



W3B5-91-0059
A4.05
QA

February 28, 1991

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

Subject: Waterford 3 SES
Docket No. 50-382
License No. NPF-2
Submittal of Licensee Event Report

Gentlemen:

Attached is Licensee Event Report Number LER-90-019-01 for Waterford Steam Electric Station Unit 3. This Licensee Event Report supplement is submitted to provide additional information resulting from investigation of the events described including the reporting of an entry into Technical Specification 3.0.3 on December 14, 1990. This Licensee Event Report is submitted pursuant to 10CFR50.73 (a)(2)(i).

Very truly yours,

J.R. McGaha
J.R. McGaha

General Manager - Plant Operations

JRM/KTW/rk
Attachment

cc: Messrs. R.D. Martin
G. Florreich
J.T. Wheelock - INPO Records Center
E.L. Blake
D.L. Wigginton
NRC Resident Inspectors Office

IF22

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 600 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-630) U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20549 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1): Waterford Steam Electric Station Unit 3 DOCKET NUMBER (2): 0 5 0 0 0 3 8 2 PAGE (3): 1 OF 1

TITLE (4): Both Trains of Control Room Air Conditioning Inoperable due to Breach in the Control Room Envelope

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	
12	12	90	90	019		01	02	28	91	N/A
										N/A

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)

OPERATING MODE (9): <u>1</u>	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 60.73(a)(2)(iv)	<input type="checkbox"/> 73.71(i)
POWER LEVEL (10): <u>100</u>	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 60.36(a)(1)	<input type="checkbox"/> 60.73(a)(2)(v)	<input type="checkbox"/> 73.71(j)
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 60.36(a)(2)	<input type="checkbox"/> 60.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text NRC Form 366A)
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 60.73(a)(2)(ii)	<input type="checkbox"/> 60.73(a)(2)(vii)(A)	
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 60.73(a)(2)(iii)	<input type="checkbox"/> 60.73(a)(2)(vii)(B)	
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 60.73(a)(2)(iii)	<input type="checkbox"/> 60.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12): R.G. Azzarello, Director, Engineering and Construction TELEPHONE NUMBER: 510 471 3191-166180

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

SUPPLEMENTAL REPORT EXPECTED (14): YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15): MONTH DAY YEAR

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

On December 12, 1990, with Waterford Steam Electric Station Unit 3 at 100% power, Technical Specification (TS) Limiting Condition for Operation (LCO) 3.0.3 was entered when both trains of the Control Room Heating Ventilation and Air Conditioning (HVAC) System were declared inoperable due to a breach in the Control Room envelope. The breach in the Control Room envelope existed since December 5, 1990, when a Control Room penetration fire seal was removed in accordance with approved Design Change. The root cause of this event is lack of sufficient documentation and details of the Control Room envelope boundary seals.

On December 14, 1990, the plant was operated in a TS LCO 3.0.3 condition for approximately one and one half hours while investigating a problem with the Control Room HVAC System. The root cause of this event is the combination of two failures. The Control Room recirculation damper failed in the intermediate position and the Control Room envelope had excessive leakage. As a result, the operability requirements of the Control Room HVAC System could not be met.

Operation in a TS LCO 3.0.3 condition is reportable as operation prohibited by plant TS. Calculations have shown that during each of these events the habitability of the Control Room would have been preserved during a high radiation or toxic chemical scenario; therefore, this event did not threaten the health and safety of the general public or plant personnel.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH, 1201 U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545, AND TO THE PAPERWORK REDUCTION PROJECT, 12150 TIGAL, OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Waterford Ste. 3 Electric Station Unit 3	DUCKET NUMBER (2) 0 5 0 0 0 3 8 2	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (if more space is required, use additional NRC Form 306A's) (17)

On December 12, 1990, engineers discovered fire seal (EISS Identifier-SEAL) VIA0070 had been removed from around Fire Damper (FD)-45 (EISS Identifier-DMP) in accordance with Design Change (DC)-3197 and as a result, a breach in the Control Room (EISS Identifier-NA) envelope existed. At 1045 hours on December 12, 1990, Technical Specification (TS) 3.0.3 was entered based on engineering judgement that the Control Room envelope would not maintain a 0.125" water gage (w.g.) differential pressure with the outside air in accordance with Surveillance Test Procedure PE-5-004, "Control Room Air Conditioning System Surveillance." In addition, the consequences of a high radiation or toxic chemical scenario were unknown in the condition of fire seal VIA0070 being removed. This event is reportable as operation prohibited by plant TS.

