.8~~ 11.0 inches	A
e. LPCS Pump Discharge Pressure — High	1, 2(c), 3(c)	~~2~~	F	~~SR 3.3.5.1.1~~ 8 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 4 SR 3.3.5.1.~~5~~ 4 SR 3.3.5.1.~~6~~ 5	≥ ~~[illegible]~~ 131.2 psig and ≤ ~~[illegible]~~ 271.0 psig	A A
f. LPCI Pump A Discharge Pressure — High	1, 2(c), 3(c)	~~2~~	F 3	~~SR 3.3.5.1.1~~ 8 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 4 SR 3.3.5.1.~~5~~ 4 SR 3.3.5.1.~~6~~ 5	≥ ~~[illegible]~~ 105.0 psig and ≤ ~~[illegible]~~ 128.6 psig	A A
g. ADS Bypass Timer ~~(High Drywell Pressure)~~ 7	1, 2(c), 3(c)	~~2~~	F	SR 3.3.5.1.2 ~~SR 3.3.5.1.4~~ 5 SR 3.3.5.1.~~6~~ 5 4	≤ ~~9.4 minutes~~ 598 seconds	B
h. Manual Initiation	1, 2(c), 3(c) 3	~~2~~	F	SR 3.3.5.1.~~6~~ 5	NA 5	

(continued)

~~(d)~~ (c) 3 With reactor steam dome pressure > ~~150~~ 5 psig.

<CTS>

<Table 3.3.3-1>
<Table 3.3.3-2>
<Table 4.3.3-1>

Table 3.3.5.1-1 (page 5 of 5)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
5. ADS Trip System B	(c) 3	5			5
a. Reactor Vessel Water Level — Low Low Low, Level 1	1, 2(d), 3(d)	~~2~~	E	SR 3.3.5.1.1 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 4 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ ~~-152.5~~ -147.0 inches
b. Drywell Pressure — High	1, 2(d), 3(d)	~~2~~	E	~~SR 3.3.5.1.1~~ 8 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 4 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ ~~1.44~~ 1.77 psig
c. ADS Initiation Timer	1, 2(d), 3(d)	~~1~~	F	SR 3.3.5.1.2 ~~SR 3.3.5.1.4~~ SR 3.3.5.1.5 4	≤ ~~117~~ 118 seconds
d. Reactor Vessel Water Level — Low, Level 3 (Confirmatory)	1, 2(d), 3(d)	~~1~~	E	SR 3.3.5.1.1 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 4 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ ~~10.8~~ 11.0 inches
e. LPCI Pumps B & C Discharge Pressure — High	1, 2(d), 3(d)	~~2 per pump~~ (4)	F	~~SR 3.3.5.1.1~~ 8 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ 4 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ ~~115~~ 105.0 psig and ≤ ~~125~~ 128.6 psig
f. ~~ADS Bypass Timer (High Drywell Pressure)~~ 7	1, 2(d), 3(d)	~~2~~	F	SR 3.3.5.1.2 ~~SR 3.3.5.1.4~~ 5 SR 3.3.5.1.4	≤ ~~(9.4) minutes~~ 598 seconds
~~g. Manual Initiation~~	~~1, 2(d), 3(d)~~ (c) 3	~~2~~	F	~~SR 3.3.5.1.4~~ 5	~~NA~~ 4 5

(c) ~~(d)~~ With reactor steam dome pressure > ~~150~~ psig. 3 5

A A B A A A B

<CTS>

<Table 3.3.5-1>
<Table 3.3.5-2>
<Table 4.3.5.1-1>

Table 3.3.5.2-1 (page 1 of 1)
Reactor Core Isolation Cooling System Instrumentation

FUNCTION	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	
1. Reactor Vessel Water Level — Low Low, Level 2	~~4~~ 1	B	~~SR 3.3.5.2.1~~ 4 SR 3.3.5.2.2 ~~[SR 3.3.5.2.3]~~ SR 3.3.5.2.~~4~~ 3 SR 3.3.5.2.~~5~~ 4 2	≥ ~~[-43.8]~~ -83 inches 1	A
2. Reactor Vessel Water Level — High, Level 8	~~2~~ 1	C	SR 3.3.5.2.1 SR 3.3.5.2.2 ~~[SR 3.3.5.2.3]~~ SR 3.3.5.2.~~4~~ 3 SR 3.3.5.2.~~5~~ 4 2	≤ ~~[55.7]~~ 66.5 inches 1	A
3. Condensate Storage Tank Level — Low	~~2~~ 1	D	~~SR 3.3.5.2.1~~ 4 SR 3.3.5.2.2 ~~[SR 3.3.5.2.3]~~ SR 3.3.5.2.~~4~~ 3 SR 3.3.5.2.~~5~~ 4 2	≥ ~~[-3] inches~~ 713.6 ft 1	B
~~4. Suppression Pool Water Level — High~~	~~[2]~~	~~D~~	~~SR 3.3.5.2.1~~ ~~SR 3.3.5.2.2~~ ~~[SR 3.3.5.2.3]~~ ~~SR 3.3.5.2.4~~ ~~SR 3.3.5.2.5~~	~~≤ [7.0] inches~~ 2	
~~5.~~ 4. Manual Initiation 2	~~1~~ 1	C	SR 3.3.5.2.~~6~~ 4 2	NA 1	

<CTS Table 3.3.2-1>

Table 3.3.6.1-1 (page 3 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Primary Containment Isolation (continued)					
	~~[(b)]~~	~~[2]~~	~~K~~	~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ ~~SR 3.3.6.1.5~~ ~~SR 3.3.6.1.6~~ ~~SR 3.3.6.1.7~~	~~≤ [4.0] mR/hr~~
9. Manual Initiation	1,2,3	~~2~~ 1	G	SR 3.3.6.1.~~8~~ 5	NA
3. Reactor Core Isolation Cooling (RCIC) System Isolation					
a. RCIC Steam Line Flow — High	1,2,3	1	F	~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 ~~SR 3.3.6.1.3~~ ~~SR 3.3.6.1.4~~ SR 3.3.6.1.3 SR 3.3.6.1.~~6~~ 5 ~~SR 3.3.6.1.7~~	≤ ~~[64]~~ 176 inches water
~~b. RCIC Steam Line Flow — Time Delay~~	~~1,2,3~~	~~1~~	~~F~~	~~SR 3.3.6.1.2~~ ~~SR 3.3.6.1.4~~ ~~SR 3.3.6.1.6~~ 5	≥ ~~[3]~~ 2.6 seconds and ≤ ~~[13]~~ 5.5 seconds
c. RCIC Steam Supply ~~Line~~ Pressure — Low	1,2,3	~~2~~ 2	F	~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 ~~SR 3.3.6.1.3~~ SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5 ~~SR 3.3.6.1.7~~	≥ ~~[60]~~ 58.2 psig
d. RCIC Turbine Exhaust Diaphragm Pressure — High	1,2,3	2	F	~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 ~~SR 3.3.6.1.3~~ SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5	≤ ~~[20] psig~~ 300 inches water
e. RCIC Equipment Room ~~Ambient~~ Temperature — High	1,2,3	1	F	~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5	≤ ~~[191]~~ 291.0 °F
f. RCIC Equipment Room Differential Temperature — High	1,2,3	1	F	~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5	≤ ~~[128]~~ 189.0 °F

(continued)

~~(b) During CORE ALTERATIONS, movement of irradiated fuel assemblies in [primary or secondary containment], or operations with a potential for draining the reactor vessel.~~

⟨CTS Table 3.3.2-1⟩

Table 3.3.6.1-1 (page 4 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. RCIC System Isolation (continued)		4			4
g. ~~Main~~ RCIC Steam Line Tunnel ~~Ambient~~ Temperature – High	1,2,3	~~[1]~~ 1	F	10 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5	≤ ~~[169]~~ 277.0°F
h. ~~Main~~ RCIC Steam Line Tunnel Differential Temperature – High	1,2,3	~~[1]~~ 1	F	10 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5	≤ ~~[100]~~ 155.0°F
~~i. Main Steam Line Tunnel Temperature Timer~~	~~1,2,3~~	~~[1]~~	~~F~~	~~SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6~~	~~≤ [30] minutes~~
~~j. RHR Equipment Room Ambient Temperature – High~~	~~1,2,3~~	~~[1 per room]~~	~~F~~	~~SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6~~	~~≤ [171]°F~~
~~k. RHR Equipment Room Differential Temperature – High~~	~~1,2,3~~	~~[1 per room]~~	~~F~~	~~SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6~~	~~≤ [102]°F~~
~~l. RCIC/RHR Steam Line Flow – High~~	~~1,2,3~~	~~[1]~~	~~F~~	~~SR 3.3.6.1.1 SR 3.3.6.1.2 [SR 3.3.6.1.3] SR 3.3.6.1.5 SR 3.3.6.1.6~~	~~≤ [43] inches water~~
~~m.~~ i Drywell Pressure – High	1,2,3	~~[2]~~ 2	F	10 ~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 5 ~~[SR 3.3.6.1.3]~~ SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5 ~~SR 3.3.6.1.7~~	≤ ~~[1.44]~~ 1.77 psig
~~n.~~ j Manual Initiation	1,2,3	~~[2]~~ 1(b)	G	SR 3.3.6.1.~~6~~ 5	NA
4. Reactor Water Cleanup (RWCU) System Isolation					
a. Differential Flow – High	1,2,3	~~[1]~~ 1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.~~5~~ 4 SR 3.3.6.1.~~6~~ 5 10 ~~SR 3.3.6.1.7~~	≤ ~~[89]~~ 82.8 gpm
b. Differential Flow – Timer	1,2,3	~~[1]~~ 1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.~~6~~ 5	≤ ~~[47]~~ 48.9 seconds

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B
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(continued)

(b) Only inputs into one of two trip systems. 4

<CTS>

SURVEILLANCE REQUIREMENTS

<4.3.3.1>

<T3.3-1 fnote (d)>

NOTES

1. Refer to Table 3.3.8.1-1 to determine which SRs apply for each LOP Function.

2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 2 hours provided the associated Function maintains ~~EG~~ LOP 1 initiation capability.

	SURVEILLANCE	FREQUENCY
2	~~SR 3.3.8.1.1 Perform CHANNEL CHECK.~~	~~12 hours~~
<T 4.3.3.1-1>	SR 3.3.8.1.~~2~~ 1 Perform CHANNEL FUNCTIONAL TEST.	~~31 days~~ 18 months 3 1B
<T4.3.3.1-1>	SR 3.3.8.1.~~3~~ 2 2 Perform CHANNEL CALIBRATION.	~~18~~ months 2 1B
<4 3.3.2>	SR 3.3.8.1.~~4~~ 5 Perform LOGIC SYSTEM FUNCTIONAL TEST.	~~18~~ 24 months 2 1B
	SR 3.3.8.1.3 Perform CHANNEL FUNCTIONAL TEST.	24 months 3
	SR 3.3.8.1.4 Perform CHANNEL CALIBRATION.	24 months 1B

<CTS>
<T 3.3.3-1>
<T 3.3.3-2>
<T4.3.3.1-1>

Table 3.3.8.1-1 (page 1 of 1)
Loss of Power Instrumentation

FUNCTION [1]	REQUIRED CHANNELS PER DIVISION [2]	SURVEILLANCE REQUIREMENTS [2]	ALLOWABLE VALUE [2]
1. Divisions 1 and 2 – 4.16 kV Emergency Bus Undervoltage			
a. Loss of Voltage – 4.16 kV ~~Basis~~	~~[4]~~ 2	~~[SR 3.3.8.1.1]~~ SR 3.3.8.1.3 SR 3.3.8.1.4 SR 3.3.8.1.5	≥ ~~[2621]~~ 2422 V and ≤ ~~[2912]~~ 3091 V
b. Loss of Voltage – Time Delay	~~[4]~~ 2	SR 3.3.8.1.3 SR 3.3.8.1.4 SR 3.3.8.1.5	≥ ~~[0.4]~~ 3.1 seconds and ≤ ~~[1.0]~~ 10.9 seconds
c. Degraded Voltage – 4.16 kV ~~Basis~~	~~[4]~~ 2	~~[SR 3.3.8.1.1]~~ SR 3.3.8.1.1 SR 3.3.8.1.2 SR 3.3.8.1.5	≥ ~~[3746]~~ 3819 V and ≤ ~~[3837.6]~~ 3900 V
~~d.~~ e. Degraded Voltage – Time Delay, LOCA [2]	~~[4]~~ 2	SR 3.3.8.1.1 SR 3.3.8.1.2 SR 3.3.8.1.5	≥ ~~[6.5]~~ 9.4 seconds and ≤ ~~[7.5]~~ 10.9 seconds
2. Division 3 – 4.16 kV Emergency Bus Undervoltage			
a. Loss of Voltage – 4.16 kV ~~Basis~~	~~[4]~~ 2	~~[SR 3.3.8.1.1]~~ SR 3.3.8.1.3 SR 3.3.8.1.4 SR 3.3.8.1.5	≥ ~~[2984]~~ 2596 V and ≤ ~~[3106]~~ 3137 V
b. Loss of Voltage – Time Delay	~~[4]~~ 2	SR 3.3.8.1.3 SR 3.3.8.1.4 SR 3.3.8.1.5	~~≥ [2.01] seconds and~~ ≤ ~~[2.5]~~ 10.9 seconds
c. Degraded Voltage – 4.16 kV ~~Basis~~	~~[4]~~ 2	~~[SR 3.3.8.1.1]~~ SR 3.3.8.1.1 SR 3.3.8.1.2 SR 3.3.8.1.5	≥ ~~[3558.5]~~ 3814 V and ≤ ~~[3763.5]~~ 3900 V
d. Degraded Voltage – Time Delay, No LOCA	~~[4]~~ 2	SR 3.3.8.1.1 SR 3.3.8.1.2 SR 3.3.8.1.5	≥ ~~[4.5] minutes~~ 270.1 seconds and ≤ ~~[5.5] minutes~~ 329.9
e. Degraded Voltage – Time Delay, LOCA	~~[4]~~ 2	SR 3.3.8.1.1 SR 3.3.8.1.2 SR 3.3.8.1.5	≥ ~~[5.6]~~ 9.4 seconds and ≤ ~~[6.5]~~ 10.9 seconds
d. Degraded Voltage – Time Delay, No LOCA	2	SR 3.3.8.1.1 SR 3.3.8.1.2 SR 3.3.8.1.5	≥ 270.1 seconds and ≤ 329.9 seconds [2]

B

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1434, REVISION 1
ITS: 3.3.8.1 - LOP INSTRUMENTATION

1. The proper LaSalle 1 and 2 plant specific nomenclature/value/design requirements have been provided.

2. The brackets have been removed and the proper plant specific information/value has been provided or the requirement has been deleted. The following requirements have been renumbered to reflect the deletion, as applicable.

3. ITS SR 3.3.8.1.1 CHANNEL FUNCTIONAL TEST Frequency has been changed from 31 days to 18 months consistent with the current licensing basis for the degraded voltage Functions. In addition, a 24 month CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION Frequency have been added, consistent with and the 24 month surveillance interval extension justifications for the loss of voltage Functions. B

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
<4.8.3.4.b> SR 3.3.8.2.2	Perform CHANNEL CALIBRATION. The Allowable Values shall be: a. Overvoltage ≤ 131.4 V (with time delay set to ≤ 3.9 seconds) ~~Bus A ≤ [132.9] V~~ ~~Bus B ≤ [133.0] V~~ b. Undervoltage ≥ 108.7 V (with time delay set to ≤ 3.9 seconds) ~~Bus A ≥ [115.0] V~~ ~~Bus B ≥ [115.9] V~~ c. Underfrequency (with time delay set to ~~[zero]~~ ≤ 3.9 seconds) ≥ 57.3 Hz ~~Bus A ≥ [57] Hz~~ ~~Bus B ≥ [57] Hz~~	~~18~~ 24 months 4
<4.8.3.4.b> SR 3.3.8.2.3	Perform a system functional test.	~~18~~ 24 months 4

4 B B B

BASES (continued)

REFERENCES

3 U

1. FSAR, ~~Figure [ ]~~ Section 7.2 4
2. FSAR, Section ~~[~~5.2.2~~]~~. 4
3. FSAR, Section ~~[~~6.3.3~~]~~. 4
4. FSAR, Chapter ~~[~~15~~]~~. 4
5. FSAR, Section ~~[~~15.4.1~~]~~. 4
6. NEDO-23842, "Continuous Control Rod Withdrawal in the Startup Range," April 18, 1978.

7. UFSAR, Section 7.6.3.3. 3

8 ~~7~~. U FSAR, Section ~~[~~15.4.9~~]~~. 4 3

9 ~~8~~. Letter, P. Check (NRC) to G. Lainas (NRC), "BWR Scram Discharge System Safety Evaluation," December 1, 1980.

10 ~~9~~. NED~~O~~ C 3 30851-P-A, "Technical Specification Improvement Analyses for BWR Reactor Protection System," March 1988.

3

11. Technical Requirements Manual.
12. NEDO-32291-A, "System Analyses for the Elimination of Selected Response Time Testing Requirements," October 1995. 3

1B

BASES

REFERENCES (continued)

6. ~~NEDO-21231, "Banked Position Withdrawal Sequence," January 1977.~~ 2

7. NRC SER, "Acceptance of Referencing of Licensing Topical Report NEDE-24011-P-A," "General Electric Standard Application for Reactor Fuel, Revision 8, Amendment 17," December 27, 1987. Supplement 1, 2

2

8. 9. NEDC-30851-P-A, "Technical Specification Improvement Analysis for BWR Control Rod Block Instrumentation," October 1988. -A 2

9. 8. GENE-770-06-1, "Addendum to Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications," ~~February 1991~~. December 1992 2

B

Insert B 3.3.2.2 (BWR/4 ISTS B 3.3.2.2) 10

Insert Page B 3.3-52q

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

~~channels that must function in harsh environments as defined by 10 CFR 50.49) are accounted for.~~ 1

The specific Applicable Safety Analyses, LCO, and Applicability discussions are listed below on a Function by Function basis.

4.16 kV Emergency Bus Undervoltage

1.a, 1.b, 2.a, 2.b. 4.16 kV Emergency Bus Undervoltage (Loss of Voltage)

Loss of voltage on a 4.16 kV emergency bus indicates that offsite power may be completely lost to the respective emergency bus and is unable to supply sufficient power for proper operation of the applicable equipment. Therefore, the power supply to the bus is transferred from the 2 offsite power to DG power ~~when the voltage on the bus drops below the loss of Voltage Function Allowable Values (loss of voltage with a short time delay)~~ 1 with a short time delay. The transfer occurs prior to the bus voltage dropping below the minimum Loss of Voltage Function Allowable Value but after the voltage drops below the maximum Loss of Voltage Function Allowable Value (loss of voltage with a short time delay). The short time delay prevents inadvertent relay actuations due to momentary voltage dips. For Divisions 1 and 2, the time delay varies inversely with decreasing bus voltage. For Division 3, the time delay is a fixed value. The time delay values are bounded by the upper and lower Allowable Values, as applicable. 1 This ensures that adequate power will be available to the required equipment.

The Bus Undervoltage Allowable Values are low enough to prevent inadvertent power supply transfer, 1 since they are below the minimum expected voltage during normal and emergency operation but high enough to ensure power is available to the required equipment. The Time Delay Allowable Values are long enough to provide time for the offsite power supply to recover to normal voltages, but short enough to ensure that power is available to the required equipment.

1 ~~Four~~ Two channels of 1 each 4.16 kV Emergency Bus Undervoltage (Loss of Voltage) Function per associated emergency bus are ~~only~~ 1 required to be OPERABLE when the associated DG is required to be OPERABLE to ensure that no single instrument failure can preclude the DG function. ~~Four channels input to each of the three DGs.~~ 1 Refer to LCO 3.8.1, "AC Sources—Operating," and LCO 3.8.2, "AC Sources—Shutdown," for Applicability Bases for the DGs. 1

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1.c, 1.d, 4 (i.e. 2.c, ~~2.d, 2.e.~~ 4.16 kV Emergency Bus Undervoltage (Degraded Voltage)

A reduced voltage condition on a 4.16 kV emergency bus indicates that while offsite power may not be completely lost to the respective emergency bus, power may be

(continued)

For the Division 1 and 2 4.16 kV Emergency Buses, the Loss of Voltage Functions are 1) 4.16 kV Basis, and 2) Time Delay. For the Division 3 4.16 kV Emergency Bus, the Loss of Voltage Functions are: 1) 4.16kV Basis, and 2) Time Delay. 4

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BASES

1B

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

1.e, 4

1.c, 1.d, ~~2.c, 2.d, 2.e.~~ 4.16 kV Emergency Bus Undervoltage (Degraded Voltage) (continued)

insufficient for starting large motors without risking damage to the motors that could disable the ECCS function. Therefore, power supply to the bus is transferred from offsite power to onsite DG power when the voltage on the bus drops below the Degraded Voltage Function Allowable Values (degraded voltage with a time delay). This ensures that adequate power will be available to the required equipment.

The Bus Undervoltage Allowable Values are low enough to prevent inadvertent power supply transfer, but high enough to ensure that sufficient power is available to the required equipment. The Time Delay Allowable Values are long enough to provide time for the offsite power supply to recover to normal voltages, but short enough to ensure that sufficient power is available to the required equipment.

1 Two

4 The Degraded Voltage Functions are: 1) 4.16 kV Basis; 2) Time Delay, No LOCA, and 3) Time Delay, LOCA.

Four channels of each 1 4.16 kV Emergency Bus Undervoltage (Degraded Voltage) Function per associated emergency bus are ~~only~~ required to be OPERABLE when the associated DG is required to be OPERABLE to ensure that no single instrument failure can preclude the DG function. ~~Four channels input to each of the three DGs.~~ 1 Refer to LCO 3.8.1 and LCO 3.8.2 for Applicability Bases for the DGs. 1

ACTIONS

A Note has been provided to modify the ACTIONS related to LOP instrumentation channels. Section 1.3, Completion Times, specifies that once a Condition has been entered, subsequent divisions, subsystems, components, or variables expressed in the Condition discovered to be inoperable or not within limits will not result in separate entry into the Condition. Section 1.3 also specifies that Required Actions of the Condition continue to apply for each additional failure, with Completion Times based on initial entry into the Condition. However, the Required Actions for inoperable LOP instrumentation channels provide appropriate compensatory measures for separate inoperable channels. As such, a Note has been provided that allows separate Condition entry for each inoperable LOP instrumentation channel.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

or expiration of the 2 hour allowance, the channel must be returned to OPERABLE status or the applicable Condition entered and Required Actions taken.

~~SR 3.3.8.1.1~~

~~Performance of the CHANNEL CHECK once every 12 hours ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the instrument channels could be an indication of excessive instrument drift in one of the channels or something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION.~~

~~Agreement criteria are determined by the plant staff based on a combination of the channel instrument uncertainties, including indication and readability. If a channel is outside the criteria, it may be an indication that the instrument has drifted outside its limit.~~

~~The Frequency is based on operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the required channels of the LCO.~~

4

SR 3.3.8.1.2 1 4 and SR 3.3.8.1.3

B

2

A CHANNEL FUNCTIONAL TEST is performed on each required channel to ensure that the ~~entire~~ channel will perform the intended function. Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.

4 ies 18 months and 24 months are

The Frequency of ~~31 days is~~ based on plant operating experience with regard to channel OPERABILITY and drift that demonstrates that failure of more than one channel of a given Function in any ~~31 day~~ interval is rare. 4

18 month or 24 month, as applicable.

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(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.8.1.3 2 4 and SR 3.3.8.1.4 B

A CHANNEL CALIBRATION is a complete check of the instrument loop and the sensor. This test verifies the channel responds to the measured parameter within the necessary range and accuracy. CHANNEL CALIBRATION leaves the channel adjusted to account for instrument drifts between successive calibrations consistent with the plant specific setpoint methodology.

2 ~~Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.~~

The Frequency is based on the assumption of an 18 month or 24 month calibration interval, as applicable, in the determination of the magnitude of equipment drift in the setpoint analysis. B

SR 3.3.8.1.4 5 4 B

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required actuation logic for a specific channel. The system functional testing performed in LCO 3.8.1 and LCO 3.8.2 overlaps this Surveillance to provide complete testing of the assumed safety functions.

4 24 The ~~18~~ 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 these components usually pass the Surveillance when performed at the ~~18~~ 24 4 month Frequency.

REFERENCES 1 U

1. U FSAR, ~~Figure [ ]~~. 8.2.3.3 5
2. U FSAR, Section [5.2]. .2 5
3. U FSAR, Section [6.3].
4. U FSAR, Chapter [15]. 5

3.6 CONTAINMENT SYSTEMS

3.6.1.3 Primary Containment Isolation Valves (PCIVs)

LCO 3.6.1.3 Each PCIV shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
When associated instrumentation is required to be OPERABLE per LCO 3.3.6.1, "Primary Containment Isolation Instrumentation."

ACTIONS

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

1. Penetration flow paths may be unisolated intermittently under administrative controls.

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

3. Enter applicable Conditions and Required Actions for systems made inoperable by PCIVs.

4. Enter applicable Conditions and Required Actions of LCO 3.6.1.1, "Primary Containment," when PCIV leakage results in exceeding overall containment leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. ---------NOTE--------- Only applicable to penetration flow paths with two or more PCIVs. --------------------- One or more penetration flow paths with one PCIV inoperable for reasons other than Condition D.	A.1	Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.	4 hours except for main steam line <u>AND</u> 8 hours for main steam line
	<u>AND</u>		
			(continued)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
B. ---------NOTE--------- Only applicable to penetration flow paths with two or more PCIVs. --------------------- One or more penetration flow paths with two or more PCIVs inoperable for reasons other than Condition D.	B.1	Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	1 hour
C. ---------NOTE--------- Only applicable to penetration flow paths with only one PCIV. --------------------- One or more penetration flow paths with one PCIV inoperable for reasons other than Condition D.	C.1	Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	4 hours except for excess flow check valves (EFCVs) and penetrations with a closed system AND 72 hours for EFCVs and penetrations with a closed system
	AND		
			(continued)

SURVEILLANCE REQUIREMENTS

SR 3.6.1.1.1

Maintaining the primary containment OPERABLE requires compliance with the visual examinations and leakage rate test requirements of the Primary Containment Leakage Rate Testing Program. Failure to meet air lock leakage testing limit (SR 3.6.1.2.1), or main steam isolation valve leakage limit (SR 3.6.1.3.10) does not necessarily result in a failure of this SR. The impact of the failure to meet these SRs must be evaluated against the Type A, B, and C acceptance criteria of the Primary Containment Leakage Rate Testing Program.

As left leakage prior to the first startup after performing a required Primary Containment Leakage Rate Testing Program leakage test is required to be < 0.6 L_a for combined Type B and C leakage, and $\leq$ 0.75 L_a for overall Type A leakage. At all other times between required leakage rate tests, the acceptance criteria is based on an overall Type A leakage limit of $\leq$ 1.0 L_a. At $\leq$ 1.0 L_a the offsite dose consequences are bounded by the assumptions of the safety analysis. The Frequency is required by the Primary Containment Leakage Rate Testing Program.

SR 3.6.1.1.2

The structural integrity of the primary containment is ensured by the successful completion of the Inservice Inspection Program for Post Tensioning Tendons and by associated visual inspections of the steel liner and penetrations for evidence of deterioration or breach of integrity. This ensures that the structural integrity of the primary containment will be maintained in accordance with the provisions of the Inservice Inspection Program for Post Tensioning Tendons. Testing and Frequency are consistent with the recommendations of Regulatory Guide 1.35 (Ref. 5), except that the Unit 1 and 2 primary containments shall be treated as twin containments even though the Initial Structural Integrity tests were not within two years of each other.

(continued)

BASES (continued)

ACTIONS

The ACTIONS are modified by a Note allowing penetration flow path(s) to be unisolated intermittently under administrative controls. These controls consist of stationing a dedicated operator at the controls of the valve, who is in continuous communication with the control room. In this way, the penetration can be rapidly isolated when a need for primary containment isolation is indicated.

A second Note has been added to provide clarification that, for the purpose of this LCO, separate Condition entry is allowed for each penetration flow path. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable PCIV. Complying with the Required Actions may allow for continued operation, and subsequent inoperable PCIVs are governed by subsequent Condition entry and application of associated Required Actions.

The ACTIONS are modified by Notes 3 and 4. Note 3 ensures appropriate remedial actions are taken, if necessary, if the affected system(s) are rendered inoperable by an inoperable PCIV (e.g., an Emergency Core Cooling System subsystem is inoperable due to a failed open test return valve). Note 4 ensures appropriate remedial actions are taken when the primary containment leakage limits are exceeded. Pursuant to LCO 3.0.6, these ACTIONS are not required even when the associated LCO is not met. Therefore, Notes 3 and 4 are added to require the proper actions be taken.

A.1 and A.2

With one or more penetration flow paths with one PCIV inoperable, except for MSIV leakage rate or hydrostatically tested line leakage rate 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 automatic valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. For penetrations isolated in accordance with Required Action A.1, the device used to isolate the | 8

(continued)

BASES

ACTIONS

A.1 and A.2 (continued)

Required Action A.2 is modified by two Notes. Note 1 applies to isolation devices located in high radiation areas and allows them to be verified 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, once they have been verified to be in the proper position, is low.

B.1

With one or more penetration flow paths with two or more PCIVs inoperable, except for MSIV leakage rate or hydrostatically tested line leakage rate not within limit, either the inoperable PCIVs must be restored to OPERABLE status or 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 automatic valve, a closed manual valve, and a blind flange. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.1.1.

Condition B is modified by a Note indicating this Condition is only applicable to penetration flow paths with two or more PCIVs. For penetration flow paths with one PCIV, Condition C provides the appropriate Required Actions.

(continued)

BASES

ACTIONS (continued)

C.1 and C.2

When one or more penetration flow paths with one PCIV inoperable, except for MSIV leakage rate or hydrostatically tested line leakage rate not within limit, the inoperable valve must be restored to OPERABLE status or 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 automatic valve, a closed manual valve, and a blind flange. A check valve may not be used to isolate the affected penetration. The Completion Time of 4 hours for valves other than EFCVs and in penetrations with a closed system is reasonable considering the time required to isolate the penetration and the relative importance of supporting primary containment OPERABILITY during MODES 1, 2, and 3. The Completion Time of 72 hours for penetrations with a closed system is reasonable considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of supporting primary containment OPERABILITY during MODES 1, 2, and 3. The closed system must meet the requirements of Reference 5. The Completion Time of 72 hours for EFCVs is also reasonable considering the instrument and the small pipe diameter of penetration (hence, reliability) to act as a penetration isolation boundary and the small pipe diameter of the affected penetration. In the event the affected penetration is isolated in accordance with Required Action C.1, the affected penetration flow path must be verified to be isolated on a periodic basis. This is necessary to ensure that primary containment penetrations required to be isolated following an accident are isolated. This Required Action does not require any testing or valve manipulation. Rather, it involves verification that these devices outside containment and capable of potentially being mispositioned are in the correct position. The Completion Time of "once per 31 days" is appropriate because the devices are operated under administrative controls and the probability of their misalignment is low.

(continued)

ACTIONS

D.1 (continued)

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 for hydrostatically tested line leakage not on a closed system is reasonable considering the time required to restore leakage by isolating the penetration and the relative importance of the hydrostatically tested line leakage to the overall containment function. The Completion Time of 8 hours for MSIV leakage allows a period of time to restore the MSIV leakage rate to within limit given the fact that MSIV closure will result in isolation of the main steam line(s) and a potential for plant shutdown. The 72 hour Completion Time for hydrostatically tested line leakage on a closed system is acceptable based on the available water seal expected to remain as a gaseous fission product boundary during the accident, and, in many cases, the associated closed system. The closed system must meet the requirements of Reference 5.

E.1, and E.2

If any Required Action and associated Completion Time cannot be met in MODE 1, 2, or 3, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

F.1 and F.2

If any Required Action and associated Completion Time cannot be met for PCIV(s) required OPERABLE in MODE 4 or 5, the plant must be placed in a condition in which the LCO does not apply. Action must be immediately initiated to suspend operations with a potential for draining the reactor vessel (OPDRVs) to minimize the probability of a vessel draindown

(continued)

TECHNICAL CHANGES - LESS RESTRICTIVE

L.4 (cont'd) of high radiation and inerting removes a risk to personnel safety. Also, not requiring access to areas of high radiation to verify proper containment air lock door alignment reduces exposure to plant personnel and is consistent with the As-Low-As-Reasonably-Achievable (ALARA) concept.

L.5 Currently, if the interlock mechanism is inoperable, CTS 3.6.1.3 Action b requires it to be restored in 24 hours or a shutdown is required. ITS 3.6.1.2 ACTION B is added to specifically address the inoperable air lock interlock mechanism. Provided one OPERABLE air lock door in the air lock can be maintained closed, the assumptions of the accident analysis are maintained and operation should be allowed to continue. This closed OPERABLE door is also required to be locked to assure it remains closed. In the event containment access is desired, it is proposed containment access be allowed under strict administrative control (ITS 3.6.1.2 Required Action B Note 2). To provide a level of assurance equivalent to the mechanical interlock that at least one operable door will remain closed at all times during entry and exit, the proposed change requires an individual dedicated to assure that two doors are not open simultaneously and one door is re-locked prior to leaving. In addition, due to this new ACTION, CTS 3.6.1.3 Action b has been modified to also not be applicable if the air lock is inoperable as a result of an inoperable interlock mechanism.

L.6 The Frequency for the air lock interlock test, CTS 4.6.1.3.b and footnote ** is proposed to be changed from once per 6 months only upon entry into the primary containment air lock when primary containment is de-inerted, to 24 months in proposed SR 3.6.1.2.2. Typically, the interlock is installed after each refueling outage, verified OPERABLE with the Surveillance, and not disturbed until the next refueling outage. If the need for maintenance arises when the interlock is required, the performance of the interlock Surveillance would be required following the maintenance. In addition, when an air lock is opened during times the interlock is required, the operator first verifies that one door is completely shut before attempting to open the other door. Therefore, the interlock is not challenged except during actual testing of the interlock. Consequently, it should be sufficient to ensure proper operation of the interlock by testing the interlock on a 24 month interval.

Testing of the air lock interlock mechanism is accomplished through having one door not completely engaged in the closed position, while attempting to open the second door. Failure of this Surveillance effectively results in a loss of primary containment OPERABILITY. Administrative controls and training do not allow this interlock to be challenged for normal ingress and egress. One door is opened, all personnel and equipment as necessary are placed into the air lock,

A.1

ITS 3.6.1.3

CONTAINMENT SYSTEMS

DRYWELL AND SUPPRESSION CHAMBER PURGE SYSTEM

LIMITING CONDITION FOR OPERATION

A.7

LCO 3.6.1.3 3.6.1.8 The drywell and suppression chamber purge system may be in operation with the drywell or suppression chamber purge supply and exhaust butterfly isolation valves open for inerting, de-inerting and pressure control. Purging through the Standby Gas Treatment System shall be restricted to less than or equal to 90 hours per 365 days. L.12

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 AND 3 L.5

add proposed ACTIONS Note 1 A.2

ACTION: add proposed ACTIONS Note 2

1B

ACTIONS A and B: With any drywell or suppression chamber purge supply or exhaust butterfly isolation valve open for other than inerting, de-inerting or pressure control, close the butterfly valve(s) within one hour L.1

Action E: or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

~~4.6.1.8.1 The cumulative time that the drywell and suppression chamber purge system has been in operation purging through the Standby Gas Treatment System shall be verified to be less than or equal to 90 hours per 365 days prior to use in this mode of operation.~~ L.12

add proposed SR 3.6.1.3.1 M.3

A.1

ITS 3.6.1.3

CONTAINMENT SYSTEMS

DRYWELL AND SUPPRESSION CHAMBER PURGE SYSTEM

LIMITING CONDITION FOR OPERATION

A.7

LCO 3.6.1.3 3.6.1.8 The drywell and suppression chamber purge system may be in operation with the drywell or suppression chamber purge supply and exhaust butterfly isolation valves open for inerting, deinerting, and pressure control. Purging through the Standby Gas Treatment System shall be restricted to less than or equal to 90 hours per 365 days. L.12

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION: add proposed ACTIONS Note 1 L.5

add proposed ACTIONS Note 2 A.2

ACTIONS A and B With any drywell or suppression chamber purge supply or exhaust butterfly isolation valve open for other than inerting, deinerting, or pressure control, close the butterfly valve(s) within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. L.1 B

ACTION E

SURVEILLANCE REQUIREMENTS

4.6.1.8.1 The cumulative time that the drywell and suppression chamber purge system has been in operation purging through the Standby Gas Treatment System shall be verified to be less than or equal to 90 hours per 365 days prior to use in this mode of operation. L.12

add proposed SR 3.6.1.3.1 M.3

A.1

ITS 3.6.3.1

CONTAINMENT SYSTEMS

3/4.6.6 PRIMARY CONTAINMENT ATMOSPHERE CONTROL

DRYWELL AND SUPPRESSION CHAMBER HYDROGEN RECOMBINER SYSTEMS

LIMITING CONDITION FOR OPERATION

LCO 3.6.3.1 LA.1

3.6.6.1 Two independent drywell and suppression chamber hydrogen recombiner systems shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION: Add proposed Note to Action A L.1

Action A With one drywell and/or suppression chamber hydrogen recombiner system inoperable, restore the inoperable system to OPERABLE status within 30 days ~~or~~

Action C be in at least HOT SHUTDOWN within the next 12 hours.

add proposed Action B L.2

SURVEILLANCE REQUIREMENTS

4.6.6.1 Each drywell and suppression chamber hydrogen recombiner system shall be demonstrated OPERABLE:

a. ~~At least once per 92 days by cycling each flow control valve and recirculation valve through at least one complete cycle of full travel.~~ LA.3 B

LD.1

SR 3.6.3.1.1 b. At least once per ~~18~~ 24 months by verifying, during a recombiner system functional test:

1. ~~That the heaters are OPERABLE by determining that the current in each phase differs by less than or equal to 5% from the other phases and is within 5% of the value observed in the original acceptance test, corrected for line voltage differences.~~ LA.2

2. ~~That the reaction chamber gas temperature increases to 1200 ± 25°F within 2 hours.~~

c. At least once per ~~18~~ 24 months by: LD.1

1. ~~Performing a CHANNEL CALIBRATION of all recombiner operating instrumentation and control circuits.~~ L.4

SR 3.6.3.1.2 2. Verifying the integrity of all heater electrical circuits by performing a resistance to ground test ~~within 30 minutes following the above required functional test. The resistance to ground for any heater phase shall be greater than or equal to 100,000 ohms.~~ LA.2

A.1

ITS 3.6.3.1

CONTAINMENT SYSTEMS

3/4.6.6 PRIMARY CONTAINMENT ATMOSPHERE CONTROL

DRYWELL AND SUPPRESSION CHAMBER HYDROGEN RECOMBINER SYSTEMS

LIMITING CONDITION FOR OPERATION

LCO 3.6.3.1 3.6.6.1 Two independent drywell and suppression chamber hydrogen recombiner systems shall be OPERABLE. LA.1

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION: add proposed Note to ACTION A L.1

Action A With one drywell and/or suppression chamber hydrogen recombiner system inoperable, restore the inoperable system to OPERABLE status within 30 days or

Action C be in at least HOT SHUTDOWN within the next 12 hours.

add proposed ACTION B L.2

SURVEILLANCE REQUIREMENTS

4.6.6.1 Each drywell and suppression chamber hydrogen recombiner system shall be demonstrated OPERABLE:

a. ~~At least once per 92 days by cycling each flow control valve and recirculation valve through at least one complete cycle of full travel.~~ LA.3 B

SR 3.6.3.1.1 b. At least once per ~~18~~ 24 months by verifying, during a recombiner system functional test: LD.1

1. ~~That the heaters are OPERABLE by determining that the current in each phase differs by less than or equal to 5% from the other phases and is within 5% of the value observed in the original acceptance test, corrected for line voltage differences.~~

2. ~~That the reaction chamber gas temperature increases to 1200 ± 25°F within 2 hours.~~ LA.2

c. At least once per ~~18~~ 24 months by: LD.1

1. ~~Performing a CHANNEL CALIBRATION of all recombiner operating instrumentation and control circuits.~~ L.4

SR 3.6.3.1.2 2. Verifying the integrity of all heater electrical circuits by performing a resistance to ground test ~~within 30 minutes following the above required functional test. The resistance to ground for any heater phase shall be greater than or equal to 100,000 ohms.~~ LA.2

DISCUSSION OF CHANGES
ITS: 3.6.3.1 - PRIMARY CONTAINMENT HYDROGEN RECOMBINERS

ADMINISTRATIVE

A.1 In the conversion of the LaSalle 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the BWR Standard Technical Specifications, NUREG-1434, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

TECHNICAL CHANGES - MORE RESTRICTIVE

None

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The detail in CTS LCO 3.6.6.1 relating to system design (i.e., that the recombiners are "independent") is proposed to be relocated to the Bases. This is a design detail that is not necessary to be included in the Technical Specifications to ensure OPERABILITY of the hydrogen recombiners, since OPERABILITY requirements are adequately addressed in ITS 3.6.3.1. Therefore, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.2 Details of the methods for performing CTS 4.6.6.1.b and CTS 4.6.6.1.c.2 are proposed to be relocated to the Bases. These details are not necessary to ensure the OPERABILITY of the primary containment hydrogen recombiners. The requirements of ITS 3.6.3.1, SR 3.6.3.1.1, and SR 3.6.3.1.2 are adequate to ensure the primary containment hydrogen recombiners are maintained OPERABLE. Therefore, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.3 The CTS requires two functional tests of the hydrogen recombiners. One test, CTS 4.6.6.1.b, is conducted every 18 months and is a complete check of the recombiners, while the second test, CTS 4.6.6.1.a, is conducted every 92 days and only checks the flow control and recirculation valves of the recombiners. The second test is proposed to be relocated to the IST program. The IST Program, required by 10 CFR 50.55a, provides requirements for testing all

TECHNICAL CHANGES - LESS RESTRICTIVE

LA.3 (cont'd) ASME Code Class 1, 2, and 3 valves in accordance with applicable codes, standards, and relief requests, endorsed by the NRC for LaSalle 1 and 2. Compliance with 10 CFR 50.55a, and as a result the IST Program and implementing procedures, is required by the LaSalle 1 and 2 Operating Licenses. These controls are adequate to ensure the required testing to demonstrate OPERABILITY is performed. Therefore, the relocated requirement is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the relocated requirement in the IST Program will be controlled by the provisions of 10 CFR 50.59 and 10 CFR 50.55a. 3

LD.1 The Frequency for performing CTS 4.6.6.1.b and 4.6.6.1.c.2 has been extended from 18 months to 24 months in proposed SRs 3.6.3.1.1 and 3.6.3.1.2 to facilitate a change to the LaSalle 1 and 2 refuel cycle from 18 months to 24 months. The proposed change will allow this Surveillance to extend the Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.2 and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.2 and proposed Specification 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991.

SR 3.6.3.1.1 performs a system functional test for each primary containment hydrogen recombiner. The purpose of this test is to verify the ability of the recombiner system to actuate and prevent the hydrogen-oxygen level within the primary containment from reaching the flammability limit. SR 3.6.3.1.2 performs a resistance to ground test for each heater phase to ensure that there are not detectable grounds in any heater phase. This is accomplished by verifying that the resistance to ground for any heater phase is greater than the required resistance value when this SR is performed following the performance of the functional test. Extending the surveillance interval for these verifications of recombiner operability is acceptable because the increased surveillance interval is mitigated by the redundancy of the recombiner system and the availability of alternate hydrogen control systems. The Backup Hydrogen Purge System also functions in conjunction with the hydrogen recombiner and can filter purged air from the primary containment, post-LOCA, after the containment pressure has dropped below a predetermined value.

Reviews of historical maintenance and surveillance data have shown that these tests normally pass their Surveillances at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. In addition,

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd) the proposed 24 month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

"Specific"

L.1 A statement that LCO 3.0.4 is not applicable for the condition of one hydrogen recombiner inoperable has been added as a Note to ITS 3.6.3.1 ACTION A. An OPERABLE recombiner remains available in this condition, and another hydrogen control method is available to back up the remaining recombiner. In addition, the hydrogen recombiners do not impact normal operation of the plant in any way, and hence, would not provide any additional initiators for plant transients during startup or MODE changes. Since 1) probabilities have determined a 30 day allowed out of service time for one recombiner is acceptable; 2) a redundant recombiner is still OPERABLE; 3) the backup hydrogen control method exists to perform the function; and 4) there is no impact on normal plant operations from the unavailability of the recombiner, the LCO 3.0.4 exception is considered to provide no significant impact on safety and is acceptable.

L.2 Currently, if both hydrogen recombiners are inoperable, LCO 3.0.3 would be required to be entered, since CTS 3.6.6.1 provides no actions for this condition. An additional ACTION is proposed in ITS 3.6.3.1 (ACTION B) for the condition of both containment hydrogen recombiners inoperable. The Primary Containment Vent and Purge System can also control hydrogen in a post-LOCA environment. However, redundancy for the hydrogen control function would be reduced. Therefore, a period of 7 days is proposed to restore at least one of the recombiners to OPERABLE status before requiring a shutdown provided the hydrogen control function is maintained. This new ACTION would possibly prevent an unnecessary shutdown and the increased potential for transients associated with each shutdown.

L.3 Not used.

L.4 The CHANNEL CALIBRATION surveillance of CTS 4.6.6.1.c.1 is deleted. The BWR ISTS, NUREG-1434, does not specify indication-only equipment to be OPERABLE to support OPERABILITY of a system or component. Control of the availability of, and necessary compensatory activities if not available, for indication instruments, monitoring instruments, and alarms are addressed by plant operational procedures and policies. In addition, the system functional test required by proposed SR 3.6.3.1.1 will ensure that necessary controls will function properly. If not, then the functional test of SR 3.6.3.1.1 would not be satisfactory, and the associated recombiner would be declared inoperable.

RELOCATED SPECIFICATIONS

None

A.1

ITS 3.6.4.2

CONTAINMENT SYSTEMS

3/4.6.5 SECONDARY CONTAINMENT

SECONDARY CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.5.1 SECONDARY CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, and *.

ACTION:

Without SECONDARY CONTAINMENT INTEGRITY:

a. In OPERATIONAL CONDITION 1, 2 or 3, restore SECONDARY CONTAINMENT INTEGRITY within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. In Operational Condition *, suspend handling of irradiated fuel in the secondary containment, CORE ALTERATIONS and operations with a potential for draining the reactor vessel. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.5.1 SECONDARY CONTAINMENT INTEGRITY shall be demonstrated by:

a. Verifying at least once per 24 hours that the pressure within the secondary containment is less than or equal to 0.25 inches of vacuum water gauge.#

See ITS 3.6.4.1

B

b. Verifying at least once per 31 days that: add Required Action A.1 L.2

Required Action A.2 and SR 3.6.4.2.1

1. At least one door in each access to the secondary containment is closed.

add proposed Required Action A.2 Note and SR 3.6.4.2.1 Note 1

L.6

SR 3.6.4.2.1

2. All secondary containment penetrations not capable of being closed by OPERABLE secondary containment automatic isolation dampers and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic dampers secured in position.

Required Action A.2

add proposed SR 3.6.4.2.1 Note 2

L.1

not locked, sealed, or otherwise secured

L.7

c. At least once per 18 months:

1. Verifying that one standby gas treatment subsystem will draw down the secondary containment to greater than or equal to 0.25 in. of vacuum water gauge in less than or equal to 300 seconds, and

2. Operating one standby gas treatment subsystem for one hour and maintaining greater than or equal to 0.25 inches of vacuum water gauge in the secondary containment at a flow rate not exceeding 4000 CFM ± 10%.

*When irradiated fuel is being handled in the secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

#SECONDARY CONTAINMENT INTEGRITY is maintained when secondary containment vacuum is less than required for up to 1 hour solely due to Reactor Building ventilation system failure.

See ITS 3.6.4.1

A.1

ITS 3.6.4.2

CONTAINMENT SYSTEMS

3/4.6.5 SECONDARY CONTAINMENT

SECONDARY CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.5.1 SECONDARY CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3, and *.

ACTION:

Without SECONDARY CONTAINMENT INTEGRITY:

a. In OPERATIONAL CONDITION 1, 2, or 3, restore SECONDARY CONTAINMENT INTEGRITY within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. In OPERATIONAL CONDITION *, suspend handling of irradiated fuel in the secondary containment, CORE ALTERATIONS and operations with a potential for draining the reactor vessel. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.5.1 SECONDARY CONTAINMENT INTEGRITY shall be demonstrated by:

a. Verifying at least once per 24 hours that the pressure within the secondary containment is less than or equal to 0.25 inch of vacuum water gauge.#

See ITS 3.6.4.1

B

Required Action A.2 and SR 3.6.4.2.1

b. Verifying at least once per 31 days that: add Required Action A.1 L.2

1. At least one door in each access to the secondary containment is closed.

L.6

add proposed Required Action A.2 Note and SR 3.6.4.2.1 Note 1

SR 3.6.4.2.1

Required Action A.2

2. All secondary containment penetrations not capable of being closed by OPERABLE secondary containment automatic isolation dampers and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic dampers secured in position.

add proposed SR 3.6.4.2.1 Note 2

L.1

not locked, sealed, or otherwise secured

L.7

c. At least once per 18 months:

1. Verifying that one standby gas treatment subsystem will draw down the secondary containment to greater than or equal to 0.25 inch of vacuum water gauge in less than or equal to 300 seconds, and

2. Operating one standby gas treatment subsystem for one hour and maintaining greater than or equal to 0.25 inch of vacuum water gauge in the secondary containment at a flow rate not exceeding 4000 cfm ± 10%.

*When irradiated fuel is being handled in the secondary containment and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

#SECONDARY CONTAINMENT INTEGRITY is maintained when secondary containment vacuum is less than required for up to 1 hour solely due to Reactor Building ventilation system failure.

See ITS 3.6.4.1

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

"Specific"

L.1 An allowance is proposed for intermittently opening closed secondary containment isolation valves under administrative control as is allowed in the existing primary containment Technical Specifications (CTS 3.6.3) and in ITS 3.6.1.3. The administrative controls consist of stationing a dedicated operator, who is in continuous communication with the control room, at the controls of the isolation device. The allowance is presented in ITS 3.6.4.2 ACTIONS Note 1 and SR 3.6.4.2.1 Note 2. Opening of secondary containment penetrations on a intermittent basis is required for many of the same reasons as primary containment penetrations and the potential impact on consequences is less significant. The proposed allowance is acceptable due to the low probability of an event that would release radioactivity in the secondary containment during the short time in which the SCIV is open and the administrative controls established to ensure the affected penetration can be isolated when a need for secondary containment isolation is indicated.

L.2 In the event both dampers in a penetration are inoperable in an open penetration, the CTS 3.6.5.2 Action, which requires maintaining one isolation damper OPERABLE, would not be met and an immediate shutdown would be required. ITS 3.6.4.2 ACTION B provides 4 hours prior to commencing a required shutdown. This proposed 4 hour period is consistent with the existing time allowed for conditions when the secondary containment is inoperable. In the event a valve or blind flange is inoperable in a single valve/blind flange penetration, CTS 4.6.5.1.b.2 would not be met, requiring CTS 3.6.5.1 Action a or b to be entered, as appropriate. CTS 3.6.5.1 Action a requires the valve/blind flange to be restored within 4 hours or to shutdown the unit, and CTS 3.6.5.1 Action b requires immediate suspension of various shutdown evolutions. ITS 3.6.4.2 Required Action A.1 provides 8 hours to commence the unit shutdown or suspend various shutdown evolutions. The proposed changes will provide consistency in ACTIONS for these various secondary containment degradations. These changes to CTS 3.6.5.2 are acceptable due to the low probability of an event requiring the secondary containment during the short time in which continued operation is allowed and the capability to isolate a secondary containment penetration is lost. In addition, the penetrations affected by the proposed 8 hour time period are of a small diameter, thus their impact on the secondary containment is not as great as the automatic isolation dampers.

L.3 CTS 4.6.5.2.a is proposed to be deleted. Any time the OPERABILITY of a system or component has been affected by repair, maintenance, or replacement of a component, post maintenance testing is required to demonstrate OPERABILITY of the system or component. After restoration of a component

TECHNICAL CHANGES - LESS RESTRICTIVE

L.3 (cont'd) that caused a required SR to be failed, ITS SR 3.0.1 requires the appropriate SRs (in this case SR 3.6.4.2.2) to be performed to demonstrate the OPERABILITY of the affected components. Therefore, explicit post maintenance Surveillance Requirements in CTS 4.6.5.2 are not required and have been deleted from the Technical Specifications.

L.4 The requirement to perform CTS 4.6.5.2.b during COLD SHUTDOWN or REFUELING has not been included in proposed SR 3.6.4.2.3. The proposed Surveillance (for a functional test of each secondary containment isolation valve) does not include the restriction on plant conditions. All isolation valves can be adequately tested in other than Cold Shutdown or Refueling, without jeopardizing safe plant operations. The control of the plant conditions appropriate to perform the test is an issue for procedures and scheduling, and has been determined by the NRC Staff to be unnecessary as a Technical Specification restriction. As indicated in Generic Letter 91-04, allowing this control is consistent with the vast majority of other Technical Specification Surveillances that do not dictate plant conditions for the Surveillance.

L.5 The phrase "actual or," in reference to the isolation test signal in CTS 4.6.5.2.b, has been added to proposed SR 3.6.4.2.3, which verifies that each SCIV actuates on an automatic isolation signal. This allows satisfactory automatic SCIV isolations for other than Surveillance purposes to be used to fulfill the Surveillance Requirement. Operability is adequately demonstrated in either case since the SCIV itself cannot discriminate between "actual" or "test" signals.

