May 18, 2000

Mr. Michael J. Colomb
Site Executive Officer
New York Power Authority
James A. FitzPatrick Nuclear Power Plant
Post Office Box 41
Lycoming, New York 13093

SUBJECT: NRC SUPPLEMENTAL INSPECTION REPORT 05000333/2000-008

Dear Mr. Colomb:

During the period from April 3, 2000 to April 7, 2000, the NRC performed a supplemental inspection at the James A. FitzPatrick Nuclear Power Plant to review a performance issue associated with the high pressure coolant injection (HPCI) system. This supplemental inspection was performed by the NRC to assess New York Power Authority's (NYPA's) evaluation of the HPCI system overspeed event on October 14, 1999 and unexpected speed transients during subsequent HPCI surveillance testing. The HPCI performance issue was previously characterized as "white" in NRC Inspection Report #2000-001 and was associated with the mitigating systems cornerstone in the reactor safety strategic performance area. The preliminary results of this inspection were discussed on April 7, 2000, with you and other members of your staff.

Subsequent to the inspection, the NRC reviewed additional analysis related to an issue associated with degradation of the reactor core isolation cooling (RCIC) system that was identified during the course of the inspection. The results of these additional reviews were discussed on May 5, 2000, with Messrs. G. Thomas and M. Abramski of your staff. The enclosed report presents the results of the inspection.

The NRC determined that the identification of the root causes and completed and proposed corrective actions associated with the HPCI system transients were, in general, comprehensive; however, a portion of NYPA's evaluation regarding extent of condition associated with post trip reviews was inadequate. As a result, an issue concerning degradation of the RCIC system was identified by the NRC during this inspection. The NRC identified that during the reactor scram event on October 14, 1999, the RCIC system had not achieved its design basis flowrate. This non-conforming condition had not been recognized by your staff although several opportunities had existed to identify the lower than expected flow condition. The failure to identify this condition during the post trip evaluation performed following the October 14, 1999, event, declare RCIC inoperable, and correct the problem resulted in a Non-Cited Violation of Technical Specification Section 3.5.E.2 requirements. This issue was potentially significant based on it occurring during the same event where the HPCI system had unexpectantly tripped on overspeed. However, subsequent to the on-site inspection, the NRC determined this to be an

issue of very low risk based on your detailed analysis showing that RCIC would have been able to perform its safety function with the lower flowrate. This issue has been entered into your corrective action program and is discussed in the summary of findings and in the body of the attached Inspection Report. If you contest this NCV, a written response within 30 days of the date of this Inspection Report, with the basis for the denial, should be sent to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the FitzPatrick facility.

We noted that your review of the HPCI event concerning untimely problem identification found issues similar to those identified by the NRC during the recent engineering design inspection performed on the emergency service water (ESW) system. Although your programs are designed to generate a significant amount of system operational data, the NRC has identified several examples where the results were either not reviewed in adequate depth or not understood, resulting in the failure to identify problems in a timely manner. This area will be further reviewed during the problem identification and resolution baseline inspection.

Based on the adequacy of your completed and proposed corrective actions and the information contained in your NOV reply letter, dated April 19, 2000, Notice Of Violation 05000333/1999009 associated with the HPCI performance issue has been closed.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be placed in the NRC Public Document Room.

Sincerely,

/RA/

Lawrence T. Doerflein
Systems Branch
Division of Reactor Safety

Docket No. 05000333
License No. DPR-59

Enclosure: Inspection Report 05000333/2000008

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REGION I

Docket Nos:	0500333
License Nos:	DPR-59
Report No:	0500333/2000-008
Licensee:	New York Power Authority
Facility:	James A. Fitzpatrick Nuclear Power Plant
Location:	Lycoming, New York 13093
Dates:	April 3 - April 7, 2000
Inspector:	Frank Arner, Reactor Inspector
Approved by:	Lawrence T. Doerflein Systems Branch Division of Reactor Safety

SUMMARY OF FINDINGS

NRC Inspection Report 0500333/2000-008

Cornerstone: Mitigating Systems

This supplemental inspection was performed by the NRC to assess NYPA's evaluation associated with the overspeed trip and unexpected speed transients of the High Pressure Coolant Injection system (HPCI). The supplemental inspection was performed in accordance with Inspection Procedure 95001. Findings relative to this inspection are as follows:

- NYPA's completed and proposed corrective actions associated with the High Pressure Coolant Injection System unexpected speed transients were, in general, comprehensive. Systematic problem evaluation techniques were utilized in accordance with administrative procedures. The depth of NYPA's root cause evaluation relative to HPCI problem identification weaknesses and equipment performance issues was in accordance with the risk significance of the issues.

