Indian Point 3
Nuclear Power Plant
P.O. Box 215
Buchanan, New York 10511
914 736 8001

NewYork Power Authority

Robert J. Barrett
Site Executive Officer

November 4 , 1997
IPN-97-152

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

SUBJECT: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
License No. DPR-64
Reply to Notice of Violation 50-286/97-07

Dear Sir:

This letter provides, in Attachment I, the New York Power Authority's response to the Notice of Violation contained in NRC Integrated Inspection Report 50-286/97-07. The Authority agrees with the violation (VIO 97007-01).

Your letter noted a concern regarding examples of inadequate procedures, some of which had recently been revised. The Authority is also very concerned about the quality of procedures. Our standards of operational excellence require accurate, high quality procedures. We performed an overall review of procedure quality issues and concluded that the change process is generally acceptable, but further improvements are needed. We will continue to make improvements and pay close attention to this issue.

The commitments made by the Authority with this letter are contained in Attachment II. If you have any questions, please contact Mr. Ken Peters at (914) 736-8029.

Very truly yours,

Robert J. Barrett
Site Executive Officer
Indian Point 3 Nuclear Power Plant

JE01

cc: See next page

Attachment I Reply to Notice of Violation 50-286/97-07

Attachment II Commitment List

cc: Mr. Hubert J. Miller
Regional Administrator
Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406-1415

INPO Record Center
700 Galleria Parkway
Atlanta, Georgia 30339-5957

U.S. Nuclear Regulatory Commission
Resident Inspectors' Office
Indian Point 3 Nuclear Power Plant

Reply to Notice of Violation 50-286/97-07

During an NRC inspection completed on September 22, 1997, a violation of NRC requirements regarding several examples of inadequate procedures was identified. The violation and the Authority's response are as follows:

A. Violation (VIO 97007-01)

10 CFR Part 50, Criterion V, "Instruction, Procedures, and Drawings," requires that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings.

1. Procedure 3PT-V06, "Turbine Generator Mechanical Trip Test," prescribed the procedure for testing the turbine generator thrust bearing trip, which is an activity affecting quality.

   Contrary to the above, on September 10, 1997, procedure 3PT-V06 was not appropriate to the circumstances, in that it did not direct the operators to reset the generator lockout relays 86P and 86BU before unblocking the trip signal. As a result, when the relays were unblocked, the turbine generator and reactor inadvertently tripped.

2. Plant Operating Procedure POP-1.1, "Plant Heatup from Cold Shutdown Condition," prescribed the procedure for ensuring that the plant systems, including the overpressurization protection system, are operable, which is an activity affecting quality.

   Contrary to the above, on August 13, 1997, procedure POP-1.1 was not appropriate to the circumstances because the procedure did not ensure that the overpressurization protection system (OPS) was operable in that the OPS pressure instruments were not verified to be in-service. As a result, the overpressurization protection system was inoperable for a period of 13 hours, when it was relied upon to meet the requirements of technical specifications, due to two of the three OPS pressure instruments being isolated.

3. Procedure SOP-TG-4, "Turbine Generator Operations," prescribed the procedure for adjusting the governor impeller orifice, which is an activity affecting quality.

   Contrary to the above, on September 13, 1997, procedure SOP-TG-4 was not appropriate to the circumstances, because it did not specify that the preferred method for adjusting the load limiter speed was local rather than from the control room during the governor impeller orifice adjustment.

Reply to Notice of Violation 50-286/97-07

As a result, the operator used the courser speed adjustment in the control room and caused an inadvertent overspeed trip of the turbine generator.

4. Procedure COL-RW-2, "Service Water System," prescribed the procedure for aligning the service water system for operability, which is an activity affecting quality.

   Contrary to the above, on August 28, 1997, procedure COL-RW-2 was not appropriate to the circumstances because the procedure did not reflect system configuration changes made during refueling outage 9, but was used for establishing operability of the system.

5. Procedure 3PT-5Y4, "32 Auxiliary Boiler Feed Pump Overspeed Test," prescribed the procedure for testing the 32 auxiliary boiler feed pump, which is an activity affecting quality.

