July 30, 2003

Mr. Fred Dacimo
Site Vice President
Entergy Nuclear Northeast
Indian Point Nuclear Generating Station
295 Broadway, Suite 1
Post Office Box 249
Buchanan, NY 10511-0249

SUBJECT: INDIAN POINT 2 - NRC INTEGRATED INSPECTION REPORT 050000247/2003007

Dear Mr. Dacimo:

On June 28, 2003, the US Nuclear Regulatory Commission (NRC) completed an inspection at the Indian Point 2 Nuclear Power Plant. The enclosed integrated inspection report documents the inspection findings, which were discussed on July 9, 2003, with yourself and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, the inspectors identified two findings of very low safety significance (Green) which did not present an immediate safety concern. One of the findings was determined to be a violation of NRC requirements. However, because it was of very low safety significance and because the issue has been addressed and entered into your corrective action program, the NRC is treating this issue as a non-cited violation, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny this non-cited violation, you should provide a response with the basis for your denial, within 30 days of the receipt of this letter, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-001; with copies to the Regional Administrator, Region 1; the Director, Office of Enforcement; and the NRC Resident Inspector at the Indian Point 2 facility.

Since the terrorist attacks on September 11, 2001, NRC has issued five Orders and several threat advisories to licensees of commercial power reactors to strengthen licensee capabilities, improve security force readiness, and enhance controls over access authorization. In addition to applicable baseline inspections, the NRC issued Temporary Instruction 2515/148, "Inspection of Nuclear Reactor Safeguards Interim Compensatory Measures," and its subsequent revision, to audit and inspect licensee implementation of the interim compensatory measures required by order. Phase 1 of TI 2515/148 was completed at all commercial power nuclear power plants during calender year '02 and the remaining inspection activities for Indian Point 2 were completed in January 2003. The NRC will continue to monitor overall safeguards and security controls at Indian Point 2.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room **or** from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room). Should you have any questions regarding this report, please contact Mr. Peter Eselgroth at 610-337-5234.

Sincerely,

/RA/ by
Peter W. Eselgroth
Acting For/

Brian E. Holian, Deputy Director
Division of Reactor Projects

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

Enclosure: Inspection Report 05000247/2003007
w/Attachment: Supplemental Information

cc w/encl:
G. J. Taylor, Chief Executive Officer, Entergy Operations
M. R. Kansler, President - Entergy Nuclear Operations, Inc.
J. Herron, Senior Vice President and Chief Operating Officer
C. Schwarz, General Manager - Plant Operations
D. Pace, Vice President, Engineering
R. Edington, Vice President, Operations Support
J. McCann, Manager, Nuclear Safety and Licensing
J. Kelly, Director, Nuclear Safety Assurance
J. Comiotes, Director, Nuclear Safety Assurance
C. Faison, Manager, Licensing
H. Salmon, Jr., Director of Oversight
J. Fulton, Assistant General Counsel, Entergy Nuclear Operations, Inc.
P. Smith, Acting President, New York State Energy, Research and Development Authority
J. Spath, Program Director, New York State Energy Research and Development Authority
P. Eddy, Electric Division, New York State Department of Public Service
C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law
T. Walsh, Secretary, NFSC, Entergy Nuclear Operations, Inc.
D. O'Neill, Mayor, Village of Buchanan
J. G. Testa, Mayor, City of Peekskill
R. Albanese, Executive Chair, Four County Nuclear Safety Committee
S. Lousteau, Treasury Department, Entergy Services, Inc.
Chairman, Standing Committee on Energy, NYS Assembly
Chairman, Standing Committee on Environmental Conservation, NYS Assembly

Chairman, Committee on Corporations, Authorities, and Commissions
M. Slobodien, Director, Emergency Planning
B. Brandenburg, Assistant General Counsel
P. Rubin, Operations Manager
Assemblywoman Sandra Galef, NYS Assembly
C. Terry, Niagara Mohawk Power Corporation
County Clerk, Westchester County Legislature
A. Spano, Westchester County Executive
R. Bondi, Putnam County Executive
C. Vanderhoef, Rockland County Executive
E. A. Diana, Orange County Executive
T. Judson, Central NY Citizens Awareness Network
M. Elie, Citizens Awareness Network
D. Lochbaum, Nuclear Safety Engineer, Union of Concerned Scientists
Public Citizen's Critical Mass Energy Project
M. Mariotte, Nuclear Information & Resources Service
F. Zalcman, Pace Law School, Energy Project
L. Puglisi, Supervisor, Town of Cortlandt
Congresswoman Sue W. Kelly
Congresswoman Nita Lowey
Senator Hillary Rodham Clinton
Senator Charles Schumer
J. Riccio, Greenpeace
A. Matthiessen, Executive Director, Riverkeepers, Inc.
M. Kapolwitz, Chairman of County Environment & Health Committee
A. Reynolds, Environmental Advocates
M. Jacobs, Director, Longview School
D. Katz, Executive Director, Citizens Awareness Network
P. Gunter, Nuclear Information & Resource Service
P. Leventhal, The Nuclear Control Institute
K. Copeland, Pace Environmental Litigation Clinic
R. Witherspoon, The Journal News
W. DiProfio, PWR SRC Consultant
W. Poole, PWR SRC Consultant
W. Russell, PWR SRC Consultant
W. Little, Associate Attorney, NYSDEC

Distribution w/encl: H. Miller, RA/J. Wiggins, DRA (1)
H. Nieh, RI EDO Coordinator
P. Habighorst, SRI - Indian Point 2
P. Eselgroth, DRP
R. Laufer, NRR
P. Milano, PM, NRR
G. Vissing, PM, NRR (Backup)
W. Cook, DRP
R. Martin, DRP
Region I Docket Room (w/concurrences)

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.	50-247
License No.	DPR-26
Report No.	05000247/2003007
Licensee:	Entergy Nuclear Operations, Inc.
Facility:	Indian Point 2 Nuclear Power Plant
Location:	Buchanan, New York 10511
Dates:	March 30, 2003 - June 28, 2003
Inspectors:	Peter Habighorst, Senior Resident Inspector Lois James, Resident Inspector Mark Cox, Resident Inspector, IP3 Monica Salter-Williams, Reactor Engineer Peter Wen, NRR/DRIP/RGEB Inspector William Cook, Senior Project Engineer John McFadden, Health Physicist Greg Smith, Senior Physical Security Inspector David Silk, Senior Emergency Preparedness Inspector
Approved by:	Peter W. Eselgroth, Chief Projects Branch 2 Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000247-03-07, on March 30, 2003 - June 28, 2003, Entergy Nuclear Operations, Inc.; Indian Point 2 Nuclear Power Plant; Operability Evaluations; and Problem Identification and Resolution Samples.

The report covered a twelve-week period of inspection by resident and announced region-based and headquarters-based inspectors. Two Green findings, of which one was a non-cited violation (NCV), were identified. The significance of the findings are indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, “Significance Determination Process” (SDP). The NRC’s program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, “Reactor Oversight Process,” Revision 3, dated July 2000.

A. NRC- Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

Green. The inspector identified that the licensee’s operability evaluation during a 13.8 KV system reduced voltage test was not complete. The operability evaluation did not evaluate accident load carrying capability and it did not address communication protocols between the distribution company (Con Edison) and Entergy to restore from the test in a timely manner.

The finding is more than minor because it impacts the attribute of the mitigating system cornerstone objective. Specifically, the cornerstone objective is to ensure that the 13.8 KV system is capable of performing its safety function during a postulated loss of normal power event without undesirable consequences. This finding was determined to be of low safety significance because there was no actual loss of either the 138 KV or 13.8 KV offsite power supplies during the short duration of the degraded voltage condition on the 13.8 KV feed. (Section 1R15)

Green. The inspector identified a violation of 10 CFR 50, Appendix B, Criterion XVI. Entergy did not evaluate and take effective corrective actions associated with a material substitution for the No. 22 component cooling water (CCW) pump inboard bearing oil level indication system. The substitute bearing oil level indication system contributed to the failure of the No. 22 CCW pump on December 5, 2002.

