January 20, 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 NO. 05000247/1999010

Dear Mr. Blind:

This letter transmits the results of safety inspections conducted by NRC inspectors at your Indian Point 2 reactor facility from October 26 through December 7, 1999. The unit was operated safely throughout the inspection period.

Our inspectors noted that some degraded material conditions continued to challenge the plant staff. These conditions included various secondary plant steam leaks, main boiler feedwater pump speed oscillations, and recurrent electrical grounds on the 21 battery charger.

Previous NRC inspections, as well as events and your own reviews, have highlighted the large backlogs of identified work items and issues. During this inspection we noted that backlogs were adequately prioritized; however, your backlog reduction efforts have not yet been effective at reducing the large backlogs previously identified in engineering, maintenance, and corrective actions. In addition, we noted that you directed extra resources at tracking, tending, and reducing backlogs, and the plant staff appeared to recognize the need to reduce the backlogs. However, no significant progress has yet been realized.

We note that the Indian Point 2 Recovery Plan contains initiatives to improve management of station work and corrective actions, and to address other issues needed to improve overall station performance. Our review continued at the end of the inspection period to further understand your more detailed plans and evaluate their effectiveness in improving station performance.

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. John Rogge at 610-337-5146.

Sincerely,

/RA/

A. Randolph Blough, Director
Division of Reactor Projects

Docket No. 05000247
License No. DPR-26

Enclosure: Inspection Report No. 05000247/99010

cc w/encl:
J. Groth, Senior Vice President - Nuclear Operations
J. Baumstark, Vice President, Nuclear Power Engineering
J. McCann, Manager, Nuclear Safety and Licensing
B. Brandenburg, Assistant General Counsel
C. Faison, Director, Nuclear Licensing, NYPA
J. Ferrick, Operations Manager
C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law
P. Eddy, Electric Division, Department of Public Service, State of New York
T. Rose, NFSC Secretary
F. William Valentino, President, New York State Energy Research and Development Authority
J. Spath, Program Director, New York State Energy Research and Development Authority

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.	050000247
License No.	DPR-26
Report No.	9910
Licensee:	Consolidated Edison Company of New York, Inc.
Facility:	Indian Point 2 Nuclear Power Plant
Location:	Buchanan, New York
Dates:	October 26 through December 7, 1999
Inspectors:	William Raymond, Senior Resident Inspector Jennifer England, Resident Inspector Peter Habighorst, Resident Inspector Larry Scholl, Senior Reactor Engineer Ram Bhatia, Reactor Engineer Greg Cranston, Project Engineer Al Lohmeier, Project Engineer Sean Peters, Reactor Engineer
Approved by:	John F. Rogge, Chief Projects Branch 2 Division of Reactor Projects

EXECUTIVE SUMMARY

Indian Point 2 Nuclear Power Plant
NRC Inspection Report No. 05000247/99010

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. A nuclear plant operator adequately performed rounds and was knowledgeable about parameters to monitor. However, some degraded conditions required the use of supplemental logs. The auxiliary feedwater system was verified operable; components were properly labeled and material conditions were acceptable. (O1.1)

The inspector identified deficiencies in a temporary facility change that installed a demineralizer for the Unit 1 spent fuel pool. Although the deficiencies did not impact safety and were promptly corrected, the NRC continued to identify recurring problems implementing temporary facility changes. (O2.1)

The Nuclear Facilities Safety Committee fulfilled its responsibilities in accordance with technical specifications. The committee considered initiatives to improve oversight of plant activities. The initiatives will be considered in future committee meetings. (O7.1)

Event reports submitted per 10 CFR 50.73 were acceptable. The control rod deviation monitor was inadvertently disabled because software changes were not properly controlled during March 1999 testing of the plant computer for Year 2000 compliance. The inspector verified that the applicable technical specification was not violated because the control rods remained properly aligned and operator logs fulfilled the technical specification requirements. (O8.1)

Maintenance

Plant material deficiencies continue to challenge the plant staff. Con Edison successfully addressed several significant deficiencies, but the total amount of outstanding work remained high and continued to challenge the operators and plant staff. Con Edison provided good control and oversight for high risk maintenance activities. (M1.1)

Surveillance tests observed during the period were acceptable. Minor deficiencies identified by the inspector were properly addressed. An open item will follow Con Edison's evaluation of the use of city water to provide supplemental cooling to the 21 and 23 auxiliary feedwater pump bearings. (M1.2)

The licensee was adequately trending and monitoring emergency diesel generator fuel oil samples. The fuel oil supply was verified to be not contaminated with water. (M2.1)

The material condition of emergency diesel generator electrical components and control wiring was acceptable. The inspector noted that oil had leaked into the conduit for the 23 emergency

diesel generator which Con Edison evaluated and determined to be acceptable. The preventive maintenance procedure to inspect electrical components and control wiring had appropriate instructions and tests to evaluate the adequacy of emergency diesel generator components. (M2.2)

Engineering

The number of items in the engineering, maintenance and corrective action backlogs remains high and in most areas there has not been significant progress in reducing the backlog. Additional resources have been allocated and/or planned that are intended to improve the ability to reduce backlogs. While the plant staff was aware of the need to reduce the work backlogs and some progress was noted in isolated areas, efforts to date have been ineffective. The inspectors did not identify any issues that would have an impact on equipment operability. (E2.1)

Two examples were identified where non-conforming conditions, associated with reactor protection system testing, were found to be acceptable for continued operation without having a thorough, documented engineering evaluation to support the operability conclusions. Subsequent evaluations by engineering were acceptable. (E2.1)

System readiness/health presentation reviews were performed consistent with station procedures. Con Edison's decision to prioritize engineering service activities to support the refueling outage were appropriate. (E2.2)

Revision 3 of the IP2 Recovery Plan described initiatives which appear appropriate to improve performance over a broad spectrum of station activities. NRC review continued at the end of the inspection period to further understand Con Edison's more detailed plans and evaluate their effectiveness in improving station performance. (E8.1)

Plant Support

Con Edison responses to radiological events were acceptable. Con Edison's actions were appropriate to investigate the source of Cs-137 in a turbine building sump and to evaluate the contamination. The inspector verified that effluent releases were below NRC limits. The failure to properly control mercury resulted in the inadvertent shipment of radwaste as mixed waste. While Con Edison's actions to dispose of mercury were ineffective, the actions to evaluate and retrieve the waste were appropriate. (R1.1)

Radiation worker and general employee training programs were acceptable for instructing workers per 10 CFR 19. (R5.1)

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ATTACHMENTS

Report Details

I. OPERATIONS

O1 Conduct of Operations

The plant operated at full power during the inspection period, except for a power reduction to 90 percent on November 5-6 to conduct turbine testing and repair a moisture separator steam leak.