   Contrary to the above, on August 27, 1997, procedure 3PT-5Y4 was not appropriate to the circumstance because the procedure did not reflect the revised position of valve MS-112-1, which was changed by a nuclear safety evaluation. As a result, the procedure incorrectly restored the valve to the "cracked open" position vice the shut position.

This is a Severity Level IV violation (Supplement I).

Response to Violation VIO 97007-01

The New York Power Authority agrees with this violation. The reasons, corrective actions, and dates of compliance for these examples follow, using the numbering scheme used in listing the five examples.

Reason for Violation VIO 97007-01

1. The cause of the deficiency in procedure 3PT-V06 was personnel error due to poor work practices. Procedure 3PT-V06 was revised in April 1997, to change the method of testing the thrust bearing oil pressure trip. The change was initiated when engineering determined that the thrust bearing oil pressure mechanical trip actuation was not being tested independent of the electrical trip actuation. The procedure contained a step to close the output test stabs for the turbine trip lockout relays (86P/86BU) with the turbine trip conditions made up. The 86P/86BU relays are of a type which must be physically reset once actuated. They will not reset when the actuation signals are removed. The test sequence was developed by operations with input from the system engineer.

Reply to Notice of Violation 50-286/97-07

The procedure writer and the engineer providing input failed to incorporate resetting the lockout relays due to poor work practices. Overconfidence caused an insufficient degree of attention during the development of the test sequence. Self-checking was not applied to ensure the intended action was correct before it was performed. Insufficient time was provided for the verification of the technical reviewer's level of expertise relative to the procedure content. A pre-job brief was not performed prior to the performance of the revision due to a lack of a perceived need. As a result, the consequences of the potential error was not discussed and possibly discovered.

2. The cause of inadequate procedure POP-1.1 was personnel error because the procedure was written with the assumption that operator knowledge and other processes (e.g., LCO tracking system) would be adequate. As result, procedure POP 1.1 did not provide specific requirements for verifying OPS operable, or reference any existing procedure which provided specific requirements for an operable OPS.

3. The cause of inadequate procedure SOP-TG-4 was personnel error due to work practices. Engineering provided input information on setting the main governor impeller oil orifice, which was incorporated into the SOP as Attachment 3, on February 18, 1997, in accordance with vendor recommendations. The vendor concurred with the procedure changes which did not specify local control. The Load Limiter valves 1 and 2 (LL1 and LL2) can be adjusted from the control room by speed control switches. These adjustments can also be performed locally at the turbine front standard with valve handwheels. The vendor manual specifies what the governor impeller orifice setting should be, but does not describe how to establish plant conditions for implementing them. The procedure directed the operators to place the turbine speed control on the load limiter at 1800 rpm no load, but did not specify local or control room control.

   At the time of the event, the control room operators had established control of the main turbine using Load Limit Controller LL1, and were raising the turbine speed to 1800 rpm. The procedure did not provide specific guidance on how to slowly raise turbine speed using the load limiter. A vendor representative for the turbine speed control was present at the turbine front standard during the performance of the adjustments of the turbine governor impeller orifice. Prior to the event, the vendor representative did not identify that the better method for controlling the speed adjustment was locally. After the event, the vendor recommended using LL1 and the governor handwheels so as to provide finer control for establishing and maintaining turbine speed at no load.

Reply to Notice of Violation 50-286/97-07

4. The cause of using an inappropriate revision of procedure COL-RW-2 was personnel error due to poor work practices.

   The Operations department Procedure Supervisor failed to follow the requirements of the modification turnover document (MTD) correctly. The Supervisor signed off the MTD for the service water modification prior to the Check Off List (COL) required by the modification actually being issued. Procedures impacted by implementation of a modification must be appropriately revised and issued prior to modification turnover.