DC-3197 was approved for construction on September 24, 1990. The scope of this DC addressed a problem in which fire dampers were found to be inoperable due to the absence of an expansion space between the fire damper and the surrounding wall. This expansion space is required to allow for thermal expansion of the damper assembly under fire conditions. The fire seal around FD-45 (penetration seal number VIA0070) was removed on December 5, 1990. DC-3197 failed to identify certain fire seals as being an air pressure barrier for the Control Room envelope and the Reactor Auxiliary Building (RAB) (EISS Identifier-NF).

The Control Room envelope is designed to maintain a positive pressure of 0.125" w.g. or greater with respect to the outside air, with a make up rate of 200 cubic feet per minute (cfm) or less, during the high radiation mode of operation. The pressure and airflow limits are also used to test the leak tightness of the Control Room envelope for the toxic gas mode of operation, during which the system is in full recirculation with no outside air make up. The requirements are specified in the Final Safety Analysis Report (FSAR) and Regulatory Guides (RG) 1.78 and 1.95.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST ADD HERE FORWARD COMMENT REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-30) U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON, DC 20555 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104) OFFICE OF MANAGEMENT AND BUDGET WASHINGTON, DC 20503

FACILITY NAME (1) Waterford Steam Electric Station Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 3 8 2 9 0	LER NUMBER (8)		PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
			0 1 9	0 1	0 3 OF 1 1

TEXT (if more space is required, use additional NRC Form 306A's) (17)

LER 88-025 reported fire barrier discrepancies due to procedural inadequacy, and committed to the corrective action of inspecting all fire barriers in accordance with Procedure ME-003-009, "Fire Walls, Floors, and Ceilings" and Procedure ME-003-006, "Fire Barrier Penetration Seals." The inspection of the fire dampers was initiated in November 1988 and revealed that some fire dampers had not been installed per the manufacturer's requirements and fire test configurations. The concern is that the dampers were not provided with adequate annular space between the fire damper and surrounding wall to allow for thermal expansion of the damper and seal material. This problem has existed since initial construction and could have resulted in the dampers not functioning properly in a fire condition due to binding.

A Station Modification Request (SMR) FP-011 was initiated to correct penetration (EIS Identifier-PEN) seal, fire barrier, and fire damper design deficiencies identified during the 100% penetration seal inspection. The SMR was approved on February 12, 1990, and was later approved as DC-3197 on September 18, 1990. DC 3197 provides for the field installation or modification of approximately 228 seals, 25 dampers, and one fire barrier.

Fire seal VIA0070 was identified for modification in DC-3197. The penetration around FD-45 had been sealed with silicone foam during initial construction. Fire seal VIA0070 was evaluated in Condition Identification (CI) 260111 on November 8, 1989, as having no requirement for fire protection and subsequently, the damper was declared inoperable until the seal material around the damper could be removed and replaced with an air seal.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES 4/30/87

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST ADD WHEN FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH IF 3301 U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON DC 20545 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104) OFFICE OF MANAGEMENT AND BUDGET WASHINGTON DC 20503

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

Waterford Steam
Electric Station Unit 3

0 | 5 | 0 | 0 | 0 | 3 | 8 | 2

YEAR SEQUENTIAL NUMBER REGION NUMBER

9 | 0 | - | 0 | 1 | 9 | - | 0 | 1 | 0 | 4 | 0 | 1 | 1

TEXT (if more space is required, use additional NRC Form 366A's) (17)

On December 5, 1990, the following work was performed on seal VIA0070 in accordance with the DC:

- the retaining closure angles from one side of the seal were removed to facilitate removal of the seal.
- the seal material was removed from around the damper.