  In accordance with the guidance in IMC 0305, "Operating Reactor Assessment Program," the white performance issue associated with the HPCI system will only be considered in assessing plant performance for a total of four quarters.

- **GREEN.** NYPA's extent of condition review associated with inadequate HPCI problem identification during post trip reviews was inadequate. The NRC identified that during the October 14, 1999, reactor scram and subsequent HPCI overspeed event, RCIC had not functioned as designed. The RCIC system injected at a nominal 355 gpm versus the design flowrate of 400 gpm within 30 seconds of the initiation signal. The inspector determined that there were several missed opportunities to identify the degraded system performance. The failure to identify this condition, declare RCIC inoperable, and take appropriate corrective actions to restore operability, resulted in a Non-Cited violation of Technical Specification 3.5.E.2. requirements. Specifically, the RCIC system had been inoperable for a time period exceeding the allowable out of service time in the technical specifications. Subsequent to the inspection, the NRC determined this to be an issue of very low significance based on NYPA's analysis which concluded that RCIC would have been able to perform its safety function at the lower flowrates achieved. The inspector therefore screened this issue out in phase 1 of the significance determination process. (Section 02.02 (d))

Report Details

01 Inspection Scope

This supplemental inspection was performed by the NRC to assess NYPA's evaluation of the HPCI overspeed event on October 14, 1999 and the unexpected speed transients noted during subsequent HPCI surveillance testing. The overspeed event along with the unexpected speed transients represented the equipment non-conforming issues. This inspection also focused on assessing NYPA's evaluation of their failure to identify conditions adverse to quality related to the HPCI system in a timely manner. This performance issue was previously characterized as "white" in NRC Inspection Report #2000-001 and was associated with the mitigating systems cornerstone in the reactor safety strategic performance area.

02 Evaluation of Inspection Requirements

02.01 Problem Identification

a. Determine that the evaluation identifies who (i.e. licensee, self revealing, or NRC), and under what conditions the issue was identified.

On October 14, 1999, Fitzpatrick scrammed due to a turbine trip caused by a failure in the generator protection circuit. During the ensuing transient, the HPCI system received a start signal due to low-low reactor water level. However, due to feedwater injection, water level was restored above the low-low level setpoint prior to the HPCI injection valve receiving an opening signal. The HPCI turbine tripped on overspeed during the transient. Initially, NYPA determined that the turbine tripped as designed, on high reactor vessel water level. Approximately five days later system engineering determined that the HPCI system had experienced an overpressure condition during the event, and that the HPCI turbine had tripped on mechanical overspeed before the high reactor vessel water level occurred.

In response to the October 14, 1999, main turbine trip event, NYPA increased the frequency of HPCI testing from quarterly to monthly. On October 26, 1999, and January 31, 2000, NYPA identified that HPCI experienced unexplained speed transients during testing of the system. The details and evaluation of these transients were described within licensee event reports 99-010, 99-011, 99-011-01, and 00-002.

b. Determine that the evaluation documents how long the issue existed, and prior opportunities for identification.

LER 00-002 documents that the first recognized occurrence of the unexpected speed transient was during the October 14, 1999 reactor scram when the HPCI turbine tripped on overspeed. Additional unexpected transients were discovered by NYPA during surveillance testing on October 26, 1999 and January 31, 2000. NYPA's analysis determined that the transients were caused by the improper adjustment of oil pressure within the HPCI lube oil system. Maintenance memorandum, JMD-00-031, suggested that HPCI lube oil pressure had been set outside of the preferred parameters as far back as 1990.

c. Determine that the evaluation documents the plant specific risk consequences and compliance concerns associated with the issue.