O1.1 Operational Safety Verification

a. Inspection Scope (71707)

Using Inspection Procedure 71707, the inspectors conducted frequent reviews of ongoing plant operations. The auxiliary feedwater 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. Emergency diesel generators support system parameters were consistent for all three diesels and within acceptable limits (e.g., fuel oil, lube oil and air start pressures).

Nuclear Plant Operator Tour Observations

On November 10, 1999, the inspector observed a nuclear plant operator (NPO) performing rounds. The NPO was knowledgeable about monitored parameters and plant limits. The inspector noted that the nuclear plant operator had additional duties to perform because of degraded equipment conditions. Several equipment deficiencies resulted in out-of-service log entries such as recording plant ventilation monitor sample flow, reactor coolant drain tank level, and a hold-up tank level. Two degraded conditions required the operator to take supplemental logs for the 21 steam generator blowdown flow rate and the zone flow for the weld channel and penetration pressurization system. None of the degraded conditions impacted equipment operability.

Auxiliary Feedwater System Walkdown

The inspector confirmed that the auxiliary feedwater (AFW) system was operable in the standby mode. The AFW valves were positioned as described in system checkoff lists (COLs) 21.3, “Steam Generator Water Level and Auxiliary Boiler Feedwater,” and 18.1, “Main and Reheat Steam,” and drawings 9321-F-2019-99 and 9321-F-2018-124. The inspector reviewed AFW condition reports opened in the last two years. About 20% of the backlog involved outstanding maintenance on degraded components. The remainder of the backlog involved administrative issues on test procedures, program revisions (i.e., air-operated valve databases), and background reviews on Final Safety

Analysis Report (FSAR) descriptions. Operability and reportability evaluations for items in the backlog were appropriate. The AFW components were properly labeled and material conditions were acceptable.

c. Conclusions

The inspectors verified that the facility was operated safely and in accordance with technical specification requirements. A nuclear plant operator adequately performed rounds and was knowledgeable about parameters to monitor. However, some degraded conditions required the use of supplemental logs. The auxiliary feedwater system was verified operable; components were properly labeled and material conditions were acceptable.

O2 Operational Status of Facilities and Equipment

O2.1 Implementation of a Temporary Facility Change

a. Inspection Scope (71707)

The inspector evaluated the 10 CFR 50.59 safety evaluation and implementing procedures for a temporary facility change (TFC). The inspector also verified installation of the TFC.

b. Observations and Findings

The Unit 1 spent fuel pool conductivity exceeded the Technical Specification 4.1.9.3 limit. The technical specification requires actions to investigate the cause of the deviation and to restore conductivity within limits. TFC 99-148, "Unit 1 Spent Fuel Pool Demineralizer," installed a temporary demineralizer to purify the pool water. Conductivity was reduced below the technical specification limit. Con Edison concluded that the high conductivity was caused by ongoing corrosion product release and potential inter-pool leakage.
Con Edison initiated actions to pump the adjacent pool and considered a permanent installation of the demineralizer.

The inspector identified inconsistencies between the safety evaluation (SE) and the TFC installation. The licensee did not wrap the hose connections and install hose sample connections per the SE assumptions. The deficiencies did not invalidate the safety evaluation conclusions. The inspector also noted minor differences between the implementing procedure and the TFC safety evaluation. Procedure RW-S-4.801 "Operation of the Portable Demineralization System," stated that higher background radiation levels may be encountered, yet the safety evaluation concluded that no increase in any radiation levels, effluents, or occupational dose was expected. The operation of the demineralizer skid did increase the local radiation levels by about two millirem per hour. The issues were documented in condition report (CR) 199908112. At the end of the inspection period, Con Edison corrected the inconsistencies between the procedure and the installation.

NRC report 05000247/99001 also documented TFC deficiencies. The previous deficiencies were more safety significant than those described above. This specific problem is considered to be a minor violation and is not subject to formal enforcement action. NRC concerns with the implementation of TFCs were also described in a violation issued in Inspection Report 05000247/99006.

c. Conclusions

The inspector identified deficiencies in a temporary facility change that installed a demineralizer for the Unit 1 spent fuel pool. Although the deficiencies did not impact safety and were promptly corrected, the NRC continued to identify recurring problems implementing temporary facility changes.

O7 Quality Assurance in Operations

O7.1 Nuclear Facilities Safety Committee

a. Inspection Scope (71707)

The inspector observed activities of the Nuclear Facilities Safety Committee (NFSC) on November 15-16, 1999.

b. Observations and Findings

The committee fulfilled responsibilities in accordance with technical specifications. The presentation to the full committee on November 15 included topics on refueling outage preparations, the corrective action program, and the Indian Point Unit 2 recovery plan. The corrective action group (CAG) manager presented the results of self-assessments indicating there were numerous programmatic deficiencies in the corrective action process. The deficiencies included inconsistent timeliness of condition evaluations, unclear operability reviews, ineffective corrective actions, incorrect performance metrics, and failures of past self-assessment activities. Con Edison developed an improvement program for the corrective action program.

The NFSC deliberated on the committee's effectiveness in light of a reactor trip with complications on August 31, 1999, (reference NRC in report 05000247/99008). The committee considered initiatives to improve performance: have committee members spend more time in the facility; include agenda items that provide better performance insights; provide clearer messages to the chief nuclear officer on NFSC findings; and, become more involved in departmental self-assessment activities. The NFSC planned to discuss this matter in future meetings.

c. Conclusions

The Nuclear Facilities Safety Committee fulfilled its responsibilities in accordance with technical specifications. The committee considered initiatives to improve oversight of plant activities.

O8 Miscellaneous Operations Issues

O8.1 Review of Licensee Event Reports

a. Inspection Scope (92700)

The inspector reviewed licensee actions to make reports per 10 CFR 50.73 and to address degraded conditions.

b. Observations and Findings

(Closed) Licensee Event Report (LER) 99-019: Inadvertent Disabling of Rod Position Program

Con Edison submitted this LER on a voluntary basis. On October 28, 1999, Con Edison identified during a monthly test that alarm limits were different from the limits required by Technical Specification 3.10.6. The incorrect limits had existed for approximately one month when the plant resumed operations above 50 percent power. The technical specification was not violated because the control rods remained properly aligned and operator logs fulfilled the technical specification requirements. The alarm limits were incorrect because the licensee inappropriately disabled the RODLOW computer program in March 1999 while conducting year 2000 (Y2K) testing of the plant process computer. RODLOW was one of 41 software programs that required confirmation that it was no longer necessary and could be retired instead of verified to be Y2K compliant. Con Edison failed to provide this confirmation, yet all 41 programs were disabled.

