



UNITED STATES  
**NUCLEAR REGULATORY COMMISSION**  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

August 2, 2007

Mr. Fred R. Dacimo  
Site Vice President  
Entergy Nuclear Operations, Inc.  
Indian Point Energy Center  
450 Broadway, GSB  
P.O. Box 249  
Buchanan, NY 10511-0249

SUBJECT: INDIAN POINT NUCLEAR GENERATING UNIT 2 - NRC INTEGRATED  
INSPECTION REPORT 05000247/2007003

Dear Mr. Dacimo:

On June 30, 2007, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Indian Point Nuclear Generating Unit 2. The enclosed integrated inspection report documents the inspection results, which were discussed on July 13, 2007, with Mr. Anthony Vitale 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, no findings of significance were identified.

In accordance with Title 10 of the Code of Federal Regulations Part 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) 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).

Sincerely,

**/RA/**

Eugene W. Cobey, Chief  
Projects Branch 2  
Division of Reactor Projects

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

Enclosure: Inspection Report No. 05000247/2007003  
w/ Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 50-247

License No.: DPR-26

Report No.: 05000247/2007003

Licensee: Entergy Nuclear Northeast (Entergy)

Facility: Indian Point Nuclear Generating Unit 2

Location: 450 Broadway, GSB  
Buchanan, NY 10511-0249

Dates: April 1, 2007 through June 30, 2007

Inspectors: M. Cox, Senior Resident Inspector, Indian Point 2  
D. Jackson, Senior Resident Inspector, Indian Point 3  
G. Bowman, Resident Inspector, Indian Point 2  
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Others: J. Williams, Groundwater Specialist, U.S. Geological Survey

Approved by: Eugene W. Cobey, Chief  
Projects Branch 2  
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## SUMMARY OF FINDINGS

IR 05000247/2007-003; 04/01/2007 - 06/30/2007; Indian Point Nuclear Generating Unit 2; Routine Integrated Inspection Report.

The report covered a three-month period of inspection by resident and region-based inspectors. No findings of significance were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified.

B. Licensee-Identified Violations

None.

## REPORT DETAILS

### Summary of Plant Status

Indian Point Nuclear Generating Unit 2 began the inspection period operating at full power and remained at or near full power until May 28, 2007, when the main turbine was shut down to repair the feedwater regulating valve for the 22 steam generator. Entergy returned the plant to full power on May 31, 2007, and continued to operate the plant at or near full power for the remainder of the inspection period.

### 1. REACTOR SAFETY

#### **Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity**

#### 1R01 Adverse Weather Protection (71111.01 - 1 sample)

##### a. Inspection Scope

The inspectors evaluated implementation of the adverse weather preparation procedures and compensatory measures before the onset of, and during a period of heavy rains and a coastal flood watch that occurred on April 17, 2007. The inspectors conducted walkdowns of plant equipment and reviewed operating procedures to ensure that equipment important to safety would not be adversely affected by severe weather conditions. The documents reviewed are listed in the Attachment.

##### b. Findings

No findings of significance were identified.

#### 1R04 Equipment Alignment (71111.04Q - 4 samples / 71111.04S - 1 sample)

##### .1 Quarterly Inspection

##### a. Inspection Scope

The inspectors performed four partial system walkdowns to verify the operability of redundant or diverse trains and components during periods of system train unavailability or following periods of maintenance. The inspectors referenced the system procedures, the Updated Final Safety Analysis Report (UFSAR), and system drawings to verify that the alignment of the available train supported its required safety functions. The inspectors also reviewed applicable condition reports and work orders to ensure that Entergy had identified and properly addressed equipment discrepancies that could potentially impair the capability of the available train, as required by Title 10 of the Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion XVI, "Corrective Action." The documents reviewed during these inspections are listed in the Attachment. The inspectors performed the following partial walkdowns:

- Gas turbine 1 while gas turbine 3 was out of service for switchyard maintenance;
- 21 and 23 safety injection pumps during testing of the 22 safety injection pump;
- Service water system following clogging of 22 and 25 Zurn strainers; and



- 22 emergency diesel generator following maintenance.

b. Findings

No findings of significance were identified.

.2 Semi-Annual Inspection

a. Inspection Scope

The inspectors performed a complete system alignment inspection on boric acid injection flow paths to the reactor coolant system during and following maintenance which isolated significant portions of the system. The purpose of this inspection was to determine whether the system was aligned and capable of providing for reactivity control during both normal and emergency operations in accordance with design basis requirements. The inspectors reviewed operating procedures, surveillance test results, piping and instrumentation drawings, equipment lineup check-off lists, system design basis documents, and the UFSAR to determine if the system was aligned to perform its safety functions. The inspectors reviewed a sample of condition reports and work orders written for deficiencies associated with the system to ensure that they had been evaluated and resolved consistent with Entergy's procedures and the requirements of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action." The documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05Q - 9 samples / 71111.05A - 1 sample)

.1 Quarterly Inspection

a. Inspection Scope

The inspectors conducted a tour of fire areas to assess the material condition and operational status of fire protection features. The inspectors verified that: combustibles and ignition sources were controlled in accordance with Entergy's administrative procedures; fire detection and suppression equipment was available for use; passive fire barriers were maintained; and compensatory measures for out-of-service, degraded, or inoperable fire protection equipment were implemented in accordance with Entergy's fire plan. The inspectors evaluated the fire protection program against the requirements of License Condition 2.k. The documents reviewed during these inspections are listed in the Attachment. This inspectors conducted fire protection tours of the following areas:

- Fire Zone 1;
- Fire Zone 32A;
- Fire Zone 9;

- Fire Zones 12A and 13A;
- Fire Zone 65A;
- Fire Zones 140, 240 and 241;
- Fire Zone 10;
- Fire Zone 14; and
- Fire Zones 3, 3A, 4, and 4A.

b. Findings

No findings of significance were identified.

