

November 24, 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 UNITS 2 AND 3; PROBLEM IDENTIFICATION AND RESOLUTION - SUBSTANTIVE CROSS-CUTTING ISSUE AND SAFETY CULTURE ASSESSMENT CORRECTIVE ACTION REVIEWS; INSPECTION REPORT NOS. 05000247/2008013 and 05000286/2008011

Dear Mr. Pollock:

On October 23, 2008, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Indian Point Nuclear Generating Units 2 and 3. The enclosed report documents the inspection results, which were discussed on October 23, 2008, with you and other members of your staff.

In our mid-cycle performance review letter dated September 2, 2008 [ADAMS Ref. ML082470316], we informed you of our conclusion that the criteria had not been satisfied for clearing the substantive cross-cutting issue in the area of Human Performance related to procedure adequacy. At that time, we determined that you were still formulating the scope and definition of some corrective actions and that other actions were in the early stages of implementation. We informed you that we would monitor your progress in resolving the substantive cross-cutting issue through the baseline inspection program, specifically, through the completion of focused problem identification and resolution inspection samples during the fourth quarter of 2008.

Additionally, a safety culture assessment was completed in August 2008, at the Indian Point Energy Center (IPEC) by individuals independent of the site and corporate organizations being assessed. This safety culture review was requested by the NRC in our annual assessment letter dated March 3, 2008 [ADAMS Ref. ML080610015], to provide additional insights into your performance improvement efforts for resolving the substantive cross-cutting issue in procedure adequacy. Consistent with previous NRC communications with your staff on this subject, we informed you that we would review your actions to address the safety culture results.

This inspection was an examination of activities conducted under your license as they relate to the identification and resolution of problems specific to your progress to resolve the substantive cross-cutting issue related to procedure adequacy. This inspection also reviewed the safety culture assessment results and your actions to address the results, including adjustments to your plans, as appropriate to address the substantive cross-cutting issue related to procedure adequacy.

There were no findings of significance identified during this inspection. The inspectors determined that you made progress in implementing a corrective action plan focused on resolving the substantive cross-cutting issue in procedure adequacy. Additionally, on the basis of this review, the inspectors determined that your planned corrective actions reasonably address the issues and insights identified in your safety culture assessment report, dated August 2008.

The NRC will perform further review of your progress in resolving the substantive cross-cutting issue in December 2008. The results of the focused problem identification and resolution inspections and continued NRC oversight activities in 2008, will be considered in the NRC assessment of the status of the substantive cross-cutting issue in Human Performance related to procedure adequacy during our annual assessment review to be completed in February 2009.

In accordance with Title 10 of the Code of Federal Regulations Part 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web Site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

***/RA/ Original Signed By:***

Mel Gray, Chief  
Projects Branch 2  
Division of Reactor Projects

Docket No. 50-247/50-286  
License Nos. DPR-26; DPR-64

Enclosure: Inspection Report No. 05000247/2008013 and 05000286/2008011  
w/ Attachment: Supplemental Information

cc w/encl:

Senior Vice President, Entergy Nuclear Operations  
Vice President, Operations, Entergy Nuclear Operations  
Vice President, Oversight, Entergy Nuclear Operations  
Senior Manager, Nuclear Safety and Licensing, Entergy Nuclear Operations  
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J. G. Testa, Mayor, City of Peekskill  
R. Albanese, Four County Coordinator  
S. Lousteau, Treasury Department, Entergy Services, Inc.  
Chairman, Standing Committee on Energy, NYS Assembly  
Chairman, Standing Committee on Environmental Conservation, NYS Assembly  
Chairman, Committee on Corporations, Authorities, and Commissions  
M. Slobodien, Director, Emergency Planning  
P. Eddy, NYS Department of Public Service  
Assemblywoman Sandra Galef, NYS Assembly  
T. Seckerson, County Clerk, Westchester County Board of Legislators  
A. Spano, Westchester County Executive  
R. Bondi, Putnam County Executive  
C. Vanderhoef, Rockland County Executive  
E. A. Diana, Orange County Executive  
T. Judson, Central NY Citizens Awareness Network  
M. Elie, Citizens Awareness Network  
D. Lochbaum, Nuclear Safety Engineer, Union of Concerned Scientists  
Public Citizen's Critical Mass Energy Project  
M. Mariotte, Nuclear Information & Resources Service  
F. Zalzman, Pace Law School, Energy Project  
L. Puglisi, Supervisor, Town of Cortlandt  
Congressman John Hall  
Congresswoman Nita Lowey  
Senator Hillary Rodham Clinton  
Senator Charles Schumer  
G. Shapiro, Senator Clinton's Staff  
J. Riccio, Greenpeace  
P. Musegaas, Riverkeeper, Inc.  
M. Kaplowitz, Chairman of County Environment & Health Committee  
A. Reynolds, Environmental Advocates  
D. Katz, Executive Director, Citizens Awareness Network  
K. Coplan, Pace Environmental Litigation Clinic  
M. Jacobs, IPSEC  
W. Little, Associate Attorney, NYSDEC  
M. J. Greene, Clearwater, Inc.  
R. Christman, Manager Training and Development  
J. Spath, New York State Energy Research, SLO Designee  
A. J. Kremer, New York Affordable Reliable Electricity Alliance (NY AREA)

