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673C-97-2269

November 19, 1997

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

Dear Sir:

Subject: Oyster Creek Nuclear Generating Station  
Docket No. 50-219  
Licensee Event Report 97-013: Reactor Building Ventilation Ductwork May  
Not Meet Its Seismic Design Basis Since  
Original Construction

Enclosed is Licensee Event Report 97-013. This event did not impact the health and safety of the public.

If any additional information or assistance is required, please contact Mr. Paul Czaya of my staff at (509) 971-4139.

Very truly yours,

*Michael B Roche*

Michael B. Roche  
Vice President and Director  
Oyster Creek

1/1  
*Terz*

MBR/PFC  
Enclosure

c: Oyster Creek NRC Project Manager  
Administrator, Region I  
Senior Resident Inspector

9712020163 971119  
PDR ADOCK 05000219  
S PDR



(4-95)

APPROVED BY OMB NO. 3150-0104

EXPIRES 04/30/98

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (7-6 P33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545-10001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)

Oyster Creek Unit 1

DOCKET NUMBER (2)

50-219

PAGE (3)

1 of 4

TITLE (6)

Reactor Building Ventilation Ductwork May Not Meet Its Seismic Design Basis Since Original Construction

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 NAME	DOCKET NUMBER	
10	20	97	97	013	00	11	19	97	FACILITY NAME	DOCKET NUMBER	
										05000	
									FACILITY NAME	DOCKET NUMBER	
										05000	
OPERATING MODE (9)		Run	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
			20.2201(b)			20.2203(a)(2)(v)			50.73(a)(2)(i)		50.73(a)(2)(viii)
POWER LEVEL (10)		100	20.2203(a)(1)			20.2203(a)(3)(i)		X	50.73(a)(2)(ii)		50.73(a)(2)(k)
			20.2203(a)(2)(i)			20.2203(a)(3)(ii)			50.73(a)(2)(iii)		73.71
			20.2203(a)(2)(ii)			20.2203(a)(4)			50.73(a)(2)(iv)		OTHER
			20.2203(a)(2)(iii)			50.36(c)(1)			50.73(a)(2)(v)		
			20.2203(a)(2)(iv)			50.36(c)(2)			50.73(a)(2)(vi)		

## LICENSEE CONTACT FOR THIS LER (12)

NAME

Ronald J. Miranda

TELEPHONE NUMBER (Include Area Code)

(201) 316-7372

## 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

SUPPLEMENT

REPORT EXPECTED (14)

X YES

NO

EXPECTED SUBMISSION

MONTH

DAY

YEAR

5

30

98

(If yes, complete EXPECTED SUBMIT. N DATE).

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

The design of the reactor building ventilation system ductwork comprising the secondary containment boundary may not be in compliance with the requirements of its intended function. It is, however, installed in accordance with the original procurement specification for equipment installation. The functions of the ductwork are to provide a conduit for normal reactor building ventilation and remain intact when secondary containment integrity is required. The specific issue relates to the ductwork's ability to withstand the effects of a seismic event. An operability review in conjunction with a field walkdown was performed. The results of the operability review concluded that there is reasonable assurance that the ductwork will continue to perform its function following an operating basis seismic event. GPU Nuclear also received information from a seismic consultant that supported this conclusion. Seismic verification walkdowns are in progress to verify seismic adequacy of the existing installations while further reviews of design basis information are being conducted.

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

DATE OF DISCOVERY

The condition described herein was identified on October 20, 1997.

IDENTIFICATION OF OCCURRENCE

The reactor building (EIIS-NG) ventilation system (EIIS-VA) ductwork (EIIC-DUCT) comprising the secondary containment boundary may not be in compliance with its design basis. The specific issue relates to the ductwork's ability to withstand the effects of a seismic event. A review to determine the design basis was inconclusive. The existing configuration was constructed in accordance with the original equipment specification.

This report is submitted to comply with the schedular requirement of 10CFR 50.73(d) as a follow-up to a 10CFR 50.72(b)(1)(ii)(B) notification made on October 20, 1997.

CONDITIONS PRIOR TO DISCOVERY

The plant was operating at approximately 100% power. System pressures and temperatures were normal for full power operation. Since the condition has existed since initial construction, the plant has been in various modes over time.

DESCRIPTION OF OCCURRENCE

While addressing an open item resulting from the preparation of a system design basis document, (SDBD) a portion of the design basis for the ductwork that comprises secondary containment boundaries came into question. The ductwork is the portion of the supply duct between the first isolation valve (EIIC-ISV) inboard of the reactor building penetration (EIIC-PEN) and the reactor building wall. After review of the updated Final Safety Analysis Report and original Facility Description and Safety Analysis Report (FDSAR), it was ascertained that these ducts should be designed and installed to withstand operating basis earthquake loading. Further review of the FDSAR yielded conflicting information. A notification pursuant to 10CFR 50.72(b)(1)(ii)(B) was made and an operability review in conjunction with a field walkdown was performed. The results of the operability review concluded that there is reasonable assurance that the ductwork will continue to perform its function following a seismic event. In addition, GPU Nuclear received information from a seismic consultant that supported this conclusion.



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APPARENT CAUSE OF OCCURRENCE

The identified condition represents a conflict within the design basis. A significant contributing cause is the age and lack of clarity of the original licensing documents.

ANALYSIS OF OCCURRENCE AND SAFETY ASSESSMENT

A portion of the reactor building ventilation system ductwork forms a secondary containment boundary between the reactor building wall penetration and the redundant isolation valves in the inlet lines. The functions of the ductwork are to provide a conduit for normal reactor building ventilation and remain intact when secondary containment integrity is required. Secondary containment integrity is required such that the standby gas treatment system (SGTS) can maintain a 1/4 inch water vacuum in the reactor building should SGTS be actuated. There are no flow requirements for this duct in this condition. The duct is required to pass flow during normal plant operation but these flow requirements are not a safety function.

If a postulated failure on this portion of the duct resulting from an earthquake would occur, SGTS may not be able to maintain the Technical Specification requirement of 1/4 inch water vacuum in the reactor building. As a result, the system may not be able to provide a controlled, elevated and filtered release of the reactor building atmosphere under accident conditions. The duct may not be intact nor remain functional to provide a controlled release of reactor building atmosphere.

Inherent seismic ruggedness of ventilation ductwork ensures leaktightness as attested to by considerable seismic experience data. Ventilation duct systems that are not typically designed to withstand earthquake forces have been proven generally rugged enough to maintain pressure integrity during earthquakes equal to and greater than the Oyster Creek design basis earthquake. The secondary containment isolation valves, dampers and associated accumulators were also verified using seismic experience data.

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ANALYSIS OF OCCURRENCE AND SAFETY ASSESSMENT (continued)

Walkdowns were performed to assess the current condition of the ductwork. No visible deficiencies were noted nor were any abnormalities with respect to the duct discovered except that one hanger was missing one of two support rods. It was concluded that the current configuration of the duct matches the original plant installation drawings after the missing rod is replaced.

The safety significance of this occurrence is minimal since the characteristics of the existing installation provide reasonable assurance that the secondary containment boundary will be maintained if a seismic event were to occur. A simultaneous occurrence of a seismic event and a design basis accident is not considered part of a Oyster Creek design basis.

CORRECTIVE ACTIONS

Seismic verification walkdowns to verify seismic adequacy of the specific installations have been completed.

Conflicts within the design basis will be evaluated and resolved.

SIMILAR EVENTS

None