U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.	50-286
License No.	DPR-64
Report No.	98-03
Licensee:	New York Power Authority
Facility:	Indian Point 3 Nuclear Power Plant
Location:	P.O. Box 215 Buchanan, New York 10511
Dates:	May 19, 1998 - June 29, 1998
Inspectors:	Peter J. Habighorst, Senior Resident Inspector Laura A. Dudes, Resident Inspector
Approved by:	David C. Lew, Chief Projects Branch 2A Division of Reactor Projects

9807270472 980721
PDR ADOCK 05000286
Q PDR

EXECUTIVE SUMMARY

Indian Point 3 Nuclear Power Plant
NRC Inspection Report No. 50-286/98003

This inspection included aspects of licensee operations, engineering, and maintenance. The report covered a six-week period of resident inspections.

Operations:

An increase number of equipment failures challenged operators. Operator actions in response to the equipment failures were appropriate based upon adherence to technical specification limiting conditions for operation, procedural adherence, and inter-crew coordination. The New York Power Authority appropriately initiated an integrated assessment of the recent equipment performance. (Report detail 01.1)

On two occasions, the licensee instituted a protective tag out which unintentionally removed the automatic feature of the auxiliary boiler feed water pump room ventilation system. This did not affect the operability of the auxiliary boiler feed water pumps as the room never reached the 120 °F temperature, which initiates an alarm in the control room and directs personnel to take compensatory actions. The licensee's performance was weak in that the protective tag outs were developed without using all applicable drawings. Operator knowledge was also weak, because the operators deenergized inlet louver 314 without fully understanding the ramifications on the operability of the ventilation system. (Report detail 02.1)

Maintenance:

Corrective maintenance on a boron injection tank outlet isolation valve was coordinated well, with appropriate radiation practices implemented, and good supervision in the field. Notwithstanding, initial plant response to this emergent equipment malfunction was weak which contributed to exceeding the technical specification limiting condition of operation. The licensee critiqued this event, and initiated numerous internal assignments to improve initial plant response to emergency issues. An appropriate accelerated testing program commenced for this valve to provide assurance of operability without an apparent cause being identified into its failure. (Report detail M2.1)

The licensee took appropriate action in replacing the emergency diesel generator mechanical governor. Activities were coordinated well and performed safely. Out of service time was minimized, in part, due to effective use of a limiting condition for operation manager. A deviation discovered during the evolution was appropriately dispositioned and the applicability to the remaining emergency diesel generators was confirmed to not have existed. (Report detail M2.2)

On June 12, 1998, three minor pin-hole leaks were identified on the bonnets of two auxiliary feed water stop check valves supplying steam to the 32 auxiliary boiler feed water turbine. The leaks were appropriately characterized and promptly repaired. (Report detail M2.3)

Executive Summary (cont'd)

A poor weld repair in December 1997 was an apparent cause for the leakage from the 31 main boiler feed water pump drain line on June 13, 1998. The drain line leak resulted in a plant down power to approximately 60% to complete repairs. Several main boiler feed water pump drain lines have leaked in the past five years. A design change prepared in December 1997 to replace drain line material and add additional piping supports had not yet been completed for both main boiler feed water pumps. The leakage was not considered a maintenance preventable functional failure as defined in 10 CFR 50.65. (Report detail M2.4)

Procedural guidance within a local leak rate procedure for the containment pressure relief isolation valves was incomplete, because it did not invoke the NYPA technical specification interpretation on containment penetration operability. As a result, the implementation of the procedure challenged a one hour technical specification limiting condition for operation. There was adequate operator identification of the procedural weakness.

Engineering:

On two occasions during this inspection period, the licensee did not initiate a deviation event report in a timely manner. Past NRC inspections have concluded that the licensee's threshold for DER initiation is low and the number of them suggests that the appropriate level of awareness exists regarding the reporting of deviations in the plant. (Report detail E2.1)

TABLE OF CONTENTS

EXECUTIVE SUMMARY ii

TABLE OF CONTENTS iv

Summary of Plant Status 1

I. OPERATIONS 1
- O1 Conduct of Operations 1
  - O1.1 Operator Response to Equipment Failures 1
- O2 Operational Status of Facilities and Equipment 3
  - O2.1 Auxiliary Boiler Feed Pump Exhaust Fan Replacement 3

II. MAINTENANCE 4
- M1 Conduct of Maintenance 4
  - M1.1 General Comments (62707) 4
  - M1.2 Surveillance General Comments 5
- M2 Maintenance and Material Condition of Facilities and Equipment 5
  - M2.1 Safety Injection Valve 1835B Repair and Retest 5
  - M2.2 32 Emergency Diesel Generator Governor Replacement 6
  - M2.3 Valve Bonnet Leakage 7
  - M2.4 Main Boiler Feed Pump Casing Leakage and Condensate Motor Trip 8
  - M2.5 Containment Pressure Relief Valve Leakage 10
  - M2.6 Control Room Problem Identification Description 11
- M8 Miscellaneous Maintenance Issues 12
  - M8.1 (Closed) Violation 50-286/96012-03 12