This finding is greater than minor since it is associated with the design control attribute of the mitigating systems cornerstone and affected the cornerstone objective. The inspectors conducted a Phase 1 SDP screening and determined that the failure to take effective corrective action on No. 22 CCW pump was of a very low safety significance since the redundant train components were operable and unaffected by this inadequate modification. Accordingly, this issue was treated as a Non-cited Violation. (4OA2)

B. License-Identified Violations

None

Report Details

Summary of Plant Status

Indian Point Unit 2 began the period at full Rated Thermal Power (RTP) and operated at full power until April 28, 2003. On April 28, the unit experienced a main turbine trip on over-frequency and a reactor trip due to a generator load reject as a result of electrical faults on the off site 345 KV and 138 KV distribution systems (reference report detail 1R14). On May 1, 2003, the unit was restored back to RTP. On May 24, 2003, following issuance of the Technical Specification amendment, RTP was increased from 3,071.4 to 3114.4 thermal megawatts. The unit operated at RTP throughout the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity and Emergency Planning

1R01 Adverse Weather Protection

a. Inspection Scope (71111.01)

The inspector reviewed hot weather preparations by the licensee. The inspector selected licensee controls in the following plant areas: central control room, auxiliary boiler feedwater pump, intake structure, and the 480 volt switchgear room. Documents reviewed by the inspector are listed below:

- SOP 11.1, Ventilation System Operation
- ARP SCF Window 4-4, 22 ABFP Inlet Valves 1310A/1310B Not Fully Open
- ARP SJF, Window 4-1, 480 Volt Switchgear Temperature Hi
- OASL 15.90, Inclement Weather Conditions
- AOI 11.1, Failure of CCR Air Conditioners/Fan Systems
- OAD 22, Seasonal Weather Preparation
- OAD 44, Summer Reliability
- Reactor Protection System and Auxiliary feedwater System Design Basis Documents
- System Health reports for the EDG and CCR HVAC Systems
- List of Unit 2 control room deficiencies
- Updated Final Safety Analysis Report Sections 7.2.4.2 and 9.3.3
- Individual Plant Examination of External Events (IPEEE) Table 6.5-1

The inspector walked down selected plant areas to verify availability of ventilation and air conditioning units, availability of back-up mitigation equipment as defined in AOI 11.1, and material condition of various temperature sensors and recorders.

b. Findings

No findings of significance were identified.

1R02 Evaluation of Changes, Tests, or Experiments

a. Inspection Scope (71111.02)

The inspector reviewed the 10 CFR 50.59 evaluation associated with the increase in T_{AVG} from 559 ^{0}F to 562 ^{0}F to verify that this change to the facility and associated procedures, as described in the Updated Final Safety Analysis Report (UFSAR), was reviewed and documented in accordance with 10 CFR 50.59 and that the safety issues pertinent to the change were properly resolved or adequately addressed. This evaluation was selected based on the safety significance of the changes and the risk to structures, systems, and components.

The inspector reviewed the licensee's evaluation package, 02-0344-PR-02-RE, and interviewed engineering personnel cognizant of the associated 10 CFR 50.59 evaluation. The evaluation concluded that the increase to the operating T_{AVG} from 559 ^{0}F to 562 ^{0}F at Indian Point Unit 2 does not adversely affect the safe operation of the plant and did not require a change to the plant Technical Specifications. The inspector observed the control room activities associated with raising T_{AVG} on April 25, 2002. The inspector noted that the licensee conducted this evolution in a thorough and deliberate manner.

During the review of associated operating procedures impacted by the T_{AVG} increase, the inspector questioned two conversion factors (one for the pressurizer level change and the other for the reactor coolant system mass change) used in the licensee's reactor coolant system leakage surveillance procedure (SOP 1.7, Revision 35). As a result, the licensee generated a condition report IP2-2003-02567) to provide values that more accurately reflect the current plant conditions for the reactor water inventory calculation.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

a. Inspection Scope (71111.04)

On April 18, 2003, the inspector performed a partial system walkdown of the 21 boric acid transfer pump (BATP) while the 22 BATP was out of service for preventive maintenance. The purpose of this walkdown was to verify equipment alignment and identify any discrepancies that could impact the function of emergency boration, thereby potentially increasing risk. The inspector observed the physical condition of the system pump and valves and reviewed the operations logs. The inspector used check-off list (COL) 3.1, "Chemical and Volume Control System," for this walkdown and reviewed the design basis document for the boric acid transfer system to verify the valve positions, as defined in the COL, were appropriate.

On May 12, 2003, the inspector performed a partial system walkdown of the 21 and 22 safety injection trains while the 23 safety injection pump was being surveillance tested pursuant to PT-Q29C, "23 Safety Injection Pump." The purpose of this walkdown was to verify equipment alignment and identify any discrepancies that could adversely impact the reactor coolant system injection and heat removal functions and thereby potentially increase risk. The inspector observed the physical condition of the subsystems and reviewed the operations logs. The inspector used COL 10.1.1, “Safety Injection System,” and COL 10.1.1.1, “Backseated Safety Injection Recirculation Valves,” for this walkdown and reviewed the plant drawings 9321-F-2738, 9321-F-2735-131, and A235296-59 to verify valve positions, as defined in the COLs, were appropriate. The inspector identified minor housekeeping and valve and pump seal leakages that were documented in Condition Report (CR) Nos. IP2-2003-2876, -2877, and -2878 by the licensee.

The inspector performed a partial system walkdown of the 21 emergency diesel generator (EDG) to evaluate the operability of the starting air system while the 23 EDG was removed from service for preplanned maintenance. The inspector checked for correct valve and power alignments by comparing positions of valves, switches, and electrical power breakers to COL 27.3.1, “Diesel Generators,” as well as applicable chapters of the Final Safety Analysis Report (FSAR) to verify proper system alignment. The inspector also verified starting air system pressure, component labeling, and the condition of hangers and support installations.

Air compressor operation during the walkdown was observed to ensure that system vibration and pump leakage was not excessive, and that system operating pressure met operational and design specifications.

b. Findings

No findings of significance were identified. During the safety injection sub-system walkdown, the inspector identified an operator work-around involving the 21 safety injection motor-operated valve (856A) not previously entered into the licensee’s work-around system. This minor observation is also discussed in report section 1R16.

1R05 Fire Protection

.1 Fire Protection Tours

a. Inspection Scope (71111.05)

The inspector toured the areas important to plant safety and risk based upon a review of Section 4.0, “Internal Fires Analysis,” and Table 4.6-2, “Summary of Core Damage Frequency Contributions from Fire Zones,” in the Indian Point 2 Individual Plant Examination for External Events (IPEEE). The objective of this inspection was to determine if the licensee had adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, and had adequately established compensatory measures for degraded fire protection equipment. The inspector evaluated 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. The areas reviewed were:

- Fire Zone 1, Component Cooling Water Pump Room
- Fire Zone 90A/91A, Spent Fuel Pool Building

- Fire Zone 25, 23 Station Battery
- Fire Zone 11, Cable Spreading Room
- Fire Zone 650, Gas Turbine 1 Room
- Fire Zone 17, Turbine Oil Reservoir Area
- Fire Zone 47A, 12' and 15' Turbine Building
- Fire Zone 48A, 3.3' and 15' Turbine Building

Reference material consulted by the inspector included the Fire Protection Implementation Plan, Pre-Fire Plan, and Station Administrative Orders (SAOs)-700, “Fire Protection and Prevention Policy,” SAO-701, “Control of Combustibles and Transient Fire Load,” SAO-703, “Fire Protection Impairment Criteria and Surveillance,” and Calculation PGI-00433, “Combustible Loading Calculation.” The inspector identified a number of minor items related to drawing errors in the pre-fire plan sketch and penetration drawings and a few minor housekeeping items. The associated condition reports for these minor issues are identified in the Attachment to this inspection report.

b. Findings

No findings of significance were identified.