L.6 CTS 4.6.5.1.b.2 requires verification that certain secondary containment penetrations are isolated. An allowance is proposed to allow the verification of the isolation devices used to isolate the penetrations in high radiation areas to be verified by use of administrative controls. The allowance is presented in ITS 3.6.4.2 Required Action A.2 Note and SR 3.6.4.2.1 Note 1. This is acceptable since the isolation devices are initially verified to be in the proper position and access to them is restricted during operation due to the high levels of radiation in the area. Therefore, the probability of misalignment of the isolation devices is acceptably small. If for some reason these devices are opened (e.g., maintenance), the associated procedure or work package would require their closure after work is completed. The Required Action or Surveillance may be performed by reviewing that no work was performed in the associated radiation area since the isolation device was closed or if work was performed in that area that the closure was verified upon completion of the work if the valve was opened.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

L.7 The requirements of CTS 4.6.5.1.b.2, related to verification of the position of secondary containment isolation penetrations not capable of being closed by OPERABLE secondary containment isolation valves (SCIVs), are revised in proposed SR 3.6.4.2.1 and ITS 3.6.4.2 Required Action A.2 (Note 2) to exclude verification of manual valves and blind flanges that are locked, sealed, or otherwise secured in the correct position. The purpose of CTS 4.6.5.1.b.2 is to ensure that manual secondary containment isolation devices that may be misaligned are in the correct position to help ensure that post accident leakage of radioactive fluids or gases outside the secondary containment boundary is within design and analysis limits. For manual valves or blind flanges that are locked, sealed or otherwise secured in the correct position, the potential of these devices to be inadvertently misaligned is low. In addition, manual valves and blind flanges that are locked, sealed or otherwise secured in the correct position are verified to be in the correct position prior to locking, sealing, or securing. As a result of this control of the position of these manual secondary containment isolation devices, the periodic Surveillance of these devices in CTS 4.6.5.1.b.2 is not required to help ensure that post accident leakage of radioactive fluids or gases outside the secondary containment boundary is maintained within design and analysis limits. This change also provides the benefit of reduced radiation exposure to plant personnel through the elimination of the requirement to check the position of manual values and blind flanges, located in radiation areas, that are locked, sealed or otherwise secured in the correct position.

RELOCATED SPECIFICATIONS

None

DISCUSSION OF CHANGES
ITS: 3.6.4.3 - STANDBY GAS TREATMENT (SGT) SYSTEM

ADMINISTRATIVE

A.1 In the conversion of the LaSalle 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the BWR Standard Technical Specifications, NUREG-1434, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

A.2 CTS 3.6.5.3 footnote # allows an SGT subsystem to be considered OPERABLE when one of its two power sources is inoperable. This allowance is not needed since it is now covered by the definition of OPERABLE — OPERABILITY in ITS Chapter 1.0. Therefore, its definition is considered administrative.

A.3 A new ACTION, ITS 3.6.4.3 ACTION D, is added that directs entry into LCO 3.0.3 if both SGT subsystems are inoperable in MODE 1, 2, or 3. This avoids confusion as to the proper ACTION if in MODE 1, 2, or 3 and simultaneously in a special condition, such as handling irradiated fuel assemblies in the secondary containment. Since this ACTION results in the same ACTION as the current Technical Specifications, this change is administrative.

A.4 The terminology in CTS 4.6.5.3.a associated with the heater status has been revised from "OPERABLE" to "operating" in proposed SR 3.6.4.3.1. It is necessary for the heaters to actually operate to reduce moisture from the adsorbers and HEPA filters. No change in actual operating practice is intended. Therefore, this change is administrative. B

A.5 CTS 4.6.5.3.d.2, which verifies each SGT subsystem starts on the appropriate automatic initiation signals, is being divided into two Surveillances. The majority of the instrumentation testing will be performed in SR 3.3.6.2.4 of ITS 3.3.6.2. The actual system functional test portion, which will ensure the SGT System starts on an initiation signal, will be performed as SR 3.6.4.3.3. This ensures the entire system is tested with proper overlap. Since the ITS results in the same CTS requirements for testing, this change is considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

None

<CTS>

3.6 CONTAINMENT SYSTEMS

3.6.1.3 Primary Containment Isolation Valves (PCIVs)

<LCO 3.6.3>
<LCO 3.4.7>
<LCO 3.6.1.8>

LCO 3.6.1.3 Each PCIV shall be OPERABLE.

<Appl 3.6.3>
<Appl 3.4.7>
<Appl 3.6.1.8>

APPLICABILITY: MODES 1, 2, and 3,
When associated instrumentation is required to be OPERABLE per LCO 3.3.6.1, "Primary Containment Isolation Instrumentation."

ACTIONS

NOTES

<3.6.3 Act fnote *>

1. Penetration flow paths ~~[except for [ ] inch purge valve penetration flow paths]~~ may be unisolated intermittently under administrative controls. 1

<Doc A.2>

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

<Doc A.3>

3. Enter applicable Conditions and Required Actions for systems made inoperable by PCIVs.

<3.6.3 Act b.1.b>
<Doc A.3>

4. Enter applicable Conditions and Required Actions of LCO 3.6.1.1, "Primary Containment," when PCIV leakage results in exceeding overall containment leakage rate acceptance criteria ~~in MODES 1, 2, and 3~~. 2

<3.6.3 Act a>
<3.6.3 Act a.1>
<3.4.7 Act 1>
<4.6.1.1.a>
<3.6.1.8 Act>

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. NOTE: Only applicable to penetration flow paths with two [or more] 9 PCIVs. One or more penetration flow paths 3 with one PCIV inoperable [for reasons other than Condition ~~[E]~~ D ~~[and E]~~ 1 TSTF-207] ~~except for purge valve or secondary containment bypass leakage not within limits~~. 9	A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured. AND	4 hours except for main steam line AND 8 hours for main steam line

(continued)

B

<CTS>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<DOC L.3> TSTF-207 B. ----------NOTE---------- Only applicable to penetration flow paths with two [or more] 9 PCIVs. ------------------------------ One or more penetration flow paths with two [or more] PCIVs inoperable [for reasons other than Condition [D and E]] 1 ~~except for purge valve leakage not within limit~~. 9	B.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	1 hour
<3.6.3 Act a> <3.6.3 Act a.1> <3.6.3 Act b> <3.6.3 Act b.1> <4.6.1.1.a> <3.6.1.8 Act> C. ----------NOTE---------- Only applicable to penetration flow paths with only one PCIV. ------------------------------ One or more penetration flow paths with one PCIV inoperable [for reasons other than Condition [D and E]] 1	C.1 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 TSTF-269 C.2 --------NOTE-------- 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by administrative means. ------------------------------ Verify the affected penetration flow path is isolated.	~~4~~ hours 1 except for excess flow check valves (EFCVs) and penetrations with a closed system 6 AND 72 hours for EFCVs and penetrations with a closed system TSTF-207 Once per 31 days 9 [4 hours for hydrostatically tested line leakage not on a closed system]
<DOC L.13> 3 [Penetration flow paths with] [One or more] 1 TSTF-207 D. Secondary containment bypass leakage rate [, MSIV leakage rate, [purge valve leakage rate,] 1 or hydrostatically tested line leakage rate] 9 not within limit. TSTF-207	D.1 Restore leakage rate to within limit. 1	1 [AND] [for secondary containment bypass leakage] [4 hours] [AND 8 hours for MSIV leakage 1 [AND [24 hours for purge valve leakage]] 9 [AND [72 hours for hydrostatically tested line leakage] [on a closed system]]]

(continued)

B B B

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1434, REVISION 1
ITS: 3.6.1.3 - PRIMARY CONTAINMENT ISOLATION VALVES

1. This bracketed requirement has been deleted because it is not applicable to LaSalle 1 and 2. The following requirements have been renumbered, where applicable, to reflect this deletion.

2. The words "in MODES 1, 2, and 3" have been deleted from ITS 3.6.1.3 ACTIONS Note 4 since there are no PCIV leakage tests required in MODES other than MODES 1, 2, and 3 for LaSalle 1 and 2 (i.e., there are no PCIVs required to be OPERABLE in MODES other than MODES 1, 2, and 3 that have specific leakage limits). In addition, ISTS SR 3.6.1.3.2 Note 1 and ISTS SR 3.6.1.3.11 Note 1 have been deleted for the same reason. The following Notes have been renumbered, if applicable, due to these Notes deletion.

3. Changes to TSTF-207 Rev. 5 were made due to typographical errors or to be consistent with the wording of the other 3.6.1.3 Conditions.

4. Not used.

5. The LaSalle 1 and 2 design includes the drywell as part of the primary containment and the primary containment is inerted while operating, similar to the BWR/4 design. Therefore, changes have been made to the requirements which check proper position of isolation devices, similar to the BWR/4 ISTS (NUREG-1433).

6. The LaSalle 1 and 2 design also includes EFCVs and TIPs, similar to the BWR/4 design. Therefore, ITS 3.6.1.3 Required Action C.1 Completion Times have been modified to be consistent with the BWR/4 ISTS (NUREG-1433) and approved TSTF-30, Rev. 3. The change also provides a 72 hour Completion Time for EFCVs consistent with TSTF-323. ITS SR 3.6.1.3.4, SR 3.6.1.3.8, and SR 3.6.1.3.9 have also been added, consistent with the BWR/4 ISTS. The following requirements have been renumbered, where applicable, to reflect the additions.

7. Not used.

8. Not used.

9. The brackets have been removed and the proper plant specific information/value has been provided.

10. The words in ISTS 3.6.1.3 Condition I (ITS Condition F), "or during operations with a potential for draining the reactor vessel (OPDRVs)," have been deleted. There are no PCIVs required to be OPERABLE in the LaSalle 1 and 2 ITS whose Applicability is only during OPDRVs. The only PCIVs required when not in MODES 1, 2, and 3 are the RHR shutdown cooling isolation valves, and their Applicability is MODES 1, 2, 3, 4 and 5. This Condition is still applicable in MODES 4 and 5, which are the only MODES that OPDRVs can be performed. Therefore, the "during OPDRVs" Applicability is duplicative of the MODES 4 and 5 Applicability and has been deleted.

11. The acronym "OPDRVs" has been defined, consistent with the format of the ITS, since it is the first use of this term in this Specification.

12. The current leakage rate limit for the MSIVs is on a per line basis as well as on a total leakage rate limit through all four main steam lines. ITS SR 3.6.1.3.10 reflects the current licensing basis.

13. The Primary Containment Leakage Rate Testing Program has been added to Section 5.5, similar to TSTF-52. The Program references the requirements of 10 CFR 50 Appendix J and approved exemptions, therefore, the Surveillances have been modified to reference the Program. This is consistent with the Current Licensing Basis and TSTF-52.

14. The Appendix J testing requirements and associated acceptance criteria, or exemptions to applying leakage to that acceptance criteria, is adequately addressed in proposed SR 3.6.1.1.1, The deleted Note (ISTS SR 3.6.1.3.11 Note 2) serves no purpose. Additionally, the ITS 3.6.1.3 ACTIONS Note 4 ("Enter applicable Conditions...results in exceeding overall containment leakage rate acceptance criteria") provides appropriate and sufficient control to direct the proper ACTIONS should excessive leakage be discovered. In addition, these Notes were approved to be deleted from NUREG-1434, Rev. 1 per change package BWR-14, C.3, but apparently were not deleted. The BWR/4 ISTS (NUREG-1433) did delete the Note (NUREG-1433, SR 3.6.1.3.14).

15. The leakage limit and test pressure for ISTS SR 3.6.1.3.11 (ITS SR 3.6.1.3.11) have been deleted from the Technical Specifications consistent with the current licensing basis. This is also consistent with TSTF-52, Rev. 2.

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.6.1.1.1

Maintaining the primary containment OPERABLE requires compliance with the visual examinations and leakage rate test requirements of ~~10 CFR 50, Appendix J~~ (Ref. ~~3~~), as modified by approved exemptions. Failure to meet air lock leakage testing (SR 3.6.1.2.1 and SR 3.6.1.2.4), secondary containment bypass leakage (SR 3.6.1.3.9), resilient seal primary containment purge valve leakage testing (SR 3.6.1.3.6), or main steam isolation valve leakage (SR 3.6.1.3.10) does not necessarily result in a failure of this SR. The impact of the failure to meet these SRs must be evaluated against the Type A, B, and C acceptance criteria of ~~10 CFR 50, Appendix J, as modified by approved exemptions~~ (Ref. 3). As left leakage prior to the first startup after performing a required ~~10 CFR 50, Appendix J~~ leakage test is required to be < 0.6 L_a for combined Type B and C leakage, and < 0.75 L_a for overall Type A leakage. At all other times between required leakage rate tests, the acceptance criteria is based on an overall Type A leakage limit of ≤ 1.0 L_a. At ≤ 1.0 L_a the offsite dose consequences are bounded by the assumptions of the safety analysis. The Frequency is required by ~~10 CFR 50, Appendix J, as modified by approved exemptions. Thus, SR 3.0.2 (which allows Frequency extensions) does not apply.~~

4 limit

the Primary Containment Leakage Rate Testing Program 3

Primary Containment Leakage Rate Testing Program 3

3 2 3 4 ≤ 1 B

[SR 3.6.1.1.2

The structural integrity of the primary containment is ensured by the successful completion of the ~~Primary Containment Tendon Surveillance Program~~ and by associated visual inspections of the steel liner and penetrations for evidence of deterioration or breach of integrity. This ensures that the structural integrity of the primary containment will be maintained in accordance with the provisions of the ~~Primary Containment Tendon Surveillance Program~~. Testing and Frequency are consistent with the recommendations of Regulatory Guide 1.35 (Ref. 5).]

1 Inservice Inspection Program for Post Tensioning Tendons

5

REFERENCES

1. UFSAR, Section ~~[6.2]~~.
2. UFSAR, Section ~~[15.6.5]~~.

1 5 1

, except that the Unit 1 and 2 primary containments shall be treated as twin containments even though the Initial Structural Integrity tests were not within two years of each other.

(continued)

<Insert SR 3.6.1.1.3> 3

BASES

ACTIONS (continued)

subsequent Condition entry and application of associated Required Actions.

The ACTIONS are modified by Notes 3 and 4. Note 3 ensures appropriate remedial actions are taken, if necessary, if the affected system(s) are rendered inoperable by an inoperable PCIV (e.g., an Emergency Core Cooling System subsystem is inoperable due to a failed open test return valve). Note 4 ensures appropriate remedial actions are taken when the primary containment leakage limits are exceeded. Pursuant to LCO 3.0.6, these ACTIONS are not required even when the associated LCO is not met. Therefore, Notes 3 and 4 are added to require the proper actions ~~are~~ be taken. 9

TSTF-207

secondary containment bypass leakage rate, MSIV leakage rate, purge valve leakage rate, or hydrostatically tested line leakage rate 2

B

A.1 and A.2

With one or more penetration flow paths with one PCIV inoperable except for ~~purge valve or secondary containment bypass leakage~~ not within limit(s), 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 automatic valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. For penetrations isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available one to the primary containment. The Required Action must be completed within the 4 hour Completion Time (8 hours for main steam lines). The specified time period of 4 hours is reasonable considering the time required to isolate the penetration and the relative importance of supporting primary containment OPERABILITY during MODES 1, 2, and 3. For main steam lines, an 8 hour Completion Time is allowed. The Completion Time of 8 hours for the main steam lines allows a period of time to restore the MSIVs to OPERABLE status given the fact that MSIV closure will result in isolation of the main steam line(s) and a potential for plant shutdown. 2 2 16

For affected penetrations that have been isolated in accordance with Required Action A.1, the affected penetration flow path must be verified to be isolated on a periodic basis. This is necessary to ensure that primary containment penetrations required to be isolated following

(continued)

BASES

ACTIONS

A.1 and A.2 (continued)

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 require any testing or device manipulation. Rather, it involves verification that those devices outside the primary containment, ~~drywell, and steam tunnel~~ and capable of being mispositioned are in the correct position. The Completion Time for this verification of "once per 31 days for isolation devices outside primary containment, ~~drywell, and steam tunnel~~" is appropriate because the devices are operated under administrative controls and the probability of their misalignment is low. For devices inside the primary containment, ~~drywell, or steam tunnel~~, the specified time period of "prior to entering MODE 2 or 3 from MODE 4, if not performed within the previous 92 days," is based on engineering judgment and is considered reasonable in view of the inaccessibility of the devices and the existence of other administrative controls ensuring that device misalignment is an unlikely possibility.

7 if primary containment was de-inerted while in MODE 4

Condition A is modified by a Note indicating that this Condition is only applicable to those penetration flow paths with two PCIVs. For penetration flow paths with one PCIV, Condition C provides appropriate Required Actions.

TSTF-207 2 or more

Required Action A.2 is modified by ~~a~~ two Note ~~that~~ s apply to isolation devices located in high radiation areas and allows them to be verified 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 devices~~, once they have been verified to be in the proper position, is low.

Note 1 TSTF-269 B

TSTF-269 Insert A.1 and A.2

10 10

B.1

TSTF-207 or more 2 B

With one or more penetration flow paths with two PCIVs inoperable, either the inoperable PCIVs must be restored to OPERABLE status or 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.

2 except for secondary containment bypass leakage rate, MSIV leakage rate, purge valve leakage rate, or hydrostatically tested line leakage rate not within limit,

(continued)

BASES

TSTF-207

ACTIONS

except for secondary containment bypass leakage rate, MSIV leakage rate, purge valve leakage rate, or hydrostatically tested line leakage rate not within limit, 2

B.1 (continued)

Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.1.1. B

Condition B is modified by a Note indicating this Condition is only applicable to penetration flow paths with two or more PCIVs. For penetration flow paths with one PCIV, Condition C provides the appropriate Required Actions. TSTF-207 2

C.1 and C.2

When one or more penetration flow paths with one PCIV inoperable, the inoperable valve must be restored to OPERABLE status or 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 automatic valve, a closed manual valve, and a blind flange. A check valve may not be used to isolate the affected penetration. ~~Required Action C.1 must be completed within [4] hours.~~ The ~~[4]~~ 72 hour Completion Time ~~is reasonable considering~~ for a penetration with a closed system the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of supporting primary containment OPERABILITY during MODES 1, 2, and 3. The closed system must meet the requirements of Reference 5. In the event the affected penetration is isolated in accordance with Required Action C.1, the affected penetration flow path must be verified to be isolated on a periodic basis. This is necessary to ensure that primary containment penetrations required to be isolated following an accident are isolated. The Completion Time of once per 31 days ~~for verifying that each affected penetration is isolated~~ is appropriate because the ~~valves~~ devices are operated under administrative controls and the probability of their misalignment is low. TSTF-30 B 16 7

The Completion Time of 4 hours for valves other than EFCVs and in penetrations with a closed system is reasonable considering the time required to isolate the penetration and the relative importance of supporting primary containment OPERABILITY during MODES 1, 2, and 3. 16 TSTF-30

Condition C is modified by a Note indicating this Condition is applicable only to those penetration flow paths with only one PCIV. For penetration flow paths with two or more PCIVs, Conditions A and B provide the appropriate Required Actions. This Note is necessary since this Condition is written

11 16 The Completion Time of 72 hours for EFCVs is also reasonable considering the instrument and the small pipe diameter of penetration (hence, reliability) to act as a penetration isolation boundary and the small pipe diameter of the affected penetrations. B

(continued)

This Required Action does not require any testing or valve manipulation. Rather, it involves verification that these devices outside containment and capable of potentially being mispositioned are in the correct position. 1

BASES

ACTIONS

C.1 and C.2 (continued)

specifically to address those penetrations with a single PCIV.

two s Note 1 TSTF-269

Required Action C.2 is modified by a Note that applies to ~~valves and blind flanges~~ located in high radiation areas and allows them to be verified 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 valves~~, once they have been verified to be in the proper position, is low.

8 isolation devices 8

Insert C.1 and C.2 TSTF-269

TSTF-207

2 [(SR 3.6.1.3.9)], MSIV leakage rate (SR 3.6.1.3.10), [purge valve leakage rate (SR 3.6.1.3.6)], [or hydrostatically tested line leakage rate (SR 3.6.1.3.11)] 2

D.1

2

With the secondary containment bypass leakage rate, not within limit, the assumptions of the safety analysis are not met. Therefore, the leakage must be restored to within limit within 4 hours. Restoration can be accomplished by isolating the penetration that caused the limit to be exceeded by use of one closed and de-activated automatic valve, closed manual valve, or blind flange. When a penetration is isolated, the leakage rate for the isolation 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 and the relative importance of secondary containment bypass leakage to the overall containment function.

may 12 be 4 ed

Insert D.1a 16

TSTF-207 16

2 for hydrostatically tested line leakage [not on a closed system] and for secondary containment bypass leakage

16 the hydrostatically tested line leakage

Insert D.1b

TSTF-207, 2, 16

B

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

In the event one or more containment purge valves are not within the purge valve leakage limits, purge valve leakage must be restored to within limits or the affected penetration 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

7

(continued)

TSTF-269 Insert C.1 and C.2

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.

16 Insert D.1a

Therefore, the leakage rate must be restored to within limit within the Completion Times appropriate for each type of valve leakage: a) hydrostatically tested line leakage not on a closed system is required to be restored within 4 hours; b) MSIV leakage is required to be restored within 8 hours; and c) hydrostatically tested line leakage on a closed system is required to be restored within 72 hours.

TSTF-207 Insert D.1b

16 leakage rate

For ~~MSIV~~ leakage, an ~~8~~ hour Completion ~~Time~~ is allowed. The Completion Time of 8 hours for MSIV leakage allows a period of time to restore the MSIVs to within limit ~~OPERABLE status~~ given the fact that MSIV closure will result in isolation of the main steam line(s) and potential for plant shutdown. 16 ~~[The 24 hour Completion Time for purge valve leakage is acceptable considering the purge valves remain closed so that a gross breach of the containment does not exist.]~~ 2 [The 72 hour Completion Time for hydrostatically tested line leakage *on a closed system* is acceptable based on the available water seal expected to remain as a gaseous fission product boundary during the accident *, and, in many cases, an associated closed system*. * The closed system must meet the requirements of Reference 5. 16

2 ~~[REVIEWER'S NOTE: The bracketed options provided in ACTION D reflect options in plant design and options in adopting the associated leakage rate Surveillances.~~

~~The options (both in ACTION D and ACTION E) for purge valve leakage, are based primarily on the design. If leakage rates can be measured separately for each purge valve, ACTION E is intended to apply. This would be required to be able to implement Required Action E.3. Should the design allow only for leak testing both purge valves simultaneously, then the Completion Time for ACTION D should include the "24 hours for purge valve leakage" and ACTION E should be eliminated.~~

B

TSTF-207

INSERT D.16 (continued)

~~The option for EFCV is based on the acceptance criteria of SR 3.6.1.3.10. If the acceptable criteria is a specific leakage rate (e.g., 1 gph) then the Completion Time for ACTION D should include the "72 hours for EFCV leakage." If the acceptance criteria for SR 3.6.1.3.10 is non-specific (e.g., "actuates to the closed position") then there is no specific leakage criteria and the EFCV Completion Time is not adopted.~~

~~Similarly, adopting Completion Times for secondary containment bypass and/or hydrostatically tested lines is based on whether the associated SRs are adopted.~~

2 ~~The additional bracketed options for whether the hydrostatically tested line is with or without a closed system is predicated on plant-specific design. If the design is such that there are not both types of hydrostatically tested lines (some with and some without closed systems), the specific 'closed system' wording can be removed and the appropriate 4 or 72 hour Completion Time retained. In the event there are both types, the clarifying wording remains and the brackets are removed.]~~

B

TSTF-45 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.

B

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.1.3.~~2~~ 2 7 (continued)

containment, and capable of being mispositioned, 8 are in the correct position. Since verification of valve position for PCIVs outside primary containment is relatively easy, the 31 day Frequency was chosen to provide added assurance that the PCIVs are in the correct positions.

Two Notes are added to this SR. The first Note applies to valves and blind flanges located in high radiation areas and allows them to be verified by use of administrative controls. Allowing verification by administrative controls is considered acceptable, since access to these areas is typically restricted during MODES 1, 2, and 3 for ALARA reasons. Therefore, the probability of misalignment of these PCIVs, once they have been verified to be in the proper position, is low. A second Note is included to clarify that PCIVs open under administrative controls are not required to meet the SR during the time the PCIVs are open. These controls consist of stationing a dedicated operator at the controls of the valve, who is in continuous communication with the control room. In this way, the penetration can be rapidly isolated when a need for primary containment isolation is indicated. 14

TSTF-45

SR 3.6.1.3.~~4~~ 3 7

This SR verifies that each 1 primary containment manual isolation valve and blind flange located inside primary containment~~, drywell, or steam tunnel~~ 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 the primary containment boundary is within design limits. For PCIVs inside primary containment, 1 ~~drywell, or steam tunnel~~ the Frequency of "prior to entering MODE 2 or 3 from MODE 4 7 if primary containment was de-inerted while in MODE 4, if not performed within the previous 92 days," is appropriate since these PCIVs are operated under administrative controls and the probability of their misalignment is low.

Two Notes are added to this SR. The first Note allows valves and blind flanges located in high radiation areas to be verified by use of administrative controls. Allowing verification by administrative controls is considered acceptable since the primary containment is inerted and access to these areas is typically restricted during MODES 1, 2, and 3 7 for ALARA and personnel safety. Therefore, the probability of misalignment of these PCIVs, once they have been verified to be in their proper position, is low. A second Note is included to clarify that PCIVs that are open

(continued)

12. This change was approved to be made in NUREG-1434, Rev. 1 per change package BWR-15, C.4, but apparently was not made. This change was made to the BWR/4 ISTS, NUREG-1433, Rev. 1.

13. Some of the Bases changes for TSTF-30 and TSTF-269 have not been adopted since the SRs/information is not applicable to LaSalle 1 and 2.

14. Editorial change made for enhanced clarity.

15. The discussion in the LCO section about closed valves is modified. This editorial preference is based on an incomplete and misleading discussion of the valves. This change does not modify the requirements or the interpretation of the requirements.

16. These changes to TSTF-207, Rev. 5, and TSTF-30, Rev. 3, were made due to plant specific differences or due to typographical/consistency errors.

L.3 CHANGE

Not used.

B

L.2 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

   This change would allow additional time to isolate a secondary containment penetration if both isolation dampers in a two damper penetration are inoperable or one isolation device in a one device penetration is inoperable. Secondary containment isolation is not considered as an initiator of any previously analyzed accident. Therefore, this change does not significantly increase the probability of such accidents. The proposed change allows additional temporary operation with less than the required isolation capability. However, the consequences of an event that may occur during the extended outage time would not be any different than during the currently allowed outage time for other loss of secondary containment integrity situations. Therefore, this change does not significantly increase the consequences of any previously analyzed accident.

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

   This change does not result in any changes to the equipment design or capabilities or to the operation of the plant. Further, since the change impacts only the Required Action Completion Time for the system and does not result in any change in the response of the equipment to an accident, the change does not create the possibility of a new or different kind of accident from any previously analyzed accident.

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

   This change impacts only the Required Action Completion Time for inoperable devices that provide secondary containment isolation. The methodology and limits of the accident analysis are not affected, and the secondary containment response in unaffected. Therefore, the change does not involve a significant reduction in the margin of safety.

A.1

RADIOACTIVE EFFLUENTS

MAIN CONDENSER

LIMITING CONDITION FOR OPERATION

after decay of 30 minutes A.2

LCO 3.7.6 3.11.2.2 The release rate of the sum of the activities from the noble gases measured prior to the holdup line shall be limited to less than or equal to 3.4 x 10^5 microcuries/second.

and L.1

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3. with any main steam line not isolated and steam jet air ejector (SJAE) in operation

ACTION:

ACTION A With the release rate of the sum of the activities of the noble gases prior to the holdup line exceeding 3.4 x 10^5 microcuries/second restore the release rate to within its limit within 72 hours or

ACTION B be in at least STARTUP with the main steam isolation valves closed within the next 6 hours. 12 L.2

B

Add proposed Required Action B.2 L.1

SURVEILLANCE REQUIREMENTS

Add proposed Required Actions B.3.1 and B.3.2 L.3

~~4.11.2.2.1 The radioactivity rate of noble gases prior to the holdup line shall be continuously monitored in accordance with the ODCM.~~ LA.1

SR 3.7.6.1 4.11.2.2.2 The release rate of the sum of the activities from noble gases ~~prior to the holdup line~~ shall be determined to be within the limits of Specification 3.11.2.2 at the following frequencies ~~by performing an isotopic analysis of a representative sample of gases taken prior to the holdup line~~. LA.2

a. At least once per 31 days.

b. Within 4 hours following an increase, ~~as indicated by the off gas pre-treatment Noble Gas Activity Monitor,~~ LA.2 of greater than or equal to M.1 50%, after factoring out increases due to changes in THERMAL POWER level, in the nominal steady state fission gas release from the primary coolant.

Add proposed SR 3.7.6.1 Note L.4

Page 1 of 2

RADIOACTIVE EFFLUENTS

A.1

MAIN CONDENSER

LIMITING CONDITION FOR OPERATION

after decay of 30 minutes A.2

LCO 3.7.6 3.11.2.2 The release rate of the sum of the activities from the noble gases measured prior to the holdup line shall be limited to less than or equal to 3.4 x 10^5 microcuries/second.

and L.1

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3. with any main steam line not isolated and steam jet air ejector (SJAE) in operation

ACTION:

ACTION A — With the release rate of the sum of the activities of the noble gases prior to the holdup line exceeding 3.4 x 10^5 microcuries/second restore the release rate to within its limit within 72 hours or
ACTION B — be in at least ~~STARTUP~~ with the main steam isolation valves closed within the next ~~8~~ 12 hours. L.2 | B

Add proposed Required Action B.2 L.1

SURVEILLANCE REQUIREMENTS Add proposed Required Actions B.3.1 and B.3.2 L.3

~~4.11.2.2.1 The radioactivity rate of noble gases prior to the holdup line shall be continuously monitored in accordance with the ODCM.~~ LA.1

SR 3.7.6.1 4.11.2.2.2 The release rate of the sum of the activities from noble gases prior to the holdup line shall be determined to be within the limits of Specification 3.11.2.2 at the following frequencies ~~by performing an isotopic analysis of a representative sample of gases taken prior to the holdup line.~~ LA.2

a. At least once per 31 days.

b. Within 4 hours following an increase, ~~as indicated by the off gas pre-treatment Noble Gas Activity Monitor,~~ LA.2 of greater than or equal to 50%, after factoring out increases due to changes in THERMAL POWER level, in the nominal steady state fission gas release from the primary coolant. M.1

Add proposed SR 3.7.6.1 Note L.4

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

LA.2 The CTS 4.11.2.2.2 details defining the methods for performing this Surveillance, the location of the sample, and method for determining when an increase has occurred are proposed to be relocated to the Bases. These details are not necessary to ensure the main condenser offgas activity rate limits are maintained. The requirements of ITS 3.7.6 and SR 3.7.6.1 are adequate to ensure the main condenser offgas activity rate is maintained within limits. As such, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

"Specific"

L.1 The Applicability of CTS LCO 3.11.2.2 is OPERATIONAL CONDITIONS 1, 2, and 3. In the event the requirement of CTS LCO 3.11.2.2 is not met, the Action requires compliance be restored within 72 hours, or the plant placed in at least STARTUP (i.e., MODE 2) with the main steam isolation valves closed within the next 6 hours. Thus, the CTS actually permits operation in MODES 2 and 3 to continue as long as the main steam isolation valves are closed. The Applicability is changed to MODE 1 and MODES 2 and 3 with any main steam line not isolated and the steam jet air ejector (SJAE) in operation in proposed ITS 3.7.6. This proposed change is less restrictive, because the requirement will not be applicable in MODES 2 and 3 if the SJAE is not in operation regardless of the position of the main steam isolation valves. The main condenser offgas gross gamma activity limit is an initial condition of the main condenser offgas system failure event. The gross gamma activity rate is controlled to ensure that during the event, the calculated offsite doses will be well within the limits of 10 CFR 100. With the main steam lines isolated or the SJAE not in operation, the offgas system is not being used to process the gross gamma activity; it is essentially maintained within the reactor coolant. Therefore, the event cannot occur. In addition, a new Required Action (ITS 3.7.6 Required Action B.2), which requires isolation of the air ejector has also been added consistent with this change to the Applicability.

L.2 The default action of the CTS 3.11.2.2 Action requires the plant to be in at least STARTUP with the main steam isolation valves (MSIVs) closed in 6 hours if the main condenser offgas activity release rate for noble gases is not restored to within its limit within the Completion Time of 72 hours (ITS 3.7.6 Required Action A.1). The proposed Completion Time (ITS 3.7.6 Required Actions B.1 and B.2) to be outside the Applicability of the Specification has been extended from 6 hours to 12 hours. The explicit requirement to be in STARTUP has been deleted since the closure of all MSIVs will require the mode switch to be placed

TECHNICAL CHANGES - LESS RESTRICTIVE

L.2 (cont'd) in the startup/hot standby position to avoid a scram on Main Steam Line Isolation Valve - Closure. This proposed time is required to shutdown and cooldown the unit from full power conditions and isolate the main steam isolation valves in an orderly manner and without challenging unit systems. This proposed time is considered reasonable based on operating experience and is consistent with the BWR ISTS, NUREG-1434, Rev. 1. Allowing 12 hours to complete the Required Actions is an acceptable exchange in risk; the risk of an event occurring during the additional period provided to exit the Applicability, versus the potential risk of unit upset that could challenge safety systems resulting from a rapid shutdown.

L.3 The CTS 3.11.2.2 Action requires the plant to be in at least STARTUP with the main steam isolation valves closed within 6 hours if the main condenser offgas activity is not restored to within limits within 72 hours. Alternative default Required Actions have been added to place the plant in a condition outside the Applicability of the Specification. ITS 3.7.6 Required Actions B.3.1 and B.3.2 will require the plant to be in MODE 3 in 12 hours and MODE 4 in 36 hours. This change is less restrictive since it provides optional actions to be taken for placing the plant in a condition that is outside the Applicability. In addition, the time to place the plant in a condition outside the Applicability is 36 hours instead of 6 hours as currently required by the CTS 3.11.2.2 Action (see Discussion of Change L.2 for further changes to the 6 hour Completion Time). This Specification is not required in MODE 4 since the main steam is not being exhausted to the main condenser, therefore the assumptions of a Main Condenser Offgas System failure event will still be bounded by the current analyses. Therefore, the proposed Required Action to be in MODE 4 is acceptable since the assumptions of the accident analysis will be preserved. The proposed Completion Times are consistent with other Specifications which require the plant to be in MODE 3 then MODE 4. The Completion Times are acceptable, based on operating experience, to reach the required plant conditions from full power conditions in a orderly manner and without challenging plant systems.

L.4 CTS 4.11.2.2.2 requires the main condenser offgas activity to be periodically determined. Proposed ITS SR 3.7.6.1 requires the performance of this Surveillance at the same Frequency however it is proposed to allow the Surveillance to not be performed until 31 days after any main steam line is not isolated and the SJAE is in operation. This determination is only meaningful with one or more main steam lines not isolated and the SJAE in operation. Only in this condition can radioactive gases be in the Main Condenser Offgas System at significant rates. The 31 day period is an acceptable time to establish conditions appropriate for data collection and evaluation and is considered acceptable given the availability of instrumentation to monitor the offgas activity release rate.

SURVEILLANCE REQUIREMENTS

SR 3.8.3.2 (continued)

contaminating the entire volume of fuel oil in the storage tanks. These tests are to be conducted prior to adding the new fuel to the storage tank(s). The tests, limits, and applicable ASTM Standards are as follows:

a. Sample the new fuel oil in accordance with ASTM D4057-95 (Ref. 6);

b. Verify in accordance with the tests specified in ASTM D975-98b (Ref. 6) that the sample has: 1) an absolute specific gravity at 60°F of ≥ 0.83 and ≤ 0.89 (or an API gravity at 60°F of ≥ 27 and ≤ 39) when tested in accordance with ASTM D1298-99 (Ref. 6); 2) a kinematic viscosity at 40°C of ≥ 1.9 centistokes and ≤ 4.1 centistokes when tested in accordance with ASTM D445-97 (Ref. 6); and 3) a flash point of ≥ 125°F when tested in accordance with ASTM D93-99c (Ref. 6); and

c. Verify that the new fuel oil has a clear and bright appearance with proper color when tested in accordance with ASTM D4176-93 (Ref. 6) or a water and sediment content within limits when tested in accordance with ASTM D2709-96e (Ref. 6). The clear and bright appearance with proper color test is only applicable to fuels that meet the ASTM color requirement (i.e., ASTM color 5 or less).

Failure to meet any of the above limits is cause for rejecting the new fuel oil, but does not represent a failure to meet the LCO since the fuel oil is not added to the storage tanks.

Following the initial new fuel oil sample, the fuel oil is analyzed within 31 days following addition of the new fuel oil to the fuel oil storage tank(s) to establish that the other properties specified in Table 1 of ASTM D975-98b (Ref. 6) are met for new fuel oil when tested in accordance with ASTM D975-98b (Ref. 6), except that the analysis for sulfur may be performed in accordance with ASTM D1552-95 (Ref. 6), ASTM D2622-98 (Ref. 6), or ASTM D4294-98 (Ref. 6). The 31 day period is acceptable because the fuel oil properties of interest, even if not within stated limits, would not have an immediate effect on DG operation. This Surveillance ensures the availability of high quality fuel oil for the DGs.

(continued)

BASES

REFERENCES (continued)

4. UFSAR, Chapter 6.

5. UFSAR, Chapter 15.

6. ASTM Standards: D4057-95; D975-98b; D1298-99; D445-97; D93-99c; D4176-93; D1552-95; D2622-98; D4294-98; D5452-98.

A.1

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

SR 3.8.1.19

2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 13 seconds, energizes the auto-connected emergency loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady state voltage and frequency of the emergency busses shall be maintained at 4160 ±416 volts and 60 ±1.2 Hz during this test. LA.6 B

b) For Division 3:

1) Verifying de-energization of the emergency bus.

2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency bus with its loads within 13 seconds and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady state voltage and frequency of the emergency bus shall be maintained at 4160 ±416 volts and 60 ±1.2 Hz during this test. M.1 B

SR 3.8.1.13

7. Verifying that all diesel generator 0, 1A, and 1B automatic trips except the following are automatically bypassed on an actual or simulated ECCS actuation signal: L.12

a) For Divisions 1 and 2 - engine overspeed, generator differential current, and emergency manual stop. A.13 A.11

b) For Division 3 - engine overspeed, generator differential current, and emergency manual stop. A.12

SR 3.8.1.14

Add proposed SR 3.8.1.14 Note 3

Add power factor requirement

8. *Verifying the diesel generator operates for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to greater than or equal to 2860 kW and during the remaining 22 hours of this test, the diesel generator shall be loaded to 2400 kW to 2600 kW.*** ~~The generator voltage and frequency shall be 4160 +420, -150 volts and 60 +3.0, -1.2 Hz within 13 seconds after the start signal; the steady state~~ M.10 L.13

A.12

~~*All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period, as recommended by the manufacturer.~~

SR 3.8.1.14 Note 1, SR 3.8.1.15 Note 1 ***Transients, outside of this load band, do not invalidate the surveillance tests.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 (cont'd) conservative additional requirements placed on the OPERABLE circuit, Required Action A.1, which requires the associated supported equipment to be declared inoperable, is also added. These additions represent restrictions consistent with implicit assumptions for operation in shutdown conditions (required equipment capable of being powered from offsite power as opposed to being powered by a DG); restrictions which are not currently imposed via the Technical Specifications.

M.2 Similar to the added restrictions for an OPERABLE offsite circuit (refer to Discussion of Change M.1 above), the single Division 1 or Division 2 unit DG required OPERABLE during shutdown conditions by CTS LCO 3.8.1.2.b, is not specific as to what Division that DG must be associated with. The requirement in ITS LCO 3.8.2 will ensure the OPERABLE DG is associated with one or more systems, subsystems, or components required to be OPERABLE. This added restriction enforces a level of Technical Specification control which currently is enforced only via administrative procedures. 3

M.3 Currently, CTS 3.8.1.2.b.2 requires that the combined fuel oil volume of the Division 3 DG (1B and 2B) fuel storage tank and day tank be ≥ 29750 gallons. No minimum volume for the day tank is provided; i.e., all the fuel oil can be in the fuel storage tank and the LCO requirement is met. To ensure that the day tank maintains a fuel oil volume sufficient to operate the DG for 50 minutes without makeup, a new requirement is added to ITS SR 3.8.2.1 (by the reference to ITS SR 3.8.1.4) for the Division 3 DG to maintain 550 gallons of fuel oil in the day tank. Since this change adds an additional requirement that is not currently in the CTS, this change is considered more restrictive.

M.4 When a required offsite circuit or a Division 1 or 2 unit DG is inoperable, the actions imposed by CTS 3.8.1.2 Action a do not necessarily place the unit in a MODE or other specified condition in which CTS LCO 3.8.1.2 is not applicable. Therefore, proposed ITS 3.8.2 Required Actions A.2.4 and B.4 are being added. These Required Actions implement a requirement to immediately initiate action to restore the required power sources to an OPERABLE status. These additional restrictions are consistent with implicit assumptions and will ensure action is immediately taken to restore compliance with the LCO requirements. Since this new requirement is not currently imposed by the CTS, the proposed change is an additional restriction on plant operation. 3

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

"Specific"

L.1 The requirement of CTS 4.8.2.3.2.b to verify, within 7 days after a battery discharge or overcharge, that there is no visible corrosion at either terminals or connectors, or that connection resistance is < 150 $X10^{-6}$ohm has been removed. This is consistent with the nature of the condition being verified, i.e., that the battery resistance has not degraded significantly, since corrosion rates and connection resistance are not immediately and significantly affected by a severe discharge or overcharge condition.

L.2 CTS 4.8.2.3.2.c.2 and 4.7.3.d.3.b) require the cell-to-cell and terminal connections to be "clean, tight." The confirmation that the connection is "tight" is typically performed by application of a torque, which results in unnecessary stress being applied to the bolted connection. When a battery cell is installed or replaced, plant maintenance procedures require the connections to be torqued within prescribed limits as specified by the manufacturer. After being torqued, the connections remain tight and rarely need to be retorqued. This change is acceptable since, the use of connection resistance readings obtained by either digital low-resistance ohmmeters, or measurement of millivolt drop during capacity testing, to determine that connections are not loose is consistent with the guidelines in IEEE-450 Section 4.4.1, Corrective Actions. Therefore, if the connection satisfies the resistance requirements of proposed SR 3.8.4.5 (performed at the same Frequency), it can be assumed to be sufficiently "tight." As a result, it is not necessary to verify the connections are "tight." The "clean" requirement has been deleted since it is redundant to the "free of corrosion" requirement. In addition, the requirement to verify that connections are "clean" and "tight" is only applicable to nickel cadmium batteries. The DC electrical power subsystem batteries are lead calcium batteries.

L.3 The requirement to perform CTS 4.8.2.3.2.d and 4.8.2.3.2.e during shutdown has not been included in proposed SRs 3.8.4.7 and 3.8.4.8. The proposed Surveillances do not include the restriction on plant conditions. The control of plant conditions appropriate to perform the Surveillance is an issue for procedures and scheduling. As indicted in Generic Letter 91-04, allowing this control is consistent with the vast majority of other Technical Specification Surveillances that do not dictate plant conditions for the Surveillance. This detail of the Surveillance is a prerequisite for performance of the test and is not necessary for ensuring the requirements to demonstrate OPERABILITY of the DG or qualified offsite sources. In addition, the requirement to perform these Surveillances during shutdown is not required by the other BWR nuclear plants on the ComEd system (i.e., Dresden and Quad Cities).

ITS 3.8.9

A.1

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

M.1

ACTION: one or more required — add proposed Required Action A.1

ACTION A

a. With both Division 1 and 2 of the above required A.C. distribution system inoperable ~~or not energized~~, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel. ← add proposed Required Actions A.2.4 and A.2.5 — M.2

b. With Division 3 of the above required A.C. distribution system inoperable ~~or not energized~~, declare the HPCS system inoperable ~~and take the ACTION required by Specifications 3.5.2 and 3.5.3.~~ — A.2 — add proposed Required Actions A.2.1, A.2.2, and A.2.3 — M.3

c. With Unit 1 Division 2 of the above required A.C. distribution system inoperable ~~or not energized~~, declare the standby gas treatment system subsystem A and control room and auxiliary electric equipment room emergency filtration system train A inoperable ~~and take the ACTION required by Specifications 3.6.5.3 and 3.7.2.~~ — A.2 — add proposed Required Action A.2.4

Note to ACTIONS

d. The provisions of Specification 3.0.3 are not applicable. — M.2 — add proposed Required Actions A.2.1, A.2.2, and A.2.3

SURVEILLANCE REQUIREMENTS — A.3 — B — LA.1

SR 3.8.9.1 4.8.2.2 At least the above required A.C. distribution system electrical division(s) shall be determined OPERABLE ~~and/energized~~ at least once per 7 days by verifying correct breaker alignment and voltage on the busses/panels. — LA.2

ADMINISTRATIVE

A.1 In the conversion of the LaSalle 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the BWR Standard Technical Specifications, NUREG-1434, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

A.2 CTS 3.8.2.2 Action b and CTS 3.8.2.4 Action b require the Actions required by Specifications 3.5.2 and 3.5.3 to be taken after the HPCS System is declared inoperable. CTS 3.8.2.2 Action c and CTS 3.8.2.4 Action d require the standby gas treatment subsystem and the control room and auxiliary electric equipment room emergency filtration subsystem to be declared inoperable and take the Action required by Specifications 3.6.5.3 and 3.7.2 in the event the opposite unit's Division 2 DC electrical power subsystem is inoperable. The format of the ITS does not include providing these types of "cross references." ITS 3.5.2, 3.6.4.3, 3.7.4, 3.7.5, and 3.5.3 adequately prescribe the Required Actions for an inoperable HPCS System, SGT subsystem, control room area filtration subsystem, or control room area ventilation air conditioning subsystem, respectively without such references. Therefore the existing references to Specifications 3.5.2 and 3.5.3 in CTS 3.8.2.2 Action b and CTS 3.8.2.4 Action b to "take the ACTION required by Specifications 3.5.2 and 3.5.3," and in CTS 3.8.2.4 Action d to "take the ACTION required by Specifications 3.6.5.3 and 3.7.2" serve no functional purpose, and their removal from the ITS is purely an administrative difference in presentation.

A.3 In lieu of declaring the standby gas treatment subsystem and control room and auxiliary electric equipment room emergency filtration subsystem inoperable and taking the ACTIONS of the appropriate LCO as required by CTS 3.8.2.2 Action c and CTS 3.8.2.4 Action d, three new Required Actions have been provided for when the opposite unit's Division 2 DC distribution subsystem is inoperable. ITS 3.8.8 Required Actions A.2.1, A.2.2, and A.2.3 require suspension of CORE ALTERATIONS, movement of irradiated fuel assemblies in the secondary containment, and OPDRVs. These Required Actions are the same as the Actions found in the individual System Specifications (CTS 3.6.5.3 and 3.7.2), therefore, the addition of these changes are considered administrative. 6

1

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.3.1 (continued)

provided and unit operators would be aware of any large uses of fuel oil during this period.

~~SR 3.8.3.2~~

~~This Surveillance ensures that sufficient lube oil inventory is available to support at least 7 days of full load operation for each DG. The 500 gal requirement is based on the DG manufacturer's consumption values for the run time of the DG. Implicit in this SR is the requirement to verify the capability to transfer the lube oil from its storage location to the DG when the DG lube oil sump does not hold adequate inventory for 7 days of full load operation without the level reaching the manufacturer's recommended minimum level.~~

~~A 31 day Frequency is adequate to ensure that a sufficient lube oil supply is onsite, since DG starts and run times are closely monitored by the plant staff.~~

1

SR 3.8.3.~~3~~ 2 — 1

of new fuel prior to addition to the storage tanks — 5

The tests ~~listed below~~ are a means of determining whether new fuel oil is of the appropriate grade and has not been contaminated with substances that would have an immediate detrimental impact on diesel engine combustion and operation. If results from these tests are within acceptable limits, the fuel oil may be added to the storage tanks without concern for contaminating the entire volume of fuel oil in the storage tanks. These tests are to be conducted prior to adding the new fuel to the storage tank(s)~~, but in no case is the time between receipt of new fuel and conducting the tests to exceed 31 days~~. The tests, limits, and applicable ASTM Standards are as follows: 7

3

a. Sample the new fuel oil in accordance with ASTM D4057-~~[ ]~~ 95 (Ref. 6); when tested in accordance with ASTM D 1298-95 (Ref. 6) 5 B 2

b. Verify in accordance with the tests specified in ASTM D975-~~[ ]~~ 98b (Ref. 6) that the sample has (:1) an absolute specific gravity at 60/60°F of ≥ 0.83 and ≤ 0.89 (or an API gravity at 60°F of ≥ 27~~°~~ and ≤ 39~~°~~) (:2) a 5 6

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.3.~~3~~ 2 (continued) when tested in accordance with ASTM D445-97 (Ref. 6) 2 when tested in accordance with ASTM D93-99c (Ref. 6) 1 5

kinematic viscosity at 40°C of ≥ 1.9 centistokes and ≤ 4.1 centistokes, and a flash point of ≥ 125°F; and

c. Verify that the new fuel oil has a clear and bright appearance with proper color when tested in accordance with ASTM D4176-~~[ ]~~ (Ref. 6) 93

1 or a water and sediment content within limits when tested in accordance with ASTM D2709-96e (Ref. 6). The clear and bright with proper color test is only applicable to fuels that meet the ASTM color requirement (i.e., ASTM color 5 or less

Failure to meet any of the above limits is cause for rejecting the new fuel oil, but does not represent a failure to meet the LCO since the fuel oil is not added to the storage tanks.

~~Within 31 days~~ following the initial new fuel oil sample, the fuel oil is analyzed to establish that the other properties specified in Table 1 of ASTM D975-~~[ ]~~ 98b (Ref. 6) are met for new fuel oil when tested in accordance with ASTM D975-~~[ ]~~ 98b (Ref. 6), except that the analysis for sulfur may be performed in accordance with ASTM ~~D1522-[ ]~~ D1552-95 (Ref. 6), ~~or~~ ASTM D2622-~~[ ]~~ 98 (Ref. 6) or ASTM D4294-98 (Ref. 6). ~~The 31 day period is acceptable because the fuel oil properties of interest, even if not within stated limits, would not have an immediate effect on DG operation.~~ This Surveillance ensures the availability of high quality fuel oil for the DGs. 3 2 3 B

7 within 31 days following addition of the new fuel oil to the fuel oil storage tank(s) 3 2

Fuel oil degradation during long term storage shows up as an increase in particulate, mostly due to oxidation. The presence of particulate does not mean that the fuel oil will not burn properly in a diesel engine. However, the particulate can cause fouling of filters and fuel oil injection equipment, which can cause engine failure.

2

Particulate concentrations should be determined in accordance with ASTM ~~D2276-[ ], Method A~~ D5452-98 (Ref. 6). This method involves a gravimetric determination of total particulate concentration in the fuel oil and has a limit of 10 mg/l. It is acceptable to obtain a field sample for subsequent laboratory testing in lieu of field testing. ~~[For those designs in which the total volume of stored fuel oil is contained in two or more interconnected tanks, each tank must be considered and tested separately.]~~ 3

The Frequency of this Surveillance takes into consideration fuel oil degradation trends indicating that particulate

(continued)

1

BASES

SURVEILLANCE REQUIREMENTS (continued)

~~SR 3.8.3.6~~

~~Draining of the fuel oil stored in the supply tanks, removal of accumulated sediment, and tank cleaning are required at 10 year intervals by Regulatory Guide 1.137 (Ref. 2), paragraph 2.f. This SR is typically performed in conjunction with the ASME Boiler and Pressure Vessel Code, Section XI (Ref. 7), examinations of the tanks. To preclude the introduction of surfactants in the fuel oil system, the cleaning should be accomplished using sodium hypochlorite solutions, or their equivalent, rather than soap or detergents. This SR is for preventive maintenance. The presence of sediment does not necessarily represent a failure of this SR provided that accumulated sediment is removed during performance of the Surveillance.~~

TSTF-2

REFERENCES

1. UFSAR, Section ~~[9.5.4]~~. 3
2. Regulatory Guide 1.137.
3. ANSI N195, Appendix B, 1976.
4. UFSAR, Chapter ~~[6]~~. 3
5. UFSAR, Chapter ~~[15]~~. 3
6. ASTM Standards: D4057-~~[ ]~~ 95; D975-~~[ ]~~ 98b; D4176-~~[ ]~~ 93; ~~D975-[ ]~~; D1552-~~[ ]~~ 95; D2622-~~[ ]~~ 98; ~~D2276-[ ]~~; D5452-98 3
D1298-99; D445-97; D93-99c; 2 B
~~7. ASME, Boiler and Pressure Vessel Code, Section XI.~~ TSTF-002
D4294-98; 2 B

2 3 6 2 3

ADMINISTRATIVE

A.1 In the conversion of the LaSalle 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the BWR Standard Technical Specifications, NUREG-1434, Rev. 1 (i.e., the Improved Technical Specification (ISTS)).

A.2 CTS 3.9.10.2 and 4.9.10.2.1 contain statements that require compliance with the Specification "until all control rods and control rod drive mechanisms are reinstalled and all control rods are inserted in the core." This statement in CTS 3/4.9.10.2 is fundamentally true for all Specifications and does not need to be stated in each individual Specification. Requirements apply until conditions under which they are required to apply no longer exist. Therefore, deleting these statements is only an editorial preference.

