



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

June 18, 2008

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 3 - SUPPLEMENTAL  
INSPECTION REPORT 05000286/2008009**

Dear Mr. Pollock:

On April 25, 2008, the U.S. Nuclear Regulatory Commission (NRC) completed a supplemental inspection at your Indian Point Nuclear Generating Unit 3. The enclosed report documents the inspection results, which were discussed on May 15, 2008, with Mr. Anthony Vitale and other members of your staff.

The purpose of this supplemental inspection, performed in accordance with Inspection Procedure 95001, "Inspection for One or Two White Inputs into a Strategic Performance Area," was to examine your problem identification, root cause evaluation, extent-of-condition and extent-of-cause reviews, and corrective actions associated with four reactor trips. These four reactor trips led to a White Initiating Events cornerstone performance indicator that placed Indian Point Unit 3 in the Regulatory Response column of the NRC Reactor Oversight Process Action Matrix for the second quarter of 2007. 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 review of causal evaluations and supplemental documentation, the inspectors determined that Entergy generally identified the performance issues associated with the White performance indicator and have adequate corrective actions either implemented or planned to address the performance issues. However, the inspectors observed that Entergy personnel performed several self assessments and revisions to the causal evaluations before fully identifying the performance issues and appropriate corrective actions to prevent reoccurrences. This resulted in the NRC delaying a scheduled NRC supplemental inspection for this issue in September 2007.

Notwithstanding the observations and one finding described in this report, the inspectors concluded that Entergy's overall performance was acceptable in determining the root and contributing causes of the performance deficiencies that led to the White performance indicator. Additionally, Entergy had planned or completed corrective actions to prevent recurrence of these performance deficiencies. As a result, consistent with Inspection Manual Chapter 0305, "Operating Reactor Assessment Program," a parallel White inspection finding will not be opened for this performance indicator that had previously exceeded the Green/White threshold and further agency follow-up beyond the baseline inspection program is not warranted.

This report documents one NRC-identified finding of very low safety significance (Green). This finding was determined to be a violation of NRC requirements. However, because this finding is of very low safety significance, and because it was entered into your corrective action program, the NRC is treating this finding as a non-cited violation (NCV) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest the NCV in this report, you should provide a written response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement; and the NRC Senior Resident Inspector at Indian Point Nuclear Generating Unit 3.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and 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/**

Mel Gray, Branch Chief  
Division of Reactor Projects  
Region I

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

Enclosure: Inspection Report No. 05000286/2008009  
w/ Attachments: Supplemental Information

cc w/encl:  
see next page

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 50-286

License No.: DPR-64

Report No.: 05000286/2008009

Licensee: Entergy Nuclear Northeast (Entergy)

Facility: Indian Point Nuclear Generating Unit 3

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

Dates: April 21 through April 25, 2008

Inspectors: B. Bickett, Senior Project Engineer, Region I  
D. Jackson, Senior Project Engineer, Region I

Approved by: Mel Gray, Branch Chief  
Division of Reactor Projects  
Region I

## SUMMARY OF FINDINGS

Inspection Report (IR) 05000286/2008009; 4/21/2008 – 4/25/2008; Indian Point Nuclear Generating Unit 3, Supplemental Inspection (Inspection Procedure 95001) for a White performance indicator in the Initiating Events cornerstone.

This inspection was conducted by two region based inspectors. One finding of very low safety significance (Green) was identified. This finding was determined to be a non-cited violation (NCV). The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 0609, "Significance Determination Process." Findings for which the significance determination process (SDP) does not apply may be Green, or be assigned a severity level after NRC management review. The NRC's program for overseeing safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

### Cornerstone: Initiating Events

The NRC performed this supplemental inspection to assess Entergy's evaluation associated with the Unit 3 Initiating Events cornerstone performance indicator (PI) for Unplanned Scrams per 7000 Critical Hours. This PI crossed the Green/White threshold (value > 3.0) in the second quarter of 2007 when Indian Point Unit 3 experienced its fourth reactor trip. At the time of this inspection, the performance indicator for Unplanned Scrams per 7000 Critical Hours for Indian Point Unit 3 had returned to below the Green/White threshold.