Con Edison reviewed RODLOW and determined that the software was Y2K compliant. The inspector performed an independent review and verified RODLOW was Y2K compliant. The RODLOW program was activated and properly tested on November 3, 1999, using procedure CA-SQ-14192, “Software Y2K Test Procedure for Proteus Program.” Con Edison completed an extent-of-condition review to ensure no other software was inappropriately disabled. The remaining software packages were no longer needed. Con Edison took corrective actions to ensure software changes are subject to controls for plant modifications. The inspector questioned why the alarm limits were not checked during power ascension when the rod deviation limits change. Con Edison planned to revise the plant operations procedure. This LER is closed.

(Closed) LER 99-008: Deficiency in Respirator Qualifications

This LER documented that 18 control room operators lacked respirator qualifications. Con Edison determined the root cause of this event was the lack of a formal tracking process for the status of individual respirator qualifications, with the exception of those individuals required to wear respirators per radiation work. The corrective actions were to verify all on-shift personnel were qualified, qualify all operators prior to standing watch, and develop a program to track the operator respirator qualifications. The completed and proposed corrective actions were adequate to prevent recurrence of this event. This specific problem is considered to be a minor violation and is not subject to formal enforcement action. This LER is closed.

(Closed) LER 99-010: Emergency Diesel Generator Air Compressor Operation

This LER documented a non-conservative practice used to perform planned maintenance on the emergency diesel generator air compressors. Specifically, during maintenance on one air compressor, the starting air receiver for that emergency diesel generator was cross connected with the air receiver and air compressor of another emergency diesel generator. The failure of one air receiver relief valve could render two diesel generators inoperable. The cause of this event was the failure to recognize the consequences of a single failure event under all equipment operating conditions. Con Edison stopped the practice of cross connecting air receivers while working on diesel air compressors. Con Edison revised local alarm response procedure (LARP) 3, "Diesel Generator," to require that an operator be stationed in the diesel generator building and cross connect receivers to restore air pressure to an operable diesel, if needed. The corrective actions were adequate to prevent recurrence of this event. The specific problem is considered to be a minor violation and is not subject to formal enforcement action. This item is closed.

c. Conclusions

Event reports submitted per 10 CFR 50.73 were acceptable. The control rod deviation monitor was inadvertently disabled because software changes were not properly controlled during March 1999 testing of the plant computer for Year 2000 compliance. The inspector verified that the applicable technical specification was not violated because the control rods remained properly aligned and operator logs fulfilled the technical specification requirements.

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

The plant staff was challenged by many equipment issues during the period. The staff successfully resolved some discrepancies including steam leaks on the 21A moisture separator, the 24 main steam isolation valve, and level control valve (LCV)-1127B on the heater drain tank. Con Edison also addressed degraded conditions in the control rod system, the gas turbines, and the hydrogen/oxygen analyzer heat trace system. Con Edison appropriately provided enhanced management oversight and control for some work activities. Con Edison addressed items that required corrective action per section a(1) of 10 CFR 50.65 (Maintenance Rule) by replacing 13.8 kilovolt (KV) line 13W94 and completing the boric acid transfer pump seal modification. However, 17 plant systems remained in an (a)(1) status (of which 10 were risk significant), and were being addressed as part of the efforts to reduce the work backlog.

A number of operator challenges were identified to the Con Edison management team and were scheduled for resolution. Several notable deficiencies remained unresolved: recurrent high vibrations on the 21 and 23 reactor coolant pumps, 22 main boiler feedwater pump speed oscillations, recurrent grounds in the 21 battery charger, and undiagnosed and recurrent spiking of the over temperature differential temperature protection channel #4 setpoint.

The backlog of active work orders remained high at about 4500 items, as shown in the daily work schedule and planning summaries. The daily management review of schedules and work control issues raised management attention to surveillance testing, the resolution of control room deficiencies, and the actions needed to address high priority work items. Actions were taken to reduce the number of overdue items, but more time is needed to determine the effectiveness of Con Edison's actions. Section E8.1 describes other actions to improve performance in the maintenance area.

NP-99-12081, Leak Repair to 24 Main Steam Isolation Valve

The inspector observed that the conduct of maintenance was adequate. Con Edison repaired a body-to-bonnet leak on the 24 main steam isolation valve (MSIV) using a leak seal injection process. Operations management and quality control inspectors provided adequate oversight of the activity. The site nuclear safety committee (SNSC) approved the safety evaluation and engineering calculations. SNSC appropriately requested that the activity be controlled as an infrequently performed test or evolution (IPTE) because the work near the MSIV limit switches caused a potential plant trip risk.

The inspector compared the associated planning activities with NRC inspection guidance 9900, "Assessing On-Line Leak Sealing of ASME Code Class 1 and 2." The inspector noted that engineering calculation FFX-00771, "Analysis of Gasket Repair of Body-to-Bonnet Leak of MS-1-24 MSIV," was deficient because it did not account for the weight of the cable tensioning device. Con Edison addressed this concern in condition report 199908431 and concluded that the additional weight did not have an adverse impact on the stresses. This specific problem is considered to be a minor violation and is not subject to formal enforcement action.

NP-99-12726, Unintended Control Rod Motion

A control rod system failure occurred on November 17, 1999, while operators tested control rods in accordance with technical specification (TS) surveillance 4.1-3. Control bank D inserted when the operator inserted shutdown bank B. The operators secured from testing, and restored the rod control system to automatic after verifying that the control rods were fully operable in manual and automatic. Instrument & Controls personnel determined that the bank overlap feature was not inhibited as designed when the selector switch was placed in shutdown bank B position. The cause was a failure in the rod selector logic (reference drawing 6056D01, Card A111). The defective logic cards were replaced and satisfactorily tested on November 19, 1999, with IPTE controls applied to prevent unintended rod motion and a reactor trip. Maintenance support was good to repair the rod control logic in a timely manner.

c. Conclusions

Plant material deficiencies continue to challenge the plant staff. Con Edison successfully addressed several significant deficiencies, but the total amount of outstanding work remained high and continued to challenge the operators and plant staff. Con Edison provided good control and oversight for high risk maintenance activities.

M1.2 Surveillance Observations (IFI 05000247/99-10-01)

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-Q27B, "23 Auxiliary Feed Pump"

This surveillance test was performed to confirm operability for the 23 auxiliary feedwater (AFW) pump. The surveillance was completed satisfactorily. The inspector identified that recirculation flow control valve (FCV-1123) did not indicate full open prior to starting the pump. The valve went full open when the pump was started. Con Edison initiated condition report 199908344 to document the condition. The deficiency did not impact system operability because the recirculation flow rate was adequately controlled at 80 gallons per minute (gpm) by a manual throttle valve.

