March 8, 2000

Mr. A. Alan Blind
Vice President - Nuclear Power
Consolidated Edison Company of
New York, Inc.
Indian Point 2 Station
Broadway and Bleakley Avenue
Buchanan, NY 10511

SUBJECT: NRC INTEGRATED INSPECTION REPORT 05000247/1999011

Dear Mr. Blind:

This letter transmits the results of safety inspections conducted by NRC inspectors at your Indian Point 2 reactor facility from December 8, 1999, through January 24, 2000. The unit was operated safely throughout the inspection period.

Our inspectors noted that degraded equipment conditions and ineffectiveness of the work control process continued to challenge operators. These conditions include freezing of safety-related instrumentation, too many concurrent test or maintenance activities in the control room, and the untimely conduct of corrective maintenance on the station auxiliary transformer.

Our inspectors reviewed your Indian Point 2 Recovery Plan longer-term corrective actions submitted to the NRC on November 8, 1999 and noted that in some cases your corresponding IP-2 Business Plan implementing actions have inconsistencies, performance metric weaknesses, and absences of completion dates. We request that you inform us within two weeks of receipt of this letter of the date by which these Business Plan deficiencies will be resolved. We are requesting this information so that we may schedule our inspection of the completion of your Recovery Plan, Revision 3, actions.

Based on the results of this inspection, the NRC has determined that four Severity Level IV violations of NRC requirements occurred. These violations are being treated as Non-Cited Violations (NCVs), consistent with Section VII.B.1.a of the Enforcement Policy (November 9, 1999, 64 FR 61142). The NCVs involve the failure to maintain fire protection equipment operable due to inadequate implementation and testing of a plant modification, and the failure to adequately test fire protection and reactor protection system equipment. If you contest these violations or the severity level of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, 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 Indian Point 2 facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room. Should you have any questions regarding this report, please contact Mr. Peter Eselgroth at 610-337-5234.

Sincerely,

/RA/

A. Randolph Blough, Director
Division of Reactor Projects

Docket No. 50-247
License No. DPR-26

Enclosure: Inspection Report No. 05000247/1999011

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REGION I

Docket No.	50-247
License No.	DPR-26
Report No.	99-11
Licensee:	Consolidated Edison Company of New York, Inc.
Facility:	Indian Point 2 Nuclear Power Plant
Location:	Buchanan, New York
Dates:	December 7, 1999, through January 24, 2000
Inspectors:	William Raymond, Senior Resident Inspector Jennifer England, Resident Inspector Peter Habighorst, Resident Inspector Ram Bhatia, Reactor Engineer Douglas Dempsey, Reactor Engineer
Approved by:	Peter W. Eselgroth, Chief Projects Branch 2 Division of Reactor Projects

EXECUTIVE SUMMARY

Indian Point 2 Nuclear Power Plant
NRC Inspection Report No. 05000247/1999011

This integrated inspection included aspects of licensee operations, engineering, maintenance, and plant support. The report covers a six-week period of inspection by resident and regional inspectors.

Operations

The inspectors verified that the facility was operated safely and in accordance with technical specification requirements. The safety injection (SI) system was operable in the standby mode. Con Edison staffing and contingency actions during the year 2000 rollover were acceptable. (O1.1)

The inspector noted several challenges to operators due to either degraded equipment, cold weather effects on plant instruments, or inadequate work planning which resulted in a large number of activities in the control room and deficiencies in a tagout for gas turbine no. 1. The deficiencies were properly entered into the corrective action system. (O1.1)

A challenge to safe operation existed when Con Edison management decided to isolate the station auxiliary transformer (SAT) and add oil to it with the plant operating at power. Management missed the opportunity to perform this maintenance during a recent plant shutdown due to incomplete engineering review of the transformer oil leak rate and work plan. (O2.1)

Con Edison completed detailed work planning and implemented additional compensatory measures to manage the increased risk during maintenance on the SAT. The inspector observed appropriate training, planning, and supplemental actions to isolate and add oil to the SAT. (O2.1)

Maintenance

Maintenance personnel supported plant operations through timely resolution of emergent problems on systems that support plant operations. The conduct of surveillance tests during the period was acceptable. However, test activities were not consistently performed in accordance with expectations and administrative controls. (M1.1 and M1.2)

Con Edison actions to assure continued operability of the reactor cavity level system were acceptable. Actions to generate a level indicator LT-3302 work order in response to a documented deficiency were not timely. (M2.1)

Engineering

The licensee had appropriately established new guidelines and procedures to control plant setpoints. The licensee had made reasonable progress and completed the verification and validation (V and V) of the most significant nuclear safety-related (Grade 1) setpoints. The V and V of Grade 2 setpoints and other plant parameters in the FSAR were being evaluated by the licensee's contractor (Westinghouse) and should be completed by July 2000. (E2.1)

The causal analysis and proposed corrective actions were adequate for a 1997 modification error that caused the cable spreading room halon system to be inoperable. Numerous opportunities existed to detect this modification error between May 1997 and December 1999. The performance issues included less than adequate quality control verification of the wiring configuration for the halon actuation circuits, less than adequate post-modification testing, and a poorly implemented surveillance test program. The failure to maintain fire protection equipment operable due to inadequate implementation and testing of a plant modification and failure to adequately test fire protection equipment involve three violations of NRC requirements that are being treated as non-cited violations consistent with the NRC Enforcement Policy. (E2.3)

Our inspectors reviewed your Indian Point 2 Recovery Plan longer-term corrective actions submitted to the NRC on November 8, 1999 and noted that in some cases your corresponding IP-2 Business Plan implementing actions have inconsistencies, performance metric weaknesses, and absences of completion dates. The NRC observations were entered into the Con Edison corrective action program. (E7.1)

A calibration and test procedure contained an inadequate acceptance criterion, which resulted in the redundant main steam flow channels being outside the administrative limits of Technical Specification on two occasions. The failure to establish adequate written test requirements and acceptance limits, is a violation of 10 CFR Part 50, Appendix B, Criterion XI, test control requirements. This is being treated as a Non-Cited Violation consistent with the NRC Enforcement Policy. (E8.1)

Plant Support

The inspector observed a routine primary sample and analysis for boron. The watch chemist accurately analyzed the sample in accordance with procedures. (R1.1)

TABLE OF CONTENTS

ATTACHMENTS

Report Details

I. OPERATIONS

O1 Conduct of Operations

The plant operated at full power during the inspection period.

O1.1 Operational Safety Verification

a. Inspection Scope (71707)

Using Inspection Procedure 71707, the inspectors conducted frequent reviews of ongoing plant operations. The safety injection system was selected for a detailed review and system walk down. Specific observations are described below.

b. Observations and Findings

The inspector performed regular tours in the control room, switchgear room, auxiliary feedwater building, diesel generator building, turbine building, primary auxiliary building, and areas within Indian Point Unit 1. Plant safety parameters were observed within allowable limits during control board and plant status reviews.

