



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406-1415

July 23, 2009

Mr. Joseph E. Pollock  
Site Vice President  
Entergy Nuclear Operations, Inc.  
Indian Point Energy Center  
450 Broadway, GSB  
Buchanan, NY 10511-0249

**SUBJECT: INDIAN POINT NUCLEAR GENERATING UNIT NO. 3 –  
NRC PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT  
05000286/2009007**

Dear Mr. Pollock:

On June 16, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Indian Point Nuclear Generating (Indian Point) Unit 3. The enclosed report documents the inspection results, which were discussed on June 18, 2009, with you and other members of your staff.

This inspection was an examination of activities conducted under your license as they relate to the identification and resolution of problems, and compliance with the Commission's rules and regulations and the conditions of your operating license. Within these areas, the inspection involved examination of selected procedures and representative records, observations of activities, and interviews with personnel.

Based on the samples selected for review, the inspectors concluded that Entergy was generally effective in identifying, evaluating, and resolving problems. Entergy personnel identified problems at a low threshold and entered them into the Corrective Action Program (CAP). Station personnel generally screened issues appropriately for operability and reportability, and prioritized issues commensurate with the safety significance of the problems. Corrective actions addressed the identified problems and were typically implemented in a timely manner. However, the inspectors identified two violations of NRC requirements in the areas of prioritization and evaluation and effectiveness of corrective actions.

This report documents two NRC-identified findings of very low safety significance (Green). The findings were determined to involve violations of NRC requirements. However, because of their very low safety significance and because they were entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCVs), consistent with Section VI.A.1 of the NRC's Enforcement Policy. If you contest any NCV, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the U.S. Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-0001, with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, U.S.

Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Senior Resident Inspector at Indian Point Unit 3. In addition, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I, and the NRC Senior Resident Inspector at Indian Point Unit 3. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

In accordance with 10 CFR 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/**

Raymond J. Powell, Chief  
Technical Support & Assessment Branch  
Division of Reactor Projects

Docket No. 50-286  
License No. DPR-64

Enclosure: Inspection Report No. 05000286/2009007  
w/ Attachment: Supplemental Information

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Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Senior Resident Inspector at Indian Point Unit 3. In addition, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I, and the NRC Senior Resident Inspector at Indian Point Unit 3. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

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Sincerely,

**/RA/**

Raymond J. Powell, Chief  
Technical Support & Assessment Branch  
Division of Reactor Projects

Docket No. 50-286  
License No. DPR-64

Enclosure: Inspection Report No. 05000286/2009007  
w/ Attachment: Supplemental Information

**SUNSI Review Complete: bab\* (Reviewer's Initials)**

**ML092040278**

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*\*See prior concurrence*

J. Pollock

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 50-286

License No.: DPR-64

Report No.: 05000286/2009007

Licensee: Entergy Nuclear Northeast (Entergy)

Facility: Indian Point Nuclear Generating (Indian Point) Unit 3

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

Dates: June 1 through June 16, 2009

Team Leader: Brice Bickett, Senior Project Engineer, Division of Reactor Projects (DRP)

Inspectors: Thomas Setzer, Senior Project Engineer, DRP  
Scott Rutenkroger, Resident Inspector (FitzPatrick), DRP  
Mandy Halter, Reactor Inspector, Division of Reactor Safety

Approved by: Raymond J. Powell, Chief  
Technical Support & Assessment Branch  
Division of Reactor Projects

Enclosure

## SUMMARY OF FINDINGS

IR 05000286/2009007; 06/01/2009 – 06/16/2009; Indian Point Nuclear Generating (Indian Point) Unit 3; Biennial Baseline Inspection of the Identification and Resolution of Problems. Two findings were identified in the areas of prioritization and evaluation and effectiveness of corrective actions.

This NRC team inspection was performed by three NRC regional inspectors and one resident inspector. Two findings of very low safety significance (Green) were identified during this inspection and were classified as non-cited violations (NCVs). The significance of most findings is indicated by their color (Green, White, Yellow, Red) using NRC Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). The cross-cutting aspects were determined using IMC 0305, "Operating Reactor Assessment Program." Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, December 2006.

### Identification and Resolution of Problems

The inspectors concluded that Entergy was generally effective in identifying, evaluating, and resolving problems. Entergy personnel identified problems at a low threshold and entered them into the Corrective Action Program (CAP). For most condition reports (CRs) reviewed, the inspectors determined that site personnel screened issues appropriately for operability and reportability, and generally prioritized issues commensurate with the safety significance of the problems. The inspectors determined that causal analyses appropriately considered extent of condition, generic issues, and previous occurrences. The inspectors also determined that corrective actions addressed the identified causes and were implemented in a timely manner. However, the inspectors identified two violations of NRC requirements in the areas of prioritization and evaluation, and effectiveness of corrective actions. The issues were entered into Entergy's CAP during the inspection.

Entergy's audits and self-assessments reviewed by the inspectors were thorough and probing. Additionally, the inspectors concluded that Entergy adequately identified, reviewed, and applied relevant industry operating experience (OE) to Indian Point Unit 3. Based on interviews, observations of plant activities, and reviews of the CAP and the Employee Concerns Program (ECP), the inspectors did not identify concerns with site personnel willingness to raise safety issues nor did the inspectors identify conditions that indicated a negative impact on the site's safety conscious work environment.

### Cornerstone: Mitigating Systems

- Green. The inspectors identified an NCV of very low safety significance of 10 CFR 50, Criterion XVI, "Corrective Action," for Entergy's failure to identify and correct a condition adverse to quality related to 480-Volt bus 3A degraded grid protection. Specifically, Entergy staff did not identify and implement adequate corrective actions to ensure the safety-related time delay relay, 62-1/3A, remained functional within its technical specification (TS) surveillance requirement (SR) acceptance criteria when it exhibited abnormal relay drift in October 2007. As a result, the relay drifted out of specification for a portion of the next surveillance period, which should have been reasonably avoided. Additionally, in November 2007, Entergy did not adequately evaluate past operability to determine if NRC reportability criteria per 10 CFR 50.73 were exceeded for the degraded relay condition that existed for a time longer than would be permitted by the TS action statement. Entergy entered the issue into the corrective action program as CR-IP3-2009-02664 and CR-IP3-2009-02773 which includes a final review of reportability by Entergy.

The inspectors determined the finding is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the 480-Volt bus 3A degraded voltage safety-related time delay relay, 62-1/3A, was degraded and exceeded its TS SR acceptance criteria of 45 seconds during two consecutive surveillance tests. However, the inspectors determined the relay would perform its safety function with a worst-case time delay of 55.9 seconds for a non-safety injection (non-SI) degraded grid condition. The inspectors' review determined this condition would not reasonably have prevented the relay from performing its function, allowing the 480V electrical bus 3A to swap its supply from the offsite grid to the on-site 31 emergency diesel generator prior to the loss or damage of supplied equipment. The inspectors determined the significance of the finding using IMC 0609.04, "Phase 1 – Initial Screening and Characterization of Findings." The finding was determined to be of very low safety significance (Green) because it was not a design or qualification deficiency; did not represent a loss of system safety function; and did not screen as potentially risk-significant due to external initiating events.