Prior to the test, the inspector observed that the city water system provides supplemental cooling to the outboard pump bearings on the 21 and 23 AFW pumps. City water cooling to the AFW pumps was installed as a plant modification and is non-safety related.
Con Edison does not test the pumps with the city water cooling isolated. The inspector questioned Con Edison whether the surveillance test provided assurance that bearing parameters would remain acceptable without city water cooling. Con Edison responded that the predictive maintenance program would detect bearing degradation by monitoring pump vibrations, bearing temperatures and oil quality. At the end of the period
Con Edison was evaluating whether use of the city water cooling would decrease reliability of AFW components (such as bearing housing corrosion). This item is open pending NRC review of Con Edison's evaluation of city water cooling for the auxiliary feedwater pumps **(IFI 05000247/99-10-01)**.

P-MT-180, "Relay 81T and 81T2 Continuity Checks"

The test verified the proper operation of relays that trip the reactor coolant pumps when an under-frequency condition develops on the associated 6.9 kilovolt (KV) bus. The continuity checks confirmed the proper operation of the reactor protection system trip logic through the reactor coolant pump breaker circuits. The completion of this test satisfied a licensee commitment in response to NRC Generic Letter 96-01,"Testing of Safety-Related Circuits," to verify trip circuits are completely tested.

PT-2M2, “Reactor Protection System Logic Channel A”

This test verified the operability of the auxiliary feedwater initiation system and the reactor trip system including the reactor trip and bypass breakers. The inspector observed an appropriate pre-job briefing to all involved individuals. The inspector observed good coordination between operators during opening of the reactor trip breaker and closure of the trip bypass breaker. The surveillance was acceptably performed and the results met the acceptance criteria.

The inspector questioned whether the operators would be alerted to an inadvertent opening of the trip bypass breaker during the test. The inspector confirmed that control room annunciator “Reactor Trip Breaker Open” would indicate that a reactor trip has occurred. The inspector noted that the component function database incorrectly indicated that surveillance (PT-2M2) verified operation of this control room annunciator. Con Edison initiated condition report 199908373 to document this discrepancy in the component function data base. The component function database is controlled by procedure 98-DBD-100. The database provides key technical information relative to the performance of plant systems. System engineers were in the process of validating information in the database. The inspector noted that Con Edison has a process to identify errors in the database.

PT-M16, “Electrical Tunnel Exhaust Fan Air Flow Test”

The purpose of the surveillance was to verify operability of the electric tunnel exhaust fans. The inspector observed that technicians adhered to the surveillance procedure and a test anemometer was in calibration. During the surveillance, three of the six inlet dampers were blocked as part of the plant winterization program. The inspector confirmed that the design air flow specified in the technical specification bases was maintained with the dampers blocked.

c. Conclusions

Surveillance tests observed during the period were acceptable. Minor deficiencies identified by the inspector were properly addressed. An open item will follow Con Edison’s evaluation of the use of city water to provide supplemental cooling to the 21 and 23 auxiliary feedwater pump bearings.

M2 Maintenance and Material Condition of Facilities and Equipment

M2.1 Potential Water Intrusion in Diesel Generator Fuel Oil Supply

a. Inspection Scope (92903)

The inspector reviewed the emergency diesel generator (EDG): 1) general arrangement drawings; 2) the fuel oil sample results; 3) the fuel supply system design and installation; and 4) interviewed the system engineer to verify there was no water intrusion concern similar to one identified in Indian Point Unit 3 (IP3) NRC inspection report 50-286/99-07.

b. Observations and Findings

On August 25, 1999, as documented in the IP3 NRC inspection report 50-286/99-07, the licensee found approximately 5-1/2 inches of water at the bottom of the 32 EDG storage tank. This was the fourth time a significant amount of water was found in this tank in approximately 17 months. The IP3 licensee's preliminary investigations identified that the water intrusion may have been related only to rainfall that entered the tank through degraded system piping between the overhead bunker and the top of the tank. After a significant rainfall, the valve bunkers had been seen with standing water that would take a long time to drain, and that could have corroded through piping to provide a path for water in-leakage.

The review of the IP2 EDG fuel oil supply general building arrangement design documentation revealed that the IP2 design configuration was similar to IP3, except a concrete bunker houses the system piping and valves at IP3. The EDG fuel oil storage tanks at IP2 were buried underground adjacent to the EDG building under a flat ground-level concrete slab. The fuel tanks were blanketed with sand and gravel for proper drainage. However, at IP2, the fuel storage piping and valves were outdoors and above ground.

The review of the fuel oil supply transfer system design for IP2 was found similar to the IP3 design. The inspector also found that the as-installed configuration of EDG fuel oil storage tanks and fuel oil transfer systems were consistent with the design drawings and as described in the Final Safety Analysis Report (FSAR).

To assess the water intrusion concern in fuel supply system, the inspector reviewed the past several months' oil sample test results of all diesel generators. The results indicated no sediment and water accumulation concern at IP2 similar to IP3. The review of quarterly fuel oil analysis performed by an independent laboratory (February 1999 and August 1999) indicated no water or sediments in any of the EDG fuel storage tanks.

c. Conclusion

The licensee was adequately trending and monitoring emergency diesel generator fuel oil samples. The fuel oil supply was verified to be not contaminated with water.

M2.2 Potential Degradation of Emergency Diesel Generator Electrical Cables

a. Inspection Scope

The inspector reviewed selected preventive maintenance records of the emergency diesel generators (EDGs) and inspected the EDG components and control wiring. In addition, the inspector interviewed the system engineer and the maintenance technicians to assess the overall material condition of EDG electrical components and wiring.

b. Observations and Findings

The inspector noted that the licensee performs a semiannual preventive maintenance task on each EDG, as outlined in their preventive maintenance (PM) procedure EDG-P-001-A. The tasks consisted of work on the emergency diesel engine and auxiliary support systems. Inspector review of this procedure revealed that the technicians are required to inspect auxiliary system components such as air compressors, starter air motor solenoid valves, turbo charger inlet air filter and exhaust piping, fuel pump and fuel booster links and couplings, and lube oil system components. Because oil leaks found in 1992 and 1993, this PM procedure was modified to include additional inspection requirements including opening the conduits and panels to inspect the conduits' interior and wiring to check for any sign of oil leaks and other obvious damage to the electrical components such as the lube oil immersion heaters, jacket water immersion heaters, fuel oil transfer pump motor, and pre-lube pump motor. The inspector noted that the licensee had established several hold points in this procedure for a Quality Control (QC) inspector to verify any damaged components including any loose electrical connections, visual inspection of conduit interior and wiring for any signs of oil and other obvious damage during these maintenance activities. In addition to the visual inspection of electrical components and wiring, a continuity test for the lube oil jacket water immersion heaters and a megger test is also required for an air compressor, pre-lube oil and fuel oil transfer pump motors.