III. ENGINEERING 13
- E2 Engineering Support of Facilities and Equipment 13
  - E2.1 Deviation Event Report Initiation 13
- E4 Engineering Staff Knowledge and Performance 14
  - E4.1 Disposition of the Failure to Implement Westinghouse Nuclear Safety Evaluation Suggestions 14

Table of Contents (cont'd)

V. MANAGEMENT MEETINGS 15
- X1 Exit Meeting Summary 15
- X2 Management Meeting Summary 15
  - X2.1 Regional Administrator Site Visit 15
  - X2.2 Congressional and NRC Deputy Executive Director for Regulatory Programs 15

ATTACHMENTS

Attachment 1 - Partial List of Persons Contacted
- Inspection Procedures Used
- Items Opened, Closed, and Discussed
- List of Acronyms Used

Report Details

Summary of Plant Status

The plant operated at full power during this inspection period with the exception of three power reductions. The first occurred on May 29, 1998, when the 33 condensate pump motor breaker tripped causing a power reduction to 80%. The second power reduction to 60% was initiated by operators on June 13, 1998, in response to a 31 main boiler feed water pump drain line leak. The third power reduction to approximately 80%, was the result of exceeding a technical specification (TS) limiting condition for operation (LCO) for an inoperable safety injection valve on June 24, 1998. At the end of the inspection period, the unit was at full power.

I. OPERATIONS

O1 Conduct of Operations

O1.1 Operator Response to Equipment Failures

a. Inspection Scope (71707)

The inspector evaluated various equipment problems during the period that challenged operators.

b. Observations and Findings

During the inspection period, five significant equipment failures either resulted in emergent maintenance due to technical specification (TS) limiting conditions of operations (LCOs) or operator initiated plant down powers.

The first event on May 28, 1998, involved a loss of normal power to 480 volt safety-related bus 6A. The cause of the loss of normal power was due to inattention to detail by a contractor during scaffolding installation in the 32 emergency diesel generator (EDG) room. The contractor bumped the normal offsite supply breaker to bus 6A. Operators were significantly challenged during the event by an undetected modification design error impacting the operating EDG auxiliaries, an uncorrected deficiency associated with a component cooling water isolation valve, and the lack of integrated procedural guidance for the event. Operators responded well to a loss of normal power to the 480 safety-related bus 6A, and promptly restored the affected safety-related equipment. Noteworthy was the reactor operator's understanding and successful actions to timely restore reactor coolant pump seal injection and thermal barrier cooling. Details of this event were previously documented in NRC inspection report 50-286/98005.

The second event involved an unexpected trip of the 33 condensate pump motor breaker on May 28, 1998. Operator's reduced power in accordance with off normal operating procedure (ONOP)-FW-1, "Loss of Feed water," to about 80%. Approximately four hours later, operators raised plant power to approximately 90% rated thermal power. Operator response to the failure was appropriate.

The third event involved three pin hole leaks on the bonnets of both steam admission stop check valves (MS-41 and MS-42) to the 32 auxiliary boiler feed water pump that was identified on June 12, 1998. No specific operator response was necessary for this event; however, the steam leakage from the two valves bonnets required emergent maintenance and repairs to be completed.

The fourth event involved a through-wall leak on the 31 main boiler feed water pump (MBFP) drain line. Due to the leak becoming more severe, operators conservatively commenced a plant power reduction to 60% on June 13, 1998, to remove the 31 main boiler feed water pump from service. The 31 MBFP was isolated, tagged out, and replacement of the drain line occurred. Operators restored the plant to full power operations on June 19, 1998.

The fifth event involved a failure to fully stroke a safety-injection valve during surveillance testing on June 24, 1998. The boron injection tank isolation valve (SI-1835B) was appropriately declared inoperable. The TS LCO was exceeded, and the operators appropriately commenced a plant shutdown prior to the LCO being exceeded. The power reduction lasted approximately 1.5 hours, until the valve was declared operable. Inspector observations of the shutdown concluded good inter-crew communications, proper adherence to applicable plant operating procedures, and appropriate and timely reportability decisions. Report detail M2.1 documents inspector observations of the repair and retest for valve SI-1835B.

The inspector noted that an adverse trend of equipment failures challenged operators. Operator actions in response to the equipment failures were appropriate based upon adherence to TS LCOs, procedural adherence, inter-crew coordination, and support of testing.

At the end of the inspection period, NYPA was performing an integrated assessment of the recent equipment performance.

c. <u>Conclusions</u>

An increase number of equipment failures challenged operators. Operator actions in response to the equipment failures were appropriate based upon adherence to technical specification limiting conditions for operation, procedural adherence, and inter-crew coordination. The New York Power Authority appropriately initiated an integrated assessment of the recent equipment performance.