A.3 The current MODE 5 requirements for SRM OPERABILITY in CTS 3.9.2 and Surveillance testing in CTS 4.9.2 are adequate without explicit reference to them in CTS 3/4.9.10.2.b. ITS 3.10.5 does not modify the normal SRM requirements in MODE 5, and therefore, CTS 3.9.2 (ITS 3.3.1.2) must be met during this Special Operation (ITS 3.10.5). The CTS 3.9.10.2.b and 4.9.10.2.1.b references are redundant to the current and proposed requirements, and therefore, has been deleted. B

A.4 The current MODE 5 requirements for SHUTDOWN MARGIN (SDM) in CTS 3.1.1 and Surveillance testing in CTS 4.1.1 are adequate without explicit reference to them in CTS 3/4.9.10.2.c. ITS 3.10.5 does not modify the normal SDM requirements in MODE 5, and therefore, CTS 3.1.1 (ITS 3.1.1) must be met during this Special Operation (ITS 3.10.5). The CTS 3.9.10.2.1.c and 4.9.10.2.c references are redundant to the current and proposed requirements, and therefore, has been deleted. B

A.5 The MODE 5 Applicability addition in ITS 3.10.5 ("with LCO 3.9.4 or LCO 3.9.5 not met") is derived from the intent of CTS 3.9.10.2, which says "Any number of control rods and/or control rod drive mechanisms may be removed from the core and/or reactor pressure vessel..." During the performance of these activities, ITS 3.9.4 (which requires each control rod full-in position indication channel for each control rod to be OPERABLE), and ITS 3.9.5 (which requires all withdrawn control rods to be OPERABLE) are not met. Therefore, this change is strictly administrative and does not modify the requirements.

ADMINISTRATIVE (continued)

A.6 An alternative Required Action (ITS 3.10.5 Required Action A.3.1) has been added to the CTS 3.9.10.2 Action to initiate action to fully insert all control rods immediately, in lieu of meeting the requirements of the LCO. Since this new Required Action results in effectively exiting this Special Operations LCO and restores operation consistent with normal requirements for failure to meet the LCOs which were suspended by the Special Operations LCO (i.e., all control rods inserted), it is administrative (since use of the Special Operations LCOs are optional as described in proposed LCO 3.0.7).

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 A restriction on fuel assembly movement within the reactor pressure vessel with control rods withdrawn has been provided in ITS 3.10.5.c, consistent with existing conditions of the Operating Licenses. This will help ensure a reactivity excursion cannot occur with the requirements of this LCO not met. A new Surveillance Requirement has also been added (proposed SR 3.10.5.3) to verify, every 24 hours, fuel assemblies are not being moved within the reactor pressure vessel. The addition of SR 3.10.5.3 represents an additional restriction on plant operation.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

None

"Specific"

L.1 The requirement in CTS 3.9.10.2.a and CTS 4.9.10.2.1.a to "lock" the reactor mode switch in Shutdown or Refuel and the explicit requirement for the reactor mode switch to be OPERABLE is proposed to be deleted. Reactor mode switch OPERABILITY is included as part of the OPERABILITY of the required interlocks and control rod blocks. Furthermore, the position of the reactor mode switch is adequately controlled by the MODES definition Table (ITS Table 1.1-1). Reactor mode switch positions other than Refuel and Shutdown result in the unit entering some other MODE; with the associated Technical Specification compliance requirements of that MODE and of proposed LCO 3.0.1.

ATTACHMENT 3

Revision B to Quad Cities Nuclear Power Station, Units 1 and 2 Proposed Improved Technical Specifications Submittal dated March 3, 2000

Revision B to Quad Cities Nuclear Power Station
Improved Technical Specifications Summary of Changes

This attachment provides a brief summary of the changes in Revision B of the proposed Improved Technical Specifications (ITS) submittal for Quad Cities Nuclear Power Station, Units 1 and 2. The original Technical Specifications amendment request (i.e., Revision 0) was submitted to the NRC by letter dated March 3, 2000, as revised (i.e., Revision A) by letter dated June 5, 2000.

In the submittal of March 3, 2000, it was identified that the supporting calculations for Allowable Values needed for ITS Section 3.3, "Instrumentation," had not been completed. Commonwealth Edison (ComEd) Company committed to submit any changes to the ITS Allowable Values and Surveillance Frequencies resulting from the second group of calculations by September 15, 2000. Changes resulting from the second group of calculations are provided in this revision to the ITS submittal (i.e., Revision B).

In addition, changes committed to in the ComEd Request For Additional Information (RAI) responses for Section 3.6 are also provided in this Revision B submittal (except for the change committed to in the ComEd response to RAI 3.6.1.7-6), as well as minor corrections to various sections of the March 3, 2000 submittal.

Section 3.3

1. Changes to the Allowable Values from the second group of calculations have been made. These changes are the result of the ComEd Setpoint Methodology (i.e., Nuclear Engineering Standard NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy," submitted to the NRC by ComEd letter dated March 24, 2000), and also includes assuming a 30 month calibration interval (except for the degraded voltage Functions, which assume a 22.5 month calibration interval) in the determination of the magnitude of drift used in the applicable setpoint calculations. The Allowable Values for the following ITS Instrumentation Functions were confirmed to be valid or were revised. The validated values or revised values are identified by the removal of the square brackets from the values. In addition, the Channel Functional Test and Channel Calibration Frequencies for the degraded voltage Functions were changed to 18 months and the Channel Calibrations for all other affected Functions were either changed or confirmed to be 24 months.

   ITS Table 3.3.1.1-1, Functions 5 and 8;
   ITS LCO 3.3.4.1, SR 3.3.4.1.4;
   ITS Table 3.3.5.1-1, Functions 1.e, 2.e, 2.i, 2.j, 2.k, 3.d, 3.e, 4.c, 4.f, 5.c, and 5.f;
   ITS Table 3.3.5.2-1, Functions 3 and 4;
   ITS 3.3.6.1-1, Functions 1.c, 3.b, and 4.b;
   ITS Table 3.3.6.3-1, Function 1.b;
   ITS Table 3.3.8.1-1, Functions 1, 2.a, and 2.b; and
   ITS LCO 3.3.8.2, SR 3.3.8.2.2.

   These changes affect ITS 3.3.1.1, pages 3.3.1.1-8 and 3.3.1.1-9, ITS 3.3.4.1, page 3.3.4.1-3, ITS 3.3.5.1, pages 3.3.5.1-10, 3.3.5.1-11, 3.3.5.1-12, and 3.3.5.1-13, ITS 3.3.5.2, page 3.3.5.2-4, ITS 3.3.6.1, pages 3.3.6.1-5 and 3.3.6.1-6, ITS 3.3.6.3, page 3.3.6.3-3, ITS 3.3.8.1, pages 3.3.8.1-2 and 3.3.8.1-3, ITS 3.3.8.2, page 3.3.8.2-2, ITS 3.3.8.1 Bases page B 3.3.8.1-7, the CTS markup for ITS 3.3.4.1, page 3 of 5, the Discussion of Changes for ITS 3.3.4.1, DOC LE.1 (page 5), the CTS markup for ITS 3.3.5.1, page 4 of 17, the Discussion of Changes for ITS 3.3.5.1, DOC A.5 (page 2), DOC M.1 (page 4), and DOC LE.1 (page 8), the CTS markup for ITS 3.3.6.1, pages 4 of 12, 5 of 12, 10 of 12, and 11 of 12, the Discussion of Changes for ITS 3.3.6.1, DOC M.1 (page 4), DOC M.4 (page 5), and DOC LE.1 (pages 8, 9, 10, and 11), the Discussion of Changes for ITS 3.3.6.3, DOC LE.1 (page 4), the CTS markup for ITS 3.3.8.1, pages 1 of 6 and 5 of 6, the Discussion of Changes for ITS 3.3.8.1, DOC LD.1 (page 3) and DOC LE.1 (pages 4 and 5), the CTS markup for ITS 3.3.8.2, page 1 of 1, the Discussion of Changes for ITS 3.3.8.2, DOC LE.1 (pages 4 and 5), the ISTS markup for ITS 3.3.1.1, pages 3.3-8 and 3.3-9, the ISTS markup for ITS 3.3.4.1, page

3.3-35, the ISTS markup for ITS 3.3.5.1, insert page 3.3-42, pages 3.3-43 and 3.3-44, insert page 3.3-44, and pages 3.3-45, 3.3-46, and 3.3-47, the ISTS markup for ITS 3.3.5.2, page 3.3-51, the ISTS markup for ITS 3.3.6.1, page 3.3-57 and insert pages 3.3-58 and 3.3-60, the ISTS markup for ITS 3.3.6.3, page 3.3-70, the ISTS markup for ITS 3.3.8.1, pages 3.3-76 and 3.3-77, the Justification for Deviations to ITS 3.3.8.1, JFD 3 (page 1), the ISTS markup for ITS 3.3.8.2, page 3.3-80, the ISTS 3.3.8.1 Bases markup pages B 3.3-225 and B 3.3-226, and the Generic No Significant Hazards Consideration for ITS Section 3.3, NSHC LE.x (page 9).

2. A typographical error was noted in the Allowable Value column for ITS Table 3.3.1.1-1 Function 9. This has been corrected. This change affects ITS 3.3.1.1 page 3.3.1.1-9 and the ISTS markup page 3.3-9.

3. A typographical error was noted in the Reference sections of the ITS 3.3.1.1 Bases and ITS 3.3.2.1 Bases, in that incorrect document numbers were used. This has been corrected. This change affects ITS 3.3.1.1 Bases page B 3.3.1.1-36, ITS 3.3.2.1 Bases page B 3.3.2.1-13, the ISTS Bases markup for ITS 3.3.1.1, page 3.3-33, and the ISTS Bases markup for ITS 3.3.2.1, page B 3.3-55.

4. The Discussion of Changes were modified to more clearly discuss the actual changes. These changes affect the Discussion of Changes for ITS 3.3.1.1, DOC L.2 (page 14) and DOC L.10 (page 18).

5. A typographical error was noted in the Discussion of Changes for ITS 3.3.1.1 (the word "only" was inadvertently used). This has been corrected. This change affects the Discussion of Changes for ITS 3.3.1.1, DOC L.3 (page 14).

6. Typographical errors were noted in a Discussion of Change for ITS 3.3.1.2 (an incorrect CTS number was used and an incorrect inequality sign was used). These errors have been corrected. These changes affect the Discussion of Changes for ITS 3.3.1.2, DOC L.8 (page 6).

7. Typographical errors were noted in the Discussion of Changes for ITS 3.3.4.1 (an incorrect CTS number was used and the word "breaker(s)" was inadvertently used). These have been corrected. These changes affect the Discussion of Changes for ITS 3.3.4.1, DOC LA.1 (page 3) and DOC L.1 (page 7).

8. An incorrect Allowable Value was noted in that the Allowable Value for ITS Table 3.3.5.1-1 Functions 4.e and 5.e incorrectly included head correction. This has been corrected. This change affects ITS 3.3.5.1 page 3.3.5.1-13 and the ISTS markup pages 3.3-46 and 3.3-47.

9. Typographical errors were noted in a Discussion of Change for ITS 3.3.5.1, in that incorrect CTS Table numbers were used. This has been corrected. This change affects the Discussion of Changes for ITS 3.3.5.1, DOC A.6 (page 2).

10. A markup error was noted in ITS 3.3.5.1. This has been corrected. This change affects the ISTS 3.3.5.1 Bases markup page B 3.3-137.

11. Typographical errors were noted in a Discussion of Change in ITS 3.3.5.2, in that the incorrect CTS and ITS numbers were used. These have been corrected. These changes affect the Discussion of Changes for ITS 3.3.5.2, DOC A.6 (page 2).

12. A typographical error was noted in a Discussion of Change in ITS 3.3.6.1, in that one of the systems actuated was not identified. This has been corrected. This change affects the Discussion of Changes for ITS 3.3.6.1, DOC A.5 (page 2).

13. Typographical errors were noted in the Discussion of Changes for ITS 3.3.6.1 (an incorrect Function name was used and an incorrect ITS Required Action was referenced). These have been

corrected. These changes affect the Discussion of Changes for ITS 3.3.6.1, DOC M.1 (page 4) and DOC L.2 (page 14).

14. A typographical error was noted in a Discussion of Change for ITS 3.3.7.1, in that an incorrect CTS number was used. This has been corrected. This change affects the Discussion of Changes for ITS 3.3.7.1, DOC LA.1 (page 3).

15. Typographical errors were noted in a Discussion of Change for ITS 3.3.7.2, in that an incorrect CTS number was used. This has been corrected. This change affects the Discussion of Changes for ITS 3.3.7.2, DOC A.2 (page 1) and DOC A.6 (page 2).

16. A markup error was noted in ITS 3.3.8.1. This has been corrected. This change affects the CTS markup for ITS 3.3.8.1, page 1 of 6, and the Discussion of Changes for ITS 3.3.8.1, DOC A.6 (page 2).

17. A Discussion of Change was modified to more clearly discuss the actual change. This change affects the Discussion of Changes for ITS 3.3.8.2, DOC L.4 (page 8).

Section 3.4

1. Typographical errors were noted (the word "be" was inadvertently left out and an extra space was included). These errors have been corrected. This change affects the Discussion of Changes for ITS 3.4.1, DOC LA.1 (page 3).

2. A consistency issue was noted between ITS 3.4.7 and ITS 3.4.8, in that the Note to ITS 3.4.8 ACTIONS used the term "shutdown cooling subsystem" in lieu of the term "RHR shutdown cooling subsystem." This has been corrected. This change affects ITS 3.4.8 page 3.4.8-1 and Bases page B 3.4.8-3, the ISTS markup page 3.4-21, the Justification for Deviations to ITS 3.4.8, JFD 4 (page 1), and the ISTS Bases markup page B 3.4-44.

Section 3.6

1. The change committed to in the ComEd response to RAI 3.6.1.2-1 has been made. This change affects the CTS markup for ITS 3.6.1.2, page 2 of 2, the Discussion of Changes for ITS 3.6.1.2, DOC A.7 (page 2) and DOC M.2 (page 3).

2. The change committed to in the ComEd response to RAI 3.6.1.3-7 has been made. This change affects ITS 3.6.1.3 Bases pages B 3.6.1.3-11 and B 3.6.1.3-12, the ISTS Bases markup page B 3.6-26, and the ISTS 3.6.4.2 Bases markup page B 3.6-107.

3. The changes committed to in the ComEd responses to RAIs 3.6.1.3-9 and 3.6.1.3-11 have been made. These changes affect ITS 3.6.1.3, pages 3.6.1.3-1, 3.6.1.3-3, and 3.6.1.3-4, and Bases pages B 3.6.1.3-5, B 3.6.1.3-6, B 3.6.1.3-7, and B 3.6.1.3-9, the ISTS markup pages 3.6-8 and 3.6-10, the Justification for Deviations to ITS 3.6.1.3, JFD 3 (page 1) and JFD 4 (pages 1 and 2), the ISTS Bases markup pages B 3.6-18, B 3.6-19, B 3.6-20, B 3.6-21, B 3.6-22, and insert page B 3.6-22, and Justification for Deviations to ITS Bases 3.6.1.3, JFD 11 (page 1).

4. The change committed to in the ComEd response to RAI 3.6.1.3-10 has been made. This change affects ITS 3.6.1.3 Bases page B 3.6.1.3-2 and ISTS Bases markup page B 3.6-15.

5. The change committed to in the ComEd response to RAI 3.6.1.3-12 has been made. This change affects ITS 3.6.1.3 Bases markup page B 3.6-25.

6. The changes committed to in the ComEd responses to RAIs 3.6.1.7-1, 3.6.1.7-2, and 3.6.1.7-4 have been made. These changes affect the CTS markup for ITS 3.6.1.7, page 1 of 2, the Discussion of Changes for ITS 3.6.1.7, DOC A.2 (page 1), DOC A.3 (page 1), DOC L.1 (pages 3

and 4), and DOC L.4 (page 5), and the No Significant Hazards Consideration for ITS 3.6.1.7, NSHC L.1 (page 1) and NSHC L.4 (page 4).

7. The change committed to in the ComEd response to RAI 3.6.1.7-5 has been made. This change affects the Justification for Deviations to ITS Bases 3.6.1.7, JFD 4 (page 1).

8. The change committed to in the ComEd response to RAI 3.6.2.2-1 has been made. This change affects ITS 3.6.2.2 Bases page B 3.6.2.2-2 and the ISTS Bases markup page B 3.6-65.

9. The change committed to in the ComEd response to RAI 3.6.4.2-2 has been made. This change affects the CTS markup for ITS 3.6.4.2, page 3 of 3, the Discussion of Changes for ITS 3.6.4.2, DOC L.2 (page 4), and the No Significant Hazards Consideration for ITS 3.6.4.2, NSHC L.2 (page 2).

10. The change committed to in the ComEd response to RAI 3.6.4.2-4 has been made. This change affects the ISTS 3.6.4.2 Bases markup page B 3.6-104.

11. The change committed to in the ComEd response to RAI 3.6.4.3-1 has been made. This change affects the Discussion of Changes for ITS 3.6.4.3, DOC LA.2 (page 2).

12. Typographical errors were noted in the Discussion of Changes for ITS 3.6.1.3 (incorrect CTS reference numbers were used). These have been corrected. These changes affect the Discussion of Changes for ITS 3.6.1.3, DOC A.6 (page 2), DOC L.2 (page 8), and DOC L.4 (page 8).

13. A typographical error was noted in that brackets were inadvertently left in the Applicable Safety Analyses section of the ITS 3.6.1.4 Bases. This has been corrected. This change affects ITS 3.6.1.4 Bases page B 3.6.1.4-1.

14. A markup error was noted in ITS 3.6.2.2. This has been corrected. This change affects the CTS markup for ITS 3.6.2.2, page 2 of 4, and the Discussion of Changes for ITS 3.6.2.2, DOC A.2 (page 1).

15. A typographical error was noted in the Discussion of Changes for ITS 3.6.2.2, in that an incorrect CTS reference number was used. This has been corrected. This change affects the Discussion of Changes for ITS 3.6.2.2, DOC LA.1 (page 1).

16. A typographical error was noted in the Discussion of Changes for ITS 3.6.3.1, in that an incorrect CTS reference number was used. This has been corrected. This change affects the Discussion of Changes for ITS 3.6.3.1, DOC A.3 (page 1).

Section 3.7

1. A markup error was noted in ITS 3.7.1. This has been corrected. This change affects the CTS markup for ITS 3.7.1, page 1 of 3, and the Discussion of Changes of ITS 3.7.1, DOC LA.1 (page 1).

2. A markup error was noted in ITS 3.7.4. This has been corrected. This change affects the CTS markup for ITS 3.7.4, page 1 of 3, and the Discussion of Changes for ITS 3.7.4, DOC LA.1 (page 1).

3. A markup error was noted in ITS 3.7.5. This has been corrected. This change affects the CTS markup for ITS 3.7.5, page 1 of 3, and the Discussion of Changes for ITS 3.7.5, DOC LA.1 (page 1).

Section 3.8

1. A Discussion of Change has been clarified to reflect the correct requirement (bulk fuel storage tank level instead of fuel oil day tank level). This affects the Discussion of Changes for ITS 3.8.1, DOC A.2 (page 1).

2. A typographical error was noted in that an incorrect system name was used in a Discussion of Change. This has been corrected. This change affects the Discussion of Changes for ITS 3.8.1, DOC M.1 (page 4).

3. A typographical error was noted in that an incorrect ITS reference number was used in a Discussion of Change. This has been corrected. This change affects the Discussion of Changes for ITS 3.8.1, DOC L.11 (page 16).

4. A typographical error was noted in the Discussion of Changes for ITS 3.8.2, in that an incorrect CTS reference number was used. This has been corrected. This change affects the Discussion of Changes for ITS 3.8.2, DOC L.2 (page 4).

5. The Bases description of the fuel oil testing program has been changed to be consistent with more current standards and for consistency with the Dresden and LaSalle ITS. This change affects ITS 3.8.3 Bases pages B 3.8.3-4, B 3.8.3-5, and B 3.8.3-6, and the ISTS Bases markup pages B 3.8-46, B 3.8-47, and B 3.8-49.

6. A typographical error was noted in the Discussion of Changes for ITS 3.8.4, in that the CTS reference numbers were not properly arranged. This has been corrected. This change affects the Discussion of Changes for ITS 3.8.4, DOC A.2 (page 1).

7. A Discussion of Change has been clarified to better reflect the proposed change. This affects the Discussion of Changes for ITS 3.8.5, DOC M.1 (page 1).

8. Typographical errors were noted in the Discussion of Changes for ITS 3.8.6 (incorrect CTS reference numbers were used). These have been corrected. These changes affect the Discussion of Changes for ITS 3.8.6, DOC A.6 (page 2) and DOC M.1 (page 2).

9. Markup errors were noted in ITS 3.8.7 and ITS 3.8.8. These have been corrected. These changes affects the CTS markup for ITS 3.8.7, pages 1 of 2 and 2 of 2, and the CTS markup for ITS 3.8.8, pages 1 of 2 and 2 of 2.

10. A typographical error was noted in the Discussion of Changes for ITS 3.8.7, in that an unused DOC was included. This has been corrected. This change affects the Discussion of Changes for ITS 3.8.7, DOC A.3 (deleted from page 1).

<u>Chapter 4.0</u>

1. A typographical error was noted in the Discussion of Changes for ITS Chapter 4.0, in that an incorrect UFSAR Section number was used. This has been corrected. This change affects the Discussion of Changes for ITS Chapter 4.0, DOC LA.3 (page 2).

<u>Chapter 5.0</u>

1. A Discussion of Change has been clarified to reflect the correct ASTM standard. In addition, some additional changes were made to better describe the change. This affects the Discussion of Changes for ITS 5.5, DOC L.1 (page 11).

Quad Cities ITS Rev. B Submittal

DISCARD AND INSERTION INSTRUCTIONS

VOLUME 3	
SECTION 3.3	
DISCARD	**INSERT**
ITS page 3.3.1.1-8	ITS page 3.3.1.1-8
ITS page 3.3.1.1-9	ITS page 3.3.1.1-9
ITS page 3.3.4.1-3	ITS page 3.3.4.1-3
ITS Page 3.3.5.1-10	ITS Page 3.3.5.1-10
ITS Page 3.3.5.1-11	ITS Page 3.3.5.1-11
ITS Page 3.3.5.1-12	ITS Page 3.3.5.1-12
ITS Page 3.3.5.1-13	ITS Page 3.3.5.1-13
ITS Page 3.3.5.2-4	ITS Page 3.3.5.2-4
ITS Page 3.3.6.1-5	ITS Page 3.3.6.1-5
ITS Page 3.3.6.1-6	ITS Page 3.3.6.1-6
ITS Page 3.3.6.3-3	ITS Page 3.3.6.3-3
ITS Page 3.3.8.1-2	ITS Page 3.3.8.1-2
ITS Page 3.3.8.1-3	ITS Page 3.3.8.1-3
ITS Page 3.3.8.2-2	ITS Page 3.3.8.2-2
ITS Bases Page B 3.3.1.1-36	ITS Bases Page B 3.3.1.1-36
ITS Bases Page B 3.3.2.1-13	ITS Bases Page B 3.3.2.1-13
ITS Bases Page B 3.3.8.1-7	ITS Bases Page B 3.3.8.1-7
Discussion of Changes for ITS 3.3.1.1 page 14	Discussion of Changes for ITS 3.3.1.1 page 14
Discussion of Changes for ITS 3.3.1.1 page 18	Discussion of Changes for ITS 3.3.1.1 page 18
Discussion of Changes for ITS 3.3.1.2 page 6	Discussion of Changes for ITS 3.3.1.2 page 6
CTS Markup for Specification 3.3.4.1 page 3 of 5	CTS Markup for Specification 3.3.4.1 page 3 of 5
Discussion of Changes for ITS 3.3.4.1 page 3	Discussion of Changes for ITS 3.3.4.1 pages 3
Discussion of Changes for ITS 3.3.4.1 pages 5, 6, 7, 8, and 9	Discussion of Changes for ITS 3.3.4.1 pages 5, 6, 7, 8, and 9
CTS Markup for Specification 3.3.5.1 page 4 of 17	CTS Markup for Specification 3.3.5.1 page 4 of 17
Discussion of Changes for ITS 3.3.5.1 pages 2, 3, 4, 5, 6, 7, and 8	Discussion of Changes for ITS 3.3.5.1 pages 2, 3, 4, 5, 6, 7, and 8
Discussion of Changes for ITS 3.3.5.2 page 2	Discussion of Changes for ITS 3.3.5.2 page 2
CTS Markup for Specification 3.3.6.1 page 4 of 12	CTS Markup for Specification 3.3.6.1 page 4 of 12

VOLUME 3	
SECTION 3.3	
DISCARD	INSERT
CTS Markup for Specification 3.3.6.1 page 5 of 12	CTS Markup for Specification 3.3.6.1 page 5 of 12
CTS Markup for Specification 3.3.6.1 page 10 of 12	CTS Markup for Specification 3.3.6.1 page 10 of 12
CTS Markup for Specification 3.3.6.1 page 11 of 12	CTS Markup for Specification 3.3.6.1 page 11 of 12
Discussion of Changes for ITS 3.3.6.1 page 2	Discussion of Changes for ITS 3.3.6.1 page 2
Discussion of Changes for ITS 3.3.6.1 pages 4 and 5	Discussion of Changes for ITS 3.3.6.1 pages 4 and 5
Discussion of Changes for ITS 3.3.6.1 pages 8, 9, 10, 11, 12, 13, 14, and 15	Discussion of Changes for ITS 3.3.6.1 pages 8, 9, 10, 11, 12, 13, 14, and 15
Discussion of Changes for ITS 3.3.6.3 page 4	Discussion of Changes for ITS 3.3.6.3 page 4
Discussion of Changes for ITS 3.3.7.1 page 3	Discussion of Changes for ITS 3.3.7.1 page 3
Discussion of Changes for ITS 3.3.7.2 pages 1 and 2	Discussion of Changes for ITS 3.3.7.2 pages 1 and 2
CTS Markup for Specification 3.3.8.1 page 1 of 6	CTS Markup for Specification 3.3.8.1 page 1 of 6
CTS Markup for Specification 3.3.8.1 page 5 of 6	CTS Markup for Specification 3.3.8.1 page 5 of 6
Discussion of Changes for ITS 3.3.8.1 pages 2, 3, 4, and 5	Discussion of Changes for ITS 3.3.8.1 pages 2, 3, 4, and 5
CTS Markup for Specification 3.3.8.2 page 1 of 1	CTS Markup for Specification 3.3.8.2 page 1 of 1
Discussion of Changes for ITS 3.3.8.2 pages 4 and 5	Discussion of Changes for ITS 3.3.8.2 pages 4 and 5
Discussion of Changes for ITS 3.3.8.2 page 8	Discussion of Changes for ITS 3.3.8.2 page 8

VOLUME 4	
SECTION 3.3	
DISCARD	**INSERT**
ISTS markup page 3.3-8	ISTS markup page 3.3-8
ISTS markup page 3.3-9	ISTS markup page 3.3-9
ISTS markup page 3.3-35	ISTS markup page 3.3-35
ISTS markup Insert Page 3.3-42	ISTS markup Insert Page 3.3-42
ISTS markup page 3.3-43	ISTS markup page 3.3-43
ISTS markup page 3.3-44	ISTS markup page 3.3-44
ISTS markup Insert Page 3.3-44	ISTS markup Insert Page 3.3-44
ISTS markup page 3.3-45	ISTS markup page 3.3-45
ISTS markup page 3.3-46	ISTS markup page 3.3-46
ISTS markup page 3.3-47	ISTS markup page 3.3-47
ISTS markup page 3.3-51	ISTS markup page 3.3-51
ISTS markup page 3.3-57	ISTS markup page 3.3-57
ISTS markup Insert Page 3.3-58	ISTS markup Insert Page 3.3-58
ISTS markup Insert Page 3.3-60	ISTS markup Insert Page 3.3-60
ISTS markup page 3.3-70	ISTS markup page 3.3-70
ISTS markup page 3.3-76	ISTS markup page 3.3-76
ISTS markup page 3.3-77	ISTS markup page 3.3-77
Justification for Deviations to ITS 3.3.8.1 page 1	Justification for Deviations to ITS 3.3.8.1 page 1
ISTS markup page 3.3-80	ISTS markup page 3.3-80
ISTS Bases markup page B 3.3-33	ISTS Bases markup page B 3.3-33
ISTS Bases markup page B 3.3-55	ISTS Bases markup page B 3.3-55
ISTS Bases markup page B 3.3-137	ISTS Bases markup page B 3.3-137
ISTS Bases markup page B 3.3-225	ISTS Bases markup page B 3.3-225
ISTS Bases markup page B 3.3-226	ISTS Bases markup page B 3.3-226
Generic No Significant Hazards Consideration, page 9	Generic No Significant Hazards Consideration, page 9

VOLUME 5	
SECTIONS 3.4 and 3.5	
DISCARD	**INSERT**
ITS page 3.4.8-1	ITS page 3.4.8-1
ITS Bases Page B 3.4.8-3	ITS Bases Page B 3.4.8-3
Discussion of Changes for ITS 3.4.1 pages 3 and 4	Discussion of Changes for ITS 3.4.1 pages 3 and 4
ISTS markup page 3.4-21	ISTS markup page 3.4-21
Justification for Deviations to ITS 3.4.8 page 1	Justification for Deviations to ITS 3.4.8 page 1
ISTS Bases markup page B 3.4-44	ISTS Bases markup page B 3.4-44

VOLUME 6	
SECTION 3.6	
DISCARD	INSERT
ITS Page 3.6.1.3-1	ITS Page 3.6.1.3-1
ITS Page 3.6.1.3-3	ITS Page 3.6.1.3-3
ITS Page 3.6.1.3-4	ITS Page 3.6.1.3-4
ITS Bases Page B 3.6.1.3-2	ITS Bases Page B 3.6.1.3-2
ITS Bases Page B 3.6.1.3-5	ITS Bases Page B 3.6.1.3-5
ITS Bases Page B 3.6.1.3-6	ITS Bases Page B 3.6.1.3-6
ITS Bases Page B 3.6.1.3-7	ITS Bases Page B 3.6.1.3-7
ITS Bases Page B 3.6.1.3-8	ITS Bases Page B 3.6.1.3-8
ITS Bases Page B 3.6.1.3-9	ITS Bases Page B 3.6.1.3-9
ITS Bases Page B 3.6.1.3-11	ITS Bases Page B 3.6.1.3-11
ITS Bases Page B 3.6.1.3-12	ITS Bases Page B 3.6.1.3-12
ITS Bases Page B 3.6.1.4-1	ITS Bases Page B 3.6.1.4-1
ITS Bases Page B 3.6.2.2-2	ITS Bases Page B 3.6.2.2-2
CTS Markup for Specification 3.6.1.2 page 2 of 2	CTS Markup for Specification 3.6.1.2 page 2 of 2
Discussion of Changes for ITS 3.6.1.2 pages 2, 3, 4, 5, 6, and 7	Discussion of Changes for ITS 3.6.1.2 pages 2, 3, 4, 5, 6, and 7
Discussion of Changes for ITS 3.6.1.3 page 2	Discussion of Changes for ITS 3.6.1.3 page 2
Discussion of Changes for ITS 3.6.1.3 pages 8 and 9	Discussion of Changes for ITS 3.6.1.3 pages 8 and 9
CTS Markup for Specification 3.6.1.7 page 1 of 2	CTS Markup for Specification 3.6.1.7 page 1 of 2
Discussion of Changes for ITS 3.6.1.7 page 1	Discussion of Changes for ITS 3.6.1.7 page 1
Discussion of Changes for ITS 3.6.1.7 pages 3 and 4	Discussion of Changes for ITS 3.6.1.7 pages 3, 4, and 5
CTS Markup for Specification 3.6.2.2 page 2 of 4	CTS Markup for Specification 3.6.2.2 page 2 of 4
Discussion of Changes for ITS 3.6.2.2 page 1	Discussion of Changes for ITS 3.6.2.2 page 1
Discussion of Changes for ITS 3.6.3.1 page 1	Discussion of Changes for ITS 3.6.3.1 page 1
CTS Markup for Specification 3.6.4.2 page 3 of 3	CTS Markup for Specification 3.6.4.2 page 3 of 3
Discussion of Changes for ITS 3.6.4.2 pages 4 and 5	Discussion of Changes for ITS 3.6.4.2 pages 4 and 5
Discussion of Changes for ITS 3.6.4.3 page 2	Discussion of Changes for ITS 3.6.4.3 page 2

VOLUME 7	
SECTION 3.6	
DISCARD	**INSERT**
ISTS markup page 3.6-8	ISTS markup page 3.6-8
ISTS markup page 3.6-10	ISTS markup page 3.6-10
Justification for Deviations to ITS 3.6.1.3 pages 1 and 2	Justification for Deviations to ITS 3.6.1.3 pages 1 and 2
ISTS Bases markup page B 3.6-15	ISTS Bases markup page B 3.6-15
ISTS Bases markup page B 3.6-18	ISTS Bases markup page B 3.6-18
ISTS Bases markup page B 3.6-19	ISTS Bases markup page B 3.6-19
ISTS Bases markup page B 3.6-20	ISTS Bases markup page B 3.6-20
ISTS Bases markup page B 3.6-21	ISTS Bases markup page B 3.6-21
ISTS Bases markup page B 3.6-22	ISTS Bases markup page B 3.6-22 and insert page B 3.6-22
ISTS Bases markup page B 3.6-25	ISTS Bases markup page B 3.6-25
ISTS Bases markup page B 3.6-26	ISTS Bases markup page B 3.6-26
Justification for Deviations to ITS 3.6.1.3 Bases page 1	Justification for Deviations to ITS 3.6.1.3 Bases page 1
Justification for Deviations to ITS 3.6.1.7 Bases page 1	Justification for Deviations to ITS 3.6.1.7 Bases page 1
ISTS Bases markup page B 3.6-65	ISTS Bases markup page B 3.6-65
ISTS Bases markup page B 3.6-104	ISTS Bases markup page B 3.6-104
ISTS Bases markup page B 3.6-107	ISTS Bases markup page B 3.6-107
No Significant Hazards Consideration for ITS 3.6.1.7 page 1	No Significant Hazards Consideration for ITS 3.6.1.7 page 1
None	No Significant Hazards Consideration for ITS 3.6.7.1 page 4
No Significant Hazards Consideration for ITS 3.6.4.2 page 2	No Significant Hazards Consideration for ITS 3.6.4.2 page 2

VOLUME 8	
SECTION 3.7	
DISCARD	INSERT
CTS Markup for Specification 3.7.1 page 1 of 3	CTS Markup for Specification 3.7.1 page 1 of 3
Discussion of Changes for ITS 3.7.1 page 2	Discussion of Changes for ITS 3.7.1 page 2
CTS Markup for Specification 3.7.4 page 1 of 3	CTS Markup for Specification 3.7.4 page 1 of 3
Discussion of Changes for ITS 3.7.4 page 1	Discussion of Changes for ITS 3.7.4 page 1
CTS Markup for Specification 3.7.5 page 1 of 3	CTS Markup for Specification 3.7.5 page 1 of 3
Discussion of Changes for ITS 3.7.5 page 1	Discussion of Changes for ITS 3.7.5 page 1

VOLUME 9	
SECTION 3.8	
DISCARD	INSERT
ITS Bases page B 3.8.3-4	ITS Bases page B 3.8.3-4
ITS Bases page B 3.8.3-5	ITS Bases page B 3.8.3-5
ITS Bases page B 3.8.3-6	ITS Bases page B 3.8.3-6
Discussion of Changes for ITS 3.8.1 page 1	Discussion of Changes for ITS 3.8.1 page 1
Discussion of Changes for ITS 3.8.1 page 4	Discussion of Changes for ITS 3.8.1 page 4
Discussion of Changes for ITS 3.8.1 page 16	Discussion of Changes for ITS 3.8.1 page 16
Discussion of Changes for ITS 3.8.2 page 4	Discussion of Changes for ITS 3.8.2 page 4
Discussion of Changes for ITS 3.8.4 page 1	Discussion of Changes for ITS 3.8.4 page 1
Discussion of Changes for ITS 3.8.5 page 1	Discussion of Changes for ITS 3.8.5 page 1
Discussion of Changes for ITS 3.8.6 page 2	Discussion of Changes for ITS 3.8.6 page 2
CTS Markup for Specification 3.8.7 page 1 of 2	CTS Markup for Specification 3.8.7 page 1 of 2
CTS Markup for Specification 3.8.7 page 2 of 2	CTS Markup for Specification 3.8.7 page 2 of 2
Discussion of Changes for ITS 3.8.7 page 1	Discussion of Changes for ITS 3.8.7 page 1
CTS Markup for Specification 3.8.8 page 1 of 2	CTS Markup for Specification 3.8.8 page 1 of 2
CTS Markup for Specification 3.8.8 page 2 of 2	CTS Markup for Specification 3.8.8 page 2 of 2
ISTS Bases markup page B 3.8-46	ISTS Bases markup page B 3.8-46
ISTS Bases markup page B 3.8-47	ISTS Bases markup page B 3.8-47
ISTS Bases markup page B 3.8-49	ISTS Bases markup page B 3.8-49

VOLUME 11	
CHAPTERS 4.0 AND 5.0	
DISCARD	**INSERT**
Discussion of Changes for ITS Chapter 4.0 page 2	Discussion of Changes for ITS Chapter 4.0 page 2
Discussion of Changes for ITS 5.5 page 11	Discussion of Changes for ITS 5.5 page 11

Table 3.3.1.1-1 (page 2 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Average Power Range Monitors (continued)					
c. Fixed Neutron Flux — High	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.5 SR 3.3.1.1.9 SR 3.3.1.1.10 SR 3.3.1.1.14 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 122% RTP
d. Inop	1,2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.9 SR 3.3.1.1.10 SR 3.3.1.1.17	NA
3. Reactor Vessel Steam Dome Pressure — High	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.11 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 1050 psig
4. Reactor Vessel Water Level — Low	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.11 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 11.8 inches
5. Main Steam Isolation Valve — Closure	1	8	F	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 9.8% closed
6. Drywell Pressure — High	1,2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.12 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 2.43 psig

(continued)

Table 3.3.1.1-1 (page 3 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	
7. Scram Discharge Volume Water Level − High						
a. Thermal Switch	1,2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17	≤ 38.9 gallons	A
	5(a)	2	H	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17	≤ 38.9 gallons	A
b. Differential Pressure Switch	1,2	2	G	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17	≤ 32.3 gallons	A
	5(a)	2	H	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17	≤ 32.3 gallons	A
8. Turbine Stop Valve − Closure	≥ 45% RTP	4	E	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.13 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ 9.7% closed	B
9. Turbine Control Valve Fast Closure, Trip Oil Pressure − Low	≥ 45% RTP	2	E	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.13 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 475 psig	B
10. Turbine Condenser Vacuum − Low	1	2	F	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.12 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 21.8 inches Hg vacuum	A
11. Reactor Mode Switch − Shutdown Position	1,2	1	G	SR 3.3.1.1.15 SR 3.3.1.1.17	NA	
	5(a)	1	H	SR 3.3.1.1.15 SR 3.3.1.1.17	NA	
12. Manual Scram	1,2	1	G	SR 3.3.1.1.8 SR 3.3.1.1.17	NA	
	5(a)	1	H	SR 3.3.1.1.8 SR 3.3.1.1.17	NA	

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

SURVEILLANCE REQUIREMENTS

---------------------------------NOTE---------------------------------
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains ATWS-RPT trip capability.

SURVEILLANCE		FREQUENCY
SR 3.3.4.1.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.4.1.2	Calibrate the trip units.	31 days
SR 3.3.4.1.3	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.4.1.4	Perform CHANNEL CALIBRATION. The Allowable Values shall be: a. Reactor Vessel Water Level — Low Low $\geq$ -56.3 inches with time delay set to $\geq$ 7.2 seconds and $\leq$ 10.8 seconds; and b. Reactor Vessel Steam Dome Pressure — High: $\leq$ 1219 psig.	24 months
SR 3.3.4.1.5	Perform LOGIC SYSTEM FUNCTIONAL TEST including breaker actuation.	24 months

Table 3.3.5.1-1 (page 1 of 4)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Core Spray System					
a. Reactor Vessel Water Level – Low Low	1,2,3, 4(a), 5(a)	4(b)	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.9	≥ -56.78 inches
b. Drywell Pressure – High	1,2,3	4(b)	B	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≤ 2.43 psig
c. Reactor Steam Dome Pressure – Low (Permissive)	1,2,3	2	C	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ 306 psig and ≤ 342 psig
	4(a), 5(a)	2	B	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ 306 psig and ≤ 342 psig
d. Core Spray Pump Discharge Flow – Low (Bypass)	1,2,3, 4(a), 5(a)	1 per pump	E	SR 3.3.5.1.4 SR 3.3.5.1.5 SR 3.3.5.1.8 SR 3.3.5.1.9	≥ 577 gpm and ≤ 830 gpm
e. Core Spray Pump Start-Time Delay Relay	1, 2, 3 4(a), 5(a)	1 per pump	C	SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 9.4 seconds
2. Low Pressure Coolant Injection (LPCI) System					
a. Reactor Vessel Water Level – Low Low	1,2,3, 4(a), 5(a)	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.9	≥ -56.78 inches
b. Drywell Pressure – High	1,2,3	4	B	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≤ 2.43 psig
c. Reactor Steam Dome Pressure – Low (Permissive)	1,2,3	2	C	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ 306 psig and ≤ 342 psig
	4(a), 5(a)	2	B	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ 306 psig and ≤ 342 psig

(continued)

(a) When associated ECCS subsystem(s) are required to be OPERABLE per LCO 3.5.2, "ECCS – Shutdown."

(b) Also required to initiate the associated diesel generator (DG).

Table 3.3.5.1-1 (page 2 of 4)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI System (continued)					
d. Reactor Steam Dome Pressure – Low (Break Detection)	1,2,3	4	B	SR 3.3.5.1.4 SR 3.3.5.1.7 SR 3.3.5.1.9	≥ 868 psig and ≤ 891 psig
e. Low Pressure Coolant Injection Pump Start – Time Delay Relay Pumps B and D	1,2,3, 4(a), 5(a)	1 per pump	C	SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 4.7 seconds
f. Low Pressure Coolant Injection Pump Discharge Flow – Low (Bypass)	1,2,3, 4(a), 5(a)	1 per loop	E	SR 3.3.5.1.4 SR 3.3.5.1.5 SR 3.3.5.1.8 SR 3.3.5.1.9	≥ 2526 gpm
g. Recirculation Pump Differential Pressure–High (Break Detection)	1, 2, 3	4 per pump	C	SR 3.3.5.1.4 SR 3.3.5.1.8 SR 3.3.5.1.9	≥ 2.3 psid
h. Recirculation Riser Differential Pressure–High (Break Detection)	1, 2, 3	4	C	SR 3.3.5.1.4 SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 2.15 psid
i. Recirculation Pump Differential Pressure Time Delay - Relay (Break Detection)	1, 2, 3	2	C	SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 0.82 seconds
j. Reactor Steam Dome Pressure Time Delay - Relay (Break Detection)	1, 2, 3	2	B	SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 2.26 seconds
k. Recirculation Riser Differential Pressure Time Delay - Relay (Break Detection)	1, 2, 3	2	C	SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 0.82 seconds

(continued)

(a) When associated ECCS subsystem(s) are required to be OPERABLE per LCO 3.5.2.

Table 3.3.5.1-1 (page 3 of 4)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. High Pressure Coolant Injection (HPCI) System					
a. Reactor Vessel Water Level − Low Low	1, $2^{(c)}$, $3^{(c)}$	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.9	≥ -56.78 inches
b. Drywell Pressure − High	1, $2^{(c)}$, $3^{(c)}$	4	B	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≤ 2.43 psig
c. Reactor Vessel Water Level − High	1, $2^{(c)}$, $3^{(c)}$	2	C	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.9	≤ 54.23 inches
d. Contaminated Condensate Storage Tank (CCST) Level − Low	1, $2^{(c)}$, $3^{(c)}$	2	D	SR 3.3.5.1.4 SR 3.3.5.1.8 SR 3.3.5.1.9	≥ 598 ft 1 inch
e. Suppression Pool Water Level − High	1, $2^{(c)}$, $3^{(c)}$	2	D	SR 3.3.5.1.4 SR 3.3.5.1.9	≤ 15 ft 11.25 inches
f. High Pressure Coolant Injection Pump Discharge Flow − Low (Bypass)	1, $2^{(c)}$, $3^{(c)}$	1	E	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ 634 gpm
g. Manual Initiation	1, $2^{(c)}$, $3^{(c)}$	1	C	SR 3.3.5.1.9	NA
4. Automatic Depressurization System (ADS) Trip System A					
a. Reactor Vessel Water Level − Low Low	1, $2^{(c)}$, $3^{(c)}$	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.9	≥ -56.78 inches
b. Drywell Pressure − High	1, $2^{(c)}$, $3^{(c)}$	2	F	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≤ 2.43 psig
c. Automatic Depressurization System Initiation Timer	1, $2^{(c)}$, $3^{(c)}$	1	G	SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 119 seconds

(continued)

(c) With reactor steam dome pressure > 150 psig.

Table 3.3.5.1-1 (page 4 of 4)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	
4. ADS Trip System A (continued)						
d. Core Spray Pump Discharge Pressure – High	1, 2[c], 3[c]	2	G	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ 101.9 psig and ≤ 148.1 psig	A
e. Low Pressure Coolant Injection Pump Discharge Pressure – High	1, 2[c], 3[c]	4	G	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ 101.6 psig and ≤ 148.4 psig	B
f. Automatic Depressurization System Low Low Water Level Actuation Timer	1, 2[c], 3[c]	1	G	SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 530 seconds	B
5. ADS Trip System B						
a. Reactor Vessel Water Level – Low Low	1, 2[c], 3[c]	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.9	≥ -56.78 inches	A
b. Drywell Pressure – High	1, 2[c], 3[c]	2	F	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≤ 2.43 psig	A
c. Automatic Depressurization System Initiation Timer	1, 2[c], 3[c]	1	G	SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 119 seconds	B
d. Core Spray Pump Discharge Pressure – High	1, 2[c], 3[c]	2	G	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ 101.9 psig and ≤ 148.1 psig	A
e. Low Pressure Coolant Injection Pump Discharge Pressure – High	1, 2[c], 3[c]	4	G	SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ 101.6 psig and ≤ 148.4 psig	B
f. Automatic Depressurization System Low Low Water Level Actuation Timer	1, 2[c], 3[c]	1	G	SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 530 seconds	B

(c) With reactor steam dome pressure > 150 psig.

Table 3.3.5.2-1 (page 1 of 1)
Reactor Core Isolation Cooling System Instrumentation

FUNCTION	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level – Low Low	4	B	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.3 SR 3.3.5.2.6	≥ -56.78 inches
2. Reactor Vessel Water Level – High	2	C	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.3 SR 3.3.5.2.6	≤ 54.23 inches
3. Contaminated Condensate Storage Tank (CCST) Level – Low	2	D	SR 3.3.5.2.4 SR 3.3.5.2.5 SR 3.3.5.2.6	≥ 598 ft 1 inch
4. Suppression Pool Water Level – High	2	D	SR 3.3.5.2.4 SR 3.3.5.2.6	≤ 15 ft 11.25 inches
5. Manual Initiation	1	C	SR 3.3.5.2.6	NA

Table 3.3.6.1-1 (page 1 of 3)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Main Steam Line Isolation					
a. Reactor Vessel Water Level − Low Low	1,2,3	2	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ -55.2 inches
b. Main Steam Line Pressure − Low	1	2	E	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≥ 831 psig
c. Main Steam Line Pressure − Timer	1	2	E	SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 0.331 seconds
d. Main Steam Line Flow − High	1,2,3	2 per MSL	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 138% rated steam flow
e. Main Steam Line Tunnel Temperature − High	1,2,3	2 per trip string	D	SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 198°F
2. Primary Containment Isolation					
a. Reactor Vessel Water Level − Low	1,2,3	2	G	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 11.8 inches
b. Drywell Pressure − High	1,2,3	2	G	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 2.43 psig
c. Drywell Radiation − High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 70 R/hr

(continued)

Table 3.3.6.1-1 (page 2 of 3)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. High Pressure Coolant Injection (HPCI) System Isolation					
a. HPCI Steam Line Flow – High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 151% rated steam flow
b. HPCI Steam Line Flow – Timer	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 3.2 seconds and ≤ 8.8 seconds
c. HPCI Steam Supply Line Pressure – Low	1,2,3	2	F	SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 113.0 psig
d. Drywell Pressure – High	1,2,3	2	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 2.43 psig
e. HPCI Turbine Area Temperature – High	1,2,3	2	F	SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 169°F
4. Reactor Core Isolation Cooling (RCIC) System Isolation					
a. RCIC Steam Line Flow – High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 175% rated steam flow
b. RCIC Steam Line Flow – Timer	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 3.2 seconds and ≤ 8.8 seconds
c. RCIC Steam Supply Line Pressure – Low	1,2,3	4[(a)]	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≥ 54 psig
d. RCIC Turbine Area Temperature – High	1,2,3	2	F	SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 169°F

(continued)

(a) Only inputs into one trip system.

Table 3.3.6.3-1 (page 1 of 1)
Relief Valve Set Instrumentation

FUNCTION	REQUIRED CHANNELS PER FUNCTION	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	
1. Low Set Relief Valves				
a. Reactor Vessel Pressure Setpoint	1 per valve	SR 3.3.6.3.1 SR 3.3.6.3.2	≤ 1108 psig	A
b. Reactuation Time Delay	2 per valve	SR 3.3.6.3.1 SR 3.3.6.3.2	≥ 10.5 seconds and ≤ 17.8 seconds	B
2. Relief Valves				
a. Reactor Vessel Pressure Setpoint	1 per valve	SR 3.3.6.3.1 SR 3.3.6.3.2	≤ 1128 psig	A

SURVEILLANCE REQUIREMENTS

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

1. Refer to Table 3.3.8.1-1 to determine which SRs apply for each LOP Function.

2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 2 hours provided the associated Function maintains LOP initiation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.8.1.1	Perform CHANNEL FUNCTIONAL TEST.	18 months
SR 3.3.8.1.2	Perform CHANNEL CALIBRATION.	18 months
SR 3.3.8.1.3	Perform CHANNEL FUNCTIONAL TEST.	24 months
SR 3.3.8.1.4	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.8.1.5	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

B

Table 3.3.8.1-1 (page 1 of 1)
Loss of Power Instrumentation

FUNCTION	REQUIRED CHANNELS PER BUS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. 4160 V Essential Service System Bus Undervoltage (Loss of Voltage)	2	SR 3.3.8.1.3 SR 3.3.8.1.4 SR 3.3.8.1.5	$\geq$ 2797 V and $\leq$ 3063 V
2. 4160 V Essential Service System Bus Undervoltage (Degraded Voltage)			
a. Bus Undervoltage/Time Delay	2	SR 3.3.8.1.1 SR 3.3.8.1.2 SR 3.3.8.1.5	$\geq$ 3885 V and $\leq$ 3948 V with time delay $\geq$ 5.7 seconds and $\leq$ 8.3 seconds
b. Time Delay (No LOCA)	1	SR 3.3.8.1.1 SR 3.3.8.1.2 SR 3.3.8.1.5	$\geq$ 276 seconds and $\leq$ 324 seconds

B

B

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A or B not met in MODE 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies.	D.1 Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.3.8.2.1	-----------------NOTE----------------- Only required to be performed prior to entering MODE 2 from MODE 3 or 4, when in MODE 4 for ≥ 24 hours. -------------------------------------- Perform CHANNEL FUNCTIONAL TEST.	184 days
SR 3.3.8.2.2	Perform CHANNEL CALIBRATION. The Allowable Values shall be: a. Overvoltage ≤ 129.4 V, with time delay set to ≤ 3.59 seconds. b. Undervoltage ≥ 105.6 V, with time delay set to ≤ 3.59 seconds. c. Underfrequency ≥ 55.6 Hz, with time delay set to ≤ 3.59 seconds.	24 months
SR 3.3.8.2.3	Perform a system functional test.	24 months

BASES

REFERENCES (continued)

5. UFSAR, Section 15.4.1.
6. NEDO-23842, "Continuous Control Rod Withdrawal in the Startup Range," April 18, 1978.
7. UFSAR, Section 15.4.10.
8. UFSAR, Section 15.6.5.
9. UFSAR, Section 15.2.5.
10. P. Check (NRC) letter to G. Lainas (NRC), "BWR Scram Discharge System Safety Evaluation," December 1, 1980.
11. UFSAR, Section 15.2.3.
12. UFSAR, Section 15.2.2.
13. NEDC-30851-P-A , "Technical Specification Improvement Analyses for BWR Reactor Protection System," March 1988.
14. Technical Requirements Manual.

BASES

REFERENCES (continued)

7. Letter to T.A. Pickens (BWROG) from G.C. Lainas (NRC), "Amendment 17 to General Electric Licensing Topical Report NEDE-24011-P-A," BWROG-8644, August 15, 1986.

8. NFSR-0091, Benchmark of CASMO/MICROBURN BWR Nuclear Design Methods, Commonwealth Edison Topical Report, (as specified in Technical Specification 5.6.5).

9. NRC SER, "Acceptance of Referencing of Licensing Topical Report NEDE-24011-P-A," "General Electric Standard Application for Reactor Fuel, Revision 8, Amendment 17," December 27, 1987.

10. "Modifications to the Requirements for Control Rod Drop Accident Mitigating Systems," BWR Owners' Group, July 1986.

11. GENE-770-06-1-A, "Addendum to Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications," December 1992.

12. NEDC-30851-P-A, Supplement 1, "Technical Specification Improvement Analysis for BWR Control Rod Block Instrumentation," October 1988.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.8.1.1 and SR 3.3.8.1.3

A CHANNEL FUNCTIONAL TEST is performed on each required channel to ensure that the channel will perform the intended function. Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.

The Frequencies of 18 months and 24 months are based on operating experience with regard to channel OPERABILITY and drift, which demonstrates that failure of more than one channel of a given Function in any 18 month or 24 month interval, as applicable, is a rare event.

SR 3.3.8.1.2 and SR 3.3.8.1.4

A CHANNEL CALIBRATION is a complete check of the instrument loop and the sensor. This test verifies the channel responds to the measured parameter within the necessary range and accuracy. CHANNEL CALIBRATION leaves the channel adjusted to account for instrument drifts between successive calibrations consistent with the plant specific setpoint methodology.

The Frequency is based upon the assumption of an 18 month or 24 month calibration interval, as applicable, in the determination of the magnitude of equipment drift in the setpoint analysis.

SR 3.3.8.1.5

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required actuation logic for a specific channel. The system functional testing performed in LCO 3.8.1 and LCO 3.8.2 overlaps this Surveillance to provide complete testing of the assumed safety functions.

