



Indian Point Energy Center  
450 Broadway, GSB  
P.O. Box 249  
Buchanan, N.Y. 10511-0249  
Tel (914) 734-6700

J. E. Pollock  
Site Vice President

April 18, 2008

Re Indian Point Unit No. 3  
Docket No. 50-286

NL-08-070

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Mail Stop O-P1-17  
Washington, D.C. 20555-0001

Subject: Licensee Event Report # 2008-002-00, "Loss of Single Train 31  
Pressurizer Backup Heater Bank Required to Function to Shutdown and  
Maintain the Reactor in a Safe Condition Remote From Control Room"

Dear Sir or Madam:

Pursuant to 10 CFR 50.73(a)(1), Entergy Nuclear Operations Inc. (ENO) hereby provides Licensee Event Report (LER) 2008-002-00. The attached LER identifies an event where there was a functional failure of the single train of pressurizer heaters required to perform a safety function to shutdown the reactor from a location remote from the Control Room and maintain it in a safe condition. This is reportable under 10 CFR 50.73(a)(2)(v)(A). This condition was recorded in the Entergy Corrective Action Program as Condition Report CR-IP3-2008-00504.

There are no new commitments identified in this letter. Should you have any questions regarding this submittal, please contact Mr. Robert Walpole, Manager, Licensing at (914) 734-6710.

Sincerely,

J. E. Pollock  
Site Vice President  
Indian Point Energy Center

cc: Mr. Samuel J Collins, Regional Administrator, NRC Region I  
NRC Resident Inspector's Office, Indian Point 3  
Mr. Paul Eddy, New York State Public Service Commission  
INPO Record Center

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NRR

# LICENSEE EVENT REPORT (LER)

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.

<b>1. FACILITY NAME:</b> INDIAN POINT 3	<b>2. DOCKET NUMBER</b> 05000-286	<b>3. PAGE</b> 1 OF 4
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**4. TITLE:** Loss of Single Train 31 Pressurizer Backup Heater Bank Required to Function to Shutdown and Maintain the Reactor in a Safe Condition Remote From Control Room

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
2	19	2008	2008	002 - 00		4	18	2008	FACILITY NAME	DOCKET NUMBER <b>05000</b>
									FACILITY NAME	DOCKET NUMBER <b>05000</b>

<b>9. OPERATING MODE</b>  1	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §:</b> (Check all that apply)			
<b>10. POWER LEVEL</b>  100%	<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)
	<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)(ix)(A)
	<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)(x)
	<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 checked="" 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 type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A	

**12. LICENSEE CONTACT FOR THIS LER**

<b>NAME</b> Robert Walpole, Licensing Manager	<b>TELEPHONE NUMBER (Include Area Code)</b> (914) 734-6710
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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
X	EC	XFMR	Homewood Energy	N					

<b>14. SUPPLEMENTAL REPORT EXPECTED</b> <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	<b>15. EXPECTED SUBMISSION DATE</b>	MONTH	DAY	YEAR
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**16. ABSTRACT** (Limit to 1400 spaces, i.e., approximately 15 single-spaced type written lines)

On February 19, 2008, the Control Room received an alarm due to a trip of the 31 Pressurizer backup heater group. Investigation determined that the 31 backup heater group was inoperable due to failure of a transformer. Technical Specification (TS) 3.3.4, Condition A was entered for loss of a single remote shutdown heater. Reportability per 10 CFR 50.72(b)(3)(v)(A) was not identified at the time. The event is reported under 10 CFR 50.73(a)(2)(v)(A) because the redundant backup heater banks cannot be credited as they are not part of the current licensing basis for remote shutdown under TS 3.3.4 and because other guidance indicating single trains not credited in the accident analysis need not be reported are not applicable to this situation. The apparent cause of the event was an insulation breakdown between the primary and secondary windings of the transformer. Corrective action was taken by sending the transformer to a vendor for failure investigation. The failure investigation report will be used to determine the exact cause of the failure and this will be incorporated into the corrective action process. The safety significance is negligible since the redundant backup heaters could have been operated locally and safe shutdown (analyzed for a fire) does not require the use of pressurizer heaters.

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

Note: The Energy Industry Identification System Codes are identified within the brackets {}.

DESCRIPTION OF EVENT

On February 19, 2008, while at 100% steady state reactor power, the Control Room {NA} received an alarm due to a trip of the 31 Pressurizer backup heater group {EHTR}. Investigation determined that the 31 backup heater group was inoperable due to failure of a transformer {XFMR}. Technical Specification (TS) 3.3.4 (Remote Shutdown), Condition A was entered for loss of a single remote shutdown heater. The condition was recorded in the Indian Point Corrective Action Program (CAP) as CR-IP3-2008-00504.

This event was initially determined to be not reportable because the 32 and 33 backup heaters were available and operable as required by TS 3.4.9 (Pressurizer), the procedure for safe shutdown outside Control Room directed the use of these backup heaters when 31 backup heater was out of service, and these backup heaters were capable of local operation. For this reason an 8 hour notification under 10 CFR 50.72(b)(3)(v)(A) was not made. This was not the proper decision because entering Condition A of TS 3.3.4 indicated that the operators believed the 32 and 33 backup heaters were not part of the train for remote shutdown and, therefore, 10 CFR 50.72(b)(3)(vi) would not allow them to be credited for performance of the safety function. The event should therefore have been reported under 10 CFR 50.72(b)(3)(v)(A).