.2 Annual Inspection

a. Inspection Scope

On May 15, 2007, the inspectors observed an unannounced fire brigade drill in the residual heat removal pump area. The drill was conducted in accordance with Entergy's pre-planned drill scenario and simulated an oil fire in the residual heat removal pump cells. The drill was a routine training exercise for current fire brigade members. The documents reviewed during this inspection are listed in the Attachment. The inspectors evaluated the following aspects of the drill:

- Readiness of the fire brigade to suppress and contain the fire;
- Donning of protective clothing/turnout gear by fire brigade members;
- Proper use of self-contained breathing apparatus equipment;
- Proper use and capability of fire hose lines to reach all necessary fire hazard locations;
- Control of fire brigade members' entrance into the fire area;
- Adequacy of the fire fighting equipment brought to the scene by the fire brigade;
- Clarity and effectiveness of the fire brigade leader's fire fighting directions;
- Efficiency and effectiveness of radio communications with plant operators and between fire brigade members;
- Adequacy of fire brigade members' search for fire victims and propagation of the fire into other plant areas;
- Effectiveness of simulating smoke removal operations;
- Proper use of fire fighting pre-plan strategies;
- Adherence to the pre-planned drill scenario;
- Adequacy of drill objectives and acceptance criteria; and
- Adequacy of Entergy's self-assessment during the post-drill critique.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06 - 1 sample)a. Inspection Scope

The inspectors reviewed Indian Point Nuclear Generating Unit 2's Individual Plant Examination of External Events and the UFSAR concerning external flooding events. The inspection included a walkdown of accessible areas of the plant, including the service water pump area, 480 volt switchgear room, and transformer yard area. Inspectors evaluated these areas for potential susceptibilities to external flooding and verified the assumptions included in the site's external flooding analysis. The inspectors also reviewed relevant abnormal operating and emergency plan procedures. The documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11Q - 1 sample)a. Inspection Scope

On May 15, 2007, the inspectors observed licensed operator simulator training to verify that operator performance was adequate and that evaluators were identifying and documenting crew performance problems. The inspectors evaluated the performance of risk-significant operator actions, including the use of emergency operating procedures. The inspectors assessed the clarity and effectiveness of communications, the implementation of appropriate actions in response to alarms, the performance of timely control board operation and manipulation, and the oversight and direction provided by the shift manager. The inspectors also reviewed simulator fidelity with respect to the actual plant. Licensed operator training was evaluated against the requirements of 10 CFR Part 55, "Operators' Licenses." The documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12Q - 2 samples)a. Inspection Scope

The inspectors reviewed performance-based problems that involved the selected structures, systems, or components (SSCs) listed below, to assess the effectiveness of the maintenance program:

- Central control room heating, ventilation, and air-conditioning; and
- Chemical and volume control system.

The inspectors also reviewed system health reports, maintenance backlogs, and Maintenance Rule basis documents. The inspectors evaluated the maintenance program against the requirements of 10 CFR Part 50.65. The documents reviewed during this inspection are listed in the Attachment.

In addition, reviews focused on:

- Proper Maintenance Rule scoping in accordance with 10 CFR 50.65;
- Characterization of reliability issues;
- Changing system and component unavailability;
- 10 CFR 50.65(a)(1) and (a)(2) classifications;
- Identifying and addressing common cause failures;
- Trending of system flow and temperature values;
- Appropriateness of performance criteria for SSCs classified (a)(2); and
- Adequacy of goals and corrective actions for SSCs classified (a)(1).

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 - 5 samples)

a. Inspection Scope

The inspectors reviewed maintenance activities to verify that the appropriate risk assessments were performed prior to removing equipment for work. The inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4), and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The documents reviewed during this inspection are listed in the Attachment. The following activities represented five inspection samples:

- Work order (WO) IP2-07-15433, 22 emergency diesel generator loss of control power;
- WO IP2-06-33075, 22 steam generator flow control valve FCV-427 repairs;
- Condition report (CR) IP2-07-01501, unexpected drop in average coolant temperature;
- CR IP2-07-01656, service water strainer clogging following severe weather; and
- Emergency diesel generator testing concurrent with electrical feeder outages.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15 - 4 samples)a. Inspection Scope

The inspectors reviewed operability evaluations to assess the acceptability of the evaluations, the use and control of compensatory measures when applicable, and compliance with Technical Specifications (TS). The inspectors' reviews included verification that the operability determinations were performed in accordance with procedure ENN-OP-104, "Operability Determinations." The inspectors assessed the technical adequacy of the evaluations to ensure consistency with the TS, UFSAR, and associated design basis documents. The documents reviewed during this inspection are listed in the Attachment. The inspectors reviewed the following operability evaluations:

- CR IP2-07-01656, service water system following stainer clogging;
- CR IP2-07-01634, station auxiliary tap changer hang-up alarms;
- CR IP2-07-01578, reactor vessel head conoseal leak; and
- CR IP2-07-01923, reactor coolant system boration flow paths with FCV-110A isolated for maintenance.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19 - 6 samples)a. Inspection Scope

The inspectors reviewed post-maintenance test procedures and associated testing activities for selected risk-significant mitigating systems and assessed whether the effect of maintenance on plant systems was adequately addressed by control room and engineering personnel. The inspectors verified: test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design basis documentation; test instrumentation had current calibrations and appropriate range and accuracy for the application; and tests were performed as written, with applicable prerequisites satisfied. Upon completion, the inspectors verified that equipment was returned to the proper alignment necessary to perform its safety function. Post-maintenance testing was evaluated against the requirements of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control." The documents reviewed during this inspection are listed in the Attachment. The inspectors reviewed the following post-maintenance activities:

- WO IP2-07-17753, flow control valve FCV-110A following leak repair;
- WO IP2-07-12765, safety injection valve SI-745A following maintenance;
- WO IP2-07-11825, flow control valve FCV-427 following disassembly and repair;
- WO IP2-07-14136, flow control valves FCV-406C and -406D following two-year calibration;

- WO IP2-07-13878, post-work test to perform 2300 kilowatt run of the 21 emergency diesel generator to prove governor capability and no oil leaks; and
- WO IP2-07-13657, 22 emergency diesel generator following preventative maintenance.

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities (71111.20 - 1 sample)

a. Inspection Scope

The inspectors observed and reviewed activities during a Unit 2 forced outage. The outage occurred between May 28 and May 31, 2007, following a reactor shutdown to repair a feedwater regulating valve for the 22 steam generator. The documents reviewed during this inspection are listed in the Attachment.