At this point, the plant was operating with a breach in the Control Room envelope. There was approximately a 1/4" gap on the top and sides, and a 1/2" gap on the bottom, between the ventilation duct (E11S Identifier-DUCT) and the surrounding barrier wall.

At approximately 1600 hours on December 5, 1990, a routine walkdown by an engineer noted that work in progress on two other seals (penetration seal numbers VIA0255 and VIA0256), also part of DC-3197, could possibly breach the Control Room envelope. A discussion was held with several other engineers and after further evaluation, the engineers determined that the Control Room envelope had not been breached. The basis of this conclusion is that sheet metal had been installed during initial construction to facilitate installation of the seals and had provided a Control Room envelope pressure boundary.

On December 6, 1990, Nuclear Operations Construction (NOC) personnel were informed of the potential problem discovered with seals VIA0255 and VIA0256. A decision was made that each fire seal being removed should be carefully evaluated to determine if removal would cause a breach in the Control Room envelope. NOC personnel conducted a review of the fire seals that were currently being worked. No work was being done on fire seal VIA0070 during the review; therefore, seal VIA0070 was not identified as a potential problem. Engineering personnel were directed to evaluate the method and consequences of removing fire seals under DC-3197, with emphasis on the pressure boundary configuration for the Control Room envelope.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-330), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Waterford Steam Electric Station Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 3 B 2	LER NUMBER (6)			PAGE (3)	
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TEXT (If more than one is required, use additional NRC Form 360A 2/117)

On December 10, 1990, Design Engineering (DE) personnel were informed of the potential problems with DC-3197. On December 11, 1990, DE personnel developed a list of 9 seals that were to be worked under DC-3197 which could possibly breach the Control Room envelope. On this list, 5 seals were identified as being currently worked. These seals were VIA0039, VIA0046, VIA0255, VIA0256, and VIA0070. A cursory inspection was made of the five seals and the Control Room envelope appeared not to be breached. The retaining angle had already been replaced on seal VIA0070 which masked the fact that the penetration was breached, from a pressure boundary standpoint.

On December 12, 1990, another inspection was performed on the five seals and a determination was made that seal VIA0070 was breached because air flow past the retaining angle was observed. TS 3.0.3 was entered at 1045 hours on December 12, 1990 as a result of engineering judgement, based on the size of the breach and the affect on both Control Room Heating Ventilation and Air Conditioning (HVAC) System trains (EIS Identifier VI) with respect to the operability requirements of TS 3.2.6. A temporary seal was installed per Nonconformance Condition Identification (NCI) 271311. The seal was determined to be operable based on engineering judgement. The HVAC system was observed to be capable of maintaining 0.125" w.g. positive pressure, per Control Room indications, under normal operation without regard to the amount of make up air being used. No visible signs of leakage were noted around the seal. Administrative controls were implemented to maintain the pressure boundary integrity at the seal. TS 3.0.3 was exited at 1141 hours on December 12, 1990.

LICENSING EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST. SEND THIS FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Waterford Steam Electric Station Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 3 8 2 9 0	LER NUMBER (6)			PAGE (3)	
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TEXT (if more space is required, use additional NRC Form 306A's) (17)

The root cause of this event is lack of sufficient documentation and details of the Control Room envelope boundary seals. There is no single document that identifies any penetration seals as being a part of the pressure boundary for the Control Room envelope or as being associated with a TS requirement.

The other problems that contributed to this event were:

- DC 3197 inadequacies. Existing documentation was not thoroughly researched in the development of DC-3197.
- The HVAC system engineer was not included as part of the review process for DC 3197 in accordance with Nuclear Operation and Engineering Construction procedures.
- Timely corrective action was not taken by plant personnel upon initial discovery of the potential problems with the Control Room envelope.
- No specific methods exist to track or control work being performed on the Control Room envelope to ensure that the integrity of the Control Room envelope is maintained in modes for which it is required.

