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10CFR50.73 (a)(2)(i)(B)

W3F1-2005-0054

September 5, 2005

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D.C. 20555

Subject: Licensee Event Report 2005-003-00  
Waterford 3 SES  
Docket No. 50-382  
License No. NPF-38

Gentlemen:

Attached is Licensee Event Report (LER) 2005-003-00 for Waterford Steam Electric Station Unit 3. This report documents a reportable condition due to the Technical Specification minimum volume requirements for DG Fuel Oil Storage Tank B not being met for 19 days because of bent transmitter tubing which caused a false high level reading. This condition is being reported pursuant to 10CFR50.73 (a)(2)(i)(B) as a condition prohibited by the Technical Specification.

There are no commitments contained in this submittal. If you have any questions, please contact Charles DeDeaux at (504) 739-6531.

Very truly yours,

A handwritten signature in black ink, appearing to read "CHEN" followed by a flourish and the word "for" written in a smaller, cursive script.

Robert J. Murillo  
Licensing Manager, Acting

RJM/CED/cbh

Attachment

JE22

cc: Mr. Bruce S. Mallett  
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## LICENSEE EVENT REPORT (LER)

(See reverse for required number of  
digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to infocollects@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 an 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.

1. FACILITY NAME Waterford Steam Electric Station, Unit No. 3	2. DOCKET NUMBER 05000-382	3. PAGE 1 OF 5
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4. TITLE TS Minimum Volume Requirement in DG Fuel Oil Storage Tank B Not Met Due to Bent Transmitter Tubing
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5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
07	5	2005	2005	- 003 -	000	9	5	2005	N/A	05000
									N/A	05000

9. OPERATING MODE  1	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check all that apply)									
	<input type="checkbox"/> 20.2201(b) <input type="checkbox"/> 20.2201(d) <input type="checkbox"/> 20.2203(a)(1) <input type="checkbox"/> 20.2203(a)(2)(i) <input type="checkbox"/> 20.2203(a)(2)(ii) <input type="checkbox"/> 20.2203(a)(2)(iii) <input type="checkbox"/> 20.2203(a)(2)(iv) <input type="checkbox"/> 20.2203(a)(2)(v) <input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 20.2203(a)(3)(i) <input type="checkbox"/> 20.2203(a)(3)(ii) <input type="checkbox"/> 20.2203(a)(4) <input type="checkbox"/> 50.36(c)(1)(i)(A) <input type="checkbox"/> 50.36(c)(1)(ii)(A) <input type="checkbox"/> 50.36(c)(2) <input type="checkbox"/> 50.46(a)(3)(ii) <input type="checkbox"/> 50.73(a)(2)(i)(A) <input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(i)(C) <input type="checkbox"/> 50.73(a)(2)(ii)(A) <input type="checkbox"/> 50.73(a)(2)(ii)(B) <input type="checkbox"/> 50.73(a)(2)(iii) <input type="checkbox"/> 50.73(a)(2)(iv)(A) <input type="checkbox"/> 50.73(a)(2)(v)(A) <input type="checkbox"/> 50.73(a)(2)(v)(B) <input type="checkbox"/> 50.73(a)(2)(v)(C) <input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 50.73(a)(2)(vii) <input type="checkbox"/> 50.73(a)(2)(viii)(A) <input type="checkbox"/> 50.73(a)(2)(viii)(B) <input type="checkbox"/> 50.73(a)(2)(ix)(A) <input type="checkbox"/> 50.73(a)(2)(x) <input type="checkbox"/> 73.71(a)(4) <input type="checkbox"/> 73.71(a)(5) <input type="checkbox"/> OTHER Specify in Abstract below or in NRC Form 366A						
10. POWER LEVEL  100										

## 12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME Charles E. DeDeaux, Sr.	TELEPHONE NUMBER (Include Area Code) 504-739-6531
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## 13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

