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Robert J. Murillo
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Waterford 3

W3F1-2008-0031

May 1, 2008

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Subject: Licensee Event Report 08-001-00
Waterford Steam Electric Station, Unit 3 (Waterford 3)
Docket No. 50-382
License No. NPF-38

Dear Sir or Madam:

Attached is Licensee Event Report (LER) 08-001-00 for Waterford Steam Electric Station Unit 3. This report provides details of a condition involving a mispositioned valve (CHW-0786B) in the Essential Chilled Water System, which resulted in a violation of Technical Specification 3.7.12. The condition is being reported pursuant to 10 CFR 50.73(a)(2)(i)(B).

This report contains no new commitments. Please contact Robert J. Murillo at (504) 739-6715 if you have questions regarding this information.

Sincerely,

A handwritten signature in black ink, appearing to read "RJM", followed by a horizontal line.

RJM/OPP

Attachment: Licensee Event Report 08-001-00

TE22

NRR

(w/Attachment)
cc: Mr. Elmo E. Collins, Jr.
Regional Administrator
U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064

NRC Senior Resident Inspector
Waterford Steam Electric Station Unit 3
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Killona, LA 70066-0751

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1111 Pennsylvania Avenue, NW
Washington, DC 20004

Attachment

W3F1-2008-0031

Licensee Event Report 08-001-00

NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION (9-2007)				APPROVED BY OMB NO. 3150-0104 Estimated burden per response to comply with this mandatory information collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov , and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.				EXPIRES 8/31/2010																																						
LICENSEE EVENT REPORT (LER)																																														
(See reverse for required number of digits/characters for each block)																																														
1. FACILITY NAME Waterford 3 Steam Electric Station					2. DOCKET NUMBER 05000382			3. PAGE 1 OF 4																																						
4. TITLE Mispositioned Essential Chiller AB Return Header B Isolation Valve																																														
5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED																																					
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9. OPERATING MODE <div style="text-align: center; font-size: 2em;">1</div>			11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) <table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> 20.2201(b)</td> <td><input type="checkbox"/> 20.2203(a)(3)(i)</td> <td><input type="checkbox"/> 50.73(a)(2)(i)(C)</td> <td><input type="checkbox"/> 50.73(a)(2)(vii)</td> </tr> <tr> <td><input type="checkbox"/> 20.2201(d)</td> <td><input type="checkbox"/> 20.2203(a)(3)(ii)</td> <td><input type="checkbox"/> 50.73(a)(2)(ii)(A)</td> <td><input type="checkbox"/> 50.73(a)(2)(viii)(A)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(1)</td> <td><input type="checkbox"/> 20.2203(a)(4)</td> <td><input type="checkbox"/> 50.73(a)(2)(ii)(B)</td> <td><input type="checkbox"/> 50.73(a)(2)(viii)(B)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(i)</td> <td><input type="checkbox"/> 50.36(c)(1)(i)(A)</td> <td><input type="checkbox"/> 50.73(a)(2)(iii)</td> <td><input type="checkbox"/> 50.73(a)(2)(ix)(A)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(ii)</td> <td><input type="checkbox"/> 50.36(c)(1)(ii)(A)</td> <td><input type="checkbox"/> 50.73(a)(2)(iv)(A)</td> <td><input type="checkbox"/> 50.73(a)(2)(x)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(iii)</td> <td><input type="checkbox"/> 50.36(c)(2)</td> <td><input type="checkbox"/> 50.73(a)(2)(v)(A)</td> <td><input type="checkbox"/> 73.71(a)(4)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(iv)</td> <td><input type="checkbox"/> 50.46(a)(3)(ii)</td> <td><input type="checkbox"/> 50.73(a)(2)(v)(B)</td> <td><input type="checkbox"/> 73.71(a)(5)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(v)</td> <td><input type="checkbox"/> 50.73(a)(2)(i)(A)</td> <td><input type="checkbox"/> 50.73(a)(2)(v)(C)</td> <td><input type="checkbox"/> OTHER</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(vi)</td> <td><input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)</td> <td><input type="checkbox"/> 50.73(a)(2)(v)(D)</td> <td>Specify in Abstract below or in NRC Form 366A</td> </tr> </table>								<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A
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FACILITY NAME Waterford 3 Steam Electric Station						TELEPHONE NUMBER (Include Area Code) Robert J. Murillo (504) 739-6715																																								
13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT																																														
CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX																																					
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)																																														
<p>On March 2, 2008, at approximately 1700, with the plant operating at approximately 100% power (Mode 1), Essential Chiller 'AB' Return Header 'B' Isolation Valve (CHW-786B) was discovered in the locked open position while its required position is locked closed. Trains 'A' and 'B' of Chilled Water were declared inoperable, and Technical Specification 3.7.12 and 3.0.3 were entered. The valve was immediately closed and locked. The valve had been inadvertently left open as a result of failure to follow a quarterly inservice inspection test procedure. With CHW-786B open, Trains 'A' and 'B' of the Essential Chilled Water System were cross-connected. With CHW-786B in the open position, train independence was not met. Both trains 'A' and 'B' of Essential Chilled Water were operable and capable of performing their safety functions during the time that the valve was left open. However, the loss of train independence violated Technical Specification 3.7.12. The valve was closed approximately 17 minutes after entering Technical Specification 3.0.3, and Technical Specification 3.0.3 was exited. The condition did not involve an actual loss of Chilled Water since both trains of Chilled Water were operable during the affected period. The condition is not a Safety System Functional Failure. The condition did not compromise the health and safety of the general public.</p>																																														