The inspectors determined that this finding had a cross-cutting aspect in the area of problem identification and resolution within the corrective action program component because Entergy personnel did not thoroughly evaluate the problem such that the resolution addressed the cause. (Section 4OA2.1.c) (P.1.c per IMC 0305)

- Green. The inspectors identified an NCV of very low safety significance of 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," paragraph (a)(2), for Entergy's failure to adequately demonstrate that the instrument air (IA) system (a)(2) performance was effectively controlled through performance of appropriate preventative maintenance. Specifically, as evidenced by

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repeat functional failures of IA compressor solenoid-operated unloader valves in March 2009, the IA (a)(2) performance demonstration was no longer justified in accordance with maintenance rule implementing procedure guidance or consistent with Entergy's previous June 2008 (a)(1) evaluation on the issue. Entergy entered the issue into the corrective action program as CR-IP3-2009-02716.

The inspectors determined the finding was more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and affects the cornerstone objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, following repetitive maintenance-related functional failures of an instrument air compressor (solenoid-operated) unloader valve in March 2009, Entergy did not identify the instrument air system should be monitored in accordance with 10 CFR 50.65(a)(1) for establishing goals and monitoring against the goals. The inspectors evaluated the significance of this finding using IMC 0609.04, "Phase 1 – Initial Screening and Characterization of Findings." The inspectors determined that this finding was of very low safety significance (Green) because the finding was not a design or qualification deficiency; did not represent a loss of safety system function; and did not screen as potentially risk significant due to external initiating events.

The inspectors determined that this finding had a cross-cutting aspect in the area of human performance because Entergy did not ensure that available and adequate maintenance resources were applied such that a known IA system deficiency was corrected in a timely manner to prevent repeat functional failures of the instrument air compressor unloader valves. (Section 4OA2.1.c) (H.2.a per IMC 0305)

**REPORT DETAILS****4. OTHER ACTIVITIES (OA)**4OA2 Problem Identification and Resolution (PI&R) (71152B – 1 sample).1 Assessment of the Corrective Action Program (CAP) Effectivenessa. Inspection Scope

The inspectors reviewed Entergy's procedures that describe the CAP implementation at Indian Point Unit 3. Entergy personnel identified problems by initiating condition reports (CRs) for conditions adverse to quality, plant equipment deficiencies, industrial or radiological safety concerns, or other significant issues. Condition reports were subsequently screened for operability and reportability, categorized by significance level (A, most significant, through D, least significant), and assigned to personnel for evaluation and resolution or trending.

The inspectors evaluated the process for assigning and tracking issues to ensure that issues were screened for operability and reportability, prioritized for evaluation and resolution in a timely manner commensurate with their safety significance, and tracked to identify adverse trends and repetitive issues. In addition, the inspectors interviewed plant staff and management to determine their understanding of, and involvement with, the CAP.

The inspectors reviewed CRs selected across the seven cornerstones of safety in the NRC's Reactor Oversight Process (ROP) to determine if site personnel properly identified, characterized, and entered problems into the CAP for evaluation and resolution. The inspectors selected items from functional areas that included chemistry, emergency preparedness, engineering, maintenance, operations, physical security, radiation safety, and oversight programs to ensure Entergy staff appropriately addressed problems identified in these functional areas. The inspectors selected a risk-informed sample of CRs issued since the last NRC PI&R inspection conducted in December 2006. Insights from the site's risk analyses were considered by the inspectors to focus the sample selection and plant walkdowns on risk-significant systems and components. The corrective action review was expanded to five years for evaluation of identified concerns within CRs relative to long-standing instrument air component reliability challenges; and agastat relay drift issues including the identification, evaluation and corrective actions associated with relay drift that could adversely impact risk significant components and/or functions.

The inspectors selected items from various processes implemented at Indian Point Unit 3 to verify issues were appropriately considered for entry into the CAP. Specifically, the inspectors reviewed a sample of engineering requests, both open and closed, operator workarounds, operability determinations, system health reports, equipment problem lists, work orders (WOs), and issues entered into the Employee Concerns Program (ECP).

The inspectors reviewed CRs to assess whether Entergy personnel adequately evaluated and prioritized identified issues. The CRs reviewed encompassed the full range of

evaluations, including root cause analyses, apparent cause evaluations, and common cause analyses. A sample of CRs that were categorized at lower levels (level C and level D) which did not include formal cause evaluations were also reviewed by the inspectors to ensure appropriate classification consistent with EN-LI-102, "Corrective Action Process," guidance. The inspectors' reviews included the appropriateness of the assigned category, the scope and depth of the causal analysis, and the timeliness of resolution. The inspectors assessed whether the evaluations identified likely causes for the issues and identified appropriate corrective actions to address the identified causes. As part of this review, the inspectors interviewed various station personnel to fully understand details within the evaluations and the proposed and completed corrective actions. The inspectors observed daily condition review group (CRG) meetings in which Entergy personnel reviewed new CRs for prioritization and assignment. The inspectors also observed a Corrective Action Review Board (CARB) meeting in which station management assessed the adequacy of recent apparent and root cause analysis reports. Further, the inspectors reviewed equipment operability determinations, reportability assessments, and extent-of-condition reviews for selected CRs to verify these specific reviews adequately addressed equipment operability, reporting of issues to the NRC, and the extent of problems.

The inspectors' reviews of CRs also focused on the associated corrective actions to determine whether the actions addressed the identified causes of the problems. The inspectors reviewed CRs for adverse trends and repetitive problems to determine whether corrective actions were effective in addressing the broader issues. The inspectors reviewed Entergy's timeliness in implementing corrective actions and effectiveness in precluding recurrence for significant conditions adverse to quality. The inspectors also reviewed CRs associated with NRC NCVs and findings since the last PI&R inspection to determine whether Entergy personnel properly evaluated and resolved the issues. Specific documents reviewed during the inspection are listed in the Attachment to this report.

Additionally, the inspectors conducted interviews with plant management and staff involved in implementing the site's human performance corrective action plan initiatives. The inspectors reviewed action plans and interviewed site management to understand the status of the site's human performance implementation of the action plan. The inspectors' interviews focused on understanding Entergy's current assessment of its human performance action plan effectiveness and focus areas for improvement since December 2008 with respect to recent human performance challenges.

b. Assessment

(1) Effectiveness of Problem Identification

Based on the selected samples reviewed, plant walkdowns, and interviews of site personnel, the inspectors determined that Entergy personnel identified problems and entered them into the CAP at a low threshold. For the issues reviewed, the inspectors determined problems or concerns were documented in sufficient detail to understand the issues. The inspectors observed managers and supervisors at CRG and CARB meetings appropriately questioning and challenging CRs to ensure clarification of the issues. The inspectors determined Entergy personnel trended equipment and programmatic issues at low levels and CR descriptions appropriately included reference to repeat occurrences of issues. In general, the inspectors did not identify issues or concerns that had not been

appropriately entered into the CAP for evaluation and resolution. In response to several questions and minor equipment observations identified by the inspectors during plant walkdowns, Entergy personnel promptly initiated CRs and/or took immediate action to address the issues.