The inspectors determined that Entergy generally identified the performance issues that led to the White PI, identified root and contributing causes of the issues, and had taken or planned actions to address the identified causes and prevent recurrence of the issues. However, the inspectors identified one finding and several observations associated with weaknesses in Entergy's causal evaluations and corrective actions. Additionally, the inspectors noted that Entergy personnel performed several self-assessments and revisions to their causal evaluations before fully identifying the performance issues and establishing appropriate corrective actions to prevent recurrence. This caused a delay of a scheduled NRC supplemental inspection for this issue in September 2007.

Notwithstanding the observations and one finding as described in this report, the inspectors concluded that Entergy's overall performance was acceptable in determining the root and contributing causes of the performance deficiencies that led to the White performance indicator. Additionally, Entergy had planned or completed corrective actions to prevent recurrence of these performance deficiencies. As a result, consistent with Inspection Manual Chapter 0305, "Operating Reactor Assessment Program," a parallel White inspection finding will not be opened for this performance indicator that had previously exceeded the Green/White threshold and agency follow-up beyond the baseline inspection program is not warranted.

#### A. Findings

Green. The inspectors identified a Green NCV of Title 10 of the Code of Federal Regulations Part 50 (10 CFR 50), Appendix B, Criterion XVI, "Corrective Action,"

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because Entergy did not establish and implement adequate corrective actions for a condition adverse to quality involving procedural inadequacy associated with reactor trips. Specifically, during Entergy's evaluation to determine reactor trip common causes performed in April 2007, Entergy identified that weak procedure guidance and procedural inadequacy was a common adverse cause associated with Unit 2 and Unit 3 reactor trips experienced during 2006 and 2007. The inspectors determined that Entergy's corrective action implemented to address the adverse condition in CR-IP3-2007-1849, specific to procedural adequacy as it relates to reactor trip reduction efforts, was not adequate. Entergy did not take specific or prompt action besides reliance upon on a long-standing, existing procedure upgrade project. As a result, timely and effective corrective actions were not taken to address procedural adequacy related to reactor trip reduction efforts. Entergy issued condition report CR-IP2-2008-2650 to address the issue.

The inspectors determined that this finding was more than minor, because it was associated with the procedure quality attribute of the Initiating Events cornerstone and impacts the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the failure to take effective and timely reactor trip reduction corrective actions for procedural inadequacy resulted in corrective actions not being implemented to ensure plant procedures reasonably prevent and minimize challenges that could result in unplanned reactor trips. This finding was evaluated using Phase 1 of Inspection Manual Chapter (IMC) 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations." This finding was determined to be of very low safety significance (Green) because, while it is a transient initiator contributor that could result in a reactor trip, it did not contribute to the likelihood that mitigation equipment or functions would not be available.

The inspectors determined that this finding had a cross-cutting aspect in the area of problem identification and resolution because Entergy did not take appropriate corrective actions to address procedural adequacy issues in a timely manner commensurate with its significance. (P.1(d) per IMC 0305)

B. Licensee-Identified Violations

None.

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## REPORT DETAILS

## 01 INSPECTION SCOPE

The NRC conducted this supplemental inspection in accordance with Inspection Procedure (IP) 95001, "Inspection for One or Two White Inputs into a Strategic Performance Area," to assess Entergy's evaluations associated with a White Initiating Events cornerstone performance indicator (PI) reported in the second quarter of 2007. The Unplanned Scrams per 7000 Critical Hours performance indicator is based on the number of unplanned scrams (reactor trips) that are experienced by a unit within the previous 7000 critical hours of reactor operation as measured on a 12-month periodicity. During a time-frame spanning approximately nine months beginning in July 2006, Indian Point Unit 3 experienced four reactor trips that resulted in Unit 3 crossing the Green/White performance indicator threshold (value of >3.0) for Unplanned Scrams per 7000 Critical Hours. Entergy reported the second quarter 2007 performance indicator data to the NRC in July 2007.

The following reactor trips contributed to the White performance indicator:

- July 6, 2006, Unit 3 automatic reactor trip associated with a main generator protection circuit trip caused by an electrical short in the insulation wiring in the junction box of the main generator output phase 'B' differential protection current transformer;
- July 21, 2006, Unit 3 manual reactor trip associated with electrical arcing under the main generator due to metal scaffolding contacting two phases of the main generator iso-phase bus housing;
- April 3, 2007, Unit 3 manual reactor trip associated with a failure of the 32 main boiler feed pump speed control system while conducting maintenance on the system; and
- April 6, 2007, Unit 3 automatic reactor trip associated with a main turbine and generator lockout caused by an electrical fault experienced on the 31 main transformer 'B' phase high voltage bushing.