O2 Operational Status of Facilities and Equipment

O2.1 Auxiliary Boiler Feed Pump Exhaust Fan Replacement

a. Inspection Scope (71707)

The inspector reviewed the protective tag out quality for the auxiliary boiler feed pump room exhaust fan replacement.

b. Observations and Findings

On June 2 and June 24, 1998, the licensee issued a protective tag out (PTO) for maintenance on the auxiliary boiler feed pump (ABFP) room exhaust fan 312. The PTO's were applied to a main lighting transformer which provides power to the fan motor and the 314 inlet louver. This louver provides supply ventilation and is common to both exhaust fans. The licensee did not recognize that the 314 inlet louver and the exhaust fans were interlocked such that the fans do not start until the louver is fully open. With power removed, the 314 louver would not open and prevented the 311 fan, which wasn't tagged out for maintenance, from starting.

On June 24, 1998, a nuclear plant operator (NPO) observed that the temperature in the ABFP room was abnormal and there was no ventilation. The NPO was instructed to start the 311 fan in order to provide cooling to the room. The 311 fan would not start because the 314 louver was not fully open. Operations personnel immediately identified the problem and conservatively instituted a shift order to coordinate with security to open the roll up door in the ABFP room upon the start of an ABFP. These actions are also in the alarm response procedure for the "ABFP Hi Temperature" alarm.

Operations initiated a deviation event report (DER) for this occurrence to document the fact that although it was understood that the inlet louver supply would be de-energized, it was not known that the 311 fan would be unable to run. Additionally, while troubleshooting the failure of the 311 fan to start, the control room noted that the interlock which prevented the fan from starting was not shown on the control room drawings. This was because the drawing in the control room was the wrong revision. The inspector discussed this aspect with the licensee's document control personnel and noted that an extent of condition was being performed to determine if other incorrect drawing revisions existed in the field. The inspector verified that the appropriate revision was available in the documents center.

The inspector concluded that the licensee improperly initiated two PTO's without using all applicable drawings such as the schematic circuit diagram, for which the interlock between the louver and the fan would have been evident. The only drawing referenced on the PTO's was a lighting panel load list. This drawing did not, as expected, show the interlocks associated with the inlet louver and the fans. Further, operator knowledge was less than adequate when the operators deenergized inlet louver 314 without fully understanding the ramifications on operability of the ventilation system. Though a wrong drawing revisions existed in

the control room, this was not a significant contributor to the lack of knowledge by operators, and the poor PTO preparation by the work control center.

The ABFP's and the associated environmentally qualified equipment in the room were not affected by the abnormal temperature as it remained well below the 120 °F setpoint for the high temperature alarm in the control room. The inspector also confirmed that the PTO's prepared on June 2 and June 24, 1998, did provide adequate personnel safety protection.

c. Conclusions

On two occasions, the licensee instituted a protective tag out which unintentionally removed the automatic feature of the auxiliary boiler feed water pump room ventilation system. This did not affect the operability of the auxiliary boiler feed water pumps as the room never reached the 120 °F temperature, which initiates an alarm in the control room and directs personnel to take compensatory actions. The licensee's performance was weak in that the protective tag outs were developed without using all applicable drawings. Operator knowledge was also weak, because the operators deenergized inlet louver 314 without fully understanding the ramifications on the operability of the ventilation system.

II. MAINTENANCE

M1 Conduct of Maintenance

M1.1 General Comments (62707)

The inspectors observed all or portions of the following work activities:

- WR 98-00153, 33 Emergency Diesel Generator Quarterly Maintenance Inspection
- WR 96-07347, 33 Emergency Diesel Generator Starting Air Strainer Maintenance
- WR 98-00703, 32 Central Control Room Air Conditioning Unit Preventive Maintenance
- WR 98-02294, 31 Service Water Pump Motor Inspection

The inspectors observed that the work performed to the above work requests (WRs) were conducted satisfactorily and in accordance with applicable maintenance and administrative procedures. The inspectors also confirmed that the equipment was within the scope of the maintenance rule and that the licensee was appropriately monitoring equipment performance.

M1.2 Surveillance General Comments (61726)

The inspectors observed all or portions of the following surveillances:

- 3PT-SA31, Anticipated Transient Without Scram (ATWS) Mitigating System Actuation Circuitry (AMSAC)
- 3PT-R3B15, Residual Heat Removal pump Load Sequencer
- 3PT-79C, 33 Emergency Diesel Generator Surveillance Run"
- 3PT-Q36, In-Service Test Stroke of Valves AC-MOV 822A&B and AC-751A&B
- ENG-621, SI MOV-1835B Local Leak Rate Test
- 3PT-Q85, Safety Injection System Valve Operability Test

The licensee conducted the above surveillances appropriately and in accordance with procedural and administrative requirements. As applicable, good coordination and communication with the control room was observed during performance of the surveillance. The test instrumentation was within calibration, and the acceptance criteria was achieved.