(2) Effectiveness of Prioritization and Evaluation of Issues

The inspectors determined that, in general, Entergy personnel appropriately prioritized and evaluated issues commensurate with their safety significance. CRs were screened for operability and reportability, categorized by significance, and assigned to a department for evaluation and resolution. The CR screening process considered human performance issues, radiological safety concerns, repetitiveness and adverse trends. The inspectors observed managers and supervisors at CRG and CARB meetings appropriately questioning and challenging CRs to ensure appropriate prioritization.

The inspectors determined CRs were generally categorized for evaluation and resolution commensurate with the significance of the issues. Based on the sample of CRs reviewed, the guidance provided by the Entergy implementing procedures appeared sufficient to ensure consistency in categorization of the issues. Operability and reportability determinations were generally performed when conditions warranted and the evaluations supported the conclusions. Causal analyses appropriately considered the extent of the condition or problem, generic issues, and previous occurrences of the issue.

The inspectors, however, identified some instances where Entergy's prioritization of CRs, specific to the site-assigned categorization levels as described in Attachment 9.1 of EN-LI-102, "Corrective Action Process," was inconsistently implemented. Specifically, the inspectors identified some instances of category level D (Administrative Closure) CRs that documented conditions adverse to quality related to TS-related equipment without sufficient CR supporting documentation that would allow Entergy personnel to support a level D categorization in accordance with EN-LI-102. The inspectors' review determined that level C (Non-significant – Correction Only) categorizations would typically ensure higher management visibility and documentation of corrective actions in implementation of the corrective action process including final closure documentation to ensure operability and TS implications were fully addressed. The following instances were CRs identified by the inspectors as inconsistent in categorization of the issues in accordance with EN-LI-102:

- CR-IP3-2007-03869: 480-Volt bus 3A relay 62 1/3A failed as found TS criteria;
- CR-IP3-2008-01599: 33 emergency diesel generator exhaust fan found not running in auto as expected; and
- CR-IP3-2009-00052: Abnormal noise audible on the 32 service water pump lower bearing.

The inspectors independently evaluated the deficiencies noted above for significance in accordance with the guidance in IMC 0612, Appendix B, "Issue Screening," and Appendix E, "Examples of Minor Issues." The inspectors determined that CR-IP3-2008-01599 and CR-IP3-2009-00052 were deficiencies of minor significance and, therefore, are not subject to enforcement action in accordance with the NRC's Enforcement Policy. While the inspectors concluded the CR documentation did not support a level D categorization, interviews conducted by the inspectors revealed sufficient information to determine the above issues were resolved adequately by Entergy staff.

However, the inspectors identified that the categorization of CR-IP3-2007-03869 as a level D contributed to a more than minor finding associated with Entergy personnel not being effective in evaluating and implementing appropriate corrective actions with respect to resolving a condition adverse to quality related to a 480-Volt safety-related time delay relay. This finding is documented in Section 4OA2.1.c.

### (3) Effectiveness of Corrective Actions

The inspectors concluded that corrective actions for identified deficiencies were generally timely and adequately implemented. For significant conditions adverse to quality, corrective actions were identified to prevent recurrence. The inspectors concluded that corrective actions to address NRC NCVs and findings since the last PI&R inspection were timely and effective. There were, however, two examples where corrective actions were not fully effective, specifically:

- Entergy staff initiated CR-IP3-2009-00925 to document a discrepancy between the color of the emergency diesel generator (EDG) cylinder seal rings specified in the maintenance procedure (3-GNR-026-ELC) and the color of replacement cylinder seal rings provided by the vendor. Entergy personnel initiated corrective actions to update the seal ring color specified in the procedure to match the color of the seal rings provided by the vendor. The inspectors determined this corrective action was not effective because the color is not a unique identifier for the required seal rings and the vendor periodically changes the color of the supplied EDG seal rings. Entergy issued CR-IP3-2009-02599 to document the issue and the maintenance procedure has subsequently been changed to identify the required liner seal kit by part number and the specific required seal rings by diameter measurement. The inspectors concluded there was no system impact because there were no indications that incorrect seal rings were installed.
- Entergy staff initiated CR-IP3-2008-00656, in part, to revise procedure 3-PT-R177, "Pressurizer Heater Output and Backup Heater Group 31 Local Operation Test," in September 2008 to include the local testing of backup pressurizer heater groups 32 and 33. The inspectors determined that the revision of the purpose section and the acceptance criteria of procedure 3-PT-R177 could reasonably be interpreted by operators as allowing the 32 and 33 backup heater groups as able to meet the TS required acceptance criteria. The inspectors determined the current Updated Final Safety Analysis Report (UFSAR) and TS Bases only describe the 31 backup pressurizer heater group as being able to be credited to provide a remote shutdown control function in accordance with TS SR 3.3.4.2 (Remote Shutdown Instrumentation control circuit and transfer switch functionality test). The inspectors concluded the procedure, as revised, contained human error traps that could potentially allow an operator to misinterpret the TS acceptance criteria in such a way that 32 or 33 backup heater would be inappropriately credited as fulfilling the TS 3.3.4 remote shutdown function of the 31 pressurize heater group. The inspectors did not identify a situation where this misinterpretation had occurred. Additionally, Entergy staff had performed recent training of operators to preclude such an issue from happening before the procedure was revised, and had communicated that the 31 backup heater group was the only heater group able to be credited in TS 3.3.4. As a result of the review, the inspectors considered this procedural weakness an example of ineffective

implementation of a corrective action that did not result in a TS being implemented inappropriately. Entergy entered the issue into the corrective action program (CR-IP3-2009-02709).

The inspectors independently evaluated the issues noted above for significance in accordance with the guidance in IMC 0612, Appendix B, "Issue Screening," and Appendix E, "Examples of Minor Issues." The inspectors determined the deficiencies were of minor significance and, therefore, are not subject to enforcement action in accordance with the NRC's Enforcement Policy.

Additionally, the inspectors identified one example of more than minor significance where Entergy personnel were not effective in evaluating and implementing effective corrective actions with respect to ensuring reliability of the instrument air (IA) system. This finding is documented in Section 4OA2.1.c.

c. Findings

(1) Degraded Grid Protection Time Delay Relay Exceeded Technical Specification Limits

Introduction: The inspectors identified an NCV of very low safety significance (Green) of 10 CFR 50, Criterion XVI, "Corrective Action," for Entergy's failure to identify and correct a condition adverse to quality related to 480-Volt bus 3A degraded grid protection. Specifically, Entergy staff did not identify and implement adequate actions to ensure the safety-related time delay relay, 62-1/3A, remained within its TS surveillance acceptance criteria of 45 seconds.