The inspection objectives were as follows:

- Provide assurance that Entergy understood the root and contributing causes of the four reactor trips and White performance indicator for the risk significant performance issues;
- Provide assurance that Entergy identified the extent of condition and extent of cause of the performance issues; and
- Provide assurance that Entergy has taken or planned corrective actions that are sufficient to address the root causes and contributing causes and to prevent recurrence.

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Entergy performed a root cause analysis for each of the four reactor trips and a common cause analysis of the issues to identify weaknesses that resulted in the performance indicator for Unplanned Scrams per 7000 Critical Hours to exceed the Green/White threshold.

The inspectors reviewed Entergy's evaluations and interviewed station personnel to determine whether Entergy personnel identified how long the conditions occurred that led to the reactor trips, prior opportunities to correct the conditions, and the plant specific consequences and compliance concerns associated with the reactor trips. The inspectors also determined whether Entergy personnel utilized appropriate methodologies to identify causes of the reactor trips, considered the issues in appropriate scope and detail to identify the extent of the causes, extent of the conditions, and the safety culture components that may have contributed to the reactor trips. Finally, the inspectors determined whether corrective actions were appropriately identified, prioritized, and scheduled to address each root or contributing cause identified in the evaluations. The documents reviewed are listed in Attachment 1.

This inspection was originally scheduled to be completed in September 2007, based upon Entergy's conclusion that they had completed evaluations of the White performance indicator and were ready for the supplemental inspection described in IP 95001. However, on September 6, 2007, Entergy concluded that not all specific issues identified in a snapshot self-assessment had auditable actions that would support the supplemental inspection. Additionally, Entergy concluded that their root cause evaluation for the main transformer bushing failure-related reactor trip in April 2007 needed to be updated based on an NRC finding documented in inspection report 05000286/2007003. In a letter to the NRC dated September 7, 2007, Entergy requested the NRC cease the ongoing supplemental inspection. The NRC agreed to defer and reschedule the inspection based upon a future determination of Entergy's readiness and after Entergy completed an evaluation to determine the reasons for not being prepared for the supplemental inspection. [Reference NRC letter dated September 12, 2007, ADAMS ML072550571]

## 02 EVALUATION OF INSPECTION REQUIREMENTS

### 02.01 Problem Identification

#### a. Determination of who identified the issue and under what conditions.

During the time-frame spanning approximately nine months beginning in July 2006, the Indian Point Unit 3 reactor tripped four times. This resulted in Indian Point Unit 3 crossing the Green/White performance indicator threshold (value of > 3.0) for Unplanned Scrams per 7000 Critical Hours during the second quarter of 2007. The four reactor trips involved self-revealing event initiators that resulted in both automatic and operator-initiated manual reactor trips.

The inspectors determined that Entergy's evaluations appropriately assessed the circumstances surrounding identification of the issues. However, the inspectors noted that significant NRC engagement, as documented in inspection report

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05000286/2007003, was needed prior to Entergy fully identifying the performance issues associated with the April 2007 reactor trip related to the 31 main transformer bushing failure.

- b. Determination of how long the issue existed and prior opportunities for identification.

The Indian Point Unit 3 performance indicator for Unplanned Scrams per 7000 Critical Hours crossed the Green/White threshold (value of > 3.0) on April 6, 2007 (second quarter of 2007) and returned to the Green band in the third quarter of 2007.

The inspectors determined that Entergy's evaluations appropriately identified prior missed opportunities that contributed to the reactor trips and White performance indicator. However, the inspectors noted that significant NRC engagement, as documented in inspection report 05000286/2007003, was needed to identify the prior missed opportunity by Entergy to fully evaluate available transformer data and corrective action shortcomings relevant to the April 2007 reactor trip related to the 31 main transformer bushing failure.

- c. Determination of the plant-specific risk consequences and compliance concerns associated with the issue.