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 these components usually pass the Surveillance when performed at the 24 month Frequency.

(continued)

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

"Specific"

L.1 CTS Table 4.1.A-1 Note (a) excludes neutron detectors from the CHANNEL CALIBRATION of the IRM and APRM instrumentation channels. This allowance has been incorporated as a Note in proposed ITS SR 3.3.1.1.14 (for APRMs) and proposed ITS SR 3.3.1.1.16 (for IRMs). This is allowed since the neutron detectors are passive devices, with minimal drift, because of the difficulty of simulating a meaningful signal, and since neutron detector sensitivity is compensated for by performing the 7 day calorimetic calibration (SR 3.3.1.1.2) and the LPRM calibration in SR 3.3.1.1.9. This allowance is also required for RPS RESPONSE TIME TESTING due to the difficulties of simulating a meaningful signal. This allowance is also acceptable because the principles of detector operation virtually ensure an instantaneous response time. Therefore, a Note (NOTE 1) has been added to CTS 4.1.A.3 (the RPS RESPONSE TIME test) as shown in proposed ITS SR 3.3.1.1.18. This change is consistent with BWR ISTS, NUREG-1433, Rev. 1.

L.2 During normal operation in MODES 3 and 4, all control rods are fully inserted and the Reactor Mode Switch Shutdown position control rod withdrawal block (ITS 3.3.2.1) does not allow any control rod to be withdrawn. Under these conditions, the RPS function is not required by design to be OPERABLE; therefore the IRM, APRM, Reactor Mode Switch Shutdown Position, and Manual Scram requirements for MODES 3 and 4 (CTS Tables 3.1.A-1 and 4.1.A-1 Functional Units 1, 2.a (MODE 3 only), 2.d (MODE 3 only) 13, and 14) have been deleted. The Actions associated with these Functions for MODES 3 and 4 are also deleted (CTS Table 3.1.A-1 Actions 12, 17, and 18). Special Operations LCO 3.10.2 and LCO 3.10.3 will allow a single control rod to be withdrawn in MODES 3 or 4 by allowing the Reactor Mode Switch to be in the Refuel position. Therefore, the IRM, Reactor Mode Switch Position, and Manual Scram MODES 3 and 4 RPS requirements have been included in LCO 3.10.2 and LCO 3.10.3. The APRM requirements have not been included in ITS 3.10.2 and 3.10.3 since only one rod is allowed to be withdrawn and therefore the neutron flux levels are low. |6

L.3 CTS Tables 3.1.A-1 and 4.1.A-1 require Functional Units 1.a, 1.b, 13, and 14 (IRM Neutron Flux—High, IRM Inoperative, Reactor Mode Switch—Shutdown Position, and Manual Scram) to be OPERABLE in MODE 5. ITS 3.3.1.1 requires these Functions to be OPERABLE in MODE 5 when a control rod is withdrawn from a core cell containing one or more fuel assemblies (ITS Table 3.3.1.1-1 Note (a)). Control rods withdrawn from or inserted into a core cell containing no fuel assemblies have a negligible impact on the reactivity of |6

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

L.9 The time to reach < 45% RTP has been extended from 2 hours (CTS Table 3.1.A-1 Action 16) to 4 hours (ITS 3.3.1.1 Required Action E.1). This extension provides the necessary time to decrease power in a controlled and orderly manner that is within the capabilities of the unit, assuming the minimum required equipment is OPERABLE. This extra time is an acceptable exchange in risk; the risk of an event during the additional period for the unit to be < 45% RTP, versus the potential risk of a unit upset that could challenge safety systems resulting from a rapid power reduction. This time is consistent with the time provided in the BWR ISTS, NUREG-1433, Rev. 1.

L.10 CTS 4.1.A.3 requires the demonstration of the response time for "each" RPS functional unit in Table 3.1.A-1. The response time for some of the RPS Functions (i.e., Manual Scram, Reactor Mode Switch, IRMs, APRM Neutron Flux Setdown, APRM inop, and Scram Discharge Volume Water Level) are not assumed in any accident analysis, and therefore the proposed RPS RESPONSE TIME test (ITS SR 3.3.1.1.18) is only associated with those Functions that are credited in the accident analysis where an explicit RPS RESPONSE TIME is assumed. This change is acceptable since the OPERABILITY of the remaining channels will still be confirmed during the LOGIC SYSTEM FUNCTIONAL TEST, CHANNEL FUNCTIONAL TEST or the CHANNEL CALIBRATION surveillances, as applicable. This change is consistent with BWR ISTS, NUREG-1433, Revision 1.

L.11 The requirement in CTS Table 4.1.A-1 Footnote (d) to post a notification on the reactor control panel if any required APRM must be adjusted to be within 2% of RATED THERMAL POWER has been deleted. The Quad Cities 1 and 2 Operating Licenses limit the operation of each unit to 2511 megawatts thermal, which is 100% RATED THERMAL POWER (RTP). In addition, the posting of the adjustment in the control room is not necessary to be described in the Technical Specifications. This requirement is essentially an "operator aid" to remind the operators that an adjustment must be made. This requirement is not necessary in the Technical Specifications to ensure power is maintained within the limit allowed by the Operating License. Operators are required by 10 CFR 55 to comply with the Operating License. Therefore, this requirement has been deleted from Technical Specifications.

RELOCATED SPECIFICATIONS

None

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

L.5 The CTS 3.10.B Action to immediately "...insert all insertable control rods" is revised to "initiate action to insert all insertable control rods...." During MODE 5, it may not be possible to immediately insert all insertable control rods. In this situation, the CTS do not provide direction as to the action to take if control rods cannot be inserted immediately. As a result, the ITS provide a Required Action (ITS 3.3.1.2 Required Action E.2) to immediately initiate action and continue attempts to insert all insertable control rods. This change ensures that actions are taken to insert all insertable control rods in a timely manner while continuing to provide direction if attempts fail to immediately insert all insertable control rods. This change is considered to be acceptable since ITS 3.3.1.2 Required Action E.1 ensures the probability of occurrence of postulated events involving changes in reactivity in MODE 5 is minimized by suspension of CORE ALTERATIONS.

L.6 The CTS 3.10.B Action requires fully inserting all insertable control rods if one or more required SRMs are inoperable in MODE 5. In this condition, ITS 3.3.1.2 only requires inserting all insertable control rods in core cells containing one or more fuel assemblies (ITS 3.3.1.2 Required Action E.2). Control rods withdrawn from or inserted into a core cell containing no fuel assemblies have a negligible impact on the reactivity of the core and therefore are not required to be inserted to maintain the reactor subcritical.

L.7 A new Note has been added to CTS 3.10.B (ITS Table 3.3.1.2-1 Note b) that allows only one SRM to be OPERABLE under certain conditions. In MODE 5, during a spiral offload or reload, an SRM outside the fueled region will no longer be required to be OPERABLE, since it is not capable of monitoring normal changes in neutron flux in the fueled region of the core. However, the SRM detector in the fueled region must be OPERABLE, as required by proposed SR 3.3.1.2.2.a and Note 2 to SR 3.3.1.2.2 (see Discussion of Change M.3). The SRM count rate will be required during fuel loading when the SRM is in the fueled region and four bundles are around this SRM (as currently required by CTS 4.10.B.3 and modified by Discussion of Change L.4 and included in proposed SR 3.3.1.2.4).

L.8 CTS 4.2.G.1 and CTS 4.10.B.3 require the SRM count rate to be at least 3 cps. ITS SR 3.3.1.2.4 requires the verification that the SRM count rate is at least 3 cps or at least 0.7 cps with a signal to noise ratio ≥ 20:1. The optional count rate of at least 0.7 cps with a signal to noise ratio ≥ 20:1 is acceptable since the SRMs could still monitor neutron counts with the same confidence as in the current value. The high signal to noise ratio is required so that the SRM can distinguish between actual counts and noise at the lower count rates.

A.1

TABLE 3.2.C-1

ATWS - RPT INSTRUMENTATION

	Functional Unit		Trip Setpoint[c] Allowable Values (A.4)	Minimum OPERABLE CHANNEL(s) per TRIP SYSTEM[a] Note to Surveillance Requirements	
LCO 3.3.4.1.a	1. Reactor Vessel Water Level - Low Low	SR 3.3.4.1.4.a	≥84 inches[b]	LCO 3.3.4.1	2
LCO 3.3.4.1.b	2. Reactor Vessel Pressure - High Steam Dome	SR 3.3.4.4.b	≤1250 psig		2

LF.1

Insert CTS 3.2.C-1 Note a — A.3

a A CHANNEL may be placed in an inoperable status for up to 2 hours for required surveillance without placing the TRIP SYSTEM in the tripped condition provided at least one OPERABLE CHANNEL in the same TRIP SYSTEM is monitoring that parameter.

b Includes a time delay of $8 \le t \le 10$ seconds. — LF.1 — B

c Reactor vessel water level settings are expressed in inches above the top of active fuel (which is 360 inches above vessel zero). — A.5 — LA.2 — A

SR 3.3.4.1.4.a

Page 3 of 5

TECHNICAL CHANGES - MORE RESTRICTIVE

M.2 (cont'd) trip breaker is inoperable. In addition, the LOGIC SYSTEM FUNCTIONAL TEST in CTS 4.2.C.2 (proposed ITS SR 3.3.4.1.5) has been revised to include breaker actuation. This added requirement will ensure the complete testing of the assumed function. These changes are more restrictive on plant operation and necessary to ensure that ATWS-RPT Functions are adequately maintained.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The details in CTS 3.2.C Action 2 footnote (a), relating to placing channels in trip, are proposed to be relocated to the Bases. The ACTIONS of ITS 3.3.4.1 ensure inoperable channels are placed in trip or the unit is placed in a non-applicable MODE or condition, as appropriate. In addition, the Bases for Required Actions A.1 and A.2 indicate that the channels are not required to be placed in the trip condition, and directs entry into the appropriate Condition. As a result, these relocated details are not necessary for ensuring the appropriate actions are taken in the event of inoperable ATWS-RPT Instrumentation channels. As such, these relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.2 The detail in CTS Table 3.2.C-1 Note (c) related to the reference setting of the reactor vessel water level instrumentation is proposed to be relocated to the UFSAR. The reference value for the Allowable Value specified in ITS SR 3.3.4.1.4.a has been changed to the value associated with "instrument zero," as documented in Discussion of Change A.5. This detail is not necessary to ensure the OPERABILITY of the ATWS-RPT instrumentation. The requirements of ITS 3.3.4.1 and the Surveillances are adequate to ensure the ATWS-RPT reactor vessel water level instrumentation is maintained OPERABLE. Therefore, this relocated detail is not required to be in the ITS to provide adequate protection of public health and safety. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59.

LD.1 The Frequency for performing the LOGIC SYSTEM FUNCTIONAL TEST of CTS 4.2.C.2 (proposed SR 3.3.4.1.5) has been extended from 18 months to 24 months. This SR ensures that ATWS-RPT System will function as designed to ensure proper response during an analyzed event. The proposed change will allow this Surveillance to extend the Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. The CHANNEL CALIBRATION Surveillance is performed to ensure that a previously evaluated setpoint actuation takes place to provide the required safety function. Extending the SR Frequency is acceptable because the ATWS-RPT initiation logic is designed to be single failure proof, and therefore, is highly reliable. Furthermore, the impacted ATWS-RPT instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraphs, listed by CTS Functional Unit, identify by make, manufacturer and model number the drift evaluations performed:

Functional Unit 1, Reactor Vessel Water Level - Low Low

This function is performed by Rosemount 1151DP4 Transmitters, Amerace ETR14B3CC2004003 time delay relays, and General Electric Model 184C5988G131 Analog Trip Units. The General Electric Analog Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the General Electric Analog Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval. A sufficient quantity of As Found and As Left calibration data was not available to perform a rigorous drift analysis for the time delay relays. The vendor's drift allowance was determined per NES-EIC-20.04, Rev. 2, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy" and used to calculate a 30 month drift. The calculated 30 month drift was used in the development of the plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 2, Reactor Vessel Pressure - High

This function is performed by Rosemount 1151GP9 Transmitters and General Electric Model 184C5988G131 Trip Units (existing Rosemount trip units scheduled for replacement with the General Electric Trip Units during Q1R16 for

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) Unit 1). The General Electric Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the General Electric Analog Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history, demonstrates that there are no failures that would invalidate the conclusion that the impact, if any on system availability is minimal from a change to a 24-month surveillance frequency. In addition, the proposed 24-month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

LF.1 This change revises the Current Technical Specifications (CTS) Trip Setpoints for the Improved Technical Specifications (ITS) Allowable Values. ITS Section 3.3 reflects Allowable Values consistent with the philosophy of BWR ISTS, NUREG-1433, Rev. 1. These Allowable Values have been established consistent with the methods described in ComEd's Instrument Setpoint Methodology (Nuclear Engineering Standard NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy"). For most cases, the Allowable Value determinations were calculated using plant specific operating and surveillance trend data or an allowance as provided for by the Instrument Setpoint Methodology. For all other cases, vendor documented performance specifications for drift were used. The Allowable Value verification used actual plant operating and surveillance trend information to ensure the validity of the developed Allowable Value. All changes to safety analysis limits applied in the methodologies were evaluated and confirmed as ensuring safety analysis licensing acceptance limits are maintained. All design limits applied in the methodologies were confirmed as ensuring that applicable design requirements of the associated systems and equipment are maintained. The methodologies used have been compared with the guidance of ANSI/ISA S67.04-Part I-1994 and ANSI/ISA RP67.04-Part II-1994. Plant calibration procedures will ensure that the assumptions regarding calibration accuracy, measurement and test equipment accuracy, and setting tolerance are maintained.

TECHNICAL CHANGES - LESS RESTRICTIVE

LF.1 (cont'd) Setpoints for each design or safety analysis limit have been established by accounting for the applicable instrument accuracy, calibration and drift uncertainties, environmental effects, power supply fluctuations, as well as uncertainties related to process and primary element measurement accuracy using the Instrument Setpoint Methodology. The Allowable Values have been established from each design or safety analysis limit by combining the errors associated with channel/instrument calibration (e.g., device accuracy, setting tolerance, and drift) with the calculated Nominal Trip Setpoint also using the Instrument Setpoint Methodology. Additionally, each applicable channel/instrument has been evaluated and analyzed to support a fuel cycle extension to a 24 month interval. These evaluations and analyses have been performed utilizing the guidance provided in EPRI TR-103335, "Guidelines for Instrument Calibration Extension/Reduction Programs, Revision 1. The EPRI guidance was used to demonstrate that the data collected by the operating plant (from surveillance testing) has remained acceptable and reasonable with regard to the manufacturers design specifications.

Use of the previously discussed methodologies for determining Allowable Values, instrument setpoints, and analyzing channel/instrument performance ensure that the design basis and associated safety limits will not be exceeded during plant operation. These evaluations, determinations, and analyses now form a portion of the plants design bases.

"Specific"

L.1 CTS 3.2.C Actions 2, 4, 5 and 6 require the unit to be placed in Startup (Mode 2) within 6 hours if the ATWS-RPT instrumentation is not restored within the allowed out-of-service times. The purpose of the ATWS-RPT instrumentation is to trip the recirculation pumps. Therefore, an additional Required Action is proposed, ITS 3.3.4.1 Required Action D.1, to allow removal of the associated recirculation pump from service in lieu of being in MODE 2 within 6 hours. Since this action accomplishes the functional purpose of the ATWS-RPT instrumentation and enables continued operation in a previously approved condition, this change does not have a significant effect on safe operation.

L.2 CTS 3.2.C Action 3 requires the associated Trip System to be declared inoperable when two reactor vessel water level channels or two reactor vessel pressure channels in the same Trip System are inoperable in one or two trip systems. Declaring the Trip System inoperable would require restoration of the inoperable channels, as required by CTS 3.2.C Action 5 or 6. Placing the inoperable channels in trip is not allowed as an option. ITS 3.3.4.1 Required Action A.1 provides an option to place all inoperable channels in the tripped

TECHNICAL CHANGES - LESS RESTRICTIVE

L.2 (cont'd) condition. This conservatively compensates for the inoperable status, restores the single failure capability and provides the required initiation capability of the instrumentation. Therefore, providing this option does not impact safety. However, if this action would result in system actuation, then declaring the system inoperable is the preferred action.

L.3 CTS 3.2.C Action 5 requires that when one Trip System is inoperable, 72 hours are provided to restore the Trip System. CTS 3.2.C Action 6 requires that when both Trip Systems are inoperable, 1 hour is provided to restore one Trip System. As described in CTS 3.2.C Action 3, a Trip System is inoperable when two channels of the same Function (i.e., reactor vessel water level or reactor vessel pressure) are inoperable in the Trip System. ITS 3.3.4.1 ACTION B addresses trip Function capability, not Trip System capability. A trip Function is maintained when sufficient channels are Operable or in trip, such that the ATWS-RPT System will generate a trip signal from the given Function on a valid signal and both recirculation pumps can be tripped. This requires two channels of the Function, in the same trip system, to each be Operable or in trip. The following is a description of the manner in which the ITS is applied, relative to the CTS.

a) When a single Trip System is inoperable under the CTS requirements, either due to two inoperable reactor vessel water level channels or two inoperable reactor vessel pressure channels, or both, the ITS will not have an inoperable Function. Therefore, ITS 3.3.4.1 ACTION A would apply, which allows 14 days to restore channels. This is consistent with the CTS 3.2.C Action 2 and Action 4 time. While in this condition, the ATWS-RPT System is still capable of tripping both recirculation pumps on either Function. In addition, two similar channels inoperable is functionally equivalent to one channel inoperable (which the CTS allows in Action 2) after the change described in Discussion of Change M.1 above; the Trip System will not provide a trip signal from the given Function.

b) When both Trip Systems are inoperable under the CTS requirements due to two channels of the same Function being inoperable in both Trip Systems, 1 hour is allowed by CTS 3.2.C Action 6 to restore one of the Trip Systems (by restoring the channels in the Trip System). In the ITS, when two channels of the same Function are inoperable in both Trip Systems, one function will be inoperable. Therefore, ITS 3.3.4.1 ACTION B would apply, which allows 72 hours to restore the inoperable channels. This is acceptable since while in this condition, the ATWS-RPT System is still capable of tripping both recirculation pumps on the other Function and operator action can still be taken to trip the

TECHNICAL CHANGES - LESS RESTRICTIVE

L.3 (cont'd)

recirculation pumps during this beyond design basis event. In CTS 3.2.C Action 3, this same condition requires entry into CTS 3.2.C Action 6 where only one hour is provided to restore one Trip System to Operable status.

c) When both Trip Systems are inoperable under the CTS requirements due to two channels of one Function being inoperable in one Trip System and two channels of the other Function being inoperable in the other Trip System, the ITS will not have an inoperable Function. Therefore, ITS ACTION A would apply, which allows 14 days to restore channels. In CTS 3.2.C Action 3, this same condition requires entry into CTS 3.2.C Action 6 where only one hour is provided to restore one Trip System to Operable status. This is acceptable since while in this condition, the ATWS-RPT System is still capable of tripping both recirculation pumps on either Function. In addition, when one channel is inoperable, the associated Function (either Reactor Vessel Steam Dome Pressure — High or Reactor Vessel Water Level — Low Low) cannot actuate the Trip System, since both channels of a Function must trip to actuate the Trip System (i.e., each Trip System is a two-out-of-two logic for each Function). This condition is covered by CTS 3.2.C Action 2. When two channels of the same Function are inoperable in a Trip System, this condition is functionally equivalent to that covered by CTS 3.2.C Action 2 (i.e., one channel inoperable). That is, with both channels of the same Function inoperable in a Trip System, the associated Function cannot actuate the Trip System, identical to the results when one channel is inoperable in a Trip System.

d) When both Trip Systems are inoperable under the CTS requirements due to all channels of both Functions inoperable in both Trip Systems, the ITS will have two inoperable Functions. Therefore, ITS 3.3.4.1 ACTION C would apply, which allows 1 hour to restore channels. This is consistent with the CTS Action 6 time.

RELOCATED SPECIFICATIONS

None

3.3.5.1-1

TABLE 3.2.B-1 (Continued)

Note 2 to Surveillance Requirements

ECCS ACTUATION INSTRUMENTATION

A.2 Allowable Value

LA.1

Table 3.3.5.1 Note (c)

	Functional Unit	~~Trip Setpoint~~[m]	Minimum CHANNEL(s) per Trip Function[a]	Applicable OPERATIONAL MODE(s)	ACTION
	3. HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM[k]	LF.1			
3.a	a. Reactor Vessel Water Level - Low Low	≥84 inches	4	1, 2, 3	A.8 ~~35~~ → 37 B
3.b	b. Drywell Pressure - High[n] A.6	≤2.5 psig	4	1, 2, 3	~~35~~ → 37 B
3.d	c. Condensate Storage Tank Level - Low[m] LA.2	≥10,000 gal A.5	2	1, 2, 3	35 D
3.e	d. Suppression Chamber Water Level - High[n]	≤14'8" ~~above bottom of chamber~~ LA.1	2	1, 2, 3	35 D
3.c	e. Reactor Vessel Water Level - High (Trip)	≤201 inches	2	1, 2, 3	31 C
3.f	f. HPCI Pump Discharge Flow - Low (Bypass)	≥600 gpm	1	1, 2, 3	33 E
3.g	g. Manual Initiation	NA	1/~~system~~ A.7	1, 2, 3	34 C

Table 3.3.5.1 Note (c)

	Functional Unit	Trip Setpoint	Minimum CHANNEL(s) per Trip Function	Applicable OPERATIONAL MODE(s)	ACTION
	4. AUTOMATIC DEPRESSURIZATION SYSTEM - TRIP SYSTEM 'A'[k]				A.8 33
4.a	a. Reactor Vessel Water Level - Low Low	≥84 inches	2	1, 2, 3	~~30~~ F
4.b	b. Drywell Pressure - High[m] A.6	≤2.5 psig	2	1, 2, 3	~~30~~ F
4.c	c. Initiation Timer	≤120 sec	1	1, 2, 3	31 G
4.f	d. Low Low Level Timer	≤9.0 min	1	1, 2, 3	31 G
4.d	e. CS Pump Discharge Pressure - High (Permissive)	≥100 psig & ≤150 psig	2 ~~1~~/pump	1, 2, 3	31 G
4.e	f. LPCI Pump Discharge Pressure - High (Permissive)	≥100 psig & ≤150 psig	2 ~~1~~/pump	1, 2, 3	31 G

A.8

LF.1

A.1

B

ITS 3.3.5.1

Page 4 of 17

ADMINISTRATIVE (continued)

A.4 The Trip Setpoint for Functional Units 1.a, 2.a, 3.a, 4.a, and 5.a, Reactor Vessel Water Level – Low Low, and Functional Unit 3.e, Reactor Vessel Water Level-High (Trip), in Table 3.2.B-1 is referenced to the top of active fuel. The reference value for the associated Allowable Values specified in ITS Table 3.3.5.1-1 is to "instrument zero." This change has been made for human factors considerations. The indications in the control room can be directly associated with the value in the ITS. Any changes to the Trip Setpoints are addressed in Discussion of Changes A.2 and LF.1, therefore this change is considered administrative. A

A.5 The Trip Setpoint for Functional Unit 3.c, Condensate Storage Tank Level - Low in Table 3.2.B-1 is provided as 10,000 gallons. The new value for the Allowable Value specified in ITS Table 3.3.5.1-1 for Function 3.d is in feet and inches plant elevation. This change has been made to be consistent with the results of the associated setpoint calculation. Any changes to the Trip Setpoint are addressed in Discussion of Changes A.2 and LF.1, therefore this change is considered administrative. B

A.6 CTS Table 3.2.B-1 Note (f) and CTS Table 4.2.B-1 Note (d) state that the Drywell Pressure—High Function (Functional Units 1.b, 2.b, 3.b, 4.b, and 5.b) is not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required in MODE 2 (i.e., when Special Test Exception 3/4.12.A is being used). These notes are deleted from CTS Table 3.2.B-1 and 4.2.B-1 since the only applicable condition in which these notes would be needed has been deleted (see Discussion of Changes for CTS: 3/4.12.A, in ITS Section 3.10). Therefore, Note (f) of CTS Table 3.2.B-1 and Note (d) of CTS Table 4.2.B-1 are no longer applicable and the change is considered administrative. B B

A.7 The detail in CTS Table 3.2.B-1 Functional Unit 3.g, HPCI Manual Initiation, that there is one channel "per system" has been deleted since there is only one HPCI System per unit. Since the Specifications apply equally to Units 1 and 2, this Note is not necessary. Since its removal is editorial, this change is administrative.

A.8 These changes to CTS 3/4.2.B are provided in the Quad Cities ITS consistent with the Technical Specifications Change Request submitted to the NRC for approval per ComEd letter dated December 27, 1999. The changes identified are consistent with the allowances in NEDC-30936P-A, Part 1 and Part 2, "Technical Specification Improvement Methodology With Demonstration for BWR ECCS Actuation Instrumentation," December 1988. As such, these changes are considered to be administrative.

ADMINISTRATIVE (continued)

A.9 The technical content of the requirements of CTS Table 3.2.B-1 Functional Units 6.a and 6.b and Table 4.2.B-1 Functional Units 5.a and 5.b, including associated Notes and Actions, are being moved to ITS 3.3.8.1, "Loss of Power Instrumentation," in accordance with the format of the BWR ISTS, NUREG-1433, Rev. 1. Any technical changes to these requirements are addressed in the Discussion of Changes for ITS: 3.3.8.1, in this Section.

A.10 CTS Table 3.2.B-1 Action 35 requires placing the inoperable channel in trip when a HPCI Condensate Storage Tank Level—Low or a HPCI Suppression Chamber Water Level—High channel is inoperable. A new Required Action has been added, ITS 3.3.5.1 Required Action D.2.2, to allow the HPCI pump suction to be aligned to the suppression pool in lieu of tripping the channel, if a Condensate Storage Tank Level—Low or Suppression Pool Water Level—High channel is inoperable. Since this proposed action results in the same condition as if the channel were tripped (tripping one channel results in the suction being aligned to the suppression chamber), this change is considered administrative.

A.11 CTS Table 4.2.B-1 requires a CHANNEL FUNCTIONAL TEST (CFT) of Functional Unit 3.g, the HPCI Manual Initiation Function, every 18 months. CTS 4.2.B.2 and proposed SR 3.3.5.1.8 require a LOGIC SYSTEM FUNCTIONAL TEST (LSFT) every 18 months (changed to 24 months - see Discussion of Change LD.1 below). Since the LSFT is a complete test of the logic, including the Manual Initiation switches, there is no need to require a CFT. Therefore, ITS 3.3.5.1 only requires an LSFT, and this change is considered administrative.

A.12 CTS Table 4.2.B-1 requires both a CHANNEL FUNCTIONAL TEST and a CHANNEL CALIBRATION of Functional Unit 4.c, ADS Initiation Timer, and Functional Unit 4.d, ADS Low Low Level Timer, (ITS Table 3.3.5.1-1 Functions 4.c, 5.c, 4.f, and 5.f) to be performed every 18 months. Since the CFT is included in the CTS and ITS definition of CHANNEL CALIBRATION and the CFT and the CHANNEL CALIBRATION are performed at the same Frequency, the CFT has been deleted for these Functions. The CHANNEL CALIBRATION will include the required testing of the CFT, therefore, this change is considered administrative.

A.13 CTS Table 3.2.B-1 Action 32 (for Functional Units 1.c and 2.c in MODES 4 and 5) requires the channels to be placed in the tripped condition within 24 hours. If this Action is not performed the CTS does not provide default actions, such as immediately declare the associated ECCS subsystem(s) inoperable. In this condition, ITS 3.3.5.1 ACTION H will require the associated supported subsystems to be declared inoperable immediately. CTS Table 3.2.B-1 Action

ADMINISTRATIVE (continued)

A.13 (cont'd) 32 applies to the Reactor Vessel Pressure-Low (Permissive) Functions in MODES 4 and 5 whenever the supported systems are required to be OPERABLE as indicated in CTS Table 3.2.B-1 Note (c). Since CTS 3.0.C does not apply in MODES 4 and 5, the only alternative is to declare the associated supported subsystems inoperable. Therefore, this change is considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 Eight additional Functions have been added to help ensure the automatic actuation function of the ECCS subsystems to ensure the design basis events can be satisfied. These Functions are included in ITS Table 3.3.5.1-1 as follows:

Function 1.e, Core Spray Pump Start - Time Delay Relay,
Function 2.d, Reactor Steam Dome Pressure - Low (Break Detection),
Function 2.e, LPCI Pump Start - Time Delay Relay for Pumps B and D,
Function 2.g, Recirculation Pump Differential Pressure-High (Break Detection),
Function 2.h, Recirculation Riser Differential Pressure-High (Break Detection),
Function 2.i, Recirculation Pump Differential Pressure Time Delay-Relay (Break Detection),
Function 2.j, Reactor Steam Dome Pressure Time Delay-Relay (Break Detection), and
Function 2.k, Recirculation Riser Differential Pressure Time Delay-Relay (Break Detection)

The proposed Allowable Values for these Functions were determined consistent with the setpoint methodology described in Discussion of Change LF.1 below. Appropriate ACTIONS and Surveillances (SR 3.3.5.1.4, SR 3.3.5.1.7, SR 3.3.5.1.8 and SR 3.3.5.1.9, as applicable) have also been added. This is an additional restriction on plant operation necessary to help ensure the ECCS Instrumentation are maintained Operable.

M.2 A maximum Allowable Value has been added for the CS Discharge Flow — Low (Bypass) Function (CTS Table 3.2.B-1 Functional Unit 1.d; ITS Table 3.3.5.1-1 Function 1.d) to ensure the valves will close to provide assumed ECCS flow to the core. The new Allowable Value is based upon the most recent setpoint calculations. This is an additional restriction on plant operation.

M.3 CTS Table 4.2.B-1 Functional Unit 3.f requires the performance of a CHANNEL CALIBRATION of the HPCI Pump Discharge Flow - Low (Bypass) once per 18 months. ITS Table 3.3.5.1-1 Function 3.f requires the performance

TECHNICAL CHANGES - MORE RESTRICTIVE

M.3 (cont'd) of a CHANNEL CALIBRATION once per 92 days (SR 3.3.5.1.6). This change is consistent with current plant practice. The change represents an additional restriction on plant operation since the more restrictive surveillance frequency of 92 days will be included in Technical Specifications. This change is necessary to ensure the associated instrumentation is maintained OPERABLE.

M.4 Not used.

M.5 CTS Table 4.2.B-1 requires a CHANNEL FUNCTIONAL TEST (CFT) of Functional Unit 3.c, Condensate Storage Tank Level - Low every 92 days. The Table does not currently require a CHANNEL CALIBRATION. The channels associated with this Function include a level switch that must trip at the specified setpoint (Allowable Value, see Discussion of Change A.2). Therefore, the proposed test for OPERABILITY is a CHANNEL CALIBRATION (SR 3.3.5.1.8) at a Frequency of 24 months consistent with drift analysis assumptions in the plant setpoint methodology.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The detail in CTS Table 3.2.B-1 Note (h) related to the reference point of the Trip Setpoint of the reactor vessel water level instrumentation and the detail for CTS Table 3.2.B-1 for Functional Unit 3.d (Suppression Chamber Water Level) that the Trip Setpoint is referenced above the bottom of the chamber are proposed to be relocated to the UFSAR. The reference value for the associated Allowable Values for Reactor Vessel Water Level Functions specified in ITS Table 3.3.5.1-1 is to "instrument zero," as discussed in Discussion of Change A.4. This detail is not necessary to ensure the OPERABILITY of the ECCS instrumentation. The requirements of ITS 3.3.5.1 and the associated Surveillances are adequate to ensure the ECCS instrumentation is maintained OPERABLE. Therefore, this relocated detail is not required to be in the ITS to provide adequate protection of public health and safety. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59.

LA.2 The system design detail specified in CTS Table 3.2.B-1, footnote (i), is proposed to be relocated to the Bases. Details relating to system design (e.g., valves associated with isolation signals) are unnecessary in the LCO. This detail is not necessary to ensure the OPERABILITY of the ECCS Instrumentation. The requirements of ITS 3.3.5.1 and the associated Surveillance Requirements are adequate to ensure the ECCS instruments are maintained OPERABLE. Therefore, the relocated detail is not required to be in the ITS to provide

TECHNICAL CHANGES - LESS RESTRICTIVE

LA.2 (cont'd) adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LD.1 The Frequency for performing the LOGIC SYSTEM FUNCTIONAL TEST (LSFT) of CTS 4.2.B.2 and the CHANNEL FUNCTIONAL TEST for the HPCI Manual Initiation and the ADS Initiation and Low Low Level Timer Functions specified in CTS Table 4.2.B-1 (changes made in Discussion of Changes A.11 and A.12 above) has been extended from 18 months to 24 months in proposed SR 3.3.5.1.9. This SR ensures that ECCS logic will function as designed to ensure proper response during an analyzed event. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical maintenance and surveillance data have shown that these tests normally pass their Surveillances at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. ECCS systems are tested on a more frequent basis during the operating cycle in accordance with CTS 4.2.B.1 (proposed SRs 3.3.5.1.1, 3.3.5.1.2, 3.3.5.1.3, 3.3.5.1.4, 3.3.5.1.5, and 3.3.5.1.6). These SRs will ensure that a significant portion of the ECCS circuitry is operating properly and will detect significant failures of this circuitry. The ECCS network including the actuating logic is designed to be single failure proof and therefore, is highly reliable. Furthermore, as stated in the NRC Safety Evaluation Report (dated August 2, 1993) relating to extension of the Peach Bottom Atomic Power Station, Unit Numbers 2 and 3 surveillance intervals from 18 to 24 months:

> "Industry reliability studies for boiling water reactors (BWRs), prepared by the BWR Owners Group (NEDC-30936P) show that the overall safety systems' reliabilities are not dominated by the reliabilities of the logic system, but by that of the mechanical components, (e.g., pumps and valves), which are consequently tested on a more frequent basis. Since the probability of a relay or contact failure is small relative to the probability of mechanical component failure, increasing the logic system functional test interval represents no significant change in the overall safety system unavailability."

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd) Based on the inherent system and component reliability and the testing performed during the operating cycle, the impact, if any, from this change on system availability is minimal. The review of historical surveillance data also demonstrated that there are no failures that would invalidate this conclusion. In addition, the proposed 24 month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

LE.1 The Frequencies for performing CHANNEL CALIBRATIONS of CTS Table 4.2.B-1 for Functional Units 1.d, 2.d, 4.c and 4.d have been extended from 18 months to 24 months in proposed SR 3.3.5.1.8. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991.

Extending the SR Frequency is acceptable because the ECCS network along with the ECCS initiation logic is designed to be single failure proof and therefore is highly reliable. Furthermore, the impacted ECCS instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraphs, listed by CTS Functional Unit number, identify by make, manufacturer and model number the drift evaluations performed:

Functional Unit 1.d, 2.d: CS/LPCI Discharge Flow - Low (Bypass)

This function is performed by Rosemount 1153DB3 Transmitters and 510DU/710DU Master Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd)

Functional Unit 4.c: ADS Initiation Timer

This function is performed by GE CR-120K02241AA time delay relays. The time delay relays' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 4.d: ADS Low Low Level Timer

This function is performed by Amerace ETR14D3002 and ETR14D3N003 time delay relays. The Amerace time delay relays' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability is minimal from a change to a 24-month surveillance frequency. In addition, the proposed 24-month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

LF.1 This change revises the Current Technical Specifications (CTS) Trip Setpoints for the Improved Technical Specifications (ITS) Allowable Values. ITS Section 3.3 reflects Allowable Values consistent with the philosophy of BWR ISTS, NUREG-1433, Rev. 1. These Allowable Values have been established consistent with the methods described in ComEd's Instrument Setpoint Methodology (Nuclear Engineering Standard NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy"). For most cases, the Allowable Value determinations were calculated using plant specific operating and surveillance trend data or an allowance as provided for by the Instrument Setpoint Methodology. For all other cases, vendor documented performance specifications for drift were used. The Allowable Value verification used actual plant operating and surveillance trend information to

ADMINISTRATIVE

A.5 (cont'd) inoperable. Since this proposed action results in the same condition as if a channel were tripped (tripping one channel results in the suction being aligned to the suppression pool), this change is considered administrative.

A.6 The column title in CTS Table 3.2.D-1 is on a per Function basis rather than the per Trip System basis indicated in CTS Table 3.2.D-1 Actions 41 and 43. All required channels are specified in the column. Therefore, reference to Trip System has been deleted and replaced with Function as indicated in ITS Table 3.3.5.2-1.

A.7 CTS Table 4.2.D-1 requires a CHANNEL FUNCTIONAL TEST (CFT) of Functional Unit 5, the Manual Initiation Function, every 18 months. CTS 4.2.D.2 and proposed SR 3.3.5.2.6 require a LOGIC SYSTEM FUNCTIONAL TEST (LSFT) every 18 months (changed to 24 months - see Discussion of Change LD.1 below). Since the LSFT is a complete test of the logic, including the Manual Initiation switches, there is no need to require a CFT. Therefore, ITS 3.3.5.2 only requires an LSFT, and this change is considered administrative.

A.8 CTS 3.2.D requires the RCIC System actuation instrumentation setpoints to be set consistent with the Trip Setpoint values shown in Table 3.2.D-1. CTS 3.2.D Action 1 requires the CHANNEL to be declared inoperable when the setpoint is less conservative than the value shown in the Trip Setpoint column of Table 3.2.D-1. Table 3.2.D-1 includes a "Trip Setpoint" column. It is proposed to re-label this column as "Allowable Value" consistent with the format of the BWR ISTS, NUREG-1433, Rev. 1 (ISTS Table 3.3.5.2-1). In accordance with current plant procedures and practices, the Trip Setpoints specified in CTS Table 3.2.D-1 are applied as the Operability limit for the associated instruments. Therefore, the use of the term "Trip Setpoint" in the CTS is the same as the use of the term "Allowable Value" in the ITS. This proposed change does not modify the actual trip setpoints specified in CTS Table 3.2.D-1 for the RCIC System actuation instrumentation Functions or the Allowable Values specified in ITS Table 3.3.5.2-1 (see Discussion of Change LF.1 below for proposed changes to the Trip Setpoints/Allowable Values). Therefore, this change is considered a presentation preference change only and, as such, is considered an administrative change.

A.9 The detail in CTS Table 3.2.D-1 Functional Unit 5, RCIC Manual Initiation, that there is one channel "per system" has been deleted since there is only one RCIC System per unit. Since the Specifications apply equally to Units 1 and 2, this Note is not necessary. Since its removal is editorial, this change is administrative.

TABLE ~~3.2.A-1~~ 3.3.6.1.1

ISOLATION ACTUATION INSTRUMENTATION

A.7 Allowable Value

LA.2

Note 2 to Surveillance Requirements

	Function Functional Unit	Trip Setpoint[a]	Minimum CHANNEL(s) per TRIP SYSTEM[a]	Applicable OPERATIONAL MODE(s)	ACTION
2.	1. PRIMARY CONTAINMENT ISOLATION	LF.1			
2.a	a. Reactor Vessel Water Level - Low	≥144 inches	2	1, 2, 3	G 20
2.b	b. Drywell Pressure - High[d] A.4	≤2.5 psig	2	1, 2, 3	G 20
2.c	c. Drywell Radiation - High	≤100 R/hr	1	1, 2, 3	F 23
	2. SECONDARY CONTAINMENT ISOLATION				A.5 moved to ITS 3.3.6.2 3.3.7.1
	a. Reactor Vessel Water Level - Low[c,k]	≥144 inches	2	1, 2, 3 & *	24
	b. Drywell Pressure - High[c,d,k]	≤2.5 psig	2	1, 2, 3	24
	c. Reactor Building Ventilation Exhaust Radiation - High[c,k]	≤10 mR/hr	2	1, 2, 3 & **	24
	d. Refueling Floor Radiation - High[c,k]	≤100 mR/hr	2	1, 2, 3 & **	24
1.	3. MAIN STEAM LINE (MSL) ISOLATION	LF.1			
1.a	a. Reactor Vessel Water Level - Low Low	≥84 inches	2	1, 2, 3	D 21
	~~b. MSL Tunnel Radiation - High[b]~~	~~≤15[h] x normal background~~	~~2~~	~~1, 2, 3~~	~~21~~ A.6
1.b, 1.c	c. MSL Pressure - Low	≥825 psig	2	1	E 22
1.d	d. MSL Flow - High[k] A.5 moved to ITS 3.3.7.1	≤140% of rated	2/line	1, 2, 3	D 21
1.e	e. MSL Tunnel Temperature - High	≤200°F	2 of 4 in each of 2 sets	1, 2, 3	D 21
		LF.1	2 per string A.11		

A.1

add proposed Allowable Value for Function 1.c M.1

ITS 3.3.6.1

Page 4 of 12

3.3.6.1-1

TABLE 3.2.A-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION

Allowable Value A.1 LA.2

Note 2 to Surveillance Requirements

Function Functional Unit	Trip Setpoint[f]	Minimum CHANNEL(s) per TRIP SYSTEM[a]	Applicable OPERATIONAL MODE(s)	ACTION
5. 4. REACTOR WATER CLEANUP SYSTEM ISOLATION				
5.a a. Standby Liquid Control System Initiation[g] LA.3	LF.1 NA	NA 1 M.3	1, 2, 3 L.2	H 23
5.b b. Reactor Vessel Water Level - Low	LF.1 ≥144 inches	2	1, 2, 3	F 23
4. 5. REACTOR CORE ISOLATION COOLING ISOLATION				
4.a, 4.b a. Steam Flow - High	LF.1 ≤300% of rated steam flow[i]	1	1, 2, 3	F 23
4.c b. Reactor Vessel Pressure - Low	≥60 psig	4[e] Note (a) to Table 3.3.6.1-1	1, 2, 3	F 23
4.d c. Area Temperature - High	≤170°F	2	1, 2, 3	F 23
3. 6. HIGH PRESSURE COOLANT INJECTION ISOLATION				
3.a, 3.b a. Steam Flow - High	LF.1 ≤300% of rated steam flow[i]	1	1, 2, 3	F 23
3.c b. Reactor Vessel Pressure - Low	≥100 psig	2	1, 2, 3	F 23
3.e c. Area Temperature - High	≤170°F	2	1, 2, 3	F 23

B A.1

add Function 3.d M.2

ITS 3.3.6.1

Page 5 of 12

TABLE ~~4.2.A-1~~ 3.3.6.1-1

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	Functional Unit	SR 3.3.6.1.1 CHANNEL CHECK	SR 3.3.6.1.2 CHANNEL FUNCTIONAL TEST	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.5 CHANNEL CALIBRATION	Applicable OPERATIONAL MODE(s)	
2.	1. PRIMARY CONTAINMENT ISOLATION		A.3	24 months	LE.1	
2.a	a. Reactor Vessel Water Level - Low	S - 1	M Q - 2	5 E(a) - 3	1, 2, 3	
2.b	b. Drywell Pressure - High(b) A.4	NA	M Q - 2	Q - 4	1, 2, 3	
2.c	c. Drywell Radiation - High	S - 1	M Q - 2	E - 5	1, 2, 3	A.5 moved to ITS 3.3.6.2 3.3.7.1
	2. SECONDARY CONTAINMENT ISOLATION		A.3			A.1
	a. Reactor Vessel Water Level - Low(c,d)	S	M Q	E(a)	1, 2, 3 & *	
	b. Drywell Pressure - High(b,c,d)	NA	M Q	Q	1, 2, 3	
	c. Reactor Building Ventilation Exhaust Radiation - High(c,d)	S	M Q	Q	1, 2, 3 & **	
	d. Refueling Floor Radiation - High(c,d)	S	M Q	Q	1, 2, 3 & **	
1	3. MAIN STEAM LINE (MSL) ISOLATION		A.3			A.6
1.a	a. Reactor Vessel Water Level - Low Low	S - 1	M Q - 2	5 E(a) - 3	1, 2, 3	
	~~b. MSL Tunnel Radiation - High~~	~~S~~	~~M Q~~	~~E(a)~~	~~1, 2, 3~~	
1.b, 1.c	c. MSL Pressure - Low	NA	M Q - 2	Q - 4 24 months - 5 for Function 1.c only	1	B
1.d	d. MSL Flow - High(a) A.5	S - 1	M Q - 2	E - 5	1, 2, 3	A
1.e	e. MSL Tunnel Temperature - High	NA	E A.10 24 months LD.1	E - 5 24 months LE.1	1, 2, 3	A

Page 10 of 12

ITS 3.3.6.1

3.3.6.1-1

TABLE 4.2.A-1 (Continued)

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

A.1

Functional Unit	SR 3.3.6.1.1 CHANNEL CHECK	SR 3.3.6.1.2 CHANNEL FUNCTIONAL TEST	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.5 CHANNEL CALIBRATION	Applicable OPERATIONAL MODE(s)
5 **4. REACTOR WATER CLEANUP SYSTEM ISOLATION**				
5.a a. Standby Liquid Control System Initiation	NA	SR 3.3.6.1.6 E A.10 24 months LD.1	NA	1, 2, 3 L.2
5.b b. Reactor Vessel Water Level - Low	S - 1	A.3 M Q - 2	5 - E(a) - 3	1, 2, 3
4. **5. REACTOR CORE ISOLATION COOLING ISOLATION**			24 months LE.1	
4.a, 4.b a. Steam Flow - High	NA	A.3 M Q - 2	24 months - 5 Q - 4 for Function 4.b only	1, 2, 3 B
4.c b. Reactor Vessel Pressure - Low	NA	M Q - 2	Q - 4	1, 2, 3
4.d c. Area Temperature - High	NA	E A.10	E - 5	1, 2, 3
3. **6. HIGH PRESSURE COOLANT INJECTION ISOLATION**		24 months LD.1		
3.a, 3.b a. Steam Flow - High	NA	A.3 M Q - 2	5 E(a) - 3	1, 2, 3 B
3.c b. Reactor Vessel Pressure - Low	NA	M Q - 2	5 - E(a) - 3	1, 2, 3
3.e c. Area Temperature - High	NA	SR 3.3.6.1.6 E A.10	E - 5	1, 2, 3
add proposed Function 3.d M.2			24 months LE.1	
6. **7. RHR SHUTDOWN COOLING MODE ISOLATION**				
6.b a. Reactor Vessel Water Level - Low	S - 1	A.3 M Q - 2	5 E(a) - 3	3, 4, 5
6.a b. Reactor Vessel Pressure - High (Cut-in Permissive)	NA	M Q - 2	Q - 4	1, 2, 3

ADMINISTRATIVE (continued)

A.5 The requirements identified in CTS Tables 3.2.A-1 and 4.2.A-1 related to Secondary Containment Isolation and Control Room Emergency Ventilation actuation (including Notes (c), (d), (k), (*) and (**) to Table 3.2.A-1 and Notes (b), (c), (d), (*), and (**) to Table 4.2.A-1) have been moved to ITS 3.3.6.2, Secondary Containment Isolation Instrumentation, and ITS 3.3.7.1, Control Room Emergency Ventilation System Instrumentation, as applicable. Any technical changes to these requirements are addressed in the Discussion of Changes for ITS 3.3.6.2 and ITS 3.3.7.1.

A.6 These changes to CTS 3/4.2.A are provided in the Quad Cities ITS consistent with the Technical Specifications Change Request submitted to the NRC for approval per ComEd letter dated December 30, 1999. These changes identified are consistent with allowances in NEDO-31400A to remove the main steam isolation as a result of a main steam line high radiation signal. As such, this change is considered administrative.

A.7 CTS 3.2.A requires the isolation actuation instrumentation setpoints to be set consistent with the Trip Setpoint values shown in Table 3.2.A-1. CTS 3.2.A Action 1 requires the CHANNEL to be declared inoperable when the setpoint is less conservative than the value shown in the Trip Setpoint column of Table 3.2.A-1. Table 3.2.A-1 includes a "Trip Setpoint" column. It is proposed to re-label this column as "Allowable Value" consistent with the format of the BWR ISTS, NUREG-1433, Rev. 1 (ISTS Table 3.3.6.1-1). In accordance with current plant procedures and practices, the Trip Setpoints specified in CTS Table 3.2.A-1 are applied as the Operability limit for the associated instruments. Therefore, the use of the term "Trip Setpoint" in the CTS is the same as the use of the term "Allowable Value" in the ITS. This proposed change does not modify the actual trip setpoints specified in CTS Table 3.2.A-1 for the isolation actuation instrumentation Functions or the Allowable Values specified in ITS Table 3.3.6.1-1 (see Discussion of Change LF.1 below for proposed changes to the Trip Setpoints/Allowable Values). Therefore, this change is considered a presentation preference change only and, as such, is considered an administrative change.

A.8 An action to "declare the affected system inoperable," as presented in CTS Table 3.2.A-1 Action 23, is an unnecessary reminder that other Technical Specifications may be affected. This is essentially a "cross reference" between Technical Specifications that has been determined to be adequately provided through training. In addition, the definition of "OPERABILITY in ITS Section 1.1 would also ensure that the affected systems rendered inoperable by isolation of an affected line are declared inoperable. Therefore, this deletion is administrative.

ADMINISTRATIVE

A.11 (cont'd) trip system and both trip systems must trip to cause an isolation. According to the CTS terminlogy, a "set" refers to the four area temperature switches that are arranged in a series contact scheme. Each "set" of four temperature switch contacts open on high temperature to actuate (de-energize) a logic relay. The BWR ISTS would refer to this trip logic scheme as a "trip string." Thus, the CTS terminology for a "set" is equivalent to the BWR ISTS terminology for a "trip string." Furthermore, since there are two trip strings per trip system, the minimum channel requirement of "2 of 4 in each of 2 sets" is equivalent to the proposed requirement of "2 per trip string." This change is considered a presentation preference change since it serves only to clarify an existing requirement by using the BWR ISTS terminology. As such, this change is administrative.

A.12 The Trip Setpoint for Functional Units 1.a, 4.b, and 7.a, Reactor Vessel Water Level - Low, and Functional Unit 3.a, Reactor Vessel Water Level-Low Low, in Table 3.2.A-1 is referenced to the top of active fuel. The reference value for the associated Allowable Values specified in ITS Table 3.3.6.1-1 is to "instrument zero." This change has been made for human factors considerations. The indications in the control room can be directly associated with the value in the ITS. Any changes to the Trip Setpoints are addressed in Discussion of Changes A.7 and LF.1, therefore this change is considered administrative. A

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 An Allowable Value for a Function has been added, ITS Table 3.3.6.1-1 Function 1.c. This Function is the Main Steam Line Low Pressure—Timer (or Time Delay). This Function is required to ensure the OPERABILITY of the current and proposed MSL Pressure—Low Function (CTS Table 3.2.A-1 Function 3.c and ITS Table 3.3.6.1-1 Function 1.b). This Function provides a time delay for the MSL Pressure—Low Function to ensure an inadvertent main steam line isolation does not occur during transients which result in reactor steam dome pressure pertubations. However, the delay is limited to ensure proper operation during pressure regulator failure event. The proposed Allowable Value was determined consistent with the methodology described in Discussion of Change LF.1 below. This change is an additional restriction on plant operation necessary to ensure the design basis accident analysis assumptions are satisfied. B C B

M.2 An additional Function has been added, ITS Table 3.3.6.1-1 Function 3.d. This Function is an additional Drywell Pressure—High Function which isolates the HPCI turbine exhaust vacuum breaker isolation valves coincident with the Reactor Vessel Pressure—Low Function signals. Appropriate ACTIONS and

TECHNICAL CHANGES - MORE RESTRICTIVE

M.2 (cont'd) Surveillance Requirements have also been added. This change is an additional restriction on plant operation necessary to ensure the design basis accident analysis assumptions are satisfied.

M.3 The minimum required channels for the Standby Liquid Control System Initiation Function in CTS Table 3.2.A-1 (Functional Unit 4.a) is NA. For the same Function in the ITS (ITS Table 3.3.6.1-1 Function 5.a) the required channels per trip system is specified to be 1. The switch provides trip signal inputs to both trip systems in any position other than "OFF." For this Specification, the SLC initiation switch is considered to provide 1 channel input into each trip system. Since the requirement is more explicit, this change is considered more restrictive on plant operations.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The detail in CTS 3.2.A Action 2 footnote a, relating to placing channels in trip, is proposed to be relocated to the BASES. The ACTIONS of ITS 3.3.6.1 ensure inoperable channels are placed in trip (which effectively trips the trip system) or remedial actions are taken to compensate for the inoperability as appropriate. As a result, these relocated details are not necessary for ensuring the appropriate actions are taken in the event of inoperable primary containment isolation

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd) Based on the inherent system and component reliability and the testing performed during the operating cycle, the impact, if any, from this change on system availability is minimal. The review of historical surveillance data also demonstrated that there are no failures that would invalidate this conclusion. In addition, the proposed 24 month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

LE.1 The Frequency for performing the CHANNEL CALIBRATION Surveillance of current Surveillance 4.2.A and Table 4.2.A-1 (proposed SR 3.3.6.1.5) has been extended from 92 days (for the Main Steam Line Pressure - Timer and the RCIC Steam Flow - Timer) and 18 months (for all other Functional Units listed below) to 24 months. The proposed change will allow this Surveillance to extend the Surveillance Frequency to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). The subject SR ensures that the Isolation instruments will function as designed during an analyzed event. Extending the SR Frequency is acceptable because the Primary Containment Isolation System along with the Isolation initiation logic is designed to be single failure proof and, therefore, is highly reliable. Furthermore, the impacted Isolation instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraphs, listed by CTS Functional Unit number, identify by make, manufacturer and model number the drift evaluations performed:

Functional Unit 1.a: Reactor Vessel Water Level - Low

This function is performed by Rosemount 1153DB4PA Transmitters and 510DU/710DU Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd)

Functional Unit 1.c: Drywell Radiation - High

This function is performed by a General Atomic RD-23 Radiation Detector, General Atomic RP-2CM Radiation Monitor. This instrument was evaluated utilizing a qualitative analysis (i.e., engineering judgment). The results of the analysis support a 24 month fuel cycle surveillance interval extension.