- The inspectors reviewed outage schedules and procedures, and verified that TS required safety system availability was maintained, shutdown risk was considered, and that contingency plans existed to restore key safety functions such as electrical power and containment integrity, as required.
- The inspectors observed portions of the reactor startup following the outage, and verified through plant walkdowns, control room observations, and surveillance test reviews that safety-related equipment required for mode change was operable, that containment integrity was set, and that reactor coolant boundary leakage was within TS limits.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 - 6 samples)

a. Inspection Scope

The inspectors witnessed performance of surveillance tests and/or reviewed test data of selected risk-significant structures, systems and components to assess whether they satisfied TS, UFSAR, Technical Requirements Manual, and Entergy procedure requirements. The inspectors verified that: test acceptance criteria were clear, demonstrated operational readiness, and were consistent with design basis documentation; test instrumentation had current calibrations and appropriate range and accuracy for the application; and tests were performed as written, with applicable prerequisites satisfied. Following the test, the inspectors verified that equipment was capable of performing the required safety functions. The inspectors evaluated the surveillance tests against the requirements in TS. The documents reviewed during this

inspection are listed in the Attachment. The inspectors reviewed the following surveillance tests:

- 2-PT-2Y11A, "GT-1 [gas turbine 1] Blackstart Timing," Revision 2;
- 2-PT-Q29A, "21 SIP [safety injection pump]," Revision 18;
- 2-PT-M21A, "Emergency Diesel Generator 21 Load Test," Revision 15;
- 2-PT-M48, "480 V [volt] Bus Undervoltage," Revision 19;
- 2-PT-SA67, "Main Turbine Stop and Control Valve Testing," Revision 4; and
- 2-PT-27B, "23 Auxiliary Feed Pump," Revision 14.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23 - 1 sample)

a. Inspection Scope

The inspectors assessed the adequacy of the 10 CFR 50.59 evaluation for temporary modification ER-IP2-07-19368, "Leak Repair Enclosure Around Valve MS-1607." The inspectors verified that the installation was consistent with the modification documentation, the drawings and procedures were updated as applicable, and the post-installation testing was adequate. The documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

**Cornerstone: Emergency Preparedness**

1EP2 Alert and Notification System Evaluation (71114.02 - 1 sample)

a. Inspection Scope

Region-based specialist inspectors reviewed Entergy's corrective actions related to the existing Indian Point alert and notification system (ANS) failures, and reviewed the progress made in the design and installation of the new siren system. Inspection activities were conducted onsite periodically between April 12 and June 28, 2007. This inspection was conducted in accordance with the baseline inspection program deviation authorized by the NRC Executive Director for Operations (EDO) in a memorandum dated October 31, 2005, and renewed by the EDO in a memorandum dated December 11, 2006.

A new ANS is being installed around the Indian Point Energy Center to satisfy commitments documented in an NRC Confirmatory Order (dated January 31, 2006) that implements the requirements outlined in the 2005 Energy Policy Act. In January 2007,

Entergy requested an extension of the deadline for completing the ANS project as described in the Confirmatory Order. The Confirmatory Order set a January 30, 2007, deadline for completing installation. Entergy's extension request cited several issues that were beyond their control as the basis for the delay. On January 23, 2007, the NRC granted Entergy's extension request and established April 15, 2007, as the new installation completion date. Entergy conducted a full-system demonstration test of the new ANS on April 12, 2007, and the results of that test failed to meet the acceptance criteria for the new system. On April 13, 2007, Entergy requested another extension which was subsequently denied. On April 23, 2007, the NRC issued a Notice of Violation and civil penalty for Entergy's failure to comply with the siren operability date in the Confirmatory Order.

The inspectors conducted the following onsite inspection activities during this quarter.

- The inspectors observed the full-volume sounding on April 12, 2007 to meet the April 15, 2007 deadline.
- The inspectors reviewed supplemental bench testing done by Entergy's vendor to verify test results from the degraded battery voltage testing performed in the previous quarter.
- The inspectors observed and inspected the degraded voltage re-test of one of the back-up batteries for the new ANS system. The re-test was done because during the first test there was a problem with the resistive load used for the simulated activation. This testing conducted from May 29, 2007 to June 6, 2007 assured that the battery at the siren would operate at its end-of-life condition after having lost alternating current power for 24 hours.
- During all onsite siren inspection activities, the regional inspectors also reviewed the status of and corrective actions for the current ANS to assure that Entergy was appropriately maintaining the system, including the quarterly full-system growl test of the current ANS conducted on June 28, 2007 to demonstrate its functionality.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06 - 1 sample)

a. Inspection Scope

The inspectors observed an emergency preparedness drill conducted on May 15, 2007. The inspectors used NRC Inspection Procedure 71114.06, "Drill Evaluation," as guidance and criteria for evaluation of the drill. The inspectors observed the drill and critiques that were conducted from the participating facilities onsite, including the Indian Point Unit 2 plant simulator, and the emergency operations facility. The inspectors



focused the reviews on the identification of weaknesses and deficiencies in classification and notification timeliness, quality, and accountability of essential personnel during the drill. The inspectors observed Entergy's critique and compared Entergy's self-identified issues with the observations from the inspectors' review to ensure that performance issues were properly identified.

b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES [OA]**

4OA1 Performance Indicator Verification (71151 - 3 samples)

a. Inspection Scope

The inspectors reviewed performance indicator (PI) data for the cornerstones listed below and used Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 4, to verify individual PI accuracy and completeness. The documents reviewed during this inspection are listed in the Attachment.

Initiating Event Cornerstone

- Scrams with Loss of Normal Heat Removal

Mitigating Systems Cornerstone

- Safety System Functional Failures
- Mitigating Systems Performance Index - Emergency Alternating Current Power System

The inspectors reviewed data and plant records from March 2006 to March 2007. The records included PI data summary reports, licensee event reports, operator narrative logs, and Maintenance Rule records. The inspectors verified the accuracy of the number of critical hours reported, and interviewed the system engineers and operators responsible for data collection and evaluation.

b. Findings

No findings of significance were identified.

#### 4OA2 Identification and Resolution of Problems

##### .1 Routine Problem Identification and Resolution (PI&R) Program Review

###### a. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," and to identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of all items entered into Entergy's corrective action program. The review was accomplished by accessing Entergy's computerized database for CRs and attending CR screening meetings.

In accordance with the baseline inspection modules, the inspectors selected corrective action program items across the Initiating Events, Mitigating Systems, and Barrier Integrity cornerstones for additional follow-up and review. The inspectors assessed Entergy's threshold for problem identification, the adequacy of the cause analyses, extent of condition reviews, operability determinations, and the timeliness of the specified corrective actions. The CRs reviewed during this inspection are listed in the Attachment.

###### b. Findings

No findings of significance were identified.

##### .2 Semi-Annual Trend Review (71152 - 1 sample)

###### a. Inspection Scope

The inspectors performed a semi-annual review to identify trends that might indicate the existence of a more significant safety issue. The inspectors included in this review repetitive or closely related issues that may have been documented by Entergy outside of the normal corrective action program (CAP), such as trend reports, performance indicators, major equipment problem lists, maintenance rule assessments, and maintenance and CAP backlogs.

