



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

February 9, 2010

EA-09-296

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 – NRC INTEGRATED
INSPECTION REPORT 05000286/2009005 and NOTICE OF VIOLATION
(EA-09-026)

Dear Mr. Pollock:

On December 31, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Indian Point Nuclear Generating Unit 3. The enclosed integrated inspection report documents the inspection results, which were discussed on January 21, 2010, with you and other members of your staff.

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

Based on the results of this inspection, the NRC has determined that a Severity Level IV violation of NRC requirements occurred. The violation was evaluated in accordance with the NRC Enforcement Policy included on the NRC's Web site at www.nrc.gov; select **About NRC, How We Regulate, Enforcement**, and then **Enforcement Policy**.

The violation is cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding it are described in detail in the subject inspection report. During the inspection, the NRC identified a violation involving Entergy's submittal of inaccurate information to the NRC related to the medical qualifications of licensed operators. Letters to the NRC certified that the operators had been medically examined and had met all medical qualifications, when, in fact, one test (namely, a tactile test) had not been performed. A tactile test is required to ensure that operators can distinguish among various shapes of control knobs and handles by touch. The test was not performed because your Medical Review Officer (MRO) was unaware that such a test was required. Further, the MRO considered his review of the operators' medical history records for neurological conditions to be sufficient to verify the operators' ability to feel, manipulate, and distinguish plant components when needed.

Violations involving the provision of inaccurate or incomplete information are of particular concern to the NRC, and may be considered for escalated enforcement under certain circumstances. However, in this case, the NRC has classified this violation at Severity Level IV, after considering the guidance set forth in Section IV.A.3 of the Enforcement Policy because the inaccurate information did not invalidate the NRC licensing since all of the operators subsequently passed a tactile test when Entergy administered it shortly after the NRC identified the violation. Further, the actual and potential safety significance of this violation was very low in that the Medical Review Officer had conducted a neurological evaluation, albeit not a tactile test, and the operators had been observed successfully manipulating control knobs and handles by Entergy and NRC personnel in the conduct of their licensed duties. Nonetheless, this violation demonstrates the importance of taking all of the necessary steps and conducting all of the necessary reviews to assure that information submitted to the NRC is complete and accurate in all material respects.

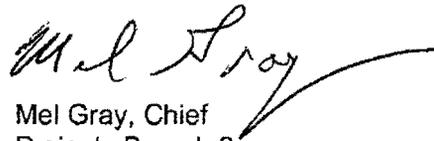
Although this violation has been placed in your corrective action program, a Notice of Violation is being issued and a response is being required to better understand: 1) what actions were taken in 2004 in response to NRC Information Notice (IN) 2004-20, "Recent Issues Associated with NRC Medical Requirements for Licensed Operators," which, in part, reminded facility licensees that licensed operators and the personnel who perform and interpret their medical examinations need to be familiar with the regulatory requirements and guidelines (it should be noted that this IN specifically described an instance in which a facility licensee had not conducted some tests required in the ANSI standard for any of its licensed operators); 2) why appropriate action was not taken in response to IN 2004-20 to identify appropriate tactile testing was being conducted; and 3) the corrective actions taken and planned at this time to assure all information submitted to the NRC is complete and accurate in all material respects.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

Based on the results of this inspection, this report also documents five additional findings of very low safety significance. Three of these findings were determined to be violations of NRC requirements. However, because of their very low safety significance, and because the findings 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 Enforcement Policy. If you contest any 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 D.C. 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Senior Resident Inspector at Indian Point Nuclear Generating Unit 3. In addition, if you disagree with the characterization of any finding, 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 and the NRC Resident Inspectors at Indian Point Nuclear Generating 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 enclosures, and your response (if any) will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/readingrm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Sincerely,



Mel Gray, Chief
Projects Branch 2
Division of Reactor Projects

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

Enclosures: (1) Notice of Violation
(2) Inspection Report No. 05000286/2009005
w/Attachment: Supplemental Information

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response (if any) will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/readingrm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Sincerely,

/RA/

Mel Gray, Chief
 Projects Branch 2
 Division of Reactor Projects

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NOTICE OF VIOLATION

Entergy Nuclear Operations, Inc.
Indian Point Unit 2 and Unit 3

Docket No. 50-247 & 50-286
License Nos. DPR-26 and DPR-64
EA-09-296

During an NRC inspection conducted from October 19 through October 22, 2009, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

10 CFR 50.9 requires, in part, that information provided to the Commission by an applicant for a license or by a licensee or information required by statute or by the Commission's regulations, Orders, or license conditions to be maintained by the applicant or the licensee shall be complete and accurate in all material respects.