M2 Maintenance and Material Condition of Facilities and Equipment

M2.1 Safety Injection Valve 1835B Repair and Retest

a. Inspection Scope (61726, 62707)

The inspector observed portions of the troubleshooting and repair activities in response to a boron injection tank isolation valve's (1835B) failure to close. The inspector also evaluated licensee's integrated response to this emergent equipment failure.

b. Observations and Findings

On June 24, 1998, while performing procedure 3PT-Q85, "Safety Injection System Valve Operability Test," the licensee observed that safety injection valve 1835B failed to completely close. The licensee appropriately entered two limiting conditions for operations (LCOs). The first was based on the containment integrity technical specification (TS) 3.6.A.3 and the second was inoperability of a safety injection valve, TS 3.3.A.4.e. The licensee manually closed the inoperable valve and exited the containment integrity LCO.

The inspector observed portions of the licensee's troubleshooting, repair and retest activities. The troubleshooting activities included motor operated valve diagnostics to determine if the failure to close was an actuator or an internal valve problem. Diagnostic testing revealed that the actuator had an unexpected increase in load at the end of the stroke, which caused the valve to reach its torque set point prior to the valve actually closing. The licensee performed an "as found" local leak rate test on the valve, adjusted the torque switch on the valve and performed an "as left" local leak rate test on the valve. All test results were satisfactory. The inspector

noted that the field work was well coordinated, the appropriate radiation practices were implemented and the job was well supervised. No apparent cause was identified at the end of the inspection period for the valve's inability to fully stroke closed. In the interim, New York Power Authority (NYPA) commenced an accelerated testing program for the valve.

The duration of the LCO was 24 hours. Although the operators had declared the valve inoperable at 7:50 p.m. on June 24, 1998, the inspector concluded that a well developed plan and coordinated actions were not in place until the following day at noon. Notwithstanding, once a coordinated plan was in place for the valve, the inspector concluded that it was implemented in a safe and organized fashion. The inspector observed a NYPA critique of the event, from which numerous internal assignments were planned to improve initial plant response to future emergent equipment issues. Because of this time delay, the LCO time expired and the control room operators commenced a unit shutdown. The shutdown was terminated at approximately 80%.

c. Conclusions

Corrective maintenance on a boron injection tank outlet isolation valve was coordinated well, with appropriate radiation practices implemented, and good supervision in the field. Notwithstanding, initial plant response to this emergent equipment malfunction was weak which contributed to exceeding the technical specification limiting condition of operation. The licensee critiqued this event, and initiated numerous internal assignments to improve initial plant response to emergency issues. An appropriate accelerated testing program commenced for this valve to provide assurance of operability without an apparent cause being identified into its failure.

M2.2 32 Emergency Diesel Generator Governor Replacement

a. Inspection Scope (62707)

The inspector observed portions of the 32 emergency diesel generator (EDG) governor replacement and reviewed the completed work package.

b. Observations and Findings

In December 1997, a nuclear plant operator, during the monthly functional test on the 32 EDG, observed abnormal kilowatt (kw) load swings on the EDG output meter. The load swings were approximately 100 kw total. At that time, system engineering stated that the load swings were acceptable but did initiate an action plan to determine the cause of the problem. These load swings did not affect the ability of the EDG to perform its safety function because of the difference in operation experienced when the engine is loaded in parallel with the 480 volt bus versus when the engine is loaded onto a de-energized bus. For several months, the system engineer and instrumentation and control personnel (I&C) monitored the load swings during the monthly EDG functional tests to pinpoint the problem. NYPA

concluded that the apparent cause of the load swings was the mechanical governor, which the licensee decided to replace during this inspection period.

The replacement of the governor was controlled well and the maintenance personnel took the appropriate actions to restore the system in a safe, timely manner. The replacement was well coordinated using a dedicated limiting condition for operation (LCO) manager as a single point of contact for the evolution. During the maintenance retest, the licensee discovered leakage through one cylinder head weep hole. The diesel was secured and the leakage was repaired. The licensee appropriately confirmed that the cylinder weep holes were not leaking on the other two EDGs.

c. Conclusion

The licensee took appropriate action in replacing the emergency diesel generator mechanical governor. Activities were coordinated well and performed safely. Out of service time was minimized, in part, due to effective use of a limiting condition for operation manager. A deviation discovered during the evolution was appropriately dispositioned and the applicability to the remaining emergency diesel generators was confirmed to not have existed.

M2.3 Valve Bonnet Leakage

a. Inspection Scope (62707)

The inspector evaluated the quality of problem identification, causal analysis, and corrective actions for valve bonnet leakage on two auxiliary feed water steam admission stop check valves.

b. Observations and Findings

On June 12, 1998, at approximately 10:30 a.m., a member of the maintenance department's fix-it-now (FIN) group identified two pin-hole steam leaks from the bonnet of valve MS-41. MS-41 is a four inch stop check valve from the 32 main steam line to the 32 auxiliary boiler feed water turbine. The FIN maintenance activity was adjustment of the valve packing. The packing leak had been identified the previous day by an operations shift manager. After completion of the packing gland adjustment, the FIN employee identified the bonnet leaks on valve MS-41.