Safety Injection System Review

The inspector confirmed that the safety injection (SI) system was operable in the standby mode. The SI valves were positioned as described in Safety Injection System checkoff list (COL) 10.1.1, and drawings 9321-F-2735 and A235296. The inspector specifically evaluated the configuration controls for the SI recirculation valve (SI-1863). This valve was recently found mispositioned at Indian Point Unit 3. The inspector confirmed by review of applicable checkoff lists and system operating procedure alignments that this valve was correctly aligned at Indian Point Unit 2. System isometric drawings reflected actual field weld and support conditions, based on observations of accessible piping with the insulation removed (reference drawings B206725, B206727and B206911). The SI components were properly labeled and material conditions were acceptable.

The inspector reviewed condition reports opened in the last twelve months to determine whether outstanding deficiencies impacted safety injection system operation. None of the 15 identified deficiencies rendered the system inoperable. The conditions were appropriately evaluated and tracked in the corrective action system, and were addressed in the System Health Report dated November 19, 1999. The System Health Report summarized other outstanding design and material condition issues, and provided a basis for the conclusion that the SIS was within its design margins.

Daily Plant Turnover Observations

The inspector observed various shift turnovers. The shift turnovers provided the crew with information about equipment status, recent problems, and scheduled maintenance activities. The shift turnovers were performed consistent with station expectations.

Nuclear Plant Operator Tour Observations

The inspector observed a nuclear plant operator (NPO) performing a portion of rounds. The NPO was knowledgeable about monitored parameters and plant limits. The inspector noted that an additional burden on the NPO existed due to a degraded plant condition. The degraded charging pump seal required the NPO to drain the seal water tank each shift. The degraded condition did not impact equipment operability.

Control Room Operator Burden

The inspector noted several challenges to the control room operators because of a large number of activities in the control room. During the shift brief for a component cooling water radiation monitor functional test, several other activities resulting in control room alarms were being performed. Other concurrent activities included a safety injection logic test, a post maintenance test for the fire main booster pump, and the hydrogen/oxygen monitor test. The control room supervisor (CRS) later stopped the radiation monitor functional test because of the number of activities in the control room. On December 20, 1999, the same control room supervisor again stopped an activity because there were too many concurrent activities. On January 12, 2000, the inspector noted several activities in the control room, including a core flux map, a service water pump test, a radiation monitor test, and corrective maintenance on a steam generator pressure instrument.

Operation Administrative Directive (OAD) 15, “Policy for Conduct of Operations” allows 2 control room activities and 1 field activity which causes no more than 4 alarms per hour in the control room. Condition report (CR) 199909431 was written to document recent examples where the number of concurrent activities exceeded the OAD-15 guidance. Con Edison determined the concurrent activities were due to emergent work and resource availability. Con Edison’s corrective actions were to discuss these issues in the weekly critique meeting to improve the work planning process.

Effects of Cold Weather

The operators responded to several problems during the period of January 16 - 19, 2000, when cold weather impacted plant instrumentation and controls. Instrumentation impacted by the cold weather included the river temperature point #2, condensate storage tank level channels LT-1128 and LIC 1102S, the traveling water screens, primary water storage tank level, and, the control air to the feedwater regulating valves (which caused an unexpected 21 steam generator level increase).

All of the above deficiencies were documented in the condition report system. The operators appropriately entered technical specification action statements and initiated supplemental logs. Maintenance personnel installed supplemental heating in outdoor tanks areas and near the feedwater regulating valves to restore affected instrumentation and controls in a timely manner.

Previous NRC inspections (05000247/1999009 and 05000247/1998017) documented untimely and incomplete actions by Con Edison to perform winterization checks. The proposed corrective actions for the recent problems included confirmation of design

conditions for heat tracing and evaluation of corrective actions for past deficiencies. The proposed actions appeared acceptable to resolve the winterization deficiencies.

Gas Turbine #1 Tagout

The inspector independently verified the adequacy of tagout 1999-N-11726 to isolate gas turbine number 1 for corrective maintenance. The inspector confirmed that equipment was adequately isolated. Two labeling issues were presented to the Facilities Support Supervisor (FSS) involving: informal labeling on the turning gear control switch, and improper labeling of the generator output breaker. The labeling deficiencies were corrected prior to restoration of the tagout.

Two planning deficiencies concerning tagout 1999-N-11726 were documented in condition reports (CRs). Operations planning did not account for the loss of normal power to two emergency battery lights (CR 200000075), and did not adequately document the controls to preclude a black start diesel startup during tagout restoration (CR 200000205). Acceptable corrective actions were taken for both deficiencies.

Year 2000 Rollover

The inspector observed adequate Con Edison staffing and contingency actions during the year 2000 rollover. No equipment was impacted by the year 2000 rollover.

c. Conclusions

The inspectors verified that the facility was operated safely and in accordance with technical specification requirements. The safety injection (SI) system was operable in the standby mode. Con Edison staffing and contingency actions during the year 2000 rollover were acceptable.

The inspector noted several challenges to operators due to either degraded equipment, cold weather effects on plant instruments, or inadequate work planning which resulted in a large number of activities in the control room and deficiencies in a tagout for gas turbine no. 1. The deficiencies were properly entered into the corrective action system.

O2 Operational Status of Facilities and Equipment

O2.1 Station Auxiliary Transformer Oil Replacement

a. Inspection Scope (71707)

The scope of the inspection involved the planning, risk evaluation, and direct observation of contingency actions associated with corrective maintenance to isolate and add oil to the station auxiliary transformer.

b. Observations and Findings

Leak History

In July 1999, Con Edison identified an oil leak on the station auxiliary transformer (SAT) and documented this deficiency in condition report (CR) 199905411. On August 31, 1999, the unit experienced a complicated reactor trip and maintained hot shutdown plant conditions until October 10, 1999. Con Edison missed an opportunity to add oil to the SAT during the outage in September-October 1999. The oil leak was considered for repair during the forced shutdown. System engineering recommended that the maintenance be delayed until the next refueling outage based upon the oil leak rate and the ability to add oil to an energized transformer. The recommendation incorrectly assumed that oil could be added to an energized transformer and did not account for oil level contraction due to cold weather. Con Edison decided to postpone the maintenance activity until the next refueling outage.

However, an increase in the SAT oil leak rate and the onset of colder temperatures caused SAT oil level in the tap changer compartment to approach the minimum level deemed safe for continued transformer operation. If oil level decreased below the operating band, a high voltage short to ground and loss of the transformer could occur. Con Edison began preparations in November 1999 to de-energize the SAT and add oil to the tap changer compartment with the plant at power.