10 CFR 55.21 requires, in part, that an applicant for a license shall have a medical examination by a physician and the licensee shall have a medical examination by a physician every two years. The physician shall determine that the applicant or licensee meets requirements of Section 55.33(a)(1).

10 CFR 55.33(a)(1) requires, in part, that an applicant's medical condition and general health will not adversely affect the performance of assigned operator job duties or cause operational errors endangering public health and safety.

10 CFR 55.23 requires, in part, that to certify the medical fitness of the applicant, an authorized representative of the facility licensee shall complete and sign NRC Form-396, "Certification of Medical Examination by Facility Licensee."

NRC Form-396, when signed by an authorized representative of the facility licensee, certifies that a physician conducted a medical examination of the applicant and that the guidance contained in American National Standards Institute/American Nuclear Society (ANSI/ANS) Standard 3.4-1983, "Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants" was followed in conducting the examination and making the determination of medical qualification.

ANSI/ANS 3.4-1983, Section 5.4 provides specific minimum capacities required for medical qualifications. Section 5.14 requires, "Tactile discrimination sufficient to distinguish among various shapes of control knobs and handles by touch."

Contrary to the above, from October 20, 2004 through October 22, 2009, Entergy Nuclear Operations, Inc. (Entergy) provided information to the NRC that was not complete and accurate in all material respects. Specifically, Entergy had not completed medical examinations of licensed operators in accordance with ANSI/ANS 3.4-1983. The licensee submitted numerous NRC Form-396s for renewal of senior reactor operator and reactor operator licenses and for initial license applicants that certified that the applicants met the medical requirements of ANSI/ANS 3.4-1983 when, in fact, tactile testing had not been conducted.

This is a Severity Level IV violation (Supplement VII).

Pursuant to the provisions of 10 CFR 2.201, Entergy Nuclear Operations, Inc. is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy to the Regional Administrator, Region I, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation; EA-09-296" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>, to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 9th day of February, 2010.

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 50-286

License No.: DPR-64

Report No.: 05000286/2009005

Licensee: Entergy Nuclear Northeast (Entergy)

Facility: Indian Point Nuclear Generating Unit 3

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

Dates: October 1, 2009 through December 31, 2009

Inspectors: P. Cataldo, Senior Resident Inspector - Indian Point 3
M. Halter, Resident Inspector - Indian Point 3
J. Commiskey, Health Physicist
G. Newman, Reactor Inspector
J. D'Antonio, Senior Operations Engineer
C. Crisden, Emergency Preparedness Specialist
D. Orr, Senior Reactor Inspector
T. Fish, Senior Operations Engineer
J. Schoppy, Senior Reactor Inspector

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

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SUMMARY OF FINDINGS

IR 05000286/2009005; 10/01/2009 – 12/31/2009; Indian Point Nuclear Generating (Indian Point) Unit 3; Licensed Operator Requalification Program; Operability Evaluations; Alert and Notification System (ANS) Evaluation; Identification and Resolution of Problems; and Event Follow-Up.

This report covered a three-month period of inspection by resident and region based inspectors. One Severity Level (SL IV) violation and five additional findings of very low safety significance (Green) were identified. Three of these findings were also determined to be non-cited violations (NCVs) of NRC requirements. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 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

- Green: A self-revealing finding (FIN) of very low safety significance was identified because Entergy personnel did not ensure adequate maintenance was conducted on the 31 and 32 main boiler feed pumps (MBFPs). Specifically, the inspectors determined that Entergy maintenance personnel did not implement maintenance procedures and utilize available vendor information to ensure the 32 MBFP coupling installation was conducted with appropriate tolerances; 32 steam generator water level (SGWL) controller reset times were not set appropriately; and high pressure governor valve stroke settings for 31 MBFP were appropriate. These maintenance performance issues in combination contributed to plant transients including an unplanned power reduction and an automatic reactor trip.