New York Power Authority (NYPA) also identified on June 12, 1998, a through wall leak on the redundant valve (MS-42) from the 33 main steam line header. NYPA appropriately concluded that the leakage represented inoperability of the valves and entered into technical specification (TS) 3.4.B. Valves MS-41 and MS-42 are American Society of Mechanical Engineer (ASME) class 2 pressure boundary components. NRC Generic Letter 90-05, "Guidance for Performing Temporary Non-Code Repair of ASME Code Class 1, 2, and 3 Piping," reinforces that licensees are required to perform code repairs or request NRC to grant relief for temporary non-

code repairs on a case-by-case basis. NYPA initiated timely deviation event reports (DERs) 98-0962 and 98-0968 upon discovery of the leakage.

The flaws were characterized by NYPA in a timely fashion by the performance of various non-destructive examinations including radiography. The radiography concluded that the "pin-hole" leakage occurred at a previously sealed welded plug in the valve's bonnet. Both valves (MS-41 and MS-42) had installed a plugged packing gland leak off port. Licensee review of maintenance history records noted that, in June 1986, valve MS-42 had a leak-repair fitting installed. The additional seal welded plug on MS-41 could not be accounted in maintenance history records. All four plugs were seal welded in 1987 during vendor refurbishment.

NYPA completed an ASME code repair and successful retest of the components prior to exceeding the TS allowed outage time. The apparent cause of the leakage was due to improper seal welds performed by a vendor in 1987.

The inspector concluded that appropriate post-repair retests were performed by NYPA. The retests included an in-service leak test, cycling of both valves and a operational verification test using portions of quarterly surveillance 3PT-Q120B, "32 ABFP (Turbine Driven) Surveillance and IST."

c. Conclusions

On June 12, 1998, three minor pin-hole leaks were identified on the bonnets of two auxiliary feed water stop check valves supplying steam to the 32 auxiliary boiler feed water turbine. The leaks were appropriately characterized and promptly repaired.

M2.4 Main Boiler Feed Pump Casing Leakage and Condensate Motor Trip

a. Inspection Scope (62707)

The inspector evaluated the adequacy of the New York Power Authorities (NYPA's) corrective actions in response to a drain line leak on the 31 main boiler feed water pump on June 13, 1998. The inspector also reviewed the maintenance activities for the 33 condensate motor trip on May 29, 1998.

b. Observations and Findings

On June 14, 1998, operators appropriately commenced a plant down power to 60% rated thermal power in response to a through wall leak on one of the three 31 main boiler feed water pump (MBFP) drain lines. The leak was first identified by operators on June 13, 1998. Subsequently, the feed water leak became more severe and operators took action to isolate the 31 MBFP.

The repairs were controlled under an existing design change 97-3-429FWP, "31 and 32 Main Boiler Feed Pump Casing Drain Repairs." The design change had been approved in January 1998 as a contingency modification for any leaks that may

develop during the operating cycle. The design change was to replace the drain piping material from carbon steel to a chrome-molybdenum. The piping was also reconfigured and supports were added. The purpose of the change was to eliminate the bi-metallic welding to the pump casing, reduce vibrational stresses, and to improve access to the drain valves for the operators. The design change is not complete for two casing drain lines on both MBFPs and two supports for the 32 MBFP.

The inspector reviewed the maintenance history of leakage from the six drain lines for the two MBFPs. The maintenance history indicated numerous times during the last five years of drain line leakage. The most recent leakage was in December, 1997 for both MBFPs including the same line that leaked on June 13, 1998. NYPA's preliminary causal analysis concluded poor weld repairs in December, 1997. Further, NRC inspection report 50-286/97009 documented a plant down power to 40% in October 1997, in part, to repair leaks on the MBFP casing drain.

The inspector evaluated the impact of repeated MBFP drain line leakage in relationship to main feed water performance goals under 10 CFR 50.65 "Maintenance Rule." NYPA concluded that no impact existed on goals of the feed water system. Specifically, the maintenance rule goal for the feed water system is less than two maintenance preventable functional failures (MPFFs). The system currently does not have a MPFF, and further it was concluded that the leakage does not prevent the feed water function, nor was it considered preventable from a maintenance activity (i.e. design improvements necessary). The drain line leakage was considered as part of the maintenance rule trending; however, the failure was not considered a MPFF. The inspector found NYPA's assessment of drain line leakage impact on the maintenance rule performance goals for the feed water system to be appropriate.

