

LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Quad Cities Unit One										Docket Number (2) 0   5   0   0   0   2   5   4										Page (3) 1   of   0   5																											
Title (4) Weekly Position Verification of Reactor Building to Suppression Chamber Check Valve Vacuum Breakers Was Misinterpreted and Not Performed Since the Implementation of Upgraded Technical Specification (TS) Due to Inadequate Development of the Specification Prior to Implementation.																																															
Event Date (5)					LER Number (6)					Report Date (7)					Other Facilities Involved (8)																																
Month		Day		Year	Year	Sequential Number		Revision Number		Month		Day		Year	Facility Names		Docket Number(s)																														
0	9	1	8	1998	1998	0	2	1	0	0	1	0	1	5	1998	Quad Cities Unit Two	0	5	0	0	0	2	6	5																							
OPERATING MODE (9) 1					THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)																																										
POWER LEVEL (10)		1	0	0	20.402(b)		20.405(a)(1)(i)		20.405(a)(1)(ii)		20.405(a)(1)(iii)		20.405(a)(1)(iv)		20.405(a)(1)(v)		20.405(c)		50.36(c)(1)		50.36(c)(2)		50.7(a)(2)(i)		50.7(a)(2)(ii)		50.7(a)(2)(iii)		50.73(a)(2)(iv)		50.73(a)(2)(v)		50.73(a)(2)(vii)		50.73(a)(2)(viii)(A)		50.73(a)(viii)(B)		50.73(a)(2)(x)		73.71(b)		73.71(c)		Other (Specify in Abstract below and in Text)		
LICENSEE CONTACT FOR THIS LER (12)																																															
Name Charles Peterson, Regulatory Affairs Manager, ext. 3609															TELEPHONE NUMBER AREA CODE 3   0   9   6   5   4   -   2   2   4   1																																
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																																															
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX																																						
SUPPLEMENTAL REPORT EXPECTED (14)															Expected Submission Date (15)					Month	Day	Year																									
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)										<input checked="" type="checkbox"/> NO																																					

ABSTRACT (Limit to 1400 spaces, i.e. approximately fifteen single-space typewritten lines) (16)

**ABSTRACT:**

On 09231996 at approximately 0000, Unit 1 and Unit 2 were in Power Operation at approximately 100% power when Quad Cities Station implemented the upgraded TS's. A TS related to containment, 4.7.F .1, requires that "each reactor building - suppression chamber vacuum breaker be verified closed at least once per 7 days." The Bases for TS 3.7.F/4.7.F states, "The reactor building to suppression chamber vacuum breakers include both an air-operated valve and a self-actuating (check) valve in each line. However, position indication is only provided on the air operated valve." The Station incorrectly interpreted these statements collectively to mean that only the air operated (AO) valve in each line was to be verified closed weekly. As a result, the check valve positions were not verified weekly as required. The need to verify the check valves was questioned on 03171998 at Quad Cities Station, but the discrepancy was not recognized by Quad Cities Station, Dresden Station, or Corporate Licensing until the question was raised again at Dresden Station and the missed TS surveillance was confirmed on 09181998.

The cause of the event was inadequate development of the specification resulting in unclear wording of the TS and Bases. Corrective Actions were to implement procedure changes to verify the check valve vacuum breakers positions weekly and to conduct an independent review of the resolution of other questions on TS compliance. A review of previous events did not indicate that previous corrective actions would have prevented or mitigated this event.

The safety significance of this event is minimal. The AO vacuum breakers in each line are verified closed daily and the check valve vacuum breakers would remained closed as there would be no motive force to change their position, other than when cycled for a required TS surveillance.

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TEXT Energy Industry Identification System (EIS) codes are identified in the text as [XX]																		

**PLANT AND SYSTEM IDENTIFICATION:**

General Electric - Boiling Water Reactor - 2511 MWt rated core thermal power.