(9-2007)

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NARRATIVE**REPORTABLE OCCURRENCE**

On March 2, 2008, a valve (CHW-786B) between Essential Chilled Water [KM] Trains 'A' and 'B' was found locked open when it should have been locked closed. With this valve in the open position, Trains 'A' and 'B' were cross-connected, and train independence was not met. Technical Specification 3.7.12 requires that two independent essential services chilled water loops be OPERABLE in Modes 1 through 4. The chilled water trains were operable, that is, the chilled water trains were performing and capable of performing their safety function; however, independence did not exist. Investigation of the condition determined that the valve had been open for approximately five days. This condition constituted a violation of Technical Specification 3.7.12, and is reportable within 60 days pursuant to 10CFR 50.73(a)(2)(i)(B).

INITIAL CONDITIONS

At the time of discovery of the open Essential Chiller 'AB' Return Header 'B' isolation valve [KM] [ISV], the plant was operating in Mode 1 at approximately 100% reactor power. There were no other structures or components inoperable at the time of discovery that contributed to the condition. Both Trains 'A' and 'B' Essential Chilled Water Pumps were operating.

EVENT DESCRIPTION

On February 27, 2008, Surveillance Procedure OP-903-118, Primary Auxiliaries Quarterly IST Valve Tests was performed. Section 7.3.5 (Attachment V) of the procedure is an 18 month remote position indication surveillance that strokes the 'B' Train Essential Chiller 'AB' CHW isolation valves [KM] [ISV]. The procedure isolates Chilled Water from Essential Chiller 'AB', strokes CHW-786B, Essential Chiller 'AB' Header 'B' Return Isolation, and CHW-132B, Essential Chiller 'AB' Header 'B' Supply Isolation, for remote position verification, and the procedure then realigns Essential Chiller 'AB' Chilled Water to the proper standby condition.

On March 2, 2008 at 0503, annunciator C0203 (Chiller B Expansion Tank Level HI/LO) was received, and a condition report (CR-WF3-2008-776) was initiated to investigate the cause. The next shift crew continued investigation into the abnormal rising trend on Essential Chilled Water Expansion Tank 'B'. After investigation, it was discovered that CHW-786B was locked open, setting up a leakage path through CHW-132A and the CHW 'A' Train supply header to the 'B' Train CHW return header and Expansion Tank. At 1700, five days after valve CHW-786B was inadvertently left open during the surveillance procedure (OP-903-118), the Operations crew entered the applicable Technical Specifications, including Technical Specification 3.0.3, after declaring both Essential Chilled Water Trains inoperable. CHW-786B was closed within 17 minutes of entering 3.0.3, and the Technical Specifications, including Technical Specification 3.0.3, were exited.