There were no findings of significance identified during this inspection. The inspectors determined that you made progress in implementing a corrective action plan focused on resolving the substantive cross-cutting issue in procedure adequacy. Additionally, on the basis of this review, the inspectors determined that your planned corrective actions reasonably address the issues and insights identified in your safety culture assessment report, dated August 2008.

The NRC will perform further review of your progress in resolving the substantive cross-cutting issue in December 2008. The results of the focused problem identification and resolution inspections and continued NRC oversight activities in 2008, will be considered in the NRC assessment of the status of the substantive cross-cutting issue in Human Performance related to procedure adequacy during our annual assessment review to be completed in February 2009.

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Sincerely,  
**/RA/ Original Signed by:**

Mel Gray, Chief  
 Projects Branch 2  
 Division of Reactor Projects

Docket No. 50-247/50-286  
 License Nos. DPR-26; DPR-64

Enclosure: Inspection Report No. 05000247/2008013 and 05000286/2008011  
 w/ Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 50-247, 50-286

License No.: DPR-26, DPR-64

Report No.: 05000247/2008013  
05000286/2008011

Licensee: Entergy Nuclear Northeast (Entergy)

Facility: Indian Point Nuclear Generating Units 2 and 3

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

Dates: October 20 – October 23, 2008

Inspectors: Brice Bickett, Senior Project Engineer, DRP  
Andrew Rosebrook, Senior Project Engineer, DRP

Approved by: Mel Gray, Chief  
Projects Branch 2  
Division of Reactor Projects

Enclosure

## SUMMARY OF FINDINGS

Inspection Report (IR) 05000247/2008013; 05000286/2008011 10/20/2008 – 10/23/2008; Entergy Nuclear Northeast (Entergy); Indian Point Nuclear Generating Units 2 and 3; Focused Problem Identification and Resolution Inspection.

This inspection was performed by two senior project engineers. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

### Focused Problem Identification and Resolution Review

#### Substantive Cross-Cutting Issue Review: Human Performance - Procedure Adequacy

The inspectors concluded that Entergy has an appropriate action plan in-progress with focused actions to address the substantive cross-cutting issue of Human Performance related to procedure adequacy. The inspectors determined that since May 2008, Entergy has made progress consistent with their internal plan milestones in addressing the area of procedure adequacy. Entergy has made progress in implementing their action plans related to the procedure upgrade project and focus on human error prevention improvement. Lastly, Entergy has established an adequate means of monitoring progress and performance related to this substantive cross-cutting issue.

### Corrective Action Review - Safety Culture Assessment

The inspectors concluded that Entergy has appropriately evaluated the safety culture results identified in the "Independent Safety Culture Assessment - Indian Point Energy Center" report, dated August 2008. The inspectors determined Entergy has identified corrective actions that reasonably address the safety culture issues and insights documented in the report. Entergy's corrective actions are prioritized consistent with the safety culture team's conclusions that, while the safety culture at IPEC is sufficient to ensure safe, conservative operation of the station; focused actions are needed by Entergy to preserve the culture in the face of continuing challenges in Work Control and Resources. The inspectors also determined that Entergy has established appropriate measures to monitor and assess the effectiveness of those actions implemented to address the safety culture challenges.

Additionally, the inspectors concluded that safety culture component issues identified in the safety culture assessment (SCA), specific to Entergy's procedure adequacy improvement efforts, were considered and addressed by Entergy's revised corrective action plans to address the substantive cross-cutting issue related to procedure adequacy. Specifically, the SCA identified safety culture component challenges in the area of Resources, Accountability, and Corrective Action Program as components that prevented Entergy from effectively resolving the substantive cross-cutting issue related to procedure adequacy. The inspectors' review determined that Entergy's revised corrective action plan has actions implemented that address those safety culture component challenges.

A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified.

B. Licensee-Identified Violations

None.