In response to each of the four reactor trips in 2006 and 2007, the resident inspector staff evaluated plant parameters, operator actions, and overall plant status including the availability of mitigating systems. The resident inspector staff, for all four reactor trips, determined that operator actions and system response after the reactor trips were as expected. The resident inspectors documented these reviews and associated compliance concerns in NRC inspection reports 05000286/2006004 and 05000286/2007003.

The inspectors further determined that Entergy's root cause evaluations and licensee event reports appropriately assessed compliance concerns, site specific risk, and personnel and equipment hazards.

## 02.02 Root Cause, Extent of Condition and Extent of Cause Evaluation

- a. Evaluation of method(s) used to identify the root cause(s) and contributing cause(s).

Entergy completed a root cause evaluation for each individual reactor trip and a common cause evaluation to identify causal factors associated with the White performance indicator and its individual reactor trip inputs. Several different root cause methodologies were used by Entergy to evaluate root and contributing causes related to the individual reactor trip events and the White performance indicator. Entergy used a combination of evaluation methodologies to identify the underlying causal factors that included Kepner-Tregoe Analysis, Why Staircase methodology, Barrier Analysis, Binning Analysis, and Event and Causal Factor charts.

The inspectors determined the evaluation methods used by Entergy were appropriate and that Entergy systematically applied the various methodologies to identify the causal

factors associated with the individual reactor trips and White performance indicator.

b. Level of detail of the root cause evaluation(s).

Entergy completed individual root cause evaluations for each of the four reactor trips. Additionally, Entergy performed a common cause evaluation that considered seven reactor trips that included Unit 2 and Unit 3 events during the 2006 and 2007 timeframe.

The inspectors concluded that Entergy conducted an adequate evaluation of the White performance indicator and the associated individual reactor trips that contributed to the White performance indicator. The inspectors determined that the evaluations were conducted to a level of detail commensurate with the significance of the problems. However, the inspectors identified the following weaknesses associated with the level of detail in the causal evaluations:

- Entergy's initial causal evaluations associated with three of the four reactor trips placed a primary focus on the technical details of those events. Those initial evaluations did not fully discuss or document the human performance contributions that, in parallel with the technical issues, potentially contributed or provided performance insight relevant to the events. Specifically, Entergy's initial root cause evaluations associated with the main generator electrical arcing-related manual reactor trip, 32 main boiler feed pump speed control system-related manual reactor trip, and the 31 main transformer bushing failure-related automatic reactor trip did not fully discuss or document management decision making details of the events, which potentially could provide performance insights related to the reactor trips.

However, our review did not determine that Entergy had failed to identify a contributing cause for any of the four reactor trips. Our review also determined that Entergy's corrective actions associated with risk management developed through their subsequent common cause evaluation and self-assessments addressed management decision making aspects of the reactor trips. Entergy issued condition report (CR)-IP2-2008-2652 to address the observation.

- On September 6, 2007, Entergy concluded they were not prepared for the in progress supplemental inspection and needed additional time to complete and document causal evaluations and corrective actions. Specifically, Entergy's letter to the NRC indicated additional time was needed to develop Entergy's auditable corrective actions from the snapshot self-assessment. Additionally, Entergy concluded that their main transformer root cause needed to be updated based on a recent NRC violation documented in NRC inspection report 05000286/2007003. As a result of not being prepared for the supplemental inspection, Entergy committed to and performed an apparent cause evaluation to assess the station's lack of readiness for the NRC supplemental inspection as initially scheduled.

The inspectors reviewed Entergy's apparent cause evaluation (CR-IP3-2007-3494) and determined that Entergy personnel concluded they were not prepared for the supplemental inspection when originally planned in September 2007 because of differences in technical conclusions with the inspectors regarding their evaluation of the 31 main transformer bushing failure-related reactor trip. Additionally, Entergy concluded their lack of readiness for this inspection resulted from not identifying corrective action plans to address their self-assessment results. However, in the view of the inspectors, Entergy was not prepared because personnel did not appropriately implement procedural guidance described in procedure EN-LI-119, "Apparent Cause Evaluation Process." Specifically, the inspectors concluded that implementation of the 'Why Staircase' methodology as described in EN-LI-119, would have resulted in conclusions of an inadequate understanding on the part of Entergy personnel as to the depth of evaluation needed to support a supplemental inspection described in Inspection Procedure 95001. The inspectors' conclusion was further supported by multiple Entergy self-identified weaknesses identified in Entergy self-assessments performed from December 2007 through February 2008 to ensure station readiness for the NRC supplemental inspection in April 2008.