To assess the material condition of the electrical components on the EDGs and control wiring, the inspector reviewed the last semiannual PM package performed on the 23 EDG. This PM was performed on March 25, 1999, and documented as part of work performed on work order NP-98-05375. The inspector found no auxiliary component-related concerns except that a thin film of oil was found in a conduit located near the lube oil filter at the grating elevation. The continuity tests and the megger tests (1000 volts dc for one minute) of EDG auxiliary components, including the applicable control circuits, were acceptable. The megger test results were a minimum of 20 megohms in all cases, compared to an acceptance value of one megohm. The licensee's investigation of a thin film of oil found in a conduit (Condition Report No. 199902379, issued on March 22, 1999) determined that this conduit had no electrical terminations and it served as a pull box. Further, the licensee found no evidence of any oil seepage

through or around this conduit. This concern was corrected by cleaning off the oil film on the cover, and by inspecting the gasket and tightening the two fasteners of the conduit.

Per discussion with the licensee, the inspector noted that the presence of lube oil in this conduit was also discovered in two prior instances (1992 and 1993). At that time, after cleaning and draining the oil, the licensee re-meggered all the EDG 23 auxiliary cables and performed extensive testing of associated wiring and equipment. The licensee was not able to find the exact source of the oil leak. Based on the satisfactory test readings indicating above 1000 megohms and no observable cable deterioration, the licensee concluded that the cables were acceptable for EDG operation at that time. The inspector noted that the licensee later determined through a laboratory test that the oil in the conduit was Mobilgard 450 NC, which was similar to diesel lube oil. The licensee also found that the affected cables had Silicone rubber insulation with glass braid and Rockbestos Firewall SIS switchboard wire with cross-linked polyethylene insulation. The licensee discussed the effect of oil exposure on cable insulation with one cable manufacturer (Rockbestos) and found that there was little effect of this oil, a hydrocarbon-based lubricant, at low temperature on Firewall SIS insulation (cross-linked polyethylene). The manufacturer also added that if there is something unique about this lubricant, and it has the ability to attack the insulation then this attack would be seen as swelling and deformation of the insulation material. If there is no visible swelling involved in this case, then the insulation remains intact and the wire is useable. The licensee stated that they had not observed any such indication of this condition in their PM activities. Based on the satisfactory results of megger testing and the as-found material condition of these cables, and the routine inspection in their semiannual PM activities, the licensee believes the cable insulation remains intact and the wires are useable.

The inspector reviewed the ALCO engine generator set wiring connection drawing and verified that the cables exposed to oil were similar to one identified by the licensee. The visual inspection of the cables in various conduits and panels indicated no sign of swelling, deformation, or damage of insulation. The review of the silicone rubber properties in several published wire and cable application guides and industry standard handbooks revealed that the silicone rubber has a good resistance to oil. Based on the satisfactory megger test results found of EDG 23 auxiliaries components and circuits in March 1999, and ongoing PM activities and visual inspection of selected components and cables of all EDGs, the inspector determined that the material condition of the EDG electrical components and cables was acceptable. The licensee's testing and monitoring processes were appropriate to address the potential oil leakage on EDG electrical components and control wiring.

c. Conclusion

The material condition of emergency diesel generator electrical components and control wiring was acceptable. The inspector noted that oil had leaked into the conduit for the 23 emergency diesel generator which Con Edison evaluated and determined to be acceptable. The preventive maintenance procedure to inspect electrical components and control wiring had appropriate instructions and tests to evaluate the adequacy of emergency diesel generator components.

M8 Miscellaneous Maintenance Issues

M8.1 Review of Previous Inspection Items (92902)

Closed: VIO 05000247/98-15-01; Failure to Reschedule Surveillance Test

This violation was issued after Con Edison entered Technical Specification 3.0.1 because it was discovered that the surveillance test PT-Q62, "High Steam Flow and Turbine First Stage Pressure Bistables," was not performed as required by Technical Specifications. Specifically, the scheduled performance date for PT-Q62 delayed more than 24 hours, and was subsequently dropped from the work schedule, without being rescheduled for performance by either the Work Control Manager or the Work Group Manager.

Con Edison was not required to respond to this violation. Con Edison determined the root cause of the event to be a deficiency in the coordination of test rescheduling and tracking. Corrective actions as described in the licensee event report (LER) 05000247/98-017-00 included the implementation of a report by the test and performance group to track technical specification surveillances and the implementation of a formal process for tracking and rescheduling surveillance tests. The inspector verified the method for the tracking of technical specification surveillance tests was included in Station Administrative Order (SAO-204) "Work Control." This SAO clearly assigns the responsibility for technical specification surveillance rescheduling to the Work Control Manager. The procedure for rescheduling surveillance tests as described in the SAO is to maintain the surveillance test in the schedule until the test can be rescheduled. The inspector determined that these corrective actions appear adequate to prevent recurrence of this event. Based on this review, this violation is closed.

III. ENGINEERING

E2 Engineering Support of Facilities and Equipment

E2.1 Backlog Management and Content

a. Inspection Scope (37550)

The scope of this inspection included a review of open work within the engineering and maintenance departments and the backlog of open issues in the corrective action program for the engineering, maintenance and operations departments. The management of the specific items was also reviewed to evaluate the effectiveness of the station in assessing the effect of backlog items on equipment operability and the effectiveness of the methods for prioritizing, scheduling, tracking and trending the work backlog. The scope of the inspection included a focused review of backlog items for several key safety systems, and a review of selected items on other systems based on their potential safety significance.

b. Observations and Findings

Design Engineering

The design engineering department backlog included open modifications, requests for engineering services (RESs), maintenance work orders on engineering hold, and corrective action program items. The corrective action program items were primarily evaluation of condition reports (CRs) for which engineering was assigned responsibility and implementation of corrective actions that they were previously assigned.

The inspectors reviewed a listing of all open modifications and RESs, and selected a sample from those lists for a more detailed review to assess the significance of the open issues. The scope of modifications planned for implementation during the next refueling outage was also reviewed.

Though the number of open modifications and RESs was significant, the prioritization of the work was found to be adequate. The inspectors did not identify any issues within this backlog that would affect safe operation and the scope of the modifications planned for the next refueling outage reflected adequate prioritization to include those modifications necessary to further enhance the reliability of safety systems.