Risk Assessment

Con Edison recognized several factors that increased plant risk by decreasing the availability of offsite power while performing this work on-line. The plant electrical loads would be configured to supply all 6.9 kilovolt (KV) buses from the 13.8 KV system through the gas turbine auto transformer; the fast bus transfer scheme would be defeated to prevent inadvertent transfer of plant loads to the 138 KV system; and, if a plant trip occurred, the reactor coolant pumps would stop and the reactor would be cooled using natural circulation until offsite power was restored.

Con Edison's risk assessment concluded that the core damage frequency would double if a plant reactor trip occurred while the SAT was isolated, assuming a failure probability of 1 in 10 that operators do not restore power to 480 volt buses 2A and 3A. Con Edison concluded that based upon the incremental core damage probability additional work controls were necessary. Con Edison implemented additional administrative controls and detailed work planning, established compensatory measures and system alignments, and conducted just-in-time training for the operators.

Risk Management

The inspectors observed appropriate training, contingency planning, and supplemental actions to minimize plant risk to support isolation of the station auxiliary transformer. Simulator training on a loss of offsite power during the transfer of the 13.8 KV system was adequately performed and appropriately considered known degraded plant conditions that could complicate recovery actions. Some degraded conditions modeled on the simulator included sluggish response of the 24 atmospheric dump valve and inability to remotely open a 138 KV disconnect. Lessons learned from the simulator exercises were incorporated into the operations plan for the SAT maintenance.

The inspector reviewed the condition and maintenance history of the 13.8 KV auto transformer. Con Edison had previously identified numerous oil leaks on the auto transformer; a temporary facility change was in place to monitor oil leaks; and, numerous annunciators out of service in the control room. The inspector confirmed that an operability determination performed in 1998 (98-009) for the degraded conditions on the auto-transformer was still valid. The inspector did not identify additional degraded conditions. The inspector confirmed that the preventative maintenance program was up-to-date and the relay test program results adequately supported system operating procedure limitations on the secondary output of the transformer. An operator was stationed at the auto-transformer when it was supplying the plant electrical loads to monitor non-annunciated parameters in the control room and to report immediately any anomalies. The inspector observed the operator perform those supplemental activities acceptably.

On December 16, 1999, the SAT was isolated, the operators entered and adhered to the appropriate technical specification limiting conditions for operation, and oil was successfully added to the transformer. The inspector verified implementation of plant risk reduction actions during the isolation of the SAT. Risk reduction activities included splitting power supplies for component cooling water pumps and charging pumps to preclude a loss of reactor coolant pump seal cooling on either a loss of the main turbine or loss of the 13.8 KV auto transformer. The inspector verified that critical areas within the plant (i.e. diesel generator rooms, gas turbine auto transformer, and 480 volt switchgear) were appropriately controlled.

c. Conclusion

A challenge to safe operation existed when Con Edison management decided to isolate the station auxiliary transformer and add oil to it with the plant operating at power. Management missed the opportunity to perform this maintenance during a recent plant shutdown due to incomplete engineering review of the transformer oil leak rate and work plan.

Con Edison completed detailed work planning and implemented additional compensatory measures to manage the increased risk during maintenance on the station auxiliary transformer (SAT). The inspector observed appropriate training, planning, and supplemental actions to isolate and add oil to the SAT.

II. MAINTENANCE

M1 Conduct of Maintenance

M1.1 Maintenance Observations

a. Inspection Scope (62707)

The inspectors reviewed selected maintenance work activities and supporting work documentation. Activities were selected for systems, structures, or components in the scope of the maintenance rule.

b. Observations and Findings

NP-2000-13465, Failure of Control Rod Bank “C” to Move

During the performance of PT-M70, when control bank "C" was selected, group 1 failed to move in bank select (reference CR-20000266). Con Edison wrote Work Order #NP-00-13465 to troubleshoot the rod control problem and to develop a detailed work step list to check the multiplexer error detection card and multiplexer relay MXR-2. Con Edison noted that tapping the housing of the mercury wetted contact relay might reseat the contacts. Alternatively, a spare relay could be installed. The original relay was obsolete. Con Edison evaluated the use of a Potter Brumfield mercury wetted contact relay, which was shown to be the same in form, fit and function.

Con Edison installed a new Potter Brumfield relay for MXR-2, which did not correct the condition. The original Clare relay was re-installed and the wire terminations were verified secure. The original relay operated correctly. A second new Potter Brumfield relay was installed, which also operated properly. The rod control system was returned to operation after successful control rod testing per PT-M70. The work sequence was evaluated in CR 200000270 with assistance from engineering. The first new relay that was replaced did not function as expected, possibly due to mercury on the internal contacts, or high resistance on pin connections which were wiped when the relays were removed and reinserted. Con Edison planned further evaluations of the original and replacement relays that did not function as expected.

NP-99-12251, Addition of Oil to the Station Auxiliary Transformer

On December 16, 1999, the inspector observed the maintenance activity to add oil to the station auxiliary transformer. The pre-evolution briefing appropriately discussed contingencies if a reactor trip were to occur during the evolution, and the scope of the maintenance and post-maintenance testing.

The inspector observed operators perform the realignments of disconnects and breakers within the 13.8 kv system to isolate the SAT. The tagout was performed acceptably with guidance to the nuclear plant operator from the facilities support supervisor.

The post-evolution critique noted that communications between the plant staff and other Con Edison personnel who supported the maintenance could be improved. Specifically, the proposed additional actions by off-site switching operators to isolate the 138 KV system and by workers to torque the tap changer cover plate bolts potentially could have extended the time in the vulnerable configuration. Con Edison addressed these issue properly while the work was in progress.

NP- 99-13256, Replacement of 22 Steam Generator Pressure Module Converter

On January 7, 2000, the inspector observed IC technicians replace the PM-429A pressure module pneumatic converter for steam generator pressure indication. The deficiency was identified in condition report 199909401. The technicians followed the work step list and adequately performed wiring checks on the replacement module.

c. Conclusions

Maintenance personnel supported plant operations through timely resolution of emergent problems on systems that support plant operations.

M1.2 Surveillance Observations

a. Inspection Scope (61726)

The inspector reviewed selected surveillance activities and supporting documentation. Activities were selected for systems, structures, or components in the scope of the maintenance rule.

b. Observations and Findings

PT-2M5, Safety Injection Logic Test, Train B

This surveillance test was performed to confirm the proper operation of Train B of the safety injection actuation logic. The inspection noted good use of the procedure, good communications amongst the technicians, appropriate coordination with operations, and good supervisory involvement in the review of test results. Test anomalies were properly documented and entered into the corrective action system for resolution (reference CR 20000305). The surveillance was completed satisfactorily.