**EVENT IDENTIFICATION:** Weekly Position Verification of Reactor Building to Suppression Chamber Check Valve Vacuum Breakers Was Misinterpreted and Not Performed Since the Implementation of Upgraded Technical Specification (TS) Due to Inadequate Development of the Specification Prior to Implementation.

**A. CONDITIONS PRIOR TO EVENT:**

Unit:	1	Event Date:	09181998	Event Time:	1400
Reactor Mode:	1	Mode Name:	Power Operation	Power Level:	100%
Unit:	2	Event Date:	09181998	Event Time:	1400
Reactor Mode:	1	Mode Name:	Power Operation	Power Level:	100%

This report was initiated by Licensee Event Report 254/98-021

Power Operation (1) - Mode switch in the RUN position with average reactor coolant temperature at any temperature.

**B. DESCRIPTION OF EVENT:**

On 09231996 at approximately 0000, Unit 1 and Unit 2 were in Power Operation at approximately 100% power when Quad Cities Station implemented the upgraded TS's. A TS related to containment, 4.7.F.1, had been developed that requires that "each reactor building - suppression chamber vacuum breaker be verified closed at least once per 7 days." The Bases for TS 3.7.F/4.7.F states, "The reactor building to suppression chamber vacuum breakers include both an air-operated valve and a self-actuating (check) valve in each line. However, position indication is only provided on the air operated valve." The Station interpreted these statements collectively to mean that only the air operated (AO) valve in each line was to be verified closed weekly. Verifying the check valves would require going on top of the suppression chamber [NH] without a positive means to visually verify them closed. However, TS 3.7.F/4.7.F specifically identifies the AO vacuum breakers [VACB] as "air operated" when these valves are addressed. When TS 3.7.F/4.7F refers simply to "vacuum breakers" both the AO and check valves are addressed. Operations was aware that there were two vacuum breakers in each line as this was consistent with the previous TS requirement, the Updated Final Safety Analysis Report and Operations Primary Containment lesson plans.

During the implementation of the upgraded TS, the Station had identified that the weekly verifications of TS 4.7.F.1 would be satisfied through QCOS 0005-01, "Operations Department Weekly Summary Of Daily Surveillance." Daily checks of the Control Room indication for the AO vacuum breaker valves were implemented in conjunction with the upgraded TS.

On 03171998, a Shift Manager was performing a review of TS implementation in response to LER 265/98-001, "Technical Specification (TS) Surveillance for Source Range Monitors (SRM) Was Not Performed Within the Required Interval for Unit 1 and Unit 2 Due to Inadequate Identification of the TS Requirement in the

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Surveillance. The Shift Manager questioned if the weekly TS 4.7.F.1 verification only applied to the AO valves with Control Room position indication or if it also applied to the check valves. The Shift Manager believed the existing practice of only checking the AO valves weekly was appropriate but generated Problem Identification Form (PIF) Q1998-01368 to request clarification on whether the check valve positions needed to be checked weekly.

On 03181998, PIF Q1998-01368 was reviewed by the Station Event Screening Committee (ESC) and on 03261998, Engineering reported back to the ESC that the vacuum breakers needed to be inspected. The ESC assigned Operations to, "Ensure a process is put into place to ensure testing is completed..." Quad Cities Operations, Dresden Station Operations, and Corporate Licensing subsequently reviewed TS 4.7.F.1 and concurred that the existing practice was appropriate and that no changes were necessary.

On 09021998, an operator at Dresden Station questioned if TS 4.7.F.1 could be satisfied if the check valves were not verified closed. The question was documented in PIF D1998-04987 noting that Regulatory Assurance personnel also were concerned TS 4.7.F.1 was not properly implemented. On 09181998, Dresden Station, Corporate Licensing, and Quad Cities Station conferred and determined that TS 4.7.F.1 was not being met at either Station. Dresden PIF D1998-05229 and Quad Cities PIF Q1998-03921 were initiated to document the TS noncompliance. This event was declared reportable at 1400 on 09181998.

