

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 (P-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.

TITLE (4)	HVAC penetration design deficiencies identified after detailed review of INPO 83-69 resulting in License violation
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OPERATING MODE (8)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)			
4		20.402(b)	20.406(z)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)	01010	20.406(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(e)
		20.406(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	<input checked="" type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.406(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.406(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.406(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(ix)	

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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)

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PDR ADOCK 05000322
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LICENSEE EVENT REPORT (LER)
TEXT CONTINUATIONESTIMATED 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 (P-630). U.S. NUCLEAR
REGULATORY COMMISSION, WASHINGTON, DC 20555. NC TO
THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE
OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Shoreham Nuclear Power Station Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 3 2 2	LER NUMBER (5)			PAGE (3)		
		YEAR 8 7	SEQUENTIAL NUMBER 0 2 1	REVISION NUMBER 0 1 1	0 2 OF	0 5	

TEXT (If more space is required, use additional NRC Form 386A's) (17)

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor

Energy Industry Identification System (EIIS) codes are identified
in the text as [xx].IDENTIFICATION OF THE EVENTViolation of License Condition 2.C.3.a of NPF-36 (Fire Protection -
FHAR) due to the identification of design deficiencies in the plant
HVAC system.

Event Date: 7/15/87

Report Date: 5/16/90

CONDITIONS PRIOR TO THE EVENT

Operational Condition 4 (Cold Shutdown)

Mode Switch - Shutdown

RPV Pressure= 0 psig

POWER LEVEL - 0

DESCRIPTION OF THE EVENT

On July 15, 1987 at 1330, it was brought to the attention of Plant Management by the Nuclear Engineering Department the existence of design deficiencies in the plant's HVAC systems. There are six instances where HVAC penetrations of fire barriers exist without fire dampers. This condition violates the requirements set forth in the Fire Hazards Analysis Report (FHAR) and was therefore a violation of License Condition 2.C.3.a (Fire Protection Program) of NPF-36.

The penetrations are located throughout various parts of the plant. Below is a listing of each penetration and its deficiency.

1. Supply/return air ducts to/from the Emergency Switchgear rooms penetrate a wall between Corridor 8 and 9 in the Control Building elevation 25'. The wall is a 3 hour fire rated barrier and the penetrations do not have fire dampers.

EXFIRE 4/30/92

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 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)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
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Shoreham Nuclear Power Station Unit 1	0 5 0 0 0 3 2 2	8 7	— 0 2 1	— 0 1	0 3	OF	0 5

TEXT (If more space is required, use additional NRC Form 386A's) (17)

2. The Reserve Station Service Transformer (RSST) is located approximately 30'-0" from the EDG Rooms 101, 102 and 103 east exterior wall. This wall has openings for the ventilation air exhaust system that are provided with non-fire rated dampers which are closed when the emergency ventilation system is not operating. The FHAR requires flammable oil filled transformers to be located 50'-0" away from any building openings containing safety-related systems.
3. A similar opening exists in the south wall of the Normal switchgear rooms. This wall is a fire rated wall and does not have a fire rated damper.
4. A Control Room outside air intake pipe (1X61-12"AV-5-151-4) penetrates the HVAC Equipment room floor at elevation 63'-0" to the HVAC Equipment room on elevation 44'-0". No fire damper is installed as required.
5. A Control Room outside air intake pipe (1X61-14"AV-1-151-4) runs through the Turbine Building and Control Room and penetrates the fire wall between the Control Room and Turbine Bldg and between the Control Room and the HVAC Equipment Room at elevation 63'-0" without any fire damper being installed at the fire barriers.
6. An air duct penetrating the ceiling of the Turbine Building Clean and Dirty Oil Tank Room (a fire barrier) has an improperly installed fire damper. The damper is located near the air register and not at the fire barrier.

Upon discovery of the event, fire watch patrols were instituted in those areas requiring them in accordance with Technical Specification section 3.7.8. The NRC was notified at 0852 on July 16, 1987 per License Condition 2.F. This Supplemental Report is being submitted to inform the Commission of the status of actions taken to correct these deficiencies.