PT-M74 “Process Radiation Monitor R-47 Functional Test”

On December 17, 1999, the inspector observed the pre-job brief and portions of periodic test PT-M74. This test verifies the operation of the component cooling water radiation monitor. The pre-job brief was performed consistent with Station Administrative Order (SAO) 235 “Communications.” However, the inspector did not observe consistent use of peer checking, communications, or self checking during the performance of the test, although these were expectations stated in the pre-job brief. The inspector also observed steps performed out of sequence and difficulty starting the radiation monitor pump. These deficiencies did not have any consequences, although procedural adherence is required. These performance deficiencies were discussed with the I & C

supervisor, who reinforced procedural adherence expectations with the technicians who performed the surveillance. This specific concern is considered to be a minor violation and is not subject to formal enforcement action.

PT - Q26D "24 Service Water Pump"

On December 30, 1999, the inspector observed portions of this periodic test. This test was performed because the pump vibration at a single point indicated that the pump was in the alert status. The pre-job brief was thorough and was performed consistent with the Station Administrative Order (SAO) 235 "Communications." The pre-job brief discussed past problems including the introduction of silt into a pressure gauge.

The inspector observed the post- job critique on December 31, 1999. The critique discussed the accessibility of the vibration point on the top of the motor, the availability of the micro-logger which is used to record vibration data, the training on the usage of the micro-logger, and the use of non-intent procedure changes. The concern associated with procedure usage involved the failure to incorporate the non-intent changes into the procedure in a timely manner. Station Administrative Order (SAO) 100, "Indian Point Station Procedure Policy" requires TPCs to be incorporated within 90 days. Condition report 200000019 was written to document and evaluate this discrepancy. This specific concern is considered to be a minor violation and is not subject to formal enforcement action.

PT-Q31A, 21 Auxiliary Component Cooling Pump

The surveillance was performed for post-maintenance meggar test on the 21 auxiliary component cooling water pump. During the test, a common recirculation check valve failed to fully close. Operators appropriately entered into the applicable technical specification. The inspector observed that the subsequent operability determination lacked sufficient supporting information. Con Edison revised the basis for the operability decision. The overall conclusion did not change. The auxiliary component cooling water system remained operable with the degraded recirculation check valve.

PT-Q52, Overtemperature Delta T and Overpower Delta T Bistables

On January 6, 2000, the inspector observed the pre-job briefing and portions of this technical specification surveillance. The operator appropriately implemented OAD-6 in response to annunciators. I&C technicians were knowledgeable of the surveillance and appropriately documented a differential temperature alarm. The lack of appropriate test equipment at the job site prolonged the surveillance. Appropriate communications occurred between the operators and the technicians.

PT-A13B, Main Boiler Feed Pump (MBFP) Lube Oil Foam Fire Protection System

On January 18, 2000, the inspector observed the pre-job briefing and preparations for an annual fire protection system surveillance. The objectives of the surveillance were to verify proper operation of the heat detectors on the MBFP lube oil system, verify control room annunciators, and inspect the orifice for the foam tank. The inspector noted during the pre-job briefing that the nuclear plant operator was not present. The operator was needed to reposition locked valves in the fire protection system. The control room supervisor acknowledged the inspector's comments and initiated actions to brief the operator separately. A technician observed that the foam recently added in the tank was not to be used with water but rather an air system. The job supervisor appropriately stopped the activity, confirmed that the proper foam was installed and took actions to correct a misleading tank label. The test acceptance criteria were met.

c. Conclusions

The conduct of surveillance tests during the period was acceptable. Test activities were not consistently performed in accordance with expectations and administrative controls.

M2 Maintenance and Material Condition of Facilities and Equipment

M2.1 Reactor Cavity Level Transmitter

a. Inspection Scope (62707)

The inspector reviewed Con Edison actions in response to a failed reactor cavity sump level indicator.

b. Observations and Findings

On December 8, 1999, the reactor cavity continuous level channel, LT-3302, failed when its indication drifted out of specification high. This level channel provides indication of leakage in the vapor containment from reactor coolant and other sources. Con Edison entered Technical Specification (TS) 3.1.F.1.b(5) which requires actions be taken within 30 days to restore cavity level indication. Con Edison exited TS 3.1.F.1.b(5) on December 13, 1999, after determining that two additional discreet level indicators can be used to satisfy TS 3.1.F.1.b(5), and that the continuous level indicator was not required. Con Edison changed procedures to provide reactor cavity level monitoring using the discreet indicators. The inspector noted this action was consistent with License Amendment 85.

Con Edison planned to calibrate LT-3302 during the 2000 refueling outage. The inspector reviewed the corrective action history for LT-3302. This level indicator was first identified as drifting but within specification in February 1999 with condition report (CR) 199901531. The system engineer reviewed this condition report, performed an apparent cause evaluation for the deficiency, and assigned a corrective action to I & C to calibrate the level indicator at the next available opportunity. During the outage following the reactor trip on August 31, 1999, Con Edison reviewed all of the corrective maintenance work orders to determine which items should be corrected prior to plant

startup in October 1999. The transmitter deficiency was not reviewed at that time because a work order was not written until November 22, 1999, after a second condition report, CR 199908767, was written.

Station Administrative Order (SAO) 204 "Work Control" revision 17 and SAO 112 "Corrective Action Program" revision 0, effective at the time the deficiency was first identified, require the Corrective Action Group (CAG) to initiate an action request when needed. An action request is converted to a work order by the work control department. An action request is usually generated when the deficiency is identified. However, in this case the system engineer assigned a corrective action to re-calibrate the channel. Neither an action request nor work order was generated. This was a missed opportunity to correct the deficiency in 1999. The inspector reviewed selected implement corrective actions (ICAs) assignments to determine the number of identified deficiencies requiring a physical repair without work orders. The inspector noted 3 ICAs that did not have work orders. Con Edison wrote work orders for the three items. This specific problem is considered to be a minor violation and is not subject to formal enforcement action.

Based on interviews with Con Edison personnel, the inspector determined there was not a common understanding on how the process would generate an action request following an apparent cause determination. Con Edison acknowledged the inspector's comments regarding the process and the untimely generation of work orders from ICA assignments. Two mechanisms currently exist within the corrective action process to ensure that work orders are prepared in a timely fashion from the proposed ICAs. The first is an increased emphasis by Con Edison to ensure timely closure of ICAs . The second is the independent sampling review of closed CR evaluations that question the quality or completeness of proposed ICAs.

c. Conclusion

Con Edison actions to assure continued operability of the reactor cavity level system were acceptable. Actions to generate a level indicator LT-3302 work order in response to a documented deficiency were not timely.