**C. CAUSE OF THE EVENT:**

The cause of the misinterpretation of TS 4.7.F.1 during and following the 09231996 implementation of the upgraded TS's was inadequate development of the specification resulting in unclear wording in the TS. The upgraded TS 4.7.F.1 was developed as a weekly position verification for vacuum breakers in conjunction with new wording in the TS 3.7.F/4.7.F Bases identifying that only the AO valves had position indication. The intent of this wording is unclear. The previous TS's were less ambiguous in identifying both valves in the line as vacuum breakers. This lack of clarity contributed to the ongoing misinterpretation of this TS. In addition, the Station's follow-up on the question raised in PIF Q1998-01368 on 03171998 was inadequate.

**D. SAFETY ANALYSIS:**

The safety significance of this event was minimal. The check valve vacuum breakers have remained closed, other than when cycled for a required TS surveillance. The AO vacuum breaker valves have been verified closed on a daily basis during the required modes from the 09231996 implementation of the upgraded TS. Without movement of the AO vacuum breakers, other than through quarterly cycling, there would be no motive force to change the position of the check valve vacuum breakers. The check valve vacuum breakers are returned to the closed position at the end of their quarterly cycling and have not been found open during the conduct of these quarterly tests.

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**E. CORRECTIVE ACTIONS:**

**Corrective Actions Completed:**

On 09181998, Operations performed QCOS 1600-10, "Quarterly Torus Vacuum Breaker Manual Operability Test", on Unit 1 and Unit 2, which verified the check valve vacuum breakers were closed on both Units.

On 09221998, the ESC began issuing NTS action items that would require reportability concerns to be returned to the ESC, so that the closure could be reviewed for adequacy. This action was taken based on recommendations of a 08141998 self-assessment on reportability determination.

On 09241998, a new procedure was implemented for TS 4.7.F.1, QCOS 1600-41, "Weekly Torus to Reactor Building Vacuum Breaker Position Verification."

**Corrective Actions to be Completed:**

Operations will ensure an independent review is conducted of any other questions raised and resolved in response to LER 265/98-001 by 12151998. (Operations, NTS#25418098SCAQ0002101)

**F. PREVIOUS OCCURRENCES:**

A search to identify other events in the last 2 years involving the Station interpretation of a TS requirement associated with a TS surveillance non compliance identified the following:

LER 254/97-025, Units 1 And 2 Average Power Range Monitors (APRM) Flow Bias Were Not Calibrated To A Flow Signal Within The Required Interval Due To Inadequate Change Management When Implementing Upgraded TS. In Addition, This Calibration Was Not Performed Prior To Entering Power Operation Mode for Units 1 and 2 Due To Misinterpretation Of TS.

LER 265/97-002 Revision 1, Unit 2 was shutdown, per the requirements of Technical Specifications 3.5.A and 3.6.F, because four Main Steam Relief Valve closure times did not meet Inservice Testing Program limits. The timing methodology had changed; however, the acceptance criteria had not been re-evaluated. In addition, the Unit 2 shutdown was required because of a loss of primary containment integrity due to misinterpretation of Technical Specifications resulting in an inadequate procedure.

LER 265/98-002, Hydrogen Samples Were Not Collected in Accordance with Technical Specification (TS) Surveillance Requirements Due to a Misinterpretation of the TS Requirement.

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These previous events identified that a new interpretation arose from discussion of a TS requirement from personnel at another ComEd facility. The review of these previous events identified that the Station reached a conservative consensus with other Stations on these issues and so changed their interpretation. The corrective actions associated with both 1997 LER's were focused on correcting the technical inaccuracies arising from the new interpretations. LER 265/98-002 corrective actions initiated a TS review from an off site TS cognizant individual. This TS review was not completed until after the reportable issue of LER 254/98-021 had already been established based on the questions raised at Dresden Station. The TS review initiated by LER 265/98-002 may not have identified the TS 4.7.F.1 discrepancy as the specific issue had been reviewed on multiple occasions without identifying the inadequate interpretation.

**G. COMPONENT FAILURE DATA:**

Not applicable.