Description: Relay 62-1/3A is the safety-related non-safety injection (non-SI) time delay relay for the 3A electrical bus associated with the 31 emergency diesel generator. The surveillance and calibration procedure 3-PT-M62A, "480V Undervoltage/Degraded Grid Protection System Bus 2A and 3A Functional," has as-found acceptance criteria of 32.5 to 39.9 seconds. The as-left acceptance criteria following calibration are 34.4 to 38.0 seconds. In addition, TS surveillance requirement (SR) 3.3.5.2 requires the time delay relay to actuate within 45 seconds.

Entergy performed 3-PT-M62A on October 11, 2007, and found relay 62-1/3A actuated at 51.3 seconds, exceeding the range allowed by TS SR 3.3.5.2. Entergy maintenance personnel re-adjusted the relay to 35.3 seconds, within the acceptable as-left range per procedure, and initiated CR-IP3-2007-03869. Entergy classified CR-IP3-2007-03869 as a level D (Administrative Closure) CR with a closure description of "close to actions as described in Condition Description." Entergy personnel tracked the relay drift within the drift monitoring program in place at the time but considered the relay drift to be an anomalous, singular data point and as such no further action or evaluation was taken in October 2007.

Entergy personnel performed 3-PT-M62A at the next regularly scheduled monthly interval on November 8, 2007, and found relay 62-1/3A to actuate at 55.9 seconds, again exceeding the range allowed by TS SR 3.3.5.2. The maintenance personnel re-adjusted the relay to 35.8 seconds, within the acceptable as-left range, and initiated CR-IP3-2007-04210. Entergy classified this CR with a categorization level B and replaced the relay based on further engineering evaluation that determined the relay would likely exceed TS

SR acceptance range in approximately 5 days after re-adjustment. At that time, Entergy did not determine the November 2007 as-found condition should have been evaluated for past operability and reportability considering the previous October 2007 failed test.

The inspectors determined that Entergy personnel did not appropriately identify that relay 62-1/3A exhibited excessive relay drift in October 2007 of approximately 20 seconds in a month and should have reasonably been considered abnormal drift within the CAP. Specifically, the inspectors acknowledge that relays experience drift; however, it is not expected that relay drift would be of a magnitude such that TS SR 3.3.5.2 acceptance range would be exceeded in a monthly surveillance period. The inspectors determined that Entergy's implementation of its EN-LI-102, "Corrective Action Process," was not effective or consistent with CAP expectations in that Entergy personnel did not identify the issue as a potentially degraded condition on a safety-related component with corrective actions implemented to minimize continued TS SR acceptance criteria challenges during the following surveillance interval. Further, the inspectors reviewed approximately three years of historical information for this relay and did not identify previous anomalous drift of such magnitude that challenged TS SR acceptance criteria. Additionally, the inspectors determined that Entergy's drift monitoring program in place at the time was not specific or sensitive to relay drift that exceeded TS SR acceptance ranges.

The inspectors concluded that Entergy personnel, in November 2007, did not adequately address past operability to determine if NRC reportability criteria per 10 CFR 50.73, "Licensee Event Report System," were exceeded for the degraded relay condition that existed for a time longer than would be permitted by the technical specification action statement 3.3.5, Loss of Power (LOP) Diesel Generator (DG) Start Instrumentation, without placing the degraded voltage function channel in trip. Specifically, based on the October 2007 relay surveillance failure, the inspectors determined that Entergy's corrective actions for CR-IP3-2007-04210 should have evaluated reportability since the as-found relay failure was a repeat event from the previous month's surveillance that, based on Entergy staff evaluations, would have indicated past operability between October and November was likely affected for some portion of that timeframe.

Entergy's corrective actions included the replacement of the relay in November 2007 and initiation of condition reports CR-IP3-2009-02664 and CR-IP3-2009-02773 which includes a final review of reportability by Entergy personnel.

Analysis: The inspectors identified a performance deficiency in that Entergy did not promptly identify and correct a condition adverse to quality associated with the 480-Volt degraded grid protection time delay relay that was within Entergy's ability to foresee and correct and should have been prevented.

The inspectors determined the finding is more than minor because it is associated with equipment performance attribute of the Mitigating Systems cornerstone and affects the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the 480-Volt bus 3A degraded voltage safety-related time delay relay, 62-1/3A, was degraded and exceeded its TS SR acceptance criteria of 45 seconds during two consecutive surveillance tests. However, the inspectors determined the relay would perform its safety function with a worst-case time delay of 55.9 seconds for a non-SI degraded grid condition. The inspectors' review determined this condition which would not have reasonably prevented

the relay from performing its function, allowing the 480V electrical bus 3A to swap its supply from the offsite grid to the on-site 31 emergency diesel generator prior to the loss or damage of any supplied equipment. Additionally, accident scenarios involving a degraded grid voltage with an SI condition were unaffected. The inspectors determined the significance of the finding using IMC 0609.04, "Phase 1 – Initial Screening and Characterization of Findings." The finding was determined to be of very low safety significance (Green) because it was not a design or qualification deficiency; did not represent a loss of system safety function; and did not screen as potentially risk-significant due to external initiating events.

The inspectors determined that this finding had a cross-cutting aspect in the area of problem identification and resolution within the corrective action program component because Entergy personnel did not thoroughly evaluate the problem such that the resolutions addressed causes. (P.1.c per IMC 0305)

Enforcement: 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. Contrary to the above, from October 11 to November 8, 2007, Entergy personnel did not implement measures to promptly identify and correct a condition adverse to quality associated with excessive drift for the 480-Volt degraded grid protection time delay relay, 62-1/3A, which resulted in the relay actuation time being outside the TS SR 3.3.5.2 acceptance range. Because this violation was of very low safety significance and was entered into Entergy's corrective action program (CR-IP3-2009-02664 and CR-IP3-2009-02773), this violation is being treated as an NCV, consistent with section VI.A.1 of the NRC Enforcement Policy. (**NCV 05000286/2009007-01: Degraded Grid Protection Time Delay Relay Exceeded Technical Specification Limits.**)

(2) Instrument Air 10 CFR 50.65(a)(2) Performance Demonstration Not Met

Introduction: The inspectors identified an NCV of very low safety significance (Green) of 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," paragraph (a)(2), for Entergy's failure to adequately demonstrate the instrument air (IA) system (a)(2) performance was effectively controlled through performance of appropriate preventive maintenance. Specifically, as evidenced by repeat functional failures of IA compressor solenoid-operated unloader valves in March 2009, the IA (a)(2) performance demonstration was no longer justified in accordance with maintenance rule implementing procedure guidance or consistent with Entergy's previous June 2008 (a)(1) evaluation of the issue.