The finding was more than minor because the finding was associated with the equipment performance attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, maintenance performance issues resulted in reliability challenges to the non-safety related feedwater pumps and resulted in unplanned plant transients. The inspectors evaluated the finding using IMC 0609, Attachment 4, "Initial Screening and Characterization of Findings," and determined the finding was of very low safety significance because it did not contribute to both the likelihood of a reactor trip and 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 Human Performance because Entergy personnel did not ensure effective supervisory and management oversight of maintenance and design control activities regarding the MBFPs. (H.4(c) per IMC0305) (Section 40A3)

Cornerstone: Mitigating Systems

- SL IV. An NRC-identified SL IV Violation of 10 CFR 50.9, "Completeness and accuracy of information" was identified because Entergy submitted inaccurate medical information for licensed operators. The inspectors identified Entergy submittals to the NRC were

inaccurate due to the omission of a tactile test (test performed to ensure that operators can distinguish among various shapes of control knobs and handles by touch) from the required licensed operator medical examinations. The inspectors determined that Entergy's medical physician did not adequately test all licensed operators (both initial and renewal licensees) in accordance with 10 CFR 55.21 and 10 CFR 55.33 with respect to ANSI/ANS-3.4 1983. However, Entergy had submitted medical information, as required by 10 CFR 55 for licensed operators and applicants that stated the testing had been performed satisfactorily. Following identification of the issue, Entergy personnel entered the issue into the corrective action program (CR-IP3-2009-04487) and completed corrective actions to develop and administer an appropriate test. The inspectors noted that all licensed operators passed this new test and no new license conditions were required.

Entergy's failure to provide complete and accurate information to the NRC could have resulted in an incorrect licensing action and is a performance deficiency because the licensee is required to comply with 10 CFR 50.9. Because this violation of 10 CFR 50.9 is considered to be a violation that potentially impedes or impacts the regulatory process, it is dispositioned using the traditional enforcement process. The finding was more than minor because documents which provided the information to the NRC were signed under oath by the company medical physician and the Site Vice President. Because there was no evidence that operators mis-operated equipment due to omitted tactile tests, the finding was determined to be of very low safety significance (SL IV).

The applicability of cross-cutting aspects related to the performance deficiency of this finding will be determined after NRC review of Entergy's response to the Notice of Violation. (Section 1R11.2)

- Green. An NRC-identified non-cited violation (NCV) of very low safety significance of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," was identified because Entergy personnel did not promptly identify and correct a condition adverse to quality regarding molded-case circuit breaker (MCCB) nonconformance. Specifically, in 2004, Entergy personnel determined that a population of MCCBs in safety related applications were beyond the design life as specified in Westinghouse Technical Bulletin, TB-04-13. However, Entergy's scheduled replacement timeframe (through 2011) for those affected safety related MCCBs was not consistent with the safety significance of the issue or adequately supported through an engineering justification considering, at that time, a number of the MCCBs were in service for greater than the 20-year design life.

The finding was more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the reliability of the electrical distribution system to respond to initiating events to prevent undesirable consequences. Specifically, the MCCB breakers that exceeded their expected design life could impact their reliability to respond to design basis events and plant transients. The inspectors determined the finding was of very low safety significance because the finding was a design qualification deficiency confirmed not to result in loss of operability or function. Specifically, no actual loss of function could be attributed to operating with MCCBs greater than 20 years in service and the inspectors' review of an Entergy operability determination concluded the MCCBs were an operable but nonconforming condition.