## REPORT DETAILS

### 4. OTHER ACTIVITIES (OA)

#### 4OA2 Problem Identification and Resolution - Substantive Cross-Cutting Issue and Safety Culture Assessment Results Corrective Action Review (71152 - 2 samples)

##### Background

##### Substantive Cross-Cutting Issue: Human Performance - Procedure Adequacy

In the NRC annual assessment letter dated March 3, 2008 [ADAMS Ref. ML080610015], the NRC informed Entergy of a continuing substantive cross-cutting issue in the area of Human Performance related to procedure adequacy at Unit 2. The NRC further indicated this was applicable to Unit 3. The NRC concluded that Entergy did not satisfy the criteria for clearing the cross-cutting issue as initially established in the March 2, 2007, annual assessment letter [ADAMS Ref. ML070610603] and reiterated in the August 31, 2007, mid-cycle performance review letter [ADAMS Ref. ML072430942]. Specifically, Entergy had not effectively implemented a corrective action plan for operations procedures; and, Entergy had not achieved a notable reduction in the number of findings with cross-cutting aspects in procedure adequacy. Additionally, because this was the third consecutive assessment letter identifying a substantive cross-cutting issue associated with procedural adequacy, the NRC requested that Entergy conduct an assessment of the safety culture at Indian Point Energy Center.

In April 2008, Entergy reassessed their approach to resolving the substantive cross-cutting issue in procedure adequacy. Entergy concluded that their corrective action plans, prior to March 2008, were not sufficiently focused on the specific procedures and actions that would likely resolve the cross-cutting issue and improve performance. Entergy described their revised corrective action plans to the NRC in a letter dated May 16, 2008 [ADAMS Ref. ML081490337].

In the NRC mid-cycle performance review letter dated September 3, 2008 [ADAMS Ref. ML082470316], the NRC informed Entergy that the NRC was continuing the substantive cross-cutting issue in the area of Human Performance related to procedure adequacy at Units 2 and 3. The NRC concluded that the scope and definition of some corrective actions were still being formulated by Entergy and other actions were in the early stages of implementation. Specifically, at the end of the 2008 mid-year assessment period, Entergy's reviews of high priority operating procedures were in the initial stages of implementation, Entergy was finalizing actions to provide for enhanced review of maintenance procedures via their normal procedure review process, and Entergy was developing the scope of corrective actions to improve human performance error reduction tools and change management for procedure revisions. The NRC described plans to complete baseline inspections to monitor Entergy's progress in implementing their corrective action plans to address this substantive cross-cutting issue. This inspection was conducted to review and evaluate Entergy's progress in implementing their action plans.

### Safety Culture Assessment

In the annual assessment letter dated March 3, 2008, the NRC requested that Entergy conduct an assessment of the safety culture at Indian Point Units 2 and 3. The assessment was intended to provide additional insights regarding the adequacy of Entergy's action plans to address the substantive cross-cutting issue related to procedure adequacy. The NRC requested that the review be conducted by individuals who were independent from the corporate and site organizations being assessed. Entergy described their safety culture assessment plans in a letter to the NRC dated March 30, 2008 [ADAMS Ref. ML081760346].

Based on NRC review of the March 30, 2008 Entergy response, the NRC discussed with Entergy, their plans to conduct the safety culture assessment and understand the team members' qualifications and backgrounds. In a letter to the NRC dated May 30, 2008 [ADAMS Ref. ML081760374], Entergy supplemented their March 30, 2008 response with further information regarding the qualification and independence of the assessment team members. Entergy also provided additional information regarding the assessment scope and methodology. After review of this additional information, the NRC concluded that the team members were independent of the site and corporate organizations being assessed and appeared to have the knowledge and experience appropriate to perform this assessment.

As documented in inspection report 05000247/286-2008003 [ADAMS Ref. ML082260281], the inspectors observed the conduct of the safety culture assessment team and confirmed that the independent review was being conducted as Entergy described in letters to the NRC dated March 30, 2008 and May 30, 2008. The inspectors noted that the team conducted individual interviews of 59 Entergy employees, conducted approximately eight focus group interviews of teams of Entergy employees, and observed day-to-day meetings and interactions between employees. The inspectors observed and conducted discussions with members of the safety culture assessment team to understand the scope and methodology that would be used to conduct the assessment. All 13 safety culture attributes as described in NRC Regulatory Issue Summary 2006-13, "Information On the Changes Made to Reactor Oversight Process to More Fully Address Safety Culture," were being evaluated by the team.

In the NRC mid-cycle performance review letter dated September 3, 2008 [ADAMS Ref. ML082470316], the NRC acknowledged that the safety culture review results were still being finalized. The NRC stated that the completion of the safety culture review and consideration of the results in Entergy's corrective action plans would provide additional insights regarding Entergy's performance improvement efforts to address the substantive cross-cutting issue in procedure adequacy. This inspection was performed to review the results of the safety culture assessment; to determine if Entergy's corrective actions were appropriate to address the results; and to determine whether Entergy used the results to adjust, if necessary, and confirm the adequacy of their action plans to address the substantive cross-cutting issue related to procedure adequacy.