The total number of work orders on hold for engineering support was approximately 500 at the time of the inspection. This number included work orders for all of the engineering departments and included WOs for various types of work which included modifications, corrective maintenance, preventive maintenance, etc. Within this backlog the departments also specifically tracked the number of corrective maintenance work orders on engineering hold. The total number of these WOs for all engineering departments was 57, of which 20 were assigned to design engineering. The inspectors did not identify any significant issues in this portion of the backlog for the systems reviewed.

Design engineering had a significant number of open items within the corrective action program. For example, there were approximately 300 significance level 3 CRs assigned to design engineering for evaluation that were overdue. Additionally, design engineering, as is the case with other departments, had a significant number of assigned corrective actions that were past the scheduled completion dates. The corrective action department developed projected work-down graphs for each of the departments in order to track progress in reducing the backlog of overdue CR evaluations and overdue corrective actions. The goal is to eliminate the overdue CR program item backlogs by January 2000. However, the inspectors noted that there had not been a detailed review to estimate how many actual hours of work would be required to accomplish this goal. As a result, meeting the goal could present a significant management challenge.

The inspectors also noted that design engineering added a new position in the department with the responsibility of improving the engineering work tracking data base and also provide more detailed scheduling of the engineering work. This was a recent change and the potential benefits were not yet evident.

During a specific review of CR 199810775 the inspectors noted that the proposed resolution of a discrepancy associated with the containment fan cooler air flow switches did not identify that the switches were not environmentally qualified and therefore would not be available post-accident as described in the Final Safety Analysis Report (FSAR).

While the inspectors also noted that the affected switches were not required to be operable post-accident, this was an example where the technical evaluation was not thorough. The licensee subsequently revised the CR to reflect this information to ensure it would be properly considered in the final CR resolution.

Site Engineering

Within the site engineering department, the inspectors reviewed the backlogs of engineering work assigned to the plant engineering and system engineering sections. The plant engineering section work backlog consisted of small scope plant modifications, work orders on engineering hold, open CR evaluations, and open corrective action assignments. The system engineering backlog primarily includes work orders on engineering hold, open CR evaluations, and open corrective action assignments.

Plant engineering was responsible for approximately 150 work orders on engineering hold and of those, approximately 20 were associated with corrective maintenance work orders. The section's goal was to reduce the number of work orders on hold to approximately 110 by the end of the year and then continue to reduce the backlog further next year. To accomplish this goal the section had three contract engineers supporting the section and has additional funding available to contract out some specific jobs. The system engineering section was responsible for approximately 50 work orders on engineering hold of which 12 were associated with corrective maintenance.

The overall site engineering department was responsible for approximately 150 overdue significance level three condition report evaluations and approximately the same number of overdue corrective action assignments. Reduction of the corrective action program items has been a focus of the site engineering groups and there has been sustained progress during the year. The department plan is to continue the reduction of the backlog and meet the station goal to eliminate all overdue corrective action items by January 2000.

The inspectors did not identify any items in the site engineering backlogs that had any immediate impact on system operability. However, two examples were identified within the reactor protection system work backlog where the operability assessments for non-conforming conditions were not comprehensive. In one case, a hot leg temperature instrument channel could not be adjusted to meet the acceptance of the calibration procedure. The effects of the out-of-tolerance data points were evaluated by engineering and the channel was considered to be operable. This basis for the conclusion was that the instrument uncertainty assumptions bounded the discrepancy identified during the calibration. However, the evaluation did not address what the suspected cause of the problem was and did not provide a basis for why additional degradation would not occur before the instrument is repaired.

In another example, a low pressure trip instrument channel reset point could not be adjusted to meet the requirements of the calibration procedure. The licensee concluded that the reset point was not important and, since the trip point was within the procedure specifications, the channel was operable. Again, there was no consideration of the failure mode of the instrument and no evaluation to assess why continued operation

would remain satisfactory until the channel was repaired to permit proper adjustment of the reset point.

The license subsequently performed additional evaluation of these conditions and provided appropriate information to support channel operability.

Maintenance

At the time of the inspection, there were approximately 4,300 open work orders. The work orders are evaluated and receive a priority rating of 1 (emergency), 2 (urgent), 3 (routine/non-outage), 4 (minor) and 5 (outage). Priority 1 and 2 work normally receive immediate attention based on their effect on safety and/or the ability to sustain full power operation. There were no open priority 1 work orders and work was in progress on the only open priority 2 work order. The work orders are also designated by a category such as corrective maintenance (CM), modification (MOD), minor maintenance (MM) or other (OTR). Generally, work associated with CM work orders are more likely to have the potential for affecting component or system operability. Of the open WOs, approximately 670 were categorized as CMs and at the time of the inspection approximately 320 were non-outage work. Approximately 1,900 WOs were categorized as "OTR," including both outage and non-outage work. The inspectors did not identify any open work orders that appeared to have an effect on equipment operability.

The inspectors noted that the work control and maintenance departments had identified a need for additional planning and scheduling staff in order to increase the amount of work that could be accomplished with the existing maintenance staff. Funding for implementing a substantial increase in the planning and scheduling staff was allocated, but the increase has not yet been implemented. Also, a position was being established which would allow experienced maintenance staff to augment the planning staff when necessary.

To improve the prioritization capability for WOs, an additional field had been added to the WO data base. This change allows the system engineers to further prioritize WOs within a given station priority. For example, a WO within the priority 3 group can receive a system engineer priority of 1, 2 or 3 to aid work control in refining the scheduling of all priority 3 WOs. Implementation of the revised priority system for the associated WOs was still in progress.

The inspectors noted that the work order backlog included a significant number of items that were central control room deficiencies (CCRDIs) and also a number that resulted in operator work-arounds (OWAs). The licensee has developed a reduction plan for both of these types of open work, and the progress towards meeting this goal is tracked in the daily management team meeting. The goals are to reduce the number of CCRDIs to 20 and the number of OWAs to 8 by January 2000. Although the tracking of these items was recently initiated, some progress has been made in reaching these goals.

c. Conclusion

The number of items in the engineering, maintenance and corrective action backlogs remains high and in most areas there has not been significant progress in reducing the

backlog. Additional resources have been allocated and/or planned that are intended to improve the ability to reduce backlogs. While the plant staff was aware of the need to reduce the work backlogs and some progress was noted in isolated areas, efforts to date have been ineffective. The inspectors did not identify any issues that would have an impact on equipment operability.

Two examples were identified where non-conforming conditions, associated with reactor protection system testing, were found to be acceptable for continued operation without having a thorough, documented engineering evaluation to support the operability conclusions. Subsequent evaluations by engineering were acceptable.