This issue involves a violation of 10 CFR 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," because Entergy did not adequately implement procedural guidance in EN-LI-119, "Apparent Cause Evaluation Process," and appropriately identify the underlying basic causes for inadequate preparation for a NRC supplemental inspection. However, this violation is being dispositioned as minor because traditional enforcement does not apply as there were no actual safety consequences or potential for impacting the NRC's regulatory function, and the finding was not the result of any willful violation of NRC requirements or Entergy procedures; and is not considered more than minor in accordance with Inspection Manual Chapter 0612, Appendix B, "Issue Screening." Entergy issued condition report CR-IP2-2008-2651 to address this performance deficiency.

- c. Consideration of prior occurrences of the problem and knowledge of prior operating experience.

Entergy completed reviews in the respective individual trip root cause evaluations that considered prior occurrences of the problem and knowledge of prior operating experience.

The inspectors concluded that Entergy's causal evaluations properly considered and documented prior occurrences of events, including prior operating experience, which had applicable causal relations for the 2006 and 2007 reactor trips that resulted in the White performance indicator.

- d. Determination of the extent of condition and the extent of cause of the problem.

Entergy completed individual extent of condition and cause reviews for each of the four

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reactor trips. Additionally, Entergy performed a common cause evaluation that considered seven reactor trips that included Unit 2 and Unit 3 events during the 2006 and 2007 timeframe.

The inspectors determined Entergy's evaluations of extent of condition and extent of cause appropriately assessed extent of equipment and performance issues applicable to the individual and collective performance issues. Entergy appropriately considered the extent of the issues for each reactor trip and took a broad common cause review that considered extent of condition and cause incorporating both Unit 2 and 3 insights.

- e. Determine that the root cause evaluation, extent of condition, and extent of cause appropriately considered the safety culture components as described in Inspection Manual Chapter 0305, "Operating Reactor Assessment Program."

The inspectors determined that Entergy appropriately considered whether weaknesses in safety culture components were root or contributing causes for the performance issues. The identified common causal factors were broad and encompassed the applicable safety culture attributes associated with human performance aspects of "procedural inadequacy" and "decision making." The inspectors did not identify any safety culture component that could reasonably have been a root cause or significant contributing cause that had not been addressed in Entergy's causal evaluations or self-assessments.

The inspectors noted that prior to September 2007, it did not appear that Entergy had directly considered whether weaknesses in safety culture components had significant contributions to the root and contributing causes. However, based on Entergy's revisions to causal evaluations and self-assessments, Entergy's final evaluations addressed any significant safety culture contributions as contributing factors.

#### 02.03 Corrective Actions

- a. Appropriateness of corrective actions.

The final root cause and common cause reports generally identified corrective actions to address the root, contributing, and common causes for the individual reactor trips and collective performance issues. The inspectors determined that most corrective actions for the reactor trips and common cause evaluation were reasonable, with specific actions to address the personnel, procedural, and equipment issues associated with the White performance indicator and its associated individual reactor trip inputs. However, the inspectors identified the following performance deficiency where corrective actions to address a common cause weakness were not specific or timely.

Finding -Failure to Establish and Implement Adequate Corrective Actions to Address Procedural Inadequacy

Introduction: The inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," because Entergy did not establish and implement adequate corrective actions for a condition adverse to quality involving procedural inadequacy associated with reactor trip reduction efforts.