Functional Unit 3.a: Reactor Vessel Water Level - Low Low

This function is performed by Rosemount 1153DB4PA Transmitters and 510DU/710DU Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 3.c: Main Steam Line Pressure -Timer

This function is performed by Agastat EDSCXX0225SAAXXAA Time Delay Relays. A sufficient quantity of As Found and As Left calibration data was not available to perform a rigorous drift analysis for the time delay relays. The vendor's drift allowance was determined per NES-EIC-20.04, Rev. 2, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy" and used to calculate a 30 month drift. The calculated 30 month drift was used in the development of the plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 3.d: Main Steam Line Flow-High

This function is performed by Barton 278 differential pressure indicating switches for Unit 1 and Barton 288A differential pressure indicating switches for Unit 2. Both types of Barton differential pressure indicating switches are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Barton differential pressure indicating switches with respect to drift. The switches' drift was determined by quantitative analysis. The drift value determined will be used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 3.e: Main Steam Line Tunnel Temperature - High

This function is performed by Patel/Fenwal 01-170020-90 temperature switches. The Patel/Fenwal instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 4.b: Reactor Vessel Water Level - Low

This function is performed by Rosemount 1153DB4PA Transmitters and 510DU/710DU Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 5.a: RCIC Steam Line Flow - Timer

This function is performed by Agastat TR14D3B Time Delay Relays. A sufficient quantity of As Found and As Left calibration data was not available to perform a rigorous drift analysis for the time delay relays. The vendor's drift allowance was determined per NES-EIC-20.04, Rev. 2, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy" and used to calculate a 30 month drift. The calculated 30 month drift was used in the development of the plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 5.c: RCIC Area Temperature - High

This function is performed by United Electric 88B type F7 temperature switches. The thermocouples are not required to be calibrated, therefore, no drift evaluation was performed. The United Electric instruments' drift was determined by quantitative analysis. The drift value determined was used in the

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 6.a: HPCI Steam Line Flow - High

This function is performed by Rosemount 1153DB5PA Transmitters and 510DU/710DU Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 6.a: HPCI Steam Line Flow - Timer

This function is performed by Agastat TR14D3B and TR14I3B relays. A sufficient quantity of As Found and As Left calibration data was not available to perform a rigorous drift analysis for the time delay relays. The vendor's drift allowance was determined per NES-EIC-20.04, Rev. 2, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy" and used to calculate a 30 month drift. The calculated 30 month drift was used in the development of the plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 6.b: Reactor Vessel Pressure - Low

This function is performed by Rosemount 1153GB7PA Transmitters and 510DU/710DU Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd)

Functional Unit 6.c: HPCI Area Temperature - High

This function is performed by United Electric 88B type F7 temperature switches. The thermocouples are not required to be calibrated, therefore, no drift evaluation was performed. The United Electric instruments' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Functional Unit 7.a: Reactor Vessel Water Level - Low

This function is performed by Rosemount 1153DB4PA Transmitters and 510DU/710DU Trip Units. The Rosemount Trip Units are functionally checked and setpoint verified more frequently, and if necessary, recalibrated. These more frequent testing requirements remain unchanged. Therefore, an increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Rosemount Trip Units with respect to drift. The Rosemount Transmitters' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability is minimal from a change to a 24 month surveillance frequency. In addition, the proposed 24 month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

LF.1 This change revises the Current Technical Specifications (CTS) Trip Setpoints for the Improved Technical Specifications (ITS) Allowable Values. ITS Section 3.3 reflects Allowable Values consistent with the philosophy of BWR ISTS, NUREG-1433, Rev. 1. These Allowable Values have been established consistent with the methods described in ComEd's Instrument Setpoint Methodology (Nuclear Engineering Standard NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy"). For most cases, the Allowable Value determinations were calculated using plant specific

TECHNICAL CHANGES - LESS RESTRICTIVE

LF.1 (cont'd) operating and surveillance trend data or an allowance as provided for by the Instrument Setpoint Methodology. For all other cases, vendor documented performance specifications for drift were used. The Allowable Value verification used actual plant operating and surveillance trend information to ensure the validity of the developed Allowable Value. All changes to safety analysis limits applied in the methodologies were evaluated and confirmed as ensuring safety analysis licensing acceptance limits are maintained. All design limits applied in the methodologies were confirmed as ensuring that applicable design requirements of the associated systems and equipment are maintained. The methodologies used have been compared with the guidance of ANSI/ISA S67.04-Part I-1994 and ANSI/ISA RP67.04-Part II-1994. Plant calibration procedures will ensure that the assumptions regarding calibration accuracy, measurement and test equipment accuracy, and setting tolerance are maintained. Setpoints for each design or safety analysis limit have been established by accounting for the applicable instrument accuracy, calibration and drift uncertainties, environmental effects, power supply fluctuations, as well as uncertainties related to process and primary element measurement accuracy using the Instrument Setpoint Methodology. The Allowable Values have been established from each design or safety analysis limit by combining the errors associated with channel/instrument calibration (e.g., device accuracy, setting tolerance, and drift) with the calculated Nominal Trip Setpoint also using the Instrument Setpoint Methodology.

Additionally, each applicable channel/instrument has been evaluated and analyzed to support a fuel cycle extension to a 24 month interval. These evaluations and analyses have been performed utilizing the guidance provided in EPRI TR-103335, "Guidelines for Instrument Calibration Extension/Reduction Programs, Revision 1. The EPRI guidance was used to demonstrate that the data collected by the operating plant (from surveillance testing) has remained acceptable and reasonable with regard to the manufacturers design specifications. Use of the previously discussed methodologies for determining Allowable Values, instrument setpoints, and analyzing channel/instrument performance ensure that the design basis and associated safety limits will not be exceeded during plant operation. These evaluations, determinations, and analyses now form a portion of the plants design bases.

"Specific"

L.1 CTS Table 3.2.A-1 Action 23 requires the affected system isolation valves to be closed within one hour. An additional Action has been added (proposed ITS 3.3.6.1 ACTION G) if the associated penetration is not isolated within the specified Completion Time. The Required Actions are to be in MODE 3 in 12

TECHNICAL CHANGES - LESS RESTRICTIVE

L.1 (cont'd) hours and MODE 4 in 36 hours. Currently, if this action were not met entry into CTS 3.0.C is required and the plant must within one hour take ACTION to place the unit in a MODE in which the Specification does not apply by placing the plant in MODE 3 in the next 12 hours, and be in at least MODE 4 within the subsequent 24 hours. Since, the proposed Required Actions do not impose the additional requirement to begin the plant shutdown within an hour, this change is considered less restrictive but is acceptable since isolation capability is not necessarily lost under the proposed ACTIONS and since the proposed default times are consistent with current times for other primary containment inoperabilities. Proposed ITS 3.3.6.1 ACTION G is required to be entered when the Required Action and associated Completion Time for Condition F (isolate the affected penetration flow path within 1 hour) is not met or as required by Required Action C.1 and referenced in Table 3.3.6.1-1. Therefore, entry is required when the channels are not restored within the specified Completion Times of Required Actions A.1 and A.2 (12 hours and 24 hours, respectively) or isolation capability is lost (Condition B).

L.2 The Applicability of the Standby Liquid Control (SLC) System Initiation Function has been modified from MODES 1, 2 and 3 to MODES 1 and 2, only. The reduction in the Applicability is acceptable since with the unit in MODE 3 the reactor will be shutdown with all control rods inserted. Therefore, the additional shutdown requirements of the SLC System will not be necessary to mitigate an ATWS event. The proposed Applicability is consistent with the Applicability of ITS 3.1.7 for the SLC System. In addition, CTS Table 3.2.A-1 ACTION 23 (Close the affected system isolation valves within one hour and declare the affected system inoperable) for this Function has been changed to either close the penetration or declare the system inoperable (ITS 3.3.6.1 Required Action H.1 and H.2, respectively). The purpose of the SLC System Initiation Function of the RWCU System (ITS Table 3.3.6.1-1 Function 5.a) is to ensure the SLC System functions properly and the injected boron is not removed from the Reactor Coolant System. With the RWCU System isolated, the SLC System remains capable of performing its function. With the RWCU System not isolated and the SLC System Initiation Function inoperable, the SLC System cannot perform its function. With the SLC System declared inoperable, the Actions of CTS 3.4.A (ITS 3.1.7), which have been previously approved by the NRC, would apply. Therefore, this change is considered acceptable since the Required Actions in ITS 3.1.7 provide adequate compensatory action for other conditions where the SLC System is inoperable (SLC tank sodium pentaborate concentration not within limits). This change is consistent with BWR ISTS, NUREG-1433, Rev.1.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

L.3 The CTS 3.2.A-1 ACTION 23 requirement, associated with the Reactor Vessel Water Level - Low Function (CTS 3.2.A-1 Functional Unit 7.a), to close the affected system isolation valves within one hour and declare the affected system inoperable has been modified to immediately initiate action to restore the channel to OPERABLE status or initiate action to isolate the Residual Heat Removal (RHR) Shutdown Cooling System (ITS 3.3.6.1 Required Action I.1 and I.2, respectively). The current actions are overly restrictive and may not always be the safest action. Isolating the RHR suction pathway will place the system in a state in which it can not be used. Therefore, the ability of the plant to remove decay heat would be reduced. As a result, the proposed Actions are designed to require the most prudent action. The actions will be required to be initiated immediately and continue until the channels are restored or the RHR Shutdown Cooling System is isolated. When the RHR Shutdown Cooling System is isolated it must be declared inoperable and further actions will be required to provide alternate decay heat removal methods as required by ITS 3.4.7 during MODE 3, ITS 3.4.8 during MODE 4, and ITS 3.9.8 and 3.9.9 during MODE 5 operations. If Required Action I.1 is chosen prudent action must be taken to restore the channels, however the system can remain in operation to support the decay heat removal requirements.

L.4 CTS Table 3.2.A-1 Action 21, which requires the unit to be in STARTUP (Mode 2) with the associated isolation valves closed within 8 hours, is being changed in ITS 3.3.6.1 ACTION D to only require isolation of the associated main steam line within 12 hours. The requirement to isolate the affected main steam lines is a sufficient action with the Main Steam Line Isolation - Reactor Vessel Water Level—Low Low, Main Steam Line Flow—High, and Main Steam Line Tunnel Temperature—High Functions inoperable and will normally require being in MODE 2 to avoid a scram. The requirement to be in MODE 2 is therefore implicit and is not included in ITS 3.3.6.1 Required Action D.1. In addition, some conditions may affect the isolation logic for only one main steam line. In these cases, it is not necessary to require a shutdown of the unit; rather, isolation of the affected line returns the system to a status where it can perform the remainder of the isolation function, and continued operation is allowed. The time allowed to isolate the associated main steam lines is extended from the CTS time of 8 hours to 12 hours in ITS 3.3.6.1 Required Action D.1. The additional time is provided to allow for more orderly power reduction.

RELOCATED SPECIFICATIONS

None

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) Extending the SR Frequency is acceptable because the relief valve instrumentation logic is designed to be single failure proof, and therefore, is highly reliable. Furthermore, the Relief Valve Instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. The following paragraphs, listed by CTS Function name, identify by make, manufacturer and model number the drift evaluations performed:

Reactor Vessel Pressure Setpoint

This function is performed by Dresser 1539VX pressure controllers. An increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the Dresser pressure controllers with respect to drift. The Dresser pressure controllers' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Low Set Relief Valve Reactuation Time Delay

This function is performed by Agastat E7022PC003 and E7022PC002 time delay relays. An increase in the surveillance interval to accommodate a 24 month fuel cycle does not affect the time delay relays with respect to drift. A sufficient quantity of As Found and As Left calibration data was not available to perform a rigorous drift analysis. The vendor's drift allowance was determined per NES-EIC-20.04, Rev. 2, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy" and used to calculate a 30 month drift. The calculated 30 month drift was used in the development of the plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the instrumentation, number of redundant relief valves, and the drift evaluations, it is concluded that the impact, if any, from this change on system availability is minimal as a result of the change in the surveillance test interval. A review of historical surveillance data was performed to validate the above conclusion. This review of surveillance test history demonstrates that there are no failures that would invalidate this conclusion. In addition, the proposed 24 month Surveillance Frequency, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) does not invalidate any assumptions in the plant licensing basis.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 CTS Table 3.2.A-1 Functional Units 2.a, 2.b, 2.c, and 2.d Action 24 requires the establishment of the SECONDARY CONTAINMENT INTEGRITY with the standby gas treatment system operating within one hour. This Action does not provide the necessary actions to ensure the design bases safety analyses is met for when the CREV System isolation instrumentation is inoperable. Therefore, additional Required Actions have been added to address this specific concern. The proposed Required Actions will require the isolation of each required control room penetration flow path within 1 hour (ITS 3.3.7.1 Required Action D.1) or the declaration that the CREV System is inoperable within 1 hour (Required Action D.3). These actions will ensure adequate compensatory measures are taken to either activate the associated equipment required to function or to take actions previously approved by the NRC when the CREV System is inoperable for reasons other than isolation instrumentation. Therefore, these additional requirements are considered more restrictive on plant operations but necessary to ensure the design bases analyses are met.

M.2 The Applicability for CTS Table 3.2.A-1 and 4.2.A-1 Functional Units 2.c and 2.d have been changed to include CORE ALTERATIONS as stated in ITS Table 3.3.7.1 footnote (b). This proposed Applicability is consistent with the Applicability for the Control Room Emergency Ventilation System in CTS 3.8.D (ITS 3.7.4 and 3.7.5). This change is more restrictive but necessary to ensure the control room personnel are protected in the event of an inadvertent criticality during CORE ALTERATIONS.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The detail in CTS 3.2.A Action 2 footnote (a), relating to placing channels in trip, is proposed to be relocated to the Bases. The ACTIONS of ITS 3.3.7.1 ensure inoperable channels are placed in trip (which effectively trips the trip system) or remedial actions are taken to compensate for the inoperability, as appropriate. As a result, these relocated details are not necessary for ensuring the appropriate actions are taken in the event of inoperable CREV System isolation channels. As such, these relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS. 6

ADMINISTRATIVE

A.1 In the conversion of the Quad Cities 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the BWR Standard Technical Specifications, NUREG-1433, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

A.2 These changes to CTS 3/4.2.L are provided in the Quad Cities ITS consistent with the Technical Specifications Change Request submitted to the NRC for approval per ComEd letter dated December 30, 1999. The changes identified are consistent with the allowances in NEDO-31400A to remove the main steam isolation is a result of a main steam line high radiation signal. As such, these changes are administrative. B

A.3 This proposed change to the CTS 3.2.L Actions provides more explicit instructions for proper application of the Actions for Technical Specification compliance. In conjunction with the proposed Specification 1.3, "Completion Times," the ITS 3.3.7.2 ACTIONS Note ("Separate Condition entry is allowed for each....") and the wording for ACTION A ("One or more channels...") provides direction consistent with the intent of the existing Actions for an inoperable trip instrumentation channel. It is intended that each inoperable channel is allowed a certain time to complete the Required Actions. Since this change only provides more explicit direction of the current interpretation of the existing specifications, this change is considered administrative.

A.4 An action to "restore channel to OPERABLE status" has been added to the CTS 3.2.L Actions (ITS 3.3.7.2 Required Action A.1). Since this option always exists, this change is considered administrative.

A.5 CTS 4.2.L requires the mechanical vacuum pump trip instrumentation setpoint to be set consistent with the Trip Setpoint value specified in CTS 4.2.L. The CHANNEL would be declared inoperable when the setpoint is less conservative than the value shown in CTS 4.2.L.3. CTS 4.2.L.3 includes a "Trip Setpoint" It is proposed to re-label this as "Allowable Value" consistent with the format of the BWR ISTS, NUREG-1433, Rev. 1. In accordance with current plant procedures and practices, the Trip Setpoints specified in CTS 4.2.L.3 are applied as the Operability limit for the associated instruments. Therefore, the use of the term "Trip Setpoint" in the CTS is the same as the use of the term "Allowable Value" in the ITS. This proposed change does not modify the actual trip

ADMINISTRATIVE

A.5 (cont'd) setpoint specified in CTS 4.2.L for the mechanical vacuum pump trip instrumentation Functions or the Allowable Value specified in ITS SR 3.3.7.2.4 (see Discussion of Change LF.1 below for proposed changes to the Trip Setpoints/Allowable Values). Therefore, this change is considered a presentation preference change only and, as such, is considered an administrative change.

A.6 These changes to CTS 3/4.2.L are provided in the Quad Cities ITS consistent with the Technical Specifications Change Request submitted to the NRC for approval per ComEd letter dated December 27, 1999. The changes identified are consistent with the allowances in NEDC-31677-P-A, "Technical Specification Improvement Analysis for BWR Isolation Actuation Instrumentation," July 1980, and NEDC-30851P-A Supplement 2, "Technical Specifications Improvement Analysis for BWR Isolation Instrumentation Common to RPS and ECCS Instrumentation," March 1989. As such, these changes are administrative.

A.7 The Trip Setpoint for the Main Steam Line Radiation - High Function in CTS 4.2.L.3 and footnote b is with respect to normal background measured during full power operation without hydrogen being injected. The Allowable Value specified in ITS SR 3.3.7.2.4 is specified as $\leq$ 7700 mR/hr. This change has been made for human factors considerations. The indications in the control room can be directly associated with the value in the ITS. Any changes to the actual setpoint is addressed in Discussion of Changes A.5 and LF.1, therefore this change is considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

None

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LD.1 The Frequency for performing the LOGIC SYSTEM FUNCTIONAL TEST (LSFT) of CTS 4.2.L.4 (proposed SR 3.3.7.2.5) has been extended from 18 months to 24 months. This SR ensures that Trip Instrumentation logic will function as designed to ensure proper response during an analyzed event. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B

3.2 - LIMITING CONDITIONS FOR OPERATION

B. ~~Emergency Core Cooling Systems (ECCS) Actuation~~ Loss of Power (LOP) Instrumentation A.2

LCO 3.3.8.1 The ~~ECCS actuation~~ LOP instrumentation CHANNEL(s) shown in Table 3.2.B-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the ~~Trip Setpoint~~ Allowable Value column. A.3

APPLICABILITY:

As shown in Table 3.2.B-1.

Add proposed ACTIONS Note A.4

ACTION:

ACTION A

1. With an ~~ECCS actuation~~ LOP instrumentation CHANNEL trip setpoint less conservative than the value shown in the ~~Trip Setpoint~~ Allowable Value column of Table 3.2.B-1, declare the CHANNEL inoperable until the CHANNEL is restored to OPERABLE status with its trip setpoint adjusted consistent with the ~~Trip Setpoint~~ Allowable Value value. A.2 A.3
2. With one or more ~~ECCS actuation~~ LOP instrumentation CHANNEL(s) inoperable, take the ACTION required by Table 3.2.B-1. A.2
3. With either ADS TRIP SYSTEM inoperable, restore the inoperable TRIP SYSTEM to OPERABLE status within: ⟨see ITS 3.3.5.1⟩ B
   a. 7 days provided that both the HPCI and RCIC systems are OPERABLE, or
   b. 72 hours.

   With the above provisions of this ACTION not met, be in at least HOT

4.2 - SURVEILLANCE REQUIREMENTS

B. ~~ECCS Actuation~~ LOP Instrumentation

1. Each ~~ECCS actuation~~ LOP instrumentation CHANNEL shall be demonstrated OPERABLE by the performance of the ~~CHANNEL CHECK,~~ CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations for the OPERATIONAL MODE(s) and at the frequencies shown in Table 4.2.B-1. Note 1 to Surveillance Requirements ⟨See ITS 3.3.5.1⟩
2. SR 3.3.8.1.5 LOGIC SYSTEM FUNCTIONAL TEST(s) of all CHANNEL(s) shall be performed at least once per ~~18~~ 24 months. LD.1 B

Table 3.3.8.1-1

TABLE 4.2.B-1 (Continued)

A.2 LOP ECCS ACTUATION INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

<See ITS 3.3.5.1>

Function Functional Unit	CHANNEL CHECK	SR 3.3.8.1.1 SR 3.3.8.1.3 CHANNEL FUNCTIONAL TEST	SR 3.3.8.1.2 SR 3.3.8.1.4 CHANNEL CALIBRATION	Applicable OPERATIONAL MODE(s)
4. AUTOMATIC DEPRESSURIZATION SYSTEM[a]				
a. Reactor Vessel Water Level - Low Low	S	M	Q	1, 2, 3
b. Drywell Pressure - High[a]	NA	M	Q	1, 2, 3
c. Initiation Timer	NA	E	E	1, 2, 3
d. Low Low Level Timer	NA	E	E	1, 2, 3
e. CS Pump Discharge Pressure - High (Permissive)	NA	M	Q	1, 2, 3
f. LPCI Pump Discharge Pressure - High (Permissive)	NA	M	Q	1, 2, 3
5. LOSS OF POWER			24 months LE.1	
1 a. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage)	NA	3 - E 24 months LD.1	E - 4	1, 2, 3, 4[d], 5[d]
2.a 2.b b. 4.16 kv Emergency Bus Undervoltage (Degraded Voltage)	NA	1 - E	E - 2	1, 2, 3, 4[d], 5[d]

<See ITS 3.3.5.1>

A.1

B

M.1

A.2 LOP Instrumentation 3.3.8.1

ITS 3.3.8

Page 5 of 6

ADMINISTRATIVE

A.4 (cont'd) inoperable channel is allowed a certain time to complete the Required Actions. Since this change only provides more explicit direction of the current interpretation of the existing specifications, this change is considered administrative.

A.5 CTS Table 3.2.B-1 ACTION 36 requires the DG to be declared inoperable and to take the ACTION required by Specification 3.9.A or 3.9.B, as appropriate, when the inoperable LOP instrumentation channel is not tripped within 1 hour. The format of the ITS does not include providing "cross references." ITS 3.8.1 and ITS 3.8.2 adequately prescribe the Required Actions for an inoperable DG without such references. Therefore, the existing reference in CTS Table 3.2.B-1 ACTION 36 to "take the ACTION required by Specification 3.9.A or 3.9.B" serves no functional purpose, and its removal is purely an administrative difference in presentation.

A.6 Not used.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 CTS Tables 3.2.B-1 and 4.2.B-1 require the LOP instruments to be OPERABLE during MODES 4 and 5 only when the associated DG is required to be OPERABLE (as stated in footnote (e) to Table 3.2.B-1 and footnote (c) to Table 4.2.B-1). The Applicability is being changed to be when the associated DG is required to be OPERABLE by LCO 3.8.2, "AC Sources — Shutdown," which in ITS 3.3.8.1 requires the LOP instrumentation to be OPERABLE not only during MODES 4 and 5, but also during movement of irradiated fuel assemblies in the secondary containment (which could be when the unit is defueled). This will ensure the DGs can be properly actuated at all times when they are required to be OPERABLE and is an additional restriction on plant operation.

M.2 A new Allowable Value has been added for the LOP Function. The maximum Allowable Value has been added for CTS Table 3.2.B-1 Degraded Voltage Function (ITS Table 3.3.8.1-1 Function 2.a) to prevent inadvertent power supply transfer. The new maximum Allowable Value represents an additional restriction on plant operation.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The detail in CTS Table 3.2.B-1 Functional Unit 6.a relating to the methods (on decreasing voltage) for determining the 4160 V ESS Bus Undervoltage (Loss of Voltage) Setpoint is proposed to be relocated to the Bases. This detail is not necessary to ensure the OPERABILITY of the loss of power instrumentation. The requirements of ITS 3.3.8.1 and proposed SR 3.3.8.1.2 are adequate to ensure the loss of power instruments are maintained OPERABLE. Therefore, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LD.1 The Frequency for performing the LOGIC SYSTEM FUNCTIONAL TEST of CTS 4.2.B.2 and the CHANNEL FUNCTIONAL TEST of CTS Table 4.2.B-1 for Functional Unit 5.a, 4.16 kV Emergency Bus Undervoltage (Loss of Voltage), have been extended from 18 months to 24 months in proposed SR 3.3.8.1.3 and SR 3.3.8.1.5. These SRs ensure that LOP Instrumentation logic will function as designed to ensure proper response during an analyzed event. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Reviews of historical maintenance and surveillance data have shown that these tests normally pass their Surveillances at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. The LOP instrumentation including the actuating logic is designed to be single failure proof and therefore, is highly reliable. Furthermore, as stated in the NRC Safety Evaluation Report (dated August 2, 1993) relating to extension of the Peach Bottom Atomic Power Station, Unit Numbers 2 and 3 surveillance intervals from 18 to 24 months:

> "Industry reliability studies for boiling water reactors (BWRs), prepared by the BWR Owners Group (NEDC-30936P) show that the overall safety systems' reliabilities are not dominated by the reliabilities of the

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd) logic system, but by that of the mechanical components, (e.g., pumps and valves), which are consequently tested on a more frequent basis. Since the probability of a relay or contact failure is small relative to the probability of mechanical component failure, increasing the logic system functional test interval represents no significant change in the overall safety system unavailability."

Based on the inherent system and component reliability, the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval. The review of historical surveillance data also demonstrated that there are no failures that would invalidate this conclusion. In addition, the proposed 24 month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

LE.1 The Frequency for performing the CHANNEL CALIBRATION of CTS 4.2.B.1 (Functional Unit 5.a) has been extended from 18 months to 24 months in proposed SR 3.3.8.1.4. This SR ensures that LOP Instrumentation associated with the 4.16 kV Emergency Bus Undervoltage - Loss of Voltage channels will function as designed to ensure proper response during an analyzed event. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. 6

Extending the SR Frequency is acceptable because the electrical power sources are designed to be single failure proof and therefore are highly reliable. Major deviations in the circuitry will be discovered during the cycle since the CHANNEL FUNCTIONAL TEST of both the loss of voltage instrumentation and the time delay relays are performed more frequently. Furthermore, the impacted LOP instrumentation has been evaluated based on make, manufacturer and model number to determine that the instrumentation's actual drift falls within the design allowance in the associated setpoint calculation. 6

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd)

This function is performed by General Electric Type 12IAV69A1A relays. The GE relays' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history, demonstrates that there are no failures that would invalidate the conclusion that the impact, if any on

3.9 - LIMITING CONDITIONS FOR OPERATION

G. RPS Electric Power Monitoring

LCO 3.3.8.2 Two Reactor Protection System (RPS) electric power monitoring ~~CHANNEL(s)~~ assemblies for each inservice RPS Motor Generator (MG) set or alternate power supply shall be OPERABLE.

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2, ~~3, 4[(b)]~~ and 5[(a)]. L.1 L.3

ACTION:

ACTION A 1. With one RPS electric power monitoring ~~CHANNEL~~ assembly for an inservice RPS MG set or alternate power supply inoperable, ~~restore the inoperable power monitoring CHANNEL to OPERABLE status within 72 hours or~~ remove the associated RPS MG set or alternate power supply from service. A.2

ACTION B 2. With both RPS electric power monitoring ~~CHANNEL(s)~~ assemblies for an inservice RPS MG set or alternate power supply inoperable, ~~restore at least one electric power monitoring CHANNEL to OPERABLE status~~ within ~~30 minutes~~ 1 hour ~~or~~ remove the associated RPS MG set or alternate power supply from service. A.2 L.2

← Add proposed ACTION C A.3

← Add proposed ACTION D L.4

4.9 - SURVEILLANCE REQUIREMENTS

G. RPS Electric Power Monitoring

The specified RPS electric power monitoring ~~CHANNEL(s)~~ assemblies shall be determined OPERABLE:

SR 3.3.8.2.1 1. By performance of a CHANNEL FUNCTIONAL TEST[(b)] each time the plant is in COLD SHUTDOWN for a period of more than 24 hours, unless performed in the previous 6 months. L.1

SR 3.3.8.2.2 SR 3.3.8.2.3 2. At least once per ~~18~~ 24 months by demonstrating the OPERABILITY of overvoltage, undervoltage, and underfrequency protective instrumentation by performance of a CHANNEL CALIBRATION including simulated automatic actuation of the protective relays, tripping logic, and output circuit breakers, and verifying the following ~~setpoints~~ Allowable Values: LD.1 LE.1 A.4

SR 3.3.8.2.2

a. Overvoltage ≤ 129.6 volts AC

b. Undervoltage ≥ 105.3 volts AC

c. Underfrequency ≥ 55.4 Hz

LF.1

with time delay set to ≤ 3.59 seconds M.2

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a With any control rod withdrawn from a core cell containing one or more fuel assemblies. L.3

b Only required to be performed prior to entering MODE 2 ~~or 3~~ from MODE 3 or 4. L.1

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd) assemblies will trip at the specified Allowable Values. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. Extending the SR Frequency is acceptable because the RPS electric power monitoring assemblies are designed to be highly reliable. Furthermore, the impacted RPS electric power monitoring instrumentation has been evaluated based on make, manufacturer and model number as compared to similar operating equipment with similar operating characteristics to determine the instrumentation's projected drift values. The following paragraphs, listed by CTS function number, identify by make, manufacturer and model number and drift evaluations performed:

1. Overvoltage

   This function is performed by GE Electrical Protection Assembly (EPA) Model No. 914E175G001-G004 with Logic Card 148C6118G002. The EPAs' and associated Logic Cards' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

2. Undervoltage

   This function is performed by GE EPA Model No. 914E175G001-G004 with Logic Card 148C6118G002. The EPAs' and associated Logic Cards' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

TECHNICAL CHANGES - LESS RESTRICTIVE

LE.1 (cont'd)

3. Underfrequency

This function is performed by GE EPA Model No. 914E175G001-G004 with Logic Card 148C6118G002. The EPAs' and associated Logic Cards' drift was determined by quantitative analysis. The drift value determined was used in the development of, confirmation of, or revision to the current plant setpoint and the Technical Specification Allowable Value. The results of this analysis support a 24 month surveillance interval.

Based on the design of the instrumentation and the drift evaluations, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval.

A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history, demonstrates that there are no failures that would invalidate the conclusion that the impact, if any on system availability is minimal from a change to a 24-month surveillance frequency. In addition, the proposed 24-month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

LF.1 This change revises the Current Technical Specifications (CTS) Trip Setpoints for the Improved Technical Specifications (ITS) Allowable Values. ITS Section 3.3 reflects Allowable Values consistent with the philosophy of BWR ISTS, NUREG-1433, Rev. 1. These Allowable Values have been established consistent with the methods described in ComEd's Instrument Setpoint Methodology (Nuclear Engineering Standard NES-EIC-20.04, "Analysis of Instrument Channel Setpoint Error and Instrument Loop Accuracy"). For most cases, the Allowable Value determinations were calculated using plant specific operating and surveillance trend data or an allowance as provided for by the Instrument Setpoint Methodology. For all other cases, vendor documented performance specifications for drift were used. The Allowable Value verification used actual plant operating and surveillance trend information to ensure the validity of the developed Allowable Value. All changes to safety analysis limits applied in the methodologies were evaluated and confirmed as ensuring safety analysis licensing acceptance limits are maintained. All design limits applied in the methodologies were confirmed as ensuring that applicable design requirements of the associated systems and equipment are maintained. The methodologies used have been

TECHNICAL CHANGES - LESS RESTRICTIVE

L.3 (cont'd) MODE 5 when control rods are withdrawn from core cells containing fuel assemblies. Since the RPS electric power monitoring assemblies support OPERABILITY of the RPS Functions, the proposed change revises the Applicability of CTS 3.9.G (ITS 3.3.8.2) such that the RPS electric power monitoring assemblies are required to be OPERABLE when the RPS Functions (ITS 3.3.1.1) are required to be OPERABLE. This change is considered acceptable based on adequate assurance that the RPS will be OPERABLE when required and the negligible effect on core reactivity.

L.4 CTS 3.9.G does not provide any actions if the RPS electric power monitoring assemblies are not restored or the associated RPS MG set or alternate power supply is not removed from service (which de-energizes the associated RPS bus) as required by CTS 3.9.G Actions 1 and 2. Thus, CTS 3.0.C is required to be entered. However, since CTS 3.0.C is not applicable in MODE 5, 10 CFR 50.36(c)(2) requires that the licensee notify the NRC if required by 10 CFR 50.72, and a Licensee Event Report (LER) be submitted to the NRC as required by 10 CFR 50.73. In lieu of these two requirements, a new ACTION D is provided if CTS 3.9.G Actions 1 and 2 (ITS 3.3.8.2 Required Actions of Condition A or B) are not met in MODE 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies. ITS 3.3.8.2 ACTION D requires action to be initiated to fully insert all insertable control rods in core cells containing one or more fuel assemblies. This action places the reactor in the least reactive condition and ensures the safety function of the RPS instrumentation is already met. B

RELOCATED SPECIFICATIONS

None

<CTS>
<T 3.1.A-1>
<T 4.1.A-1>
<T 2.2.A-1>

Table 3.3.1.1-1 (page 2 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Average Power Range Monitors (continued)		1		SR 3.3.1.1.5	
c. Fixed Neutron Flux — High	1	~~[2]~~	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.9 SR 3.3.1.1.10 SR 3.3.1.1.14 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ ~~[120]~~ 122% RTP
~~d. Downscale~~	~~1~~	~~[2]~~	~~F~~	~~SR 3.3.1.1.8~~ ~~SR 3.3.1.1.9~~ ~~SR 3.3.1.1.15~~	~~≥ [3]% RTP~~
d. Inop	1,2	~~[2]~~	G	SR 3.3.1.1.9 SR 3.3.1.1.10 SR 3.3.1.1.17	NA
3. Reactor Vessel Steam Dome Pressure — High	1,2	~~[2]~~	G	SR 3.3.1.1.1 SR 3.3.1.1.10 SR 3.3.1.1.11 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ ~~[1050]~~ 1050 psig
4. Reactor Vessel Water Level — Low, ~~Level 3~~	1,2	~~[2]~~	G	SR 3.3.1.1.1 SR 3.3.1.1.10 SR 3.3.1.1.11 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ ~~[10]~~ 11.8 inches
5. Main Steam Isolation Valve — Closure	1	~~[8]~~	F	SR 3.3.1.1.10 SR 3.3.1.1.16 SR 3.3.1.1.17 SR 3.3.1.1.18	≤ ~~[10]~~ 9.8% closed
6. Drywell Pressure — High	1,2	~~[2]~~	G	~~SR 3.3.1.1.1~~ SR 3.3.1.1.10 ~~SR 3.3.1.1.10~~ add SR 3.3.1.1.12 ~~SR 3.3.1.1.13~~ SR 3.3.1.1.17 SR 3.3.1.1.18	≤ ~~[1.92]~~ 2.43 psig

(continued)

<CTS>
<T 3.1.A-1>
<T 4.1.A-1>
<T 2.2.A-1>

3

Table 3.3.1.1-1 (page 3 of 3)
Reactor Protection System Instrumentation

SR 3.3.1.1.5

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
7. Scram Discharge Volume Water Level – High		1			
a. ~~Resistance Temperature Detector~~ Thermal Switch	1,2	~~2~~	G	8 ~~SR 3.3.1.1.1~~ SR 3.3.1.1. 10 3 ~~SR 3.3.1.1.10~~ SR 3.3.1.1. 16 5 SR 3.3.1.1. 17 6 3	≤ ~~57.15~~ 38.9 gallons 1
	5(a)	~~2~~	H	8 ~~SR 3.3.1.1.1~~ SR 3.3.1.1. 10 ~~SR 3.3.1.1.10~~ SR 3.3.1.1. 16 5 6 SR 3.3.1.1. 17 6	≤ ~~57.15~~ gallons
b. ~~Float~~ Switch Differential Pressure 9	1,2	~~2~~	G	SR 3.3.1.1. 10 3 5 SR 3.3.1.1. 16 5 SR 3.3.1.1. 17 6	≤ ~~57.15~~ 32.3 gallons 1
	5(a) 1	~~2~~	H	3 SR 3.3.1.1. 10 SR 3.3.1.1. 16 5 6 SR 3.3.1.1. 17	≤ ~~57.15~~ gallons
8. Turbine Stop Valve – Closure	≥ ~~30~~ 45 % RTP 1	~~4~~	E	SR 3.3.1.1. 10 ~~SR 3.3.1.1.10~~ 7 SR 3.3.1.1. 16 5 SR 3.3.1.1. 17 6 SR 3.3.1.1. 13 SR 3.3.1.1. 18	≤ ~~10~~ 9.7 % closed 1
9. Turbine Control Valve Fast Closure, Trip Oil Pressure – Low	≥ ~~30~~ 45 % RTP	~~2~~	E	SR 3.3.1.1. 10 3 ~~SR 3.3.1.1.10~~ 5 SR 3.3.1.1. 16 SR 3.3.1.1. 17 6 SR 3.3.1.1. 13 SR 3.3.1.1. 18	≥ ~~600~~ 475 psig 1
10 ~~10~~. 11 Reactor Mode Switch – Shutdown Position	1,2	~~1~~ 1	G	6 SR 3.3.1.1. 15 SR 3.3.1.1. 17 6	NA
	5(a)	~~2~~	H	5 SR 3.3.1.1. 15 SR 3.3.1.1. 17	NA
~~11~~. 12 Manual Scram	1,2	~~1~~ 1	G	SR 3.3.1.1. 8 12 SR 3.3.1.1. 17 6	NA
	5(a)	~~1~~	H	SR 3.3.1.1. 8 12 SR 3.3.1.1. 17 6	NA

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

10

10. Turbine Condenser Vacuum - Low	1	2	F	SR 3.3.1.1.5 SR 3.3.1.1.10 SR 3.3.1.1.12 SR 3.3.1.1.17 SR 3.3.1.1.18	≥ 21.8 inches Hg vacuum

A

<CTS>

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
<4.2.c.1> <T4.2.c-1> SR 3.3.4.~~2~~.~~2~~ 1 1 3	Perform CHANNEL FUNCTIONAL TEST.	~~[92]~~ days 3
<4.2.c.1> <T4.2.c-1> ~~SR 3.3.4.2.3~~ 1 1 2	Calibrate the trip units.	~~[92]~~ days 31 3
<4.2.c.1> <T3.2.c-1> <T4.2.c-1> SR 3.3.4.~~2~~.4 1 1	Perform CHANNEL CALIBRATION. The Allowable Values shall be: a. Reactor Vessel Water Level—Low Low, ~~Level 2~~ ≥ ~~[-47]~~ -56.3 inches ~~and~~ 2 3; with time delay set to ≥ 7.2 seconds and ≤ 10.8 seconds; and 4 b. Reactor Vessel Steam Dome Pressure—High: ≤ ~~[1095]~~ 1219 psig. 2 3	~~[18]~~ 24 months 3
<4.2.c.2> <DOC M.2> SR 3.3.4.~~2~~.5 1 1	Perform LOGIC SYSTEM FUNCTIONAL TEST including breaker actuation.	~~[18]~~ 24 months 3

A

B

INSERT FUNCTION 1.e

e. Core Spray Pump Start-Time Delay Relay	1, 2, 3 $4^{(a)}$, $5^{(a)}$	1 per pump	C	SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 9.4 seconds	13

<CTS>

<T 3.2.B-1>

<T 4.2.B-1>

<DOC M.1>

Table 3.3.5.1-1 (page 2 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI System (continued)					
b. Drywell Pressure — High	1,2,3	~~4~~ ~~(b)~~ 3 6	B	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 4 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.6 7 ~~SR 3.3.5.1.5~~ 5 SR 3.3.5.1.6 9 ~~SR 3.3.5.1.7~~ 4	≤ ~~[1.92]~~ 2.43 psig] 3
c. Reactor Steam Dome Pressure — Low (~~Injection~~ Permissive) 6	1,2,3	~~4~~ 2	C 7	~~SR 3.3.5.1.1~~ 5 SR 3.3.5.1.2 4 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.6 7 ~~SR 3.3.5.1.5~~ 5 SR 3.3.5.1.6 9 ~~SR 3.3.5.1.7~~ 4	≥ ~~[390]~~ 306 psig and ≤ ~~[500]~~ 342 psig 3
	4(a), 5(a)	~~4~~ 2	B 7	~~SR 3.3.5.1.1~~ 5 SR 3.3.5.1.2 4 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.6 7 ~~SR 3.3.5.1.5~~ 5 SR 3.3.5.1.6 9 ~~SR 3.3.5.1.7~~ 4	≥ ~~[390]~~ 306 psig and ≤ ~~[500]~~ 342 psig 3
d. Reactor Steam Dome Pressure — Low (~~Recirculation Discharge Valve Permissive~~) (Break Detection) 6	~~1(c), 2(c), 3(c)~~ 1,2,3 6	~~4~~	~~C~~ B 6	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 4 ~~SR 3.3.5.1.3~~ 7 SR 3.3.5.1.6 7 SR 3.3.5.1.6 9 5	~~≥ [335] psig~~ ≥ 868 psig and ≤ 891 psig
~~e. Reactor Vessel Shroud Level — Level 0~~ 11	~~1,2,3~~	~~[2]~~	~~B~~	~~SR 3.3.5.1.1 SR 3.3.5.1.2 [SR 3.3.5.1.3] SR 3.3.5.1.5 SR 3.3.5.1.6~~	~~≥ [-202] inches~~
e. ~~f.~~ Low Pressure Coolant Injection Pump Start — Time Delay Relay	1,2,3, 4(a), 5(a)	~~[4]~~ ~~1 per pump~~	C	SR 3.3.5.1.8 SR 3.3.5.1.9 5	3
Pumps ~~A~~, B, D and					9 ≥ 9 seconds and ≤ ~~11~~ 4.7 seconds
~~Pump C~~ 6					6 ≤ ~~1~~ second

(continued)

(a) When associated ECCS 8 subsystem(s) are required to be OPERABLE per LCO 3.5.2 8.

~~(b) Also required to initiate the associated [DG and isolate the associated PSW T/B isolation valves].~~ 6

~~(c) With associated recirculation pump discharge valve open.~~ 6

Insert Functions 2.g, 2.h, 2.i, 2.j and 2.k [1]

<CTS>
<T 3.2.B-1>
<T 4.2.B-1>
<Doc M.1>

Table 3.3.5.1-1 (page 3 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI System (continued)					
f g. Low Pressure Coolant Injection Pump Discharge Flow — Low (Bypass)	1,2,3, $4^{(a)}$, $5^{(a)}$	[4] [3] ~~1~~ per ~~pump~~ loop [3]	E [7]	~~SR 3.3.5.1.1~~ SR 3.3.5.1.5 [7] SR 3.3.5.1.~~2~~ (4) SR 3.3.5.1.~~5~~ (8) SR 3.3.5.1.~~6~~ (9) [5]	≥ [~~1~~] 2526 gpm [3] ~~and ≤ [ ] gpm~~ [3]
~~h. Manual Initiation~~	~~1,2,3, $4^{(a)}$, $5^{(a)}$~~	~~[2] [1 per subsystem]~~	~~C~~	~~SR 3.3.5.1.6~~	~~NA~~ [2]
3. High Pressure Coolant Injection (HPCI) System					
a. Reactor Vessel Water Level — Low Low, ~~Level 2~~ [6]	1, $2^{(c)}$, $3^{(c)}$ [6]	~~4~~	B	SR 3.3.5.1.1 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.3 [5] ~~SR 3.3.5.1.5~~ SR 3.3.5.1.~~6~~ (9) ~~SR 3.3.5.1.7~~ [4]	≥ [~~-47~~] -56.78 inches [3]
b. Drywell Pressure — High	1, $2^{(c)}$, $3^{(c)}$ [6]	~~4~~	B [7]	~~SR 3.3.5.1.1~~ SR 3.3.5.1.~~2~~ (4) ~~SR 3.3.5.1.3~~ SR 3.3.5.1.6 ~~SR 3.3.5.1.5~~ [5] SR 3.3.5.1.~~6~~ (9) ~~SR 3.3.5.1.7~~ [4]	≤ [~~1.92~~] 2.43 psig [3]
c. Reactor Vessel Water Level — High, ~~Level 8~~ [6]	1, $2^{(c)}$, $3^{(c)}$ [6]	~~2~~	C	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.3 [5] ~~SR 3.3.5.1.5~~ SR 3.3.5.1.~~6~~ (9) [5] ~~SR 3.3.5.1.7~~ [4]	≤ [~~56.5~~] 54.23 inches [3]
d. Condensate Storage Tank Level — Low (CCST) [6] Contaminated [6]	1, $2^{(c)}$, $3^{(c)}$ [6]	~~2~~	D [7]	~~SR 3.3.5.1.1~~ SR 3.3.5.1.~~2~~ (4) ~~SR 3.3.5.1.3~~ (8) SR 3.3.5.1.~~6~~ (9) [5]	≥ ~~[0] inches~~ 598 ft 1 inch
e. Suppression Pool Water Level — High	1, $2^{(c)}$, $3^{(c)}$	~~2~~	D	~~SR 3.3.5.1.1~~ (4) SR 3.3.5.1.~~2~~ ~~SR 3.3.5.1.3~~ [7] ~~SR 3.3.5.1.5~~ SR 3.3.5.1.~~6~~ (9) [3]	≤ ~~[154] inches~~ 15 ft 11.25 inches [3]

(continued)

(a) When the associated ECCS [8] subsystem(s) are required to be OPERABLE per LCO 3.5.2 [8].

~~(b)~~ (c) [6] With reactor steam dome pressure > ~~[150]~~ psig. [3]

<CTS>

1

INSERT Functions 2.g, 2.h, 2.i, 2.j, and 2.k

<DOC M.1>

g.	Recirculation Pump Differential Pressure—High (Break Detection)	1, 2, 3	4 per pump	C	SR 3.3.5.1.4 SR 3.3.5.1.8 SR 3.3.5.1.9	≥ 2.3 psid	A
h.	Recirculation Riser Differential Pressure—High (Break Detection)	1, 2, 3	4	C	SR 3.3.5.1.4 SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 2.15 psid	A
i.	Recirculation Pump Differential Pressure Time Delay – Relay (Break Detection)	1, 2, 3	2	C	SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 0.82 seconds	B
j.	Reactor Steam Dome Pressure Time Delay – Relay (Break Detection)	1, 2, 3	2	B	SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 2.26 seconds	B
k.	Recirculation Riser Differential Pressure Time Delay – Relay (Break Detection)	1, 2, 3	2	C	SR 3.3.5.1.8 SR 3.3.5.1.9	≤ 0.82 seconds	B

<CTS>

<T 3.2.B-1>
<T 4.2.B-1>

Table 3.3.5.1-1 (page 4 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. HPCI System (continued)					
f. High Pressure Coolant Injection Pump Discharge Flow — Low (Bypass)	1, 2(c), 3(c)	~~[1]~~	E	~~SR 3.3.5.1.1~~ SR 3.3.5.1.4 SR 3.3.5.1.6 SR 3.3.5.1.9	≥ [634] gpm ~~and ≤ [ ] gpm~~
g. Manual Initiation	1, 2(c), 3(c)	~~[1]~~	C	SR 3.3.5.1.9	NA
4. Automatic Depressurization System (ADS) Trip System A					
a. Reactor Vessel Water Level — Low Low ~~Low, Level 1~~	1, 2(c), 3(c)	~~[2]~~	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ SR 3.3.5.1.9	≥ [-56.78] inches
b. Drywell Pressure — High	1, 2(c), 3(c)	~~[2]~~	F	~~SR 3.3.5.1.1~~ SR 3.3.5.1.4 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.6 ~~SR 3.3.5.1.5~~ SR 3.3.5.1.9	≤ [2.43] psig
c. Automatic Depressurization System Initiation Timer	1, 2(c), 3(c)	~~[1]~~	G	SR 3.3.5.1.8 SR 3.3.5.1.9	≤ [119] seconds
~~d. Reactor Vessel Water Level — Low, Level 3 (Confirmatory)~~	~~1, 2(d), 3(d)~~	~~[1]~~	~~F~~	~~SR 3.3.5.1.1 SR 3.3.5.1.2 [SR 3.3.5.1.3] SR 3.3.5.1.5 SR 3.3.5.1.6~~	~~≥ [10] inches~~
d. Core Spray Pump Discharge Pressure — High	1, 2(c), 3(c)	[4]	G	~~SR 3.3.5.1.1~~ SR 3.3.5.1.4 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.6 ~~SR 3.3.5.1.5~~ SR 3.3.5.1.9	≥ [101.9] psig and ≤ [148.1] psig

(continued)

(c) With reactor steam dome pressure > [150] psig.

⟨CTS⟩

⟨T 3.2.B-1⟩
⟨T.4.2.B-1⟩

Table 3.3.5.1-1 (page 5 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. ADS Trip System A (continued)		3			
e ~~f~~. Low Pressure Coolant Injection Pump Discharge Pressure — High	1, 2(c), 3(c)	~~4~~	7 G	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 4 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.6 5 ~~SR 3.3.5.1.5~~ SR 3.3.5.1.~~6~~ 9	≥ ~~[122]~~ 101.6 psig and ≤ ~~[ ]~~ 148.4 psig
f ~~g~~. Automatic Depressurization System Low Water Level Actuation Timer	1, 2(c), 3(c)	~~2~~ 1	G	~~SR~~ SR 3.3.5.1.~~5~~ 8 SR 3.3.5.1.~~6~~ 9	≤ ~~[13]~~ ~~minutes~~ 530 seconds
[h. Manual Initiation]	1, 2(d), 3(d)	[2]	~~G~~	SR 3.3.5.1.6	~~NA~~] 2
5. ADS Trip System B					
a. Reactor Vessel Water Level — Low Low ~~Low~~, ~~Level 1~~	1, 2(c), 3(c)	~~2~~	5 F	SR 3.3.5.1.1 SR 3.3.5.1.2 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.3 ~~SR 3.3.5.1.5~~ SR 3.3.5.1.6 9	≥ ~~-[113]~~ -56.78 inches
b. Drywell Pressure — High	1, 2(c), 3(c)	~~2~~	7 F	~~SR 3.3.5.1.2~~ SR 3.3.5.1.~~3~~ 4 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.6 5 ~~SR 3.3.5.1.5~~ SR 3.3.5.1.~~6~~ 9	≤ ~~[1.92]~~ 2.43 psig
c. Automatic Depressurization System Initiation Timer	1, 2(c), 3(c)	~~1~~	G	~~SR~~ SR 3.3.5.1.~~5~~ 8 SR 3.3.5.1.~~6~~ 9	≤ ~~[120]~~ 119 seconds
~~d. Reactor Vessel Water Level — Low, Level 3 (Confirmatory)~~	~~1, 2(d), 3(d)~~	~~[1]~~	~~F~~	~~SR 3.3.5.1.1 SR 3.3.5.1.2 [SR 3.3.5.1.3] SR 3.3.5.1.5 SR 3.3.5.1.6~~	~~≥ [10] inches~~ 10
d ~~e~~. Core Spray Pump Discharge Pressure — High	1, 2(c), 3(c)	~~2~~	7 G	~~SR 3.3.5.1.1~~ SR 3.3.5.1.~~2~~ 4 ~~SR 3.3.5.1.3~~ SR 3.3.5.1.6 5 ~~SR 3.3.5.1.5~~ SR 3.3.5.1.~~6~~ 9	≥ ~~[137]~~ 101.9 psig and ≤ ~~[ ]~~ 148.1 psig

(continued)

(c) ~~(d)~~ With reactor steam dome pressure > ~~[150]~~ psig.

<CTS>

<T 3.2.B-1>
<T 4.2.B-1>

Table 3.3.5.1-1 (page 6 of 6)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
5. ADS Trip System B (continued)		3			
e. ~~f.~~ Low Pressure Coolant Injection Pump Discharge Pressure – High	1, 2(c), 3(c)	~~[4]~~	G	~~SR 3.3.5.1.1~~ SR 3.3.5.1.2 SR 3.3.5.1.6 ~~SR 3.3.5.1.3~~ ~~SR 3.3.5.1.5~~ SR 3.3.5.1.6	≥ ~~[122]~~ 101.6 psig and ≤ ~~[ ]~~ 148.4 psig
f. ~~g.~~ Automatic Depressurization System Low Low Water Level Actuation Timer	1, 2(c), 3(c)	~~[2]~~	G	~~SR~~ SR 3.3.5.1.~~5~~ SR 3.3.5.1.~~6~~	≤ ~~[25]~~ 530 seconds ~~minutes~~
~~h. Manual Initiation~~	~~1, 2(d), 3(d)~~	~~[2]~~	~~G~~	~~SR 3.3.5.1.6~~	~~NA~~

(c) ~~(d)~~ With reactor steam dome pressure > ~~[150]~~ psig.

