August 7, 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, New York 19511

SUBJECT: NRC's INDIAN POINT 2 INSPECTION REPORT NO. 05000247/2000-008

Dear Mr. Blind:

On July 1, 2000, the NRC completed an inspection at the Indian Point 2 reactor facility. The enclosed report presents the results of that inspection. The results of this inspection were discussed on July 10, 2000, with you and other members of your staff.

NRC inspectors examined numerous activities as they related to reactor safety and compliance with the Commission's rules and regulations, and with the conditions of your operating license. The inspection consisted of a selected examination of procedures and representative records, observations of activities, and interviews with personnel. Specifically, it involved six weeks of resident inspections of engineering, operations and maintenance. Inspection findings were assessed using the applicable Significance Determination Process (SDP) and were determined to be of very low safety significance.

This report focused primarily on ongoing plant activities and did not review key issues associated with the February 15, 2000 steam generator tube failure, which are covered by other correspondence.

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 and will be available on the NRC Public Electronic Reading Room (PERR) link at the NRC home page, <u>http://www.nrc.gov/NRC/ADAMS/index.html</u>. 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

A. Alan Blind

Docket No. 05000247 License No. DPR-26

Enclosure: Inspection Report 05000247/2000-008

cc w/encl:

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- J. McCann, Manager, Nuclear Safety and Licensing
- B. Brandenburg, Assistant General Counsel
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A. Alan Blind

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

| Docket No.: | 05000247 |
|--------------|---|
| License No.: | DPR-26 |
| Report No.: | 05000247/2000-008 |
| Licensee: | Consolidated Edison Company of New York, Inc. |
| Facility: | Indian Point 2 Nuclear Power Plant |
| Location: | Buchanan, New York 10511 |
| Dates: | May 21, 2000 to July 1, 2000 |
| Inspectors: | William Raymond, Senior Resident Inspector Peter Habighorst, Resident Inspector Gerald McCoy, Resident Inspector Robert Caldwell, Resident Inspector |
| Approved by: | Peter W. Eselgroth, Chief Projects Branch 2 Division of Reactor Projects |

SUMMARY OF FINDINGS

Indian Point 2 Nuclear Power Plant NRC Inspection Report 05000247/2000-008

IR 05000247-00-08, on 05/21-07/01/2000; Consolidated Edison Company of New York, Inc.; Indian Point 2 Nuclear Power Plant. Equipment Alignment, Licensed Operator Requalification, Maintenance Rule Implementation, Maintenance Risk Assessments and Emergent Work Control.

The report covered a six-week period of resident inspection. The significance of issues is indicated by their color (GREEN, WHITE, YELLOW, RED) and was determined by the Significance Determination Process (SDP) in draft Inspection Manual Chapter 0609 (see Attachment 1).

Mitigating Systems

Green - Con Edison identified damage to the power cables for motor control center (MCC) 21, service water pumps (SWPs) 25 and 26, and feeds for other non-essential intake loads. The cables were damaged when a duct bank routing cables to MCC-21 settled at the intake structure The SWPs remained functional up to the time the condition was discovered and were removed from service while repairs were completed. The other four service water pumps were not affected. The licensee's preliminary evaluation of the condition included a root cause evaluation and provided the bases for a conclusion that the service pumps remained operable under assumed seismic conditions. Civil repairs and modifications were completed, and the affected MCC-21 and service water pump cables were replaced. The condition occurred due to a combination of stresses applied to the duct bank when the original cables were installed, and inadequate support for the duct bank at the intake foundation. The licensee planned to continue investigations of the soils in the intake area. The licensee entered this issue in the corrective action program as Condition Reports 200003630 and 200004004. The risk associated with the degradation of the service water pump cables was reviewed by the regional senior Reactor Analyst. This condition would be a very low risk condition (GREEN). This is based on the fact that the cables had not failed and the safety function would likely have been performed.

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Report Details

SUMMARY OF PLANT STATUS

During the inspection period the plant was in cold shutdown to inspect steam generators, conduct refueling, and complete maintenance and modifications. Reactor assembly was completed and preparations for plant startup were in progress at the end of the inspection period.