The inspectors reviewed Entergy's CAP database during the first and second quarters of 2007 to assess the total number and significance of condition reports written in various subject areas, such as equipment or processes, to discern any notable trends in these areas. The inspectors reviewed Entergy's quarterly assessment/trend reports for both CAP and Quality Assurance for the fourth quarter of 2006 and the first quarter of 2007 to ensure they were appropriately evaluating and trending identified conditions.

###### b. Assessment and Observations

No findings of significance were identified.

The inspectors determined that Entergy was appropriately identifying and evaluating trends in identified conditions.

.3 Fitness-For-Duty (FFD) Program (71152 - 1 sample)

a. Inspection Scope

The inspector reviewed the actions taken by Entergy in response to an employee displaying unusual behavior. The actions taken by the employee's supervisor and the Fitness-for-Duty personnel in the Medical Department were reviewed along with Entergy's FFD policies and procedures.

b. Findings and Observations

No findings of significance were identified. The inspectors determined that Entergy took appropriate actions in accordance with applicable NRC regulatory requirements and internal FFD policies and procedures.

.4 PI&R Annual Sample Review: Procedure Upgrade Project (71152 - 1 sample)

a. Inspection Scope

On March 2, 2007, the NRC issued the Annual Assessment Letter for Indian Point Units 2 and 3. In the letter, the NRC identified a substantive cross-cutting issue in the area of human performance at Unit 2 due to the number of inspection findings that were attributable to procedural adequacy over the assessment period. The inspectors conducted a review of Entergy's action plans and progress in addressing improvements in operations and maintenance procedures. The inspectors reviewed the scope of Entergy's plans in the areas of operations, instrumentation and control, and maintenance to determine if the scope was sufficient to address the identified concerns. The inspectors also evaluated Entergy's progress on the project and reviewed the metrics and time lines that Entergy had established. A sample of procedures was selected for review to evaluate the quality and scope of the upgrades in the procedures that had been completed. The inspectors also reviewed Entergy's self-assessments to ensure they were thorough and critical in nature. A sample of condition reports which contained aspects of procedural adequacy were reviewed to ensure the actions to address the concerns were covered within the scope of the procedure upgrade project and that immediate actions were taken to mitigate the concern where appropriate.

b. Findings and Observations

No findings of significance were identified.

The inspectors noted that a previous concern associated with the development of the action plans in the area of instrumentation and controls had been addressed. The inspectors determined the detail and scope of the plans in this area had been enhanced to an appropriate level.

However, the inspectors identified concerns associated with the effectiveness of Entergy's implementation of their corrective actions to date. A review of Entergy's progress identified that the goal for completed procedures had not been achieved in the area of the Operations Department. Some changes to operating procedures had been accomplished to address specific concerns identified through inspection findings and condition reports; however, as of June 11, 2007, no upgraded procedures had been generated in the operations portion of the upgrade project, although per Entergy's plan, 90 out of 548 procedures were scheduled to have been completed by this date. The inspectors also noted that Entergy was still in the process of allocating resources to the project to meet the requirements of the action plans. In the area of operations, only 63 percent of the required personnel had been allocated to the project. The inspectors determined this concern was recognized by Entergy and additional resources were scheduled to be allocated to the project. In addition, Entergy was developing a recovery plan to ensure that the project goals would be met, including detailed metrics to monitor the progress of the upgrade project.

.5 PI&R Annual Sample Review - Corrective Actions for Utility Tunnel Degradation (71152 - 1 sample)

a. Inspection Scope

In March 2006, a 20 to 30 gallon per minute leak was identified from a 10 inch fire protection header in the Indian Point utility tunnel. At the time, the NRC identified that Entergy's corrective actions for previous utility tunnel degradation had been inadequate, and issued non-cited violation 05000247/2006002-03. The inspectors reviewed Entergy's analysis and corrective actions associated with this issue, and a number of other condition reports documenting poor material condition in the utility tunnel (CR IP2-2005-03578, IP2-2006-00893, and IP2-2006-06807). These CRs were initiated to document, investigate, and develop corrective actions to resolve material deficiencies in the systems located in the utility tunnel, most notably with fire protection and city water piping. The inspection included a review of the Utility Tunnel Action Plan, Project Plan, and Technical Report 00263-TR-001, "Functionality and Risk-Significance Evaluation of the Indian Point Unit 1 and 2 Mechanical and Electrical Systems Located in the Utility Tunnel," Revision 0. Additionally, the inspectors performed a walkdown of the utility tunnel to confirm Entergy's observations as documented in CRs and held discussions with cognizant personnel to verify the technical adequacy of the proposed resolution of the deficiencies.

b. Findings and Observations

No findings of significance were identified.

The inspectors determined that Entergy's causal analysis was acceptable and that an adequate corrective action plan had been developed. While Entergy had replaced the leaking pipe and initiated increased monitoring of the utility tunnel equipment, including periodic ultrasonic testing and visual inspections, the inspectors identified that some of the planned corrective actions had not been implemented and that the material condition

of the utility tunnel had not improved significantly. Because the affected plant systems and equipment in the utility tunnel were not safety-related, the inspectors determined that Entergy's actions were adequate.

.6 Annual Sample: Safety Conscious Work Environment Corrective Actions (71152 - Unit 2: 1 sample / Unit 3: 1 sample)

a. Inspection Scope

On December 21, 2006, the NRC issued a letter [ADAMS Ref. ML063560335] requesting that Entergy provide its plan for evaluating a potential chilling effect onsite and its plan of action for addressing the matter to the NRC. This letter and its enclosure documented the results of problem identification and resolution (PI&R) team inspections at the Indian Point Energy Center (IPEC). The letter stated that the NRC had become aware of incidents where workers perceived that individuals were treated negatively by management for raising issues. As a result of these incidents, some workers expressed reluctance to raise issues under certain circumstances. While most workers made a distinction between nuclear safety issues and other concerns, the teams noted that some of the illustrative examples provided by plant workers could have nuclear safety implications. However, the teams did not identify any more than minor issues which had not been raised. The teams also noted that Entergy had not fully evaluated the results of a 2006 safety culture assessment to understand the causes of negative responses and declining trends related to the safety conscious work environment onsite.

Entergy responded in a letter dated January 22, 2007 [ADAMS Ref. ML070240242]. Based primarily on the results of interviews conducted by an independent assessment team, Entergy reported that a "perception exists within a segment of the IPEC workforce that they may suffer in some way if they were to raise a safety concern." The results of the interviews were consistent with NRC's observations during PI&R inspections and generally consistent with the results of the independent safety culture assessment.