A. Substantive Cross-Cutting Issue Review: Human Performance - Procedure Adequacy

1. Inspection Scope

The inspectors reviewed Entergy's actions to address the Human Performance related to the procedure adequacy substantive cross-cutting issue. The inspectors' review focused on Entergy's progress in the cross-cutting area since Entergy's implementation of its revised action plan in May 2008. The inspectors evaluated Entergy's performance improvement plans and actions using applicable inspection guidance in Inspection Procedure 71152, "Identification and Resolution of Problems." Specifically, the inspectors considered whether Entergy re-evaluated, in May 2008, the scope of the issues causing the substantive cross-cutting issue in procedure adequacy in sufficient detail to identify corrective action plans that encompassed the issues. Additionally, the inspectors assessed Entergy's progress in resolving the cross-cutting issue by evaluating whether Entergy's internal milestones were being monitored and consistently met and whether adjustments in approach were made when necessary.

The inspectors conducted a review of the applicable condition reports (CRs), corrective action assignments (CAs), focused self-assessments, Quality Assurance group assessments, root cause analyses, common cause analyses, and apparent cause determinations for the substantive cross-cutting issue. The inspectors also reviewed Entergy's performance indicators related to the performance improvement plan; reviewed a sample of revised procedures; conducted a series of interviews with station management, procedure writers and reviewers, maintenance technicians, and operators in order to assess the adequacy of the performance plan and effectiveness of corrective actions.

2. Findings and Observations

There were no findings of significance.

The inspectors determined that Entergy made progress, in the last six months, in effectively implementing their corrective action plans, related to the substantive cross-cutting issue in procedure adequacy.

a. Determine whether Entergy's procedure adequacy corrective action plan is appropriate to address the substantive cross-cutting issue.

The inspectors concluded that Entergy's corrective action plans were sufficient to address the substantive cross-cutting issue. Specifically, the inspectors determined that Entergy's re-evaluation of the scope of issues contributing to the substantive cross-cutting issue in procedure adequacy was of sufficient detail to develop an appropriate corrective action plan.

The inspectors reviewed Entergy's March 2008 root cause analysis and May 2008 common cause analysis, NRC PIR inspection team report 05000247/2008010 [ADAMS Accession Ref. ML082060612], August 2008 safety culture assessment and third party assessments related to the area of procedure adequacy. This review was performed to

determine if Entergy's corrective action plan was appropriate to address the substantive cross-cutting issue in sufficient scope and depth; and address previous problems that impeded progress in resolving the cross-cutting issue in procedure adequacy.

The inspectors concluded that Entergy's corrective action plans were reasonable in scope because they addressed procedures that contributed to the substantive cross-cutting issue. The plans included Operations, Electrical/Mechanical Maintenance, and I&C Maintenance procedures. The procedure upgrade project portion of Entergy's corrective action plans focused on risk significant components and actions in operations procedures. The procedure upgrade project scope appropriately included operating procedures related to initiating events, single point vulnerabilities, and integrated plant operating procedures. The inspectors observed that station training was developed and provided for the individuals involved in the procedure upgrade project and their management.

The inspectors observed that the corrective action plans included actions to improve the application of human performance error prevention techniques. The inspectors concluded this was appropriate because improved use of error prevention techniques when using procedures could mitigate procedure adequacy issues that may be encountered while procedure upgrades continue. Specifically, the inspectors determined Entergy developed a human performance training simulator that reinforces human error prevention techniques and pitfalls, and highlights the benefit of procedure quality and accuracy. Entergy has planned to include all station personnel in this training. At the time of this inspection, Entergy's procedure writers and first line supervisors had completed the training. The inspectors also determined that Entergy's corrective action plan is broadly focused on multiple site organizations and addresses other potential procedure related issues including human performance attributes related to procedure adherence. Additionally, the inspectors concluded that the action plan considered and incorporated insights from third party assessments, Entergy fleet benchmarking, and NRC inspection reports and observations.

The inspectors also observed through interviews with Entergy staff, that the station has shifted the ownership of this project from the support organizations to the line organization. Staff and managers indicated this organizational alignment has been a significant factor in the increased level of "buy in" from plant workers, and has produced a noticeable increase in revised procedure quality. Several personnel interviewed also commented that the human performance training simulator has been an effective tool, particularly for procedure writers, and has assisted procedure writers in identification of human performance error traps in existing procedures. The inspectors concluded realigning the procedure upgrade project resulted in enhanced project accountability and quality output.

- b. Determine whether Entergy has made appropriate progress, with respect to effective implementation of the corrective action plan intended to resolve the substantive cross-cutting issue.

The inspectors concluded Entergy has made progress to address the causes of the substantive cross-cutting issue as evidenced by effective implementation of their corrective action plan over the last six months.