## 14. SUPPLEMENTAL REPORT EXPECTED

☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE) ☒ NO

## 15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On July 5, 2005, with Waterford 3 (W3) in Mode 1, it was determined that Waterford 3 operated in a condition prohibited by Technical Specifications (TS). TS 3.8.1.1.b.2 requires a minimum volume of 39,300 gallons (97.9%) in the Diesel Generator (DG) fuel oil storage tanks (FOSTs), or a fuel oil volume less than 39,300 gallons and greater than 37,000 gallons (92.3%) of fuel for a period not to exceed 5 days provided replacement fuel is onsite within 48 hours. Contrary to TS 3.8.1.1.b.2, W3 operated with DG FOST B at 96.8% level (≈38,800 gallons) from May 28, 2005, when W3 entered Mode 4 following Refuel 13 to June 16, 2005, when fuel was added to the DG FOST B. Therefore, W3 was not in compliance with TS Action b of TS 3.8.1.1 which requires restoration within 72 hours.

The cause of this event was inadequate venting of trapped air in the level transmitter process tubing due to the tubing being damaged (bent) during a previous DG B maintenance outage between February 28, 2005 and March 6, 2005. This condition did not compromise the health and safety of the public or plant personnel. Only one DG is required to safely shutdown the plant and the DG FOSTs can be cross-tied. Also, fuel oil is readily available in the near vicinity of Waterford 3. This condition is not considered a Safety System functional failure.

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17. NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

## REPORTABLE OCCURRENCE

On June 15, 2005 at 1359, EGFIL16994-1B (DIESEL OIL STOR TANK B LEVEL IND) was vented and the diesel oil storage tank level indication for DG FOST B dropped from 98.3% to 96.8%. It was determined this condition existed since May 14, 2005. Waterford 3 (W3) TS 3.8.1.1.b.2 requires each DG FOST [DC] to contain a minimum volume of 39,300 gallons (97.9%) or a fuel oil volume < 39,300 gallons and > 37,000 gallons (92.3%) of fuel for a period not to exceed 5 days provided replacement fuel oil is onsite within the first 48 hours. If this TS requirement cannot be complied with, the TS Action (Action b) with one EDG inoperable is entered. The Action requires the remaining AC circuits be demonstrated operable within 1 hour and every 8 hours thereafter, and the DG to be restored to Operable status within 72 hours (10 days if a temporary DG is verified available), or for the plant to be in Hot Standby within the next 6 hours and in Cold Shutdown within the following 30 hours. Contrary to these requirements, W3 continued to operate until fuel oil was added to DG FOST B on June 16, 2005.

Although Waterford 3 operated with the fuel oil level in DG FOST B below the TS limit from May 14, 2005 to June 16, 2005, violation of the TS occurred from May 28, 2005 to June 16, 2005. From May 14, 2005 to May 28, 2005 at 0505 Waterford 3 operated in Modes 5 and 6. TS 3.8.1.2.b.2 contains the TS limit for DG FOST volume in Modes 5 and 6. The volume requirements are the same as those when the plant is in Mode 1-4, except only one train is required. During this period, DG FOST A was operable and able to be cross connected to DG FOST B.

Therefore, Waterford 3 operated in a condition that was prohibited by the Technical Specifications from May 28, 2005 to June 16, 2005 and this condition is being reported in accordance with the 60-day written reporting requirements of 10CFR50.73(a)(2)(i)(B).

## INITIAL CONDITIONS

At the time of discovery of this condition, the plant was operating in Mode 1. There were no procedures being implemented specific to this condition. There were no Technical Specification Limiting Condition of Operation specific to this condition in effect. There was no equipment out of service specific to this condition.

## EVENT DESCRIPTION

On June 15, 2005 at 1359, PMI vented EGFIL16994-1B (DIESEL OIL STORAGE TNK LEVEL IND) and the DG FOST B level indication dropped from 98.3% to 96.8%. When it was discovered, the level in DG FOST B was below TS 3.8.1.1.b.2.a limit (requires a minimum volume of

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## EVENT DESCRIPTION (continued)

39,300 gallons/97.9%), but still in compliance with TS 3.8.1.1.b.2.b (allows DG FOST volume to be between 39,300 gallons/97.9% and 37,000 gallons/92.3% for up to 5-days provided fuel oil is onsite within 48 hours). New fuel was added to DG FOST B on 6/16/05 which was within the 48 hour TS requirement. Therefore, no TS entry was immediately entered.

