

AmerGen Energy Company, LLC  
Oyster Creek  
US Route 9 South  
PO Box 388  
Forked River, NJ 08731-0388

10 CFR 50.73(a)(2)(i)

December 6, 2002  
2130-02-20335

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

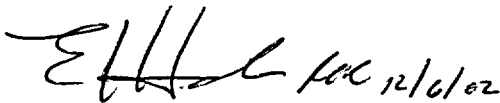
Dear Sir:

Subject: Oyster Creek Nuclear Generating Station  
Docket No. 50-219  
Licensee Event Report 02-003; Insufficient Appendix R Separation Criteria  
due to Sand Erosion

Enclosed is Licensee Event Report LER 02-003. This event did not affect the health and safety of the public.

If any additional information or assistance is required, please contact Mr. John Rogers of my staff at 609.971.4893.

Very truly yours,



*RJD* 12/6/02

Ron J. DeGregorio  
Vice President, Oyster Creek

RJD/JJR  
cc: Administrator, Region I  
NRC Project Manager  
Senior Resident Inspector

*JR22*

**LICENSEE EVENT REPORT (LER)**

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 1 ORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1) <b>Oyster Creek Unit 1</b>	DOCKET NUMBER (2) <b>05000 - 219</b>	PAGE (3) <b>1 of 4</b>
---	---	---------------------------

TITLE (4)  
**Insufficient Appendix R Electrical Separation due to Sand Erosion**

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	10	02	02	-- 03	-- 00	12	06	02		05000
									FACILITY NAME:	DOCKET NUMBER
										05000

OPERATING MODE (9) <b>N</b>	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 50: (Check one or more) (11)				
POWER LEVEL (10) <b>0</b>	<input type="checkbox"/> 20 2201(b)	<input type="checkbox"/> 20 2203(a)(2)(v)	<input type="checkbox"/> 50 73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)	
	<input type="checkbox"/> 20 2203(a)(1)	<input type="checkbox"/> 20 2203(a)(3)(i)	<input checked="" type="checkbox"/> 50 73(a)(2)(ii)	<input type="checkbox"/> 50 73(a)(2)(x)	
	<input type="checkbox"/> 20 2203(a)(2)(i)	<input type="checkbox"/> 20 2203(a)(3)(ii)	<input type="checkbox"/> 50 73(a)(2)(iii)	<input type="checkbox"/> 73 71	
	<input type="checkbox"/> 20 2203(a)(2)(ii)	<input type="checkbox"/> 20 2203(a)(4)	<input type="checkbox"/> 50 73(a)(2)(iv)	<input type="checkbox"/> OTHER	
	<input type="checkbox"/> 20 2203(a)(2)(iii)	<input type="checkbox"/> 50 36(c)(1)	<input type="checkbox"/> 50 73(a)(2)(v)		
	<input type="checkbox"/> 20 2203(a)(2)(iv)	<input type="checkbox"/> 50 36(c)(2)	<input type="checkbox"/> 50 73(a)(2)(vi)		

LICENSEE CONTACT FOR THIS LER (12)	
NAME	TELEPHONE NUMBER (Include Area Code)

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
<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)			NO				

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

While performing a cable pulling evolution, it was noticed that a void had been created beneath a portion of the two 480 VAC switchgear rooms. This void created an open area that had not previously existed between two 4160 VAC feeder conduits. Because of the void, Appendix R electrical separation criteria were no longer met. Apparently, sand had settled and/or eroded away over time, thus opening this void beneath the A and B 480 VAC switchgear rooms.

The safety significance of this discovery is minimal as there is no combustible material in the void. Both cables are contained in conduit and have sufficient Class 1E electrical separation.

Immediately upon discovery, a continuous fire watch was stationed. Additional actions were subsequently taken to open communication between the void and adjacent area smoke detectors. This would provide early warning of a degrading condition. Long term corrective actions are being evaluated. A long term solution will be finalized and a supplemental LER will be submitted by September 30, 2003.

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

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REV	
Oyster Creek, Unit 1	05000 -219	02	-- 03 --	00	2 of 4

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

**DATE OF DISCOVERY**

This event was discovered on October 10, 2002, at 5:59 PM.

**IDENTIFICATION OF OCCURRENCE**

While performing a cable pulling evolution, it was noticed that a void had formed beneath a portion of the two 480 VAC switchgear rooms. This void created an open area that had not previously existed between two 4160 VAC feeder conduits to Unit Sub Stations (USS) 1A2 and 1B2. This discovery was considered reportable under 10 CFR 50.73(a)(2)(ii).

**CONDITIONS PRIOR TO DISCOVERY**

At the time of discovery, the plant was in cold shutdown for refueling. However, it is not known when the void was formed and it has been concluded that it existed during all modes of plant operation.

**DESCRIPTION OF OCCURRENCE**

During replacement of the 4160 VAC feeder cable to transformers in the 480 VAC A switchgear room, it was discovered that an opening existed around the conduit that penetrated the floor. This opening had previously been sealed with M-board and Kaowool and had been broken during the cable replacement project. Upon examination to determine a repair for the floor seal, an open underground void was discovered (approximately four feet deep, three feet wide, and 50 feet long) in the area between the Reactor and Turbine Building walls. This void affected the Appendix R fire separation of the 4160 VAC feeder cables. With this area open, the 4160 VAC feeder cables to USS 1A2 and USS 1B2 were not sufficiently separated from each other under the floor area. These cables were routed in separate conduits, and the conduits were separated horizontally by approximately ten feet. Without the sand in place, the separation of these redundant cables failed to meet Appendix R Section III.G.2 requirements (provide a three hour fire barrier; or provide a one hour barrier with automatic suppression and detection; or provide 20 ft separation with no intervening combustibles with automatic suppression and detection).