This finding has a cross-cutting aspect in the area of Problem Identification and Resolution because on several occasions Entergy personnel did not thoroughly evaluate MCCB qualification issues including operability and functionality considerations. This included an opportunity to evaluate the condition in 2008 when engineers identified residue indicative of grease breakdown. (P.1(c) per IMC0305) (Section 40A2)

- Green: An NRC-identified NCV of very low safety significance of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," was identified because Entergy personnel did not adequately correct a condition adverse to quality to ensure the continued operability of emergency diesel generators (EDGs). Specifically, Entergy personnel did not ensure that contacts associated with EDG jacket water pressure switches for the air start systems were in the appropriate state following EDG operations to support EDG restart. Additionally, after identification of the specific cause, Entergy personnel did not implement continuity checks on the EDGs to ensure continued operability after EDG operation in a timely manner.

The finding was more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the 33 EDG incurred unavailability hours and reliability was impacted during EDG standby conditions with one air start sub-system available. The inspectors determined the finding was of very low safety significance because the finding was not a design or qualification deficiency, did not represent a loss of safety function, and was not risk significant with respect to external events.

The inspectors determined that this finding had a cross-cutting aspect in the area of Problem Identification and Resolution because Entergy personnel did not implement adequate corrective actions to address continued EDG operability concerns with degraded jacket water pressure switches in a timely manner. (P.1(d) per IMC0305) (Section 1R15)

- Green: A self-revealing finding (FIN) of very low safety significance was identified because Entergy personnel did not perform adequate post-maintenance functional testing to ensure 6.9kV breakers were able to perform intended safety functions. Specifically, in July 2009, during a planned maintenance activity, maintenance personnel installed a 6.9kV breaker without adequate post-maintenance testing. As a result, on August 10, 2009, following an automatic plant trip, a 6.9kV breaker failed to operate due to a bent lever and prevented the automatic transfer of a 480-Volt safety bus from its onsite electrical power source to its appropriate off-site electrical sources, as required.

The finding was more than minor because the finding is associated with the procedure quality performance attribute of the Mitigating Systems cornerstone and affected the associated cornerstone objective to ensure the reliability of systems that respond to initiating events to prevent undesirable consequences. The finding was considered to be of very low safety significance (Green) in accordance with IMC 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," because the finding was not a design or qualification deficiency, did not result in the loss of a safety function, and was not risk significant due to external events.

The inspectors determined that this finding had a cross-cutting aspect in the area of Human Performance because Entergy personnel did not ensure adequate planning (work control) was performed to ensure post-maintenance functional testing was appropriate for the 6.9kV bus tie breakers. [H.3(a) per IMC0305]. (Section 4OA3)

Cornerstone: Emergency Preparedness

- Green. A self-revealing NCV of very low safety significance of 10 CFR 50.47(b)(5) was identified because Entergy personnel did not ensure the alert and notification system (ANS) sirens remained available for notification of the populace within the plume exposure pathway emergency planning zone (EPZ). Specifically, Entergy personnel did not use procedures, step lists, or checklists while performing maintenance on the ANS siren system which caused approximately 8% of the siren system to be degraded for 56 days. The siren technicians did not use a detailed written procedure or work instruction to perform siren file updates, but instead relied on performing the task from memory. As a result, on September 16, 2009, Entergy conducted a full volume siren test during which a total of 18 sirens indicated a failure to function. Entergy personnel entered the siren failures into their corrective action process for resolution and performed a root cause of the event to determine the short and long term corrective actions.

The finding was more than minor because it was associated with the Emergency Preparedness (EP) cornerstone attribute of facilities and equipment, and impacted the cornerstone objective of ensuring that Entergy is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. This finding was evaluated using IMC 0609 Appendix B, "Emergency Preparedness Significance Determination Process (SDP)" and was determined to be of very low safety significance (Green).

This finding has a cross-cutting aspect associated with the area of Human Performance because Entergy did not ensure adequate supervisory and management oversight of work activities performed by siren technicians [H.4(c) per IMC 0305] (Section 1EP2)

Other Findings

Violations of very low safety significance, which were identified by the licensee have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and corrective actions are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Indian Point Unit 3 operated at or near full reactor power (100%) throughout the inspection period.