Entergy's letter provided a plan with actions intended to improve the safety conscious work environment (SCWE). Specifically, the plan included corrective actions to improve communications; identify and prevent retaliation, chilling effect, and the perception of retaliation; enhance the corrective action program; enhance the employee concerns program; and improve the broader work environment at IPEC. Entergy also indicated that metrics would be developed to measure performance at achieving the components of a healthy SCWE and an assessment would be conducted to confirm the effectiveness of its actions in early 2008.

The NRC reviewed Entergy's response and concluded that Entergy's completed and planned diagnostic activities were reasonable to characterize the challenges to the safety conscious work environment onsite and the planned corrective actions were appropriate. The results of the NRC's review were documented in a letter to Entergy dated February 26, 2007 [ADAMS Ref. ML070570518]. This letter also stated that the NRC would monitor Entergy's corrective actions through baseline inspection activities.

In June 2007, the inspectors performed PI&R sample inspections on each operating unit to review the status of Entergy's corrective actions related to the SCWE at Indian Point. The inspection included over 50 interviews and discussions with technicians, staff, supervisory and management personnel in a representative cross section of work groups. The inspectors also attended selected meetings and reviewed supporting documentation for corrective actions.

b. Findings and Observations

No findings of significance were identified.

The inspectors concluded that Entergy's progress on corrective actions related to the SCWE was adequate. The inspectors observed that Entergy implemented a number of actions to address previously identified issues affecting the work environment, as revealed in a 2006 safety culture assessment, NRC inspections, and an independent assessment conducted on behalf of Entergy.

Based on interview results and document reviews, the inspectors determined that several actions were effective in communicating the site's commitment to a safety conscious work environment. These actions included:

- Site Vice President meetings with small groups;
- Site-wide communications on safety conscious work environment; and
- Changes to site schedules that allowed supervisors and managers to spend more time in the field.

The inspectors identified two corrective actions that were not yet effective. Both of these were associated with Entergy's actions to detect and prevent retaliation, chilling effect, and the perception of retaliation. These items constituted issues of minor significance, because there was no actual impact on the work environment.

- First, the inspectors identified a deficiency in the implementation of the Executive Review Board (ERB), which was established to review proposed personnel actions to ensure: they were not in violation of 10 CFR 50.7 employee protection regulations; they did not involve retaliation; and any potential chilling effect was addressed. Specifically, the inspectors identified that the potential for retaliation or a chilling effect for raising safety issues was not considered for some adverse personnel actions that went before the ERB. In response to this observation, Entergy entered the issue in the corrective action program with an action for the ERB to review the personnel action cases for the potential for retaliation or a chilling effect related to raising safety issues.
- Secondly, the inspectors identified that the Executive Protocol Group (EPG) was not fully meeting its charter in providing advice to senior management on issues that may be related to retaliation or a chilling effect. For example, the EPG had not reviewed a specific event involving an individual who felt reluctant to raise issues based on the actions of a site manager. Additionally, the inspectors

observed that the EPG was not reviewing some data and trending information as specified in its process document. For example, the EPG had not reviewed SCWE-related data from condition reports or findings from surveys and assessments. Entergy made several enhancements to the EPG meeting process to incorporate the inspectors' observations.

The inspectors also observed that Entergy's process for tracking and trending condition reports (CRs) with potential SCWE aspects was not timely. Specifically, the review of CRs with SCWE-related trend codes was being performed on a 6-month basis, which may not be timely for management to respond to and mitigate new issues or trends that could affect the work environment.

During interviews with the inspectors, all personnel indicated that they would raise issues that they recognized as a nuclear safety concerns. Some individuals stated they had heard of others who may be hesitant to raise issues, due to events that had happened in the past. A few individuals stated that they may not raise low level issues, because they did not believe the issues would be corrected.

When questioned about the site's initiatives in the area of SCWE, most individuals were aware of the ongoing efforts. Some believed that the corrective actions were having a positive effect. Others were more skeptical of the corrective actions, based on their observations or what they had heard about statements made by management. Some personnel indicated that they were awaiting a demonstrated commitment to a SCWE, rather than just communications.

The inspectors noted that Entergy has a number of actions planned to continue its progress in improving the SCWE onsite. These actions include:

- Departmental action plans to address the safety culture aspects of a 2007 Entergy Employee Survey;
- A second round of Site Vice President meetings with small groups to continue the dialogue on SCWE;
- Ongoing efforts to conduct facilitated discussions and additional activities to improve the work environment in the Instrumentation and Controls work group; and
- Refresher training on SCWE.

The inspectors observed that Entergy's self-assessment of actions related to SCWE have been self-critical. For example, Indian Point management held a meeting in April 2007, to discuss and take corrective actions for certain events and management behaviors that were not conducive to establishing and maintaining a healthy safety conscious work environment onsite. Additionally, a recent Entergy corporate assessment and a quality assurance audit identified opportunities for improvement in this area.

4OA3 Event Followup (71153 - 2 samples)

- .1 (Closed) Licensee Event Report (LER) 05000247/2006006-00, Automatic Actuation of Both Motor-Driven Auxiliary Feedwater Pumps After Local Reset of the 21 Main Feedwater Pump During Corrective Maintenance and Troubleshooting of the Turbine Governor Valve

On November 30, 2006, and on December 1, 2006, both motor-driven auxiliary feedwater pumps received automatic actuation signals during troubleshooting of the 21 main boiler feedwater pump high pressure steam governor valve. At the time, the plant was shutdown in hot standby, both main feedwater pumps were isolated, and the auxiliary feedwater system was in operation. Entergy determined the most likely cause of the actuations was a malfunction in the 21 main boiler feedwater pump turbine oil pressure switch. Because the auxiliary feedwater system was in operation prior to the start signal, there was minimal impact on plant operation. Entergy entered this issue into the corrective action program (CRs IP2-06-06885 and -06944). The inspectors reviewed LER 05000247/2006006-00, Entergy's causal analysis, and the associated corrective actions. No findings of significance or violations of NRC requirements were identified. This LER is closed.