1. REACTOR SAFETY (Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity)

- 1R04 Equipment Alignment
- a. Inspection Scope

The inspector conducted a walkdown of the internal recirculation system. Safety injection system procedures and check off list (COL) 10.1.1 were used to verify proper system alignment and cleanliness of the recirculation sump.

The inspector also conducted a walkdown of the residual heat removal system. Documents reviewed that are applicable to this system alignment verification included: COL 4.2.1, "Residual Heat Removal System"; System Operating Procedure (SOP) 4.2.1; "Residual Heat Removal System", plant drawings 2720, 2735, 227781, 235296, 251783; and, section 9.3 of the Updated Final Safety Analysis report. The inspectors also reviewed outstanding maintenance activities, outstanding corrective action program deficiencies, temporary facility changes, and operator work arounds associated with the residual heat removal system.

b. Issues and Findings

No findings were identified.

- 1R05 <u>Fire Protection</u>
- a. Inspection Scope

The inspector conducted tours of areas important to reactor safety, listed below, to evaluate, as appropriate, conditions related to (1) licensee control of transient combustibles and ignition sources; (2) the material condition, operational status, and operational lineup of fire protection systems, equipment and features; and (3) the fire barriers used to prevent fire damage or fire propagation.

- Emergency Diesel Generator Building
- Vapor Containment
- Primary Auxiliary Building 80 and 15 Foot Elevations
- Auxiliary Boiler Feedwater Pump Room
- Cable Spreading Room
- b. <u>Issues and Findings</u>

No significant findings were identified.

1R11 Licensed Operator Requalification

a. <u>Inspection Scope</u>

The inspector reviewed training conducted for Indian Point 2 licensed operators on June 23, 2000, to assess the adequacy of the training, licensed operator performance, and the adequacy of the licensee's critique. The training covered lessons learned from recent plant experiences and included simulator drills on responding to a steam generator tube leak using AOI 1.2, Revision 21. The training also included operation of the high pressure steam dumps to cool down and depressurize the reactor. Con Edison planned to train all operating shifts prior to plant restart from the present outage.

b. Issues and Findings

No findings were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspector reviewed selected risk significant equipment problems that have occurred. Items checked included licensee evaluation of functional failures, maintenance preventable functional failures, repetitive failures, availability and reliability monitoring, and system specialist involvement. Additionally, the licensee's Maintenance Rule Basis Document and system condition reports were reviewed and System Engineers interviewed. The following system/component performance issues were assessed:

- 22 Auxiliary Boiler Feedwater (ABFW) Pump Unavailability
- Residual Heat Removal (RHR) Valves 730 and 731 Lower Retainer Disc Failure
- Station Auxiliary Transformer Tap Changer
- 23 Emergency Diesel Generator (EDG) Output Breaker Failure
- Pressure Control Valve (PCV)-1132, Steam Jet Air Ejector Steam Supply
- Nitrogen Backup Supply for Overpressure Protection System (OPS)

b. Issues and Findings

There were no findings identified during these inspections.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors evaluated the effectiveness of the risk assessments performed before maintenance activities are conducted on SSCs and verified how the licensee managed the risk. The inspectors also verified that, upon identification of an unforeseen situation, the licensee took the necessary steps to plan and control the resulting emergent work activities. Additionally, it was also verified that the licensee had adequately identified and resolved maintenance risk assessments and Emergent Work problems. The following maintenance risk assessments and/or emergent performance issue were assessed:

- 23 Emergency Diesel Generator Foundation System Bolts Not Tightened
- Replacement of Unit/Parallel Relay for 23 Emergency Diesel Generator
- Retrieval and Transport Preparations of Reactor Vessel Debris
- Common Safety Injection Discharge Relief Valve (RV-855) Leakage

b. Issues and Findings

There were no findings during these inspections.

- 1. Damaged Service Water Pump and Motor Control Center 21 Power Cables
- a. Inspection Scope

The inspector reviewed licensee actions in response to the discovery that the power supply cables to the service water pumps were damaged when an underground cable duct shifted and separated from the intake structure foundation slab.

b. Issues and Findings

While performing periodic maintenance on the feeder cable for motor control center (MCC) 21, Con Edison noted degraded ground straps on the power cables. Further investigation identified damage to the power cables for MCC-21, service water pumps (SWPs) 25 and 26, and feeds for other non-essential intake loads (motor heaters, traveling screens, etc.). The SWPs remained functional up to the time the condition was discovered and were removed from service while repairs were completed. The cable damage had occurred when a duct bank routing cables to MCC-21 settled and shifted downward and horizontally at the intake structure. The soil beneath the duct bank had not been compacted uniformly, and a void measuring 4 feet wide by 12 inches deep by 7 feet long existed beneath the MCC-21 foundation slab. The licensee entered this issue in Condition Reports 200003630 and 200004004.