.2 Fire Brigade Observation

a. Inspection Scope (71111.05)

On June 13, 2003, the inspectors observed an announced fire brigade drill. The drill was in accordance with the pre-planned drill scenario for a 21 auxiliary boiler feedwater pump motor fire. This was a routine training drill for current fire brigade members. The purpose of this observation was to evaluate the readiness of the licensee's personnel to prevent and fight fires. The inspector evaluated the following aspects:

- Protective clothing/turnout gear is properly donned.
- Self-contained breathing apparatus (SCBA) equipment is properly worn and used.
- Fire hose lines are capable of reaching all necessary fire hazard locations, are laid out without flow constrictions, and are simulated being charged with water.
- Fire area is entered in a controlled manner.
- Sufficient fire fighting equipment is brought to the scene by the fire brigade.
- Effective smoke removal operations are simulated.
- The fire fighting pre-plan strategies are utilized.
- The licensee’s pre-planned drill scenario is followed.
- The drill objectives and acceptance criteria are met.

The inspector reviewed Station Administrative Order (SAO) -706, “Fire Brigade Organization, Operation, and Training,” and procedure OASL 15.22, “Fire Brigade Requirements,” to confirm the minimum fire brigade manning during the drill was achieved.

Some minor deficiencies, not impacting the ability of the fire brigade to fight a fire, were addressed during the drill critique and were entered into the Condition Reporting System

(CR-IP2-2003-03778, CR-IP2-2003-03780, CR-IP2-2003-03786, and CR-IP2-2003-03791).

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

a. Inspection Scope (71111.07)

The inspector verified that the licensee's program was adequate to ensure proper heat exchanger performance for the Nos. 21 and 22 component cooling water (CCW) heat exchangers. The inspection consisted of a review of the most recently completed performance tests, (PT-2Y10A, "21 CCW HX Test," and PT-2Y10B, "CCW HX Test," conducted on October 7, 2002 and October 11, 2002, respectively), examination of the preliminary engineering calculation No. PGI-00462-01, "Component Cooling Water Heat Exchanger Performance Evaluation," and discussions with the responsible performance engineer. The inspector noted that these performance tests were conducted just prior to the Cycle 15 refueling outage in the Fall of 2002, during which both heat exchangers were opened for a planned clearing and inspection. The inspector also reviewed completed performance test results for both CCW heat exchangers dating back to July 1991.

b. Findings

No findings of significance were identified.

1R11 Operator Requalification Inspection

a. Inspection Scope (71111.11)

On May 4, 2003, the inspector observed the performance of an operating crew (2C) during licensed operator re-qualification training. Specifically, the inspector observed a simulator exam associated with lesson plan ESR-024-007. The inspection was conducted to assess the adequacy of the training, licensed operator performance, emergency plan implementation, and the adequacy of the licensee's critique.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

.1 22 EDG Load Test

a. Inspection Scope (71111.12Q)

The inspector evaluated Entergy’s corrective actions for the emergency diesel generator (EDG) system equipment issues identified during the EDG 22 load test (PT-M21B) performed on April 23, 2003, to assess the effectiveness of the licensee’s maintenance rule implementation. The inspector reviewed the EDG system performance history and assessed the licensee’s maintenance rule determination for the equipment issue involving the two loose fuel line capscrews found during the test (CR IP2-2003-02392). The inspector reviewed Entergy’s problem identification and resolution actions for this issue and evaluated Entergy’s monitoring, analysis, and disposition of the issues in accordance with station procedures and 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance." The inspector noted that after correcting the EDG 22 problem, the licensee also checked the same parts in EDG 21 and EDG 23; the problem observed in EDG 22 was not found in the other two EDGs.

b. <u>Findings</u>

No findings of significance were identified.

.2 <u>Auxiliary Feedwater System</u>

a. <u>Inspection Scope</u> (71111.12Q)

The inspectors evaluated Entergy’s work practices and preventive maintenance activities for the auxiliary feedwater system to assess the effectiveness of maintenance activities. The inspectors reviewed the performance history of the auxiliary feedwater pumps to assess the adequacy of the licensee's corrective actions and to evaluate Entergy’s monitoring, evaluations, and dispositions of issues completed in accordance with station procedures and the requirements of 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance." The inspectors reviewed the following documents associated with the system design and licensing basis:

Procedures and Documents

- Maintenance Rule Basis Document for the Auxiliary Feedwater System
- Design Bases Document for the Auxiliary Feedwater System
- UFSAR Chapter 10, Steam and Power Conversion System
- System Health Report, Auxiliary Feedwater System, 4th Quarter 2002 and 1st Quarter 2003
- Condition Reports CR-IP2-2003-03244; CR-IP2-2002-09642; CR-IP2-2002-10943; and CR-IP2-2003-00165
- Work Order Nos. IP2-00-15677; IP2-97-96621; IP2-02-02856; and IP2-02-03503

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work Activities

a. Inspection Scope (71111.13)

The inspector observed selected portions of emergent maintenance work activities to assess the licensee’s risk management in accordance with 10 CFR 50.65 (a)(4). The inspector verified that the licensee took the necessary steps to plan and control emergent work activities, to minimize the probability of initiating events, and to maintain the functional capability of mitigating systems. The inspector observed and/or discussed risk management with maintenance and operations personnel for the following activities:

- Work Order (WO) IP2-03-14398, perform bearing clearance check on EDG 22
- WO IP2-02-38919, EDG 22 Starting Air System
- WO IP2-03-05130, troubleshooting power range upper channel high flux deviation
- WO IP2-03-13972, replace and rescale main turbine steam dump controller circuits in anticipation of NRC approval of a reactor thermal power uprate amendment request
- WO IP2-03-06817, repairs to 22 component cooling water pump discharge check valve (761B)
- WO IP2-03-18744, Loop 22 setpoint change for reactor coolant system low flow reactor protection system bistable setpoints

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-Routine Plant Evolutions and Events

.1 Partial Loss of Power Reactor Trip/Turbine Trip

Introduction. On April 28, 2003, offsite electrical disturbances caused a reactor trip and partial loss of normal power. At 4:41 p.m. a phase A ground fault on 345 KV transmission line No. Y94 occurred. During the automatic isolation of the Y94 fault, a 138 KV breaker (No. F7) in the Buchanan substation faulted to ground. These two faults and the response of protective relaying at the Millwood substation, resulted in a loss of the credited 138 KV power supplies to both Units 2 and 3 for approximately five minutes. During this period of time, the IP2 main generator was supplying portions of the 345 KV system through one of its two output breakers. After repeated unsuccessful attempts to restore the No. Y94 line by the transmission network operator, the remaining 345 KV output transmission lines for the IP2 generator were lost. This resulted in a full load reject and trip of the main turbine on over-frequency.

The resultant turbine/reactor trip placed the plant in natural circulation with all three emergency diesel generators started and two of the four 480 volt safeguards buses energized by the No. 22 EDG. The event was documented in the licensee's corrective action program via condition report IP2-CR-2003-2511.