Description: The IA system is a non-safety, risk significant system that is scoped within the maintenance rule because it is a structure, system, or component (SSC) required to mitigate accidents/transients, identified in emergency operating procedures, and its failure could cause a reactor scram. The primary maintenance rule function of the IA system is to provide dry filtered air for various instrument and control devices within the plant during all modes of operation.

In September 2007, a solenoid-operated unloader valve failure occurred on the 32 IA compressor causing continuous unloading of the compressor. This failure was



determined by Entergy personnel to be a maintenance rule functional failure per Entergy procedure EN-DC-205, "Maintenance Rule Monitoring." In January 2008, a similar unloader valve failure occurred on the 31 IA compressor. This failure was determined by Entergy personnel to be a maintenance rule repeat functional failure. Entergy staff evaluated the IA system for monitoring under 10 CFR 50.65(a)(1) per EN-DC-206, "Maintenance Rule (a)(1) Process." Entergy staff completed their 10 CFR 50.65(a)(1) evaluation in June 2008 and concluded the IA system would continue to be monitored in accordance with 10 CFR 50.65(a)(2) because the failures of the unloader valves were related to a vibration condition and not indicative of maintenance effectiveness issues. Specifically, site personnel determined the direct cause was excessive vibration on the air compressor control panel, which houses the solenoid-operated unloader valve, and is mounted directly on the air compressor casing. Entergy staff completed an engineering change (EC) in June 2008 to correct the vibration issue by relocation of the air compressor control panel from the compressor casing to the seismically-qualified decking next to the compressor, thus eliminating the excessive vibration. Entergy staff further supported its June 2008 (a)(1) evaluation by concluding that because the cause was known and corrective actions were identified to address the vibration issue with an expectation of completion prior to the March 2009 refueling outage, the IA system did not need to be monitored per 10 CFR 50.65(a)(1). In October 2008, the plant's Maintenance Rule Expert Panel met and approved the decision to continue to monitor the IA system in accordance with 10 CFR 50.65(a)(2).

Due to anticipated resource challenges in the normal work control process, the EC was planned to be worked by the Fix-It-Now team. No interim corrective actions were implemented by site personnel to preclude further failures of the unloader valves prior to the expected completion of the EC. In December 2008, an additional maintenance rule repeat functional failure of an unloader valve occurred on the IA system. Entergy staff continued to conclude monitoring of the IA system per 10 CFR 50.65(a)(2) was appropriate based on its June 2008 (a)(1) evaluation. Entergy personnel continued to experience various scheduling, coordination, and procurement issues that prevented the EC from being implemented prior to, during, or since the March 2009 RFO. Subsequently, three additional unloader valve failures occurred between March 2009 and June 2009. Entergy staff continued to conclude that monitoring of the IA system per 10 CFR 50.65(a)(2) was appropriate based on the June 2008 (a)(1) evaluation even though their (a)(1) evaluation basis relied on correcting the vibration problem prior to the March 2009 refueling outage.

The inspectors determined that Entergy's maintenance rule procedures and guidance from NEI 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," would allow initial maintenance rule functional failures to be considered non-maintenance effectiveness issues if the cause is known and corrective actions are in-place to address the issue in a reasonable timeframe. However, the inspectors determined it is not appropriate nor consistent with NEI 93-01 guidance to consider continued IA valve failures as non-maintenance effectiveness issues considering the original corrective actions to implement an engineering change were not completed as planned or as expected per Entergy's June 2008 (a)(1) evaluation nor were interim corrective actions implemented to minimize repeat failures. The inspectors further determined that in March 2009, the continued repeat valve failures indicated the IA system's performance was not being monitored and controlled effectively such that the system's (a)(2) performance demonstration was no longer justified.

Entergy personnel entered the issue into the CAP as CR-IP3-2009-02716 to evaluate the maintenance rule monitoring status of the IA system and current work schedule of the EC implementation date.

Analysis: The inspectors determined the failure to adequately demonstrate the IA system (a)(2) performance was effectively controlled through performance of appropriate preventive maintenance was a performance deficiency within Entergy personnel's ability to foresee and correct and should have been prevented.

The inspectors determined the finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective of ensuring the reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the solenoid-operated valve failures present a challenge to the reliability of the IA system due to the system's vulnerability to continued repeat failures. This finding was also similar to the more-than-minor example 7.b found in IMC 0612 Appendix E in that Entergy staff did not identify that the IA system should be monitored in accordance with 10 CFR 50.65(a)(1) and establish goals and monitor against those goals. The inspectors determined the significance of the finding using IMC 0609.04, "Phase 1 – Initial Screening and Characterization of Findings." The finding was determined to be of very low safety significance (Green) because it was not a design or qualification deficiency; did not represent a loss of system safety function; and did not screen as potentially risk-significant due to external initiating events.

The inspectors determined that this finding had a cross-cutting aspect in the area of human performance because Entergy did not ensure that available and adequate maintenance resources were applied such that a known IA system deficiency was corrected in a timely manner to prevent repeat functional failures of the instrument air compressor unloader valves. (H.2.a per IMC 0305)

Enforcement: 10 CFR 50.65(a)(1) requires, in part, that holders of an operating license shall monitor the performance or condition of SSCs within the scope of the monitoring program as defined in 10 CFR 50.65(b) against licensee-established goals, in a manner sufficient to provide reasonable assurance that such SSCs are capable of fulfilling their intended functions. 10 CFR 50.65(a)(2) states, in part, that monitoring as specified in 10 CFR 50.65(a)(1) is not required where it has been demonstrated that the performance or condition of an SSC is being effectively controlled through the performance of appropriate preventive maintenance, such that the SSC remains capable of performing its intended function.

Contrary to the above, Entergy personnel did not demonstrate that performance of the IA system continued to be effectively controlled through the performance of appropriate preventive maintenance in that continued, repetitive, maintenance preventable failures of the IA compressor solenoid-operated unloader valves occurred during March 2009. Following these failures, Entergy did not place the instrument air system under 10 CFR 50.65(a)(1) for establishing goals and monitoring against those goals.

Because this violation was of very low safety significance and was entered into Entergy's corrective action program (CR-IP3-2009-02716), this violation is being treated as an NCV, consistent with section VI.A.1 of the NRC Enforcement Policy (**NCV 05000286/2009007-02: Instrument Air 10 CFR 50.65 (a)(2) Performance Demonstration Not Met**).

## .2 Assessment of the Use of Operating Experience (OE)

### a. Inspection Scope

The inspectors selected a sample of CRs associated with the review of industry OE to determine whether Entergy personnel appropriately evaluated the OE information for applicability to Indian Point Unit 3 and had taken appropriate actions, when warranted. The inspectors reviewed CR evaluations of OE documents associated with a sample of NRC generic letters and information notices to ensure that Entergy adequately considered the underlying problems associated with the issues for resolution via their CAP. The inspectors also observed CRG and CARB meetings to determine if industry OE was considered during the CR screening and resolution process. A list of the documents reviewed is included in the Attachment to this report.