On May 29, 1998, at approximately 6:33 a.m., the 33 condensate pump motor breaker tripped. NYPA initiated deviation event report (DER) 98-0885 to document this failure. The cause of the motor trip was all three power supply leads were shorted to ground. The corrective actions involved replacement of the motor. The failed motor was send to a vendor for failure analysis. The results of the analysis were unknown at the closure of the inspection period.

c. Conclusions

A poor weld repair in December 1997 was an apparent cause for the leakage from the 31 main boiler feed water pump drain line on June 13, 1998. The drain line leak resulted in a plant down power to approximately 60% to complete repairs. Several main boiler feed water pump drain lines have leaked in the past five years. A design change prepared in December 1997 to replace drain line material and add additional piping supports had not yet been completed for both main boiler feed water pumps. The leakage was not considered a maintenance preventable functional failure as defined in 10 CFR 50.65.

M2.5 Containment Pressure Relief Valve Leakage

a. Inspection Scope (61726)

The inspection scope was to review "as-found" containment leakage through the containment pressure relief isolation valve (VS-PCV-1192).

b. Observations and Findings

On June 30, 1998, operations personnel performed an "as-found" containment local leak rate test on containment pressure relief isolation valve (VS-PCV-1192). Prior to the test, operators had identified an increase in containment penetration and weld channel pressurization system flow rate in zone 2 for which this penetration applies. Prior to corrective maintenance on the valve, the licensee performed an operability evaluation on June 24, 1998, that concluded the system was operable.

The testing pursuant to 3PT-R35R, "Leakage Test for Containment Pressure Relief Containment Isolation Valves," confirmed excessive leakage through valve VS-PCV-1192 (approximately 23 times greater than the acceptance criteria). The operators had not entered into technical specification (TS) 3.6.A.3 during the performance of the test, nor did procedure 3PT-R35R precautions or limitations indicate a need to enter into the Technical Specifications (TS.) Subsequent to the test, operators concluded that entry into TS 3.6.A.3 was necessary, since the inboard isolation valve VS-PCV-1190 was closed, but not deactivated when a vent valve outside containment was open for the testing. NYPA TS interpretation IP3-TSI-37-01 documents that all automatic containment isolation valves are either operable or in the closed position, or isolated by use of at least a closed manual valve (equivalent is a closed and deactivated automatic valve). The NYPA interpretation was derived from NUREG 1431, "Standard Technical Specifications Westinghouse Plants." The inspector confirmed that operators had not exceeded the 1 hour limiting condition for operation (LCO) during the testing, and, therefore, did not violate TS 3.6.A.3. Notwithstanding, the procedure 3PT-R35R was incomplete because one of the three automatic containment isolation valves needed to be deenergized during the test.

The operability determination concluded that the containment penetration was operable. The basis of operability was an on-line quantification of valve leakage, indirectly through an increase in containment penetration and weld channel pressurization system flow rate. The weld channel flow increased approximately 2.3 standard cubic feet per minute (scfm) due to seat leakage through valve VS-PCV-1192. The licensee concluded that the valve was operable even though it exceeded the procedural acceptance criteria in 3PT-R35R, "Leakage Test for Containment Pressure Relief Containment Isolation Valves" of less than 0.12 scfm. The basis for operability was accounting for the known leakage through VS-PCV-1192 to the total integrated containment leakage. The revised integrated containment leakage was below the 10 CFR 50 Appendix J and the technical specification limits. The required limits for containment integrated leakage was 4.23 scfm and the leakage from VS-PCV-1192 and the previous integrated value was 2.8 scfm.

4.23 scfm and the leakage from VS-PCV-1192 and the previous integrated value was 2.8 scfm.

NYPA subsequently reworked the valve seating surfaces, and performed an "as left" leakage test satisfactorily to restore full operability to the containment pressure relief isolation system.

Inspector review of the 3PT-R35R "as found" surveillance data indicated that the test pressure of between 49 to 51 psig was not achieved. The actual maximum pressure applied to the valve was 48.25 psig with a leakage through the valve VS-PCV-1192 of 2.45 scfm.

c. Conclusions

Procedural guidance within a local leak rate procedure for the containment pressure relief isolation valves was incomplete because it did not invoke the NYPA technical specification interpretation on containment penetration operability. As a result, the implementation of the procedure challenged a one hour technical specification limiting condition for operation. There was adequate operator identification of the procedural weakness.

M2.6 Control Room Problem Identification Description

a. Inspection Scope (71707)

The inspection scope involved sampling problem identification description (PID) tags in the central control room to verify the characterization of the PID in accordance with procedure SPO-SD-01, "Work Control Process."

b. Observations and Findings

The inspector learned that a large percentage of PID tags were defined as control room-non deficient (61%). The remaining PID tags were either control room deficiencies, operator workarounds, or operations concern.

A central control room-non deficient (CCR-ND) as defined in SPO-SD-01 is a PID tag placed in the central control room for corrective actions that does not impair an operator's ability to obtain information about plant systems or components or to control or manipulate components or equipment from the control room. The inspector raised questions with NYPA personnel on the characterization of some of the existing CCR-NDs. NYPA determined that two CCR-ND's concerning the main turbine speed changer clutch slippage, and the erratic behavior of the 32 reactor coolant pump seal leakoff indicator were actually control room deficiencies. The significance of this mis-classification of the two control room PIDs is minimal since both are scheduled into the work control process to perform corrective maintenance. Notwithstanding, a control room deficiency receives NYPA management visibility since they are tracked and trended as part of NYPA's performance indicators. This is the second recent NRC example where the

completeness of performance indicators was deficient. The other example involved operator workarounds as documented in inspection report 50-286/98005. The above examples indicate a lack of thoroughness of identification and therefore assessment of cumulative affects that present challenges to operators.