As the cables are both enclosed in rigid steel conduit, they do meet class 1E electrical separation criteria as required by Installation Specification SP-9000-41-005.

(4-95)

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

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REV	
Oyster Creek, Unit 1	05000				3 of 4
	-219	02 --	03 --	00	

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

### APPARENT CAUSE

The apparent cause of this discovery is that sand had settled and/or eroded away over time, thus opening this void beneath the A and B 480 VC switchgear room floors.

### ANALYSIS OF OCCURRENCE AND SAFETY ASSESSMENT

This discovery has minimal safety significance for Appendix R scenarios. The only combustible material within the void is in the cables in the conduits. A fire in either conduit would not propagate to the other conduit. Additionally, the rooms where the conduits terminate have detection systems which would alert operators to any fire. The most likely source of fire exposure to these cables is from the 480v room(s) directly above the void. These rooms are provided with automatic fire suppression and detection, making it unlikely that a fire of sufficient magnitude would develop capable of affecting the cables. Any combustible attempting to enter the void would have to originate from an area which also has detection capability, again alerting operators to the fire.

This discovery has no impact on the safety significance for non-Appendix R scenarios. This discovery does not affect the Class 1E operability of the 4160V feeder cables to USS 1A2 & 1B2 as the Class 1E separation criteria is maintained and would be fully operable during a non-Appendix R scenario.

### CORRECTIVE ACTIONS

#### Immediate Corrective Actions

1. A continuous fire watch was stationed.
2. A rated fire seal was installed at the floor penetration of both A and B transformers where feeder cables enter, to prevent a fire in either 480 VAC room from propagating into the void area.
3. Holes were drilled in hallway floor plate above the void to allow any potential smoke to communicate with hallway area smoke detectors.
4. Potential Seismic issues were reviewed and found not to be an issue.
5. Extent review was performed for possible other cases where below grade conduits are required to be covered for Appendix R separation criteria, no other concerns were discovered.

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

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REV	
Oyster Creek, Unit 1	05000 -219	02	-- 03 --	00	4 of 4

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

**CORRECTIVE ACTIONS (cont.)**

**Short term corrective actions.**

1. A Supporting Operability Documentation review was completed prior to plant start-up from the 1R19 refueling outage.
2. The Fire Brigade received additional instructions on this discovery. The Fire Brigade Pre-Fire Information Plan was updated for a fire in this area.
3. Tools, additional fire extinguishers, and a cellar nozzle were stationed for use in the unlikely event of a fire in the void area

**Long term corrective actions**

A permanent solution will be finalized and a supplemental LER will be submitted documenting the conclusions by September 30, 2003.

**SIMILAR EVENTS**

None.

Oyster Creek Licensing Correspondence Distribution Sheet

File No. 02083  
Reference/Letter No. 2130-02-20335

Letter Date 12/06/2002  
Date Sent / Received 12/06/2002

**Title Description: LER 02-003; Insufficient Appendix R Separation Criteria**

LICENSING ENGINEER: John Rogers

**SPECIAL NOTES:**

Office of the President

R. J. DeGregorio (Letter Only) OCAB2 \_\_\_\_\_  
R. Maldondo OCAB2 \_\_\_\_\_  
Communications OCAB2 \_\_\_\_\_

Engineering

V. Aggarwal OCAB3 X  
M. Newcomer OCAB3 X  
A. Agarwal OCAB3 \_\_\_\_\_  
D. Barnes OCAB3 \_\_\_\_\_  
T. E. Quintenz OCAB3 \_\_\_\_\_  
M. Button OCAB3 \_\_\_\_\_  
F. Buckley OCAB3 \_\_\_\_\_  
T. Powell OCAB3 X  
R. Larzo OCAB3 \_\_\_\_\_  
C. Lefler OCAB3 \_\_\_\_\_

AmerGen/Exelon

C. Pardee KSA 3-N \_\_\_\_\_  
G. Vanderheyden KSA 3-N \_\_\_\_\_  
M. Gallagher (Outgoing Only) KSA 3-E X  
J. Hufnagel (Outgoing Only) KSA 3-E X  
D. Walker KSA 3-E \_\_\_\_\_  
KS Document Ctr w/ attachment KSA 1-N X  
I Tonic KSB 3-W \_\_\_\_\_  
D Distel KSA 3-E X  
Jeff Benjamin Cantera \_\_\_\_\_

External Distribution

NJBNE - K. Tosch \_\_\_\_\_ X  
INPO \_\_\_\_\_  
ANI - R. Oliveira \_\_\_\_\_  
BPU - R. Chilton \_\_\_\_\_  
T. Gould \_\_\_\_\_  
GE - P. Ray \_\_\_\_\_

Oyster Creek

E. Harkness MOB X  
C Wilson MOB X  
J Freeman MOB X  
J. Vacaro MOB \_\_\_\_\_  
S Bailey AOB X  
J..Bobba AOB \_\_\_\_\_  
A. Krukowski NMB \_\_\_\_\_  
R. Ewart OCAB2 \_\_\_\_\_  
G. True Whse 2 \_\_\_\_\_  
D. Norton Whse 1 \_\_\_\_\_  
W. Collier AOB Aux \_\_\_\_\_  
D. McMillan Bldg 12 \_\_\_\_\_  
J. Magee NMB \_\_\_\_\_  
M. Massaro OCAB2 \_\_\_\_\_  
R Adams OCAB2 X  
M. Moore AOB X

Other

NSRB (22 copies) \_\_\_\_\_ X  
T Trettel OCAB3 X  
M Carlson OCAB3 X  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

File Index Number: 20.16.01.01 w/attachment  
Cross Reference Number: 20.16.01.01 w/attachment