### b. Assessment

The inspectors determined that Entergy staff appropriately considered industry OE information for applicability, and used the information for corrective and preventive actions to identify and prevent similar issues when appropriate. The inspectors determined that OE was appropriately applied and lessons learned were communicated and incorporated into plant operations and procedures when applicable. The inspectors observed that industry OE was routinely discussed and considered during the conduct of CRG and CARB meetings.

### c. Findings

No findings of significance were identified.

## .3 Assessment of Self-Assessments and Audits

### a. Inspection Scope

The inspectors reviewed a sample of Quality Assurance (QA) audits, including a review of several of the findings from the most recent audit of the CAP, and a variety of self-assessments focused on various plant programs. These reviews were performed to determine if problems identified through these assessments were entered into the CAP, when appropriate, and whether corrective actions were initiated to address identified deficiencies. The effectiveness of the audits and assessments was evaluated by comparing audit and assessment results against self-revealing and NRC-identified observations made during the inspection. A list of documents reviewed is included in the Attachment to this report.

### b. Assessment

The inspectors concluded that QA audits and self-assessments were critical, thorough, and generally effective in identifying issues. The inspectors observed that these audits and self-assessments were completed by personnel knowledgeable in the subject areas and were completed to a sufficient depth to identify issues that were then entered into the CAP for evaluation. Corrective actions associated with the issues were implemented commensurate with their safety significance. Entergy managers evaluated the results and initiated appropriate actions to focus on areas identified for improvement.

c. Findings

No findings of significance were identified.

.4 Assessment of Safety Conscious Work Environment

a. Inspection Scope

During interviews with station personnel, the inspectors assessed aspects of the safety conscious work environment at Indian Point Unit 3. Specifically, as part of personnel interviews during the inspection, the inspectors asked questions to identify whether station personnel were hesitant to raise safety concerns to their management and/or the NRC. The inspectors also interviewed the station ECP coordinator to determine what actions were implemented to ensure employees were aware of the program and its availability with regard to raising concerns. The inspectors reviewed a number of ECP files to ensure that issues were entered into the CAP when appropriate.

b. Assessment

During interviews, plant staff expressed a willingness to use the CAP to identify plant issues and deficiencies and stated that they were willing to raise safety issues. The inspectors noted that no one interviewed stated that they personally experienced or were aware of a situation where there were indications an individual had been hesitant to raise a safety issue. All persons interviewed demonstrated an adequate knowledge of the CAP and ECP. Based on these limited interviews, the inspectors concluded that there was not evidence of significant challenges to the free flow of information regarding safety concerns.

c. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

On June 18, 2009, the inspectors presented the inspection results to Mr. Joseph Pollock, Site Vice President, and to other members of the Entergy staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in the report.

ATTACHMENT: SUPPLEMENTAL INFORMATION

**SUPPLEMENTAL INFORMATION**

**KEY POINTS OF CONTACT**

Licensee personnel

Joe Pollock, Site Vice President  
Tony Vitale, General Manager Plant Operations  
Don Mayer, Director, Unit 1  
Tom Orlando, Director, Engineering  
Bob Walpole, Manager, Licensing  
John Donnelly, Manager, Corrective Action & Assessment  
John Dinelli, Assistant Operations Manager, Unit 3  
Carl Smyers, Assistant Operations Manager, Operations Support  
Tim Garvey, Supervisor of Emergency Planning Infrastructure  
George Dahl, Licensing Engineer  
John Hill, Design I&C Engineering Supervisor  
Joe Reynolds, Senior Specialist, Corrective Actions & Assessment  
Victor Soohoo, Instrument Air System Engineer  
Tom Flynn, Quality Control Specialist  
Mario DeGenova, Mechanical Systems Engineer  
Patrick Cloughessy, Maintenance Rule Coordinator  
Michael Dries, Mechanical System Engineer  
Lou Lubrano, Component Engineer  
Bob Lee, IST Engineer  
Jarvis Miu, IST Engineer  
Christopher Ingrassia, System Engineer  
Vincent Andreozzi, System Engineering Electrical Supervisor  
Paul Bode, OE Coordinator  
Bruce Shepard, Design Engineer - I&C  
John Balletta, Control Room Supervisor  
Dan Morales, System Engineer - Electrical I&C  
Abdul Bokhari, Design Engineer - I&C and EQ  
John Bencivenga, Design Engineer - Mechanical  
Bill Mahlmeister, Design Engineer - Electrical  
Herb Robinson, Design Engineer - Electrical  
Ovidio Ramirez, Jr., System Engineer - Electrical

**LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**Opened and Closed

05000286/2009007-01	NCV	Degraded Grid Protection Time Delay Relay Exceeded Technical Specification Limits (Section 4OA2.1.c)
05000286/2009007-02	NCV	Instrument Air 10 CFR 50.65(a)(2) Performance Demonstration Not Met. (Section 4OA2.1.c)

**LIST OF DOCUMENTS REVIEWED**Audits and Self-Assessments

QA-03-2007-IP-1	QA-14-2007-IP-1	QA-04-2008-IP-1
QA-10-2008-IP-1	QA-03-2009-IP-1	
LO-IP3LO-2007-00073	LO-IP3LO-2007-00129	LO-IP3LO-2007-00171
LO-IP3LO-2007-00226	LO-IP3LO-2007-00287	LO-IP3LO-2007-00297
LO-IP3LO-2008-00031	LO-IP3LO-2008-00103	LO-IP3LO-2008-00117
LO-IP3LO-2008-00144	LO-IP3LO-2008-00160	LO-IP3LO-2008-00172

Condition Reports (Unit 3 unless denoted otherwise)

2002-00141	2004-02269	2004-03663	2004-03859
2005-00956	2005-04058	2005-04071	2006-01003
2006-01004	2006-01290	2006-01314	2006-01596
2006-01917	2006-02071	2006-03241	2006-03557
2006-03559	2006-03867	2007-00018	2007-00089
2007-00275	2007-00286	2007-00295	2007-00518
2007-00556	2007-00655	2007-00682	2007-00699
2007-00870	2007-00924	2007-00958	2007-00978
2007-01003	2007-01030	2007-01049	2007-01129
2007-01373	2007-01389	2007-01442	2007-01496
2007-01564	2007-01569	2007-01588	2007-01604
2007-01620	2007-01629	2007-01640	2007-01641
2007-01713	2007-01808	2007-01834	2007-01844
2007-01867	2007-01895	2007-01948	2007-02026
2007-02030	2007-02047	2007-02111	2007-02123
2007-02163	2007-02170	2007-02172	2007-02210
2007-02213	2007-02224	2007-02272	2007-02351
2007-02417	2007-02489	2007-02527	2007-02529
2007-02557	2007-02616	2007-02675	2007-02682