This event was similar, with respect to the in-plant consequences, to events on December 26, 2001 (inspection report 50-247/2001-011) and July 28, 1997 (inspection report 50-247/97-010).

a. Inspection Scope (71111.14)

The inspector observed operator response to the event, including their use of emergency operating procedures. The inspector compared the plant response to Updated Final Safety Analysis Report (UFSAR) section 14.1.13, "Turbine Overspeed," UFSAR Section 14.1.8, "Loss of Load," and UFSAR Section 14.1.12, "Loss of Station Auxiliaries." The inspector also reviewed licensee corrective actions to prevent recurrence of this event. The inspector reviewed the transient and compared it to NRC safety evaluation report dated 1982. The safety evaluation report concluded that no event or condition could result in the simultaneous or consequential loss of both required circuits from the offsite power network to the onsite distribution system. The inspector observed the post-trip review presented to the on-site review committee on April 29, 2003. The inspector reviewed the post-trip review report as defined in operations administrative directive (OAD) 23, "Post Trip Review and Evaluation Procedure." The inspector also evaluated equipment issues not associated with the offsite power perturbation.

b. Findings

No findings of significance were identified.

.2 Unavailability of Emergency Planning Zone Sirens

a. Inspection Scope

The inspectors evaluated the licensee's problem identification and evaluations associated with a number of emergency planning siren failures, as reported per 10 CFR 50.72 between February 2003, and June 17, 2003. The inspector observed the on-line monitoring of siren performance at the emergency operations facility, reviewed the licensee's assessment of overall system availability, and discussed proposed corrective actions with cognizant licensee personnel.

The inspector consulted NRC Manual Chapter 0609, Appendix B for examples of a loss and/or degraded risk significant planning standard 10 CFR 50.47(b)(5), associated with the public alert and notification system (ANS). The NRC staff had previously documented a review of ANS siren failures in report 50-247/2003-003, detail 4OA2.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope (71111.15)

The inspectors reviewed the below listed condition reports and associated operability evaluations to ensure that operability was properly justified and that the component or system remained available, without a significant degradation in performance or unrecognized operability issue. The inspectors used Technical Specifications, Updated Final Safety Analysis Report, and design basis documents, as appropriate.

- CR-IP2-2003-03548, GT-1 Main Battery Reduced Voltage
- CR-IP2-2003-01718 - Failure of Valve 883, RHR Pump Return Line to RWST Stop.
- CR-IP2-2003-02805 - EDG Building Intake Louvers "As-Found" Settings
- CR-IP2-2003-03470 - 13.8 KV System Degraded Voltage Testing by System Operator
- CR-IP2-2003-4051 - Water in the 21 and 22 Emergency Diesel Generator Fuel Oil Storage Tanks
- CR-IP2-2003–2342, 18-inch snubber (BFD-6-3) on Main Feedwater Line Leaking Oil

b. Findings

Introduction. The inspector identified an incomplete operability evaluation. The operability evaluation involved the 13.8 KV electrical system during a planned voltage reduction test.

Description. At 12:55 a.m. on May 28, 2003, the Unit 2 control room was notified by the Con Edison system operator that a voltage reduction test of 8% would be performed on the 13.8 KV feeders in the Buchanan Substation. The Con Edison system operator subsequently notified the control room that the test was completed at 2:24 a.m. The inspector determined that Entergy received no prior notification of the test and that there was no evaluation performed by Entergy to determine the impact of the test on 13.8 KV offsite power operability. Further, Operations Department personnel did not question the impact of the voltage test on operability of the 13.8 KV system. Based upon the inspector's expressed concern that an operability evaluation had not been performed in response to the planned reduced voltage test of the 13.8 KV system, Entergy initiated CR IP2-2003-3470 to address operability of the system and to evaluate the needed protocols between Con Edison and Entergy for the coordination of offsite electrical power system testing.

The licensee's operability evaluation determined that if a safety injection and a loss of offsite power (138 KV system) occurred, the emergency diesel generators would automatically start and operator's would manually place the generators on the safeguards buses. The operability evaluation also documented that operators would manually tie the 13.8 KV source to safeguard buses. The inspector identified that the operability evaluation did not evaluate if the reduced voltage condition could support in-plant accident loads, as defined in the Technical Specification bases. Further, the operability evaluation did not address communication protocols between the distribution company and Entergy in the event there is a need to restore the 13.8 KV system during a postulated loss of normal power (138 KV). Abnormal operating instruction AOI-27.1.1, "Loss of Normal Power," does not tie the 13.8 KV system to the safeguards buses unless it is predicted that the preferred 138 KV system will not be available for greater than 30 minutes. Notwithstanding, the licensee concluded that there was reasonable assurance of system operability during the short duration degraded voltage test.

Analysis. The inspectors concluded that the licensee's operability evaluation was incomplete based on the absence of an evaluation of in-plant accident electrical loads that would be supplied by the 13.8 kV power feed and the absence of established communication protocols between Entergy and Con Edison for the control of degraded system voltage testing. The inspectors referenced NRC Generic Letter (GL) 91-18, "Information to Licensees Regarding Two NRC Manual Sections on Resolution of Degraded and Non-Conforming Conditions and on Operability, " in support of their conclusion. GL 91-18 states, in part, that when a system's capability is degraded to a point where it cannot perform with reasonable assurance of reliability, the system should be judged inoperable. Entergy did not document sufficient basis for their operability evaluation or provide appropriate guidance to plant operators and the distribution operator in the event of a condition which warranted use of the 13.8 KV electrical power feed.

The inspectors used NRC Manual Chapter 0612, Appendix B, to disposition this issue. The finding was more than minor because it impacted the attribute of the mitigating system cornerstone objective. Specifically, the cornerstone objective is to ensure that the 13.8 KV system is capable of performing its safety function during a postulated loss of normal power event without undesirable consequences. This finding was determined to be of low safety significance because the degraded conditions was of a short duration and there was no actual loss of the normal offsite power supplies (138 KV or 13.8 KV) during the test. **(FIN 50-247/2003-007-01)**

Enforcement. The incomplete operability evaluation does not represent a violation of regulatory requirements.

1R16 Operator Workarounds

a. Inspection Scope (71111.16)

The inspector reviewed the licensee's list of active operator burdens to assess the cumulative effects on system reliability, availability, and potential for mis-operation of a system. The inspector also toured various areas of the plant to evaluate deficient conditions and potential impact to operators during EOP or AOP usage. At the time of the inspection, no operator work-arounds were identified by Entergy. The inspector used OASL 15.43, "Operator Burden Program" as a reference for this review.

b. Findings

No findings of significance were identified.

The inspector noted that one deficiency in the primary auxiliary building that impacted operators during emergency operating procedure usage (ES 1.4, "Transfer to Hot Leg Recirculation") was a failed breaker handle for valve 856A, "21 safety injection cold leg isolation valve." Entergy added this deficiency as an operator workaround and repaired the breaker handle on the motor control center during the inspection period.

1R19 Post Maintenance Testing

a. Inspection Scope (71111.19)

The inspector reviewed post-work test (PWT) procedures and associated testing activities to assess whether: 1) the effect of testing in the plant had been adequately addressed by control room personnel; 2) testing was adequate for the maintenance work order (WO) performed; 3) acceptance criteria were clear and adequately demonstrated operational readiness consistent with design and licensing documents; 4) test instrumentation had current calibrations, range, and accuracy for the application; and 5) test equipment was removed following testing.