NYPA's evaluation concluded that during the October 14, 1999 event, if the HPCI turbine had been loaded by pump flow such as during an actual accident condition, that the system most likely would have injected (LER 00-002) and therefore the risk consequences were minimal. Additionally, the safety significance of subsequent speed transients observed during surveillance testing was evaluated as minimal because HPCI was available and achieved the required flow rate in the required time.

Inspection report 2000-001 had previously concluded that the assumptions and uncertainties contained in NYPA's evaluation of the event did not provide adequate justification for a reduced safety significance. The inspector found no technical evidence to suggest that the previous NRC conclusion characterizing the HPCI overspeed event as White (low to moderate safety significance), should be modified.

The inspector reviewed JAFP-00-0095, "Reply To Notice Of Violation 2000-001," dated April 19, 2000, which contained NYPA's response to the NOV associated with the HPCI "white" finding. The letter stated that NYPA agreed with the violation and the significance determination and addressed the corrective actions taken to prevent recurrence.

02.02 Root Cause and Extent of Condition Evaluation

a. Determine that the problem was evaluated using a systematic method to identify root causes and contributing causes.

Unexpected HPCI Turbine Speed Transient Troubleshooting

NYPA assembled a team which employed a Problem Analysis process developed by Kepner-Tregoe. Based on the observations from troubleshooting, numerous corrective actions were taken. Memorandum JDED-99-0402, "HPCI Overspeed Analysis: Status and Recommendations," dated November 16, 1999, provided additional recommended corrective actions. The inspector found these recommendations, including proposed actions to inspect the oil system during the next refueling outage to be extensive, comprehensive and warranted. Based on the teams recommendations, increased frequency testing was performed. On February 5, 2000, during troubleshooting of the January 31, 2000, unexpected speed increase, a speed transient was captured by instrumentation and the cause was determined to be a high oil pressure setting within the lube oil system.

HPCI Problem Identification

NYPA assembled a root cause analysis team in order to perform a root cause determination of the inability to identify conditions adverse to quality related to the HPCI system in a timely manner. In accordance with their problem identification procedure, the team utilized several root cause analyses (RCA) techniques including event and causal factor charting, interviewing and barrier analysis.

b. Determine that the root cause evaluation was conducted to a level of detail commensurate with the significance of the problem.

Root Cause Evaluation Of Turbine Speed Transients

During the reactor startup on October 26, 1999, a test was performed at full operating pressure in the reactor "run" mode to ensure HPCI operability after replacement of the governor servo mechanism. During a subsequent review of the test data, NYPA identified that an unexplained speed transient had occurred which approached but did not result in a mechanical overspeed condition. Troubleshooting activities identified several likely contributors to the anomalous control system response. Several recommendations and repairs were completed such as but not limited to: (a) the EG-R governor was replaced; (b) the HPCI flow controller was adjusted; (c) the turbine speed magnetic pickup was replaced; (d) the linkages on the control valve were inspected for freedom of movement.

Although the equipment failure evaluation (EFE) performed at the time had identified several likely contributors, the cause of the unexpected HPCI turbine speed increase had not been conclusively determined. In addition to the numerous corrective actions which had been taken in an attempt to solve the unexpected transients, the team recommended increased frequency testing to gather more data.

On January 31, 2000, an intermittent speed transient condition recurred and transient monitoring instrumentation captured the data for analysis. An evaluation of the data resulted in the determination that the cause of the speed transient was improperly set (high) lubricating oil pressure for the HPCI system. The improperly set oil pressure was caused by a defective procedure. The HPCI turbine governor is an electro-hydraulic design which uses turbine lubricating oil as the hydraulic working fluid. NYPA concluded that the high oil pressure resulted in the inadvertent opening of a fifth stage control valve, which is only intended to open to provide high flow rates of steam when the reactor pressure is low. The opening of this valve at the higher reactor pressures caused a rapid energy input to the turbine steam chest causing the speed transients. Additionally, NYPA determined that a contributing although insignificant cause was that the spring tension on the governor control beam had not been set in accordance with the vendor manual. The inspector reviewed the analysis regarding the control oil and its relation to the force balance on the control valve and determined NYPA's conclusion was reasonable.