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2007-02723	2007-02774	2007-02826	2007-02836
2007-02868	2007-02921	2007-02939	2007-02941
2007-02982	2007-03037	2007-03065	2007-03130
2007-03217	2007-03299	2007-03317	2007-03542
2007-03453	2007-03499	2007-03502	2007-03535
2007-03560	2007-03562	2007-03577	2007-03603
2007-03613	2007-03637	2007-03639	2007-03646
2007-03660	2007-03730	2007-03751	2007-03753
2007-03807	2007-03818	2007-03822	2007-03854
2007-03869	2007-03869	2007-03900	2007-03957
2007-04002	2007-04012	2007-04024	2007-04098
2007-04117	2007-04133	2007-04135	2007-04141
2007-04152	2007-04156	2007-04174	2007-04193
2007-04204	2007-04210	2007-04212	2007-04217
2007-04224	2007-04226	2007-04230	2007-04238
2007-04249	2007-04271	2007-04281	2007-04341
2007-04360	2007-04361	2007-04411	2007-04464
2007-04510	2007-04524	2008-00007	2008-00022
2008-00053	2008-00119	2008-00218	2008-00252
2008-00302	2008-00309	2008-00319	2008-00320
2008-00341	2008-00346	2008-00347	2008-00367
2008-00390	2008-00574	2008-00658	2008-00698
2008-00748	2008-00753	2008-00753	2008-00767
2008-00818	2008-00819	2008-00953	2008-00961
2008-00978	2008-00984	2008-00987	2008-01081
2008-01125	2008-01161	2008-01193	2008-01221
2008-01236	2008-01241	2008-01245	2008-01248
2008-01250	2008-01257	2008-01286	2008-01334
2008-01347	2008-01436	2008-01437	2008-01446
2008-01446	2008-01538	2008-01589	2008-01594
2008-01599	2008-01617	2008-01717	2008-01717
2008-01835	2008-01837	2008-01863	2008-01951
2008-01995	2008-02000	2008-02008	2008-02195
2008-02223	2008-02252	2008-02280	2008-02291
2008-02312	2008-02337	2008-02358	2008-02398
2008-02416	2008-02495	2008-02527	2008-02601
2008-02636	2008-02798	2008-02832	2008-02893
2008-02894	2008-02897	2008-02933	2008-02952
2008-02979	2008-03029	2008-03041	2008-03069
2008-03073	2008-03085	2008-03133	2008-03138
2008-03154	2008-03204	2008-03204	2008-03207
2008-03208	2008-03216	2008-03234	2009-00011
2009-00022	2009-00052	2009-00067	2009-00119
2009-00134	2009-00139	2009-00213	2009-00213
2009-00275	2009-00314	2009-00323	2009-00329
2009-00342	2009-00354	2009-00393	2009-00405
2009-00466	2009-00475	2009-00573	2009-00615
2009-00719	2009-00816	2009-00925	2009-01071

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2009-01156	2009-01190	2009-01191	2009-01245
2009-01299	2009-01379	2009-01384	2009-01392
2009-01406	2009-01406	2009-01412	2009-01474
2009-01585	2009-01587	2009-01649	2009-01651
2009-01677	2009-01749	2009-01806	2009-01884
2009-01886	2009-01896	2009-01916	2009-01998
2009-02016	2009-02251	2009-02268	2009-02336
2009-02481	2009-02485	2009-02542	2009-02553
2009-02569			

*2009-02559	*2009-02573	*2009-02576	*2009-02580
*2009-02587	*2009-02589	*2009-02591	*2009-02593
*2009-02596	*2009-02599	*2009-02606	*2009-02607
*2009-02608	*2009-02609	*2009-02648	*2009-02657
*2009-02662	*2009-02664	*2009-02667	*2009-02668
*2009-02676	*2009-02686	*2009-02691	*2009-02692
*2009-02709	*2009-02716		

\*NRC Identified During Inspection

Operating Experience

IN 2006-02, Use of Galvanized Supports and Cable Trays with Meggitt Si 2400 Stainless-Steel-Jacketed Electrical Cables  
IN 2006-22, New Ultra-low-sulfur Diesel Fuel Oil Could Adversely Impact Diesel Engine Performance  
IN 2008-02, Findings Identified During Component Design Bases Inspections  
IN 2008-09, Turbine-driven Auxiliary Feedwater Pump Bearing Issues  
IN 2008-11, Service Water System Degradation at Brunswick Steam Electric Plant Unit 1  
IN 2009-02, Biodiesel In Fuel Oil Could Adversely Impact Diesel Engine Performance  
IN 2009-04, Age-Related Constant Support Degradation  
RIS 08-14, Use of Tormis Computer Code for Assessment of Tornado Missile Protection  
IN 2007-28, Potential Common Cause Vulnerabilities in Essential Service Water Systems Due To Inadequate Chemistry Controls  
IN 2007-29, Temporary Scaffolding Affects Operability of Safety-Related Equipment

OE 28835	OE 28836	OE 28837	OE 28838
OE 28840	OE 28841	OE 28843	OE 28845

Drawings

9321-LL-31173, Schematic Diagram 480V Switchgear 31, sheet 6, Rev. 25  
9321-LL-31173, Schematic Diagram 480V Switchgear 31, sheet 7, Rev. 11  
9321-LL-31173, Schematic Diagram 480V Switchgear 31, sheet 6B, Rev. 4  
9321-F-27513, Auxiliary Coolant System, Rev. 30



Calculations

IP3-CALC-PABHV-01419, PAB Appendix R Heat-Up Analysis, Rev. 0  
IP3-CALC-PABHV-02003, RHR Room Heat-Up Calculation, Rev. 0  
IP3-CALC-HVAC-02073, Electrical Load Analysis per ENG-560, Rev. 0  
PGI-00419-00, Indian Point Unit 2 Primary Auxiliary Building Room Heat Analyses,  
December 1999

Non-Cited Violations and Findings

NCV 05000286/2007004-01, Failure to monitor emergency lighting system in accordance with  
10CFR 50.65 (a)(1) action plan  
NCV 05000286/2007005-01, Failure to provide an adequate EDG maintenance procedure  
NCV 05000286/2007006-01, Inadequate pressure locking methodology used to  
ensure valve operability  
NCV 05000286/2007006-03, Non-conservative calculation for TDAFW pump discharge  
pressure used for surveillance testing  
NCV 05000286/2007006-06, Inadequate design inputs and testing requirements for  
EDG loading  
NCV 05000286/2008002-04, Failure to maintain EDG jacket cooling water  
pressure switch design control  
NCV 05000286/2008004-02, Failure to follow maintenance procedures results in degraded EDG  
for 37 days  
NCV 05000286/2008004-01, Failure to follow procedures results in the inadvertent start of two  
auxiliary boiler feed pumps at power  
NCV 05000286/2008010-01, Inadequate design control of internal recirculation pumps