Immediate corrective action was taken on December 12, 1990, to restore the integrity of the Control Room envelope. All seal work affecting the Control Room envelope was stopped until air seal details could be developed and recommended installation methods better defined.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545 AND TO THE PAPERWORK REDUCTION PROJECT (2150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Waterford Steam Electric Station Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 3 8 2 9 0 - 0 1 9 - 0 1 0 7 OF 1 1	LER NUMBER (6)			PAGE (3)		
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TEXT (if more space is required, use additional NRC Form 306A's) (17)

As a follow-up to the corrective action taken under NCI 272811, Surveillance Procedure PE-5-004, "Control Room Air Conditioning Systems Surveillance," was scheduled as a conservative measure to check the overall integrity of the Control Room envelope.

The acceptance criteria for Surveillance Procedure PE-5-004 requires that the Control Room Air Conditioning System maintain the Control Room at a positive pressure of greater than or equal to 0.125" w.g. relative to the outside atmosphere when operating the Control Room Ventilation System in a high radiation mode with an emergency outside air intake open.

Surveillance Procedure PE-5-004 was commenced at approximately 1930 hours on December 14, 1990. The Emergency Filtration Unit 'A' (EUIS Identifier-VI-AHU) was engaged, in accordance with procedure, to provide the emergency outside air flow. The Emergency Filtration Units are started for the purpose of the Surveillance by inserting a test high radiation signal to the respective filtration unit. At approximately 2000 hours, attempts to adjust the recirculation damper (HVC-213A) for the Emergency Filtration Unit 'A' train failed to achieve greater than or equal to 0.125" w.g. Control Room differential pressure. HVC-213A indicated in the intermediate position on the Plant Monitoring Computer. At approximately 2130 hours, Surveillance Procedure PE-5-004 was exited and an investigation of the HVAC system was commenced. The Emergency Filtration Unit 'B' was engaged to verify that no gross leakage existed in the Control Room envelope.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Waterford Steam Electric Station Unit 3	DOCKET NUMBER (2) 0 6 0 0 0 3 8 2 9 0	LER NUMBER (6)			PAGE (3)	
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TEXT (If more space is required, use additional NRC Form 365A's) (17)

Once the Emergency Filtration Unit 'B' was engaged, the Emergency Filtration Unit 'A' could not be secured because sufficient differential pressure across the Emergency Filtration Unit 'B' was not developed and the test high radiation signal still existed on the Emergency Filtration Unit 'A'. The Control Room envelope differential pressure was noted to be less than 0.125" w.g. with the maximum achievable makeup air flow of 200 cfm, while both Emergency Filtration Units were running. The outside air flow of 200 cfm is the designed and balanced condition of the system with a failed open recirculation damper in one train. After several minutes of running, the Emergency Filtration Unit 'B' tripped due to low differential temperature across the filtration unit.

TS LCO 3.0.3 was not entered at the time because the Control Room staff felt that there was no reason to doubt the operability of the Emergency Filtration Unit 'B' to pressurize the Control Room to 0.125" w.g. differential pressure. However, as a result of the failed damper and unidentified leakage paths in the Control Room envelope, 0.125" w.g. differential pressure could not have been achieved and the plant was in fact, operating in a TS LCO 3.0.3 condition.

At approximately 2200 hours on December 14, 1990, HVC-213A was confirmed to be stuck in the intermediate position by local verification and as a result, the Emergency Filtration Unit 'A' train was declared inoperable. Recirculation damper HVC-213A was manually locked in the closed position. At approximately 2300 hours, Surveillance Procedure PE-5-004 was performed utilizing the Emergency Filtration Unit 'B' and resulted in 0.125" w.g. positive differential pressure being achieved which is the acceptance criteria of Surveillance Test Procedure PE-5-004. The differential pressure of 0.125" w.g. was maintained with an outside airflow of greater than 200 cfm.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST. SEND FIVE FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-310) U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104) OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Waterford Steam Electric Station Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 3 8 2 9 0	LER NUMBER (5)			PAGE (3)	
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TEXT (IF MORE SPACE IS REQUIRED, USE ADDITIONAL NRC Form 306A s/ (17))

On December 15, 1990, Seal VIA0070 was re-sealed with silicone foam in an air seal configuration. Temporary measures of sealing the equipment room doors in the Control Room envelope allowed Surveillance Test PE-5-004 to be completed with 0.125" w.g. differential pressure and less than 200 cfm make up airflow.