The inspector determined that NYPA's evaluation of the problem was conducted to a level of detail commensurate with the significance of the problem.

Root Cause Of HPCI Problem Identification Issues

The root cause team identified that the system monitoring program was not currently designed to identify equipment degradation at the component level in a consistent manner. One of several weaknesses identified by the team was the depth and quality of post transient evaluations. Specifically, the team noted that on August 3, 1998 during a reactor scram event, the HPCI system discharge pressure had been higher than expected-yet this had gone unnoticed during the 1998 post trip evaluation. The inspector determined that the RCA team's evaluation of HPCI problem identification deficiencies and weaknesses was thorough and their proposed corrective actions were consistent with the risk significance of the system.

c. Determine that the root cause evaluation included a consideration of prior occurrences of the problem and knowledge of prior operating experience.

NYPA initially determined that the first recognized occurrence of the speed transients was during the October 14, 1999 reactor scram when the HPCI turbine tripped on overspeed. However, subsequent detailed reviews revealed several HPCI startups where speed anomalies had occurred as far back as 1990 and 1996. NYPA identified that missed opportunities had existed to identify the incorrect oil pressure settings in previous years. DER 412 identified that oil pressure had historically been set and checked at turbine speeds dictated by the inservice test program, which had been below the recommended speed parameter of 4000 rpm when setting the oil pressure. The overall effect of increasing oil pressure on the HPCI control system during the startup transient phase had not been previously understood.

d. Determine that the root cause evaluation included consideration of potential common causes and extent of condition of the problem.

Lube Oil Pressure Setting/Governor Spring tension

NYPA determined in DER 00-412 that the root cause of the speed transients was high oil pressure caused by a defective procedure and affected the HPCI turbine only. The inspector noted that NYPA had evaluated the similarly manufactured RCIC turbine and found that it used a simplified control system and the hydraulic control pressure was not adjustable. Additionally, the inspector determined through a review of several recent and historical RCIC system computer traces that speed transients similar to the HPCI transients have not occurred.

Post Trip Evaluations

During their review of the October 14, 1999 HPCI overspeed event, NYPA discovered that a historical post trip evaluation (PTE-98-003) for an August 3, 1998 reactor trip had not identified that the HPCI system may have been subject to higher discharge piping pressures than design. DER 99-02249 was initiated on October 22, 1999 to evaluate the condition. Corrective actions were to revise the procedure used for post transient evaluations (AP-03.01) in order to provide specific guidance to require a detailed evaluation of each process parameter for systems that initiated during the transient.

Although it was recognized on October 22, 1999, that the lack of procedural detail within the post transient procedure had resulted in a delay in identification of the HPCI overspeed condition and a previous weak review of HPCI performance in 1998, there were no corrective actions to go back to the post trip review of the October 14, 1999, event to review other system responses in more detail. Thus, the inspector found the corrective actions to be weak with regard to the extent of condition of inadequate post trip evaluations. In order to sufficiently challenge this aspect of NYPA's evaluation in accordance with the requirements of inspection procedure 95001, the inspector questioned the performance of the RCIC system during the October 14, 1999 reactor scram.

RCIC Response During October 14, 1999 Reactor Trip

The inspector reviewed the post transient log of the October 14, 1999 reactor trip event and determined that RCIC had not achieved rated flow (400 gpm). Specifically, RCIC was unable to achieve its required flow of 400 gpm referenced in technical specification surveillance requirement section 4.5.d. Additionally, Final Safety Analysis Report section 4.7.2 states that RCIC delivers design flow within 30 seconds after actuation. A review of the computer log showed that RCIC developed a nominal 355 gpm within 30 seconds after its initiation signal on low-low level. The maximum flow obtained was a nominal 370 gpm prior to flow cessation due to reactor high water level.