M8 Miscellaneous Maintenance Issues

M8.1 Review of Previous Inspection Items (92902)

(Closed) Inspector Followup Item (IFI) 05000247/1998003-05: Adequacy of Post Maintenance Test on Emergency Diesel Generator.

This item involved a Con Edison discovery that the contacts on a starting permissive relay had been wired as normally open versus normally closed (the required configuration) during a plant modification on the emergency diesel generator. This error resulted in failure to flash the generator field upon engine startup. The emergency diesel generator was flashing off of residual magnetism. This phenomena masked the fact that the field flash circuitry was inoperable following modification several months earlier and indicated weaknesses in the post-modification testing. NRC Inspection 05000247/199803 addressed the operability issue in this matter.

The post-modification testing issue was discussed with Con Edison management for its potential generic implications. One corrective action included a review of electrical drawings that standardized the designation of internal versus external wiring termination points. A second corrective action included departmental training to reinforce independent wiring verifications, quality of work step lists, use of sketches to assist modification work, and improve modification turnover quality. The inspector confirmed the implementation of these corrective actions and considers this item closed.

(Closed) IFI 05000247/1996080-13: Reliability of Eight Recirculation Switches This item was open pending the completion of Con Edison's actions to better document the reliability of recirculation test switches during the performance of PT-R13A "Recirculation Switches." This periodic test verifies the recirculation switch operation which would be utilized to transfer from the coolant injection phase to the recirculation phase following a loss of coolant accident. The specific concern was that switch reliability was difficult to demonstrate due to limitations in how PT-R13A described how switches performed apart from other components in the circuitry. Con Edison's corrective actions included a revision to PT-R13A to clearly indicate the performance of each switch. Con Edison also evaluated the use of PT-R13A as a post modification test, performed a root cause analysis for safety-related BFD relay failures, and evaluated performing PT-13A with the breakers in test. The inspector reviewed the last completed performance of PT-R13A, performed in June of 1997. This test was completed satisfactorily with the exception of a deficiency with a motor operated valve stroke time. The inspector determined that the test procedure clearly described the performance of the transfer switches. Based on this review, this item is closed.

III. ENGINEERING

E2 Engineering Support of Facilities and Equipment

E2.1 Setpoint Control Program

a. Inspection Scope (61725)

During a June 1999 inspection (05000247/1999010), the NRC determined that the licensee's progress in the development of set point program procedures and the setpoint new data base was slow. In addition, the dedicated setpoint team had only completed the verification and validation (V & V) of about 120 critical setpoints of the Grade 1 and 2 setpoints. During this inspection, the inspector reviewed: (1) the licensee's ongoing activities in the setpoint program area, (2) Licensee Event Report (LER) 99-14 and other Condition reports (CRs), and, (3) interviewed the setpoint team and the management personnel to assess the overall progress and future plan of this program.

b. Observations and Findings

Over the past two years, both the licensee self-assessment audits and NRC inspections have identified various setpoint control problems. At the conclusion of a June 1999 NRC inspection, the licensee's setpoint team was completing a comprehensive review and verification of critical setpoints associated with emergency operating and abnormal operating procedures and resolving any discrepancies identified. Also, the setpoint program procedures were still in draft. The Computer Application Group had developed a new setpoint database, entitled "Setpoint Information Network (SPIN)," which replaced several existing databases (some were outdated) involving various types of set points (instruments, electrical, mechanical, etc.). However, the verification and validation (V & V) of this database (the software part) was still ongoing. Licensee management indicated at that time that they would increase the setpoint program resources to complete the V & V of grades 1 and 2 setpoints by December 1999.

Subsequent to the June 1999 inspection, the licensee had appropriately established new setpoint program guidelines and procedures to control setpoints at IP2. On October 18, 1999, the licensee issued a Station Administrative Order (SAO-452)," Indian Point 2 Set Point Control Program". This station administrative order outlined station policies and general requirements to control the setpoints for the IP2 and the IP1 units. Another lower tier procedure, "Setpoint Control Program," was also issued on October 10, 1999, with detailed instructions to implement the new process to comply with the above station guidelines. The inspector found that this procedure describes in detail the responsibilities of all applicable departments, including the responsibilities of the setpoint group to implement and control the station setpoints. Per this procedure, all station setpoints were to be stored on the SPIN data base and will be maintained by the setpoint control group.

During this inspection period, the inspector verified that the licensee had completed the V and V of all the significant nuclear safety-related setpoints (grade 1). The grade 1 setpoints were determined by Westinghouse and/or plant calculations using FSAR Chapter 14 analytical limits and the Technical Specifications. To date, the licensee had completed the V & V of all grade 1 setpoints (approximately 228). For grade 2 setpoints (approximately 219), consisting of EOP-related and Regulatory Guide 1.97 Category I, parameters A and B, and other setpoints in FSAR, these setpoints were being evaluated by the licensee's contractor (Westinghouse) for V and V at this time. The licensee stated that the slow progress in this grade 2 setpoint effort was due to unavailability of desired data in I&C calculations. They found that these calculations did not result in a one-to-one correlation with EOP setpoints because the existing calculations were done at bounding conditions. The licensee indicated that they had increased the resources of the setpoint group by hiring Westinghouse and they expect that these grade 2 setpoints V & V would be completed by July 2000. The inspector noted that the licensee had divided all the IP2 setpoints into five grades, with grades 1 and 2 (approximately 228+219 set points) being the most safety significant. Grades 3 to 5 setpoints were non safety-related, and these were planned to be completed at a later time. The inspector also noted that the licensee had completed the verification and validation of new established SPIN database (the software part), on June 15, 1999. A sample review of the Grade I selected setpoints and applicable documentation review revealed no concern.

The review of LER 99-14 and condition reports issued as a result of their ongoing setpoint program effort are discussed in Section 8 of this inspection report.

c. Conclusions

The licensee had appropriately established new guidelines and procedures to control plant setpoints. The effectiveness of the new procedures have not been evaluated since they were established late last year.

The licensee had made reasonable progress and completed the verification and validation (V and V) of the most significant nuclear safety-related (Grade 1) setpoints. The V and V of Grade 2 setpoints and other plant parameters in the FSAR were being evaluated by the licensee's contractor (Westinghouse) and should be completed by July 2000.

E2.2 System Readiness/Health Reviews

a. Inspection Scope (37551)

The inspectors attended a system readiness/health status presentation and reviewed the written report from this review.

b. Observations and Findings

A detailed system readiness/health status presentation is performed on a weekly basis. The purpose of each review is to assess the ability of systems to operate and identify any deficiencies that may impact operability or reliability. Engineering procedure SE-304, "Maintenance Rule System Readiness/Health Status," provides the guidance for the conduct of the reviews. Representatives from system engineering, design engineering, maintenance, and work control participate in the reviews.