Approximately, half of the CCR-NDs are scheduled for corrective action either during the refueling outage or during a forced outage. The inspector noted that a large majority (85%) of the sampled PIDs in the central control room were recently identified (within the last year).

c. Conclusions

Based upon a random sample of problem identification description tags within the central control room, a few minor examples of inappropriate characterization were identified. The improper classification, resulted in an increase in control room deficiencies that are trended and used as a performance indicator by NYPA. The PIDs sampled were recent and appropriately identified within the work control process.

M8 Miscellaneous Maintenance Issues (92902)

M8.1 (Closed) Violation 50-286/96012-03: Inadequate implementation of work control feedback forms. The violation of 10 CFR 50 Appendix B, Criterion XVI, involved the failure to identify and correct informality and implementation ineffectiveness within the operations/work control feedback process. The inspector reviewed the apparent cause and corrective actions taken by New York Power Authority (NYPA) in response to this previous violation.

One of the corrective actions proposed by NYPA had not been completely implemented for this violation. The proposed corrective action was to proceduralize requirements for identification, evaluation, corrective actions, and trend analysis regarding protective tagging orders, operational concerns, and operational impact sheets. The inspector confirmed that NYPA revised administrative procedure (AP)-21, "Conduct of Operations," to proceduralize the requirements. However, NYPA failed to implement revised AP-21 step 5.2.13 where the assistant operations manager (AOM) was required to review, resolve, and trend work control process deviation event reports. NYPA acknowledged failure to implement this procedural action.

The inspector noted that NYPA had existing programs to evaluate human performance (i.e. including protective tagging orders, operational concerns, and operational impact sheets) within the operations department. The failure to implement trending of the work control deviation event reports did not invalidate actions of the original violation. This is considered a minor violation for failure to implement AP-21 step 5.2.13. No further actions is necessary, and this open item is closed.

E2 Engineering Support of Facilities and Equipment

E2.1 Deviation Event Report Initiation

a. Inspection Scope (37551)

The inspector reviewed the licensee's actions in response to two occasions when a deviation event report was issued in a less than timely manner.

b. Observations and Findings

On May 22, 1998, a packing leak was identified on the 31 feed water regulator valve. The maintenance engineer had previously developed an action plan as a result of similar leaks on the packing of all the feed water regulator valves. The fix-it-now (FIN) team was assigned to tighten down on the packing to stop the leak. Part of this action plan was to institute a preventive maintenance (PM) program to verify the torque valves on each valve every three weeks. However, administrative procedure (AP) 8 "Deviation Event Report and Operability Determination Manual," step 4.4.4.1, states that "DERs will be issued when a generic problem revealed by a trend report indicates recurrence of adverse quality conditions previously identified in DERS." The inspector considers this a minor issue as the maintenance engineer has documented the problem with the feed water regulator valves in an action plan; however, a trend DER to capture the frequency of the problem and alert the station to a steam leak would meet the expectations in AP 8.

On May 24, 1998, a nuclear plant operator (NPO) noticed a hammer hanging within the support structure of the 32 traveling water screen. The traveling water screen (TWS) was secured at 5:07 pm so that a hammer could be removed from the screen enclosure. There was confusion between the operations and maintenance personnel about which department should write a deviation event report (DER) regarding this issue. The inspector noted the log entry in the operators log book two days later and raised the issue to maintenance. Subsequently, operations wrote a DER which reported the foreign material exclusion (FME) issue but did not address the communication breakdown between the departments.

The inspector reviewed the licensee's AP on deviation event reporting and reviewed the most recent quality assurance (QA) surveillances to determine if the above issues were isolated communication issues or programmatic problems. The inspector concluded that the two missed items were isolated.

c. Conclusions

On two occasions during this inspection period, the licensee did not initiate a deviation event report in a timely manner. Past NRC inspections have concluded that the licensee's threshold for DER initiation is low and the number of them suggests that the appropriate level of awareness exists regarding the reporting of deviations in the plant.