The inspector determined that during the post trip review of the October 14, 1999, transient, RCIC should have been declared inoperable for failing to achieve its required technical specification flowrate. The failure to identify and correct the condition resulted in a Non-Cited violation of T.S. 3.5.E.2 requirements. **(NCV 05000333/2000008-01)** Specifically, the RCIC system had been inoperable for a time period exceeding the allowable out of service time in the technical specifications and was therefore a condition prohibited by the technical specifications. This violation was determined to be a Non-Cited violation, consistent with the Interim Enforcement Policy for pilot plants. Corrective actions had been completed to restore RCIC operation within design requirements after a failure to achieve the proper flowrate was identified in a surveillance test on March 4, 2000.

RCIC Performance

On March 4, 2000, during a RCIC surveillance test (ST-24J), NYPA identified that the RCIC pump flowrate did not stabilize at 400 gpm until approximately 2 minutes after turbine start. The flowrate initially reached 400 gpm in 9.53 seconds but then dropped to a nominal 360 gpm. The inspector noted that this event occurred during steady state reactor pressure conditions in contrast to the fluctuating and lower reactor pressure observed during the October 14, 1999, reactor scram event, potentially creating more of a challenge to the control system during the actual injection event on October 14, 1999.

NYPA declared the RCIC system inoperable on March 4, 2000 for failing to meet the requirements of Technical Specification 3.5.E. Corrective action was taken to tune the flow controller to improve control system performance and on a RCIC startup, ensure a minimum flow of 400 gpm within 30 seconds of actuation.

The inspector determined that problem identification of the RCIC flow deficiencies had been poor. Specifically, the inspector noted three missed opportunities to identify the non-conforming condition. The following represented several missed opportunities to identify problems with the operation of the RCIC control system:

1. DER 99-02249 initiated on October 22, 1999, had identified a weakness in the performance of detailed post trip evaluations. However, actions were not taken to address extent of condition and look back on the performance of RCIC in detail during the October 14, 1999, RCIC injection.

2. In response to the surveillance test failure on March 4, 2000, NYPA reviewed previous surveillance test data traces in order to determine if the problem had previously existed. However, data plots were not reviewed from the injection event on October 14, 1999. The inspector noted that this plot would be the most representative of the adequacy of system performance because an actual injection occurred whereby surveillance tests are performed without flow back to the reactor vessel.

3. On April 3, 2000, NYPA determined through a review of prior RCIC surveillance test data that during the August 19, 1999 performance of the RCIC surveillance test, the system flowrate following the initial startup transient did not achieve 400 gpm within 30 seconds as required. (Actual flowrate was 384 gpm)

The inspector determined that the above examples demonstrated weak performance in the area of problem identification. Additionally, the inspector determined that the surveillance test methodology was inadequate for system response time determinations. Specifically, the operators were timing the first phase of the startup transient where the speed and flow peaked prior to the flow controller taking over. This could directly impact the ability to identify problems with the flow controller and/or tuning of the system. NYPA also reached the same conclusion and initiated surveillance test changes for both the HPCI and RCIC system surveillance tests to ensure the flowrate remains greater than or equal to the design flow rate.

Risk Significance

Although RCIC is not credited in the analyses of design bases accidents, it is credited to mitigate events in the Individual Plant Examination. Therefore, in accordance with the new inspection program the significance determination process was utilized to determine the risk of the above identified RCIC problem identification performance issue. The failure of the RCIC system to achieve rated flow took on an even greater potential significance because it occurred during the same event where HPCI had a functional failure due to the overspeed condition. Although RCIC did not meet its licensing basis criteria for flowrate, from a risk perspective the evaluation centered on whether RCIC could have achieved its safety function with the lower flowrate observed. NYPA performed a detailed evaluation and calculation, JAF-CALC-RCIC-04076, "Available Margin In RCIC Flow Rate To Achieve System Safety Design Basis," dated April 18, 2000. The evaluation concluded that with a flowrate as low as 280 gpm the safety function of ensuring the reactor pressure vessel water level remains above the top of active fuel would still have been met. Additionally, the minimum flowrate observed (355 gpm) was greater than the minimum RCIC flow of 340 gpm required for decay heat removal immediately following a reactor scram. Based on a review of the evaluation, the inspector screened the issue out in Phase I of the SDP process and determined the issue to be of very low significance (GREEN).