E2.2 Engineering Support Activities

a. Inspection Scope (37551)

The inspector attended a system readiness/health status presentation, and reviewed licensee actions to prioritize engineering service requests for the refueling outage.

b. Observations and Findings

System Readiness/Health Review

A system readiness/health status review is performed weekly to assess the ability of systems to operate and identify deficiencies that may impact reliability. Engineering procedure SE-304, “Maintenance Rule System Readiness/Health Status,” provides the guidance for the conduct of the reviews. Per SE-304, each review is required to cover system enhancements, availability/reliability data, walkdown results, open corrective maintenance work orders, open condition report items, open operability determinations, preventive maintenance/in-service test status, and significant operating experience review.

On November 16, 1999, the inspector observed the system readiness/health status presentations on the reactor coolant system (RCS) and the reactor vessel and internals. The reviews were performed consistent with SE-304. The reactor coolant system remained in maintenance rule 10 CFR 50.65 (a)(1) status due to multiple maintenance preventable function failures for excessive seat leakage of the pressurizer power operated relief valves and failure of the pressurizer code safety valves to meet surveillance criteria. The system is expected to be removed from the (a)(1) status based upon testing during the next refueling outage.

The RCS presentation was originally scheduled November 8, but was postponed due to lack of attendance by station management. Con Edison initiated condition report 199908514 to document this condition. NRC inspection reports 05000247/99007 and 99-06 documented a recurrence on the lack of management support to system readiness/health presentations.

Engineering Service Request Scope Control

The inspector observed a management scope control meeting on outstanding engineering service requests. The purpose of the meeting was to decide which engineering improvements or upgrades will be performed and which items will be canceled. Approximately half of the twenty-six engineering service requests were approved. The remaining engineering service requests were either canceled or system engineering was requested to present the issue at the next weekly meeting. Appropriate technical and safety basis existed for those engineering service request items canceled.

c. Conclusions

System readiness/health presentation reviews were performed consistent with station procedures. Con Edison's decision to prioritize engineering service activities to support the refueling outage were appropriate.

E8 Miscellaneous Engineering Issues

E8.1 IP2 Recovery Plan Long-Term Corrective Actions

a. Inspection Scope (40500)

NRC inspection 05000247/99009 documented Con Edison's actions to address performance issues that contributed to a plant trip on August 31, 1999. The purpose of this inspection was to review Con Edison's long-term initiatives to improve station performance, as described in Revision 3 of the IP2 Recovery Plan issued on November 8, 1999.

b. Observations and Findings

Revision 3 of the IP2 Recovery Plan documents initiatives covering a broad spectrum of station activities including steps to improve human performance, enhance the corrective action program, clarify expectations on limiting risk, improve the modification process, and enhance plant configuration control. Con Edison plans to establish an Instrument and Control (I&C) Planning Group, develop a planning standard, improve maintenance procedures, and optimize work control through the development of a single daily integrated schedule. Initiatives in engineering were to perform a coordination study for non-safety related MCCs, upgrade critical setpoints and load studies, and improve operability reviews. Weaknesses in emergency planning would be addressed through additional training, assigning three emergency response teams, enhancing command and control skills, simplifying the emergency plan and procedures, and strengthening the relationships with off-site agencies. A safety system functional assessment of the auxiliary feedwater system is planned in January 2000. Con Edison plans to complete an effectiveness review in the first quarter of 2000 to ensure the corrective actions taken have been effective. A key element in the initiative was to link the Recovery Plan to a Business Plan for 2000 - 2004 that supports continuous performance improvements.

During this inspection, the plant organizations developed improvement plans that were integrated into the Business Plan to address the Recovery Plan initiatives. Each plant group completed two sessions to review and evaluate techniques to improve human

performance. Con Edison implemented an integrated daily work schedule, provided a renewed emphasis on resolving priority 2 items, and established work down curves to reduce the backlog in the various plant work groups. An improvement plan was issued to address broad weaknesses in the corrective action program including the identification of issues and completing timely corrective actions.

The inspectors did not observe significant progress in achieving performance improvement. The work backlog remained high with approximately 4500 items. Actions were taken to reduce overdue items, but more time is needed to determine whether initiatives are effective. The inspectors did observe issues that showed the continued need to improve performance. The examples included weaknesses in work scheduling and corrective actions, and numerous discrepancies in plant material conditions (such as several steam leaks, high reactor coolant pump vibrations, undiagnosed main boiler feedwater pump speed oscillations, undiagnosed and recurrent spiking of the over temperature differential temperature protection channel #4 setpoint, and recurrent grounds in the 21 battery charger). NRC review of Con Edison's actions to improve performance continued at the end of the inspection period.

c. Conclusions

Revision 3 of the IP2 Recovery Plan described initiatives which appear appropriate to improve performance over a broad spectrum of station activities. NRC review continued at the end of the inspection period to further understand Con Edison's more detailed plans and evaluate their effectiveness in improving station performance.

IV. PLANT SUPPORT

R1 Radiological Protection and Chemistry (RP&C) Controls

R1.1 Review of Radiological Events

a. Inspection Scope (71750)

The inspector reviewed Con Edison's actions to investigate low levels of radioactivity in a Unit 1 turbine building sump (reference Condition Report 199908282 dated November 29, 1999), and the shipment of radioactive waste contaminated with mercury. The inspector reviewed the licensee's actions with the assistance of NRC Region I Health Physics specialists.

b. Observation and Findings

Cs-137 in Unit 1 Turbine Building Sump

Con Edison identified radioactive cesium (Cs-137) contamination in the Unit 1 external containment spray sump during a routine sample of the sump effluent on October 29, 1999. Two consecutive monthly samples showed a positive Cs concentration at about 5.0XE-7 micro curies per cubic centimeter (uCi/cc), which was just above the minimum detectable activity level of 3.66XE-7 uCi/cc. The 30,000 gallon sump receives about

20 gpm of blowdown and sample cooler effluents from the Unit 2 steam generator blowdown system. The sump overflows continually to the Hudson River via the floor drain system.

Con Edison initiated Condition Report 199908282 to characterize and evaluate the contamination relative to the radiological release limits. Con Edison monitored the activity going to the environment until the sump was drained. A sample on November 4 showed a slight decline and thus a stable trend in cesium concentration. The inspector reviewed radiochemistry data and evaluations using the Offsite Dose Calculation Manual. The calculated monthly offsite doses in liquid effluents due to the containment sump discharges were less than 3.4E-04 mrem. The doses were a small fraction of the Technical Specification 3.9.A.3 limits.

Con Edison investigated the source of the cesium by installing a temporary facility change (TFC-99-153) in November 1999 to redirect the sample effluent to the river via a path that bypassed the sump. Con Edison drained the sump to investigate in leakage and sources of the cesium. Con Edison determined that the contamination did not come from the steam generator blow down water, or from the annulus drain around the Unit 1 containment. Con Edison actions continued at the end of the inspection to investigate the source of the contamination.