On December 21, 1999, the inspector observed the system health review for Main Feedwater. The system health review was performed consistent with SE-304.

c. Conclusions

The NRC attended a system readiness/health status presentation and found it was performed consistent with station expectations.

E2.3 Inoperable Fire Dampers (NCV 05000247/1999011-01, 02, and 03)

a. Inspection Scope (37551)

On December 23, 1999, during performance of surveillance test PT-EM19, "Cable Spreading Room (CSR) Halon System" five of twelve CSR fire dampers failed to close upon a halon fire suppression system actuation. Con Edison reported this issue per 10 CFR 50.72(b)(1)(ii)(B) as a condition outside the plant design basis. The inspection evaluated the short-term corrective actions, causal analysis, and assessment of safety consequences.

b. Observations and Findings

Con Edison appropriately implemented fire watch tours per station administrative order (SAO)-703, “Fire Protection Impairment Criteria and Surveillance,” during and after the halon testing on December 21. The inspector verified the compensatory measures were satisfactory and being maintained while Con Edison recovered from the surveillance activities and made the halon system operable.

Con Edison attributed the inoperable fire dampers to a wiring error and found two wires crossed in a junction box on the north wall of the cable spreading room (reference (Drawings B208476-7and A214529). When the wires were re-landed, the dampers operated correctly with a halon system actuation signal. Unrelated to the wiring error, another damper operated but remained open by 3 inches due to mechanical binding. This condition was adequately corrected and tested on December 23.

Con Edison found the wiring error likely existed since the damper circuits were revised during a 1997 plant modification per CPC-85-40836, “Replace Existing Fire Dampers with 3 Hour Fire Dampers.” The affected dampers are actuated by electro-thermal links, which are operated by both the halon and transformer deluge actuation circuits. The scope of the 1997 post-modification test was inadequate because the test only actuated the transformer deluge portion of the control circuit.

TS license condition 2.K. requires Con Ed to implement and maintain all provisions of the NRC-approved fire protection program as described in the UFSAR for the facility and as approved in the SERs. The SER dated October 31, 1980 documents operability requirements for the cable spreading room halon system. Those requirements are in SAO-703 addendum II. The wiring errors created during plant modification CPC-85-40836 in May 1997 resulted in the halon suppression system not being able to perform its intended function. The failure to implement a 1997 modification correctly was a violation of NRC requirements. This Severity Level IV violation is being treated as a Non-Cited Violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy (64 FR 61142, November 9, 1999), and this violation was properly corrected and documented in the licensee’s corrective action program as CR 199909492. **(NCV 05000247/1999011-01)**

10 CFR 50 Appendix B, Criterion XI, “Test Control,” requires in part that a test program be established to assure that all testing required to demonstrate that a system will perform satisfactorily in service is identified and performed in accordance with written

test procedures which incorporate requirements of applicable design requirements. The post-modification testing in June 1997 for plant modification CPC-85-40836 did not detect the incorrect wiring in the halon initiation circuit for the cable spreading room. The failure to implement adequate post-modification testing for modification CPC-85-40836 was a violation of NRC requirements. This Severity Level IV violation is being treated as a Non-Cited Violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy (64 FR 61142, November 9, 1999), and this violation was properly corrected and documented in the licensee's corrective action program as CRs 199909492 and 199909486. **(NCV 05000247/1999011-02)**

TS license condition 2.K. requires Con Edison to implement and maintain in effect all provisions of the NRC-approved fire protection program as described in the Updated Final Safety Analysis Report (UFSAR) for the facility and as approved in the safety evaluation reports (SERs). The SER dated October 31, 1980, required the cable spreading room be functionally tested once per 18 months. The functional test was to verify the ventilation dampers and fans actuated properly upon receipt of a simulated test signal. SAO-703, Addendum II, requires the CSR halon system be demonstrated operable by the performance of system functional test once per 18 months. Con Edison last completed a full functional test of the cable spreading halon system prior to plant modification CPC-85-40836 in May 1997. The failure to perform the system functional test once per 18 months was a violation of NRC requirements. This Severity Level IV violation is being treated as a Non-Cited Violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy (64 FR 61142, November 9, 1999), and this violation was properly corrected and documented in the licensee's corrective action program as CR 200000041. **(NCV 05000247/1999011-03)**

Numerous opportunities existed to detect this modification error between May 1997 and December 1999. The first opportunity was the inadequate quality control verification of the halon actuation circuit wiring configuration during the 1997 modification. The second opportunity was less than adequate post-modification testing. The post-modification test did not functionally test the halon suppression system but relied upon the wiring installation and verification during the modification. The third opportunity was the implementation of the surveillance testing that identified the error. However, the surveillance tests were not implemented in a timely manner. Inappropriate justifications were used to delay completion of surveillances.

The potential safety consequence of the modification error was minimal. The halon system is considered backup fire suppression for the cable spreading room. The primary fire suppression is the fire brigade using portable fire extinguishers. The inspector verified system operating procedure (SOP) 29.1.6, "Cable Spreading Room Halon Fire Protection System," provides guidance to the fire brigade to combat a fire in the area. The area contains instrumentation and control cables for safety-related systems which are required for safe shutdown. The equipment necessary for safe shutdown included the reactor protection system motor generator sets, vital invertors, and battery chargers. Con Edison concluded that alternate power supplies using Unit 1 load centers were protected by fire barriers and would provide for adequate safe shutdown assuming a fire within the cable spreading room. Abnormal operating instruction (AOI) 27.1.9, "Control Room Inaccessibility Safe Shutdown," provides guidance to mitigate a fire in the spreading room. Lastly, the fire dampers for the cable

spreading room had been previously verified to isolate the cable spreading room from a fire in the transformer yard and a postulated fire in the 480 volt switchgear room.

The inspector interviewed the causal investigation team, walked down the cable spreading halon system, and reviewed past NRC observations concerning modification implementation. Con Edison extent of condition reviews provided reasonable assurance that no other post modification implementation errors occurred. The inspector reviewed modification errors as documented in past inspection reports and did not identify an adverse trend. The inspector concluded that the causal analysis and proposed corrective actions were adequate. The inspector noted that the corrective actions review board's evaluation of the investigation report was critical and in-depth.

c. Conclusion

The causal analysis and proposed corrective actions were adequate for a 1997 modification error that caused the cable spreading room halon system to be inoperable. Numerous opportunities existed to detect this modification error between May 1997 and December 1999. The performance issues included less than adequate quality control verification of the wiring configuration for the halon actuation circuits, less than adequate post-modification testing, and a poorly implemented surveillance test program.