   COL-RW-2, "Service Water system," incorporated the appropriate changes as a result of the modification, but had not been approved and issued prior to placing the system into service. The COL was in the final stages of completion when the operations portion of the MTD was signed off. The supervisor believed that the COL would be issued prior to the mode change for which the COL was required. However, the signoff completed the requirements of the MTD, allowing the system to be considered available for use. An administrative delay caused the procedure to be issued later than required, and as a result, the incorrect procedure revision was used to lineup the affected systems for operability.

5. The cause of the failure to revise procedure 3PT-5Y4 and the applicable COLs to reflect valve position changes was personnel error due to poor work practices and change management. An inadequate review was performed to identify the procedures impacted by changes identified in Nuclear Safety Evaluation NSE 97-3-365 MS. The NSE requested that COL-FW-2 and applicable procedures be changed to establish valves MS-111, MS-112-1, MS-113 in the closed instead of cracked open position. The NSE did not specify all the impacted procedures. Action tracking items were issued for operations to perform the changes. Operations issued a Term Procedure Change to system operating procedure SOP-FW-4, revised COL-FW-2, and closed the action item August 30, 1997. However, operations failed to change other impacted procedures (e.g., 3PT-5Y4, COL-MS-1, COL-MS-5).

Corrective Actions Taken

1. Procedure 3PT-V06

   - Procedure 3PT-V06 was revised to require reset of the lockout trip relays (86P and 86BU) prior to installation of the relay test stabs (H and I) for the lockout trip relays (86P and 86BU), and a precaution and limitation was added to require that reactor power be maintained less than the P-10 threshold.

Reply to Notice of Violation 50-286/97-07

- The system engineer and Operations procedure group personnel were counseled on the event and attention to detail.

2. Procedure POP-1.1

   - A shift order was issued on August 15, 1997, to clarify how to "verify" that equipment is "operable." The shift order also includes guidance for initiating and using COLs.

   - Specific COLs which verify operability through assessment across multiple system boundaries were developed and field verified prior to key startup milestones for systems required by Technical Specifications.

   - The system operability checklist was enhanced for closing all LCOs/PLCOs in order to document reviews performed as part of operability determinations.

   - SOP-RCS-9, "Reactor Coolant System Fill, Vent, and Pressurization," was revised on August 15, 1997, to provide instructions to check OPS operability and included an "OPS Operability Checklist," as an attachment.

3. Procedure SOP-TG-4

   - Procedure SOP-TG-4 was revised by Revision 23 to include the preferred method of controlling turbine speed by use of the local load controller.

4. Procedure COL-RW-2

   - A review was performed of all completed and proposed COL changes for refueling outage (RO) 9 to ensure required alignments were performed in advance of need.

   - Procedure COL-RW-2 has been revised. The revised procedure was performed and valve positions verified.

   - The Operations department Procedure Supervisor was counseled on procedure adherence and the need to ensure that procedure changes required for completion of a modification are issued prior to the MTD being signed off.

5. Procedure 3PT-5Y4

   - COL-FW-2 was revised to establish valves MS-112-1, MS-113, MS-111 as closed.

Reply to Notice of Violation 50-286/97-07

Corrective Actions to be Taken to Avoid Further Violations

1. Procedure 3PT-V06

   - Operations will improve the procedural guidance on when to conduct pre-job briefs. Scheduled completion date is December 31, 1997.

2. Procedure POP-1.1

   - A Term Procedure Change (TPC) will be issued November 14, 1997, for POP-1.1 to reference the OPS operability checklist provided in SOP-RCS-9.

   - Appropriate guidance will be provided to verify operability when more than one system is affected. Scheduled completion date is March 14, 1998.

   - The requirement to review and close LCO's and PLCO's appropriate for system operability will be developed. Scheduled completion date is March 14, 1998.

   - POP-1.1 will be revised to incorporate the TPC referencing the criteria for confirming OPS operable. Scheduled completion date is March 14, 1998.

3. Procedure SOP-TG-4

   - The listed corrective action is expected to prevent a recurrence.

4. Procedure COL-RW-2

   - The listed corrective action is expected to prevent a recurrence.