During investigation of the condition, the surveillance performer incorrectly read the procedure step and locked CHW-786B in the open position rather than the closed position. The peer checker failed to verify the surveillance performer correctly met the procedural step. The independent verifier did not correctly verify CHW-786B was in the locked closed position. The independent verifier confirmed the lock was engaged on CHW-786B; however, he did not check local position indication as required by Procedure OP-100-009, Control of Valves and Breakers.

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NARRATIVE

CAUSAL FACTORS

Results of investigations of the condition indicate that the root cause of the condition was documents not being followed correctly. The performer and peer checker failed to comply with Operating Procedure (OP-903-118 step 7.3.5.8) to ensure that valve CHW-786B, Essential Chiller 'AB' Return Header 'B' Isolation, was left in the locked closed position. The independent verifier did not check local valve indication in accordance with Administrative Procedure (OP-100-009, step 5.6.3). The procedures were evaluated as being adequate. Human performance errors resulted in the procedures not being followed as written.

CORRECTIVE ACTIONS

Corrective actions taken include:

- Performed a Root Cause Evaluation.
- Performed a human performance error review (level 1) with the involved individuals.
- Established a form tailored to valve manipulation and verification to provide clear standards in the field to Operators observing valve manipulations.
- Prepared labels and installed them on applicable valves to indicate appropriate open and closed valve position indication as appropriate.

SAFETY SIGNIFICANCE

The alignment, with valve CHW-132A open and CHW-786B open, allowed communication between the 'A' and 'B' Trains of the Essential Chilled Water System. While in this configuration (approximately 102 hours), the two trains were not independent. An unlikely passive failure in the form of a Chilled Water Train 'A' piping break could have precluded both trains from performing their safety function had the passive failure occurred while CHW-786B was open. During the time CHW-786B was open, both Chilled Water Trains 'A' and 'B' were operable and capable of performing their safety functions of providing 42 degree F Chilled Water to room coolers in order to cool spaces containing equipment for safety related operations during normal and accident conditions.

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NARRATIVE

No actual failure of system piping occurred during the period that valve CHW-786B was open. Also, there was no potential for pump runout with the one cross-tie valve (CHW-786B) left open since runout would have required a second appropriately located cross tie valve being left open to provide a flow path. Various combinations of running CHW pumps were considered, and with the cross-connected flow path, there were no cases identified where the loss of one CHW pump could have caused the loss of the remaining CHW pump (such as during a loss of offsite power in conjunction with loss of one Emergency Diesel Generator).

The Conditional Core Damage Probability (CCDP) for the subject condition was determined to be minimal ($3.84E-9$), Green, assuming failure of both trains of the Chilled Water System. Therefore, the risk significance of this condition was minimal.

Although Technical Specification 3.0.3 was initially entered, there was no actual safety significance for the entry into Technical Specification 3.0.3 since subsequent assessment determined that both trains of Chilled Water remained operable and capable of performing their safety function. The entry into Technical Specification 3.0.3 reflected conservative operational decision making. The entry into Technical Specification 3.0.3 was required for conformance with Technical Specification rules since Technical Specification 3.7.12 has no ACTION statement for loss of independence. Train independence was not met with CHW-786B open. A postulated break in the 'A' Train could have caused a loss of train independence. A postulated break in the 'B' Train would not have caused a loss of independence since a check valve prevents significant flow from Train 'A' to Train 'B'.

The condition did not involve a safety system functional failure since both trains of Essential Chilled Water were operable and capable of performing their safety function.

SIMILAR EVENTS

A record search was performed for other similar reported events at Waterford 3. No similar events were identified and reported over the last 3 year period.

ADDITIONAL INFORMATION

Energy industry identification system (EIS) codes are identified in the text within brackets [].