E7 Quality Assurance in Engineering

E7.1 Recovery Plan/Business Plan

a. Inspection Scope (92901, 92902, 92903, and 92904)

The year 2000 Business Plan was reviewed and department managers/supervisors were interviewed. The purposes of the review were to: (1) verify that the business plan incorporated the action items listed in the IP2 Recovery Plan , revision 3 (November 8, 1999); (2) determine whether business plan deliverables were assigned due dates; (3) determine whether adequate metrics were identified to verify improved performance.

The following Recovery Plan items (and department action plans) were reviewed: (1) Work control optimization (work control center); (2) Maintenance improvements (maintenance); (3) Improving the modification process (design engineering); (4) Configuration management control improvements/increasing the knowledge level of plant design and licensing bases (configuration management); (5) safety system functional assessment (6) Operations improvements (7) corrective action and human performance improvements (8) emergency planning (9) effectiveness reviews.

b. Observations and Findings

The Business Plan consists of action plans from each major department. The action plans vary considerably in their approach, format, degree of detail and prescriptiveness, and use of metrics to verify effectiveness.

There was generally acceptable agreement between the IP2 Recovery Plan and the Business Plan; however, inconsistencies and performance metric weaknesses exist. The inspectors identified some recovery plan items not specifically identified in the Business Plan. They included a failure to reinforce the expectations on evaluating and implementing corrective actions station-wide and actions to address knowledge deficiencies in the station administrative orders. The electrical design engineering action plan contained a general item for conducting various analytical projects, but did not call out specific details like the motor control center (MCC) coordination study or the various load studies mentioned in the recovery plan. Acceptable agreement existed in the areas of work control, maintenance, operations, and configuration management improvement plans.

The specific due dates for action plan deliverables associated with recovery plan objectives were inconsistent between departments. The work control plan, maintenance plan, operations plan, and configuration management established deliverable milestones. The design engineering group committed to support the modification improvement process but lacked specificity for this item on when it would be completed. The system engineering action plan was least prescriptive and contained many action items for which milestones had not been assigned. Milestones for various emergency planning improvements such as procedure changes and upgrades to the critique process were not fully established at time of inspection.

The quality and use of performance metrics to measure performance was weak, in some instances. The operations improvement action plan used operator burden metrics (e.g. operator workaround, control room deficiencies, temporary facility changes) yet a majority of the improvement plan focused on operations leadership, expectations on risk, and log-keeping which did not have metrics. Further, the inspector learned that the operations management observation program had not been actively tracked and monitored since June 1999. The operations management observation program directly tied to recovery plan items. The inspector also noted that system engineering improvements and emergency preparedness improvements did not directly tie to either proposed or implemented performance metrics. In the design engineering area goals were established (based on manpower availability) for reducing the backlog of condition reports (CRs), maintenance work orders on engineering hold, temporary facility changes, operator work arounds and control room deficiencies, although no one engineering group individually established goals for each type of item. No metrics were identified beyond the existing performance (backlog) indicators. Work control, maintenance, and corrective action plans had proposed or implemented metrics directly tied to improvement objectives.

Additionally, the inspectors noted that there was not a clear linkage between the Recovery Plan long-term corrective actions and the Business Plan milestones.

The above observations were discussed with Con Edison management on January 14, 2000. Management acknowledged the inspector's observation and prepared condition report (CR) 200000414 to document these items in the corrective action program.

c. Conclusions

Our inspectors reviewed your Indian Point 2 Recovery Plan longer-term corrective actions submitted to the NRC on November 8, 1999 and noted that in some cases your corresponding IP-2 Business Plan implementing actions have inconsistencies, performance metric weaknesses, and absences of completion dates. The NRC observations were entered into the Con Edison corrective action program.

E8 Miscellaneous Engineering Issues

E8.1 Review of Licensee Event Reports

a. Inspection Scope (92903)

The inspector reviewed licensee actions to submit licensee event reports (LERs) per 10CFR 50.73 and to address degraded conditions.

b. Observation and Findings

(Closed) LER 05000247/19999-014: Failure to meet Technical Specification Minimum Degree of Redundancy. During actions to validate the steam flow bistable setpoints, the licensee found a concern with the specified setpoint value in the surveillance procedure, PTQ62. This concern is documented in LER 99-14 and the licensee's Condition Report 199906485. The licensee found that in at lease two previous surveillance tests the high steam flow/1st stage pressure bistable did not meet the minimum degree of redundancy requirements. Specifically, on February 26, 1999, and June 30, 1999, the system did not meet the minimum degree of redundancy requirement of Technical Specification (TS) Table 3.5-3. The licensee also found that on three additional occasions both channels in the same steam line were noted above the administrative limit. Thus, in all of the above cases, minimum redundancy requirements were not met.

The licensee investigation found that the acceptable setpoint value of (137.2, ± 2.0 mV) for the steam flow bistables specified in the surveillance procedure, PTQ62, revision 6, included, in error, an additional 0.4 millivolt value for channel uncertainty since 1992 (CR 199906137). As a result, all the "as-found" values found in the past surveillance tests (even though they were above the TS allowed administrative limits now) were found acceptable within the PTQ62 specified limits, and they were not adjusted within the TS values and consequently operation continued with less than the required degree of redundancy specified in the TS Table 3.5.3. The inspector found upon confirming this issue, the licensee appropriately reported this condition to the NRC in accordance with 10 CFR 50.72, and entered the issue in the CR process, and later issued LER 99-14.

To assess the safety significance of this issue, the licensee reviewed all applicable design bases documents and determined that in all reported cases, although plant

setpoints exceeded the allowed administrative limit (42.7%) of steam flow, there was still a margin of approximately 19% steam flow to the safety analysis limit (64%) specified in WCAP. The safety analysis limit defined in the WCAP as, "The parameter value assumed in a transient analysis or other plant operating limit at which a reactor trip or actuation function is initiated". Based on the existence of ample margin, the licensee determined that the as-found condition was of minor safety significance. In addition, per the FSAR accident analysis, Chapter 14.1, design bases, additional back up for the safety actuation would have been assured for a pipe rupture via the low pressurizer pressure, the differential pressure signals between steam lines and other designed safety systems. Based on the review of TS requirements, FSAR and design bases documents, the inspector found that the licensee's conclusion was reasonable.

The inspector noted that the licensee had appropriately corrected this issue. The licensee had updated the applicable procedures to include the acceptable steam flow bistables trip setpoint below the TS administrative limit. The affected bistables were re-calibrated as required below the allowed administrative limits. In addition, the licensee reviewed other applicable procedures for similar concerns and found no issue. Section E2.1 of this report describes the licensee's actions to better control setpoints. The inspector verified the above corrective actions and found them acceptable.