- .2 (Closed) LER 05000247/2006007-00, Plant Condition Prohibited by Technical Specifications due to Operation of Containment Pressure Relief Valves While Surveillance Requirement Not Met

On December 5, 2006, Entergy determined that three containment isolation valves had been inoperable, but not closed and deactivated as required by TS. Specifically, valve travel for these valves was not limited to less than 60 degrees from the fully closed position, as required by TS. The three valves, PCV-1190, -1191, and -1192, are part of the containment pressure relief system and are used to relieve containment pressure to keep internal pressure within normal operating limits. Entergy determined that this condition was caused by a design deficiency which resulted in failure of a retaining clip used to limit valve travel. Entergy entered this issue into the corrective action program (CR IP2-06-06322) and initiated actions to correct the valve design deficiency. The inspectors reviewed LER 05000247/2006007-00, Entergy's causal analysis, and the associated corrective actions. This issue was determined to be a violation of minor significance, because a subsequent calculation completed by Entergy demonstrated that the valves would have been able to perform their safety function even if travel was not limited to less than 60 degrees, as required. This LER is closed.



#### 4OA5 Other Activities

##### .1 Groundwater Contamination Investigation

###### a. Inspection Scope

Continued inspection of Entergy's plans, procedures, and characterization activities affecting the contaminated groundwater condition at Indian Point, relative to NRC regulatory requirements, was authorized by the NRC Executive Director for Operations in a Reactor Oversight Process deviation memorandum dated October 31, 2005 (ADAMS Accession number ML053010404) and renewed on December 11, 2006 (ADAMS Accession number ML063480016). Accordingly, continuing oversight of Entergy's progress has been conducted throughout this quarterly inspection report period consisting of onsite inspections, independent split sample analyses of selected monitoring well samples, review of action plan completion status, and periodic communications with Federal, State, and local government stakeholders.

Inspectors conducted an onsite review of tracer test sampling results on May 9 and 10, 2007. New York State Department of Environmental Conservation officials observed and participated in the proceedings. The onsite meeting provided for an independent hydrology review of Entergy's tracer test findings and associated re-evaluation of the current site groundwater model.

###### b. Findings and Observations

No findings of significance were identified.

The objective of the tracer test, as mentioned above, was to identify groundwater flow and direction by injecting fluorescent tracer dye into a subsurface location representing the source of leakage, and tracking its natural groundwater migration as it was intercepted by existing monitoring wells and storm drain locations. The fluorescein dye was injected into a specially designed tracer injection co-located near monitoring well MW-30, adjacent to the Unit 2 spent fuel pool (SFP). On February 8, 2007, the tracer test began with injection of approximately 200 gallons of dye at a subsurface elevation equivalent to the bottom of the Unit 2 spent fuel pool. The natural groundwater migration of this tracer has been tracked for approximately 13 weeks by measuring the dye content in either charcoal samplers or water samples collected at selected onsite monitoring wells and storm drain locations.

The tracer test was designed as an analogue to the Unit 2 SFP leakage. Entergy's hydrology consultant, GZA, described (through its visualizations) how the tracer entered the unsaturated zone above the local water table similar to the abnormal releases from the Unit 2 SFP, and moved horizontally to adjacent wells before moving vertically into the saturated zone. GZA also noted the roles of backfills which provide preferential paths to the storm drains as was demonstrated from tracer material observed in the manholes near the Unit 2 SFP.

GZA indicated that its preliminary assessment considered flow and transport in the Inwood Marble formation to be dominated by porous media flow conditions, and that the fractures were so numerous and interconnected at the site scale that it may not be reasonable to single out and ascribe parameters for fracture flow and transport modeling. The U.S. Geological Survey (USGS) indicated the possibility that analysis of borehole data (e.g., downhole logging data), pump test and ambient flow results, and observed fracture orientations and spacing using the WELLCAD code could provide insights to discern the presence of significant fracture zones, and their transmissivities (i.e., flow parameters). To this end, NRC staff is working with the USGS to accomplish an independent analysis considering an alternative conceptual model of flow and transport. Additional review and evaluation is expected to ascertain if there could be any significant difference in groundwater flow that would affect the overall assessment of public dose.

GZA noted that it was in the process of modifying its dose assessment model to factor in more realistic, site-specific conditions and parameters that were revealed from the recovery well RW-1 pump test and subsequent tracer test results. GZA, USGS, and NRC staff agreed that it was important to effectively consider the groundwater recharge zones and net flow discharge zones, and couple the information with the data developed from the pumping and tracer test; and the transmissivity values for the fracture zone as derived from WELLCAD modeling results. Such effort is expected to provide a more refined estimate of groundwater effluent release and dose assessment.

NRC, USGS, Entergy, and GZA staff discussed the development of a site-wide, long-term monitoring program plan to be linked to the dose assessment model. The plan would identify which existing wells and manhole sampling locations could provide the best performance indicators of the groundwater flow system behavior, and provide early detection of any abnormal radiological releases from onsite structures, systems, and components.

Based upon the technical discussions, current remediation strategies include the continued processing of the Unit 1 spent fuel pool utilizing filter/demineralization processes; the eventual removal of the spent fuel to dry cask storage; and subsequent draining of the Unit 1 spent fuel pool. Such activities are planned to be accomplished by Entergy in 2008. Currently, Entergy has no plans for further pumping tests using RW-1 since it was demonstrated that pump-out of the groundwater through this location will result in cross-contamination of groundwater in the vicinity of Unit 2. Entergy indicated that the groundwater conditions would continue to be evaluated for remediation, as necessary, upon completion of the Unit 1 spent fuel pool activities.

Monitoring for tracer material is expected to continue through July 2007, and sampling results will be reported to the NRC and NYS DEC. GZA agreed to provide well logging, pumping test, and fracture characterization data for USGS's WELLCAD modeling. Follow-on technical meetings will focus on GZA's final monitoring report which incorporates their new dose assessment model; USGS's WELLCAD analyses; and development of a site-wide groundwater monitoring plan.

The NRC monitoring well samples were analyzed by the NRC's contract laboratory, the Oak Ridge Institute for Science and Education, Environmental Site Survey and Assessment Program (ORISE/ESSAP) radioanalytical laboratory. The NRC's assessment of Entergy's sample analytical results data indicated that their analytical contractor continued to report sample results that were comparable with the NRC's analytical results. Information to date continues to support that the estimated radiological release fraction through groundwater is negligible relative to NRC regulatory limits.

The NRC's ORISE/ESSAP sample results are available in ADAMS under the following accession numbers: ML071900438, ML071900442, ML071900445, ML071900447, ML071900448, ML071900456, ML071900458, ML071900462. To date, sample results from site boundary wells and offsite environmental groundwater sampling locations have not indicated any detectable plant-related radioactivity.