With respect to the procedure upgrade project, Entergy established Phase I of the project to encompass procedures associated with a scope of operations procedures that included operating procedures associated with the top three risk significant systems for Units 2 and 3. Phase II of the procedure upgrade project included the remaining top 10 plant risk significant systems, integrated plant operating procedures, procedures which involved single point vulnerabilities and initiating events. The inspectors determined that Entergy has completed and issued approximately 70 percent of the Phase I procedures and has completed writing and reviewing all Phase I procedures. The project is approximately six to eight weeks ahead of schedule as identified through corrective action plan milestones. Entergy anticipates that the Phase II portion of the procedure upgrade project will be completed by June 2009, several months ahead of the corrective action plan schedule.

The inspectors reviewed a sample of the revised Phase I procedures and noted that significant revisions have been made and the results met the quality and procedure standards described in Entergy's action plan. The inspectors also observed that the Electrical and Mechanical Maintenance procedure upgrade project progress is consistent with action plan schedule and milestones. The scope of the Electrical and Mechanical Maintenance project has been revised to incorporate the observations of the NRC, Entergy Fleet resources, and third party (independent) reviews. Approximately 65 percent of the Electrical and Mechanical Maintenance procedures identified in the original scope have been upgraded. This progress is consistent with the action plan goals and station performance indicators developed to monitor progress.

The inspectors noted that scope challenges and quality differences in the area of I&C maintenance procedures are more pronounced in comparison to electrical and mechanical maintenance areas. Specifically, Entergy identified a number of procedures that warranted development (versus using approved work order instructions) in contrast to improving an existing procedure. The inspectors determined that Entergy promptly made changes in the I&C maintenance procedure project scope and assigned additional dedicated resources to the project to address these challenges.

The inspectors' review determined that there was improvement by I&C personnel in implementation of the procedure feedback process. The inspectors noted improved usage of the feedback process by I&C personnel to identify and correct existing procedure issues on the spot and ensure appropriate procedures are included in the procedure project scope. Additionally, inspectors' interviews with management, procedure writers and I&C technicians, indicated the procedure feedback process has resulted in improved procedure quality; and station ownership and involvement in the procedure feedback process has improved.

The inspectors determined that human error awareness and prevention actions are being implemented by Entergy to address the human performance contribution that may have contributed to the substantive cross-cutting issue in procedure adequacy. The inspectors determined that implementation of training, specifically the human performance training simulator, is appropriate to reinforce human error prevention techniques in the use of procedures in the plant.

c. Determine whether Entergy's actions have appropriate monitoring and measures of success to assess corrective action effectiveness.

The inspectors concluded Entergy has developed appropriate monitoring measures and performance indicators to assess corrective action effectiveness. The inspectors noted that Entergy has utilized these tools to provide initial feedback on corrective action implementation.

The inspectors reviewed Entergy's quarterly "snapshot" self-assessments performed since April 2008. The inspectors determined these internal reviews are being used by Entergy to evaluate their performance and make adjustments as necessary. The Entergy assessments identified areas, such as the procedure feedback process and the timeliness of this process that required improvements. Corrective actions were developed and incorporated in the action plan to address these problems and performance indicators were developed to monitor this process. The inspectors concluded the self-assessments have been an effective tool for making adjustments and for evaluation of internal and external stakeholder recommendations. Entergy has adjusted the corrective action plan and procedure upgrade project scope to incorporate stakeholder recommendations as applicable.

The inspectors reviewed performance indicators developed to assist the station in monitoring effectiveness of this action plan. The inspectors determined that the performance indicators, related to procedure completion status and procedure feedback process backlog, were an effective means of monitoring station progress in these areas.

B. NRC Review of Safety Culture Assessment Corrective Actions

1. Inspection Scope

In the annual assessment letter dated March 3, 2008 [ADAMS Ref. ML080610015], the NRC requested that Entergy conduct an assessment of the safety culture at Indian Point Units 2 and 3 because Entergy had not effectively resolved a substantive cross-cutting issue in Human Performance related to procedure adequacy. The NRC also informed Entergy that upon completion of the review, Entergy's corrective actions to address the assessment would be reviewed. The requested safety culture assessment (SCA) was completed by a team, independent of the Indian Point Energy Center (IPEC) organization being assessed, and documented the following general safety culture conclusions:

- IPEC safety culture is sufficient to ensure safe, conservative operation of the station;
- Site operations are consistent with principle that safety is the station's overriding priority;
- Entergy management is engaged in ensuring station behavior upholds and consistently demonstrates high safety standards; and
- IPEC faces substantive, continuing challenges in the safety culture component areas of Resources and Work Control.

The inspectors reviewed the “Independent Safety Culture Assessment - Indian Point Energy Center” report, dated August 2008, corrective action program documentation, internal and external assessments, previous culture surveys, and applicable site information that would provide insight into the safety culture at IPEC. The inspectors conducted a series of group and individual interviews, and informal discussions with plant staff and managers to assess the appropriateness and effectiveness of Entergy’s corrective actions. The inspectors conducted the interviews to provide perspectives and insights from Entergy staff and management on the SCA results and Entergy corrective actions. These interviews also served as a mechanism to provide, on a sampling basis, corroboration of conclusions documented in the “Independent Safety Culture Assessment” report, dated August 2008.