Based on the above review, the inspector concluded that in at least two occasions, the high steam flow bistables did not meet the minimum degree of redundancy requirements of the TSs. Specifically, on February 26, 1999, and June 30, 1999, the minimum degree of redundancy requirement of steam flow channel requirements exceeded the allowed administrative limits of 42.7% steam flow as per the Technical Specification (TS) Table 3.5-3. The failure to establish adequate written test requirements and acceptance limits in procedure PTQ62, Revision 6, since 1992, as contained in applicable design documents, resulted in steam flow in two channels outside the TS requirements, and was a violation of 10 CFR Part 50, Appendix B, Criterion XI, test control requirements. This Severity Level IV violation is being treated as a Non-Cited Violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy (64 FR 61142, November 9, 1999), since this violation was properly corrected and documented in the licensee's corrective action program as CRs 199906845 and 199906187 and LER99-14. **(NCV 05000247/99011-04)**. This LER is closed.

(Closed) LER 05000247/1999-009: Toxic Gas Monitor Setpoint Drift. This event concerned the setpoint drift of ammonia detectors used in the toxic gas monitors for the main control room. NRC Inspection 05000247/1999004 describes the NRC review of this matter. This LER is closed.

(Closed) LER 05000247/1999-020: Cable Spreading Room Fire Dampers. NRC review of this event is described in Section E2.3 of this report. This LER is closed.

(Closed) LER 05000247/1999-004: Environmental Qualification Deficiencies in Acoustic Monitors. NRC inspection 05000247/1999006 describes the NRC review of this matter. This LER is closed.

c. Conclusion

A calibration and test procedure contained an inadequate acceptance criterion, which resulted in the redundant main steam flow channels being outside the administrative limits of Technical Specification on two occasions. The failure to establish adequate written test requirements and acceptance limits, is a violation of 10 CFR Part 50, Appendix B, Criterion XI, test control requirements. This is being treated as a Non-Cited Violation consistent with the NRC Enforcement Policy.

E8.2 Review of Previous Inspection Items (92902)

(Closed) VIO 05000247/1998008-01: Inaccurate Information in Response to Generic Letter 97 - 04. This violation concerned inaccurate information provided in a letter dated January 6, 1998, in response to Generic Letter 97-04, "Assurance of Sufficient Net Positive Suction Head for Emergency Core Cooling and Containment Heat Removal Pumps." Con Edison responded to the violation in a letter dated December 11, 1998. The inspector reviewed both the revised generic letter response and the Nuclear Safety and Licensing Administrative Directive (NSLAD-1) "Records and Filing." NSLAD-1 was revised to stress the importance of accurate reporting. The inspector determined that the corrective actions were appropriate and the corrective actions were implemented appropriately. Based on the above review of a sampling of corrective actions, this violation is closed.

IV. PLANT SUPPORT

R1 Radiological Protection and Chemistry (RP&C) Controls

R1.1 Observation of Reactor Coolant Sampling and Analysis

a. Inspection Scope (71750)

The inspector observed reactor coolant sample collection and analysis for boron performed in accordance with procedures IPC-A-004, "Boron Determination in the Presence of Mannitol."

b. Observations and Findings

The inspector observed a chemist draw a primary sample and then analyze it for boron concentration. The watch chemist accurately analyzed the sample in accordance with procedure.

Improvement was observed in contamination control techniques that were previously observed as improper by the NRC and documented in NRC Inspection Report 50-247/98-17 and 50-247/99-01.

c. Conclusions

The inspector observed a routine primary sample and analysis for boron. The watch chemist accurately analyzed the sample in accordance with procedures.

X1 Exit Meeting Summary

The resident inspector presented the inspection results to Con Edison's management at an exit meeting on February 4, 2000. The inspectors were not informed by Con Edison that any of the issues discussed at the exit or materials examined during the inspection should be considered proprietary.

ATTACHMENT 1

INSPECTION PROCEDURES USED

37551	Onsite Engineering
40500	Effectiveness of Licensee Process to Identify, Resolve, and Prevent Problems
61726	Surveillance Observation
62707	Maintenance Observation
71707	Plant Operations
71750	Plant Support
92902	Followup-Maintenance
92903	Followup-Engineering
61725	Surveillance Testing and Calibration Control Program
92901	Followup-Operations
92904	Followup-Plant Support

ITEMS OPENED and CLOSED

Open

NCV 05000247/1999011-01, Inoperable cable spreading halon system
NCV 05000247/1999011-02, Failure to test cable spreading room halon system
NCV 05000247/1999011-03, 10 CFR 50 Appendix B, Criterion XI, “Test Control”
NCV 05000247/1999011-04, 10 CFR 50 Appendix B, Criterion XI, “Test Control”

Closed

NCV 05000247/1999011-01, Inoperable cable spreading halon system
NCV 05000247/1999011-02, Failure to test cable spreading room halon system
NCV 05000247/1999011-03, 10 CFR 50 Appendix B, Criterion XI, “Test Control”
NCV 05000247/1999011-04, 10 CFR 50 Appendix B, Criterion XI, “Test Control”
IFI 05000247/1998003-05, Adequacy of Emergency Diesel Post Maintenance Test.
IFI 05000247/1996080-13, Reliability of Eight Recirculation Switches
LER 05000247/1999-009, Toxic Gas Monitor Setpoint Drift
LER 05000247/1999-020, Cable Spreading Room Fire Dampers
LER 05000247/1999-004, Environmental Qualification Deficiencies in Acoustic Monitors
VIO 05000247/1998008-01; Inaccurate Information in Response to Generic Letter 97 - 04

LIST OF ACRONYMS USED

AFW	auxiliary feedwater
AOI	abnormal operating instruction
CAG	corrective action group
CM	corrective maintenance
COL	check off list
CR	condition report
CRS	containment recirculation spray
EDG	emergency diesel generator
FP	fire protection
FSAR	Final Safety Analysis Report
GT	gas turbine
I&C	Instrument & Control
IP2	Indian Point 2
KV	kilovolt
LER	licensee event report
MOD	modification
NPO	nuclear plant operator
NRR	Nuclear Reactor Regulation, Office of
OD	operability determination
OTR	other
OWA	Operator Work Around
PAB	primary auxiliary building
QC	quality control
RCP	reactor coolant pump
RP&C	radiological protection and chemistry controls
SAO	station administrative order
SAT	station auxiliary transformer
SE	safety evaluation
SE	system engineer
SER	safety evaluation report
SOP	system operating procedure
TFC	temporary facility change
TS	technical specification
WO	work order
Y2K	year 2000