5. Procedure 3PT-5Y4

   - Procedure 3PT-5Y4 will be made inactive until revised to reflect the valve positions in accordance with NSE 97-3-365 MS. Since this procedure is performed on a five year schedule, its revision will be prior to next use.

   - Applicable COLs will be revised to eliminate duplication and reflect NSE 97-3-365 MS. Scheduled completion date is December 16, 1997.

Reply to Notice of Violation 50-286/97-07

A broad review of the procedural errors was performed. This review concluded that the processes are generally acceptable, but further improvements are needed. The causal factors for the issues included: change implementation not properly coordinated and insufficient time for quality performance. Proposed improvements include establishing an "owner" for each of the operations department POPs and SOPs, and establishing outage milestones to levelize Operations Department outage preparations.

Date When Full Compliance Was Achieved

1. Compliance was achieved on September 11, 1997, when procedure 3PT-V06, "Turbine Generator Mechanical Trip Test," was changed by Revision 13.

2. OPS was made operable on August 13, 1997, when an RCS vent path was established by opening both PORVs, and the clearance of the PTO was completed. On August 15, 1997, a shift order was issued to clarify statements in procedures such as "verify operable," to clarify how to annotate COL items as verified, and to clarify when to initiate COLs based on system status. SOP-RCS-9, "Reactor Coolant System Fill, Vent, and Pressurization," was revised on August 15, 1997, to provide instructions to check OPS operability and included an "OPS Operability Checklist," as an attachment. A Term Procedure Change (TPC) will be issued November 14, 1997, for POP-1.1, "Plant Heatup from Cold Shutdown Condition," and POP-3.3, "Plant Cooldown - Hot To Cold Shutdown," to reference the OPS operability checklist provided in SOP-RCS-9. POP-1.1 and POP-3.3 will be revised to incorporate the TPC referencing the criteria for confirming OPS operable by March 14, 1997.

3. Compliance was achieved on September 12, 1997, when Term Procedure Changes (TPCs 97-1157 and 97-1144) were issued for SOP-TG-4, "Turbine Generator Operations." The TPCs were incorporated into procedure SOP-TG-4 on September 22, 1997, as Revision 23.

4. Compliance was achieved on August 28, 1997, when procedure COL-RW-2, "Service Water System," was changed by Revision 29, and the revised procedure performed and valve positions verified.

5. Compliance was achieved on August 29, 1997, when procedure COL-FW-2, "Auxiliary Feedwater System," was changed to Revision 21 to establish valves MS-112-1, MS-113, MS-111 as closed. COL-FW-2 was performed and valve positions were verified closed on August 30, 1997. Procedure 3PT-5Y4, "32 Auxiliary Boiler Feed Pump Overspeed Test," will be made inactive until revised to reflect the valve positions in accordance with NSE 97-3-365 MS. This procedure is performed on a five year schedule, therefore its revision will be prior to next use.

COMMITMENT LIST

Number	Commitment	Due
IPN-97-152-01	Operations will improve the procedural guidance on when to conduct pre-job briefs.	December 31, 1997
IPN-97-152-02	A Term Procedure Change (TPC) will be issued for POP-1.1 and POP-3.3 to reference the OPS operability checklist provided in SOP-RCS-9.	November 14, 1997
IPN-97-152-03	POP-1.1 will be revised to incorporate the TPC referencing the criteria for confirming OPS operable.	March 14, 1998
IPN-97-152-04	POP-3.3 will be revised to incorporate the TPC referencing the criteria for confirming OPS operable.	March 14, 1998
IPN-97-152-05	Appropriate guidance will be provided to verify operability when more than one system is affected.	March 14, 1998
IPN-97-152-06	The requirement to review and close LCO's and PLCO's appropriate for system operability will be developed.	March 14, 1998
IPN-97-152-07	Procedure 3PT-5Y4 will be made inactive until revised to reflect the valve positions in accordance with NSE 97-3-365 MS.	December 16, 1997

COMMITMENT LIST

IPN-97-152-08	Applicable COLs will be revised to eliminate duplication and reflect NSE 97-3-365 MS.	December 16, 1997