James A. FitzPatrick
Nuclear Power Plant
268 Lake Road
P.O. Box 41
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315-342-3840

New York Power Authority

Michael J. Colomb
Site Executive Officer

April 28, 2000
JAFP-00-0103

United States Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Washington, D.C. 20555

Subject: **Docket No. 50-333**
LICENSEE EVENT REPORT: LER-00-004 (DER-00-00830)

RCIC System Inoperable for Greater Than Seven Days

Dear Sir:

This report is submitted in accordance with 10 CFR 50.73(a) (2) (i) (B).

There are no commitments contained in this report.

Questions concerning this report may be addressed to Mr. Mark Abramski at (315) 349-6305.

Very truly yours,

MICHAEL J. COLOMB

MJC:MA:las
Enclosure

cc: USNRC, Region 1
USNRC, Project Directorate
USNRC Resident Inspector
INPO Records Center

IE22

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)

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TITLE (4)

RCIC System Inoperable for Greater Than Seven Days

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
									N/A	05000
03	04	00	00	004	00	04	28	00	FACILITY NAME: N/A	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)
Mr. Mark Abramski, Sr. Licensing Engineer	315-349-6305

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
X	YES (If yes, complete EXPECTED SUBMISSION DATE).	NO		07	27	00

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

On March 4, 2000, with the plant at 100 percent power, Surveillance Test (ST) - 24J, Reactor Core Isolation Cooling (RCIC) System Flow Rate Inservice Test was in progress. During ST-24J, the RCIC pump flowrate took approximately 2 minutes to stabilize to the required 400 GPM flowrate. The RCIC system was declared inoperable at 0939 on March 4, 2000. On March 31, 2000, during a review of prior RCIC system performance data, it was determined that after initially achieving 400 gpm, the RCIC system had failed to maintain 400 GPM flow during the October 14, 1999 scram (LER 99-010). This condition indicated that the RCIC system had been inoperable for a time period exceeding the allowable out of service time in the Technical Specifications and is therefore a condition prohibited by the Technical Specifications.

A gain adjustment was made to the RCIC system flow controller, applicable sections of ST-24J were re-run, acceptable system dynamic response was observed and the RCIC system was declared operable at 2020 on March 4, 2000.

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

EIIS Codes in [ ]

Event Description

On March 4, 2000, with the plant at 100 percent power, Surveillance Test (ST) - 24J, Reactor Core Isolation Cooling (RCIC) [BN] System Flow Rate Inservice Test was in progress. During ST-24J, the RCIC pump flowrate took approximately 2 minutes to stabilize to the required 400 GPM flowrate. The RCIC system was declared inoperable at 0939 on March 4, 2000.

On March 31, 2000, during a review of prior RCIC system performance data, it was determined that, after initially achieving 400 GPM, the RCIC system had failed to maintain 400 GPM flow during the October 14, 1999 scram (LER 99-010). This condition indicated that the RCIC system had been inoperable for a time period exceeding the allowable out of service time in the Technical Specifications and is therefore a condition prohibited by the Technical Specifications.

A gain adjustment was made to the RCIC system flow controller, applicable sections of ST-24J were re-run, acceptable system dynamic response was observed and the RCIC system was declared operable at 2020 on March 4, 2000.

Cause of Event

The cause of this event is currently under investigation (Cause Code X). RCIC system dynamic characteristics are dependent on control system settings as well as system hydraulic and mechanical characteristics. The surveillance test frequency for the RCIC system has therefore been increased in an attempt to gather additional data for analysis.

Event Analysis

The function of the RCIC system is to provide makeup injection to the reactor to mitigate reactor isolation events.

An engineering analysis was performed to assist in determining the risk significance of this condition. This analysis made the following conservative assumptions.

1. A loss of feedwater event occurs.
2. The RCIC system is the only source of makeup injection
3. RCIC flow as low as 280 GPM was considered (a review of actual RCIC flow data indicates RCIC flow was approximately 360 GPM)

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Event Analysis (cont'd.)

This analysis concluded that with a RCIC flow of 280 GPM, reactor water level would not fall below 72 inches above the top of active fuel. Qualitative post event review determined that the failure of the RCIC system to maintain 400 GPM injection flow during the October 14,1999 scram may not have been a system failure. The RCIC system is nominally designed to mitigate the consequences of a loss of feedwater transient with reactor isolation. The RCIC system injects into the feedwater header and from there into the reactor. During the October 14, 1999 scram, the feedwater system [SJ] remained in service, and during the RCIC injection period, was at a high flow rate to recover reactor level. The effect of high feedwater flow rates in the RCIC discharge flow path have not been quantitatively evaluated and therefore the conclusion that the RCIC system was inoperable during the October 14, 1999 scram is conservative. This event does not constitute a safety system functional failure in the context of NEI 99-02, Rev. 0.

Extent of Condition

Additional review of RCIC performance data indicates that this condition existed as early as August 19, 1999.

This physical condition is limited to the RCIC system.

Corrective Actions

1. The proportional band gain of the RCIC flow controller was adjusted and the system was declared operable. **(Completed)**

2. A diagnostic instrumentation plan is being developed for the RCIC system to measure relevant parameters during surveillance testing. This testing will occur on an increased frequency and the data analyzed to determine cause. The results of this investigation will be provided in a supplemental report. **(Scheduled Completion Date: 7/17/00)**

3. The circumstances surrounding the August 19, 1999 run of Surveillance Test (ST) 24J is being reviewed to determine why this degraded flow was not recognized. The results of this review will be provided in a supplemental report. **(Scheduled Completion Date: 7/1/00)**

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Additional Information

This event occurred during the Reactor Scram reported under LER-99-010; however, this condition was not recognized at the time and therefore LER-99-010 did not address it.

The High Pressure Coolant Injection (HPCI) [BJ] system has also experienced performance degradation which had gone unnoticed until October of 1999 (LERs 99-011 and 00-002). Although this performance degradation was due to a different failure mechanism, these events were similar in the respect that the plant's System Monitoring Program did not detect the degradation for some time.

Weaknesses with respect to performance monitoring of the HPCI system are documented in a Notice of Violation (NOV) included in NRC Inspection Report 05000333/2000001. A comprehensive corrective action for weaknesses in system monitoring is described in the Authority's response to this NOV (JAFP-00-0095).