<CTS>

<T 3.2.D-1>
<T 4.2.D-1>

Table 3.3.5.2-1 (page 1 of 1)
Reactor Core Isolation Cooling System Instrumentation

FUNCTION	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level — Low Low, ~~Level 2~~ 6	~~4~~ 1	B	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.3 ~~SR 3.3.5.2.3~~ 3 ~~SR 3.3.5.2.5~~ 4 SR 3.3.5.2.6	≥ ~~-47~~ -56.78 1 inches
2. Reactor Vessel Water Level — High, ~~Level 8~~ 6	~~2~~	2 C	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.3 ~~SR 3.3.5.2.3~~ 3 ~~SR 3.3.5.2.5~~ 4 SR 3.3.5.2.6	≤ ~~56.5~~ 54.23 inches
3. Contaminated 6 Condensate Storage Tank (CCST) 6 Level — Low	~~2~~	D	5 ~~SR 3.3.5.2.1~~ 4 2 SR 3.3.5.2.2 ~~SR 3.3.5.2.3~~ 3 ~~SR 3.3.5.2.4~~ 5 1 SR 3.3.5.2.6	≥ ~~[illegible] inches~~ 598 ft 1 inch B
~~4. Suppression Pool Water Level — High~~	~~2~~	D	5 ~~SR 3.3.5.2.1~~ 4 2 SR 3.3.5.2.2 ~~SR 3.3.5.2.3~~ 3 ~~SR 3.3.5.2.5~~ 4 SR 3.3.5.2.6	≤ ~~[illegible] inches~~ 15 ft 11.25 inches 1 B — 1
~~5. Manual Initiation~~	~~1~~	C	SR 3.3.5.2.6	NA — 1

A

B

<CTS>

<T 3.2.A-1>
<T 4.2.A-1>
<DOC M.1>

Table 3.3.6.1-1 (page 1 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Main Steam Line Isolation		5			
a. Reactor Vessel Water Level — Low Low ~~Low~~, ~~Level 1~~ 7	1,2,3	~~[2]~~	D	SR 3.3.6.1.1 SR 3.3.6.1.2 ~~[SR 3.3.6.1.3]~~ SR 3.3.6.1.~~6~~ 5 SR 3.3.6.1.~~7~~ 6 ~~SR 3.3.6.1.8~~ 6 3	≥ ~~[-129]~~ -55.2 inches 5
b. Main Steam Line Pressure — Low	1	~~[2]~~	E	~~[SR 3.3.6.1.1]~~ 8 ~~[SR 3.3.6.1.2]~~ 5 SR 3.3.6.1.4 SR 3.3.6.1.~~6~~ 6 3 ~~SR 3.3.6.1.8~~ 6	≥ ~~[825]~~ 831 psig
d ~~c~~. Main Steam Line Flow — High	1,2,3	~~[2]~~ per MSL	D	SR 3.3.6.1.1 SR 3.3.6.1.2 ~~[SR 3.3.6.1.3]~~ 8 SR 3.3.6.1.~~6~~ 5 SR 3.3.6.1.~~7~~ 6 3 ~~SR 3.3.6.1.8~~ 6	≤ ~~[120]~~ 138 % rated steam flow 5
~~d. Condenser Vacuum — Low~~	~~1, 2(a), 3(a)~~	~~[2]~~	~~D~~	~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ ~~SR 3.3.6.1.4~~ ~~SR 3.3.6.1.7~~	~~≥ [7] inches Hg vacuum~~ 3
e. Main Steam Line Tunnel Temperature — High	1,2,3	~~[8]~~ 2 per trip string	D	~~[SR 3.3.6.1.1]~~ 9 ~~[SR 3.3.6.1.2]~~ 11 ~~[SR 3.3.6.1.3]~~ 8 SR 3.3.6.1.~~6~~ 5 SR 3.3.6.1.~~7~~ 6 3 ~~SR 3.3.6.1.8~~ 6	≤ ~~[200]~~ 198 °F 5
~~[f. Main Steam Tunnel Differential Temperature — High~~	~~1,2,3~~	~~[2]~~	~~D~~	~~SR 3.3.6.1.1~~ ~~SR 3.3.6.1.2~~ ~~[SR 3.3.6.1.3]~~ ~~SR 3.3.6.1.6~~ ~~SR 3.3.6.1.7~~	~~≤ [ ]°F]~~ 3
~~g. Turbine Building Area Temperature — High~~	~~1,2,3~~	~~[32]~~	~~D~~	~~[SR 3.3.6.1.1]~~ ~~SR 3.3.6.1.2~~ ~~SR 3.3.6.1.6~~ ~~SR 3.3.6.1.7~~	~~≤ [200]°F~~
~~[h. Manual Initiation~~	~~1,2,3~~	~~[1]~~	~~G~~	~~SR 3.3.6.1.7~~	~~NA]~~

(continued)

~~(a) With any turbine [stop valve] not closed.~~ 3

3

c. Main Steam Line Pressure — Timer	1	2	E	SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 0.331 seconds

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A

A

B

<CTS>

3

Insert Function 3.b

b.	HPCI Steam Line Flow–Timer	1, 2, 3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 3.2 seconds and ≤ 8.8 seconds

<DOC M.4>

3

<CTS>

Insert Function 4.b

b.	RCIC Steam Line Flow–Timer	1, 2, 3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	$\geq$ 3.2 seconds and $\leq$ 8.8 seconds

<DOC M.4>

B

All changes $\boxed{1}$ unless noted otherwise

⟨CTS⟩
.6.F⟩
⟨4.6.F.1⟩
⟨DOC M.1⟩

Table 3.3.6.3-1 (page 1 of 1)
Relief Valve ~~Low-Low Set~~ Instrumentation

FUNCTION	REQUIRED CHANNELS PER FUNCTION	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
~~1. Reactor Steam Dome Pressure – High~~	~~[1 per LLS valve]~~	~~[SR 3.3.6.3.1] SR 3.3.6.3.4 [SR 3.3.6.3.5] SR 3.3.6.3.6 SR 3.3.6.3.7~~	~~≤ [1054] psig~~
~~2. Low-Low Set Pressure Setpoints~~	~~[2 per LLS valve]~~	~~[SR 3.3.6.3.1] SR 3.3.6.3.4 [SR 3.3.6.3.5] SR 3.3.6.3.6 SR 3.3.6.3.7~~	~~Low: Open ≤ [1010] psig Close ≤ [860] psig Medium-Low: Open ≤ [1025] psig Close ≤ [875] psig Medium-High: Open ≤ [1040] psig Close ≤ [890] psig High: Open ≤ [1050] psig Close ≤ [900] psig~~
~~3. Tailpipe Pressure Switch~~	~~[22] [2 per S/RV]~~	~~[SR 3.3.6.3.1] SR 3.3.6.3.2 [SR 3.3.6.3.3] SR 3.3.6.3.6 [SR 3.3.6.3.7]~~	~~≥ [80] psig and ≤ [100] psig~~

1. Low Set Relief Valves			
a. Reactor Vessel Pressure Setpoint	1 per valve	SR 3.3.6.3.1 SR 3.3.6.3.2	≤ 1108 psig
b. Reactuation Time Delay	2 per valve	SR 3.3.6.3.1 SR 3.3.6.3.2	≥ 10.5 seconds and ≤ 17.8 seconds
2. Relief Valves			
a. Reactor Vessel Pressure Setpoint	1 per valve	SR 3.3.6.3.1 SR 3.3.6.3.2	≤ 1128 psig

A
B
A

<CTS>

SURVEILLANCE REQUIREMENTS

NOTES

<4.2.B.1> 1. Refer to Table 3.3.8.1-1 to determine which SRs apply for each LOP Function.

<DOC L.1> 2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 2 hours provided the associated Function maintains ~~DG~~ LOP initiation capability. 1

SURVEILLANCE	FREQUENCY
[~~SR 3.3.8.1.1 Perform CHANNEL CHECK.~~]	~~12 hours~~] 2
<T 4.2.B-1> SR 3.3.8.1.~~2~~ 1 Perform CHANNEL FUNCTIONAL TEST.	~~31 days~~ 18 months 3 B
<T 4.2.B-1> 2 SR 3.3.8.1.~~3~~ 2 Perform CHANNEL CALIBRATION.	~~[18]~~ months 2 B
<4.2.B.2> SR 3.3.8.1.~~4~~ 5 Perform LOGIC SYSTEM FUNCTIONAL TEST.	~~[18]~~ 24 months
<T 4.2.B-1> SR 3.3.8.1.3 Perform CHANNEL FUNCTIONAL TEST.	24 months 3 B
SR 3.3.8.1.4 Perform CHANNEL CALIBRATION.	24 months

<CTS>
<T 3.2.B-1 Functional Unit 6>
<T 4.2.B-1 Functional Unit 6>
<DOC M2>

Table 3.3.8.1-1 (page 1 of 1)
Loss of Power Instrumentation

FUNCTION	REQUIRED CHANNELS PER BUS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. ~~4.16 kV Emergency~~ 4160V Essential Service System Bus Undervoltage (Loss of Voltage)			
a. ~~Bus Undervoltage~~	~~[2]~~ 2	~~[SR 3.3.8.1.1]~~ 2 SR 3.3.8.1.~~2~~ 3 SR 3.3.8.1.~~3~~ 4 SR 3.3.8.1.~~4~~ 5	≥ ~~[2800]~~ 2797 V and ≤ ~~[ ]~~ 3063 V
~~b. Time Delay~~	~~[2]~~	~~[SR 3.3.8.1.2]~~ ~~SR 3.3.8.1.3~~ ~~SR 3.3.8.1.4~~	~~≥ [ ] seconds and ≤ [6.5] seconds~~
2. ~~4.16 kV Emergency~~ Bus Undervoltage (Degraded Voltage)			
a. Bus Undervoltage / Time Delay	~~[2]~~ 2	~~[SR 3.3.8.1.1]~~ 2 SR 3.3.8.1.~~2~~ 1 SR 3.3.8.1.~~3~~ 2 SR 3.3.8.1.~~4~~ 5	≥ ~~[3280]~~ 3885 V and ≤ ~~[ ]~~ 3948 V with time delay ≥ 5.7 seconds and ≤ 8.3 seconds
b. Time Delay (No LOCA)	~~[2]~~ 1	~~[SR 3.3.8.1.2]~~ 1 SR 3.3.8.1.~~3~~ 2 SR 3.3.8.1.~~4~~ 5	≥ ~~[ ]~~ 276 seconds and ≤ ~~[21.5]~~ 324 seconds

2 3 4 5 1 B

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1433, REVISION 1
ITS: 3.3.8.1 - LOP INSTRUMENTATION

1. The proper Quad Cities 1 and 2 plant specific nomenclature/value/design requirements have been provided.

2. The brackets have been removed and the proper plant specific information/value has been provided or the requirement has been deleted. The following requirements have been renumbered to reflect the deletion, as applicable.

3. The ISTS SR 3.3.8.1.2 CHANNEL FUNCTIONAL TEST Frequency has been changed from 31 days to 18 months consistent with the current licensing basis for the degraded voltage Functions. In addition, a 24 month CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION frequency has been added, consistent with the 24 month Surveillance interval extension justifications for the loss of voltage Functions. 6

4. ISTS Table 3.3.8.1-1, Function 1.b, 4.16 kV Emergency Bus Undervoltage (Loss of Voltage) Time Delay, has been deleted. The Quad Cities 1 and 2 instrumentation design does not include a time delay associated with the loss of voltage function, except as provided by the bus undervoltage relay inverse time/voltage characteristics. The previous Function has been renumbered as required.

5. ISTS Table 3.3.8.1-1, Function 2.a, 4.16 kV Emergency Bus Undervoltage (Degraded Voltage), has been revised to include the inherent (adjustable) time delay associated with the degraded voltage relays.

<CTS>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
<4.9.6.2> SR 3.3.8.2.2	Perform CHANNEL CALIBRATION. The Allowable Values shall be: a. Overvoltage ≤ ~~[132]~~ 129.4 V, with time delay set to ≤ 3.59 seconds. b. Undervoltage ≥ ~~[108]~~ 105.6 V, with time delay set to ~~[zero]~~ ≤ 3.59 seconds. c. Underfrequency ≥ ~~[57]~~ 55.6 Hz, with time delay set to ~~[zero]~~ ≤ 3.59 seconds.	~~[18]~~ 24 months
<4.9.6.2> SR 3.3.8.2.3	Perform a system functional test.	~~[18]~~ 24 months

3 B

All changes are 3 unless otherwise identified

BASES (continued)

REFERENCES

1. u FSAR, ~~Figure [ ]~~. Section 7.2 4

4 5 → ~~2~~. u FSAR, Section [15.~~1.2~~]. 4.1 4

6 → ~~3~~. NEDO-23842, "Continuous Control Rod Withdrawal in the Startup Range," April 18, 1978.

~~4. FSAR, Section [5.2.2]~~

7 → ~~5~~. u FSAR, Section [15.~~1.3B~~]. 4.10 4 15.6.5

8 → ~~6~~. u FSAR, Section [~~6.3.3~~].

~~7. FSAR, Chapter [15].~~

9. UFSAR, Section 15.2.5.

2. UFSAR, Section 5.2.2.2.3.
3. UFSAR, Section 6.2.1.3.2.
4. UFSAR, Chapter 15.

10 → ~~8~~. P. Check (NRC) letter to G. Lainas (NRC), "BWR Scram Discharge System Safety Evaluation," December 1, 1980.

13 → ~~9~~. NEDC-30851-P-A, "Technical Specification Improvement Analyses for BWR Reactor Protection System," March 1988. B

14 → ~~10~~. ~~FSAR, Table [7.2-2]~~. Technical Requirements Manual

11. UFSAR, Section 15.2.3
12. UFSAR, Section 15.2.2

BASES

more to page B 3.3-54 as indicated

REFERENCES (continued)

~~6. NEDO-21231, "Banked Position Withdrawal Sequence," January 1977~~

9 7. NRC SER, "Acceptance of Referencing of Licensing Topical Report NEDE-24011-P-A," "General Electric Standard Application for Reactor Fuel, Revision 8, Amendment 17," December 27, 1987.

12 8. NEDC-30851-P-A, Supplement 1, "Technical Specification Improvement Analysis for BWR Control Rod Block Instrumentation," October 1988.

11 9. GENE-770-06-1-A, "Addendum to Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications," ~~February 1991~~ December 1992.

1 B

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.5.1.3 5

Calibration of trip units provides a check of the actual trip setpoints. The channel must be declared inoperable if the trip setting is discovered to be less conservative than the Allowable Value specified in Table 3.3.5.1-1. If the trip setting is discovered to be less conservative than accounted for in the appropriate setpoint methodology, but is not beyond the Allowable Value, the channel performance is still within the requirements of the plant safety analyses. Under these conditions, the setpoint must be readjusted to be equal to or more conservative than the setting accounted for in the appropriate setpoint methodology.

4

The Frequency of 92 days is based on the reliability analysis of Reference 5.

4 3 SR 3.3.5.1.6, SR3.3.5.1.7, 4

SR 3.3.5.1.4 and SR 3.3.5.1.5 8

A CHANNEL CALIBRATION is a complete check of the instrument loop and the sensor. This test verifies the channel responds to the measured parameter within the necessary range and accuracy. CHANNEL CALIBRATION leaves the channel adjusted to account for instrument drifts between successive calibrations consistent with the plant specific setpoint methodology.

The Frequency of SR 3.3.5.1.3 is based upon the assumption of a 60 day calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

2

6 4

The Frequency of SR 3.3.5.1.4 is based upon the assumption of a 92 day calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

8 4

The Frequency of SR 3.3.5.1.5 is based upon the assumption of an ~~18~~ 24 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

4

SR 3.3.5.1.6 9 4

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required initiation logic for a specific channel. The system functional testing performed in LCO 3.5.1, LCO 3.5.2, LCO 3.8.1, and LCO 3.8.2 overlaps this Surveillance to provide complete testing of the assumed safety function.

3

(continued)

2

The Frequency of SR 3.3.5.1.7 is based upon the assumption of a 184 day calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

B A A A

BASES

SURVEILLANCE REQUIREMENTS (continued)

returned to OPERABLE status or the applicable Condition entered and Required Actions taken.

SR 3.3.8.1.1

Performance of the CHANNEL CHECK once every 12 hours ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the instrument channels could be an indication of excessive instrument drift in one of the channels or something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION.

Agreement criteria are determined by the plant staff based on a combination of the channel instrument uncertainties, including indication and readability. If a channel is outside the criteria, it may be an indication that the instrument has drifted outside its limit.

The Frequency is based upon operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with channels required by the LCO. 4

SR 3.3.8.1.2 1 4 and SR 3.3.8.1.3 4 B

A CHANNEL FUNCTIONAL TEST is performed on each required channel to ensure that the ~~entire~~ channel will perform the intended function. Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology. 1

18 months and 24 months
ies
are

The Frequency of ~~31 days~~ is based on operating experience with regard to channel OPERABILITY and drift, which demonstrates that failure of more than one channel of a given Function in any ~~31 day~~ interval is a rare event. 4 B

18 month or 24 month
, as applicable,

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.8.1.3 2 — 4 and SR 3.3.8.1.4 — 4

A CHANNEL CALIBRATION is a complete check of the instrument loop and the sensor. This test verifies the channel responds to the measured parameter within the necessary range and accuracy. CHANNEL CALIBRATION leaves the channel adjusted to account for instrument drifts between successive calibrations consistent with the plant specific setpoint methodology.

~~Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.~~ — 1

The Frequency is based upon the assumption of an 18 month or 24 month 4 calibration interval, as applicable, 4 in the determination of the magnitude of equipment drift in the setpoint analysis.

SR 3.3.8.1.4 5 — 4

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required actuation logic for a specific channel. The system functional testing performed in LCO 3.8.1 and LCO 3.8.2 overlaps this Surveillance to provide complete testing of the assumed safety functions.

The 18 24 — 4 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 these components usually pass the Surveillance when performed at the 18 month Frequency.

2

REFERENCES

1. U FSAR, ~~Figure [/]~~ Section 8.3.1.8
2. U FSAR, Section [5.2].
3. U FSAR, Section [6.3].
4. U FSAR, Chapter [15].

5

"GENERIC" LESS RESTRICTIVE CHANGES:
EXTENDING SURVEILLANCE FREQUENCIES FROM 18 MONTHS TO 24 MONTHS FOR CHANNEL CALIBRATION SURVEILLANCES
("LE.x" Labeled Comments/Discussions)

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

   The proposed change involves a change in the instrumentation channel calibration surveillance testing intervals to 24 months. The proposed change does not physically impact the plant nor does it impact any design or functional requirements of the associated systems. That is, the proposed change does not degrade the performance or increase the challenges of any safety systems assumed to function in the accident analysis. The proposed change does not impact the Surveillance Requirements themselves nor the way in which the Surveillances are performed. Additionally, the proposed change does not introduce any new accident initiators since no accidents previously evaluated have as their initiators anything related to the frequency of surveillance testing. The proposed change does not affect the availability of equipment or systems required to mitigate the consequences of an accident because of the availability of redundant systems or equipment and because other test performed more frequently will identify potential equipment problems. Furthermore, an historical review of surveillance test results indicated that all failures identified were unique, non-repetitive, and not related to any time-based failure modes, and indicated no evidence of any failures that would invalidate the above conclusions. Therefore, the proposed change does not increase the probability or consequences of an accident previously evaluated.

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

   The proposed change involves a change in the instrumentation channel calobration surveillance testing intervals to 24 months. The proposed change does not introduce any failure mechanisms of a different type than those previously evaluated since there are no physical changes being made to the facility. In addition, the Surveillance Requirements themselves and the way Surveillances are performed will remain unchanged. Furthermore, an historical review of surveillance test results indicated no evidence of any failures that would invalidate the above conclusions. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.8 Residual Heat Removal (RHR) Shutdown Cooling System—Cold Shutdown

LCO 3.4.8 Two RHR shutdown cooling subsystems shall be OPERABLE.

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

1. Not required to be met during hydrostatic testing.

2. One RHR shutdown cooling subsystem may be inoperable for up to 2 hours for the performance of Surveillances.

APPLICABILITY: MODE 4.

ACTIONS

-------------------------------------NOTE-------------------------------------

Separate Condition entry is allowed for each RHR shutdown cooling subsystem.

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One or two RHR shutdown cooling subsystems inoperable.	A.1	Verify an alternate method of decay heat removal is available for each inoperable RHR shutdown cooling subsystem.	1 hour <u>AND</u> Once per 24 hours thereafter
	<u>AND</u>		(continued)

BASES

APPLICABILITY (continued)

below this pressure, the OPERABILITY requirements for the Emergency Core Cooling systems (ECCS) (LCO 3.5.1, "ECCS—Operating") do not allow placing the RHR shutdown cooling subsystem into operation.

The requirements for decay heat removal in MODE 3 below the cut-in permissive pressure and in MODE 5 are discussed in LCO 3.4.7, "Residual Heat Removal (RHR) Shutdown Cooling System—Hot Shutdown"; LCO 3.9.8, "Residual Heat Removal (RHR)—High Water Level"; and LCO 3.9.9, "Residual Heat Removal (RHR)—Low Water Level."

ACTIONS

A Note has been provided to modify the ACTIONS related to RHR shutdown cooling subsystems. Section 1.3, Completion Times, specifies once a Condition has been entered, subsequent divisions, subsystems, components or variables expressed in the Condition, discovered to be inoperable or not within limits, will not result in separate entry into the Condition. Section 1.3 also specifies Required Actions of the Condition continue to apply for each additional failure, with Completion Times based on initial entry into the Condition. However, the Required Actions for inoperable RHR shutdown cooling subsystems provide appropriate compensatory measures for separate inoperable shutdown cooling subsystems. As such, a Note has been provided that allows separate Condition entry for each inoperable RHR shutdown cooling subsystem.

A.1

With one of the two RHR shutdown cooling subsystems inoperable, except as permitted by LCO Notes 1 and 2, the remaining subsystem is capable of providing the required decay heat removal. However, the overall reliability is reduced. Therefore, an alternate method of decay heat removal must be provided. With both RHR shutdown cooling subsystems inoperable, an alternate method of decay heat removal must be provided in addition to that provided for the initial RHR shutdown cooling subsystem inoperability. This re-establishes backup decay heat removal capabilities, similar to the requirements of the LCO. The 1 hour Completion Time is based on the decay heat removal function

(continued)

TECHNICAL CHANGES - MORE RESTRICTIVE (continued)

M.2 With no reactor coolant system recirculation loops in operation, CTS 3.6.A Action 2 requires the unit to be in at least STARTUP (MODE 2) within 8 hours and in HOT SHUTDOWN (MODE 3) within the next 6 hours. Under the same conditions ITS 3.4.1 Required Action A.1 will require the unit to be in MODE 2 in 8 hours and Required Action A.2 will require the unit to be in MODE 3 in 12 hours (next 4 hours). The change has been made for consistency with other conditions in the CTS and ITS which require the units to be in MODE 3. This change is more restrictive since the total time required to be in MODE 3 has decreased from 14 to 12 hours. This proposed time period is still adequate to achieve the required plant conditions in an orderly manner and without challenging plant systems.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 CTS 4.6.A requires the recirculation pump MG set scoop tube stop settings specified in the COLR to be verified at least once per 18 months. As indicated in the CTS requirement, the scoop tube stop settings are currently specified in the COLR. The details related to these operational settings are proposed to be relocated to Technical Requirements Manual (TRM). The MCPR operating limit is dependent on the MG set scoop tube stop settings as indicated in the Bases of ITS 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR). Therefore, with the MG set scoop tube stop settings not within limit, the MCPR operating limit may not be valid and therefore MCPR must be declared not within limits in accordance with proposed ITS 3.2.2 Required Action A.1 and action must be taken to restore MCPR to within limits within 2 hours or the THERMAL POWER must be reduced below 25% RTP (ITS 3.2.2 Required Action B.1). SR 3.2.2.1 requires the MCPRs to be verified to be greater than the limits specified in the COLR once within 12 hours after THERMAL POWER is $\geq$ 25% RTP and once per 24 hours thereafter. The MCPR limits specified in the COLR are based on MG set scoop tube settings. Therefore, if the MG set scoop tube settings are not set in accordance with the relocated requirement, the MCPR must be declared not within limits. These controls are considered adequate to ensure that MCPR will be within limits during normal and transient conditions. During transients initiated at reduced core flow the transient analysis assumes a failed speed rate (not speed limit) controller which results in an infinitely slow recirculation pump run-up rate which results in the most limiting MCPR. Most failures in the recirculation flow control system would actually result in a faster transient which will be mitigated by the Average Power Range Monitor Flow Biased Neutron Flux scram instrumentation required in proposed

TECHNICAL CHANGES - LESS RESTRICTIVE

LA.1 (cont'd) ITS 3.3.1.1, Reactor Protection System Instrumentation." Therefore, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. The TRM will be incorporated by reference into the UFSAR at ITS implementation. Changes to the TRM will be controlled by the provisions of 10 CFR 50.59. Additionally, a discussion of the scoop tube stop settings and verification requirements will be included in the UFSAR, with changes controlled by the provisions of 10 CFR 50.59.

LA.2 The CTS 3.6.A Action 2 requirement to "immediately initiate measures to place the unit in at least STARTUP" when no recirculation loops are in operation is relocated to the Bases in the form of a discussion that "action must be taken as soon as practicable" to be in MODE 2. Immediate action may not always be the conservative method to assure safety. The 8 hour Completion Time of ITS 3.4.1 Required Action A.1 ensure appropriate actions are taken in a timely manner to place the unit in MODE 2. Therefore, the relocated requirement is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.3 The detail of the actual MCPR correction factor for the MCPR operating limit for single loop operation ("0.01") in CTS 3.6.A Action 1.b is proposed to be relocated to the COLR. The requirement in proposed LCO 3.4.1 to apply the LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)," single loop operation limits specified in the COLR during operation with one recirculation loop and the requirement in proposed ITS 3.4.1 ACTION C to satisfy the requirements of the LCO within 24 hours are adequate to ensure the current requirement is performed during single loop operation. Since all the requirements of CTS 3.6.A Action 1.b (except for the actual limit) are maintained in the proposed specification, the proposed changes are considered adequate. As such, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the COLR will be controlled by the provisions of the COLR change control process described in Chapter 5 of the ITS.

"Specific"

L.1 The explicit requirement in CTS 3.6.A Action 1.e to electrically prohibit the idle recirculation pump from starting except to permit testing in preparation for returning the pump to service has been deleted. This requirement is not necessary to minimize the consequences of any design basis accident. Plant operating practice and procedures are adequate to ensure the pumps are not

⟨CTS⟩

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.~~9~~ 8 Residual Heat Removal (RHR) Shutdown Cooling System—Cold Shutdown

[1] ⟨3.6.P⟩

LCO 3.4.~~9~~ 8 Two RHR shutdown cooling subsystems shall be OPERABLE~~, and, with no recirculation pump in operation, at least one RHR shutdown cooling subsystem shall be in operation~~. [2]

⟨3.6.P footnote b⟩ TSTF-153 Changes not shown

---NOTES---

1. ~~Both RHR shutdown cooling subsystems and recirculation pumps may be removed from operation for up to 2 hours per 8 hour period.~~ [2]

⟨Doc L.1⟩

2. One RHR shutdown cooling subsystem may be inoperable for up to 2 hours for the performance of Surveillances.

Not required to be met during hydrostatic testing. [3]

⟨Appl 3.6.P⟩ APPLICABILITY: MODE 4.

ACTIONS

⟨Doc A.4⟩

---NOTE---

Separate Condition entry is allowed for each RHR shutdown cooling subsystem. [4] B

CONDITION	REQUIRED ACTION	COMPLETION TIME
⟨3.6.P Act 1⟩ ⟨3.6.P Act 2⟩ A. One or two RHR shutdown cooling subsystems inoperable.	A.1 Verify an alternate method of decay heat removal is available for each inoperable RHR shutdown cooling subsystem. AND [2]	1 hour AND Once per 24 hours thereafter

(continued)

1. ISTS 3.4.9 is renumbered as ITS 3.4.8 as a result of the deletion of ISTS 3.4.5, "Reactor Coolant System Pressure Isolation Valve (PIV) Leakage."

2. The requirement in ISTS 3.4.9 (ITS 3.4.8) to maintain a RHR shutdown cooling subsystem or recirculation pump in operation has been deleted. This deviation from the Standard Technical Specifications was approved by the NRC in the SER for Amendments 162 (Unit 1) and 158 (Unit 2) from John F. Stang (NRC) to D.L. Farrar (ComEd), dated September 21, 1995. As a result, the LCO, LCO Note 1, ACTIONS and Surveillances have been revised to reflect current allowances (refer to Discussion of Changes for further discussion). Since ISTS 3.4.9 Note 1 has been deleted, the changes approved in TSTF-153 are not shown.

3. Note 1 has been added to ISTS 3.4.9 (ITS 3.4.8) in order allow the performance of the hydrostatic test with both RHR shutdown cooling subsystems inoperable. This allowance in ITS 3.4.8 is necessary since CTS 3.12.C (ISTS 3.10.1, "Inservice Leak and Hydrostatic Testing Operation") has been deleted in accordance with the Technical Specifications Change Request submitted to the NRC for approval per ComEd letter SVP-99-193, dated November 12, 1999. Since CTS 3.12.C (ISTS 3.10.1) allowed the suspension of the requirements in CTS 3.6.P (ISTS 3.4.9) to allow the performance of inservice leak or hydrostatic test, this allowance will be needed in ITS 3.4.8. The RHR Shutdown Cooling System is inoperable during hydrostatic testing since the system is not capable of circulating reactor coolant. The RHR Shutdown Cooling System is automatically isolated above the RHR cut-in permissive pressure. This isolation is necessary since the RHR Shutdown Cooling System is not designed to operate at the Reactor Coolant System pressure achieved during hydrostatic testing. This proposed Note is consistent with the ISTS 3.10.1 allowance to suspend the requirements of the RHR Shutdown Cooling System-Cold Shutdown LCO during hydrostatic testing.

4. Editorial change made to be consistent with the LCO requirements and with a similar Note in ISTS 3.4.8.

8 1

BASES

APPLICABILITY (continued)

2

the steam in the main condenser. Additionally, in MODE 2 below this pressure, the OPERABILITY requirements for the Emergency Core Cooling Systems (ECCS) (LCO 3.5.1, "ECCS—Operating") do not allow placing the RHR shutdown cooling subsystem into operation.

6 7

The requirements for decay heat removal in MODE 3 below the cut in permissive pressure and in MODE 5 are discussed in LCO 3.4.8, "Residual Heat Removal (RHR) Shutdown Cooling System—Hot Shutdown"; LCO 3.9.8, "Residual Heat Removal (RHR)—High Water Level"; and LCO 3.9.9, "Residual Heat Removal (RHR)—Low Water Level."

ACTIONS

A Note has been provided to modify the ACTIONS related to RHR shutdown cooling subsystems. Section 1.3, Completion Times, specifies once a Condition has been entered, subsequent divisions, subsystems, components or variables expressed in the Condition, discovered to be inoperable or not within limits, will not result in separate entry into the Condition. Section 1.3 also specifies Required Actions of the Condition continue to apply for each additional failure, with Completion Times based on initial entry into the Condition. However, the Required Actions for inoperable RHR shutdown cooling subsystems provide appropriate compensatory measures for separate inoperable shutdown cooling subsystems. As such, a Note has been provided that allows separate Condition entry for each inoperable RHR shutdown cooling subsystem. 2 B

A.1

5 s and 1

With one of the two required RHR shutdown cooling subsystems inoperable, except as permitted by LCO Note 2, the remaining subsystem is capable of providing the required decay heat removal. However, the overall reliability is reduced. Therefore, an alternate method of decay heat removal must be provided. With both RHR shutdown cooling subsystems inoperable, an alternate method of decay heat removal must be provided in addition to that provided for the initial RHR shutdown cooling subsystem inoperability. This re-establishes backup decay heat removal capabilities, similar to the requirements of the LCO. The 1 hour

(continued)

3.6 CONTAINMENT SYSTEMS

3.6.1.3 Primary Containment Isolation Valves (PCIVs)

LCO 3.6.1.3 Each PCIV, except reactor building-to-suppression chamber vacuum breakers, shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
When associated instrumentation is required to be OPERABLE per LCO 3.3.6.1, "Primary Containment Isolation Instrumentation."

ACTIONS

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

1. Penetration flow paths may be unisolated intermittently under administrative controls.

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

3. Enter applicable Conditions and Required Actions for systems made inoperable by PCIVs.

4. Enter applicable Conditions and Required Actions of LCO 3.6.1.1, "Primary Containment," when PCIV leakage results in exceeding overall containment leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. ---------NOTE--------- Only applicable to penetration flow paths with two or more PCIVs. --------------------- One or more penetration flow paths with one PCIV inoperable for reasons other than Condition D.	A.1	Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.	4 hours except for main steam line <u>AND</u> 8 hours for main steam line
	<u>AND</u>		
			(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. ---------NOTE--------- Only applicable to penetration flow paths with two or more PCIVs. --------------------- One or more penetration flow paths with two or more PCIVs inoperable for reasons other than Condition D.	B.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	1 hour
C. ---------NOTE--------- Only applicable to penetration flow paths with only one PCIV. --------------------- One or more penetration flow paths with one PCIV inoperable for reasons other than Condition D.	C.1 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	4 hours except for excess flow check valves (EFCVs) and penetrations with a closed system AND 72 hours for EFCVs and penetrations with a closed system (continued)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. (continued)	C.2	--------NOTES-------- 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are a locked, sealed, or otherwise secured may be verified by use of administrative means. -------------------- Verify the affected penetration flow path is isolated.	Once per 31 days
D. MSIV leakage rate not within limit.	D.1	Restore leakage rate to within limit.	8 hours
E. Required Action and associated Completion Time of Condition A, B, C, or D not met in MODE 1, 2, or 3.	E.1	Be in MODE 3.	12 hours
	<u>AND</u>		
	E.2	Be in MODE 4.	36 hours

(continued)

BACKGROUND (continued)

requirements in the LCO for reactor building-to-suppression chamber vacuum breakers provide assurance that the isolation capability is available without conflicting with the vacuum relief function.

The primary containment purge valves are 18 inches in diameter; vent valves are 2, 6, and 18 inches in diameter. The 18 inch primary containment vent and purge valves are normally maintained closed in MODES 1, 2, and 3 to ensure the primary containment boundary is maintained except for torus purge valve 1601-56. This valve is normally open for pressure control. This is acceptable since this valve and other vent and purge valves are designed to automatically close on LOCA conditions. The isolation valves on the 18 inch vent lines from the suppression chamber and drywell have 2 inch bypass lines around them for use during normal reactor operation. Use of the 2 inch vent valves will prevent high pressure from reaching the Standby Gas Treatment System filter trains and the Reactor Building Ventilation System in the unlikely event of a loss of coolant accident (LOCA) during venting.

APPLICABLE SAFETY ANALYSES

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

The DBAs that result in a release of radioactive material for which the consequences are mitigated by PCIVs are a LOCA and a main steam line break (MSLB) (Refs. 2 and 3, respectively). In the analysis for each of these accidents, it is assumed that PCIVs are either closed or close within the required isolation times following event initiation. This ensures that potential paths to the environment through PCIVs (including primary containment purge valves) are minimized. Of the events analyzed in Reference 4, the LOCA is the most limiting event due to radiological consequences. The closure time of the main steam isolation valves (MSIVs) is a significant variable from a radiological standpoint.

(continued)

ACTIONS (continued)

The ACTIONS are modified by Notes 3 and 4. Note 3 ensures that appropriate remedial actions are taken, if necessary, if the affected system(s) are rendered inoperable by an inoperable PCIV (e.g., an Emergency Core Cooling System subsystem is inoperable due to a failed open test return valve). Note 4 ensures appropriate remedial actions are taken when the primary containment leakage limits are exceeded. Pursuant to LCO 3.0.6, these actions are not required even when the associated LCO is not met. Therefore, Notes 3 and 4 are added to require the proper actions be taken.

A.1 and A.2

With one or more penetration flow paths with one PCIV inoperable, except for MSIV leakage rate not within limit, the affected penetration flow paths 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 automatic valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. For a penetration isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available valve to the primary containment. The Required Action must be completed within the 4 hour Completion Time (8 hours for main steam lines). The Completion Time of 4 hours is reasonable considering the time required to isolate the penetration and the relative importance of supporting primary containment OPERABILITY during MODES 1, 2, and 3. For main steam lines, an 8 hour Completion Time is allowed. The Completion Time of 8 hours for the main steam lines allows a period of time to restore the MSIVs to OPERABLE status given the fact that MSIV closure will result in isolation of the main steam line(s) and a potential for plant shutdown.

For affected penetrations that have been isolated in accordance with Required Action A.1, the affected penetration flow path(s) must be verified to be isolated on a periodic basis. This is necessary to ensure that primary 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

(continued)

ACTIONS

A.1 and A.2 (continued)

occur. This Required Action does not require any testing or device manipulation. Rather, it involves verification that those devices outside primary containment and capable of potentially being mispositioned are in the correct position. The Completion Time of "once per 31 days for isolation devices outside primary containment" is appropriate because the devices are operated under administrative controls and the probability of their misalignment is low. For the devices inside primary containment, the time period specified "prior to entering MODE 2 or 3 from MODE 4, if primary containment was de-inerted while in MODE 4 if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the devices and the existence of other administrative controls ensuring that device misalignment is an unlikely possibility.

Condition A is modified by a Note indicating that this Condition is only applicable to those penetration flow paths with two or more PCIVs. For penetration flow paths with one PCIV, Condition C provides the appropriate Required Actions.

Required Action A.2 is modified by two Notes. Note 1 applies to isolation devices located in high radiation areas and allows them to be verified 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, once they have been verified to be in the proper position, is low.

B.1

With one or more penetration flow paths with two or more PCIVs inoperable, except for MSIV leakage rate not within limit, either the inoperable PCIVs must be restored to B

(continued)

BASES

ACTIONS

B.1 (continued)

OPERABLE status or 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 automatic valve, a closed manual valve, and a blind flange. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.1.1.

Condition B is modified by a Note indicating this Condition is only applicable to penetration flow paths with two or more PCIVs. For penetration flow paths with one PCIV, Condition C provides the appropriate Required Actions.

C.1 and C.2

With one or more penetration flow paths with one PCIV inoperable, except for MSIV leakage rate not within limit, the inoperable valve must be restored to OPERABLE status or 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 automatic valve, a closed manual valve, and a blind flange. A check valve may not be used to isolate the affected penetration. The Completion Time of 4 hours for valves other than EFCVs and in penetrations with a closed system is reasonable considering the time required to isolate the penetration and the relative importance of supporting primary containment OPERABILITY during MODES 1, 2, and 3. The Completion Time of 72 hours for penetrations with a closed system is reasonable considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of supporting primary containment OPERABILITY during MODES 1, 2, and 3. The closed system must meet the requirements of Reference 6. The Completion Time of 72 hours for EFCVs is also reasonable considering the instrument and the small pipe diameter of

(continued)

ACTIONS

C.1 and C.2 (continued)

penetration (hence, reliability) to act as a penetration isolation boundary and the small pipe diameter of the affected penetrations. In the event the affected penetration flow path is isolated in accordance with Required Action C.1, the affected penetration must be verified to be isolated on a periodic basis. This is necessary to ensure that primary containment penetrations required to be isolated following an accident are isolated. This Required Action does not require any testing or valve manipulation. Rather, it involves verification that those devices outside containment and capable of potentially being mispositioned are in the correct position. The Completion Time of once per 31 days is appropriate because the devices are operated under administrative controls and the probability of their misalignment is low.

Condition C is modified by a Note indicating that this Condition is only applicable to penetration flow paths with only one PCIV. For penetration flow paths with two or more PCIVs, Conditions A and B provide the appropriate Required Actions. This Note is necessary since this Condition is written specifically to address those penetrations with a single PCIV.

Required Action C.2 is modified by two Notes. Note 1 applies to isolation devices located in high radiation areas and allows them to be verified 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, once they have been verified to be in the proper position, is low.

(continued)

BASES

ACTIONS (continued)

D.1

With the MSIV leakage rate (SR 3.6.1.3.10) not within limit, the assumptions of the safety analysis may not be met. Therefore, the leakage must be restored to within limit within 8 hours. Restoration can be accomplished by isolating the penetration that caused the limit to be exceeded by use of one closed and de-activated automatic valve, closed manual valve, or blind 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 Completion Time of 8 hours allows a period of time to restore MSIV leakage rate to within limit given the fact that MSIV closure will result in isolation of the main steam line(s) and a potential for plant shutdown.

E.1 and E.2

If any Required Action and associated Completion Time cannot be met in MODE 1, 2, or 3, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

F.1 and F.2

If any Required Action and associated Completion Time cannot be met for PCIV(s) required OPERABLE in MODE 4 or 5, the unit must be placed in a condition in which the LCO does not apply. Action must be immediately initiated to suspend operations with a potential for draining the reactor vessel (OPDRVs) to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until OPDRVs are suspended. If suspending an OPDRV would result in closing the residual heat removal (RHR) shutdown cooling isolation valves, an

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.1.3.2 (continued)

This SR does not require any testing or valve manipulation. Rather, it involves verification that those PCIVs outside primary containment, and capable of being mispositioned, are in the correct position. Since verification of position for PCIVs outside primary containment is relatively easy, the 31 day Frequency was chosen to provide added assurance that the PCIVs are in the correct positions. 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.

Two Notes have been added to this SR. The first Note allows valves and blind flanges located in high radiation areas to be verified by use of administrative controls. Allowing verification by administrative controls is considered acceptable since access to these areas is typically restricted for ALARA reasons. Therefore, the probability of misalignment of these PCIVs, once they have been verified to be in the proper position, is low. A second Note has been included to clarify that PCIVs open under administrative controls are not required to meet the SR during the time that the PCIVs are open. These controls consist of stationing a dedicated operator at the controls of the valve, who is in continuous communication with the control room. In this way the penetration can be rapidly isolated when a need for primary containment isolation is indicated.

SR 3.6.1.3.3

This SR verifies that each primary containment manual isolation valve and blind flange located inside primary containment and not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside the primary containment boundary is within design limits. For PCIVs inside primary containment, the Frequency "prior to entering MODE 2 or 3 from MODE 4 if primary containment was de-inerted while in MODE 4, if not performed within the previous 92 days" is appropriate since these PCIVs are

(continued)

SURVEILLANCE REQUIREMENTS

SR 3.6.1.3.3 (continued)

operated under administrative controls and the probability of their misalignment is low. 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.

Two Notes have been added to this SR. The first Note allows valves and blind flanges located in high radiation areas to be verified by use of administrative controls. Allowing verification by administrative controls is considered acceptable since the primary containment is inerted and access to these areas is typically restricted during MODES 1, 2, and 3 for ALARA reasons. Therefore, the probability of misalignment of these PCIVs, once they have been verified to be in their proper position, is low. A second Note has been included to clarify that PCIVs that are open under administrative controls are not required to meet the SR during the time that the PCIVs are open. These controls consist of stationing a dedicated operator at the controls of the valve, who is in continuous communication with the control room. In this way the penetration can be rapidly isolated when a need for primary containment isolation is indicated.

SR 3.6.1.3.4

The traversing incore probe (TIP) shear isolation valves are actuated by explosive charges. Surveillance of explosive charge continuity provides assurance that TIP valves will actuate when required. Other administrative controls, such as those that limit the shelf life of the explosive charges, must be followed. The 31 day Frequency is based on operating experience that has demonstrated the reliability of the explosive charge continuity.

(continued)

B 3.6 CONTAINMENT SYSTEMS

B 3.6.1.4 Drywell Pressure

BASES

BACKGROUND	The drywell pressure is limited during normal operations to preserve the initial conditions assumed in the accident analysis for a Design Basis Accident (DBA) or loss of coolant accident (LOCA).
APPLICABLE SAFETY ANALYSES	Primary containment performance is evaluated for the entire spectrum of break sizes for postulated LOCAs (Ref. 1). Among the inputs to the DBA is the initial primary containment internal pressure (Ref. 1). Analyses assume an initial drywell pressure of 1.5 psig. This limitation ensures that the safety analysis remains valid by maintaining the expected initial conditions and ensures that the peak LOCA drywell internal pressure does not exceed the maximum allowable of 62 psig. The maximum calculated drywell pressure occurs during the reactor blowdown phase of the DBA, which assumes an instantaneous recirculation line break. The calculated peak drywell pressure for this limiting event is 47 psig (Ref. 1). Drywell pressure satisfies Criterion 2 of 10 CFR 50.36(c)(2)(ii).
LCO	In the event of a DBA, with an initial drywell pressure $\leq$ 1.5 psig, the resultant peak drywell accident pressure will be maintained below the drywell design pressure.
APPLICABILITY	In MODES 1, 2, and 3, a DBA could cause a release of radioactive material to primary containment. In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, maintaining drywell pressure within limits is not required in MODE 4 or 5.

(continued)

BASES (continued)

APPLICABLE SAFETY ANALYSES

Initial suppression pool water level affects suppression pool temperature response calculations, calculated drywell pressure for a DBA, calculated pool swell loads for a DBA LOCA, and calculated loads due to relief valve discharges. Suppression pool water level must be maintained within the limits specified so that the safety analysis of Reference 1 remains valid.

Suppression pool water level satisfies Criteria 2 and 3 of 10 CFR 50.36(c)(2)(ii).

LCO

A limit that suppression pool water level be ≥ 14 ft 1 inch and ≤ 14 ft 5 inches above the bottom of the suppression chamber is required to ensure that the primary containment conditions assumed for the safety analyses are met. Either the high or low water level limits were used in the safety analyses, depending upon which is more conservative for a particular calculation.

APPLICABILITY

In MODES 1, 2, and 3, a DBA would cause significant loads on the primary containment. In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations in these MODES. The requirements for maintaining suppression pool water level within limits in MODE 4 or 5 is addressed in LCO 3.5.2, "ECCS-Shutdown."

ACTIONS

A.1

With suppression pool water level outside the limits, the conditions assumed for the safety analyses are not met. If water level is below the minimum level, the pressure suppression function still exists as long as the downcomers are covered, HPCI and RCIC turbine exhausts are covered, and relief valve quenchers are covered. If suppression pool water level is above the maximum level, protection against overpressurization still exists due to the margin in the peak containment pressure analysis and the capability of the RHR Suppression Pool Spray System. Therefore, continued operation for a limited time is allowed. The 2 hour Completion Time is sufficient to restore suppression pool water level to within limits. Also, it takes into account the low probability of an event impacting the suppression pool water level occurring during this interval.

(continued)

3.7 - LIMITING CONDITIONS FOR OPERATION

4.7 - SURVEILLANCE REQUIREMENTS

ACTION D c. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

add proposed Note 1 to Required Action B A.4

ACTION B 2. With the primary containment air lock interlock mechanism inoperable, ~~restore the air lock interlock mechanism to OPERABLE status within 24 hours, or~~ lock at least one air lock door closed and verify that the door is locked closed at least once per 31 days. Personnel entry and exit through the airlock is permitted ~~provided one OPERABLE air lock door remains locked closed at all times~~ and an individual is dedicated ~~to assure that both air lock doors are not opened simultaneously.~~

A.5 add proposed Required Action B.1 M.1 L.3

add proposed Note to Required Action B.3

L.6 LA.1

add proposed ACTION D M.2

ACTION C 3. With the primary containment air lock inoperable, except as a result of an inoperable air lock door or interlock mechanism, Verify ~~maintain~~ at least one air lock door closed; restore the inoperable air lock to OPERABLE status within 24 hours within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. ACTION D

add proposed Required Action C.1 A.3

L.2

ADMINISTRATIVE

A.4 (cont'd) does not exist to be closed (ITS 3.6.1.2 Required Actions A.1, A.2, A.3, B.1, B.2, and B.3 cannot be met). Since this change only provides clearer direction and is consistent with the interpretation of the CTS, the change is considered administrative.

A.5 The revised presentation of CTS 3.7.C Action 1.a and Action 2 (based on the BWR ISTS, NUREG-1433, Rev. 1) do not explicitly detail options to "restore...to OPERABLE status." This action is always an option, and is implied in all Actions. Omitting this action from the ITS is editorial.

A.6 The requirement for performing the overall air lock leakage test is a requirement of 10 CFR 50 Appendix J (as described in the Primary Containment Leakage Rate Testing Program in Section 5.5 of the ITS). This requirement is embodied in proposed SR 3.6.1.2.1. It is possible that the test would not be able to be performed with an inoperable air lock door, and a plant shutdown would be required due to the inability to perform the required Surveillance. However, this restriction on continued operation need not be specified (as is the case in CTS 3.7.C Action 1.b) since it exists inherently as a result of the required Appendix J testing. Therefore, no change in operation requirements or intent is made, and the proposed revision to eliminate a specific restriction on continued operation is considered an administrative presentation preference.

A.7 Not used.

B

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 A new Required Action has been added to CTS 3.7.C Action 2 (primary containment air lock interlock mechanism inoperable) to verify an OPERABLE door is closed in the air lock within 1 hour. The 1 hour is allowed to complete the verification in ITS 3.6.1.2 Required Action B.1 since the level of degradation associated with the CTS Actions is no worse than that allowed for

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 (cont'd) Primary Containment Integrity (CTS 3.7.A) not maintained. CTS 3.7.A (ITS 3.6.1.1) allows the primary containment to be inoperable for 1 hour. Also, the primary containment air lock doors are normally closed except for entry and exit. Therefore, the probability that the OPERABLE air lock door is open is low during the 1 hour period. This requirement is consistent with current Actions in CTS 3.7.C to maintain the air lock closed for other air lock inoperabilities (CTS 3.7.C Actions 1 and 3). This added requirement will help ensure primary containment integrity is maintained.

M.2 CTS 3.7.C Action 2 (for an inoperable primary containment air lock interlock mechanism) does not include a default Action (be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours) consistent with other Actions in CTS 3.7.C. Therefore, for an inoperable primary containment air lock interlock mechanism, CTS LCO 3.0.C must be entered and the plant must be in MODE 3 in 13 hours and MODE 4 in 37 hours. A new ACTION has been added to CTS 3.7.C Action 2 to clarify the default requirements when the CTS Action cannot be met. ITS 3.6.1.2 ACTION D is proposed to be added as the default action which will require the plant to be in MODE 3 in 12 hours and MODE 4 in 36 hours. Since this change will require the plant to be in MODE 3 and 4 in less time (i.e., 1 hour), this change is considered more restrictive on plant operation. B

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The purpose as to why a portion of CTS 3.7.C Action 2, which prescribes the necessary administrative controls during entry and exit of personnel through an air lock with an inoperable air lock interlock mechanism (i.e., "to assure that both air lock doors are not opened simultaneously"), is proposed to be relocated to the Bases. The proposed requirement in ITS 3.6.1.2 Required Action B Note 2 will require entry into and exit from primary containment under the control of a dedicated individual. This is sufficient to ensure the appropriate administrative controls are enforced. In addition, the Bases prescribes that entry into and exit from the primary containment is under the control of a dedicated individual stationed to ensure that only one door is opened at a time. As a result, this detail is not necessary to be included in the Technical Specifications to ensure the administrative controls are applied. As such, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

"Specific"

L.1 ITS 3.6.1.2 ACTIONS Note 1 is added to the Technical Specifications to allow entry through a closed or locked air lock door for the purpose of making repairs to air lock components. If the outer door is inoperable, then it may be easily accessed for repair. If the inner door is the one that is inoperable, it is proposed to allow entry through the OPERABLE outer door, which means there is a short time during which the primary containment boundary is not intact (during access through the outer door). The proposed allowance will have strict administrative controls, which are detailed in the Bases. A dedicated (i.e., not involved with any repair or other maintenance effort) individual will be assigned to ensure: 1) the door is opened only for the period of time required to gain entry into or exit from the air lock, and 2) the OPERABLE door is re-locked prior to the departure of the dedicated individual.

Repairs are directed towards reestablishing two OPERABLE doors in the air lock. Two OPERABLE doors closed is clearly the most desirable plant condition for air locks. The CTS 3.7.C Actions, in some circumstances, allow indefinite operation with only one OPERABLE door locked closed. Two OPERABLE doors closed is clearly an improvement on safety over one OPERABLE door locked closed. By not allowing access to make repairs, the CTS 3.7.C Actions could result in an inability of the plant to establish and maintain this highest level of safety possible (two OPERABLE doors closed), without a forced plant shutdown.

Therefore, allowing entry and exit, while temporarily allowing loss of containment integrity, is proposed based on the expected result of restoring two OPERABLE doors to the air lock. Restricting this access to make repairs of an inoperable door or air lock ensures this allowance applies only towards meeting this goal. This change is acceptable due to the low probability of an event that could pressurize the primary containment during the short time in which the containment integrity is compromised, and the increased safety attained by completing repairs such that two OPERABLE doors can be closed.

L.2 In reference to immediately maintaining an air lock door closed, the word "maintain" in CTS 3.7.C Actions 1.a and 3 is changed to "verify" and 1 hour is allowed to complete the verification in ITS 3.6.1.2 (Required Actions A.1 and C.2). This change is acceptable because the level of degradation associated with the CTS Actions is no worse than that allowed for Primary Containment Integrity (CTS 3.7.A) not maintained. CTS 3.7.A (ITS 3.6.1.1) allows the primary containment to be inoperable for 1 hour. Also, the primary containment air lock doors are normally closed except for entry and exit. Therefore, the probability that the OPERABLE air lock door is open is low during the 1 hour period.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

L.3 Notes have been added to CTS 3.7.C Actions 1.b and 2 (ITS 3.6.1.2 Required Actions A.3 and B.3) to allow administrative means to be used to verify locked closed OPERABLE air lock doors in high radiation areas or areas with limited access due to inerting. The air locks are initially verified to be in the proper position and access to them is restricted during operation due to the high levels of radiation or since the containment is inerted. Therefore, the probability of misalignment of the air locks are acceptably small. Eliminating the physical door verification in areas of high radiation and inerting removes a risk to personnel safety. Also, not requiring access to areas of high radiation to verify proper containment air lock door alignment reduces exposure to plant personnel and is consistent with the As-Low-As-Reasonably-Achievable (ALARA) concept.

L.4 CTS 3.7.C Action 1 footnote b limits the time an inoperable primary containment air lock door can be used to facilitate the removal of personnel for a cumulative time not to exceed one hour per year. The ITS does not include a cumulative time period per year to limit entry and exit into the primary containment with one inoperable air lock door, however, the use of the air lock will be limited to an explicit time period for any single entry into the Condition as long as administrative controls are imposed. ITS 3.6.1.2 Required Action A Note 2 is added to the Technical Specifications to allow entry through a closed and/or locked OPERABLE air lock door (for reasons other than repairs) for 7 days under administrative controls. The new allowance is proposed to have strict administrative controls, which are detailed in the Bases. A dedicated (i.e., not involved with any repair or other maintenance effort) individual will be assigned to ensure: 1) the door is opened only for the period of time required to gain entry or exit from the air lock, and 2) the OPERABLE door is re-locked prior to the departure of the dedicated individual.

Operating history indicates that the air lock is reliable, and reliance on the cumulative time provision (60 minutes per year) has been infrequent. One OPERABLE air lock door closed is sufficient to maintain the containment integrity function and allow continued operation. The new administrative controls will ensure the time the OPERABLE air lock door is opened is minimized for any single entry into Condition (ACTION A). The 7 day allowance will allow sufficient time to perform maintenance and inspections as well as allowing access for operational consideration, such as preventative maintenance; but at the same time provides a reasonable time limit to allow these activities without repairing the air lock door. In certain circumstances (an air lock door is found to be inoperable at the beginning of the year where the cumulative time is reset to zero) this change may actually result in a more restrictive requirement by requiring restoration of the inoperable air lock door to continue to allow these other activities inside the containment. However, should the air lock become inoperable and access not be allowed due to the cumulative

TECHNICAL CHANGES -LESS RESTRICTIVE

L.4 (cont'd) limit, a plant shutdown could be forced in a short period of time due to failure to attend to these activities. Therefore, allowing the OPERABLE door to be opened (temporarily allowing loss of containment integrity) for brief moments (as is currently allowed) during a 7 day period for any single entry into the Condition, is an acceptable exchange in risk; the risk of an event during the brief period of OPERABLE door opening for access, versus the risk associated with the transient of the plant shutdown that would follow from not attending to required activities within the containment.