A condition report was written on June 15, 2005 to document the condition of the level drop and a past operability determination was completed on June 30, 2005. The past operability determination identified that level in DG FOST B was at 96.8% from May 14, 2005 to June 16, 2005. At this level DG FOST B level was not maintained above the level required to meet the 7 day time dependent load requirement of TS and although level in the tank was above the 5 day full load limit defined by the TS, W3 failed to have fuel available onsite to refill the tank until June 16, 2005. However, based on entries in the TS daily logs and the station logs, it was determined that Waterford 3 was in noncompliance with the TS on May 28 2005 at 0505 when Mode 4 was entered following Refuel 13. From May 14, 2005 to May 28, 2005 before 0505, W3 was in Mode 5 or 6 and met the requirements of TS 3.8.1.2. TS 3.8.1.2 contains the same volume requirements in the DG FOSTs [DC], but only requires one DG to be operable. The DG FOSTs are cross connected with redundant valves, which allow the volume in both DG FOST to be available for the one required DG. Therefore, from May 14, 2005 to May 28, 2005 before 0505, W3 was in compliance with the TS.

The cause of the level drop following venting was due to trapped air in the process tubing. Air was trapped in the process tubing, because the tubing was bent during the DG B maintenance outage which was conducted from February 28, 2005 through March 6, 2005. The past operability evaluation determined the DG FOST B volume was within TS limits from March 6, 2005 to May 14, 2005.

## CAUSAL FACTORS

The DG FOST B level was reading erroneously high due to trapped air in the tubing for the level transmitter. The method for venting the DG FOST B level transmitter was not effective because of equipment damage that occurred during the DG B Maintenance Outage, which took place between February 28, 2005 and March 6, 2005. During this outage the DG FOST B was drained and cleaned, and a modification was performed to the fuel oil supply lines. These activities required an extensive amount of personnel and equipment to work in a cramped space in the immediate vicinity of the process tubing associated with the transmitter.

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**CAUSAL FACTORS (continued)**

The normal proceduralized venting process failed to remove all the air in the tubing, because the equipment damage resulted in two high points. The middle of the tubing (i.e. low portion) between the two high points contained fuel. When the tubing was vented, air from the closest high point escaped and when fuel from the lower portion of the tube began to escape the tube vent was closed assuming all the air had escaped and entrapping air from the opposite high point. Personnel did not recognize the effect the bent tubing had on the venting process.

**CORRECTIVE ACTIONS**

The following corrective actions were identified and have been addressed in the corrective action process.

- The process tubing to the transmitter was vented to ensure that all air is removed.
- The damaged tubing on transmitter will be restored to an acceptable configuration per plant drawings.
- The aspects and history associated with this condition were discussed with the maintenance technicians.
- The aspects of this condition were added to training to emphasize the importance of situational awareness when working around sensitive equipment.
- The requirements to vent the DG FOST level transmitters were specified in plant procedures to ensure it is understood in the rule based space.

**SAFETY SIGNIFICANCE**

The safety significance of the DG B FOST level being at 96.8% versus 97.9% is low for the following reasons.

- Only one operating DG is required to safely shutdown Waterford 3.
- DG B was still available; it was considered inoperable due to low fuel oil level in DG FOST B
- The DG FOSTs are cross-tied with redundant valves.
- The probability of not getting offsite power restored in 7 days is very low.
- The probability of not getting additional fuel oil onsite in 7 days is very low.
- Fuel Oil is readily available in the vicinity of Waterford 3.

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## SIMILAR EVENTS

There were no previous reportable events identified that involved tank levels not meeting TS requirements due to instrumentation problems.

## ADDITIONAL INFORMATION

Energy Industry Identification System (EIIIS) codes are identified in the text within brackets [ ].