Con Edison conducted electrical tests (meggar readings) on cables supplying loads at the intake to determine the as-found condition and the extent of the degraded conditions. Civil repairs and modifications were completed to install a new footing and foundation for the end of the conduit duct bank, replace voids below the MCC-21 foundation with concrete, support the underside of the duct bank with grout, and

connect the duct bank to the MCC-21 foundation with 1 inch diameter steel rods. The top surface of the duct bank was extended up to be flush with the MCC-21 foundation so that settlement can be monitored if it occurs. The electrical repair included replacing the affected cables, which included lead shielded power feeds to the MCC-21 and the service water pumps. Repairs and modifications were completed as safety class 1E, seismic work per FCX-00-12367-C. Con Edison reviewed the "extent of condition" relative to the feeders to SWPs 21, 22, 23, 24. These other four SWPs were not affected. Deficiencies and adverse conditions encountered during the repair were entered into the corrective action program (e.g., CRs 200004551, 4561, 4567, 4612, and 4904).

The licensee's preliminary evaluation of the as-found condition was summarized in report "Condition Assessment of Existing Underground Concrete Duct Bank from Manhole #21 to MCC 21", which included a root cause evaluation and the bases for a conclusion that the service pumps remained operable under assumed seismic conditions. The condition had occurred due to a combination of stresses applied to the duct bank when the original cables were installed, and inadequate support for the duct bank at the intake foundation. The licensee planned to continue investigations of the soils in the intake area.

The risk associated with the degradation of the service water pump cables was reviewed by the regional senior Reactor Analyst. This condition would be a very low risk condition (GREEN). This is based on the fact that the cables had not failed and the safety function would likely have been performed.

- 2. Loose Part Not Retrieved in Lower Reactor Vessel
- a. Inspection Scope

The inspector evaluated the safety implications of operation with loose parts in the lower portion of the reactor vessel. The inspection scope consisted of DMIMS monitoring, NRC discussions with Con Edison and contractor personnel, reviews of Indian Point Unit 2 history of loose parts within the reactor coolant system, review of the 10 CFR 50.59 safety evaluation, review of a contractor's safety assessment, and review of Con Edison's long-term plans for continuous monitoring. Con Edison condition report 200004642 documented this condition.

b. Issues and Findings

During the present outage with all fuel offloaded to the spent fuel pool, Con Edison completed visual inspections above and below the reactor vessel lower core support plate to assure no foreign material was in the reactor coolant vessel. Con Edison retrieved debris from the vessel, which was attributed to past maintenance practices. Con Edison completed non-destructive examinations of various vessel components to rule out potential sources of loose parts. The reviews included numerous thermal sleeves (safety injection, and charging), the 23 cold leg pressurizer spray scoop tube, and the vessel coupon cap holders.

Following vessel reassembly and during start-up of reactor coolant pumps on June 17, 2000, a loose part was detected in the lower reactor vessel when a digital metal impact monitoring system (DMIMS) alarm occurred on channel 752. The loose part remaining in the vessel was estimated to weigh in the range of 0.25 to 0.5 pounds. The cause or source of the loose part was not identified. Loose parts within the reactor vessel, beyond a certain size, can result in reactor coolant system pressure boundary leakage, loss of fuel clad integrity, and unanalyzed stresses on reactor vessel components. Areas that could be impacted include reactor vessel component wear, wedging in components that affect vessel design structural loads, and fuel assembly flow blockage.