L.5 The Frequency for the air lock interlock test, CTS 4.7.C.2 and footnote e, is proposed to be changed from at least once per 6 months, only upon entry into the primary containment air lock when primary containment is de-inerted, to 24 months in proposed SR 3.6.1.2.2. Typically, the interlock is installed after each refueling outage, verified OPERABLE with the Surveillance, and not disturbed until the next refueling outage. If the need for maintenance arises when the interlock is required, the performance of the interlock Surveillance would be required following the maintenance. In addition, when an air lock is opened during times the interlock is required, the operator first verifies that one door is completely shut before attempting to open the other door. Therefore, the interlock is not challenged except during actual testing of the interlock. Consequently, it should be sufficient to ensure proper operation of the interlock by testing the interlock on a 24 month interval.

Testing of the air lock interlock mechanism is accomplished through having one door not completely engaged in the closed position, while attempting to open the second door. Failure of this Surveillance effectively results in a loss of primary containment OPERABILITY. Administrative controls and training do not allow this interlock to be challenged for normal ingress and egress. One door is opened, all personnel and equipment as necessary are placed into the air lock, and then the door is completely closed prior to attempting to open the second door. This Surveillance is contrary to processes and training of conservative operation, in that it requires an operator to challenge an interlock during a MODE when the interlock function is required. The door interlock mechanism cannot be readily bypassed; linkages must be removed, which are under the control of station processes such as temporary modifications, primary containment closure procedures, and out of service practices. Failure rate of this physical device is very low based on the design of the interlock.

Historically, this interlock verification has had its Frequency chosen to coincide with the Frequency of the overall air lock leakage test. According to 10 CFR 50, Appendix J, Option A, this Frequency is once per 6 months. However, Appendix J, Option B, to which Quad Cities 1 and 2 are currently licensed, allows for an extension of the overall air lock leakage test Frequency to a

TECHNICAL CHANGES -LESS RESTRICTIVE

L.5 (cont'd) maximum of 30 months. Therefore, it is proposed to change the required Frequency for this Surveillance to 24 months (and, with the allowance of SR 3.0.2, this provides a total of 30 months, which corresponds to the overall air lock leakage test Frequency). In this fashion, the interlock can be tested in a MODE where the interlock is not required.

L.6 CTS 3.7.C Action 2 allows personnel entry and exit through the air lock with an inoperable mechanism provided one OPERABLE air lock door remains locked closed at all times and an individual is dedicated to assure that both air lock doors are not opened simultaneously. The requirement to have one air lock door "locked" closed at all times has been deleted. The proposed requirement is reflected in ITS 3.6.1.2 Required Action B Note 2 (Entry into and exit from primary containment is permissible under the control of a dedicated individual). The duties of this individual are to perform the function of the interlock; to ensure both air lock doors are not opened simultaneously. That is, one door will be closed at all times. The requirement to have one door "locked" closed is not necessary. As long as one door is closed the containment integrity function will be maintained and therefore the requirement is not necessary during entry and exit into the containment. Locking an air lock door does not allow normal operation of the air lock. More time is required for locking therefore personnel will spend more time in the air lock instead of performing safety related activities. When entry and exit is no longer required, CTS 3.7.C Action 2 requires at least one door to be "locked" closed. This requirement is retained in ITS 3.6.1.2 Required Action B.2 and is considered adequate. With the door locked the dedicated individual is no longer required and therefore locking the door prevents entry into the containment. The proposed requirements are considered adequate in ensuring primary containment integrity and at the same time control entry into the primary containment when the air lock mechanism is found to be inoperable.

RELOCATED SPECIFICATIONS

None

ADMINISTRATIVE

A.4 (cont'd) necessarily apply. The clarification is consistent with the intent and interpretation of the existing Technical Specifications, and is therefore considered administrative.

A.5 CTS 3.7.D Action 1 and the CTS 3.6.M Action do not specify penetrations with one or two isolation valves. However, ITS 3.6.1.3 Condition A applies if the affected penetration has two or more valves, and only one is inoperable. This inherently ensures maintaining "at least one isolation valve OPERABLE." In the case of containment penetrations designed with only one isolation valve (ITS 3.6.1.3 Condition C), the system boundary is considered an adequate barrier and the penetration is not considered "open" when the single isolation valve is open. This change is a presentation preference and is administrative in nature.

A.6 The revised presentation of CTS 3.7.D Actions 1.a and 2.a and the CTS 3.6.M Action (based on the BWR ISTS, NUREG-1433, Rev. 1) does not explicitly detail options to "restore...to OPERABLE status." This action is always an option, and is implied in all Actions. Omitting these actions from the ITS is editorial.

A.7 CTS 4.7.D.2 requires testing of each power operated or automatic PCIV required to close on an isolation signal, but specifically excludes testing requirements for the traversing in-core probe system explosive isolation valves. In addition, CTS 4.7.D.2 only requires each automatic isolation valve to be verified that it actuates to its isolation position. ITS SR 3.6.1.3.7 requires the verification that each automatic PCIV actuates to the isolation position on an actual (see Discussion of Change L.6 below) or simulated isolation signal. The explicit exclusion of the explosive isolation valves is not necessary since these valves are not required to close on an isolation (automatic) signal. Requirements for testing the TIP explosive isolation valves are included in CTS 4.7.D.5.a and b and retained in ITS SR 3.6.1.3.4 and 9, respectively. This change is considered administrative since no technical changes are being made. This change is consistent with the BWR ISTS, NUREG-1433, Rev. 1.

A.8 The allowance in CTS 3.7.D Action 2, which states that the provisions of Specification 3.0.C are not applicable, has been deleted since it is redundant to the "Otherwise..." action. That is, CTS LCO 3.0.C (ITS LCO 3.0.3) is not applicable anyway since a shutdown action has been provided. Therefore, deletion of these allowances is administrative.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

L.2 CTS 3.7.D Action 1.c and the CTS 3.6.M Action list some, but not all, of the possible acceptable isolation devices that may be used to satisfy the need to isolate a penetration with an inoperable isolation valve. ITS 3.6.1.3 ACTIONS provide a complete list of acceptable isolation devices. Since the result of the ACTIONS continues to be an acceptably isolated penetration for continued operation, the proposed change does not adversely affect safe operation. Many penetrations are designed with check valves as acceptable isolation barriers. With forward flow in the line secured, a check valve is essentially equivalent to a closed manual valve. For those penetrations designed with check valves as acceptable isolation devices, the ITS provides an equivalent level of safety. For penetrations not designed with check valves for isolation, the ITS does not affect the requirements to isolate with a closed deactivated automatic valve, closed manual valve, or blind flange. ITS ACTIONS allowing closed manual valves or check valves with flow secured also apply to isolating main steam lines, even though the design does not provide for these type of isolation devices. This change is simply a result of simplicity in providing a consistent presentation for all penetrations. While this apparent flexibility does not result in any actual technical change in the Technical Specifications, it is listed here for completeness.

L.3 In the event two or more valves in a penetration are inoperable, CTS 3.7.D Action 1 and the CTS 3.6.M Action for MSIVs, which require maintaining one isolation valve OPERABLE, would not be met and an immediate shutdown would be required. ITS 3.6.1.3 ACTION B provides 1 hour prior to commencing a required shutdown. This proposed 1 hour period is consistent with the existing time allowed for conditions when the primary containment is inoperable. The proposed change will provide consistency in ACTIONS for these various primary containment degradations. This change to CTS 3.7.D and 3.6.M is acceptable due to the low probability of an event that could pressurize the primary containment during the short time in which continued operation is allowed and the capability to isolate a primary containment penetration is lost.

L.4 An allowance is proposed for intermittently opening, under administrative control, closed primary containment isolation valves, other than those currently allowed to be opened using CTS 3.7.D LCO and Action 1 footnote a (locked or sealed closed valves). The allowance is presented in ITS 3.6.1.3 ACTIONS Note 1, and in Note 2 to SR 3.6.1.3.2 and SR 3.6.1.3.3. Opening of primary containment penetrations on an intermittent basis is required for performing surveillances, repairs, routine evolutions, etc. Intermittently opening closed

TECHNICAL CHANGES - LESS RESTRICTIVE

L.4 (cont'd) PCIVs is acceptable due to the low probability of an event that could pressurize the primary containment during the short time in which the PCIV is open and the administrative controls established to ensure the affected penetration can be isolated when a need for primary containment isolation is indicated.

L.5 CTS 4.7.D.1 is proposed to be deleted. Any time the OPERABILITY of a system or component has been affected by repair, maintenance, or replacement of a component, post maintenance testing is required to demonstrate OPERABILITY of the system or component. After restoration of a component that caused a required SR to be failed, ITS SR 3.0.1 requires the appropriate SRs (in this case SR 3.6.1.3.5 and SR 3.6.1.3.6, as applicable) to be performed to demonstrate OPERABILITY of the affected components. Therefore, explicit post maintenance Surveillance Requirements are not required and have been deleted from the Technical Specifications.

L.6 The phrase "actual or," in reference to the isolation test signal in CTS 4.7.D.2, has been added to proposed SR 3.6.1.3.7, which verifies that each PCIV actuates on an automatic isolation signal. This allows satisfactory automatic PCIV isolations for other than Surveillance purposes to be used to fulfill the Surveillance Requirement. Operability is adequately demonstrated in either case since the PCIV itself cannot discriminate between "actual" or "test" signals.

L.7 The requirement in CTS 4.7.D.4 that each excess flow check valve must check flow has been deleted. Proposed SR 3.6.1.3.8 now requires the EFCVs to actuate to their isolation position (i.e., closed) on an actual or simulated instrument line break signal. The requirements for the EFCVs are provided in 10 CFR 50 Appendix A, GDCs 55 and 56, and as further detailed in Regulatory Guide 1.11. These requirements state that there should be a high degree of assurance that the EFCVs will close or be closed if the instrument line outside containment is lost during normal reactor operation, or under accident conditions. The Instrument Line Break Analysis in the Quad Cities 1 and 2 UFSAR Section 15.6.2 assumes both the EFCV and the manual block valve to be unavailable, i.e., fail to close; the accident is terminated by cooling down the plant and closing the manual valve after the plant is shutdown and depressurized. Therefore, since the actual leakage is not an assumption of the accident analysis (the leakage is assumed to be the maximum allowed through the broken line), the leakage limit (i.e., check flow) has been deleted.

3.7 - LIMITING CONDITIONS FOR OPERATION

F. Reactor Building - Suppression Chamber Vacuum Breakers

LCO 3.6.1.7 All reactor building - suppression chamber vacuum breakers shall be OPERABLE ~~and closed~~. LA.1

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2 and 3.

ACTION: add proposed ACTIONS Note L.1

1. With one reactor building - suppression chamber vacuum breaker line inoperable for opening with both valves known to be closed, restore the inoperable vacuum breaker line to OPERABLE status within 7 days ~~or~~ be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. (ACTION C; ACTION E) add proposed ACTION D L.1

2. With one reactor building - suppression chamber vacuum breaker line otherwise inoperable, verify at least one vacuum breaker in the line to be closed within ~~2~~ 1 hours and restore the open vacuum breaker to the closed position within 7 days ~~or~~ be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. (ACTION A; ACTION B; ACTION A; ACTION E) M.1

3. ~~With the position indicator of the air operated reactor building - suppression chamber vacuum breaker inoperable, restore the inoperable position indicator to OPERABLE status within 14 days or verify the vacuum breaker to be closed at least once per 24 hours by an~~ L.2

4.7 - SURVEILLANCE REQUIREMENTS

F. Reactor Building - Suppression Chamber Vacuum Breakers

Each reactor building - suppression chamber vacuum breaker shall be: A.3 add proposed Note 2 to SR 3.6.1.7.1

SR 3.6.1.7.1 1. Verified closed at least once per ~~7~~ 14 days. L.3 add proposed Note 1 to SR 3.6.1.7.1 L.4

2. Demonstrated OPERABLE:

SR 3.6.1.7.2 a. At least once per 92 days when tested pursuant to Specification 4.0.E by:

1) Cycling the vacuum breaker through at least one test cycle.

~~2) Verifying the air operated vacuum breaker position indicator OPERABLE by observing expected valve movement during the cycling test.~~ L.2

b. At least once per ~~18~~ 24 months by: LD.1

SR 3.6.1.7.3 1) Demonstrating that the force required to open each vacuum breaker does not exceed the equivalent of 0.5 psid.

~~2) Verifying the air operated vacuum breaker position indicator OPERABLE by performance of a CHANNEL CALIBRATION.~~ L.2

B

DISCUSSION OF CHANGES
ITS: 3.6.1.7 - REACTOR BUILDING-TO-SUPPRESSION CHAMBER VACUUM BREAKERS

ADMINISTRATIVE

A.1 In the conversion of the Quad Cities 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the BWR Standard Technical Specifications, NUREG-1433, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

A.2 Not used.

A.3 A Note has been added to CTS 4.7.F.1, the Surveillance that verifies the vacuum breakers are closed. Note 2 to SR 3.6.1.7.1 has been added to clearly state that the vacuum breakers do not have to be closed when they are performing their intended function, which is to open to relieve vacuum. Since it is obvious that OPERABILITY is still being maintained, this addition is considered administrative.

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd) 18 months. This SR ensures that each reactor building-to-suppression chamber vacuum breaker check valve and vacuum breaker butterfly valve is capable of performing its safety function as assumed in the safety analysis. ITS SR 3.6.1.7.2 requires that each vacuum breaker must be functionally tested once per 92 days by cycling each reactor building-to-suppression chamber vacuum breaker check valve and vacuum breaker butterfly valve to ensure that it opens adequately to perform its design function and returns to the fully closed position. This more frequent testing performed during the operating cycle, although not ensuring the specified setpoint, does ensure that the vacuum breaker check valves and vacuum breaker butterfly valves are capable of being cycled open and shut. Furthermore, the vacuum relief system design for the active components provides two 100% redundant relief paths. Therefore, based on the more frequent testing and the design of the vacuum relief system, the impact, if any, of this change on system availability is minimal.

Reviews of historical maintenance and surveillance data have shown that this test normally passes the Surveillance at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. In addition, the proposed 24 month Surveillance Frequency, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) does not invalidate any assumptions in the plant licensing basis.

"Specific"

L.1 CTS 3.7.F Action 1 allows only one reactor building-to-suppression chamber vacuum breaker line to be inoperable for opening without requiring a shutdown. With two vacuum breaker lines inoperable for opening, entry into CTS 3.0.C is required and the plant must commence a reactor shutdown within one hour. In ITS 3.6.1.7, proposed ACTION D allows two lines to have all vacuum breakers inoperable for opening for up to one hour without requiring a shutdown (as is currently required by CTS LCO 3.0.C). This one hour limit is consistent with the time provided in CT 3.7.A for an inoperable primary containment, which is effectively the status of the plant if one or both vacuum breakers in both lines will not open. If these Required Actions and associated Completion Times are not met, ITS 3.6.1.7 ACTION E will require a plant shutdown to MODE 3 in 12 hours and MODE 4 in 36 hours, which is also consistent with the current time provided in CTS 3.0.C. While the times to reach shutdown conditions are equivalent, the proposed ITS Actions do not require the plant to commence 6

TECHNICAL CHANGES - LESS RESTRICTIVE

L.1 (cont'd) the actual shutdown within one hour and therefore may not require a notification as required by 10 CFR 50.72. The allowance not to enter CTS 3.0.C (LCO 3.0.3) is acceptable since for most design bases events the opening of the reactor building-to-suppression chamber vacuum breakers may not be necessary for accident mitigation and since the actual depressurization is far less than originally expected in the original design. In addition, since this Condition has been added to cover situations when two penetrations are inoperable at the same time, an ACTION Note has been added which provides more explicit instructions for the proper application of the Actions for Technical Specification compliance. In conjunction with the proposed Specification 1.3, "Completion Times," the ITS 3.6.1.7 ACTIONS Note ("Separate Condition entry is allowed for each line") provides proper direction for inoperable vacuum breakers on two lines. It is intended that each inoperable vacuum breaker line is allowed a certain time to complete the Required Actions. This is acceptable since, during the extended time allowed, isolation capability is maintained and the capability to relieve pressure is maintained. The Note allowance is also consistent with the CTS allowance for the PCIV penetrations.

L.2 The vacuum breaker position indication instrumentation in CTS 3.7.F Action 3, CTS 4.7.F.2.a.2), and CTS 4.7.F.2.b.2) does not necessarily relate directly to the respective system OPERABILITY. The BWR ISTS, NUREG-1433 does not specify indication-only equipment to be OPERABLE to support OPERABILITY of a system or component. Control of the availability of, and necessary compensatory activities if not available, for indications and monitoring instruments are addressed by plant operational procedures and policies. Vacuum breaker position is required to be known to be able to satisfy the ITS 3.6.1.7 Surveillance Requirements (SR 3.6.1.7.1, SR 3.6.1.7.2, and SR 3.6.1.7.3) for the vacuum breakers. If position indication is not available and vacuum breaker position can not be determined, then the Surveillance Requirements cannot be satisfied and the appropriate actions must be taken for inoperable vacuum breakers in accordance with the ACTIONS of ITS 3.6.1.7. As a result, the requirements for the vacuum breaker position indication are adequately addressed by the requirements of ITS 3.6.1.7 and the associated SRs and are proposed to be deleted from Technical Specifications.

L.3 The Frequency for CTS 4.7.F.1, which requires verifying the vacuum breakers are closed, has been extended from 7 days to 14 days in proposed SR 3.6.1.7.1. For the position verification, most other safety-related valves, including those that affect primary containment, are verified once per 31 days. Therefore, based on this extended interval for similar requirements on component position Surveillances, and the fact that the valves are normally found in their correct position, the 14 day Frequency is considered adequate.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

L.4 CTS 4.7.F requires the vacuum breakers be closed at all times; with no explicit allowance to be open when performing their intended function (i.e., when relieving vacuum), and no allowance to be open during performance of required Surveillances. ITS SR 3.6.1.7.1 Note 1 states that the vacuum breakers can be opened when performing required Surveillances. This addition provides specific ITS direction, which is consistent with the intent of maintaining "OPERABLE" vacuum breakers. This allowance will not affect the ability of the vacuum breaker to perform its intended function of relieving vacuum or of providing an isolated containment barrier in the event of positive containment pressure. Therefore, this change involves no negative impact on safety. 3

RELOCATED SPECIFICATIONS

None

L.1

3.7 - LIMITING CONDITIONS FOR OPERATION

ACTION A 2

within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

ACTION B

2. In OPERATIONAL MODE(s) 1 or 2 with the suppression pool average water temperature >95°F, except as permitted above, restore the average temperature to ≤95°F within 24 hours or reduce THERMAL POWER to ≤1% RATED THERMAL POWER within the next 12 hours.

3. With the suppression pool average water temperature >105°F during testing which adds heat to the suppression pool, except as permitted above, stop all testing which adds heat to the suppression pool and restore the average temperature to ≤95°F within 24 hours or reduce THERMAL POWER to ≤1% RATED THERMAL POWER within the next 12 hours.

4. With the suppression pool average water temperature >110°F, immediately place the reactor mode switch in the Shutdown position and operate at least one residual heat removal loop in the suppression pool cooling mode.

5. With the suppression pool average water temperature >120°F, depressurize the reactor pressure vessel to <150 psig (reactor steam dome pressure) within 12 hours.

4.7 - SURVEILLANCE REQUIREMENTS

3. Deleted.

4. Deleted.

5. At least once per 18 months by conducting a drywell to suppression chamber bypass leak test at an initial differential pressure of 1.0 psid and verifying that the measured leakage is within the specified limit. If any drywell to suppression chamber bypass leak test fails to meet the specified limit, the test schedule for subsequent tests shall be reviewed and approved by the Commission. If two consecutive tests fail to meet the specified limit, a test shall be performed at least every 9 months until two consecutive tests meet the specified limit, at which time the 18 month test schedule may be resumed.

<See ITS 3.6.2.1>

B

DISCUSSION OF CHANGES
ITS: 3.6.2.2 - SUPPRESSION POOL WATER LEVEL

ADMINISTRATIVE

A.1 In the conversion of the Quad Cities 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the BWR Standard Technical Specifications, NUREG-1433, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

A.2 Not used.

A.3 The CTS LCO 3.5.C.2, CTS 3.5.C Action 2, CTS 4.5.C.2 requirements, and footnote a, relating to the suppression pool level requirements while in MODES 4 and 5, have been moved to ITS 3.5.2, "ECCS — Shutdown," in accordance with the format of the BWR ISTS, NUREG-1433, Rev. 1. Any technical changes to these requirements will be addressed in the Discussion of Changes for ITS: 3.5.2.

TECHNICAL CHANGES - MORE RESTRICTIVE

None

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The details relating to suppression chamber OPERABILITY in CTS 3.5.C.1 (reference for suppression chamber level) are proposed to be relocated to the Bases. ITS 3.6.2.2 will continued to require the suppression chamber level to be maintained. The details for system OPERABILITY are not necessary in the LCO. The definition of OPERABILITY suffices. As such, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Proram described in Chapter 5 of the ITS.

ADMINISTRATIVE

A.1 In the conversion of the Quad Cities 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the BWR Standard Technical Specifications, NUREG-1433, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

A.2 The CTS 3.7.J Action for failing to meet the LCO requires reactor power to be reduced to < 15% RTP within 8 hours. ITS 3.6.3.1 ACTION B revises the CTS Action to require the power to be reduced to ≤ 15% RTP. The CTS 3.7.J and ITS 3.6.3.1 Actions should specify a MODE or other conditions in which the LCO does not apply. To achieve this, power should be reduced to ≤ 15% RTP. Below 15% RTP, the Applicability is exited and the Actions are no longer required (in accordance with CTS 3.0.A and 3.0.B and ITS LCO 3.0.1 and 3.0.2). Since the CTS 3.7.J Action can also be suspended at 15% RTP for the same reason, the change is considered administrative.

A.3 CTS 4.7.J requires oxygen concentration in primary containment to be verified within limit prior to entering the Applicability of CTS 3.7.J (within 24 hours after THERMAL POWER is greater than 15% of RTP). This redundant requirement is deleted. CTS 4.0.D and ITS SR 3.0.4 require surveillances to be performed prior to entering the Applicability of an LCO. Therefore, this requirement does not need to be repeated as a separate Surveillance Frequency and its deletion is considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

None

TECHNICAL CHANGES - LESS RESTRICTIVE

None

RELOCATED SPECIFICATIONS

None

3.7 - LIMITING CONDITIONS FOR OPERATION

N. SECONDARY CONTAINMENT INTEGRITY

SECONDARY CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2, 3 and *.

ACTION:

1. Without SECONDARY CONTAINMENT INTEGRITY in OPERATIONAL MODES(s) 1, 2 or 3, restore SECONDARY CONTAINMENT INTEGRITY within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

2. Without SECONDARY CONTAINMENT INTEGRITY in OPERATIONAL MODE *, suspend handling of irradiated fuel in the secondary containment, CORE ALTERATION(s), and operations with a potential for draining the reactor vessel. The provisions of Specification 3.0.C are not applicable.

4.7 - SURVEILLANCE REQUIREMENTS

N. SECONDARY CONTAINMENT INTEGRITY

SECONDARY CONTAINMENT INTEGRITY shall be demonstrated by:

1. Verifying at least once per 24 hours that the pressure within the secondary containment is ≥0.10 inches of vacuum water gauge.

2. Verifying at least once per 31 days that:

   a. At least one door in each secondary containment air lock is closed. L.2

   add proposed Required Action A.1 B

   Required Action A.2 and SR 3.6.4.2.1

   b. All secondary containment penetrations[a] not capable of being closed by OPERABLE secondary containment automatic isolation ~~dampers~~ valves and required to be closed during accident conditions are closed. A.2

3. At least once per 18 months by operating one standby gas treatment subsystem at a flow rate ≤4000 cfm for one hour and maintaining ≥0.25 inches of vacuum water gauge in the secondary containment.

and not locked, sealed, or otherwise secured L.5

<See ITS 3.6.4.1>

Required Action A2 Note
* When handling irradiated fuel in the secondary containment, during CORE ALTERATION(s), and operations with a potential for draining the reactor vessel.

SR 3.6.4.2.1 Note 1
a Valves and blind flanges in high-radiation areas may be verified by use of administrative controls.

SR 3.6.4.2.1 Note 2
~~Normally locked or sealed-closed~~ penetrations may be opened intermittently under administrative control. L.1

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

"Specific"

L.1 An allowance is proposed for intermittently opening closed secondary containment isolation valves under administrative control, other than those currently allowed to be opened using CTS 4.7.N, footnote a (locked or sealed-closed penetrations). This is equivalent to the allowance in the existing primary containment Technical Specifications for locked or sealed-closed valves (CTS 3.7.D) and in ITS 3.6.1.3. The administrative controls consist of stationing a dedicated operator, who is in continuous communication with the control room, at the controls of the isolation device. The allowance is presented in ITS 3.6.4.2 ACTIONS Note 1 and SR 3.6.4.2.1 Note 2. Opening of secondary containment penetrations on a intermittent basis is required for many of the same reasons as primary containment penetrations and the potential impact on consequences is less significant. The proposed allowance is acceptable due to the low probability of an event that would release radioactivity in the secondary containment during the short time in which the SCIV is open and the administrative controls established to ensure the affected penetration can be isolated when a need for secondary containment isolation is indicated.

L.2 In the event both dampers in a penetration are inoperable in an open penetration, the CTS 3.7.O Action, which requires maintaining one isolation damper OPERABLE, would not be met and an immediate shutdown would be required. ITS 3.6.4.2 ACTION B provides 4 hours prior to commencing a required shutdown. This proposed 4 hour period is consistent with the existing time allowed for conditions when the secondary containment is inoperable. In the event a valve or blind flange is inoperable in a single valve/blind flange penetration, CTS 4.7.N.2.b would not be met, requiring CTS 3.7.N Action 1 or 2 to be entered as appropriate. CTS 3.7.N Action 1 requires the valve/blind flange to be restored within 4 hours or to shutdown the unit, and CTS 3.7.N Action 2 requires immediate suspension of various shutdown evolutions. ITS 3.6.4.2 Required Action A.1 provides 8 hours to commence the unit shutdown or suspend various shutdown evolutions. The proposed change will provide consistency in ACTIONS for these various secondary containment degradations. These changes to CTS 3.7.O are acceptable due to the low probability of an event requiring the secondary containment during the short time in which continued operation is allowed and the capability to isolate a secondary containment penetration is lost. In addition, the penetrations affected by the proposed 8 hour time period are of a small diameter, thus their impact on the secondary containment is not as great as the automatic isolation dampers.

L.3 CTS 4.7.O.1 is proposed to be deleted. Any time the OPERABILITY of a system or component has been affected by repair, maintenance, or replacement of a component, post maintenance testing is required to demonstrate

TECHNICAL CHANGES - LESS RESTRICTIVE

L.3 (cont'd) OPERABILITY of the system or component. After restoration of a component that caused a required SR to be failed, ITS SR 3.0.1 requires the appropriate SRs (in this case SR 3.6.4.2.2) to be performed to demonstrate the OPERABILITY of the affected components. Therefore, explicit post maintenance Surveillance Requirements in CTS 4.7.O.1 are not required and have been deleted from the Technical Specifications.

L.4 The phrase "actual or," in reference to the isolation test signal in CTS 4.7.O.2, has been added to proposed SR 3.6.4.2.3, which verifies that each SCIV actuates on an automatic isolation signal. This allows satisfactory automatic SCIV isolations for other than Surveillance purposes to be used to fulfill the Surveillance Requirement. Operability is adequately demonstrated in either case since the SCIV itself cannot discriminate between "actual" or "test" signals.

L.5 The requirements of CTS 4.7.N.2.b, related to verification of the position of secondary containment isolation penetrations not capable of being closed by OPERABLE secondary containment isolation valves (SCIVs), are revised in proposed SR 3.6.4.2.1 and ITS 3.6.4.2 Required Action A.2 (Note 2) to exclude verification of manual valves and blind flanges that are locked, sealed, or otherwise secured in the correct position. The purpose of CTS 4.7.N.2.b is to ensure that manual secondary containment isolation devices that may be misaligned are in correct position to help ensure that post accident leakage of radioactive fluids or gases outside the secondary containment boundary is within design and analysis limits. For manual valves or blind flanges that are locked, sealed or otherwise secured in the correct position, the potential of these devices to be inadvertently misaligned is low. In addition, manual valves and blind flanges that are locked, sealed or otherwise secured in the correct position are verified to be in the correct position prior to locking, sealing, or securing. As a result of this control of the position of these manual secondary containment isolation devices, the periodic Surveillance of these devices in CTS 4.7.N.2.b is not required to help ensure that post accident leakage of radioactive fluids or gases outside the secondary containment boundary is maintained within the design and analysis limits. This change also provides the benefit of reduced radiation exposure to plant personnel through the elimination of the requirement to check the position of the manual valves and blind flanges, located in the radiation areas, that are locked, sealed or otherwise secured in the correct position.

RELOCATED SPECIFICATIONS

None

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The detail in CTS LCO 3.7.P relating to system design (i.e., that the SGT subsystems are "independent") is proposed to be relocated to the Bases. This is a design detail that is not necessary to be included in the Technical Specifications to ensure the OPERABILITY of the SGT subsystems, since OPERABILITY requirements are adequately addressed in ITS 3.6.4.3. Therefore, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.2 Details in CTS 4.7.P.1 of the methods for performing the standby gas treatment subsystem 31 day operating Surveillance (by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers) and CTS 4.7.P.4.b.1 (verifying "Manual initiation from the control room") are proposed to be relocated to the Bases. These details are not necessary to ensure the OPERABILITY of the standby gas treatment subsystems. The requirements of ITS 3.6.4.3 and SR 3.6.4.3.1 are adequate to ensure the standby gas treatment subsystems are maintained OPERABLE. The requirement in CTS 4.7.P.4.b.1 is performed as part of proposed SR 3.6.4.3.1. Therefore, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LD.1 The Frequency for performing CTS 4.7.P.4.b has been extended from 18 months to 24 months in proposed ITS SR 3.6.4.3.3 to facilitate a change to the Quad Cities 1 and 2 refuel cycle from 18 months to 24 months. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.B and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.B and proposed Specification 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991.

SR 3.6.4.3.3 verifies each SGT subsystem actuates on an actual or simulated initiation signal. Extending the Surveillance interval for this verification is acceptable in part because the system is operated every 31 days to satisfy the requirements of SR 3.6.4.3.1 which operates each SGT subsystem for a specified period of time that ensures both subsystems are OPERABLE and that all

<CTS>

3.6 CONTAINMENT SYSTEMS

3.6.1.3 Primary Containment Isolation Valves (PCIVs)

<3.7.D> <3.6.M>

LCO 3.6.1.3 Each PCIV, except reactor building-to-suppression chamber vacuum breakers, shall be OPERABLE.

<Appl 3.7.D> <Appl 3.6.M> <DOC M.1>

APPLICABILITY: MODES 1, 2, and 3,
When associated instrumentation is required to be OPERABLE per LCO 3.3.6.1, "Primary Containment Isolation Instrumentation."

ACTIONS

------------------------------------NOTES------------------------------------ [1]

<3.7.D footnote (a)> <DOC L.4> 1. Penetration flow paths [except for purge valve penetration flow paths] may be unisolated intermittently under administrative controls.

<DOC A.3> 2. Separate Condition entry is allowed for each penetration flow path.

<DOC A.4> <3.7.D Act 2.b> 3. Enter applicable Conditions and Required Actions for systems made inoperable by PCIVs.

<DOC A.4> 4. Enter applicable Conditions and Required Actions of LCO 3.6.1.1, "Primary Containment," when PCIV leakage results in exceeding overall containment leakage rate acceptance criteria [in MODES 1, 2, and 3]. [2]

<3.7.D Act 1> <3.6.M Act>

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ---------NOTE--------- Only applicable to penetration flow paths with two PCIVs. ------------------------ TSTF-207 [or more] [9] One or more penetration flow paths with one PCIV inoperable ~~[except for purge valve leakage not within limit]~~. TSTF-207 for reasons other than Condition E D and E [1] [9]	A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured. AND	4 hours except for main steam line AND 8 hours for main steam line

(continued) <B>

<CTS>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<DOC L.3> B. ---------NOTE--------- Only applicable to penetration flow paths with two PCIVs. ------------ [1] [for reasons other than Condition [E] D [and/E]] [TSTF-207] [1] One or more [or more] [9] penetration flow paths with two PCIVs inoperable [except for purge valve leakage not within limit]. [9]	B.1 [TSTF-207] [9] Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange. [for reasons other than Condition [E] [and E]] [1]	1 hour [TSTF-207]
<3.7.D Act 1> <3.7.D Act 2> <4.7.A.2> <4.7.A.2 footnote 6> C. ---------NOTE--------- Only applicable to penetration flow paths with only one PCIV. ------------ One or more penetration flow paths with one PCIV inoperable. [TSTF-269]	C.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	[4] ~~[4]~~ hours except for excess flow check valves (EFCVs) [and penetrations with a closed system] [5]
	AND	AND (72) [5] ~~12~~ hours ~~for EFCVs~~ [TSTF-207] [4] [4 hours for hydrostatically tested line leakage [not on a closed system] AND] [1]
<DOC L.10> 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. [One or more] [1] [TSTF-207]	C.2 (5) --------NOTE-------- (1.) Isolation devices in high radiation areas may be verified by use of administrative means. ---------------- Verify the affected penetration flow path is isolated.	Once per 31 days [1] [for secondary containment bypass leakage]
<3.6.M Act> [1] D. [Secondary containment bypass leakage rate,] not within limit. [9] [MSIV leakage rate,] [purge valve leakage rate,] [hydrostatically tested line leakage rate,] [or] [EFCV leakage rate] [1] [TSTF-207]	D.1 Restore leakage rate to within limit. [1] [1]	[4 hours] [1] [9] [AND 8 hours for MSIV leakage AND [24 hours for purge valve leakage] AND [72 hours for hydrostatically tested line leakage [on a closed system] [and EFCV] leakage]] [1]

(continued)

B

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1433, REVISION 1
ITS: 3.6.1.3 - PRIMARY CONTAINMENT ISOLATION VALVES

1. This bracketed requirement has been deleted because it is not applicable to Quad Cities 1 and 2. The following requirements have been renumbered, where applicable, to reflect this deletion.

2. The words "in MODES 1, 2, and 3" have been deleted from ITS 3.6.1.3 ACTIONS Note 4 since there are no PCIV leakage tests required in MODES other than MODES 1, 2, and 3 for Quad Cities 1 and 2 (i.e., there are no PCIVs required to be OPERABLE in MODES other than MODES 1, 2, and 3 that have specific leakage limits). In addition, ISTS SR 3.6.1.3.2 Note 1 has been deleted for the same reason. The following Note number has been deleted since the deletion of this Note leaves only one applicable Note.

3. Not used.

4. Not used.

B

5. ITS 3.6.1.3 Required Action C.1 Completion Times have been modified to be consistent with approved TSTF-30, Rev. 3. The change also provides a 72 hour Completion Time for EFCVs consistent with TSTF-323.

6. Not used.

7. The words in ISTS 3.6.1.3 Condition I (ITS 3.6.1.3 Condition F), "or during operations with a potential for draining the reactor vessel (OPDRVs)," have been deleted. There are no PCIVs required to be OPERABLE in the Quad Cities 1 and 2 ITS whose Applicability is only during OPDRVs. The only PCIVs required when not in MODES 1, 2, and 3 are the RHR shutdown cooling isolation valves, and their Applicability is MODES 1, 2, 3, 4 and 5. This Condition is still applicable in MODES 4 and 5, which are the only MODES that OPDRVs can be performed. Therefore, the "during OPDRVs" Applicability is duplicative of the MODES 4 and 5 Applicability and has been deleted.

8. The acronym "OPDRVs" has been defined, consistent with the format of the ITS, since it is the first use of this term in this Specification.

9. The brackets have been removed and the proper plant specific information/value has been provided.

All changes are [1] unless otherwise indicated

except for torus purge valve 1601-56. This valve is normally open for pressure control. This is acceptable since this valve and other vent and purge valves are designed to automatically close on LOCA conditions.

BASES

valves 2, 6 and [2] valves [2] vent and

BACKGROUND (continued) [1]

The primary containment purge ~~lines~~ are ~~{18}~~ inches in diameter; vent ~~lines~~ are ~~{18}~~ inches in diameter. The ~~{18}~~ inch primary containment purge valves are normally maintained closed in MODES 1, 2, and 3 to ensure the primary containment boundary is maintained. The isolation valves on the ~~{18}~~ inch vent lines have ~~{2}~~ inch bypass lines around them for use during normal reactor operation. ~~Two additional redundant excess flow isolation dampers are provided on the vent line upstream of the Standby Gas Treatment (SGT) System filter trains. These isolation dampers, together with the PCIVs, will prevent high pressure from reaching the SGT System filter trains in the unlikely event of a loss of coolant accident (LOCA) during venting. Closure of the excess flow isolation dampers will not prevent the SGT System from performing its design function (that is, to maintain a negative pressure in the secondary containment). To ensure that a vent path is available, a [2] inch bypass line is provided around the dampers.~~

from the suppression chamber and drywell

[2]

Use of the 2 inch vent valves

Standby Gas Treatment

and the Reactor Building Ventilation system

APPLICABLE SAFETY ANALYSES

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

The DBAs that result in a release of radioactive material ~~within primary containment~~ are a LOCA and a main steam line break (MSLB). In the analysis for each of these accidents, it is assumed that PCIVs are either closed or close within the required isolation times following event initiation. This ensures that potential paths to the environment through PCIVs (including primary containment purge valves) are minimized. Of the events analyzed in Reference ~~4~~, the MSLB is the most limiting event due to radiological consequences. The closure time of the main steam isolation valves (MSIVs) is a significant variable from a radiological standpoint. The MSIVs are required to close within 3 to 5 seconds since the 5 second closure time is assumed in the analysis. ~~The safety analyses assume that the purge valves were closed at event initiation.~~ Likewise, it is assumed that the primary

[B]

for which the consequences are mitigated by PCIVs

(Refs 2 and 3, respectively)

4

LOCA

(Ref. 3)

the 3 second closure time is assumed in the MSIV closure (the most severe overpressurization transient) analysis (Ref. 5) and

(continued)

BASES

ACTIONS (continued)

communication with the control room. In this way, the penetration can be rapidly isolated when a need for primary containment isolation is indicated. ~~Due to the size of the primary containment purge line penetration and the fact that those penetrations exhaust directly from the containment atmosphere to the environment, the penetration flow path containing these valves is not allowed to be opened under administrative controls. A single purge valve in a penetration flow path may be opened to effect repairs to an inoperable valve, as allowed by SR 3.6.1.3.1.~~ 6

A second Note has been added to provide clarification that, for the purpose of this LCO, separate Condition entry is allowed for each penetration flow path. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable PCIV. Complying with the Required Actions may allow for continued operation, and subsequent inoperable PCIVs are governed by subsequent Condition entry and application of associated Required Actions.

The ACTIONS are modified by Notes 3 and 4. Note 3 ensures that appropriate remedial actions are taken, if necessary, if the affected system(s) are rendered inoperable by an inoperable PCIV (e.g., an Emergency Core Cooling System subsystem is inoperable due to a failed open test return valve). Note 4 ensures appropriate remedial actions are taken when the primary containment leakage limits are exceeded. Pursuant to LCO 3.0.6, these actions are not required even when the associated LCO is not met. Therefore, Notes 3 and 4 are added to require the proper actions be taken.

A.1 and A.2 3 TSTF-207 TSTF-207

With one or more penetration flow paths with one PCIV inoperable {except for ~~purge valve leakage~~ not within limit}, the affected penetration flow paths 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 automatic valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. For a penetration isolated in accordance with Required Action A.1, 2

6 secondary containment bypass leakage rate, MSIV leakage rate, purge valve leakage rate, or hydrostatically tested line leakage rate or EFCV leakage rate

TSTF-207

(continued)

BASES

ACTIONS

A.1 and A.2 (continued)

the device used to isolate the penetration should be the closest available valve to the primary containment. The Required Action must be completed within the 4 hour Completion Time (8 hours for main steam lines). The Completion Time of 4 hours is reasonable considering the time required to isolate the penetration and the relative importance of supporting primary containment OPERABILITY during MODES 1, 2, and 3. For main steam lines, an 8 hour Completion Time is allowed. The Completion Time of 8 hours for the main steam lines allows a period of time to restore the MSIVs to OPERABLE status given the fact that MSIV closure will result in isolation of the main steam line(s) and a potential for plant shutdown.

For affected penetrations that have been isolated in accordance with Required Action A.1, the affected penetration flow path(s) must be verified to be isolated on a periodic basis. This is necessary to ensure that primary 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 require any testing or device manipulation. Rather, it involves verification that those devices outside primary containment and capable of potentially being mispositioned are in the correct position. The Completion Time of "once per 31 days for isolation devices outside primary containment" is appropriate because the devices are operated under administrative controls and the probability of their misalignment is low. For the devices inside primary containment, the time period specified "prior to entering MODE 2 or 3 from MODE 4, ~~if primary containment was de-inerted while in MODE 4, if not performed within the previous 92 days~~" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the devices and the existence of other administrative controls ensuring that device misalignment is an unlikely possibility.

5 primary 7 the existence of 5

Condition A is modified by a Note indicating that this Condition is only applicable to those penetration flow paths with ~~two~~ two or more PCIVs. For penetration flow paths with one PCIV, Condition C provides the appropriate Required Actions.

2 TSTF-207 TSTF-269 B

Required Action A.2 is modified by ~~a~~ Notes ~~that~~ Note 1 applies to isolation devices located in high radiation areas, and

B

(continued)

BASES

ACTIONS

A.1 and A.2 (continued)

allows them to be verified 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 devices~~, once they have been verified to be in the proper position, is low.

Insert A.1 and A.2

TSTF-269

9

9

B.1

With one or more penetration flow paths with two PCIVs inoperable, either the inoperable PCIVs must be restored to OPERABLE status or 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 automatic valve, a closed manual valve, and a blind flange. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.1.1.

or more

2

TSTF-207

4

except for secondary bypass leakage rate, MSIV leakage rate, purge valve leakage rate, or hydrostatically tested line leakage rate or EFCV leakage rate not within limit,

TSTF-207

Condition B is modified by a Note indicating this Condition is only applicable to penetration flow paths with two PCIVs. For penetration flow paths with one PCIV, Condition C provides the appropriate Required Actions.

TSTF-207

or more

2

4

except for secondary containment bypass leakage rate, MSIV leakage rate, purge valve leakage rate, or hydrostatically tested line leakage rate or EFCV leakage rate not within limit,

C.1 and C.2

With one or more penetration flow paths with one PCIV inoperable, the inoperable valve must be restored to OPERABLE status or 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 automatic valve, a closed manual valve, and a blind flange. A check valve may not be used to isolate the affected penetration. ~~Required Action C.1 must be completed within the [4] hour Completion Time.~~ The Completion Time of (4) hours is reasonable considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of supporting primary containment OPERABILITY during

TSTF-30

72

TSTF-30

for a penetration with a closed system

(continued)

11

The Completion Time of 4 hours for valves other than EFCVs and in penetrations with a closed system is reasonable considering the time required to isolate the penetration and the relative importance of supporting primary containment OPERABILITY during MODES 1, 2, and 3.

TSTF-30

TSTF-30

BASES

ACTIONS

C.1 and C.2 (continued)

72 for EFCVs also

The closed system must meet the requirements of Reference 6 11 TSTF-30

MODES 1, 2, and 3. The Completion Time of ~~12~~ hours is reasonable considering the instrument and the small pipe diameter of penetration (hence, reliability) to act as a penetration isolation boundary and the small pipe diameter of the affected penetrations. In the event the affected penetration flow path is isolated in accordance with Required Action C.1, the affected penetration must be verified to be isolated on a periodic basis. This is necessary to ensure that primary containment penetrations required to be isolated following an accident are isolated. The Completion Time of once per 31 days ~~for verifying each affected penetration is isolated~~ is appropriate because the ~~valves~~ devices are operated under administrative controls and the probability of their misalignment is low.

This Required Action does not require any testing or valve manipulation. Rather, it involves verification that these devices outside containment and capable of potentially being mispositioned are in the correct position 10 7 7

TSTF-207 [or more] 2

Condition C is modified by a Note indicating that this Condition is only applicable to penetration flow paths with only one PCIV. For penetration flow paths with two [PCIVs, Conditions A and B provide the appropriate Required Actions.

two 5 Note 1 TSTF-269

Required Action C.2 is modified by a Note that applies to ~~valves and blind flanges~~ isolation devices located in high radiation areas and allows them to be verified 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 valves~~, once they have been verified to be in the proper position, is low. 5

Insert ACTION C-2 TSTF-269 4

This Note is necessary since this Condition is written specifically to address those penetrations with a single PCIV. 5

D.1 4

TSTF-207 (SR 3.6.1.3.12),] 2

With the ~~secondary containment bypass leakage rate~~ ~~or~~ MSIV leakage rate not within limit, the assumptions of the safety analysis may not be met. Therefore, the leakage must be restored to within limit ~~within 8 hours~~. Restoration can be accomplished by isolating the penetration that caused the limit to be exceeded by use of one closed and de-activated automatic valve, closed manual valve, or blind 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 11 6

(SR 3.6.1.3.10), [] [purge valve leakage rate (SR 3.6.1.3.7), [or] [hydrostatically tested line leakage rate (SR 3.6.1.3.14),] [or [EFCV leakage rate (SR 3.6.1.3.10)] 4

(continued)

TSTF-207

TSTF-207

for hydrostatically tested line leakage [not on a closed system] and for secondary containment bypass leakage

ACTIONS

D.1 (continued)

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 and the relative importance of secondary containment bypass leakage to the overall containment function.

6 B

TSTF-207

Insert D.1-1

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

In the event one or more containment purge valves are not within the purge valve leakage limits, purge valve leakage must be restored to within limits or the affected penetration 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 valve, closed manual valve, and blind flange]. If a purge valve with resilient seals is utilized to satisfy Required Action E.1, it must have been demonstrated to meet the leakage requirements of SR 3.6.1.3.7. 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 that those isolation devices outside containment and potentially capable of being mispositioned are in the correct position. For the isolation devices inside containment, the time period specified as "prior to entering MODE 2 or 3 from MODE 4 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.

6

(continued)

TSTF-207 Insert D.1-1

11 leakage rate

~~For MSIV leakage, an 8 hour Completion Time is allowed.~~ The Completion Time of 8 hours ~~for MSIV leakage~~ allows a period of time to restore the MSIVs to ~~OPERABLE status~~ given the fact that MSIV closure will result in isolation of the main steam line(s) and potential for plant shutdown. ~~[The 24 hour Completion Time for purge valve leakage is acceptable considering the purge valves remain closed so that a gross breach of the containment does not exist.] [The 72 hour Completion Time for hydrostatically tested line leakage [on a closed system] is acceptable based on the available water seal expected to remain as a gaseous fission product boundary during the accident [, and, in many cases, an associated closed system].] The closed system must meet the requirements of Reference 5. The 72 hour Completion Time for EFCV leakage is acceptable based on the instrument and the small pipe diameter of the penetration (hence, reliability) to act as a penetration isolation boundary.~~

within limits

11

~~[REVIEWER'S NOTE: The bracketed options provided in ACTION D reflect options in plant design and options in adopting the associated leakage rate Surveillances.~~

~~The options (both in ACTION D and ACTION E) for purge valve leakage, are based primarily on the design. If leakage rates can be measured separately for each purge valve, ACTION E is intended to apply. This would be required to be able to implement Required Action E.3. Should the design allow only for leak testing both purge valves simultaneously, then the Completion Time for ACTION D should include the "24 hours for purge valve leakage" and ACTION E should be eliminated.~~

~~The option for EFCV is based on the acceptance criteria of SR 3.6.1.3.10. If the acceptable criteria is a specific leakage rate (e.g., 1 gph) then the Completion Time for ACTION D should include the "72 hours for EFCV leakage." If the acceptance criteria for SR 3.6.1.3.10 is non-specific (e.g., "actuates to the closed position") then there is no specific leakage criteria and the EFCV Completion Time is not adopted.~~

B

~~Similarly, adopting Completion Times for secondary containment bypass and/or hydrostatically tested lines is based on whether the associated SRs are adopted.~~

~~The additional bracketed options for whether the hydrostatically tested line is with or without a closed system is predicated on plant-specific design. If the design is such that there are not both types of hydrostatically tested lines (some with and some without closed systems), the specific 'closed system' wording can be removed and the appropriate 4 or 72 hour Completion Time retained. In the event there are both types, the clarifying wording remains and the brackets are removed.]~~

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.1.3.1 (continued)

containment occurs in these MODES, the purge valves may not be capable of closing before the pressure pulse affects systems downstream of the purge valves or the release of radioactive material will exceed limits prior to the closing of the purge valves. At other times when the purge valves are required to be capable of closing (e.g., during handling of irradiated fuel), pressurization concerns are not present and the purge valves are allowed to be open.

6

The torus purge valve, 1601-56 is normally open for pressure control, therefore the valve is excluded from this SR. However this is acceptable since this valve is designed to automatically close on LOCA conditions.

1

SR 3.6.1.3.2 1 6 2 18 inch 5

vent or ed ed 8 vent and 2

This SR ensures that the primary containment purge valves are closed as required or, if open, open for an allowable reason. 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 also modified by a Note (Note 1), stating that primary containment purge valves are only required to be closed in MODES 1, 2, and 3. If a LOCA inside primary containment occurs in these MODES, the purge valves may not be capable of closing before the pressure pulse affects systems downstream of the purge valves, or the release of radioactive material will exceed limits prior to the purge valves closing. At other times when the purge valves are required to be capable of closing (e.g., during handling of irradiated fuel), pressurization concerns are not present and the purge valves are allowed to be open.] The SR is modified by a Note (Note 2) stating that the SR is not required to be met when the purge valves are open for the stated reasons. The Note states that these valves may be opened for inerting, de-inerting, pressure control, ALARA or air quality considerations for personnel entry, or Surveillances that require the valves to be open. The [18] inch purge valves are capable of closing in the environment following a LOCA. Therefore, these valves are allowed to be open for limited periods of time. The 31 day Frequency is consistent with other PCIV requirements discussed in SR 3.6.1.3.8.

6 2 4 2 vent or

Vent and 2

2 6

provided the drywell vent and purge valves and their associated suppression chamber vent and purge valves are not opened simultaneously 6

B

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.1.3.3 2 6

This SR verifies that each primary containment isolation manual valve and blind flange that is located outside primary containment and is required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside the primary containment boundary is within design limits.

and not locked, sealed, or otherwise secured

TSTF-45

3

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This SR does not require any testing or valve manipulation. Rather, it involves verification that those PCIVs outside primary containment, and capable of being mispositioned, are in the correct position. Since verification of ~~valve~~ position for PCIVs outside primary containment is relatively easy, the 31 day Frequency was chosen to provide added assurance that the PCIVs are in the correct positions.

5

TSTF-45

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.

7

Two Notes have been added to this SR. The first Note allows valves and blind flanges located in high radiation areas to be verified by use of administrative controls. Allowing verification by administrative controls is considered acceptable since ~~the primary containment is inerted and~~ access to these areas is typically restricted ~~during MODES 1, 2, and 3~~ for ALARA reasons. Therefore, the probability of misalignment of these PCIVs, once they have been verified to be in the proper position, is low. A second Note has been included to clarify that PCIVs ~~that are~~ open under administrative controls are not required to meet the SR during the time that the PCIVs are open.

7

7

TSTF-45

These controls consists of stationing a dedicated operator at the controls of the valve, who is in continuous communication with the control room. In this way, the penetration can be rapidly isolated when a need for primary containment isolation is indicated.

SR 3.6.1.3.4 3 6

and not locked, sealed, or otherwise secured

This SR verifies that each primary containment manual isolation valve and blind flange ~~that is~~ located inside primary containment and is required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside the primary containment boundary is within design limits. For PCIVs inside primary containment, the Frequency ~~defined as~~ of "prior to entering MODE 2 or 3 from MODE 4 if primary containment was de-inerted while in MODE 4, if not performed within the previous 92 days" is appropriate since these PCIVs are operated under administrative controls and the probability of their misalignment is low.

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7

(continued)

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1433, REVISION 1
ITS BASES: 3.6.1.3 - PRIMARY CONTAINMENT ISOLATION VALVES

1. Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific nomenclature, number, reference, system description, analysis description, or licensing basis description.

2. The brackets have been removed and the proper plant specific information/value has been provided.

3. This paragraph in the Applicable Safety Analyses Section of Bases 3.6.1.3 has been modified since it is incorrect; neither the DBA analysis nor the IST Program have a specific assumption for closure time of PCIVs. The analysis assumes the valves will close prior to fuel damage, which is not expected for some time. The closure times of the principle PCIVs are currently specified in the UFSAR, and are based upon such factors as valve size and valve operator capability. In addition, the words in SR 3.6.1.3.5 stating that the isolation times are in the IST Program have also been deleted since these times are also located in the UFSAR.

4. This bracketed requirement/information has been deleted because it is not applicable to Quad Cities 1 and 2.

5. These changes have been made for consistency with similar phrases in other parts of the Bases and/or to be consistent with the Specification.

6. Changes have been made to reflect those changes made to the Specification.

7. Editorial change made for enhanced clarity.

8. Typographical/grammatical error corrected.

9. This change was approved to be made in NUREG-1433, Rev. 1 per change package BWR-15, C.5, but apparently was not made. A similar change was made to NUREG-1433, Rev. 1, Bases 3.6.4.2, Required Actions A.1 and A.2.

10. Some of the Bases changes for TSTF-30, Rev. 2, have not been adopted since the SRs/ information is not applicable to Quad Cities 1 and 2.