Inspection of the transformer found visual damage on the 'B' phase coil. The outer winding of the 'B' phase coil was telescoped out. The telescoped coil is an indication that there was a large current surge on the secondary side of the transformer. The transformer was electrically tested and indicated a short circuit between the primary and secondary windings of the transformer. The apparent cause for the transformer failure was an insulation breakdown between the primary and secondary windings of the transformer. The insulation breakdown resulted in a short circuit that caused the transformer to fail. Onsite testing of the transformer could not determine the cause of the insulation breakdown and resulting short circuit. The transformer has been sent to the vendor for failure investigation. The failure investigation report will be used to determine the exact cause of the failure and the need for any follow up corrective actions. A replacement transformer was installed on March 12, 2008 restoring operability of the pressurizer heater function for the TS 3.3.4 LCO.

Based on an evaluation by engineering, no extent of condition actions were determined to be needed for this condition.

The Cause of Event

The apparent cause for the transformer failure was an insulation breakdown between the primary and secondary windings of the transformer.

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**Corrective Actions**

The following corrective actions have been or will be performed under the Corrective Action Program (CAP) to address the cause(s) of this event.

- The failed transformer has been sent to the vendor for failure investigation. The failure investigation report will be used to determine the exact cause of the failure and results will be incorporated into the corrective action process.
- A replacement transformer was installed for the 31 Pressurizer backup transformer heater function.

**Event Analysis**

The event is reportable under 10 CFR 50.73 (a)(2)(v)(A) which says "Any event or condition that at the time of discovery could have prevented the fulfillment of the safety function of structures or systems that are needed to: (A) Shut down the reactor and maintain it in a safe shutdown condition." The 31 Pressurizer backup heater group is credited in the FSAR for shutdown outside the control room for non-mechanistic events. Extensive discussions were held with the NRC residents and the NRC provided their position that the loss of the 31 Pressurizer backup heater group constituted a reportable event under both 50.72 and 50.73 since shutdown from outside the Control Room was a safety function included under these reporting requirements. Based on the feedback from the NRC it was agreed that the design function of shutdown from outside the Control Room had to be accomplished using only the 31 Pressurizer backup heaters since this was the current licensing basis. The following bases for initially not reporting this event were considered, but were found to be invalid based on the feedback received from the NRC:

- The original FSAR credited only the 31 Pressurizer backup heaters for the remote shutdown function. A 1983 modification added the capability to locally operate all three backup heater banks without control power using their local push button. This would be done at the 480 V switchgear and would allow remote shutdown for Appendix R. The modification did not add this capability to the FSAR section that discussed non-mechanistic remote shutdown capability or initiate a surveillance test for the local push buttons. A procedure for remote shutdown was issued directing use of the local push buttons when the 31 Pressurizer backup heater bank could not be operated from the remote local station. When the improved Technical Specifications were issued in 2003, the requirements for remote shutdown outside Control Room identified the FSAR Section discussing the 31 Pressurizer backup heater bank. Other backup heater banks were not explicitly identified and there were no Surveillance requirements for the local push buttons. However, a PM was performed in the last two years showing operability of the pushbuttons and a TS 3.4.9 Surveillance Requirement for the other Backup Heater Banks demonstrated the functionality of the heaters. These other heaters were credited to make the initial determination that this condition was not reportable. However, it was

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

not appropriate to conclude the safety function is met because the FSAR and Technical Specifications do not specify use of the local pushbuttons for remote shutdown. Therefore, they can not be considered part of the same train so 10 CFR 50.72(b)(3)(vi) and 10 CFR 50.73 (a)(2)(vi) does not allow them to be credited for demonstrating performance of the safety function.

- TS 5.5.14 "Safety Function Determination Program (SFDP)" says "This program ensures loss of safety function is detected and appropriate actions taken." The program specifies "A loss of safety function exists when, assuming no concurrent single failure, a safety function assumed in the accident analysis cannot be performed." This does allow a conclusion that there is no loss of safety function because the loss of safety function determination only applies to components credited in the accident analysis. The feedback from the NRC was that 50.72 and 50.73 reporting requirements apply to all safety functions, including remote shutdown, regardless of whether they are credited in the accident analysis.
- Regulatory Issue Summary 2001-14 provided guidance and noted that from "1984 until late 2000, the NRC's reporting guidelines in NUREG-1022 stated that if the plant's safety analysis considered RCIC as a system needed to remove residual heat (e.g., it is included in the Technical Specifications) then its failure is reportable under the criterion; otherwise, it is not reportable under this section of the rule...The NRC staff has recently reconsidered this position and concluded that reporting of RCIC system failure or inoperability is required by the relevant regulations only for plants whose final safety analysis report explicitly credits the RCIC system for mitigating the consequences of a rod ejection accident. This interpretation avoids the implication that RCIC system failures are reportable simply because the RCIC system is included in the plant's TSs." The feedback from the NRC was that the Regulatory Issue Summary was not applicable to the remote shutdown function requiring the 31 Pressurizer backup heater group as this was considered a different issue.

**Past Similar Events**

A review was performed of Licensee Event Reports (LERs) for the past three years for any events reporting loss of safety function. No LERs were identified that reported loss of safety function.

**Safety Significance**

This event had no effect on the health and safety of the public. There were no actual safety consequences for the event because there were no accidents or transients requiring shutdown outside the control room and safe shutdown outside the Control Room could be accomplished with the 32 and 33 Backup Heaters (required by Technical Specification 3.4.9) and the local pushbuttons or without the use of heaters.