40A6 Meetings, including Exit

Exit Meeting Summary

On July 13, 2007, the inspectors presented the inspection results to Mr. Anthony Vitale and other Entergy staff members, who acknowledged the inspection results presented. Entergy did not identify any material as proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

**SUPPLEMENTAL INFORMATION**

**KEY POINTS OF CONTACT**

Entergy Personnel

V. Andreozzi, Electrical Design Engineering Supervisor  
N. Azevedo, Code Programs Supervisor  
J. Baker, Shift Manager  
T. Beasley, System Engineer  
C. Braun, Switchyard Coordinator  
K. Brooks, Shift Manager  
B. Christman, Manager of Training and Development  
P. Cloughessy, System Engineer  
J. Comiotes, SCWE PIP  
P. Conroy, Director of Nuclear Safety Assurance  
F. Dacimo, Site Vice President  
R. Hansler, Reactor Engineering Superintendent  
T. Jones, Licensing Supervisor  
J. Kayani, System Engineer  
S. Manzione, Component Engineering Supervisor  
B. McCarthy, Indian Point Unit 2 Assistant Operations Manager  
B. Meek, Maintenance Supervisor  
E. O'Donnell, Indian Point Unit 2 Operations Manager  
T. Orlando, Director of Engineering  
D. Parker, Maintenance Superintendent  
J. Pineda, System Engineer  
E. Primrose, Shift Manager  
B. Ray, Maintenance Superintendent  
B. Sullivan, Emergency Planning Manager  
P. Studley, Planning, Scheduling, and Outage Manager  
B. Taggart, Employee Concerns Program  
M. Vasely, Balance of Plant System Engineering Supervisor  
S. Verrochi, System Engineering Manager  
A. Vitale, Acting General Manager of Plant Operations  
R. Walpole, Corrective Action and Assessment Manager

**LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

Closed

05000247/2006006-00	LER	Automatic Actuation of Both Motor-Driven Auxiliary Boiler Feedwater Pumps after Local Reset of the 21 Main Feedwater Pump During Corrective Maintenance and
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Attachment

Troubleshooting of the Turbine Governor Valve (Section 4AO3.1)

05000247/2006007-00

LER

Plant in a Condition Prohibited by Technical Specifications due to Operation of Containment Pressure Relief Valves While Surveillance Requirement Not Met (Section 4AO3.2)

**LIST OF DOCUMENTS REVIEWED**

**Section 1R01: Adverse Weather Protection**

Procedures

OAP-008, "Severe Weather Preparations," Revision 1  
 2-SOP-11.5, "Space Heating And Winterization," Revision 31

**Section 1R04: Equipment Alignment**

Condition Reports

IP2-06-04349	IP2-06-05841	IP2-07-01028
IP2-06-04697	IP2-06-05856	IP2-07-01321
IP2-06-04699	IP2-06-06028	IP2-07-01557
IP2-06-05465	IP2-06-07095	IP2-07-01923
IP2-06-05700	IP2-07-01002	

Procedures

2-COL-3.1, "Chemical and Volume Control System," Revision 36  
 2-SOP-3.2, "Reactor Coolant System Boron Concentration Control," Revision 31  
 2-COL-31.1, "Gas Turbine," Revision 8  
 2-SOP-31.1.2, "Gas Turbine 1 Local Operations," Revision 26

Drawings

9321-F-2736, "Flow Diagram - Chemical and Volume Control System," Revision 125

Work Orders

IP2-03-05658	IP2-04-22012	IP2-06-00838
IP2-04-10549	IP2-05-00131	

Miscellaneous

IP2-CVCS DBD, "Design Basis Document for the Chemical and Volume Control System,"  
Revision 1  
Indian Point Unit 2 Chemical and Volume Control System Health Report, First Quarter 2006 to  
First Quarter 2007

**Section 1R05: Fire Protection**

Procedures

ENN-DC-161, "Transient Combustible Program," Revision 1  
ENN-DC-189, "Fire Drills," Revision 0  
SAO-703, "Fire Protection Impairment Criteria and Surveillance," Revision 20

**Section 1R06: Flood Protection Measures**

Procedures

2-AOP-FLOOD-1, "Flooding," Revision 1  
OAP-008, "Severe Weather Preparations," Revision 3

Miscellaneous

Indian Point 2 IPEEE, Section 6.3, "External Flooding"

**Section 1R11: Licensed Operator Requalification Program**

Procedures

E-0, "Reactor Trip or Safety Injection," Revision 47  
E-1, "Loss of Reactor or Secondary Coolant," Revision 42

**Section 1R12: Maintenance Effectiveness**

Condition Reports

IP2-06-04349	IP2-06-05841	IP2-07-01028
IP2-06-04697	IP2-06-05856	IP2-07-01321
IP2-06-04699	IP2-06-06028	IP2-07-01557
IP2-06-05465	IP2-06-07095	IP2-07-01923
IP2-06-05700	IP2-07-01002	

Procedures

2-COL-3.1, "Chemical and Volume Control System," Revision 36  
2-SOP-3.2, "Reactor Coolant System Boron Concentration Control," Revision 31

Drawings

9321-F-2736, "Flow Diagram - Chemical and Volume Control System," Revision 125

Work Orders

IP2-03-05658	IP2-04-22012	IP2-06-00838
IP2-04-10549	IP2-05-00131	

Miscellaneous

IP2-CVCS DBD, "Design Basis Document for the Chemical and Volume Control System,"  
Revision 1  
Indian Point Unit 2 Chemical and Volume Control System Health Report, First Quarter 2006 to  
First Quarter 2007

**Section 1R13: Maintenance Risk Assessments and Emergent Work Control**

Condition Reports

IP2-2007-01464	IP2-2007-01641	IP2-2007-01619
IP2-2007-01501		

Work Orders

IP2-07-14712	IP2-07-15433
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Drawings

B208052, "Wiring diagram of Engine Generator Set for Diesel Generators," Revision 9  
9321-LL-3133, "Schematic Diagram Generator Heaters," Revision 3  
A208508, "Wiring Diagram Diesel Generator 22," Revision 23  
S000285, "DC Schematic for Diesel Generator 22," Revision 14

**Section 1R15: Operability Evaluations**

Procedures

2-PT-Q92, "Containment Building Inspection," Revision 3  
2-REF-002-GEN, "Indian Point Unit 2 Refueling Procedure," Revision 1  
2-SOP-3.2, "Reactor Coolant System Boron Concentration Control," Revision 31  
STR-B-001-A, "Zurn Service Water Strainers," Revision 6

Condition Reports

IP2-2007-01578	IP2-2007-00305	IP2-2007-01665
IP2-2007-01923	IP2-2007-00879	IP2-2007-01668
IP2-2006-07184	IP2-2007-01634	IP2-2007-01669
IP2-2006-00187	IP2-2007-01656	

