James S. Baumstark
Vice President
Nuclear Engineering

Consolidated Edison Company of New York, Inc.
Indian Point 2 Station
Broadway & Bleakley Avenue
Buchanan, New York 10511

Internet: baumstarkj@coned.com
Telephone: (914) 734-5354
Cellular: (914) 391-9005
Pager: (917) 457-9698
Fax: (914) 734-5718

October 15, 1998

Re: Indian Point Unit No. 2
Docket No. 50-247
LER -98-15-00

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

The attached Licensee Event Report 98-15 is hereby submitted in accordance with the requirements of 10 CFR 50.73.

Very truly yours,

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

IE22

9810260087 981015
PDR ADOCK 05000247
S PDR

NRC FORM 366 (6-1998) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

APPROVED BY OMB NO. 3150-0104 EXPIRES 06/30/2001
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)	DOCKET NUMBER (2)	PAGE (3)
Indian Point Unit No. 2	50-247	1 OF 4

TITLE (4)
Technical Specification Required Shutdown

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
09	16	98	98	-- 15 --	00	10	15	98		05000
									FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	N
POWER LEVEL (10)	100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

	20.2201(b)		20.2203(a)(2)(v)	X	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)		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	TELEPHONE NUMBER (Include Area Code)
Philip Griffith, Sr. Licensing Engineer	(914)734-5190

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	YES (If yes, complete EXPECTED SUBMISSION DATE).	X NO				

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

On September 16, 1998, with the unit operating at 100 % power, an unplanned entry into Technical Specification 3.0.1 took place due to a potential common mode failure of the Containment Fan Cooler Unit (FCU) High Efficiency Particulate Assembly (HEPA) filters. On September 13, 1998, an entry into Technical Specification Action Statement 3.3.B.2.a was made when the 25 FCU HEPA filter failed. The 25 FCU HEPA filter was replaced on September 16, 1998, and Technical Specification Action Statement 3.3.B.2.a was exited. Subsequently on September 16, 1998 at 2122, the 22 FCU HEPA filter failed to meet the operability criteria established for the inspection that was initiated as a result of the 25 FCU HEPA filter failure. A shutdown was initiated based on the requirements of Technical Specification 3.0.1. The reactor was taken subcritical at 0417 on September 17, 1998 and then cooled to 340°F. Upon cooldown to below 350°F where Technical Specification 3.3.B.2.a for the FCU HEPA filters was no longer applicable, the Technical Specification 3.0.1 Limiting Condition for Operation was exited.

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:

Technical Specification 3.0.1 required Shutdown

EVENT DATE:

September 16, 1998

REPORT DUE DATE:

October 16, 1998

REFERENCES:

Indian Point 2 Condition Reporting System CRS 199808173

PAST SIMILAR OCCURRENCES:

None

DESCRIPTION OF OCCURRENCE:

On September 16, 1998 at 2122, with the unit operating at 100 % power, an unplanned entry into Technical Specification 3.0.1 took place due to a potential common mode failure of the Containment Fan Cooler Unit (FCU) High Efficiency Particulate Assembly (HEPA) filters. This event was initiated on September 13, 1998 at 1205, when the Central Control Room (CCR) received a "COMMON CONTAINMENT RECIRC FAN NORMAL FLOW PATH LOW FLOW" alarm coupled with an "OFF" indication light for 25 FCU fan on Panel "SL" with 25 FCU being the affected flow path. There were no vibration alarms annunciated concurrent with the annunciation of the "COMMON CONTAINMENT RECIRC FAN NORMAL FLOW PATH LOW FLOW" alarm. The 25 FCU was declared inoperable and the plant entered a seven day Limiting Condition for Operation (LCO) in accordance with Technical Specification Action Statement 3.3.B.2.a. On September 16, 1998 the 25 FCU HEPA filter unit was declared operable after replacement of the filter elements and Technical Specification Action Statement 3.3.B.2.a was exited. Subsequently an inspection of the remaining FCU filters was initiated. 22 FCU HEPA filter failed the inspection and the Unit entered a Technical Specification 3.0.1 Action Statement due to a potential common mode failure of the HEPA filters. Upon entry into the Technical Specification 3.0.1 Action Statement, a shutdown was initiated with the reactor brought subcritical at 0417 on September 17, 1998 and subsequently cooled down to 340°F. The Technical Specification 3.0.1 Action Statement was exited when the reactor was cooled to below 350°F.

