

May 26, 2005

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Limerick Generating Station, Unit 2
Facility Operating License No. NPF-85
NRC Docket No. 50-353

Subject: LER 2-05-002, Unit 2 High Pressure Coolant Injection (HPCI) Inoperable

This Licensee Event Report (LER) addresses a Limerick Unit 2 condition that could have prevented the fulfillment of a safety function. The HPCI system was rendered inoperable due to a degraded control power fuse clip for the outboard suppression pool suction motor operated valve (MOV).

Report Number: 2-05-002
Revision: 00
Event Date: March 28, 2005
Discovered Date: March 28, 2005
Report Date: May 26, 2005

This LER is being submitted pursuant to the requirements of 10CFR50.73(a)(2)(v)(D).

If you have any questions or require additional information, please do not hesitate to contact us.

Sincerely,

Original signed by

Ron J. DeGregorio
Vice President - Limerick
Exelon Generation Company, LLC

Attachment

cc: S. J. Collins, Administrator Region I, USNRC
S. L. Hansell, USNRC Senior Resident Inspector, LGS

SUMMARY OF EXELON NUCLEAR COMMITMENTS
LS-AA-117-1003 Rev. 2

The following table identifies commitments made in this document. Any other actions discussed in the submittal represent intended or planned actions. These actions are described to the NRC for the NRC's information and are not intended as regulatory commitments.

Commitment #1	Committed Date (or Outage):
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The procedure for periodic maintenance of Westinghouse 250 VDC magnetic starters will be revised to include a closer examination of the fuse block rivets by July 29, 2005.	
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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 Limerick Generating Station, Unit 2	2. DOCKET NUMBER 05000353	3. PAGE 1 OF 4
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4. TITLE
High Pressure Coolant Injection System Inoperable due to a Degraded Control Power Fuse Clip

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
03	28	2005	2005	- 002 -	0	05	26	2005		05000
									FACILITY NAME	DOCKET NUMBER
										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"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)						
10. POWER LEVEL 100	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)						
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)						
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)						
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)						
<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER							
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A							

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME John G. Hunter III, Acting Manager- Regulatory Assurance	TELEPHONE NUMBER (Include Area Code) 610 718-3400
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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
B	BJ	20	B250	Y	B	BJ	FUB	W120	N

14. SUPPLEMENTAL REPORT EXPECTED <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR

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

The Unit 2 High Pressure Coolant Injection System (HPCI) was declared inoperable due to loss of the suction automatic transfer function when the HPCI outboard suppression pool suction motor operated valve (MOV) lost control power due to a manufacturing defect in the control power fuse clip for the MOV. The fuse clip was replaced and the HPCI MOV was satisfactorily tested. The HPCI system was then declared operable. The procedure for periodic maintenance of Westinghouse 250 VDC magnetic starters will be revised to include a closer examination of the fuse block rivets.

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

Unit Conditions Prior to the Event

Unit 2 was in Operational Condition (OPCON) 1 (Power Operation) at approximately 100% power. There were no structures, systems or components out of service that contributed to this event.

Description of the Event

On Monday March 28, 2005, at 17:38 hours, while Unit 2 was operating at approximately 100% power, the Main Control Room position indication on the High Pressure Coolant Injection (HPCI) [EIS: BJ] system outboard suppression pool suction motor operated valve (MOV) HV-055-2F041 was lost and the HPCI out-of-service alarm annunciated. HPCI was declared inoperable and Technical Specification 3.5.1 Action c.1 was entered, which requires system restoration to operable status within 14 days.

An investigation determined that the condition was caused by a loose control power fuse clip [EIS: FUB] located on the 250 VDC circuit breaker, which resulted in loss of control power to the MOV. The degraded fuse clip was replaced and the MOV was successfully stroked. The Unit 2 HPCI system was restored to operability at 21:30 hours.

The Reactor Core Isolation Cooling (RCIC) [EIS: BN] system remained operable during the entire period from when the loss of control power to the HPCI MOV occurred until the HPCI system was restored to operability at 21:30 hours.

This event involved the potential loss of safety function of the Unit 2 HPCI system for 3.9 hours from March 28, 2005 17:38 to March 28, 2005 21:30. The 8-hour ENS notification required by 10CFR50.72(b)(3)(v)(D), was completed on March 28, 2005 at 23:56 EDT hours (Event# 41540).

This event involved a condition that could have prevented the fulfillment of the safety function of the HPCI system to mitigate the consequences of an accident; therefore, this LER is being submitted pursuant to the requirements of 10CFR50.73(a)(2)(v)(D).

Analysis of the Event

There were no actual safety consequences associated with this event. The potential safety consequences of this event were also minimal. HPCI suction was aligned to the condensate storage tank (CST) at the time of the failure; therefore, the initial system response to a loss of coolant accident was unaffected. The HPCI pump suction would not have automatically transferred from the CST to the suppression pool on a CST low level condition or a suppression pool high level condition. The CST has the capacity to provide full flow HPCI injection for approximately 15 minutes before needing to transfer to suction from the suppression pool. The HPCI response to a station black out (SBO) accident was potentially adversely affected since the follow-up operator actions require transferring the HPCI suction to the suppression pool. The reactor core isolation cooling (RCIC) system was operable during the period when HPCI was adversely affected by the fuse clip failure.

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

The terminal block, fuse clip, and rivets are part of a single assembly supplied by Westinghouse with Eaton Electric as the dedicated supplier (part number TBAF3). These terminal blocks/ fuse clips are utilized in safeguard DC Motor Control Center applications for both the Limerick Unit 1 and Unit 2 HPCI and RCIC.

The laboratory analysis of the failure of the fuse clip determined that the loss of continuity was due to a loose rivet on the fuse clip that was not properly swagged during manufacturing.

The preventive maintenance (PM) procedures in place include inspection of the terminal block and fuse clips for loose connection, cracks, and other visible damage. The terminal block is not removed during the PM inspection. It was determined that the PM procedure should be enhanced to include inspection of the fuse block rivets for complete roll and tightness.

Cause of the Event

The cause of the event was a loss of control power to the HPCI pump suction outboard motor operated valve as a result of a manufacturing defect in the control power fuse clip.

Corrective Action Completed

The degraded fuse clip was replaced. Storeroom inventories of replacement parts for the fuse clips were visually inspected and no deficiencies were identified.

Corrective Action Planned

The procedure for periodic maintenance of Westinghouse 250 VDC magnetic starters will be revised to include a closer examination of the fuse block rivets by July 29, 2005.

Previous Similar Occurrences

There were no previous occurrences of a loss of MOV control power rendering HPCI inoperable.

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

Component data:

Cause: B (Design, Manufacturing, Construction/Installation)
System: BJ (High Pressure Coolant Injection System)
Component: FUB (Fuse Block)
Manufacturer: W120 (Westinghouse)
Part Number TBAF3