Miscellaneous

Unit 2 Boric Acid System Leakage Action Plan, May 2007  
IP2-CVCS DBD, "Design Basis Document for the Chemical and Volume Control System,"  
Revision 1  
Tagout 2-CVCS-Blender Line Repair, Revision 0  
Tagout 2-CVCS-Blender Line Repair Contingency, Revision 0

**Section 1R19: Post-Maintenance Testing**

Condition Reports

IP2-2006-05856                      IP2-2007-01923                      IP2-2006-06937

Procedures

2-PT-Q13, "Inservice Valve Tests," Revision 40  
BAT-C-001-A, "Replacement of Battery Cells," Revision 8  
0-VLV-413-MOV, "Motor Operated Valve Preventive Maintenance," Revision 2  
0-VLV-404-AOV, "Use of Air Operated Valve Diagnostics," Revision 3

Work Orders

IP2-05-14136                      IP2-07-14210                      IP2-04-31607  
IP2-06-00838                      IP2-06-01159                      IP2-07-11825  
IP2-07-17753                      IP2-07-12765

Miscellaneous

IP2-CVCS DBD, "Design Basis Document for the Chemical and Volume Control System,"  
Revision 1

**Section 1R22: Surveillance Testing**

Condition Reports

IP2-2005-02051                      IP2-2006-02601                      IP2-2007-01730  
IP2-2005-04504                      IP2-2006-04286                      IP2-2007-01726  
IP2-2005-04567                      IP2-2007-00468                      IP2-2007-01739  
IP2-2005-04568

Procedures

0-LUB-401-GEN, "Lubrication of Plant Equipment," Revision 5  
0-OSP-TG-001, "Main Turbine Stop and Control Valve Contingency Actions," Revision 0  
2-PT-Q27B, "23 Auxiliary Feedwater Pump," Revision 14



2-PT-SA67, "Main Turbine Stop and Control Valves Exercise Test," Revision 4  
3-PT-Q120A, "31 ABFP (Motor-Driven) Surveillance and IST," Revision 10  
2-SOP-21.3, "Auxiliary Feedwater System Operation," Revision 36  
PT-2Y11A, "Gas Turbine 1 Blackstart Timing," Revision 2  
2-PT-Q029A, "21 Safety Injection Pump," Revision 18

Work Orders

IP2-06-25040

IP2-06-33728

**Section 1R23: Temporary Modifications**

Condition Reports

IP2-04-06527

IP2-07-02402

Procedures

ENN-ME-S-001, "Leak Repair Evaluations," Attachment 7.3, Revision 0A

Drawings

A235308, "Flow Diagram - Main Steam," Revision 47

Miscellaneous

ER-IP2-07-19368

IP-CALC-07-00145, "Evaluation of Leak Repair Enclosure Around Valve MS-1607," Revision 0

Work Orders

IP2-07-19368

**Section 4OA1: Performance Indicator Verification**

Procedures

EN-LI-114, "Performance Indicator Process," Revision 1

NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 4

**Section 4OA2: Identification and Resolution of Problems**

Procedures

EN-OP-104, "Operability Determinations," Revision 2

OAP-045, "Operator Burden Program," Revision 0 and 1

Condition Reports

IP3-06-00331	IP3-07-02516	IP2-07-00339
IP2-07-00029	IP3-07-02549	IP2-07-01092
IP2-07-02194	IP3-06-00288	IP2-07-01180
IP2-07-02227	IP3-07-00278	IP2-07-01593
IP2-07-02268	IP3-07-01333	IP2-07-01598
IP2-07-02270	IP3-07-01282	IP2-07-01678
IP2-07-02305	IP3-07-02219	IP2-07-01840
IP2-07-02325	IP3-07-01946	IP3-06-04045
IP2-07-02357	IP3-07-01931	IP3-07-00248
IP2-07-02360	IP3-07-02766	IP3-07-00249
IP3-07-02274	IP2-07-00363	IP3-07-00722
IP3-07-02373	IP2-07-00037	IP3-07-01374
IP3-07-02374	IP2-07-00081	IP3-07-01542

Miscellaneous

Nuclear Safety Culture Department Action Plans  
 Internal Communications Plans  
 Site Vice President Management Meeting, April 21, 2007  
 Safety Conscious Work Environment Discussion Talking Points  
 Tailgate Meeting Summaries  
 Site-wide Communications Related to SCWE  
 SCWE Project Plan  
 2006 Safety Culture Survey Report  
 2007 Independent Assessment Team Report  
 2007 Entergy Employee Survey Results  
 IPEC Safety Culture Corporate Assessment, June 4-7, 2007  
 Supplemental Safety Culture Assessment  
 Executive Review Board Charter  
 Executive Review Board Process Document  
 Executive Protocol Group Charter  
 Executive Protocol Group Process Document  
 Executive Protocol Group Reports  
 Quality Assurance Audit QA-03-2007-IP-1  
 SCWE Metrics, January - April 2007  
 IPEC Review of MARC Fact Finding Process  
 Employee Concerns Program Files  
 Employee Concerns Program Review  
 Employee Concerns Program Self Assessment  
 Employee Concerns Program Newsletters  
 Employee Concerns Program Office Location Evaluation  
 Communications on Site Material Condition Improvements

**Section 4OA3: Event Followup**Condition Reports

IP2-06-04723	IP2-06-06444	IP2-06-06944
IP2-06-06426	IP2-06-06885	IP2-07-00014

Miscellaneous

OSRC Meeting Minutes, IPEC 07-002, January 2007

OSRC Meeting Minutes, IPEC 07-003, January 2007

**LIST OF ACRONYMS**

ADAMS	agency wide document and management system
ANS	alert and notification system
CAP	corrective action program
CFR	Code of Federal Regulations
CR	condition report
ESSAP	Environmental Site Survey and Assessment Program
EDO	Executive Director for Operations
EPG	Executive Protocol Group
ERB	Executive Review Board
FFD	Fitness for Duty
IPEC	Indian Point Energy Center
LER	Licensee Event Report
MW	monitoring well
NRC	Nuclear Regulatory Commission
NYS DEC	New York State Department of Environmental Conservation
ORISE	Oak Ridge Institute for Science and Education
PARS	Publically Available Records System
PI	performance indicator
PI&R	problem identification and resolution
RW	recovery well
SCWE	safety conscious work environment
SFP	spent fuel pool
SSC	structures, systems, or components
TS	Technical Specifications
UFSAR	Updated Final Safety Evaluation Report
USGS	U.S. Geological Survey
WO	work order