ANALYSIS OF OCCURRENCE:

This report is being made because an entry into Technical Specification 3.0.1 occurred on September 16, 1998. Entries into Technical Specification 3.0.1 are reportable under 10 CFR 50.73(a)(2)(i). The failure of the second FCU HEPA filter raised concerns for a potential common mode failure of the FCU HEPA filters, and thus the operability of the Fan Cooler Units. Technical Specification 3.3.B.2.a, allows only one Fan Cooler Unit to be inoperable with the unit above Hot Shutdown. A common mode failure of FCUs could result in a condition with the number of FCUs inoperable in excess of that considered by the applicable Technical Specification Action Statement, thus requiring the entry into Technical Specification 3.0.1 and the cooldown to below the temperature requiring FCUs to be operable.

CAUSE OF OCCURRENCE:

An evaluation has been performed with the following identified as the root and contributing causes of these failures:

1. The "series 8" HEPA filters installed in the 22 and 25 FCUs had reached the end of useful life.
   - Both the 22 and 25 FCU HEPA filters had been installed in 1991 and there were indications of reaching end of useful life, e.g. "hour glassing" and "microscopic cracking."
   - The Indian Point HEPA filters are installed in the normal FCU flow path rather than the incident path. This additional loading may contribute to the acceleration of the filter to the end of useful life.
   - During interviews it was noted that the roughing filters were not in place during the entire outage. With the roughing filters not in service during work in containment the dirt load on the HEPA filters can be increased.

2. Excess water in the filter increased loading and distortion of the 25 FCU filter. This was compounded by the prolonged service factor and contributed to the failure of the filter.
   - The floor in the FCUs was noted to sloped down from the drains and several drains were plugged. The floor on all five FCUs were wet.
   - The bottom row of filters on 25 FCU HEPA filters were heavier than upper rows.

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Indian Point Unit No. 2	05000-247	98	-- 1 5 --	00	4 OF 4

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

CAUSE OF OCCURRENCE (continued):

3. The design of the "series 8" HEPA filters was a contributing factor to the failure.
   - All the filters that failed were "series 8" and exhibited "hour glassing", lower burst strength than other filters, and are susceptible to water absorption.

4. Employment of an inadequate method for determination of when filters should be replaced.
   - The "series 8" filters reached end of useful life without replacement.
   - Test and preventative maintenance procedures based filter replacement on condition testing and not service life.

CORRECTIVE ACTIONS:

The following corrective actions have been implemented or are scheduled for implementation to preclude a recurrence of the filter issues noted in this event.

1. All filters installed prior to 1993 have been changed.

2. An interim inspection plan has been initiated to monitor the HEPA filters for symptoms indicating the potential for filter failure until either the remaining filters have been replaced or new preventative maintenance or test criterion are established.

3. The changes to operating procedures for the installation and removal of roughing filters prior to the initiation of work in the containment building is currently scheduled for completion prior to December 31, 1998.

4. All FCU floor drains have been cleared to ensure that no blockage exists.

5. FCU floor and drain trays are scheduled to be resloped to cause the water to run downhill to the floor drains prior to July 30, 2000.

6. All "series 8" filters have been removed from FCU HEPA filter service.

7. Evaluation of a Technical Specification change to remove the FCU HEPA filters from the FCU flow path is scheduled to be complete prior to June 30, 1999.

8. Existing test and preventative maintenance procedures criteria are scheduled to be revised to incorporate the lessons learned from this event by November 30, 1998.

9. Based on the interim inspection plan in corrective action 2, the bottom three rows in filter assemblies 21 and 24 are currently scheduled to be replaced by December 31, 1998.

10. The 25 FCU HEPA filter was replaced On September 16, 1998.