CAUSE OF THE EVENT

The event resulted from a final detailed review of Information Notice 83-69, "Improperly Installed Fire Dampers at Nuclear Power Plants" by the Licensee's Architect Engineering Consultant Group.

EXPIRES: 4/30/92

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 (P-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) Shoreham Nuclear Power Station Unit 1	DOCKET NUMBER (2) 0500032287	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		0	2	1	0	4

TEXT (If more space is required, use additional NRC Form 356A's) (17)

A review of applicable documents (FHAR, License, NFPA standards) along with a walkdown of the plant's fire barriers and HVAC systems was performed. Once the review was complete, a detailed report outlining the deficiencies in the fire dampers was submitted to the LILCO Engineering Department. After their review of the report, the 6 deficiencies previously discussed in the LER, were brought to the attention of Plant Management who determined them to be in violation of the commitments made in the FHAR.

ANALYSIS OF THE EVENT

The six deficiencies identified in this LER are conditions which violate the requirements set forth in the FHAR. NPF-36 License Condition 2.C.3.a requires that the licensee maintain all provisions of the approved fire protection program as described in the Fire Hazards Analysis Report. This was not complied with in the referenced six cases. All six deficiencies include penetrations in fire barriers that do not have the required fire rated dampers in order to comply with section I.D.1.j of the FHAR. There is minimal safety significance to this event. For all items identified in the description, proper compensatory measures were in effect. Hourly fire watch patrols to meet Tech. Spec. action statements have been in force since the receipt of the Licensee's low power license (Dec. 1984) due to the other inoperable fire barriers and the inoperability of the automatic initiation capability of the CO₂ suppression system. In addition, fire detectors located in the area were operable and would have annunciated in the Control Room.

CORRECTIVE ACTIONS

- Item 1: All three Emergency Switchgear Rooms are supplied by a single set of supply and return ducts. If dampers installed in these penetrations were to close, cooling air to all three switchgear rooms would be interrupted. Therefore, as alternate means of providing the required fire separation, Station Modification 88-030 was prepared to structurally reinforce the supply and return ducts and wrap them in thermo lag fire protection material.
- Item 2: Since two of the three Emergency Diesel Generators (EDG) must be available and all three receive start signals when they are needed, the HVAC exhaust openings cannot be closed off as by fire dampers. Therefore, as suggested in Appendix A to Branch Technical Position (BTP) APCSB 9.5-1, Station Modification 88-030 was prepared to install a deluge water curtain system which will protect the openings on the east wall of the EDG rooms in the event of a fire in the RSST.

EXPIRES 4/30/92

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 (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20565, 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)	
Shoreham Nuclear Power Station Unit 1	0 5 0 0 0 3 2 2 8 7 — 0 2 1 — 0 1	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	0 5	OF 0 5

TEXT (If more space is required, use additional NRC Form 386A's) (17)

- Item 3: As part of Station Modification 88-030, an existing damper frame will be replaced with a new multi-fire assembly and an existing modulating damper will be modified with a bell end transition to stabilize it.
- Item 4: After a further review of this item, it was concluded that a postulated fire near this opening would not be severe enough to challenge the integrity of the HVAC duct or pipe and would not propagate across the fire barrier. Therefore, this item is not a violation of License Condition 2.C.3.a and no corrective action is necessary.
- Item 5: After a further review it was concluded that the present configuration is satisfactory because the combustible loading in the areas adjacent to these two penetrations is representative of postulated fires of less than one hour duration, and, these fire barrier penetrations are equivalent to other piping penetrations that are rated for 3 hours. Therefore, this item is not a violation of License Condition 2.C.3.a and no corrective action is necessary.
- Item 6: This item has been corrected by wrapping the air duct with thermo lag fire protection material on the section of the duct between the fire barrier and the fire damper.

The implementation of Station Modification 88-030 has been deferred indefinitely due to the New York State - LILCO Shoreham Settlement Agreement.