Description: During the timeframe spanning approximately nine months beginning in July 2006, the Indian Point Unit 3 reactor tripped four times. This resulted in Indian Point Unit 3 crossing the Green/White performance indicator threshold for Unplanned Scrams per 7000 Critical Hours during the second quarter of 2007. As part of Entergy's effort to determine performance issues associated with the White performance indicator, Entergy personnel performed a common cause evaluation in April 2007 for Unit 2 and Unit 3 reactor trips. Entergy identified that weak procedure guidance and adequacy were a common cause associated with station reactor trips experienced during 2006 and 2007. The inspectors determined that Entergy's corrective action identified in condition report CR-IP3-2007-1849, intended to address procedural adequacy related to reactor trip reduction efforts, was not specific to the adverse condition. The corrective action relied on a long-standing, existing procedure upgrade project intended for station-wide procedural improvement efforts, which did not evaluate or promptly address the procedural adequacy issue as it relates to reactor trip reduction actions. Entergy issued condition report CR-IP2-2008-2650 to address the issue. At the conclusion of the inspection Entergy was evaluating their procedure upgrade project plan to prioritize reactor trip reduction corrective actions.

The inspectors determined that the inadequate implementation of adequate corrective actions for a licensee-identified adverse condition associated with reactor trip related procedure improvement efforts as described in Entergy procedure EN-LI-122, "Common Cause Analysis Process," was a performance deficiency that was reasonably within Entergy's ability to foresee and prevent.

Analysis: The inspectors determined this finding was more than minor, because it was associated with the procedure quality attribute of the Initiating Events cornerstone and impacted the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the failure to take effective and timely reactor trip reduction corrective actions for procedural inadequacy resulted in corrective actions not being implemented to ensure plant procedures reasonably minimize challenges that could result in unplanned reactor trips. This finding was evaluated using Phase 1 of Inspection Manual Chapter 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations." This finding was determined to be of very low safety significance (Green) because, while it involved a transient initiator contributor that could result in a reactor trip, it did not contribute to the likelihood that mitigation equipment or functions would not be available.

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The inspectors determined this finding had a cross-cutting aspect in the area of problem identification and resolution because Entergy did not take appropriate corrective actions to address procedural adequacy issues in a timely manner commensurate with its significance. (P.1(d) 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 are promptly identified and corrected. Contrary to the above, beginning in April 2007, Entergy failed to establish and implement adequate corrective actions in CR-IP3-2007-1849 for a condition adverse to quality associated with procedural adequacy issues related to reactor trip reduction efforts. Specifically, Entergy relied upon a long-standing, existing procedure upgrade project plan that did not promptly correct or evaluate station actions for procedural inadequacy as it relates to reactor trip reduction efforts.

Entergy entered this issue into the corrective action program as CR-IP2-2008-2650. Because this finding is of very low safety significance and has been entered into the corrective action program, this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy. **(NCV 05000268/2008009-01, Failure to Establish and Implement Adequate Corrective Actions for Procedural Inadequacy)**

b. Prioritization of corrective actions.

Overall, based on Entergy's causal evaluation corrective actions and self-assessment corrective actions, the inspectors determined that the corrective actions were prioritized commensurate with their significance.

The inspectors noted that corrective actions for the main transformer bushing failure-related reactor trip were delayed due to Entergy not fully recognizing the human performance and corrective action program weaknesses for this specific root cause evaluation. Additionally, Entergy was slow to recognize the common cause theme associated with risk management and, therefore, implementation of those corrective actions to address risk management were delayed until Entergy self-identified the weakness in a self-assessment.

c. Schedule for implementing and completing the corrective actions.

At the time of the supplemental inspection, a significant portion of Entergy's corrective actions had been implemented with the remainder scheduled in the corrective action program. Corrective actions to prevent recurrence, as well as a significant number of lower-tier corrective and preventive actions, identified in the root cause reports had been completed or were in-progress by the time of this inspection.

Notwithstanding the corrective action violation documented in Section 02.03 of this report, the inspectors considered the remaining schedule for completion of corrective actions to be appropriate and consistent with their respective significance.

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- d. Measures of success for determining the effectiveness of the corrective actions to prevent recurrence.

Entergy completed effectiveness reviews for the 2006 individual reactor trip causal evaluations and corrective actions. Entergy has planned effectiveness reviews for the 2007 reactor trips and the common cause evaluation. The inspectors determined that Entergy's planned effectiveness reviews and review criteria contained sufficient methods for determining the effectiveness of the corrective actions associated with the individual reactor trips and collective review of the White performance indicator.