The selected testing activities involved components that were risk significant as identified in the IP2 Individual Plant Examination. The regulatory references for the inspection included Technical Specification 6.8.1.a. and 10 CFR 50, Appendix B, Criteria XIV, "Inspection, Test, and Operating Status." The following testing activities were evaluated:

- WO IP2-03-05119, Re-work on 22 Containment Spray Pump Discharge Stop Valve 866D
- WO IP2-03-13966, PWT to Perform PT-Q27A, 21 Auxiliary Feedwater Pump
- WO IP2-02-39537, EDG 22 Two SOP Tests on PCV-5005 and PCV-5006
- WO IP2-03-16404, PWT to Perform PT-Q43 to Stroke FCV-1207

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope (71111.22)

The inspector reviewed surveillance test procedures and observed testing activities to assess whether: 1) the test preconditioned the component tested; 2) the effect of the testing was adequately addressed in the control room; 3) the acceptance criteria demonstrated operational readiness consistent with design calculations and licensing documents; 4) the test equipment range and accuracy was adequate and the equipment was properly calibrated; 5) the test was performed per the procedure; 6) the test equipment was removed following testing; and 7) test discrepancies were appropriately evaluated. The surveillance tests observed were based upon risk significant components as identified in the IP2 Individual Plant Examination. The regulatory requirements that provided the acceptance criteria for this review were 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," Criterion XIV, "Inspection, Test, and Operating Status," Criterion XI, "Test Control," and Technical Specifications 6.8.1.a. The following test activities were reviewed:

- PT-Q33A, 21 Charging Pump
- PI-M2, Containment Building Inspection
- PT-M21B, Emergency Diesel Generator 22 Load Test
- TOI 213 Tavg Increase to 562 degrees F
- PT-Q27A, 21 Residual Heat Removal Pump Test
- PT-Q31A, 21 Auxiliary Component Cooling Pump

b. Findings

No findings of significance were identified.

During the monthly containment inspection, the inspectors noted that the non-licensed operator was not familiar with the location of the seven conoseals on top of the reactor vessel head. The inspection was re-performed on April 18 and confirmed there was no leakage from the flanged instrument tubes on top of the vessel head. The visual inspection of the conoseal flanges was a commitment to NRC Generic Letter 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary Components in PWR Plants."

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope (71114-04)

During an in-office inspection conducted May 19 - 20, 2003, the inspectors reviewed recent changes to Emergency Plan documents as stated in the attachment to this report. A thorough review was conducted of aspects of the plan relating to the risk significant planning standards (RSPS), such as classifications, notifications, and protective action recommendations. A general review was conducted for non-RSPS portions. These changes were reviewed against 10 CFR 50.54(q) to ensure that the changes do not decrease the effectiveness of the plan, and that the changes to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E. All of the changes made to the Emergency Plan or implementing procedures are subject to future inspections to ensure that the results of the changes continue to meet NRC regulations.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety (OS)

2OS1 Access Control to Radiologically Significant Areas

a. Inspection Scope (71121.01)

The inspector reviewed radiological work activities and practices and procedural implementation during tours and observations of the facilities. Additionally, the inspector reviewed procedures, records, and other program documents to evaluate the effectiveness of access controls to radiologically significant areas.

On April 9, 2003, the inspector toured and observed work activities in selected portions of the fuel handling building and the chemical systems building in Unit 1, including the area in the sphere annulus area where the pipe from the north curtain drain was located. On April 10, the inspector, accompanied by the Technical Support Manager, toured and observed work activities on various elevations in the primary auxiliary and fuel handling buildings in Unit 2. At the routine radiologically controlled area (RCA) access control point, the inspector observed radiation workers logging into the RCA on radiological work permits (RWPs) using electronic dosimeters and observed radiation workers exiting the RCA and then logging out of their RWPs. The inspector examined the use of personnel dosimetry and the radiological briefings for radiation workers.

On May 21, 2003, the inspector toured and observed work activities in selected portions of the fuel handling building and of the chemical systems building in Unit 1, including the area in the sphere annulus area where the pipe from the north curtain drain was located. On May 21 and 23, the inspector toured and observed work activities on various elevations in the primary auxiliary, fuel handling, and maintenance and outage buildings in Unit 2. On May 22, inspectors examined the outside and inside of the old steam generator storage building. Also, during these walkdowns, the inspector observed and verified the appropriateness of the posting, labeling, and barricading of radioactive material, radiation, contamination, high radiation, and locked high radiation areas. The inspector reviewed work activities by both radiation workers and radiation protection technicians for compliance with the RWP requirements and radiological protection procedures. Specifically, the radiological controls for replacing packing on the No. 22 charging pump, covered by radiological work permit No. 032023, were reviewed and observed.

The inspector reviewed radiological work activities and practices and procedural implementation during tours and observations of the facilities and inspected procedures, records, and other program documents to evaluate the effectiveness of Entergy's access controls to radiologically significant areas.

The inspector performed a selective examination of program documents (reference the List of Documents Reviewed) to evaluate the adequacy of radiological controls. The review was against criteria contained in 10 CFR 19.12, 10 CFR 20 (Subparts D, F, G, H, I, and J), Technical Specifications, and site procedures.

b. Findings

No findings of significance were identified.

2OS2 ALARA Planning and Controls

a. Inspection Scope (71121.02)

The inspector reviewed the effectiveness of Entergy's program to maintain occupational radiation exposure as low as is reasonably achievable (ALARA).

During the inspection week, the inspector discussed the Unit 2 cumulative dose result for 2002 (248 person-rem) and the three-year-average (2000 through 2002) cumulative dose result for Unit 2 (279.2 person-rem) with the Indian Point Energy Center (IPEC) Technical Support Manager and the Radiation Protection Manager. The inspector also discussed the actual versus projected cumulative year-to-date dose results for 2003 for Units 1 and 2 with the Radiation Protection Manager.

During the inspector's tour of Unit 2 on April 10, 2003, accompanied by the Technical Support Manager, the inspector examined the decontamination efforts accomplished during the first quarter of the year and reviewed the planned source term and exposure reduction efforts anticipated over the next five years.

The inspector performed a selective examination of documents (reference the List of Documents Reviewed) for regulatory compliance and for adequacy of control of radiation exposure. The review was against criteria contained in 10 CFR 20.1101 (Radiation protection programs), 10 CFR 20.1701 (Use of process or other engineering controls), and site procedures.

The inspector performed a selective examination of procedures and program documents (List of Documents Reviewed Attachment) for regulatory compliance and for adequacy of control of radiation exposure. The review was against criteria contained in 10 CFR 20.1101 (Radiation protection programs), 10 CFR 20.1701 (Use of process or other engineering controls), and site procedures.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation and Protective Equipment

a. Inspection Scope (71121.03)

The inspector reviewed the program for health physics instrumentation to determine the accuracy and operability of the instrumentation.

During the plant tours described in Section 2OS1 of this report, the inspector reviewed field instrumentation utilized by health physics technicians and plant workers to measure radioactivity and radiation levels, including portable field survey instruments, hand-held contamination frisking instruments, and continuous air monitors. The inspector also reviewed installed radiation monitors including whole body friskers, portal monitors, area monitors, and process monitors. The inspector verified current calibration, source checking, and proper instrument function. The inspector also identified and noted the condition, operability, and calibration status of selected installed area and process radiation monitors and any accessible local indication information for those monitors.

The inspector performed a selective examination of documents (reference the List of Documents Reviewed) for regulatory compliance and adequacy. The review was against criteria contained in 10 CFR 20.1501, 10 CFR 20 Subpart H, site Technical Specifications, and site procedures.

On May 21, the inspector met with the cognizant radiological engineer to discuss the corrective actions for the issue identified in CR-IP2-2002-04583. The issue involved the need to periodically evaluate and document the impact that difficult-to-detect radionuclides have on the detection capabilities and limits of the contamination monitoring instrumentation in use. The inspector also reviewed selected use/calibration procedures (reference the List of Documents Reviewed) for this instrumentation.

b. Findings

No findings of significance were identified.