Several Control Room envelope leakage paths were identified on December 20, 1990 and repaired. The major leakage paths identified were:

- an unsealed penetration through the RAB Computer Room floor. The seal was opened to re-pull a cable through a penetration under CI 269870. The seal was only addressed as being an impaired fire seal under fire impairment 90-494.
- a failure of the grouted joint between the walls and ceiling of the Control Room envelope, and air leakage past cold joints between walls that were not grouted or sealed.
- a poorly sealed joint between the fairing on doors 85 and 86 and the concrete wall. These doors provide an airlock with the Control Room envelope and RAB.
- Several conduit covers (EHS Identifier-CDT) were discovered to be missing or installed incorrectly.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 30 MIN. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH IF 4301 U.S. NUCLEAR REGULATORY COMMISSION WASHINGTON, DC 20555 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Waterford Steam Electric Station Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 3 8 2	LER NUMBER (6)			PAGE (3)	
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TEXT IF MORE SPACE IS REQUIRED, USE ADDITIONAL NRC FORM 306A (17)

After repairs to the listed leakage paths were made, Surveillance Test PE-5-004 was completed satisfactory with 0.125" w.g. differential pressure and less than 200 cfm make up airflow on December 21, 1990.

The following actions to prevent recurrence of breaching the Control Room envelope have been initiated. The Nuclear Penetration List (NPL) will be revised by July 7, 1991, such that all seals, which provide an air pressure seal with the Control Room envelope or Controlled Ventilation Area Section (CVAS) (EIS Identifier VF), are properly identified. The NPL will also be revised by March 1, 1992 to ensure that all seals, which are addressed by TS or are designed as an air pressure boundary, are properly identified. Design, construction and maintenance work controls will be evaluated by March 15, 1991, to ensure that any work on penetration seals, pressure boundaries, and HVAC equipment, addresses TS requirements.

Permanent repairs have been made to the leakage paths that were identified in the Control Room envelope. A permanent repair to the cold joints and the grouted joints between the walls and ceiling in the Control Room envelope is being evaluated to determine the best methods for making the permanent repairs.

This event will be discussed with all Waterford 3 personnel by March 1, 1991. Training on a recurring basis by means of a case study will be implemented by June 15, 1991. The case study will address all aspects of the Control Room ventilation problems discussed in this report. DC-3197 will be revised to address the fire seals that affect the integrity of the Control Room envelope or CVAS boundary by April 1, 1991. Existing DCs have been reviewed to determine if revision is necessary, to ensure that pressure boundaries are adequately addressed.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATES TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-30) U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104) OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1) Waterford Steam Electric Station Unit 3	DOCKET NUMBER (2) 0 6 0 0 0 3 8 2	LER NUMBER (6)			PAGE (3)		
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TEXT IF more space is required, use additional NRC Form 306A (6-89) (17)

To summarize, the removal of fire seal VIA0070 created a breach in the Control Room envelope from December 5, 1990, until repair of the seal on December 12, 1990. The breach in the Control Room envelope could have prevented achieving the TS required 0.125" w.g. differential pressure; therefore, the plant operated in a condition prohibited by TS for a period of 8 days. Further review of the sequence of events that occurred on December 14, 1990, revealed that the plant was operated in a TS LCO 3.0.3 condition for approximately one and one half hours while investigating the failed recirculation damper.

Calculations show that the removal of seal VIA0070 concurrent with the identified leakage paths in the Control Room envelope would have resulted in a Control Room envelope leakage rate of approximately 888 cfm. The calculations also show that the habitability of the Control Room, during and after a toxic chemical or high radiation accident, would have been maintained; therefore, this event did not threaten the health and safety of the general public or plant personnel.

SIMILAR EVENTS

None

PLANT CONTACT

R.G. Azzarello, Director, Engineering and Construction, (504) 739-6680.