Additionally, based on Entergy's effectiveness reviews and self-assessments completed, the inspectors noted that Entergy had a significant number of corrective actions to address the individual corrective action shortcomings associated with aspects of the corrective action process. However, the inspectors noted that Entergy did not have an action to review overall process weaknesses that existed from April 2007 to February 2008 that required Entergy to perform multiple revisions to root cause evaluations and self-assessments, and request an NRC inspection delay before fully identifying the performance issues associated with this White performance indicator. The inspectors determined that this broad review could provide insights that may not be captured in Entergy's individual corrective actions to address corrective action program deficiencies. Entergy issued condition report CR-IP2-2008-2460 to address this observation.

#### O4 MANAGEMENT MEETINGS

##### Exit Meeting Summary

The inspectors presented the results of the supplemental inspection to Mr. Anthony Vitale and other members of the Entergy staff on May 15, 2008. The inspectors confirmed that no proprietary material was retained after the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

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## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### **Licensee Personnel**

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 A. Vitale, General Manager of Plant Operations  
 P. Conroy, Director of Nuclear Safety Assurance  
 M. Tesoriero, Programs and Component Engineering Supervisor  
 R. Walpole, Licensing Manager  
 H. Andersen, Licensing Engineer  
 R. Trombetta, Maintenance Support  
 A. Small, Procedure Upgrade Project Manager  
 V. Andreozzi, Supervisor- System Engineering  
 J. Donnelly, Manager- Corrective Actions and Assessments  
 L. Lubrano, Senior Lead Engineer- Programs and Components Engineering  
 S. Manzione, Supervisor- Programs and Components Engineering  
 J. Timone, Engineer- Programs and Components Engineering

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

#### **Opened and Closed**

NCV 05000286/2008009-01	Failure to Establish and Implement Adequate Corrective Actions for Procedural Inadequacy (Section 02.03a)
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### **LIST OF DOCUMENTS REVIEWED**

#### **Procedures**

EN-LI-102, "Corrective Action Process," Rev. 12  
 EN-LI-118, "Root Cause Analysis Process," Rev. 7  
 EN-LI-119, "Apparent Cause Evaluation Process," Rev. 7  
 EN-LI-122, "Common Cause Analysis Process," Rev. 1  
 EN-LI-190, "Maintaining a Strong Safety Culture," Rev. 1  
 IP-SMM-OP-105, "Post Transient Evaluation," Rev. 5  
 IP-SMM-OU-104, "Shutdown Risk Assessment," Rev. 4  
 IP-SMM-WM-101, "On-Line Risk Assessment," Rev. 2  
 OAP-047, "Guidelines for Performing Operations Work Review," Rev. 1  
 0-SYS-014-GEN, "Scaffolding Construction and Control," Rev. 6  
 3-COL-FW-1, "Main Boiler Feedwater System," Rev. 17  
 3-XFR-006-ELC, "Spare Station Service Transformers Maintenance Procedure," Rev. 2

Attachment

## 3-XFR-011-ELC, "Main Transformer Preventive Maintenance," Rev. 1

Condition Reports

IP3-2006-02255	IP3-2006-02071	IP3-2007-03280	IP3-2007-03281
IP3-2007-01775	IP3-2007-01849	IP3-2007-01834	IP3-2007-03278
IP3-2007-03494	IP3-2007-04283	IP2-2008-00443	IP3-2008-00923
IP3-2008-00924	IP2-2008-01056	IP2-2008-01973	IP2-2008-02460*
IP2-2008-02650*	IP2-2008-02651*	IP2-2008-02652*	
IP3LO-2006-00316	IP3LO-2006-00345	IP3LO-2007-00282	IP3LO-2007-00286
IP3LO-2008-00130	IP3LO-2007-00069		

Work Orders

51311785-03  
 51314576  
 51314579  
 51314580  
 51314605

Miscellaneous

2008-2009 Indian Point Energy Center Business Plan  
 Corrective Action and Assessment Excellence Plan, January 2008  
 Transformer Condition Assessment Indian Point 3 - Doble Engineering Co.

**LIST OF ACRONYMS**

ADAMS	Agency-Wide Documents Access and Management System
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CR	condition report
IMC	Inspection Manual Chapter
IP	Inspection Procedure
NCV	non-cited violation
NRC	U.S. Nuclear Regulatory Commission
OE	operating experience
PARS	Publicly Available Records
PI	performance indicator
RCA	root cause analysis
SDP	Significance Determination Process