

Indian Point 3  
Nuclear Power Plant  
P.O. Box 215  
Buchanan, New York 10511  
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**New York Power  
Authority**

February 18, 1992  
IP3-NRC-92-012

Docket No. 50-286  
License No. DPR-64

Document Control Desk  
Mail Station PI-137  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Sir:

Revision 1 to Licensee Event Report LER 91-012-00 is hereby submitted in accordance with the requirements of 10CFR50.73. This event is of the type defined in the requirements per 10CFR50.73(a)(2)(v)(D).

Very truly yours,

A handwritten signature in black ink, appearing to read 'Joseph E. Russell', with a small 'For' written below it.

Joseph E. Russell  
Resident Manager  
Indian Point Three Nuclear Power Plant

jer/rb/rj  
Attachment

cc: Mr. Thomas T. Martin  
Regional Administrator  
Region 1  
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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Indian Point Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 2 8 6 1	PAGE (3) 1 OF 0 5
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TITLE (4) Design Bases Reconstitution Revealed Procedural Inadequacy that Could Have Resulted in Overloading Vital Buses During a LOCA

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 NAMES		DOCKET NUMBER(S)
1	1	2 1 9 1	9 1	0 1 2	0 1	0	2 1	8 9 2			0 5 0 0 0

OPERATING MODE (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)																				
POWER LEVEL (10) 1 0 0	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.38(c)(1)	<input type="checkbox"/> 50.38(c)(2)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	<input type="checkbox"/> 50.73(a)(2)(ix)	<input type="checkbox"/> 73.71(b)	<input type="checkbox"/> 73.71(c)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)

LICENSEE CONTACT FOR THIS LER (12)									
NAME Richard Bystrak, Senior Plant Engineer							TELEPHONE NUMBER		
							AREA CODE 9 1 4 7 1 3 6 1 8 1 2 5		

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	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)	<input type="checkbox"/> NO				0	7 3 1	9 2

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

On November 21, 1991, with the reactor at one hundred percent power, a vital bus load study completed as part of a design basis reconstitution effort revealed a procedural inadequacy that could potentially result in an overload of the vital buses during a loss of coolant accident with offsite power available.

On January 9, 1991 a one hour report was made to the NRC regarding an unanalyzed condition that could occur while operating under degraded voltage conditions coincident with an Engineered Safeguards actuation. The root cause of the events was insufficient correlation between plant design documents and the plant emergency procedures. Emergency and operating procedures have been revised to correct the procedural inadequacy and preclude the postulated events. Long term corrective actions are being developed and will be identified in a supplement to this LER.

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

DESCRIPTION OF THE EVENT

On November 21, 1991, with the reactor at one hundred percent power, the New York Power Authority discovered a procedural inadequacy that could have potentially resulted in an overload of the vital buses during a loss of coolant accident (LOCA). During a LOCA with offsite power available, emergency operating procedures (EOPs) would have directed the operators to restore non-safeguards loads to the electrical buses. New bus load calculations done as part of the continuing electrical distribution system design bases reconstitution indicated that performance of the EOPs under these conditions could have overloaded the vital buses and put the plant in an unanalyzed condition.

During an earlier phase of the reconstitution effort a similar event was identified for a LOCA with a loss of offsite power (LER-286-89-010).

On January 9, 1992, a one hour report was made to the NRC regarding a potential unanalyzed condition that could occur while operating under degraded voltage conditions coincident with an Engineered Safeguards actuation. Under this situation, loading of non-essential electrical components, could actuate the vital bus overcurrent protection, if not controlled.

CAUSE OF THE EVENT

The root cause of these events was insufficient correlation between plant design documentation and plant emergency procedures.

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

CORRECTIVE ACTIONS

As noted above, an electrical distribution system design bases reconstitution is in progress.

1. As a result of this event, emergency and operating procedures have been revised and implemented to provide vital bus load management during a LOCA with offsite power available. A new procedure, TOP-67, "Alignment and Operation of Non-Safeguards Equipment During a Safety Injection with Outside Power Available", the use of which is directed by the EOPs, provides improved direction for re-establishing non-safeguards equipment to the vital buses. Operators were trained on the procedures prior to assuming watch duties.
2. A formalized table of equipment loads and capacities has been issued to assist in load management decisions.
3. The degraded voltage concern has been addressed with a temporary procedure change to the alarm response procedure that requires separation from offsite power to the emergency diesel generators under a degraded voltage condition. Additional non-essential loading restrictions were incorporated into TOP-67.
4. The validation of a computer model of the 480 volt electrical distribution system is planned to be completed by June 1, 1992. This model will be used to determine long-term corrective actions. The long-term corrective actions will be addressed in a supplement to this LER. The supplement will be forwarded by July 31, 1992.

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

ANALYSIS OF THE EVENT

This event is being reported pursuant to 10CFR50.73(a)(2)(v)(D), a condition that alone could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident. Final Safety Analysis Report (FSAR) LOCA scenarios require operation of safeguards equipment. Under the conditions established by the EOPs (prior to being revised) sufficient electrical load could have been manually restored such that the electrical buses could have tripped on overcurrent and locked-out. If the hypothetical bus lock-out had occurred, it would have prevented the EDGs from automatically energizing the safeguards loads.

This condition has not occurred at the plant, procedures have been changed, and operators have been trained to prohibit such an occurrence. A similar event was reported in LER 286-89-010.

It has also been determined that operation with a degraded bus voltage and a coincident safety injection could potentially place the plant in an unanalyzed condition. Under this condition it is possible to overload the 480 volt buses even with previous load management restrictions such that the overcurrent protection would actuate while being powered from offsite sources. If this condition did occur the buses would be locked out and the diesel generators prevented from automatically loading. This situation would require operator action to reset the relays prior to re-energization of the buses.

This is an unlikely scenario because a reliable offsite grid which has several generation sources and a number of transmission lines is in place. Additionally, the calculations assumed redundant equipment was added to each vital bus. An Engineered Safeguards initiation would also have to be coincident with this situation. This potential scenario has been precluded by temporary procedure changes to the alarm response procedure and additional load restrictions to TOP-67.

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

SECURING FROM THE EVENT

Corrective action has been accomplished via revision of EOPs and the creation of a new procedure to specifically address the vital bus overload concerns. The degraded voltage concern has been addressed with a temporary procedure change to the Alarm Response procedure. The plant operators have been trained on use of the procedures. The plant remained at one hundred percent power throughout the events.