E4 Engineering Staff Knowledge and Performance

E4.1 Disposition of the Failure to Implement Westinghouse Nuclear Safety Evaluation Suggestions

a. Inspection Scope (37551)

The inspector reviewed the licensee's response to deviation event report (DER), "Failure to Implement Westinghouse Nuclear Safety Evaluation (NSE) Requirements." This DER was initiated as part of an extensive 10 CFR 50.54(f) design basis document review currently being performed by the licensee.

b. Observations and Findings

The inspector reviewed the license's final disposition of DER 98-0516, "Failure to Implement Westinghouse Nuclear Safety Evaluation (NSE) Requirements." Previously, the nuclear vendor had submitted a final safety evaluation for minimum boron and sodium hydroxide concentrations in the refueling water storage tank (RWST) and spray add tank. Included in this submittal was an attachment titled, "Utility Actions Confirmation." This attachment included a recommendation for the utility to ensure the plant procedures adequately reflected the need to manually raise the sump pH to a minimum of 7.5 in the event containment spray and sodium additional does not take place during the injection phase of a small break loss of coolant accident (SBLOCA). During the 10 CFR 50.54(f) review, it was unclear as to what the licensee had done in response to this recommendation.

The inspector reviewed the licensee's closure of the DER which stated that the information was included in the emergency operating procedure (EOP) background documents to evaluate long term plant status and consult with plant engineering. Additionally, the licensee has the capability to adjust the sump pH directly from the spray tank. The inspector reviewed the EOP background documentation and found the licensee's approach to the problem reasonable and the closure documents appropriate.

c. Conclusion

The licensee's resolution of maintaining the sump pH during postulated accident scenarios was reasonable and appropriate.

V. MANAGEMENT MEETINGS

X1 Exit Meeting Summary

The resident inspectors presented the inspection results to members of the licensee's management at the conclusion of the inspection on July 17, 1998. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

X2 Management Meeting Summary

X2.1 Regional Administrator Site Visit

On June 5, 1998, the NRC senior management personnel including Region I's Regional Administrator, Director of Division of Reactor Projects, and Nuclear Reactor Regulation Project Directorate toured the facility and interviewed various NYPA personnel. Areas toured included the control building, the primary auxiliary building, and the control room. Plant tours in the primary auxiliary building confirmed past inspection observations that weaknesses continue to exist in overall general housekeeping.

Based upon discussions with NYPA personnel, NRC inspection report 50-286/98002 report detail O2.1 documented in part, that poor radiological controls were previously observed in past NRC inspection reports. This statement was in error as poor housekeeping controls existed in the primary auxiliary building, not both poor housekeeping and radiological controls.

X2.2 Congressional and NRC Deputy Executive Director for Regulatory Programs

On June 8, 1998, the honorable U.S. Senator Robert Bennett (R-UT) visited the facility. The visit included discussions with officials from NYPA on the Year 2000 computer issue, a tour of the facility, and a simulator demonstration. Senior NRC representatives also in attendance during the visit included the Deputy Executive Director of Regulatory Programs, and the Deputy Director, Division of Reactor Safety, Region I. The Year 2000 computer discussion focused on the impact within the NYPA systems, organizational responsibilities and awareness, identification of critical systems, challenges to correct or modify the vulnerable systems, and the actions to address contingency plans.

ATTACHMENT 1

PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. Barrett, Site Executive Officer
J. Comiotes, GM-Operations
R. Deschamps, General HP Supervisor
D. Mayer, RES Manager
K. Peters, Licensing Manager
J. Russell, General Manager-Maintenance
E. Armando, Operations Manager
D. Quinn, GM-Support Services

INSPECTION PROCEDURES USED

IP 37551:	Onsite Engineering
IP 61726:	Surveillance Observations
IP 62707:	Maintenance Observation
IP 71707:	Plant Operations
IP 71750:	Plant Support Activities
IP 92902	Followup - Maintenance
IP 92903:	Followup - Engineering

ITEMS OPENED, CLOSED, AND DISCUSSED

Closed

VIO 96012-03 Work control feedback forms

LIST OF ACRONYMS USED

ABFP	Auxiliary boiler feed pump
AMSAC	ATWS Mitigating System Actuation Circuitry
AOM	Assistant Operations Manager
AP	Administrative Procedure
ASME	American Society of Mechanical Engineers
ATWS	Anticipated Transient Without Scram
BOP	Balance of Plant
CCR	Central Control Room
CCR-ND	Central Control Room-non deficient
DER	Deviation Event Report
EDG	Emergency diesel generator
EOP	Emergency Operating Procedure
FIN	Fix it Now
FME	Foreign Materials Exclusion
FSAR	Final Safety Analysis Report

I&C	Instrument and Control
LCO	Limiting Condition for Operation
MBFP	Main Boiler Feed Pump
MPFF	Maintenance Preventable Functional Failures
NPO	Nuclear Plant Operator
NRC	Nuclear Regulatory Commission
NSE	Nuclear Safety Evaluation
NYPA	New York Power Authority
ONOP	Off Normal Operating Procedure
PDR	Public Document Room
PID	Problem Identification Description
PM	Preventive Maintenance
PTO	Protective Tag Out
QA	Quality Assurance
RWST	Refueling Water Storage Tank
SBLOCA	Small break loss of coolant accident
scfm	Standard cubic feet per minute
TS	Technical Specifications
TWS	Traveling Water Screens
URI	Unresolved Item
WR	Work Request