3. SAFEGUARDS

3PP4 Security Plan Changes

a. Inspection Scope (71130.04)

An in-office review was conducted of changes to the Security Plan, identified as Revision 21A, submitted to the NRC on August 16, 2002, in accordance with the provisions of 10 CFR 50.54(p). The review was conducted to confirm that the changes were made in accordance with 10 CFR 50.54(p), and did not decrease the effectiveness of the plan.

The NRC recognizes that some requirements contained in this program plan may have been superceded by the February 25, 2001 interim compensatory measures order.

An in-office review was conducted of changes to the licensee's Training and Qualification Plan identified as Revision 0. This document was submitted to the NRC on December 9, 2002, in accordance with the provisions of 10 CFR 50.54(p). The review was conducted to confirm that the changes were made in accordance with 10 CFR 50.54(p), and did not decrease the effectiveness of the Training and Qualification Plan. The NRC recognizes that some requirements contained in the Training and Qualification Plan may have been superceded by the February 2002 Interim Compensatory Measures Order.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification

The inspector reviewed the licensee's performance indicator (PI) data collecting and reporting process as described in procedure SAO-114, "Preparation of NRC and WANO Performance Indicators." The purpose of the review was to determine whether the methods for reporting PI data are consistent with the guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Performance Indicator Guidelines," Revisions 1 and 2. The inspection included a review of the indicator definitions, data reporting elements, calculation methods, definition of terms, and clarifying notes for the performance indicators. Plant records and data were sampled and compared to the reported data. The inspector reviewed the licensee's actions to address and satisfactorily resolve discrepancies in the performance indicator data.

.1 Unplanned Power Changes Greater than 20% over 7000 Critical Hours

a. Inspection Scope (711151)

The inspector performed a periodic review of the 3rd and 4th quarters of 2002 and the 1st quarter of 2003 performance indicator (PI) data submitted by the licensee for the unplanned power changes greater than 20% over 7000 critical hours to determine accuracy and completeness. The inspectors researched the control room operating logs and the condition reporting system to identify power reductions greater than 20% during these quarters. The inspectors compared the PI data against the guidance contained in NEI 99-02.

b. Findings

No findings of significance were identified.

.2 Safety System Unavailability - Auxiliary Feedwater

a. Inspection Scope (71151)

The inspector reviewed Entergy's PI data for Auxiliary Boiler Feedwater (ABFW) Safety System Unavailability to verify that the PI data was accurate and complete. The inspectors compared the PI data reported by the licensee to information gathered from the control room logs, condition reports, and work orders for the 2nd, 3rd, and 4th quarters of 2002. In addition, the inspectors interviewed the system engineers. The inspectors compared the PI data against the guidance contained in NEI 99-02

b. Findings

No findings of significance were identified.

.3 Reactor Coolant System Specific Activity

a. Inspection Scope

The inspector reviewed the PI for reactor coolant system (RCS) specific activity for the period from January 2002 - March 2003. The RCS specific activity PI is reported as a percentage of the maximum Technical Specification limit for dose equivalent iodine-131 in micro-Curies per cubic centimeter. For the period reviewed, this PI remained in the Green band. The inspector reviewed monthly average RCS sample results based upon daily samples obtained per IPC-S-009-S, "Primary Sampling System Sentry." The inspector also observed a daily sample on May 14, 2003. The inspector compared the PI data against the guidance contained in NEI 99-02.

b. Findings

No findings of significance were identified.

.4 Scrams With Loss of Normal Heat Removal

a. Inspection Scope

The inspector reviewed the PI for scrams with loss of normal heat removal (LNHR) for the period from January 2002 - March 2003 (the inspector notes that Entergy's PI data for Unplanned Scrams Per 7,000 Critical Hours was reviewed during the previous quarterly inspection, reference report No. 50-247/2003-003). The scrams with LNHR PI monitors the number of unplanned scrams while critical, during the previous 12 quarters, that involved a loss of the normal heat removal path through the main condenser. The inspector reviewed operator logs, licensee event reports, and monthly operating reports to compare PI data reported by the licensee. The inspector compared the PI data against the guidance contained in NEI 99-02.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

.1 Annual Sample Associated with the Failure of No. 22 Component Cooling Water (CCW) Pump

a. Inspection Scope (71152

The inspector reviewed the corrective actions associated with the failure of No. 22 CCW pump which occurred on December 5, 2002. This failure was documented in condition report No. IP2-2002-11242. The pump failure involved inadequate lubrication of the inboard bearing. This condition was caused by the oiler, which maintains the bearing housing oil level, being bent in the downward direction thus lowering the oil level at the bearing. The corrective actions were completed and the condition report closed out on May 9, 2003. The inspector reviewed the condition report, and its associated apparent cause evaluation and corrective actions, to verify that the cause(s) of the pump failure was properly identified and evaluated, the corrective actions were appropriate to resolve the problem, and that actions were properly implemented in a timely manner, commensurate with the safety significance. The inspector discussed this event with the system engineer and the Corrective Actions Department staff. The inspector also reviewed the vendor technical manual and the design change package (MSAP-91-00014-PGI).

b. Findings

Introduction. A Green non-cited violation was identified by the inspectors. This finding is based on the failure of Entergy to properly evaluate and take effective corrective actions associated with the failure of the No. 22 CCW pump on December 5, 2002, resulting from an improper material substitution on the inboard bearing oil level indication system performed in March 2000. This finding was determined to be a violation of 10 CFR 50, Appendix B, Criterion XVI.

Description. On March 15, 2000, the licensee performed corrective maintenance to resolve excessive oil leaks on the No. 22 CCW pump piping between the bearing housing and oiler. This work was performed under work order No. NP-99-1111. The original equipment piping was 1/4-inch schedule 80 carbon steel and consisted of two lengths of threaded pipe connected by a 90 degree elbow. Due to recurrent oil leaks from the threaded connections, the original piping was replaced with 3/8-inch stainless steel tubing. The need for an elbow was negated by placing a 90-degree bend in the tubing. This change in configuration effectively resolved the problem with oil leaks. No engineering analysis was performed for this change since it was determined to be a “below the level of detail” change in system configuration.

On December 5, 2002, No. 22 CCW pump failed due to inadequate lubrication of the inboard bearing. Upon licensee investigation it was determined that the oiler was at a lower position than required due to the tubing being bent in a downward direction at the 90-degree bend. The licensee noted that the tubing was not as rigid as the original configuration and returned the system back to its original carbon steel piping design.

Analysis. The inspector-identified performance deficiency is an ineffective evaluation and corrective actions for safety-related equipment, as documented in the December 2002 condition report No. IP2-2002-11242. While the unapproved 2000 modification did not directly cause the pump to fail, it did introduce a new failure mode because the stainless steel tubing was less rigid and could be more easily bent (a causal factor of the pump failure). While the licensee stated that the bearing lubrication piping configuration was thought to have been outside the scope of a modification, inspector review of the vendor technical manual drawings identified a clearly depicted threaded pipe configuration. In addition, design change MSAP-91-00014-PGI credited the 1/4-inch schedule 80 carbon steel pipe in its seismic analysis assumptions. The inspector’s review of condition report (CR) No. IP2-2002-11242 identified that no evaluation was conducted to determine how the replacement of the piping occurred without an engineering evaluation or how the configuration change bypassed the modification process. The CR evaluation also overlooked the fact that the seismic analysis had been invalidated by the substitution of stainless steel tubing for threaded carbon steel pipe. No action was taken by Entergy to confirm that the modified configuration could have performed its safety function in a design basis event between March 2000 and December 2002.

This finding is more than minor since it is associated with the design control attribute of the mitigating systems cornerstone and affected the cornerstone objective. The inspectors conducted a Phase 1 SDP screening and determined that the failure to adequately maintain design control on No. 22 CCW pump was of a very low safety significance since the redundant train components were operable and unaffected by this unauthorized tubing modification.