The assessments performed for Con Edison by Westinghouse were described in report WCAP-15436, Plant Operations with Loose Parts for Cycle 15 dated July 2000, and Safety Evaluation 00-413-EV, Reactor Vessel Foreign Objects, dated June 23, 2000. The licensee concluded that safe operation of the facility was not impacted by the loose part within the reactor vessel. The basis was that the analysis was consistent with and bounded by historical evaluations Con Edison had performed for other loose parts, which showed that potential adverse consequences were not likely to occur. Con Edison began the monitoring of reactor coolant system leakage and reactor fuel cladding performance to ensure that compensatory actions are taken prior to impacts on safe operation of the facility. The inspector verified that the monitoring program was implemented to ensure that loose part wedging had not occurred. An adequate safety evaluation was prepared by Con Edison pursuant to 10 CFR 50.59.

There were no significant findings.

1R15 Operability Evaluations

a. Inspection Scope

The inspector reviewed the following operability evaluations to verify they were completed in accordance with licensee procedures and NRC requirements:

00-007, RCS Cooldown Evaluation 00-009, Unit 2 Spent Fuel Pool (SFP) Racks

b. Issues and Findings

There were no findings identified.

1R16 Operator Workarounds

a. Inspection Scope

The inspector evaluated the 18 operator workarounds (OWAs) in effect as of June 1, 2000 to determine whether the functional capabilities of mitigating systems were adversely affected. Also, the status of actions to reduce OWAs scheduled in the current refueling outage was verified. This inspection included discussions and plant tours with operations department personnel, and the review of Con Edison's corrective actions associated with the outstanding deficiencies. NRC inspection 05000247/2000007 also describes reviews in this area related to the gas turbine generators.

b. Issues and Findings

There were no findings identified.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspectors verified that the post-maintenance test procedures and test activities were adequate to verify system operability, and functional capability. Inspectors witnessed tests and/or reviewed the test data to verify the equipment met the design/licensing bases requirements and commitments (Technical Specifications, Updated Final Safety Analysis Report, licensee procedures etc.) and demonstrated that the equipment was capable of performing its intended safety functions. The effect of testing on the plant was reviewed. Additionally, the inspectors reviewed the testing to verify: it adequately addressed the scope of the maintenance work performed; acceptance criteria was clear and demonstrated operational readiness; and test equipment range and accuracy was consistent with the application. Finally, the inspectors verified that after completion of testing, equipment was returned to the positions/status required for the equipment to perform its safety function.

The inspector also verified that the licensee identified surveillance testing problems at the appropriate threshold and entered them in the corrective action program and implemented appropriate corrective actions. The following system/component post maintenance tests were assessed:

- Power Operated Relief Valve (PORV) Solenoid Operated Valve (SOV)-455C (W.O.# NP-00-15983)
- PT-R14C-1, 23 Emergency Diesel Generator (EDG) Load Reject Test
- PT-R8, Rev 12, Refueling System Interlocks and Associated Bypasses Test (CR 200002608)
- PT-R16, Rev 13, Recirculation Pumps (CR 200004114)
- Dynamic Test of Steam Jet Air Ejector Pressure Control Valve
- PT-R26, Rev 13, Isolation Valve Seal Water System Test (CR 20004712)
- PT-R84C-1, 23 EDG Alternate 24 Hour Load Test
- PT-R13A, Rev 23, Safety Injection System Performance Test (CRs 200003526, 3769, 3771, 3883)

b. Issues and Findings

No findings were identified.

1R20 Refueling and Outage Activities

a. Inspection Scope

The inspectors reviewed the following activities related to the Unit 2 refueling and maintenance outage for conformance to the applicable procedure, and witnessed selected activities associated with each evolution. Surveillance tests and inspections were reviewed to verify completeness within the technical specification and procedure requirements.

- reactor operation on residual heat removal system
- refueling operations from June 6 to June 9
- shutdown risk evaluations
- criticality controls during reactor reload
- plant drain down and operation in mid-loop on June 15
- visual inspection of 23 cold leg scoop tube
- b. Issues and Findings

No findings were identified.

- 1R22 <u>Surveillance Testing</u>
- a. Inspection Scope

The inspectors witnessed the surveillance tests and/or reviewed the test data of selected risk-significant SSCs listed below to assess, as appropriate, whether the SSCs met technical specification requirements, updated final safety analysis report, and licensee procedure requirements, and to determine if the testing effectively demonstrated that the SSCs were operationally ready and capable of performing their intended safety functions.

The inspector also verified that the licensee identified surveillance testing problems at the appropriate threshold and entered them in the corrective action program and implemented appropriate corrective actions.