Procedures

EN-DC-128, Fire Protection Program Review, Rev. 3  
EN-DC-205, Maintenance Rule Monitoring, Rev. 2  
EN-DC-206, Maintenance Rule (a)(1) Process, Rev. 1  
EN-EC-100, Guidelines for the Implementation of the Employees Concern Program, Rev. 4  
EN-HU-101, Human Performance Program, Rev. 6  
EN-HU-103, Human Performance Error Reviews, Rev. 1  
EN-LI-100, Process Applicability Determination, Rev. 7  
EN-LI-102, Corrective Action Process, Rev. 13  
EN-LI-104, Self-Assessment and Benchmark Process, Rev. 4  
EN-LI-114, Performance Indicator Process, Rev. 4  
EN-LI-118, Root Cause Analysis Process, Rev. 9  
EN-LI-119, Apparent Cause Evaluation (ACE) Process, Rev. 8  
EN-LI-121, Entergy Trending Process, Rev. 8  
EN-MA-101, Conduct of Maintenance, Rev. 6  
EN-OE-100, Operating Experience Program, Rev. 6  
EN-OP-102, "Protective and Caution Tagging," Rev. 3  
EN-OP-104, Operability Determinations, Rev. 3  
EN-OP-115, Conduct of Operations, Rev. 6

- EN-QV-108, QA Surveillance Process, Rev. 6
- EN-WM-100, Work Request Generation, Screening and Classification, Rev. 3
- 3-SOP-ESP-001, Local Equipment Operation and Contingency Actions, Rev. 19
- 3-SOP-INST-001, Filling, Venting and Flushing of Instrumentation Impulse Lines, Rev. 19
- 3-COL-RW-2, Service Water System, Rev. 42
- 3-SYS-018-GEN, Installation, Control and Removal for Support Electrical and Mechanical Equipment Required for Scheduled Bus 2A Outages, Rev. 1
- 3-SOP-SI-001, Safety Injection System Operation, Rev. 44
- 3-SOP-CC-001B, Component Cooling System Operation, Rev. 33
- 3-SOP-INST-001, Filling, Venting and Flushing of Instrumentation Impulse Lines, Rev. 19

Surveillance Procedures

- 3-PT-M62A, 480V Undervoltage/Degraded Grid Protection System Bus 2A and 3A Functional, Rev. 7
- 3-PT-Q001A, #31 Station Battery Surveillance, Rev. 6
- 3-PT-Q001B, #32 Station Battery Surveillance, Rev. 6
- 3-PT-Q001C, #33 Station Battery Surveillance, Rev. 8
- 3-PT-Q001D, 34 Station Battery Surveillance, Rev. 5
- 3-PT-Q01A, 31 Station Battery Surveillance, Rev. 4
- 3-PT-Q01B, 32 Station Battery Surveillance, Rev. 5
- 3-PT-Q01D, 34 Station Battery Surveillance, Rev. 4
- 3-PT-R156A, Station Battery #31 Load Profile Service Test, Rev. 12
- 3-PT-R172D, Station Battery #34 Modified Performance Test, Rev. 7
- 3-PT-Q092B, 32 Service Water Pump Train Operational Test, Rev. 10
- 3-PT-W013, Station Battery Visual Inspection, Rev. 22
- 3-PT-R-152, Operability Testing of Safe Shutdown Equipment," Rev. 8
- 3-PT-W001, Emergency Diesel Support Systems Inspection," Rev. 40
- 3-PT-R090D, Emergency Local Operation of Auxiliary Boiler Feedpumps," Rev. 13
- 3-PT-Q129, Service Water System Alignment Verification, Rev. 5
- 3-PT-R177, Pressurizer Heater Output and Backup Heater Groups 31, 32, and 33 Local Operation Test, Rev. 4
- 3-PT-R066A, IST of Check Valves AC-741, 738A+B; SI-838A, B, C, D; and SI-897A, B, C, D, Rev. 6
- 3-PT-R066, IST of Check Valves SI-881; AC-741, 738A+B; SI-838A, B, C, D; and SI-897A, B, C, D, Rev. 11
- 3-PT-R-152, Operability Testing of Safe Shutdown Equipment, Rev. 8
- 3-PT-R090D, Emergency Local Operation of Auxiliary Boiler Feed Pumps, Rev. 13
- 3-PT-R090E, 32 Auxiliary Boiler Feedwater Pump Local Operation Verification Test, Rev. 12
- 3-PT-R177, Pressurizer Heater Output and Backup Heater Groups 31, 32, and 33 Local Operation Test, Rev. 4

Work Orders

00109881	00103831	00126328	00186510
00188706	00196662	51325013	51325014
51476675	51478702	51478703	51478701

51465253	51556617	51565142	52039046
52040305	52186684	52188481	

Miscellaneous

IP3-RPT-ESS-01885, "Maintenance Rule Basis Document IP3-RPT-ESS-01885 for System D11-0066 Engineered Safeguards Initiation Logic System," Rev. 1  
 IP3-DBD-307, "480V AC Electrical Distribution System," Rev. 3  
 Operation Decision-Making Issue "31 and 32 Battery Cover Cracks," Rev. 4  
 Safety Evaluation by the Office of Nuclear Reactor Regulation Related to Amendment No. 54 to Facility Operating License No. DPR-64 Power Authority of the State of New York Indian Point Nuclear Generating Unit No. 3 Docket No. 50-286, dated April 9, 1985  
 Letter from "Indian Point Units 2 and 3 Docket Nos. 50-247 & 50-286 NL-05-053" to "U.S. Nuclear Regulatory Commission" regarding "Proposed Change to Technical Specifications Regarding Trip Actuating Device Surveillance Requirements for Setpoint Verification" dated April 22, 2004  
 IP3-RPT-IA-01891, "Instrument Air and Instrument Air Closed Cooling Systems Maintenance Rule Basis Document," Rev. 0  
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**LIST OF ACRONYMS**

ADAMS	Agency-wide Documents Access and Management System
CAP	Corrective Action Program
CARB	Corrective Action Review Board
CFR	Code of Federal Regulations
CR	Condition Report
CRG	Condition Review Group
DRN	Document Revision Number
DRP	Division of Reactor Projects
ECP	Employee Concerns Program
IMC	Inspection Manual Chapter
LER	Licensee Event Report
MR	Maintenance Rule
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
OE	Operating Experience
PARS	Publicly Available Records System
PI&R	Problem Identification and Resolution
PM	Preventive Maintenance
ROP	Reactor Oversight Process
SCWE	Safety Conscious Work Environment
SDP	Significance Determination Process
SSCs	Structures, Systems and Components
SR	Surveillance Requirement
UFSAR	Updated Final Safety Analysis Report
WO	Work Order