Radwaste Shipment Contaminated with Mercury

Con Edison received a notification on November 9, 1999, that mercury was discovered in radioactive waste sent offsite to the vendor for processing (reference Condition Reports 1999008466 and 199908532). Con Edison dispatched a supervisor and a radwaste technician to the vendor’s facility with radiation and mercury monitoring equipment to investigate and evaluate the event.

The vendor discovered mercury while sorting potentially contaminated dry activated waste (DAW) in a 8 ft by 8 ft by 20 ft container. The mercury leaked from a 500 ml plastic bottle with a screw cap that was loose and leaking. The 500 ml bottle had 30 ounces of mercury total. Two drops leaked onto the gloved hand of the technician. There was no skin contamination. All vendor technicians tested negative for mercury contamination. Con Edison identified mercury vapors in the remaining bags of DAW in the container, and in a container of "clean" waste also sent to the vendor for processing. Both containers will be returned to the Indian Point 2 site for separation of mixed wastes. The portion of the facility with the Con Edison waste was shut down for cleaning and returned to service.

The DAW in the container was accumulated over the period from April until June while cleaning the Unit 1"amplifier room" located on the 33 ft elevation of the nuclear service facility. The van was stored in Unit 1 until October 1999 when it was shipped for processing as radwaste. The room was known to contain mercury used in instruments. The bottle containing mercury was in a bag with 10 other empty plastic bottles. The mercury bottle was easy to recognize due to labeling ("mercury" dated 1989) and weight (almost 2 pounds). Con Edison planned to test the amplifier room for mercury and review how the mercury was discarded. The inspector toured the room and noted poor

housekeeping conditions when the demolition work was in progress. The room was cleaned prior to the end of the inspection period.

The vendor notified environmental authorities in Tennessee, and Con Edison notified the New York Department of Environmental Control. Con Edison notified the NRC per 50.72(b)(2)(vi) at about 6 p.m. on November 9 which was not timely due to poor coordination between site and corporate personnel when notifying offsite authorities (reference Condition Report 199908531).

c. Conclusions

Con Edison responses to radiological events were acceptable. Con Edison's actions were appropriate to investigate the source of Cs-137 in a turbine building sump and to evaluate the contamination. The inspector verified that effluent releases were below NRC limits. The failure to properly control mercury resulted in the inadvertent shipment of radwaste as mixed waste. While Con Edison's actions to dispose of mercury were ineffective, the actions to evaluate and retrieve the waste were appropriate.

R5 Training and Qualifications in Radiological Protection and Chemistry

R5.1 Employee Training

a. Inspection Scope (71750)

The inspector reviewed the licensee's General Employee and Radworker training programs.

b. Observations and Findings

The inspector observed and participated in Con Edison's computer-based programs for General Employee Training (GET) on October 27, and Radiation Worker Training on October 25 and November 2, 1999. The training covered topics in radiological and industrial safety, security, emergency preparedness, quality assurance, fire protection, and fitness for duty. The Radiation Worker training covered topics including posting of information, worker rights and responsibilities, exposure control and exposure reports. The training included testing to verify workers demonstrated an adequate level of knowledge of the subject matter. The inspector noted several minor deficiencies in the training materials which were discussed with Con Edison training representatives. The licensee had plans to address the items in a pending revision of the programs.

c. Conclusions

The General Employee Training and Radiation Worker training programs were acceptable for instructing workers per 10 CFR 19.

X1 Exit Meeting Summary

The resident inspector presented the inspection results to Con Edison's management

at an exit meeting on December 23, 1999. 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.

X2 Regional Management Visit

The Regional Administrator for Region I, Director of the Division of Reactor Projects (DRP), NRR Project Manager, and the Chief of DRP Branch 2 toured the facility on November 22, 1999, and interviewed plant staff. On November 23, 1999, the NRC presented the results of the plant performance review to Con Edison at a public meeting in the old simulator building auditorium. The meeting was open for public observation.

Attachment 1

INSPECTION PROCEDURES USED

37550	Engineering
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
92700	Onsite Followup of Written Reports of Nonroutine Events at Power Reactor Facilities
92902	Followup-Maintenance
92903	Followup-Engineering

ITEMS OPENED and CLOSED

Open

99-10-01	IFI	Auxiliary Feedwater Pump Bearing Cooling

Closed

99-19-00	LER	Disabled Rod Position Computer Program
99-08-00	LER	Deficiency in Respirator Qualifications
99-10-00	LER	EDG Air Compressor Cross Connecting
98-15-01	VIO	Rescheduling of Surveillance Tests

LIST OF ACRONYMS USED

AFW	auxiliary feedwater
AIT	augmented inspection team
AOI	abnormal operating instruction
CAG	corrective action group
CCRDI	Central Control Room Deficiency
CM	corrective maintenance
COL	check off list
CR	condition report
CRS	containment recirculation spray
CVCS	chemical and volume control system
DAW	dry activated waste
EDG	emergency diesel generator
FCU	fan cooler unit
FCV	flow control valve
FP	fire protection
FSAR	Final Safety Analysis Report
gpm	gallons per minute
GT	gas turbine
I&C	Instrument & Control
IP2	Indian Point 2
IP3	Indian Point 3
IPTE	infrequently performed test or evolution
IRPI	individual rod position indicator
KV	kilovolt
LARP	local alarm response procedure
LER	licensee event report
LOCA	loss-of-coolant accident
MM	minor maintenance
MOD	modification
MSIV	main steam isolation valve
NOUE	notification of unusual event
NPO	nuclear plant operator
NRR	Nuclear Reactor Regulation, Office of
OD	operability determination
OSC	operational support center
OTDT	over-temperature differential temperature
OTR	other
OWA	Operator Work Around
PAB	primary auxiliary building
PCO	plant check off
PM	preventive maintenance
POM	plant operations manager
ppb	parts per billion
ppm	parts per million
psig	pounds per square inch, gauge
QC	quality control
RCP	reactor coolant pump
RCS	reactor coolant system

RES	Request for Engineering Services
ROTC	reactor operator at the controls
RP&C	radiological protection and chemistry controls
RWP	radiation work permit
SAO	station administrative order
SAT	station auxiliary transformer
SE	safety evaluation
SE	system engineer
SER	safety evaluation report
SNSC	station nuclear safety committee
SOP	system operating procedure
TDR	technical data report or test deficiency report
TFC	temporary facility change
TS	technical specification
TSC	technical support center
V dc	Volts direct current
WO	work order
Y2K	year 2000