- * PT-R139, Rev 0, Residual Heat Removal system Flow Test
- * PT-R13B, Rev 23, Safety Injection System Performance Test
- * PT-R14, SIS Electrical Load and Blackout Test (CR 20000438)
- * PT-Q29A, 21 Safety Injection Pump Test, Revision 13
- * PT-R141, Manual Phase A Testing, Revision 0
- * PT-Q1, Quarterly Station Battery Test
- * PT-V8A, Auxiliary Boiler Feed Pump Turbine Mechanical Overspeed Trip Test
- b. <u>Issues and Findings</u>

No findings were identified.

4. OTHER ACTIVITIES [OA]

4OA1 Performance Indicator Verifications

<u>Safety System Unavailability (Emergency AC Power >2 EDG and Heat Removal</u> <u>System</u>)

a. Inspection Scope

The inspector examined corrective action program records, control room logs, licensee event reports, maintenance work orders, and past NRC inspections reports for occurrences involving unavailability hours for emergency AC power and heat removal systems. The inspector reviewed data for the 1st and 3rd quarters of 1999 for the heat removal systems and the 2nd, 4th quarters of 1999 and the 1st quarter of 2000 for the emergency AC power systems. The inspector guidance in NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 0, was consulted to verify that all unavailability hours were properly identified within the published performance indicators.

b. Issues and Findings

No findings were identified.

- 4OA2 Cross Cutting Issues
- a. Inspection Scope

Human performance issues identified during surveillance testing, as discussed in report section 1R22, is discussed below.

b. Issues and Findings

The inspector noted poor preparation and planning for surveillance test PT-R141. The inspector's walkdown prior to the surveillance noted that numerous containment isolation valves were either not in their required pre-test alignment, or were isolated through various equipment tagouts. NRC observations were provided to the nuclear plant operator prior to commencement of the surveillance. The licensee immediately stopped the progression of the test and appropriately completed pre-test alignments of containment isolation valves.

Inspector observation of PT-V8A noted inconsistent procedural guidance on system restoration. In this test, temporarily installed air supply rotated the uncoupled turbine to an over speed condition. The procedure did not provide consistent instructions to vent air pressure in the steam line prior to maintenance removal of the air supply connection. This observation was provided to the licensee who initiated actions to address the procedural deficiency.

No findings were identified.

4OA3 Local Union 1-2 Contract Negotiations

a. Inspection Scope

The inspector reviewed the licensee preparation for a potential job action when the contract Local Union 1-2 expired at 12:00 a.m. on June 25, 2000. The inspection scope was to verify that the licensee maintained adequate trained and qualified staff to assure NRC requirements would be met, and that preparations were in place to support plant operation. An agreement on a new tentative four year contract was reached at 4:00 a.m. on June 25, 2000.

b. Issues and Findings

There were no findings.

- 40A4 Other
- .1 (Closed) LER 1999-013: Design Anomaly in Diesel Loading Sequence. This event concerned the discovery of a single failure vulnerability wherein a postulated loss of DC control power could affect the sequencing of electrical loads on the emergency diesel generator under certain conditions (loss of offsite power with a unit trip and with no safety injection). The licensee's response to the issue and operability evaluation (the diesels remained operable) were reviewed in NRC Inspection 05000247/1999009. Con Edison entered this deficiency in the corrective action program as condition report 199906411, and completed Modification FIX-99-12273 to eliminate the vulnerability. This LER is closed.
- .2 (Closed) LER 2000-002: Failure of Cable Spreading Room Fire Dampers to Close During Surveillance Testing. Performance and enforcement conclusions for this event were previously documented in NRC inspection report 05000247/2000-003 detail E2.4. Con Edison entered this test failure in the corrective action program as condition report 200001825. This LER is closed.
- .3 (Closed) IFI 05000247/1998019-01: Residual Heat Removal System Walkdown. The inspector's verification of residual heat removal alignment (report detail 1RO4) concluded that equipment deficiency tags were current and active for this system. This item is closed.
- .4 <u>(Closed) IFI 05000247/1998009-02:</u> Manipulation of Fan Cooler Unit Dampers after Surveillance Test. The inspector verified completion of surveillance procedure changes and through observation of PT-R14, "SIS Electrical Load and Blackout Test," (detail 1R22). This item is closed.
- .5 (Closed) IFI 05000247/1999007-01: Plant Risk Assumptions. The inspector reviewed licensee's response to this item in condition report 199908809 and concluded that it adequately re-evaluated a postulated fire scenario within the emergency diesel

generator building. Common mode implications were appropriately entered into risk modeling. This item is closed.