In completing the corrective action review of Entergy’s actions, the inspectors considered applicable inspection guidance and performance attributes described in NRC Inspection Procedure (IP) 71152, “Problem Identification and Resolution.” Additionally, the inspectors considered a portion of the safety culture guidance listed in NRC IP 95003, “Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or One Red Input,” when performing the corrective action review and assessing the adequacy of Entergy’s actions. The inspectors’ review of the SCA team composition and qualifications, and scope and methodology also considered applicable safety culture guidance in IP 95003 to assess the adequacy of the safety culture review and results. This was appropriate because the inspectors noted that the SCA team used NRC guidance in IP 95003 as a primary guide for their approach in assessing IPEC’s safety culture.

## 2. Findings and Observations

No findings of significance.

The inspectors concluded that Entergy evaluated in sufficient detail the safety culture assessment results identified in the safety culture review completed in August 2008. Entergy identified corrective actions that should reasonably address the safety culture issues as documented by the safety culture assessment team.

Additionally, the inspectors concluded that Entergy’s revised corrective action plans related to the substantive cross-cutting issue in procedure adequacy, addressed the safety culture component challenges identified in the safety culture assessment applicable to the procedure adequacy project. Specifically, the SCA identified key safety culture component challenges in the area of Resources, Accountability, and Corrective Action Program as components that impacted Entergy’s performance in addressing the substantive cross-cutting issue related to procedure adequacy. The inspectors’ review determined that Entergy’s revised corrective action plans, addressed those safety culture component challenges.

### a. Determine whether the safety culture assessment was conducted in a manner that supported an independent, reasonable understanding of safety culture.

The inspectors concluded the methodology and conduct of the assessment provided a

reasonable understanding of the safety culture at IPEC. The inspectors determined that the safety culture review was conducted by a qualified, independent team with an assessment scope and methodology that was consistent with the NRC request in the annual assessment letter dated March 3, 2008 [ADAMS Ref. ML080610015].

Entergy provided a description of their safety culture assessment (SCA) plans in letters to the NRC dated March 30, 2008 [ADAMS Ref. ML081760346] and May 30, 2008 [ADAMS Ref. ML081760374]. Based on NRC review and discussions with Entergy management at that time, the NRC concluded that the information provided in the letters appeared to support what would be considered an assessment of the safety culture at IPEC, by personnel independent of site and corporate organizations assessed. Furthermore, in June 2008, as documented in inspection report 05000247/286-2008003 [ADAMS Ref. ML082260281], the inspectors observed the conduct of the SCA team and confirmed that the review was being conducted as Entergy described in their responses to the NRC dated March 30, 2008 and May 30, 2008. Additionally, the NRC attended the SCA team's exit with Entergy on August 19, 2008 to gain insights on the team's results.

During this inspection, the inspectors performed a limited review of the SCA team's scope and methodology to verify that the assessment was completed in a manner that supported an independent review of IPEC safety culture. Consistent with the previous NRC inspection in June 2008, the inspectors determined that the safety culture review was conducted appropriately and provided a reasonable assessment of the safety culture at IPEC; and provided supportable conclusions relative to the 13 safety culture components as described in NRC Regulatory Issue Summary 2006-13 and Inspection Manual Chapter 0305, "Operating Reactor Assessment Program."

- b. Determine whether Entergy's evaluation of the safety culture assessment results was appropriate.

The inspectors concluded that Entergy's evaluation of the safety culture assessment (SCA) results was appropriate and should address safety culture issues and challenges at IPEC.

Entergy performed an evaluation of the overall safety culture conclusions and the 13 safety culture component conclusions as documented in the "Independent Safety Culture Assessment" report. An Entergy senior manager was assigned to the overall corrective action evaluation and response by the site; however, a responsible manager was also assigned to the individual evaluation of each of the 13 safety culture component areas and its respective corrective action response. The two primary safety culture component challenges, as documented by the safety culture team, involved the safety culture components of Resources and Work Control. Entergy performed an apparent cause evaluation for those two component areas based on their safety culture significance and impact. Entergy required the corrective action review board to review and approve all evaluations associated with the assessment results. Additionally, Entergy performed further evaluation in the following areas to determine whether the results of the SCA report warranted additional corrective actions with respect to the current resolution of action plans and lessons learned in the following areas:

- Procedure improvements;
- Alert and notification system upgrade;
- Readiness for an NRC supplemental inspection related to a White performance indicator;
- Groundwater characterization and remediation;
- Corrective action cross-cutting resolution; and
- Project management.