02.03 Corrective Actions

a. Determine that appropriate corrective actions are specified for each root/contributing cause or that there is an evaluation that no actions are necessary.

NYPA performed numerous corrective actions during HPCI governor control troubleshooting including selected component replacements. Longer term corrective actions consisted of establishing a new preventive maintenance baseline for the remote servo mechanism replacement every six years and a planned detailed inspection of the oil system in the upcoming outage to inspect for evidence of varnishing or degradation.

The inspector noted one deficiency related to long term corrective actions associated with the HPCI high speed limiter circuit. After the HPCI overspeed event on October 14, 1999, NYPA discovered that the flow controller high limit was outside of its expected range. This essentially had the effect of allowing a higher speed to be reached during the initial startup phase of the turbine until the controller can come out of saturation and reduce the speed to achieve the desired flow. The inspector considered this condition to be important in that a higher setting resulted in less margin to the mechanical overspeed trip setpoint. During their initial review of the overspeed condition, NYPA initiated DER 99-02409 when they determined that the high output limit had historically and regularly failed the acceptance criteria for the high limit calibration. This issue was previously discussed in Inspection Report 99-009.

The inspector determined that while immediate corrective actions had been initiated to increase the monitoring frequency of the output signal, the DER had been closed without addressing why the high speed limiter had routinely failed its calibration as-found criteria. The inspector determined the corrective actions to be deficient because they did not address the broader issue of why the calibration process associated with the HPCI limiter allowed for continued, as-found failures. In response to the inspectors question, the licensee initiated ACT-00-49071 as a result of the high limit out-of-

tolerance trend not being identified under the preventive maintenance program and specifically the instrument out of tolerance reports. The licensee stated the program will be reviewed along with any potential extent of condition and necessary changes to the program will be made.

The inspector found NYPA's root cause evaluation, regarding programmatic weaknesses that led to or contributed to the inability to identify adverse conditions related to HPCI, to be a thorough analysis. The evaluation identified several actions targeted to upgrade the existing system monitoring plans to ensure that in the future performance degradation at the component levels will be detected. Included in the proposed actions was formalization of system engineer turnovers and consideration of increased systems related training for system engineers.

b. Determine that the corrective actions have been prioritized with consideration of the risk significance and regulatory compliance.

NYPA corrected the improper oil pressure setting to reduce the probability of speed transients occurring during the startup phase of HPCI operation. To enhance system operation additional corrective actions are planned for the upcoming refuel outage including inspection of the oil system and restoration of the HPCI governor spring setting. The inspector found the prioritization of corrective actions to be appropriate.

c. Determine that a schedule has been established for implementing and completing the corrective actions.

DER 99-02956 contained actions to review existing system monitoring plans to ensure that the goals and expectations for performance monitoring at the system, train and component level are identified for early detection of system performance degradation. The prioritization of the review will follow the relative risk importance of the systems. The inspector found this proposed action to be appropriate.

d. Determine that quantitative or qualitative measures of success have been developed for determining the effectiveness of the corrective actions to prevent recurrence.

NYPA established future planned action items to review and assess the effectiveness of corrective actions for this event. Additionally, the inspector noted that performance indicators and surveillance test results will provide quantitative indications of the effectiveness of corrective actions taken.

4. OTHER ACTIVITIES (OA)

4OA4 Other

.1 (Closed) LER 50-333/99-011-01: High Pressure Coolant Injection System Inoperable Due to Higher Than Normal Turbine Speed. This event was discussed in NRC inspection Report 50-333/99-009. The change provided in this LER supplement was the identification of a root cause for the unexpected HPCI turbine speed transients. LER was closed based on the corrective actions taken. The functional failure conclusion will be further reviewed within the performance indicator verification inspection procedure.

