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September 11, 1998

Re: Indian Point Unit No. 2  
Docket No. 50-247  
LER 1998-012-00

Document Control Desk  
US Nuclear Regulatory Commission  
Mail Station PI-137  
Washington, DC 20555

The attached Licensee Event Report 1998-012-00 is hereby submitted in accordance with the requirements of 10 CFR 50.73.

Very truly yours,

*A. Alan Blind*

Attachment

cc: Mr. Hubert J. Miller  
Regional Administrator - Region I  
US Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, PA 19406

Mr. Jefferey Harold, Project Manager  
Project Directorate I-1  
Division of Reactor Projects I/II  
US Nuclear Regulatory Commission  
Mail Stop 14B-2  
Washington, DC 20555

Senior Resident Inspector  
US Nuclear Regulatory Commission  
PO Box 38  
Buchanan, NY 10511

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PDR ADOCK 05000247  
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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 information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the 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. If 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.

**FACILITY NAME (1)**

Indian Point No. 2

**DOCKET NUMBER (2)**

05000-247

**PAGE (3)**

1 OF 3

**TITLE (4)**

Failure of Auxiliary Feedwater Pump 21 to Start

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
08	11	1998	1998	012	00	09	10	1998		05000
										05000

  

OPERATING MODE (9)	POWER LEVEL (10)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)			
N	000	20.2201(b)	20.2203(a)(2)(v)	50.73(a)(2)(i)	50.73(a)(2)(viii)
		20.2203(a)(1)	20.2203(a)(3)(i)	50.73(a)(2)(ii)	50.73(a)(2)(x)
		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)	X 50.73(a)(2)(iv)	OTHER
		20.2203(a)(2)(iii)	50.36(c)(1)	50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A
		20.2203(a)(2)(iv)	50.36(c)(2)	50.73(a)(2)(vii)	

**LICENSEE CONTACT FOR THIS LER (12)**

NAME

James J. Maylath, Senior Engineer

TELEPHONE NUMBER (Include Area Code)

(914) 734-5356

**COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)**

CAUSE	SYSTEM	COMPONENT	MANUFACTURE R	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
X	ED	BKR	W120	Y					

**SUPPLEMENTAL REPORT EXPECTED (14)**

YES (If yes, complete EXPECTED SUBMISSION DATE).

X NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

On August 11, 1998, with the unit at hot shutdown (RCS Temp. 325°F; RCS Press. 400 psi), Auxiliary Feedwater Pump 21 failed to start during surveillance testing. The DB-50 supply breaker to Auxiliary Feedwater Pump 21 did not close due to inertial latch binding. This binding was caused by spalling or breaking away of the surface coating on the shaft pin and possibly the bushing of the latch. Fragments of the coating accumulated on the surfaces of the pin and the bushing reducing the clearance between the shaft and the bushing. This reduction in clearance resulted in the latch binding during operation. This inertial latch was cleaned and adjusted as necessary to achieve adequate clearances for proper operation. The breaker was then tested satisfactorily. All other DB-50 breaker inertial latches were inspected to determine if a similar condition existed. These inertial latches were cleaned, adjusted, and tested as necessary to assure proper breaker operation.

**LICENSEE EVENT REPORT (LER)**  
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FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
Indian Point No. 2	05000-247	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 3
		1998	-- 012	-- 00	

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

**PLANT AND SYSTEM IDENTIFICATION:**

Westinghouse 4-Loop Pressurized Water Reactor

**IDENTIFICATION OF OCCURRENCE:**

Failure of Auxiliary Feedwater Pump 21 to Start

**EVENT DATE:**

August 11, 1998

**REPORT DUE DATE:**

September 10, 1998

**REFERENCES:**

Condition Identification and Tracking System (CITRS) Nos. 98-E06903 and 98-E06932

**PAST SIMILAR OCCURRENCE:**

LER 1997-024 and 1983-009

**DESCRIPTION OF OCCURRENCE:**

On August 11, 1998, with the unit at hot shutdown (RCS Temp. 325°F; RCS Press. 400 psi), Auxiliary Feedwater Pump 21 failed to start during the performance of surveillance test PMT-170, Auxiliary Feedwater Pump Actuation. Prior to the surveillance test, Auxiliary Feedwater Pump 21 was in service. Auxiliary Feedwater Pump 21 was then secured by the CCR control switch, and the CCR control switch was placed in pull out for the test. The test then called for the CCR control switch to be placed in the start position for Auxiliary Feedwater Pump 21. The DB-50 supply breaker to Auxiliary Feedwater Pump 21 did not close upon actuation of the CCR control switch. Breaker status indication did not change, and there were no CCR alarms that annunciated or cleared. The CCR control switch was then placed in pull out, removing Auxiliary Feedwater Pump 21 from service for investigation of the failure of the breaker to close.

**LICENSEE EVENT REPORT (LER)**  
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FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
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		1998	-- 012	-- 00	

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

**ANALYSIS OF OCCURRENCE:**

Auxiliary Feedwater Pump 21, which is an engineered safety feature (ESF), did not operate as expected during the performance surveillance test PMT-170. This is reportable under 10CFR50.73 (a)(2)(iv). Plant conditions at the time of the event did not require operation of Auxiliary Feedwater Pump 21. There were no injuries to personnel or damage to equipment as a result of this event.

**CAUSE OF OCCURRENCE:**

The root cause analysis initiated by Con Edison in connection with this event indicates that the failure of the Auxiliary Feedwater Pump 21 DB-50 supply breaker to close was due to inertial latch binding. This binding was caused by spalling or breaking away of the surface coating on the shaft pin and possibly on the female surface of the bushing of the latch. This coating was used on new inertial latches that were procured following the DB-50 breaker refurbishment that was detailed in LER 50-247/1997-024. Fragments of the coating accumulated on the surfaces of the pin and the bushing reducing the clearance between the shaft and the bushing. This reduction in clearance resulted in the latch binding during operation, causing the breaker to fail to close. Residue of lubricant (molybdenum disulfide) was observed on the surfaces of the shaft pin and the inside diameter of the bushing. However, the lubricant was insufficient to prevent failure of the coating. Examination of the coating on the shaft pin clearly showed that the coating was breaking away from the surface. This damage may have been initiated during treatment with the emery cloth as part of the custom fitting process. However, it appears that during service material was dislodged from the surfaces. The visual examination indicates that the quality of bonding of the coating on the shaft was inadequate. On August 29, 1998, this condition was determined to be reportable under 10CFR Part 21, and an initial notification by facsimile to the NRC was made following that determination.

**CORRECTIVE ACTION:**

The vendor (Westinghouse) was contacted, and they provided the dimensions for acceptable tolerances for the inner diameter of the inertial latch pivot pin hole and the outer diameter of the pivot pin. The vendor also provided a method of cleaning, polishing, and lubricating to obtain proper freedom of movement. The inertial latch from the Auxiliary Feedwater Pump 21 breaker was cleaned (the surface coating which was yellow in appearance was removed) and adjusted as necessary to achieve adequate clearances for proper operation. The breaker was then tested satisfactorily. All other DB-50 breaker inertial latches in service and in spare breakers with the new mechanism were inspected to determine if a similar condition existed. These inertial latches were cleaned, adjusted, and tested as necessary to assure proper breaker operation. During future continuing maintenance of the DB-50 breakers, newly procured inertial latches will be inspected to determine if a surface coating similar to the Auxiliary Feedwater Pump 21 breaker inertial latch exists. These inertial latches will be cleaned, adjusted, and tested as necessary to assure proper breaker operation prior to installation.

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