The inspectors determined that Entergy's evaluations were appropriately focused on the SCA report details and conclusions, and conducted those evaluations to a level of detail commensurate with the safety culture significance of the conclusions. The inspectors noted that all evaluations were completed promptly to assist in timely identification of corrective actions. The inspectors considered guidance in IP 71152 in its assessment of Entergy's evaluation adequacy.

c. Determine whether Entergy's corrective actions are adequate to effectively resolve the safety culture weaknesses described in the safety culture assessment.

The inspectors concluded that Entergy identified appropriate corrective actions to address the safety culture weaknesses. IPEC is still in the early stages of corrective action implementation; however, actions appear to be reasonable to resolve the safety culture challenges with continued focus and attention by IPEC.

The inspectors observed that Entergy issued reports to identify and track the corrective actions for the safety culture component areas. Additionally, Entergy issued corrective actions for the six focus areas as documented in Section 2.02 of this report. The inspectors noted that corrective action responses to address the SCA report were reviewed and approved by the corrective action review board. Additionally, the site's Executive Protocol Group (EPG) has reviewed the SCA team's conclusions and will review actions implemented by the site to address the culture weaknesses. The EPG is a senior management group on site that monitors various areas and processes to assess safety conscious work environment and safety culture health at IPEC.

The inspectors observed through interviews that, generally, station personnel were aware of the SCA and its results. The inspectors also noted that station personnel interviewed were aware of station actions to address the external assessment of safety culture at IPEC. Based on the scope of interviews performed, the inspectors determined that overall, personnel had positive views of the station's initiatives to communicate and address this external (third party) assessment result.

The inspectors noted, during its review, that Work Control/Management remains a significant area of focus for the site. The SCA team concluded that work management has not been implemented effectively at the site in past years. Consistent with the SCA conclusions, the NRC observed through interviews and informal discussions some continued frustration with the station personnel that implement the process or use the work management products. While initial corrective actions have been promptly implemented to address the concerns, the inspectors concluded, consistent with Entergy's evaluation, that continued management oversight and attention are warranted in this area.

Based on the inspectors' review, there were no actions identified by the inspectors that were not captured in either the work management improvement plan or Entergy's corrective action response to the safety culture assessment.

The inspectors also determined that Entergy has implemented actions to address the significant safety culture component challenge in Resources. Specifically, the inspectors noted that Entergy implemented or has planned a range of employee retention actions and hiring strategies to address personnel shortages in key organizations such as work control, operations, and radiation protection. Additionally, the inspectors noted that Entergy identified actions to address previous weaknesses with application of resources with respect to site projects being implemented. For example, the inspectors noted that Entergy, prior to May 2008, did not apply the appropriate dedicated resources to the procedure upgrade project. The inspectors determined that this issue has been addressed by Entergy actions to dedicate qualified, technical line and managerial resources to the projects.

- d. Determine whether Entergy has made reasonable progress in implementing corrective actions and established measures to monitor corrective action effectiveness.

The inspectors concluded that Entergy has made prompt, reasonable progress in developing corrective actions to address the safety culture team's conclusions. The inspectors determined that the evaluation of the SCA report was prompt; actions were identified and a significant portion of the corrective actions have been implemented. Additionally, Entergy has established measures to monitor long-term corrective action effectiveness with a short-term monitoring focus on corrective action effectiveness in the areas of Work Control and Resources.

The inspectors considered inspection guidance in IP 71152 and Entergy corrective action program standards and guidance in making a determination with respect to reasonable progress. The inspectors determined that Entergy was generally adhering to their corrective action program standards and milestones.

- e. Determine the effectiveness of corrective actions implemented to address the results of the safety culture assessment.

The inspectors concluded that Entergy has entered corrective actions from their evaluation of the SCA into the corrective action program and established an appropriate implementation timeframe for those actions. However, it is too early to consider the effectiveness of Entergy's actions in assessing the impact of their actions. The inspectors noted that effectiveness reviews for Entergy's actions were scheduled in accordance with their corrective action program requirements. Based on interviews with plant management and personnel, the inspectors noted that the current station focus and integration of safety culture assessment corrective actions appear reasonable to achieve the desired results.

4OA6 Meetings, Including Exit:

Exit Meeting Summary. On October 23, 2008, the inspectors presented the inspection results to Mr. J. Pollock, Site Vice President, and other members of the staff. The inspectors verified that any proprietary information reviewed during the inspection was not retained by the inspectors.