.2 (Closed) LER 50-333/00-002: HPCI Inoperable due to speed control problem. On January 31, 2000, surveillance test 4-P, "HPCI Annual Transient Monitoring Test" was being conducted to monitor the condition of the HPCI speed control system. A speed anomaly recurred during the HPCI system start sequence and was captured by transient monitoring instrumentation. The specific data captured enabled NYPA to determine the speed transient was due to improperly set system oil pressure. The inspector determined NYPA's conclusion was reasonable based on the analysis performed in DER 00-00348, "Analysis of the HPCI Turbine Governor Force Balance and The Onset of Turbine Speed Transients." The HPCI lube oil pressure was readjusted at the appropriate turbine speed. The functional failure conclusion will be further reviewed within the performance indicator verification inspection procedure.

.3 (Closed) VIOLATION 05000333/1999009-01, EA 99-325, dated March 20, 2000. Based on a review of JAFP-00-0095, dated April 19, 2000, "Reply to Notice of Violation 2000-001," and the results of this supplemental inspection, the Notice of Violation associated with 10 CFR 50 Appendix B, Criterion XVI, was closed.

4OA5 Meetings

Exit Meeting Summary

On April 7, 2000, the inspector presented the preliminary inspection results to Mr. Colomb and other members of the plant staff who acknowledged the findings presented. On May 5, 2000, the inspector discussed with Messrs. G. Thomas and M. Abramski, the results of the NRC review of NYPA's evaluation regarding RCIC performance and the HPCI NOV reply letter, dated April 19, 2000.

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened
None

Opened and Closed
NCV 05000333/2000008-01: The failure to correct problems with RCIC, restore operability prior to changing modes during reactor startup on October 26, 1999.

Closed

LER 50-333/99-11-01: HPCI inoperable due to higher than normal turbine speed
LER 50-333/00-002: HPCI Inoperable Due To Speed Control Problem
VIO 05000333/1999009-01, EA 99-325, 10 CFR 50 Appendix B, Criterion XVI, HPCI system

PARTIAL LIST OF PERSONS CONTACTED

Licensee

M. J. Colomb, Site Executive Officer
George S. Thomas, Director of Engineering
George Tasick, Licensing Manager
Michael Reno, Instrumentation & Control/Maintenance
John Lazarus, Design Engineering
Mark Hondro, System Engineer
Mark Abramski, Licensing Engineer

PARTIAL LIST OF DOCUMENTS REVIEWED

LER-00-002,	"HPCI Inoperable Due To Speed Control Problems"
LER-99-011,	"HPCI System Inoperable Due To Higher Than Normal Turbine Speed"
LER-00-011-01,	"HPCI System Inoperable Due To Higher Than Normal Turbine Speed"
LER-99-010,	"Main Turbine Trip And Reactor Scram Due To Degraded Cable In Main Generator Anti-Motoring Circuit"
DER 99-02325,	"Equipment Failure Evaluation, 23 TV-2"
JDED-99-0402,	"HPCI Overspeed Analysis: Status And Recommendations"
DER 99-02956,	"HPCI Inadequate Testing Root Cause Analysis"
DER 00-00412,	"Lack Of Technical Guidance On Procedure Revision"
DER 00-00348,	"Analysis Of HPCI Turbine Governor Force Balance And The Onset Of Turbine Speed Transients"
JMD-00-031,	"Determine Reason For Incorrect oil pressure setpoint in the procedure used to Set HPCI system oil pressure"
DER-00-02409,	"HPCI Flow Controller High Limit Acceptance Criteria Failures"
DER-99-02249,	"HPCI Discharge Piping System Design Pressure Rating Exceeded"
ACT-00-49071	
Post Transient Log, 10/14/99, 05:40:05 PM	
DER-00-00830,	"RCIC Pump Flowrate
JTS-00-0055,	"Reactor Core Isolation Cooling System Startup Transient Response"
JAFP-00-0095,	"Reply To Notice Of Violation 2000-001," dated April 19, 2000

LIST OF ACRONYMS USED

CFR	Code of Federal Regulations
DER	Deficiency and Event Report
HPCI	High Pressure Coolant Injection
RCIC	Reactor Core Isolation Cooling
IR	Inspection Report
LER	Licensee Event Report
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
NYPA	New York Power Authority
SDP	Significance Determination Process
TS	Technical Specification
PTE	Post Trip Evaluation
EFE	Equipment Failure Evaluation
RCA	Root Cause Analysis