Enforcement. 10 CFR 50, Appendix B, Criterion XVI, states that measures shall be established to assure that nonconformances are promptly identified and corrected. Contrary to the above, Entergy's evaluation and corrective actions associated with CR IP2-2002-11242 did not address appropriate corrective actions associated with how an unapproved modification to the No. 22 CCW pump bearing housing and oiler piping configuration was made in March 2000. Because this failure to implement adequate corrective actions is of very low safety significance and has been entered into the licensee's corrective actions program (CR-IP2-2003-03652), this violation is being treated as a non-cited violation, consistent with Section VI.A of the NRC Enforcement Policy. **(NCV 50-247/2003-007-02)**. Entergy has proposed corrective actions to reinforce with maintenance and engineering personnel that configuration control changes require proper review and approval.

4OA6 Meetings, Including Exit

The inspectors met with Indian Point 2 representatives at the conclusion of the inspection on July 9, 2003. At that time, the purpose and scope of the inspection were reviewed, and the preliminary findings were presented. The licensee acknowledged the preliminary inspection findings.

The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was reviewed during this inspection.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Entergy:

W. Axelson	Support Supervisor
S. Baer	HP Supervisor
J. Barry	Radiological Engineer
R. Cranker	Radiation Protection Technician
M. Dampf	Health Physics Manager
R. Deschamps	Radiological Protection Superintendent
R. Decensi	Technical Support Manager
J. Dirset	Radiation Protection Technician
R. Fucheck	HP Supervisor
D. Gately	Radiation Protection Coordinator
B. Kyler	HP Supervisor
R. LaVera	Radiological Engineer
R. Majes	Radiological Engineer
R. Richards	HP Supervisor
R. Rodino	Radiological Engineer
E. Salisbury	Radiological Engineer
W. Scholtens	Waste Management Contractor
R. Solanto	HP Supervisor
J. Stewart	HP Supervisor
R. Tagliomonte	Waste Management Supervisor
G. Tiberi	Dosimetry Technician
N. Azevedo	ISI Supervisor
W. Axelson	Support Supervisor
T. Burns	Environmental Supervisor
J. Comiotes	Director, Nuclear Safety Assessment
L. Cortopassi	IP3 Training Manager
F. Dacimo	Vice-President
S. Davis	IP2 Licence Operator Requalification Training Supervisor
J. DeRoy	General Manager Plant Operations, IP3
K. Finucan	Emergency Planning Staff
K. Finvean	Reactor Vessel Head Inspection, Assistant Project Manager
M. Gillman	IP3 Operations Manager
L. Glander	Dosimetry Supervisor
J. Goebel	Reactor Vessel Head Inspection, Project Manager
F. Inzirillo	Manager Emergency Planning
T. Jones	Nuclear Safety and Licensing
J. McCann	Nuclear Safety and Licensing Manager
F. Mitchell	HP Supervisor
D. Pace	VP - Engineering - ENN
J. Perrotta	Quality Assurance Manager
R. Penny	Manager, Engineering Programs
K. Richett	HP Technician

R. Sachatello	Radiological Consultant
C. Schwarz	General Manager, IP2 Plant Operations
G. Schwartz	Chief Engineer
H. Salmon	Quality Assurance Director
M. Smith	Director of IP3 Engineering
R. Solanto	HP Supervisor
S. Stevens	HP Technician
J. Stewart	HP Supervisor
D. Sullivan-Weaver	Emergency Planning Staff
J. Tuohy	Design Engineering Manager
J. Wheeler	Site Training Manager
F. Wilson	Superintendent, Operations Training
M. Wilson	Emergency Planning Staff
J. Bonner	Entergy Northeast Offsite power coordinator
R. Burroni	Supr. I&C Maintenance
P. Gropp	Manager, DBI Program
T. Jones	Licensing
T. Klein	Senior Design Engineer
R. Milici	Supr. Electrical Design Engineer
T. McCaffrey	Supr. Electrical System Engineer
S. Petrosi	Manager, Design Engineering
J. Quirk	DBD Coordinator
J. Raffaele	Sr. Lead Electrical Engineer, DBI Project
J. Tuohy	Manager, Engineering Support

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Open/Closed

50-247/03-07-01	FIN	Inadequate operability evaluation for the 13.8 KV system
50-247/03-07-02	NCV	Ineffective corrective actions associated with an unauthorized modification to the 22 component cooling water pump

LIST OF CONDITION REPORTS GENERATED

IP2-200303443	Small hole in the mortar joint between concrete blocks in the south wall of the 23 battery room
IP2-2003-3464	Safety evaluation 95-058-EV reclassification of Fire Zone 25 barriers as "unclassified from "Type 1" was not approved by on-site review committee
IP2-2003-2877	Valve 1843B, 22 Safety Injection Pump thrust balance line as a slight packing leak
IP2-2003-2876	Scaffolding exists in the area of the Refueling Water Storage Tank without scaffolding tags in place
IP2-2003-2878	22 Safety Injection Pump has evidence of seal leakage at the pump inboard seal. Dried boron, not active.
IP2-2003-2959	PI-M2 Vapor containment monthly inspection was performed and information on the conoseal location and schematic drawings were not incorporated into the procedure.
IP2-2003-03940	Problems with valve labeling and abnormal operating instruction (AOI) 11.1
IP2-2003-2597	NRC observed during plant startup that both PORV block valves were open contrary to check off list COL 01-01 during plant startup
IP2-2003-04245	Programmatic failure on closure of condition reports to PCNs
IP2-2003-3652	Failure of the 22 Component Cooling Water Bearing
IP2-2003-2595	Seal Injection Flow Momentarily to zero flow during charging pump speed adjustments

LIST OF DOCUMENTS REVIEWED

Indian Point Energy Center Emergency Plan, Rev 03-01
IP-EP-115, Emergency Plan Forms, Rev 1, 2
IP-EP-130, Emergency Notifications and Mobilization, Rev 0
IP-EP-250, Emergency Operations Facility, Rev 0
IP-EP-251, Alternate Emergency Operations Facility, Rev 1
IP-EP-255, Emergency Operations Facility Management and Liaisons, Void
IP-EP-260, Joint News Center, Rev 0
IP-EP-310, Dose Assessment, Rev 1
IP-EP-410, Protective Action Recommendations, Rev 1
IP-EP-510, Meteorological, Radiological & Plant Data Acquisition System, Rev 1
IP-EP-520, Modular Emergency Assessment & Notification System (MEANS), Rev 1
IP-EP-610, Emergency Termination and Recovery, Rev 1
IP-EP-620, Estimation of Total Population Exposure, Rev 1
IP-1002, Emergency Notification and Communication, Rev 29, Void (IP2)
IP-1010, Central Control Room, Rev 9, 10 (IP2)
IP-1011, Joint News, Void (IP2)
IP-1015, Radiological Monitoring Outside the Protected Area, Rev 11 (IP2)
IP-1019, Coordination of Corporate Response, Void (IP2)
IP-1030, Emergency Operations Facility, Void (IP2)
IP-1038, Offsite Emergency Notifications, Void (IP3)
IP-2001, ED, POM, Shift Managers Procedure, Rev 18 (IP3)
IP-2005, CR Offsite Communicator, Void (IP3)
IP-2300, Emergency Activation of the Emergency Operations Facility, Void (IP3)
IP-2302, EOF Technical Advisor & Information Liaison, Void (IP3)
IP-2303, EOF Radiological Assessment Team Leader, Void (IP3)
IP-2304, EOF Dose Assessment Health Physicist, Void (IP3)
IP-2305, EOF Midas Operator, Void, (IP3)
IP-2306, EOF Security Officer, Void (IP3)
IP-2307, EOF Clerk, Void (IP3)
IP-2308, EOF Direct Line Communicator, Void (IP3)
IP-2309, EOF Offsite Communicator, Void (IP3)
IP-2310, EOF Onsite Radiological Communicator, Void (IP3)
IP-2311, EOF Offsite Radiological Communicator, Void (IP3)