11. These changes to TSTF-207, Rev. 5, and TSTF-30, Rev. 3, were made due to plant specific differences or due to typographical/consistency errors. B

12. The discussion in the LCO section about closed valves is modified. This editorial preference is based on an incomplete and misleading discussion of the valves. This change does not modify the requirements or the interpretation of the requirements.

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1433, REVISION 1
ITS BASES: 3.6.1.7 - REACTOR BUILDING-TO-SUPPRESSION CHAMBER VACUUM BREAKERS

1. Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific nomenclature, number, reference, system description, analysis description, or licensing basis description.

2. The brackets have been removed and the proper plant specific information/value has been provided.

3. These details concerning the five cases which are considered in the safety analyses with respect to reactor building-to-suppression chamber vacuum breakers have been deleted. This level of detail is not necessary to be included in the Bases for understanding of the LCO requirements.

4. Inadvertent actuation of the suppression pool spray system is not the main concern for depressurizing the drywell, a LOCA inside the drywell is the main concern. Therefore, this section has been reworded to place proper emphasis on the proper reason. In addition, inadvertent actuation of suppression pool spray is not a concern at all relative to causing an excessive negative pressure event; drywell spray is the system that can cause this event. Therefore the Bases have been changed from suppression pool spray to drywell spray when discussing this event.

5. Changes have been made to reflect those changes made to the Specification.

6. The alternate method has been deleted since it is not valid for Quad Cities 1 and 2.

7. Editorial change made for enhanced clarity.

8. These changes have been made for consistency with similar phrases in other parts of the Bases and/or to be consistent with the Specification.

BASES (continued)

relief valve 2

APPLICABLE SAFETY ANALYSES

Initial suppression pool water level affects suppression pool temperature response calculations, calculated drywell pressure ~~during vent clearing~~ for a DBA, calculated pool swell loads for a DBA LOCA, and calculated loads due to ~~S/RV~~ discharges. Suppression pool water level must be maintained within the limits specified so that the safety analysis of Reference 1 remains valid. 2

Suppression pool water level satisfies Criteria 2 and 3 of ~~the NRC Policy Statement~~. 10 CFR 50.36 (c)(2)(ii) 2

LCO

1 14 ft 1 inch

A limit that suppression pool water level be ≥ ~~[12 ft 2 inches]~~ and ≤ ~~[12 ft 6 inches]~~ is required to ensure that the primary containment conditions assumed for the safety analyses are met. Either the high or low water level limits were used in the safety analyses, depending upon which is more conservative for a particular calculation. 14 ft 5 inches 1 above the bottom of the suppression chamber

APPLICABILITY

In MODES 1, 2, and 3, a DBA would cause significant loads on the primary containment. In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations in these MODES. The requirements for maintaining suppression pool water level within limits in MODE 4 or 5 is addressed in LCO 3.5.2, "ECCS-Shutdown."

ACTIONS

A.1

2 relief valve

With suppression pool water level outside the limits, the conditions assumed for the safety analyses are not met. If water level is below the minimum level, the pressure suppression function still exists as long as ~~main vents~~ are covered, HPCI and RCIC turbine exhausts are covered, and ~~S/RV~~ quenchers are covered. If suppression pool water level is above the maximum level, protection against overpressurization still exists due to the margin in the peak containment pressure analysis and the capability of the ~~Drywell~~ Spray System. Therefore, continued operation for a 2 the downcomers

2 RHR Suppression Pool

B

(continued)

BASES

APPLICABILITY (continued)

ALTERATIONS, or during movement of irradiated fuel assemblies in the [secondary] containment. Moving irradiated fuel assemblies in the [secondary] containment may also occur in MODES 1, 2, and 3. 2 4

ACTIONS

The ACTIONS are modified by three Notes. The first Note allows penetration flow paths to be unisolated intermittently under administrative controls. These controls consist of stationing a dedicated operator, who is in continuous communication with the control room, at the controls of the isolation device. In this way, the penetration can be rapidly isolated when a need for [secondary] containment isolation is indicated. 2 3

The second Note provides clarification that for the purpose of this LCO separate Condition entry is allowed for each penetration flow path. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable SCIV. Complying with the Required Actions may allow for continued operation, and subsequent inoperable SCIVs are governed by subsequent Condition entry and application of associated Required Actions.

The third Note ensures appropriate remedial actions are taken, if necessary, if the affected system(s) are rendered inoperable by an inoperable SCIV.

A.1 and A.2

In the event that there are one or more penetration flow paths with one SCIV inoperable, the affected penetration flow path(s) 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 automatic SCIV, a closed manual valve, and a blind flange. For penetrations isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available device to [secondary] containment. The Required Action must be completed within the 8 hour Completion Time. The specified time period is reasonable considering the time required to 2

(continued)

TSTF-45 Rev.2

not locked sealed, or otherwise secured and is

7

SURVEILLANCE REQUIREMENTS

SR 3.6.4.2.1

This SR verifies that each secondary containment manual isolation valve and blind flange that is 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 {secondary} containment boundary is within design limits. This SR does not require any testing or valve manipulation. Rather, it involves verification that those SCIVs in {secondary} containment that are capable of being mispositioned are in the correct position. 2

TSTF-45

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.

Since these SCIVs are readily accessible to personnel during normal operation and verification of their position is relatively easy, the 31 day Frequency was chosen to provide added assurance that the SCIVs are in the correct positions.

Two Notes have been added to this SR. The first Note applies to valves and blind flanges located in high radiation areas and allows them to be verified by use of administrative controls. Allowing verification by administrative controls is considered acceptable, since access to these areas is typically restricted during MODES 1, 2, and 3 for ALARA reasons. Therefore, the probability of misalignment of these SCIVs, once they have been verified to be in the proper position, is low.

A second Note has been included to clarify that SCIVs that are open under administrative controls are not required to meet the SR during the time the SCIVs are open.

Insert SR 3.6.4.2.1 5

SR 3.6.4.2.2

Verifying that the isolation time of each power operated ~~and~~ ~~each~~ automatic SCIV is within limits is required to demonstrate OPERABILITY. The isolation time test ensures that the SCIV 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~~ is {in accordance with the Inservice Testing Program or 92 days}. TSTF-46 2

6

(continued)

NO SIGNIFICANT HAZARDS CONSIDERATION
ITS: 3.6.1.7 - REACTOR BUILDING-TO-SUPPRESSION CHAMBER VACUUM BREAKER

L.1 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

   This change would allow 1 hour of operation with one or both vacuum breakers in both lines inoperable for opening and would allow separate Condition entry for each line. The vacuum breakers are not initiators of any previously analyzed accident. Therefore, the change does not significantly increase the frequency of such accidents. The change will not increase the consequences of an accident previously analyzed since continued operation is not allowed with both lines inoperable (i.e., isolation capability is maintained), thus the consequences are the same during the additional time periods as it is during the current shutdown times.

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

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

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

   The change is acceptable based on the small probability of an event requiring the vacuum breakers and the desire to minimize plant transients. This 1 hour Completion Time is also consistent with the allowed time for other containment inoperabilities (i.e., leakage). The allowance for separate Condition entry for each line is also consistent with the CTS allowance for PCIV penetrations. As such, any reduction in a margin of safety will be insignificant and offset by the benefit gained from providing some time to restore the vacuum breakers.

L.4 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

   This change provides an exception allowing the vacuum breakers to be open when performing required Surveillances (the exception is to the Surveillance that would otherwise require the vacuum breakers to be closed at all times). The vacuum breakers are not assumed to be an initiator of any previously analyzed accident. Therefore, the change does not involve a significant increase in the probability of an accident previously evaluated. The Surveillance exception is made only for circumstances where the vacuum breaker is under the immediate control of an operator (manually opening to confirm Operability). As such, the vacuum breaker is expected to continue to perform its intended and assumed safety function, and therefore this change does not significantly increase the consequences of an accident previously evaluated. B

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

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

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

   The change will not result in a reduction in a margin of safety since the vacuum breakers are still required to be OPERABLE. The exception is made only for circumstances where the vacuum breaker is under immediate control of an operator (manually opening to confirm Operability). As such, the vacuum breaker is expected to continue to perform its intended and assumed safety function, and therefore this change does not involve a significant reduction in the margin of safety.

L.2 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

   This change would allow additional time to isolate a secondary containment penetration if both isolation dampers in a two damper penetration are inoperable or one isolation device in a one device penetration is inoperable. Secondary containment isolation is not considered as an initiator of any previously analyzed accident. Therefore, this change does not significantly increase the probability of such accidents. The proposed change allows additional temporary operation with less than the required isolation capability. However, the consequences of an event that may occur during the extended outage time would not be any different than during the currently allowed outage time for other loss of secondary containment integrity situations. Therefore, this change does not significantly increase the consequences of any previously analyzed accident.

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

   This change does not result in any changes to the equipment design or capabilities or to the operation of the plant. Further, since the change impacts only the Required Action Completion Time for the system and does not result in any change in the response of the equipment to an accident, the change does not create the possibility of a new or different kind of accident from any previously analyzed accident.

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

   This change impacts only the Required Action Completion Time for inoperable devices that provide secondary containment isolation. The methodology and limits of the accident analysis are not affected, and the secondary containment response in unaffected. Therefore, the change does not involve a significant reduction in the margin of safety.

3.8 - LIMITING CONDITIONS FOR OPERATION

A. Residual Heat Removal Service Water System

LCO 3.7.1 At least the following ~~independent~~ residual heat removal service water (RHRSW) subsystems, ~~with each subsystem comprised of:~~

~~1. Two OPERABLE RHRSW pumps, and~~

~~2. An OPERABLE flow path capable of taking suction from the ultimate heat sink and transferring the water:~~

~~a. Through one RHR heat exchanger, and separately,~~

~~b. To the associated safety related equipment,~~

LA.1

shall be OPERABLE:

1. In OPERATIONAL MODE(s) 1, 2 and 3, two subsystems.

~~2. In OPERATIONAL MODE(s) 4, 5 and * the subsystem(s) associated with subsystems/loops and components required OPERABLE by Specifications 3.6.O, 3.6.P, 3.8.D, 3.10.K and 3.10.L.~~

LA.2

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2, 3, ~~4, 5 and *.~~

LA.2

4.8 - SURVEILLANCE REQUIREMENTS

A. Residual Heat Removal Service Water System

SR 3.7.1.1 Each of the required RHRSW subsystems shall be demonstrated OPERABLE at least once per 31 days by verifying that each valve, manual or power operated, in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position or can be aligned to the correct position.

A.2

B

LA.2

~~* When handling irradiated fuel in the secondary containment, during CORE ALTERATION(s), and operations with a potential for draining the reactor vessel.~~

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The details of CTS 3.8.A relating to system OPERABILITY, that the RHRSW subsystems are independent and that each subsystem shall have two RHRSW pumps capable of taking a suction from the ultimate heat sink and transferring the water through one RHR heat exchanger and separately to the associated safety related equipment, are proposed to be relocated to the Bases. The details for system OPERABILITY are not necessary in the LCO. The definition of OPERABILITY suffices. In addition, the requirements of the Surveillances will also help ensure these relocated details are maintained. As such, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.2 CTS 3/4.8.A provides LCO requirements, Actions, and Surveillance Requirements for the RHRSW System when in MODES 4, 5, and when handling irradiated fuel in the secondary containment, during CORE ALTERATION(s) and operations with a potential for draining the reactor vessel. These requirements are proposed to be relocated to the Technical Requirements Manual (TRM). Since this system is a support system for other required equipment with their own Specifications, the definition of OPERABILITY in ITS 1.1 will provide sufficient assurance the system can perform its required support function. In addition, the Bases for the supported systems will require the necessary portions of the RHRSW System to be OPERABLE. Therefore, the relocated requirements are not required to be in the ITS to provide adequate protection of the public health and safety. The TRM will be incorporated by reference into the Quad Cities 1 and 2 UFSAR at ITS Implementation. Changes to the TRM will be controlled by the provisions of 10 CFR 50.59. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

"Specific"

None

RELOCATED SPECIFICATIONS

None

3.8 - LIMITING CONDITIONS FOR OPERATION

D. Control Room Emergency Ventilation System

LCO 3.7.4 The control room emergency ventilation system shall be OPERABLE~~, with the system comprised of an OPERABLE control room emergency filtration system and an OPERABLE refrigeration control unit (RCU).~~ LA.1

<See ITS 3.7.5>

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2, 3, and *.

ACTION:

1. In OPERATIONAL MODE(s) 1, 2 or 3:

   ACTION A a. With the control room emergency filtration system inoperable, restore the inoperable system to OPERABLE status within 7 days or

   ACTION B be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

   b. With the refrigeration control unit (RCU) inoperable, restore the inoperable RCU to OPERABLE status within 30 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

<See ITS 3.7.5>

4.8 - SURVEILLANCE REQUIREMENTS

D. Control Room Emergency Ventilation System

The control room emergency ventilation system shall be demonstrated OPERABLE: <See ITS 3.7.5>

1. At least once per 18 months by verifying that the RCU has the capability to remove the required heat load. B

SR 3.7.4.1 2. At least once per 31 days ~~by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and~~ verifying that the system operates for at least 10 hours with the heaters operating. LA.2

3. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:

   a. Verifying that the system satisfies the in-place penetration and bypass leakage testing acceptance criteria of <0.05% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 2000 scfm ±10%.

<See ITS 5.5>

A.2

Add proposed SR 3.7.4.2

Applicability * When handling irradiated fuel in the secondary containment, during CORE ALTERATION(s), and operations with a potential for draining the reactor vessel.

ADMINISTRATIVE

A.1 In the conversion of the Quad Cities 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the BWR Standard Technical Specifications, NUREG-1433, Rev. 1 (i.e., the Improved Technical Specification (ISTS)).

A.2 The filter testing requirements of CTS 4.8.D.3, 4.8.D.4, 4.8.D.5.a, 4.8.D.5.d, 4.8.D.6, and 4.8.D.7, are being moved to ITS 5.5.7 in accordance with the format of the BWR ISTS, NUREG-1433, Rev. 1. Any technical changes to this requirement will be addressed in the Discussion of Changes for ITS: 5.5. A Surveillance Requirement is added (proposed SR 3.7.4.2) to clarify that the tests of the Ventilation Filter Testing Program must also be completed and passed for determining OPERABILITY of the CREV System. Since this is a presentation preference that maintains current requirements, this change is considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

None

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The CTS 3.8.D specific details of what constitutes the Control Room Emergency Ventilation System are proposed to be relocated to the Bases. These are design details that are not necessary to be included in the Technical Specifications to ensure the OPERABILITY of the CREV System since the OPERABILITY requirements are adequately addressed in ITS 3.7.4, "Control Room Emergency Ventilation System." As such, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

AC A.2

3.8 - LIMITING CONDITIONS FOR OPERATION

D. Control Room Emergency Ventilation System

LCO 3.7.5 The control room emergency ventilation system shall be OPERABLE, ~~with the system comprised~~ of an OPERABLE control room emergency filtration system and an OPERABLE refrigeration control unit (RCU).

<See ITS 3.7.4> LA.1

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2, 3, and *.

ACTION:

1. In OPERATIONAL MODE(s) 1, 2 or 3:

<See ITS 3.7.4>

a. With the control room emergency filtration system inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

Action A

b. With the refrigeration control unit (RCU) inoperable, restore the inoperable RCU to OPERABLE status within 30 days

Action B

or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

Control Room Emergency Ventilation AC System

A.2

4.8 - SURVEILLANCE REQUIREMENTS

D. Control Room Emergency Ventilation System

The control room emergency ventilation system shall be demonstrated OPERABLE:

24 LD.1

SR 3.7.5.1 1. At least once per 18 months by verifying that the RCU has the capability to remove the required heat load.

A

<See ITS 3.7.4>

2. At least once per 31 days by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 hours with the heaters operating.

3. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:

a. Verifying that the system satisfies the in-place penetration and bypass leakage testing acceptance criteria of <0.05% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 2000 scfm ±10%.

<See ITS 5.5>

Applicability * When handling irradiated fuel in the secondary containment, during CORE ALTERATION(s), and operations with a potential for draining the reactor vessel.

DISCUSSION OF CHANGES
ITS: 3.7.5 - CONTROL ROOM EMERGENCY VENTILATION
AIR CONDITIONING (AC) SYSTEM

ADMINISTRATIVE CHANGES

A.1 In the conversion of the Quad Cities 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the BWR Standard Technical Specifications, NUREG-1433, Rev. 1 (i.e., the Improved Technical Specification (ISTS)).

A.2 CTS 3.8.D states that the control room emergency ventilation system includes the control room refrigeration control unit. In addition, the CTS 3.8.D Actions and the CTS 4.8.D Surveillance Requirements discuss both the control room emergency ventilation system and the refrigeration control unit. In the ITS, these two requirements have been split into separate Technical Specifications; ITS 3.7.4 for the Control Room Emergency Ventilation (CREV) System and ITS 3.7.5 for the Control Room Emergency Ventilation AC System. Therefore, in ITS 3.7.5, the LCO, Actions, and Surveillance Requirements all refer to the Control Room Emergency Ventilation AC System. Since the Control Room Emergency Ventilation AC System is included in ITS 3.7.5, this change is considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

None

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The CTS 3.8.D specific details of what constitutes the Control Room Emergency Ventilation AC System are proposed to be relocated to the Bases. These are design details that are not necessary to be included in the Technical Specifications to ensure the OPERABILITY of the Control Room Emergency Ventilation AC System since OPERABILITY requirements are adequately addressed in ITS 3.7.5. As such, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.8.3.1

The tests of new fuel oil prior to addition to the storage tanks are a means of determining whether new fuel oil is of the appropriate grade and has not been contaminated with substances that would have an immediate detrimental impact on diesel engine combustion. If results from these tests are within acceptable limits, the fuel oil may be added to the storage tanks without concern for contaminating the entire volume of fuel oil in the storage tanks. These tests are to be conducted prior to adding the new fuel to the storage tank(s). The tests, limits, and applicable ASTM Standards are as follows:

a. Sample the new fuel oil in accordance with ASTM D4057-95 (Ref. 5);

b. Verify that the new fuel oil sample has: (1) an absolute specific gravity at 60°F of $\geq$ 0.80 and $\leq$ 0.85 for ASTM Number 1 fuel oil ($\geq$ 0.83 and $\leq$ 0.89 for ASTM Number 2 fuel oil) or an API gravity at 60°F of $\geq$ 35 and $\leq$ 45 for ASTM Number 1 fuel oil ($\geq$ 27 and $\leq$ 39 for ASTM Number 2 fuel oil) when tested in accordance with ASTM D1298-99 (Ref. 5); (2) a kinematic viscosity at 40°C of $\geq$ 1.3 centistokes for ASTM Number 1 fuel oil ($\geq$ 1.9 centistokes for ASTM Number 2 fuel oil) and $\leq$ 2.4 centistokes for ASTM Number 1 fuel oil ($\leq$ 4.1 centistokes for ASTM Number 2 fuel oil) when tested in accordance with ASTM D445-97 (Ref. 5); and (3) a flash point of $\geq$ 100°F for ASTM Number 1 fuel oil ($\geq$ 125°F for ASTM Number 2 fuel oil) when tested in accordance with ASTM D93-99c (Ref. 5); and

c. Verify that the new fuel oil has a clear and bright appearance with proper color when tested in accordance with ASTM D4176-93 (Ref. 5) or a water and sediment content within limits when tested in accordance with ASTM D2709-96e (Ref. 5). The clear and bright appearance with proper color test is only applicable to fuels that meet the ASTM color requirements (i.e., ASTM color 5 or less).

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.3.1 (continued)

Failure to meet any of the above limits is cause for rejecting the new fuel oil, but does not represent a failure to meet the LCO concern since the fuel oil is not added to the storage tanks.

Following the initial new fuel oil sample, the fuel oil is analyzed within 31 days following addition of the new fuel oil to the fuel oil storage tank(s) to establish that the other properties specified in Table 1 of ASTM D975-98b (Ref. 5) are met for new fuel oil when tested in accordance with ASTM D975-98b (Ref. 5), except that the analysis for sulfur may be performed in accordance with ASTM D1552-95 (Ref. 5), ASTM D2622-98 (Ref. 5), or ASTM D4294-98 (Ref. 5). The 31 day period is acceptable because the fuel oil properties of interest, even if they were not within stated limits, would not have an immediate effect on DG operation. This Surveillance ensures the availability of high quality fuel oil for the DGs.

Fuel oil degradation during long term storage shows up as an increase in particulate, mostly due to oxidation. The presence of particulate does not mean that the fuel oil will not burn properly in a diesel engine. The particulate can cause fouling of filters and fuel oil injection equipment, however, which can cause engine failure.

Particulate concentrations should be determined in accordance with ASTM D5452-98 (Ref. 5). This method involves a gravimetric determination of total particulate concentration in the fuel oil and has a limit of 10 mg/l. It is acceptable to obtain a field sample for subsequent laboratory testing in lieu of field testing.

The Frequency of this test takes into consideration fuel oil degradation trends that indicate that particulate concentration is unlikely to change significantly between Frequency intervals.

SR 3.8.3.2

This Surveillance ensures that, without the aid of the refill compressor, sufficient air start capacity for each DG is available. The system design requirements provide for a

(continued)

BASES

SURVEILLANCE REQUIREMENTS	SR 3.8.3.2 (continued) minimum of three engine starts without recharging. The pressure specified in this SR is intended to support the lowest value at which the three starts can be accomplished. The 31 day Frequency takes into account the capacity, capability, redundancy, and diversity of the AC sources and other indications available in the control room, including alarms, to alert the operator to below normal air start pressure.
REFERENCES	1. Regulatory Guide 1.137, Rev. 1, October 1979. 2. ANSI N195, 1976. 3. UFSAR, Chapter 6. 4. UFSAR, Chapter 15. 5. ASTM Standards: D4057-95; D1298-99; D445-97; D93-99c; D4176-93; D2709-96e; D975-98b; D1552-95; D2622-98; D4294-98; and D5452-98.

ADMINISTRATIVE

A.1 In the conversion of the Quad Cities 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the BWR Standard Technical Specifications, NUREG-1433, Rev. 1 (i.e, the Improved Standard Technical Specifications (ISTS)).

A.2 The details relating to the required fuel oil day tank level in CTS 3.9.A.2.a and the bulk fuel storage tank level in CTS 3.9.A.2.b have been moved to proposed SR 3.8.1.4. No technical changes are being made; therefore, this change is considered administrative in nature. 3

A.3 Note 2 has been added to CTS 4.9.A.2.c for clarity. The proposed Note allows a modified DG start involving idling and gradual acceleration to synchronous speed as recommended by the manufacturer. When modified start procedures are not used, the time, voltage, and frequency tolerance of CTS 4.9.A.7 (SR 3.8.1.8) must be met. Since CTS 4.9.A.2.c currently allows this (a time requirement is not specified), this change is considered to be administrative.

A.4 CTS 4.9.A.2.c, 4.9.A.2.d, 4.9.A.7, 4.9.A.8.b, 4.9.A.8.c, 4.9.A.8.h specify requirements for testing of the DG associated with both units. DG ½ is common to both units, and therefore, a Note is added to the ITS SRs (SR 3.8.1.2, SR 3.8.1.3, SR 3.8.1.8, SR 3.8.1.10, SR 3.8.1.11, SR 3.8.1.15, and SR 3.8.1.16) to clearly state current plant interpretation of Technical Specifications; i.e., a single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. This is acceptable since the main purpose of the Surveillance can be met by performing the test on either unit. If the DG fails one of these Surveillances, the DG is considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

A.5 CTS 4.9.A.2.c footnote c and CTS 4.9.A.7 footnote c, which states that Surveillance Requirement 4.9.A.7 (the DG start with a 10 second time requirement) may be substituted for Surveillance Requirement 4.9.A.2.c (the slow start), has been deleted. This type of Note does not exist for other CTS requirements where another test may be credited. This is standard practice and fully satisfies the requirements with or without such specified identification. A specific Note in proposed SR 3.8.1.2 would present confusion for other SRs which may be satisfied by alternate testing but for which the specific SR does not contain a similar note. Since no technical changes are being made this change is considered to be administrative. This change is consistent with the approved changes in TSTF-253.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 (cont'd) the opposite unit's onsite Class 1E AC electrical power distribution subsystem(s) capable of supporting the equipment required to be OPERABLE by LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," LCO 3.7.4, "Control Room Emergency Ventilation (CREV) System" (Unit 2 only), and LCO 3.7.5, "Control Room Emergency Ventilation Air Conditioning (AC) System" (Unit 2 only) and LCO 3.8.1.d will require the opposite unit's DG capable of supporting the equipment required to be OPERABLE by LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," LCO 3.7.4, "Control Room Emergency Ventilation (CREV) System" (Unit 2 only), and LCO 3.7.5, "Control Room Emergency Ventilation Air Conditioning (AC) System" (Unit 2 only). These added requirements are necessary since safety related equipment is shared between both units (e.g., Standby Gas Treatment System and Control Room Emergency Ventilation System). The added requirements will help ensure the requirements of UFSAR, Section 3.1.7.3 are met for both offsite and onsite electrical power sources.

A Note has also been added to the Applicability which allows the opposite unit's AC electrical power sources in LCO 3.8.1.c and d to not be required when the associated equipment (SGT subsystem, CREV System (for Unit 2 only), and Control Room Emergency Ventilation AC System (for Unit 2 only)) is inoperable. This is an exception that is intended to allow declaring the opposite unit's supported equipment inoperable either in lieu of declaring the opposite unit's power source inoperable, or at any time subsequent to entering ACTIONS for an inoperable opposite unit's power source. This exception is acceptable since, with some or all of the opposite unit equipment inoperable and the associated ACTIONS entered, the opposite unit AC sources provide no additional assurance of meeting the safety criteria of the given unit's AC sources.

An additional Note has been added to the ACTIONS which excludes the applicability of LCO 3.0.4 for inoperable opposite unit AC electrical power sources. This proposed Note allows entry into the applicable MODE while relying on the ACTIONS even though the ACTIONS may eventually require a plant shutdown. This allowance is acceptable due to the low probability of an event requiring the opposite unit equipment.

In addition, since the Specification has been prepared for both units consistent with existing Technical Specifications, two Notes have been added to the Surveillance Requirements (ITS Surveillance Table Notes 1 and 2) to clearly define the applicability of the Surveillances to both units. An additional Surveillance (SR 3.8.1.21) has also been added to ensure the opposite unit's power sources are properly tested.

TECHNICAL CHANGES - LESS RESTRICTIVE

L.8 (cont'd) 3.8.1.19, and 3.8.1.14, respectively) for verifying the proper response of the DG. This allows satisfactory loss of offsite power or ECCS actuations for other than Surveillance purposes to be used to fulfill the Surveillance Requirement. OPERABILITY is adequately demonstrated in either case since the DG cannot discriminate between "actual" or "simulated" signals.

L.9 The manner in which the DG is started for CTS 4.9.A.8.h (i.e., that the DG must be within the proper voltage and frequency within a certain time limit after the start signal) has not been included in proposed SR 3.8.1.15. While this test can be performed only after a fast start, the manner in which the DG is started does not affect the test. In addition, maintaining voltage and frequency (as required by CTS 4.9.A.8.h) is routine for this test to ensure the loads are maintained within the necessary limits, and does not need to be specified. Other Surveillance Requirements being maintained in the ITS (e.g., CTS 4.9.A.7, proposed SR 3.8.1.8) continue to require verifying the DG start time and voltage and frequency limits. If these limits are found not to be met during the performance of proposed SR 3.8.1.15, then the DG would be declared inoperable. As a result, these requirements are not necessary to be included in the Technical Specifications to ensure the diesel generators are maintained OPERABLE.

L.10 Explicit post maintenance Surveillance Requirements as required by CTS 4.9.A.9 (i.e., after any modifications which could affect DG interdependence) have been deleted. Any time the OPERABILITY of a system or component has been affected by repair, maintenance, or replacement of a component, post maintenance testing is required to demonstrate OPERABILITY of the system or component. After restoration of a component that caused a required SR to be failed, ITS SR 3.0.1 requires the appropriate SRs (in this case, SR 3.8.1.20) to be performed to demonstrate the OPERABILITY of the affected components. Therefore, explicit post maintenance Surveillance Requirements are not required and have been deleted from the Technical Specifications.

L.11 CTS 4.9.A.9 requires the DGs to accelerate to 900 rpm in $\leq$ 10 seconds. For these DGs, 900 rpm is equivalent to a frequency of 60 Hz. The ITS will require the minimum frequency to be 58.8 Hz, as shown in proposed SR 3.8.1.20. The accident analysis requires the DG to be capable of being loaded within 10 seconds. This can be accomplished at 58.8 Hz. It is not necessary to require the DG frequency to be at 60 Hz in order to load the DG. In addition, the steady

TECHNICAL CHANGES - LESS RESTRICTIVE

L.1 (cont'd) previously recognized this in the exception stated in CTS 4.9.B (4.9.A.2.d) and provided a surveillance exception to the 1 hour DG load test to avoid this condition. In an effort to consistently address this concern and to avoid potential conflicting Technical Specifications, the Surveillances that would require the DG to be connected to the offsite source are excepted from performance requirements. The exception does not take exception to the requirement for the DG to be capable of performing the particular function; just to the requirement to demonstrate it while that source of power is being relied on to support meeting the LCO. The exception is being presented as Note 1 to proposed SR 3.8.2.1 and excludes proposed SR 3.8.1.3 (the DG 1 hour load test), SR 3.8.1.10 (the DG single largest load reject test), SR 3.8.1.11 (DG full load rejection test), SR 3.8.1.12 (the loss of power test), SR 3.8.1.14 (bypass of automatic trips), SR 3.8.1.15 (the DG 24 hour run), SR 3.8.1.16 (hot start test), SR 3.8.1.17 (DG synchronization test), SR 3.8.1.18 (the DG load block test), and SR 3.8.1.19 (the ECCS simulation test).

L.2 CTS 4.9.B, which provides the Surveillance Requirements for the AC Sources while in Modes 4 and 5 and during handling of irradiated fuel in the secondary containment, requires the Surveillances of CTS 4.9.A to be performed. Two of the Surveillances of CTS 4.9.A are the DG start on an ECCS initiation signal (4.9.A.8.e) and the DG start and load on an ECCS initiation signal concurrent with a loss of offsite power signal (4.9.A.8.f). Proposed Note 2 to SR 3.8.2.1 will exempt these two Surveillances (proposed SRs 3.8.1.13 and 3.8.1.19) when the associated ECCS subsystem(s) are not required to be Operable. The CTS and ITS do not require the ECCS subsystem(s) to be Operable in Mode 5 when the spent fuel storage pool gates are removed and water level is ≥ 23 ft over the top of the reactor pressure vessel flange. The CTS and ITS also do not require the ECCS subsystem(s) to be Operable when defueled. The DGs are required to support the equipment powered from the emergency buses. However, when the ECCS subsystem(s) are not required to be Operable, then there is no reason to require the DGs to autostart on an ECCS initiation signal. In addition, the ECCS initiation signal is only an anticipatory start signal; the DGs are only needed during a LOCA if a loss of offsite power occurs concurrently. The DGs are also required to autostart if a loss of offsite power occurs. The requirement to autostart the required DG(s) on a loss of offsite power signal is being maintained in the ITS (proposed SR 3.8.1.12). Thus, when in these conditions (associated ECCS subsystem(s) not required to be Operable), there is no reason to require the DGs to be capable of automatically starting on an ECCS actuation signal (either by itself or concurrent with a loss of offsite power signal).

ADMINISTRATIVE

A.1 In the conversion of the Quad Cities 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the BWR Standard Technical Specifications, NUREG-1433, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

A.2 The ITS present the battery cell parameter limits in a separate LCO (ITS 3.8.6). The battery hardware components (battery and charger) remain in a DC Sources LCO (ITS 3.8.4). This is in accordance with the format of the BWR ISTS, NUREG-1433, Rev. 1. Any technical changes to the battery cell parameter requirements of Table 4.9.C-1 (including CTS 4.9.C.1.a and 4.9.C.2.a) and CTS 3.9.C Actions 4, 5, and 6, and the average electrolyte temperature requirements of CTS 4.9.C.2.c are addressed in the Discussion of Changes for ITS: 3.8.6. B

A.3 Not used.

A.4 The explicit requirement in CTS 4.9.C.1.b to verify correct breaker alignment to each battery charger has been deleted. The ITS SR 3.8.4.1 requirement to verify battery terminal voltage, on float charge is adequate. Float charge is the condition in which the charger is supplying the continuous charge required to overcome the internal losses of a battery and to maintain the battery in a fully charged state. Therefore, the charger must be in service and aligned correctly to meet this surveillance. Therefore, the explicit requirement to periodically verify breaker alignment to each charger is considered to be unnecessary for ensuring compliance with the applicable Technical Specification OPERABILITY requirements and its removal is considered administrative.

A.5 CTS 4.9.C.3.d requires verifying the battery charger will supply a load equal to the manufacturer's rating for at least 4 hours. Since battery charger ratings do not change, the appropriate values have been included in ITS SR 3.8.4.6. Replacing the current statement with the specific manufacturer's ratings is a presentation preference consistent with the format of the BWR ISTS, NUREG-1433, Rev. 1, and is considered an administrative change.

ADMINISTRATIVE

A.1 In the conversion of the Quad Cities 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the BWR Standard Technical Specifications, NUREG-1433, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

A.2 The ITS present the battery hardware components (battery and charger) in the DC Sources LCO (ITS 3.8.5). The battery cell parameters are presented in a separate LCO (ITS 3.8.6).

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 The existing requirement of CTS 3.9.D for the 250 VDC and 125 VDC electrical power sources to be OPERABLE during shutdown conditions is not specific as to what the sources must be powering. The requirement in ITS LCO 3.8.5 specifies that the sources necessary to supply DC power to all equipment required to be OPERABLE in the current plant condition must be OPERABLE. This added restriction conservatively assures the needed sources of power are OPERABLE, even if this results in both of the 250 VDC and both of the 125 VDC sources being required. CTS 3.9.D Action has been subsequently modified to be "one or more required" instead of the current "any of the above," to account for this potential addition. 3

Since the ITS DC source OPERABILITY requirements require supplying power to all necessary loads, if one or more required DC loads are not being supplied the required DC power, the DC source is inoperable. In this event it may not be necessary to suspend all CORE ALTERATIONS, irradiated fuel handling, and OPDRVs as required by CTS 3.9.D Action. Conservative actions can be assured if all required equipment without the necessary DC power is declared inoperable and the associated ACTIONS of the individual equipment taken (ITS 3.8.5 Required Action A.1). Therefore, along with the conservative additional requirements placed on the DC systems, Required Action A.1, which requires the associated supported equipment to be declared inoperable, is also added. These additions represent restrictions consistent with implicit assumptions for operation in shutdown conditions (required equipment receiving the necessary required power); restrictions which are not currently imposed via the Technical Specifications.

ADMINISTRATIVE (continued)

A.5 CTS 3.9.C Action 4 allows the Category A parameters(s) to be not within limits and the battery to be considered OPERABLE, provided the associated battery charger is OPERABLE. The specific requirement for the battery charger has been deleted. Whenever any required DC battery charger is inoperable, entry into the associated actions for the DC sources is required (CTS 3.9.C Action 1 and 2 and ITS 3.8.4 ACTIONS). Therefore, the explicit requirement is not necessary in the ITS. Since no technical changes are being made, this change is considered administrative.

A.6 A specific Condition has been added in ITS 3.8.6 ACTION B to explicitly require the battery to be declared inoperable when the temperature is not within limit or when Category A or B limits have not been restored within the applicable time. Currently, the battery temperature is a Surveillance in the DC Sources — Operating Specification (CTS 4.9.C.2.c), thus failure of the Surveillance would result in an inoperable battery. Since this Surveillance has been moved to this new Specification (ITS 3.8.6), an ACTION has been provided to require the battery to be declared inoperable (ITS 3.8.6 ACTION B, second Condition). The current battery parameter limit actions (CTS 3.9.C Actions 4, 5, and 6) do not specifically state to declare the battery inoperable at the end of the allowed restoration time. However, since this is obviously the intent, an ACTION has also been provided (ITS 3.8.6 ACTION B, first Condition). Since this change only provides more explicit direction of the CTS requirements, this change is considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 A new requirement has been added to CTS 3.9.C Actions 4 and 5 for when a Category A or B limit is not met. ITS 3.8.6 Required Action A.1 requires a check within 1 hour that the pilot cell electrolyte level and float voltage are within the Category C limits (CTS Table 4.9.C-1 Category B allowable values). This action ensures that if the pilot cell is exceeding Category C limits, the battery will be declared inoperable immediately. As such, this change is an additional restriction on plant operation.

M.2 The CTS Table 4.9.C-1 footnote (c) allowance to correct the Category B float voltage limit for average electrolyte temperature has been deleted based on IEEE-450, 1987 recommendations. This change is an additional restriction on plant operation.

3.9 - LIMITING CONDITIONS FOR OPERATION

E. Distribution - Operating

A.2

LCO 3.8.7 a. and b.

The following power distribution systems shall be ~~energized~~: Division 1 and Division 2 OPERABLE

1. ~~A.C. power distribution, consisting of:~~

   ~~a. Both Unit engineered safety features 4160 volt buses:~~

      ~~1) For Unit 1, Nos. 13-1 and 14-1,~~

      ~~2) For Unit 2, Nos. 23-1 and 24-1.~~

   ~~b. Both Unit engineered safety features 480 volt buses:~~

      ~~1) For Unit 1, Nos. 18 and 19,~~

      ~~2) For Unit 2, Nos. 28 and 29, and~~

   ~~c. The Unit 120 volt Essential Service Bus and Instrument Bus~~

2. 250 volt D.C. power distribution, ~~consisting of:~~

   ~~a. 1) For Unit 1, TB MCC No. 1,~~

      ~~2) For Unit 2, TB MCC No. 2.~~

   ~~b. 1) For Unit 1, RB MCC Nos. 1A and 1B,~~

      ~~2) For Unit 2, RB MCC Nos. 2A and 2B.~~

3. ~~For Unit 1, 125 volt D.C. power distribution, consisting of:~~

   ~~a. TB Main Bus Nos. 1A, 1A-1 and 2A,~~

   ~~b. TB Reserve Bus Nos. 1B and 1B-1, and~~

   ~~c. RB Distribution Panel No. 1.~~

LA.1

M.3

; and

The portions of the opposite unit's AC and DC electrical power distribution subsystems necessary to support equipment required to be OPERABLE by LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," LCO 3.7.4, "Control Room Emergency Ventilation (CREV) System" (Unit 2 only), LCO 3.7.5, "Control Room Emergency Ventilation Air Conditioning (AC) System" (Unit 2 only), and LCO 3.8.1, "AC Sources - Operating."

LA.1

4.9 - SURVEILLANCE REQUIREMENTS

E. Distribution - Operating

SR 3.8.7.1

Each of the required power distribution system divisions shall be determined energized at least once per 7 days by verifying correct breaker alignment and voltage on the busses/MCCs/panels.

B

3.9 - LIMITING CONDITIONS FOR OPERATION

4.9 - SURVEILLANCE REQUIREMENTS

~~4. For Unit 2, 125 volt D.C. power distribution, consisting of:~~

~~a. TB Main Bus Nos. 1A, 2A and 2A-1,~~

~~b. TB Reserve Bus Nos. 2B and 2B-1, and~~

~~c. RB Distribution Panel No. 2.~~

LA.1

APPLICABILITY:

OPERATIONAL MODE(s) 1, 2, and 3.

ACTIONS:

ACTIONS A, B, and C

1. With one or more of the above required A.C. distribution systems ~~not energized~~ inoperable, re-energize the system within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

ACTION F

add proposed Required Actions A.1, B.1, and C.1 second Completion Times

L.1

M.1

LA.1

ACTION D

2. With one or more of the above required D.C. distribution systems ~~not energized~~ inoperable, re-energize the system within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

ACTION F

add proposed Required Action D.1 second Completion Time

L.1

M.1

B

Add proposed Action E

M.3

Add proposed Action G

M.2

DISCUSSION OF CHANGES
ITS: 3.8.7 - DISTRIBUTION SYSTEMS — OPERATING

ADMINISTRATIVE

A.1 In the conversion of the Quad Cities 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the BWR Standard Technical Specifications, NUREG-1433, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

A.2 CTS LCO 3.9.E currently identifies the electrical buses and distribution panels which comprise the AC and DC power distribution systems. The details relating to the electrical power distribution system design and OPERABILITY are proposed to be relocated to the Bases (see LA.1 discussion below). As a result, ITS LCO 3.8.7 does not include a detailed listing of the electrical power distribution system components required for OPERABILITY in terms of Division 1 and Division 2 electrical power distribution subsystems. Although not previously indicated in CTS LCO 3.9.E, Quad Cities 1 and 2 currently include the Division 1 and Division 2 subsystem designations for the applicable electrical power distribution system buses, motor control centers, and distribution panels. The subsystems and associated components are consistent with those proposed for ITS LCO 3.8.7. Therefore, the existing OPERABILITY requirements are not altered. Furthermore, since a listing of the applicable power distribution system components is retained in the Bases, the use of the Division 1 and Division 2 subsystem designations in ITS LCO 3.8.7 in lieu of listing the applicable components is a presentational preference change only. As such, the change is considered administrative.

B

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 The Completion Times of ITS 3.8.7 ACTIONS A, B, C, and D have a limitation in addition to the 8 hour or 2 hour limit of CTS 3.9.E Actions 1 and 2. This additional limit establishes a maximum time allowed for any combination of distribution subsystems listed in ITS LCO 3.8.7.a and b to be inoperable during any single contiguous occurrence of failing to meet the LCO. If a Division 1 AC distribution subsystem is inoperable while, for instance, a Division 1 125 V DC bus is inoperable and subsequently returned OPERABLE, the LCO may already have been not met for up to 8 hours. This situation could lead to a total duration of 10 hours since initial failure of the LCO to restore the Division 1 125 V DC distribution system. Then, a Division 1 AC subsystem could again become

3.9 - LIMITING CONDITIONS FOR OPERATION

F. Distribution - Shutdown

LCO 3.8.8 The following power distribution systems shall be ~~energized~~ OPERABLE with: to support equipment required to be OPERABLE M.1

1. A.C. power distribution~~, consisting of:~~

~~a. One Unit engineered safety features 4160 volt bus:~~

~~1) For Unit 1, No. 13-1 or 14-1,~~

~~2) For Unit 2, No. 23-1 or 24-1,~~

~~b. One associated Unit engineered safety features 480 volt bus:~~

~~1) For Unit 1, No. 18 or 19,~~

~~2) For Unit 2, No. 28 or 29.~~

LA.1

2. ~~For Unit 1,~~ 125 volt D.C. power distribution~~, consisting of either:~~

~~a. TB Main Bus No. 1A and 1A-1, and RB Distribution Panel No. 1, or~~

~~b. TB Main Bus No. 2A, and TB Reserve Bus Nos. 1B and 1B-1.~~

~~3. For Unit 2, 125 volt D.C. power distribution consisting of either:~~

~~a. TB Main Bus Nos. 2A and 2A-1, and RB Distribution Panel No. 2, or~~

~~b. TB Main Bus No. 1A, and TB Reserve Bus Nos. 2B and 2B-1.~~

M.1

; and the opposite unit's electrical power distribution subsystems to support equipment required to be OPERABLE

APPLICABILITY:

OPERATIONAL MODE(s) 4, 5, and when handling irradiated fuel in the secondary containment.

4.9 - SURVEILLANCE REQUIREMENTS

F. Distribution - Shutdown

SR 3.8.8.1 Each of the required power distribution system divisions shall be determined energized at least once per 7 days by verifying correct breaker alignment and voltage on the busses/MCCs/panels. B

ACTIONS:

Add proposed ACTIONS Note M.2

ACTION A

With ~~less than the above~~ required A.C. or D.C. distribution systems ~~energized~~, suspend CORE ALTERATIONS, suspend handling of irradiated fuel in the secondary containment, and suspend operations with a potential for draining the reactor vessel.

One or more M.1

inoperable LA.1

Add proposed Required Action A.1

B

Add proposed Required Actions A.2.4 and A.2.5 M.3

1

BASES

SURVEILLANCE REQUIREMENTS

~~SR 3.8.3.1 (continued)~~

~~provided and unit operators would be aware of any large uses of fuel oil during this period.~~ 1

~~SR 3.8.3.2~~

~~This Surveillance ensures that sufficient lubricating oil inventory is available to support at least 7 days of full load operation for each DG. The [500] gal requirement is based on the DG manufacturer's consumption values for the run time of the DG. Implicit in this SR is the requirement to verify the capability to transfer the lube oil from its storage location to the DG, when the DG lube oil sump does not hold adequate inventory for 7 days of full load operation without the level reaching the manufacturer's recommended minimum level.~~ 1

~~A 31 day Frequency is adequate to ensure that a sufficient lube oil supply is onsite, since DG starts and run time are closely monitored by the plant staff.~~

SR 3.8.3.3 1 1

of new fuel oil prior to addition to the storage tanks 6

The tests ~~listed below~~ are a means of determining whether new fuel oil is of the appropriate grade and has not been contaminated with substances that would have an immediate detrimental impact on diesel engine combustion. If results from these tests are within acceptable limits, the fuel oil may be added to the storage tanks without concern for contaminating the entire volume of fuel oil in the storage tanks. These tests are to be conducted prior to adding the new fuel to the storage tank(s)~~, but in no case is the time between receipt of new fuel and conducting the tests to exceed 31 days~~. The tests, limits, and applicable ASTM Standards are as follows: 5 11

95

a. Sample the new fuel oil in accordance with ASTM D4057-~~[ ]~~ (Ref. 6); 5

≥0.80 and ≤0.85 for ASTM Number 1 fuel oil 2

b. Verify ~~in accordance with the tests specified in ASTM D975-[ ] (Ref. 6)~~ that the new fuel oil sample has ; (1) an absolute specific gravity at 60/60°F of ≥ 0.83 and ≤ 0.89 or an API gravity at 60°F of ≥ 27 and ≤ 39 ; (2) a kinematic 6 2

for ASTM Number 2 fuel oil)

2

≥35 and ≤45 for ASTM Number 1 fuel oil

4 6 (continued)

2

for ASTM Number 2 fuel oil) when tested in accordance with ASTM D1298-99 (Ref. 5) or a water and sediment content within limits when tested in accordance with ASTM D2709-96e Ref. 5. The clear and bright appearance with proper color test is only applicable to fuels that meet the ASTM color requirements (i.e., ASTM color 5 or less).

SURVEILLANCE REQUIREMENTS

SR 3.8.3.~~3~~ 1 (continued)

viscosity at 40°C of ≥ 1.3 centistokes for ASTM Number 1 fuel oil ≥ 1.9 centistokes and ≤ 4.1 centistokes for ASTM Number 2 fuel oil; ≤ 2.4 centistokes for ASTM Number 1 fuel oil when tested in accordance with ASTM D445-97 (Ref. 5), and a flash point of ≥ 100°F for ASTM Number 1 fuel oil; ≥ 125°F; when tested in accordance with ASTM D93-99c (Ref. 5) and

c. Verify that the new fuel oil has a clear and bright appearance ~~with proper color~~ when tested in accordance with ASTM D4176-~~[ ]~~ 93 (Ref. ~~6~~ 5).

Failure to meet any of the above limits is cause for rejecting the new fuel oil, but does not represent a failure to meet the LCO concern since the fuel oil is not added to the storage tanks.

~~Within [31] days following the initial new fuel oil sample,~~ within 31 days following addition of the new fuel oil to the fuel oil storage tank(s) the fuel oil is analyzed to establish that the other properties specified in Table 1 of ASTM D975-[ ] 98b (Ref. ~~6~~ 5) are met for new fuel oil when tested in accordance with ASTM D975-[ ] 98b (Ref. ~~6~~ 5), except that the analysis for sulfur may be performed in accordance with ASTM D1552-~~[ ]~~ 95 (Ref. ~~6~~ 5) ~~or~~, ASTM D2622-~~[ ]~~ 98 (Ref. ~~6~~ 5), or ASTM D4294-98 (Ref. 5). The ~~[~~31~~]~~ day period is acceptable because the fuel oil properties of interest, even if they were not within stated limits, would not have an immediate effect on DG operation. This Surveillance ensures the availability of high quality fuel oil for the DGs.

Fuel oil degradation during long term storage shows up as an increase in particulate, mostly due to oxidation. The presence of particulate does not mean that the fuel oil will not burn properly in a diesel engine. The particulate can cause fouling of filters and fuel oil injection equipment, however, which can cause engine failure.

Particulate concentrations should be determined in accordance with ASTM ~~D2276-[ ]~~ D5452-98 (Ref. ~~6~~ 5)~~, Method A~~. This method involves a gravimetric determination of total particulate concentration in the fuel oil and has a limit of 10 mg/l. It is acceptable to obtain a field sample for subsequent laboratory testing in lieu of field testing. ~~[For those designs in which the total volume of stored fuel oil is contained in two or more interconnected tanks, each tank must be considered and tested separately.]~~

The Frequency of this test takes into consideration fuel oil degradation trends that indicate that particulate

(continued)

BASES

TSTF-2

SURVEILLANCE REQUIREMENTS (continued)

~~SR 3.8.3.6~~

~~Draining of the fuel oil stored in the supply tanks, removal of accumulated sediment, and tank cleaning are required at 10 year intervals by Regulatory Guide 1.137 (Ref. 2), paragraph 2.f. This SR is typically performed in conjunction with ASME Boiler and Pressure Vessel Code, Section XI (Ref. 7), examinations of the tanks. To preclude the introduction of surfactants in the fuel oil system, the cleaning should be accomplished using sodium hypochlorite solutions or their equivalent, rather than soap or detergents. This SR is for preventive maintenance. The presence of sediment does not necessarily represent a failure of this SR, provided that accumulated sediment is removed during performance of the Surveillance.~~

REFERENCES

~~1. FSAR, Section [9.5.2].~~

2

1 ~~2~~. Regulatory Guide 1.137, Rev. 1, October 1979.

2 ~~3~~. ANSI N195, 1976.

U

3 ~~4~~. FSAR, Chapter ~~[~~6~~]~~.

4 ~~5~~. FSAR, Chapter ~~[~~15~~]~~.

3

2

5 ~~6~~. ASTM Standards: 95 D4057-~~[~~95 ~~]~~; ~~D975-[ ]~~; D1298-99; D445-97; D93-99c; D2709-96e; D4176-93 ~~[ ]~~; D975-98b; D1552-~~[~~95 ~~]~~; D2622-~~[~~98 ~~]~~; D4294-98 and ~~D2276-[ ]~~ D5452-98.

3

~~7. ASME, Boiler and Pressure Vessel Code, Section XI.~~ TSTF-2

TECHNICAL CHANGES - LESS RESTRICTIVE

LA.2 (cont'd) Feature are not met. Therefore, removing these details from the Technical Specifications, while maintaining the detail in the UFSAR, will not impact safe operation of the facility, and is not required to be in the ITS to provide adequate protection of the public health and safety.

LA.3 The nominal active control rod assembly absorber length described in CTS 5.3.B is proposed to be relocated to the UFSAR, Section 4.6.2, where it is currently described (by reference). Any changes to this design parameter referenced in the UFSAR must conform to the requirements of 10 CFR 50.59.

Furthermore, sufficient detail relating to this feature exists in a CTS and ITS LCO (e.g., SHUTDOWN MARGIN) to ensure changes that may impact safety would require prior NRC review and approval. Since this feature with a potential to impact safety is sufficiently addressed by an LCO, the criteria of 10 CFR 50.36(c)(4) for including as a Design Feature are not met. Therefore, allowing the removal of this detail from Technical Specifications, while maintaining the information in the UFSAR, will not impact safe operation of the facility, and is not required to be in the ITS to provide adequate protection of the public health and safety.

"Specific"

None

RELOCATED SPECIFICATIONS

None

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

"Specific"

L.1 CTS 4.9.A.5.b requires verifying new fuel oil meets the ASTM standard for API gravity. Proposed ITS 5.5.9.a.1 allows new fuel oil to meet either API gravity or absolute specific gravity. This is acceptable since both methods are considered appropriate in determining the qualifications of the new fuel.

CTS 4.9.A.5.b requires verifying new fuel oil meets the ASTM standards for water and sediment and the visual test for free water and particulate concentration. Proposed ITS 5.5.9.a.3 allows the performance of a clear and bright appearance test with proper color or a water and sediment test. The allowance to perform a water and sediment test, in lieu of the clear and bright test, is necessary since Quad Cities receives dyed fuel and the performance of a visual test in accordance with ASTM D4176 (as specified in the CTS Bases) is not considered appropriate for dyed fuel not meeting the color requirements of ASTM D4176. However, the water and sediment test is considered an appropriate test when using dyed fuel since the actual water and sediment content is determined in accordance with ASTM D2709 as specified in the CTS and proposed ITS 3.8.3 Bases.

CTS 4.9.A.5.b requires sampling and verification that new fuel oil meets ASTM standards for "water and sediment" prior to addition to the fuel oil storage tanks. Proposed ITS 5.5.9.b relaxes these requirements for new fuel by allowing "water and sediment" analyses of the new fuel (for fuel oil that meets the color requirements of ASTM D4176) to be performed within 31 days after the addition of any new fuel oil to the storage tanks.

CTS 4.9.A.6.b requires sampling of stored fuel oil is required every 31 days to verify particulate contaminants < 10 mg/liter, and "water and sediment" and "kinematic viscosity" within ASTM limits. Proposed ITS 5.5.9.c relaxes the requirements for bulk stored fuel oil by not including the 31 day requirement to verify "water and sediment" and "kinematic viscosity" and providing a limit for particulate contaminants of $\leq$ 10 mg/liter in lieu of < 10 mg/liter.

These changes are acceptable because the purpose of the fuel oil analyses is to ensure proper fuel oil quality is maintained to support the operation of the emergency DGs. The proposed "new" fuel oil requirements in ITS 5.5.9.a (prior to addition to the storage tanks) ensure the fuel oil is of the appropriate grade (API gravity or absolute specific gravity, kinematic viscosity, flash point, and appearance or water and sediment content) and that it may be added to the