ATTACHMENT: Supplemental Information

**SUPPLEMENTAL INFORMATION**

**KEY POINTS OF CONTACT**

Licensee Personnel

J. Pollock, Site Vice-President  
A. Vitale, General Manager Plant Operations  
P. Conroy, Director - Nuclear Safety Assurance  
R. Beckman, Director – Maintenance  
J. Donnelly, Manager - Corrective Action & Assessment  
T. McCaffrey, Manager – Design Engineering  
T. Williams, Operations Manager  
J. Venzon, PS&O Manager  
R. Walpole, Manager – Licensing  
G. Dahl, Licensing Engineer  
J. Reynolds, Corrective Action & Assessment  
B. Taggart, ECP Coordinator  
T. Lockburn, Operations - NLO  
J. Gaspar, Operations - RO  
N. Deries, Operations – Procedure Writer  
R. Brown, Operations – Procedure Writer  
J. Venzon, PS&O Manager  
W. Barr, PS&O  
F. Muller, PS&O  
V. Patti, PS&O- Planner  
B. Beckman, Maintenance Manager  
G. Schmidt, Maintenance  
T. Morzello, Maintenance  
J. Lijoi, Maintenance  
P. Hamilton, Maintenance  
H. Anderson, Licensing  
F. Anzillo, Quality Assurance Manager  
P. Hutchens, Human Resources Manager

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

Opened and Closed

None.

## LIST OF DOCUMENTS REVIEWED

### Condition Reports

IP2-2008-01056	IP2-2008-03671	IP3-2007-03619	IP3-2008-00640
HQN-2008-00339	IP2-2008-02907	IP3 2008-01285	IP2-2008-02624
IP2-2008-02725	IP2-2008-03511	IP3-2008-01745	IP2-2008-03956
IP2-2008-4020	IP3LO-2008-00143	IP3LO-2008-00014	IP3-2008-00470
IP3LO-2008-00161	IP3LO-2008-00163	IP3LO-2008-00164	IP2-2008-01058
IP2-2008-04070	IP2-2008-04071	IP2-2008-04072	IP2-2008-04073
IP2-2008-04074	IP2-2008-04075	IP2-2008-04076	IP2-2008-04077
IP2-2008-01058	IP3-2008-00470		

### Procedures

SOP-27.3.1.1, "21 Emergency Diesel Generator Manual Operation" Revisions 16 and 17  
 ICPM-0708-1,"13.8 KV L&P bus section 3 partial differential relays (87B2-A/B/C) Revision 0  
 3-REF-003-Gen,"Reactor Core Refueling"  
 SOV-003-ELC," Inspection and Testing of Target Rock Solenoid Operated Valves"  
 EN-LI-122, Common Cause Evaluation, Revision 1

### Miscellaneous

NRC IR 05000247/2008001 & 05000286/2008001 "Annual Assessment Letter – Indian Point Nuclear Generating Units 2 and 3" Dated March 3, 2008  
 NRC "Mid Cycle Performance Review and Inspection Plan – Indian Point Nuclear Generating Station Units 2 and 3" dated September 2, 2008.  
 NRC Inspection Report 05000247/2008010 "Indian Point Nuclear Generating Station Unit 2- NRC Problem Identification and Resolution Inspection Report" dated July 24, 2008  
 Indian Point Energy Center Procedure Adequacy Cross-Cutting Issue Resolution Plan, Revisions 0 - 4  
 Maintenance Department Procedure Improvement Plan  
 Human Performance Training Plan and slides, "Doer, Reader, Peer Checker, and Pilot" exercise  
 Human Performance Training Plan and slides,"Human Performance for IPEC Personnel"  
 Operations Procedure Upgrade Project Communications Plan for Operations Personnel  
 Procedure Adequacy Cross-Cutting Resolution Plan Slideshow, dated 10/20/08  
 Safety Culture Slideshow, dated 10/20/08  
 Plant Operating Procedures (POP) Procedure Upgrade Project Plan, dated 9/9/08  
 Employee Concerns Program Survey Results, October 2008  
 Corrective Action Review Board Meeting information, October 21, 2008  
 Pre-Outage Milestone Recovery Plan, September 2008  
 Work Management Excellence Plan, October 2008  
 IPEC Synergy Survey, March 2006  
 Independent Safety Culture Assessment -Indian Point Energy Center, August 2008

**LIST OF ACRONYMS**

ACE	Apparent Cause Evaluation
ADAMS	Agencywide Documents Access and Management System
AOP	Abnormal Operating Procedure
CA	Corrective Action
CAP	Corrective Action Program
CARB	Corrective Action Review Group
CCA	Common Cause Analysis
CR	Condition Report
CRG	Condition Review Group
DPIC	Department Performance Improvement Coordinators
ECP	Employee Concerns Program
EPG	Executive Protocol Group
Entergy	Entergy Nuclear Northeast
I&C	Instrument and Controls
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IPEC	Indian Point Energy Center
NRC	Nuclear Regulatory Commission
OD	Operability Determination
OE	Operating Experience
PARS	Publicly Available Records System
PIR	Problem Identification and Resolution
RCA	Root Cause Analysis
ROP	Reactor Oversight Program
SCA	Safety Culture Assessment
QA	Quality Assurance