- .6 (Closed) EEI 05000247/1999014: Notice of Violation and Proposed Imposition of Civil Penalty - \$88,000. The inspector reviewed the licensee's reply to the subject Notice dated March 27, 2000, and June 5, 2000. Additionally, the inspector reviewed the licensee's completed and planned corrective action documentation. NRC inspections 05000247/1999013 and 05000247/1999008 also describe the NRC's review of this matter. The following EEIs are closed:
 - * EEI 05000247/1999014-03: Corrective Actions for OTDT condition
 - * EEI 05000247/1999014-04: Station Auxiliary Transformer Tap Changer
 - * EEI 05000247/1999014-05: Degraded Voltage Reset Values
 - * EEI 05000247/1999014-06: 23 Emergency Diesel Generator inoperable
 - * EEI 05000247/1999014-07: Amptector Trip Units

The licensee plans to complete a review to verify the accuracy of the Final Safety analysis Report by March 31, 2001. Of 27 Design Basis Documents (DBDs), 6 have already been verified, and 9 are under review in 2000. The licensee plans to revise 7 DBDs in 2001 and the remaining 5 DBDs in 2002.

- 4OA5 Management Meetings
- a. Exit Meeting Summary

On July 10, 2000, the inspector presented the overall findings to Mr. Al Blind of Con Edison management. Con Edison acknowledged the findings and did not contest the conclusions. Additionally, they stated that none of the information reviewed by the inspectors was considered proprietary.

PARTIAL LIST OF PERSONS CONTACTED

Licensee:

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|------------------|--|
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| M. Dampf | Radiation Protection Special Projects |
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| D. Shah | Safety Injection System Engineer |
| R. Sutton | Maintenance Rule Coordinator |
| Mark Entenberg | Manager Facilities Engineering |
| Patrick Russell | Manager Corrective Action Program |
| Anthony Spaziani | Nuclear Safety and Licensing Engineer |
| Curtis Ingram | System Engineering |
| Peter DeStefano | System Engineering |

ITEMS OPENED, CLOSED, AND DISCUSSED

Closed

LER 1999-013:Design Anomaly in Diesel Loading Sequence LER 2000-002:Failure of Cable Spreading Room Fire Dampers to Close During Testing EEI 05000247/1999014-03: Corrective Actions for OTDT condition EEI 05000247/1999014-04: Station Auxiliary Transformer Tap Changer EEI 05000247/1999014-05: Degraded Voltage Reset Values EEI 05000247/1999014-06:23 Emergency Diesel Generator inoperable EEI 05000247/1999014-07 Amptector Trip Units IFI 05000247/1998019-01: Residual Heat Removal System Walkdown IFI 05000247/1998009-02: Manipulation of Fan Cooler Unit Dampers after Surveillance Test IFI 05000247/1999007-01: Plant Risk Assumptions

LIST OF ACRONYMS USED

| AOI CFR CR EDG EOC | abnormal operating instruction Code of Federal Regulations condition report emergency diesel generator extent of condition |
|--------------------------------|--|
| FP | fire protection |
| FSAR | Final Safety Analysis Report |
| GT | gas turbine |
| IP2 | Indian Point 2 |
| LER | licensee event report |
| MOD | modification |
| PCV | pressure control valve |
| RCP | reactor coolant pump |
| RCS | reactor coolant system |
| SDP | significance determination process |
| SE | safety evaluation |
| TFC | temporary facility change |
| TS | technical specification |
| UFSAR | updated final safety analysis report |

ATTACHMENT I NRC'S REVISED REACTOR OVERSIGHT PROCESS

The Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety

- Initiating Events
- Mitigating Systems
- Barrier Integrity
- Emergency Preparedness

Radiation Safety

Occupational

Public

Safeguards

Physical Protection

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and

Attachment 1 (cont'd)

increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: <u>http://www.nrc.gov/NRR/OVERSIGHT/index.html.</u>