Section 2OS1, Access Control to Radiologically Significant Areas

- Self-assessment, HP access control system, April 6, 2003
- Self-assessment, Remote HP monitoring/3-year period, January 16, 2003

Section 2OS2, ALARA Planning and Controls

- IP1 daily ALARA information for April 6, 2003
- IP2 daily ALARA information for April 6, 2003
- ALARA suggestion program inputs (March/April 2003)
- IPEC ALARA committee meeting presentation handout for March 27, 2003
- Indian Point Energy Center/Radiation protection/Strategic plan for exposure

reduction, 2003 - 2008

Section 2OS3, Radiation Monitoring Instrumentation and Protective Equipment

- Self-assessment, Review of dosimetry records, May 9, 2002 to February 14, 2003

Sections 1EP4, Emergency Action Level and Emergency Plan Changes

Emergency Plan for Indian Point Unit Nos 1 and 2, Rev 01-02a
Indian Point 3 Emergency Plan, Rev 46
Indian Point Energy Center Emergency Plan, Rev 02-01
IP-EP-251, Alternate Emergency Operations Facility, Rev 0
IP-EP-255, Emergency Operations Facility Management and Liaisons, Rev 1, 2
IP-EP-310, Dose Assessment, Rev 0
IP-EP-410, Protective Action Recommendations, Rev 0
IP-EP-510, Meteorological, Radiological & Plant Data Acquisition System, Rev 0
IP-EP-520, Modular Emergency Assessment & Notification System (MEANS), Rev 0
IP-EP-610, Emergency Termination and Recovery, Rev 0
IP-EP-620, Estimation of Total Population Exposure, Rev 0
IC/EALs, Initiating Conditions & Emergency Action Levels, Rev 9 (IP3)
IP-1001, Determining the Magnitude of Release, Rev 17, Void (IP3)
IP-1002, Emergency Notification and Communication, Rev 27, 28 (IP2)
IP-1003, Obtaining Meteorological Data, Rev 18, Void (IP3)
IP-1004, MIDAS Computer System, Rev 16, Void (IP3)
IP-1010, Central Control Room, Rev 6, 7, 8 (IP2)
IP-1013, Protective Action Recommendations, Rev 8, (IP2)
IP-1015, Radiological Monitoring Outside the Protected Area, Rev 10 (IP2)

Section 2OS1, Access Control to Radiologically Significant Areas

- SAO-302, Rev. 19, Radiation work permit (RWP) program
- HP-SQ-3.005, Rev. 24, HP work scheduling
- HP-SQ-3.013, Rev. 12, Routine surveys outside normal RCA
- HP-SQ-3.109, Rev. 28, Control of high radiation, locked high radiation, special locked high radiation, and very high radiation areas
- RWP 032023, Rev. 0, Charging pump maintenance, repair, and test; Task 22-Work in 22 charging pump cubicle
- Self-assessment of Technical Support Integration

Section 2OS2, ALARA Planning and Controls

- RS-S-8.005, Rev. 5, ALARA cost-benefit analysis tracking log
- RS-SQ-8.006, Rev. 6, Radiological support ALARA design review
- RS-SQ-8.101, Rev. 5, Temporary shielding program
- IP1 daily ALARA information for May 18, 2003
- IP2 daily ALARA information for May 18, 2003

Condition Reports

199807874
199906643
200000978
200009088
200009884
200009892
200100559
200100750
200205411
200205377
200205379
200205384
200206578
200207521
200207918
200208627
200303284

Design Basis Documents

Emergency Diesel Generators
480 Volt AC System

Procedures

ENN-LI-102, Rev. 2, Corrective Action Process
SAO-112, Rev. 6, Condition Reporting Process (superceded by ENN-LI-102)

Section 2OS3, Radiation Monitoring Instrumentation and Protective Equipment

- HP-9.012, Rev. 4, Operation of Eberline RM-14 and RM-20
- HP-9.067, Rev. 8, Calibration of the Eberline PCM-1A/1B
- HP-9.082, Rev. 1, Efficiency check of G-M pancake type detectors
- HP-9.512, Rev. 5, Calibration of the Eberline RM-14/RM-20 radiation monitors
- HP-9.590, Rev. 1, Calibration of Eberline tool contamination monitor
- HP-9.591, Rev. 4, Calibration procedure for National Nuclear Model Gamma-40/60 portal monitor
- HP-9.593, Rev. 2, Calibration and operation of Eberline gamma tool monitor

(GTM)

- HP-SQ-3.002, Rev. 17, Equipment and materials release requirements
- HP-SQ-3.011, Rev. 17, Radiation and contamination survey techniques
- Health physics continuing training lesson plan, LP No. HCT0301.01, Instrumentation sensitivity and contamination control, Rev. 0
- Assessment of the sensitivity to internal contamination for the PCM-1B and Gamma 60 personnel contamination monitors at IP2, March 2002, by Cabrera Services

LIST OF BASELINE INSPECTIONS PERFORMED

71111.01	Adverse Weather	1R01
71111.04	Equipment Alignment	1R04
71111.05	Fire Protection	1R05
71111.07	Heat Sink Performance	1R07
71111.11	Operator Requalification	1R11
71111.12	Maintenance Effectiveness	1R12
71111.13	Maintenance Risk Assessment and Emergent Work Activities	1R13
71111.14	Personnel Performance During Non-Routine Plant Evolutions	1R14
71111.15	Operability Evaluations	1R15
71111.16	Operator Workarounds	1R16
71111.19	Post Maintenance Testing	1R19
71111.22	Surveillance Testing	1R22
71111.23	Temporary Plant Modifications	1R23
71114-04	Emergency Action Level and Emergency Plan Changes	1EP4
71121.01	Access Control to Radiologically Significant Areas	2OS1
71121.02	ALARA Planning and Controls	2OS2
71121.03	Radiation Monitoring Instrumentation and Protective Equipment	2OS3
71151	Performance Indicator Verification	4OA1
71152	Problem Identification and Resolution Sample	4OA2
71153	Event Followup	4OA3

LIST OF ACRONYMS

ABFW	auxiliary boiler feedwater
AFW	auxiliary feedwater
AFWP	auxiliary feedwater pump
ALARA	as low as reasonably achievable
AOI	abnormal operating instruction
BATP	boric acid transfer pump
CAP	corrective action program
CCR	central control room
CCW	component cooling water
CFR	Code of Federal Regulations
COL	check off list
CR	condition report
EDG	emergency diesel generator
EFPY	effective full power years

OAD	operations administrative directive
EOF	emergency operations facility
EP	emergency preparedness
HRA	high radiation area
IP	Indian Point
IP2	Indian Point Unit 2
IPEC	Indian Point Energy Center
IPEEE	individual plant examination for external events
kV	kilo-volt
LNHR	loss of normal heat removal
NCV	non-cited violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
OS	occupational safety
PI	performance indicator
PM	post maintenance
PS	public radiation safety
PT	penetrant testing
PWT	post-work test
RCA	radiologically controlled area
RCS	reactor coolant system
RMS	radiation monitoring system
RPM	radiation protection manager
RPS	reactor protection system
RSPS	risk significant planning standard
RTP	rated thermal power
RV	reactor vessel
RWP	radiation work permit
SAO	station administrative order
SDP	significance determination process
SI	safety injection
SOP	system operating procedure
TA	temporary alteration
TS	technical specifications
UFSAR	Updated Final Safety Analysis Report
V	volt
WO	work order