1. REACTOR SAFETY**Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity**1R01 Adverse Weather Protection (71111.01 – 1 sample)Cold Weather Preparednessa. Inspection Scope

The inspectors performed a detailed review of Entergy procedures to address seasonal cold weather conditions. This review included an evaluation of deficiencies identified during the current seasonal preparations, and that adverse conditions were being adequately addressed to ensure the cold weather conditions would not have significant impact on plant operation and safety. The inspectors conducted plant and system walkdowns of the refueling water storage tank, the auxiliary feedwater building, service water intake structure, and the control building. Additionally, the inspectors conducted the review to verify that the station's implementation of OAP-008, "Severe Weather Preparations," and OAP-048, "Seasonal Weather Preparation," appropriately maintained systems required for normal operation and safe shutdown conditions. The inspection satisfied one inspection sample for the seasonal weather preparations.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04Q - 3 samples).1 Partial System Walkdownsa. Inspection Scope

The inspectors performed partial system walkdowns to inspect Entergy staff's performance in maintaining the proper equipment alignment of redundant or diverse trains and components during periods of system train unavailability, and where applicable, following return to service after maintenance. The inspectors referenced system procedures, the Updated Final Safety Analysis Report (UFSAR), and system drawings to verify that the alignment of the applicable system or component supported its required safety functions. The inspectors also reviewed applicable condition reports (CRs) or work orders (WOs) to ensure Entergy personnel identified and properly addressed equipment deficiencies that could potentially impair the capability of the available train(s). The documents reviewed during this inspection are listed in the Attachment. The inspectors performed partial walkdowns of the following systems or components, which represented three inspection samples:

- 31 and 32 EDG during 33 EDG outage on November 2;
- 31 and 33 service water (SW) pump while 32 SW pump was out of service for maintenance on November 18; and
- 31 and 33 motor-driven auxiliary boiler feedwater pumps (ABFP) during maintenance on 32 turbine-driven ABFP on November 23.

b. Findings

No findings of significance were identified.

.2 Complete System Walkdown (71111.04S – 1 sample)

a. Inspection Scope

The inspectors performed a complete system walkdown of accessible portions of the safety injection (SI) system, to determine whether the existing equipment alignment was consistent with the required alignment for the current plant conditions. The inspectors reviewed operating procedures, surveillance tests, drawings, equipment lineup check-off lists, and the UFSAR, to determine if the SI system was appropriately aligned to perform its required safety functions. The inspectors reviewed a sample of CRs that were generated to address deficiencies associated with the SI system, and verified that these deficiencies were appropriately evaluated and/or resolved within the corrective action program. The documents reviewed during this inspection are listed in the Attachment. The walkdown of the SI system represented one inspection sample.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05Q - 4 samples)

.1 Quarterly Fire Area Walkdowns

a. Inspection Scope

The inspectors conducted tours of selected Unit 3 fire areas to assess the material condition and operational status of applicable fire protection features. The inspectors reviewed, consistent with the applicable administrative procedures, whether: combustible material and ignition sources were adequately controlled; passive fire barriers, manual fire-fighting equipment, and suppression and detection equipment were appropriately maintained; and compensatory measures for out-of-service, degraded, or inoperable fire protection equipment were implemented in accordance with Entergy's fire protection program. The inspectors also evaluated the fire protection program for conformance with the requirements of License Condition 2.K. The documents reviewed during this inspection are listed in the Attachment.

This inspection represented four inspection samples and was conducted in the areas addressed by the following Pre-Fire Plans (PFP):

- PFP-306, Primary auxiliary building;
- PFP-307A/B, Charging Pump areas;
- PFP-385, Circulating and SW pump building; and
- PFP-352, Cable spreading/battery rooms.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06 – 1 sample)

a. Inspection Scope

The inspectors reviewed the Unit 3 Individual Plant Examination, the UFSAR, and IP-RPT-06-00071, "Indian Point Unit 3 Probabilistic Safety Assessment (PSA)," concerning internal flooding events. The inspectors assessed flood mitigation attributes within the ABFP building that are utilized to minimize potential impacts of flooding on the ABFPs and feedwater control valves. The inspectors also reviewed a surveillance test associated with the fire protection system to verify operators would have indication of system actuation. This inspection represented one sample for internal flood protection measures.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (IP 71111.07T - 2 samples)

a. Inspection Scope

Based on a plant specific risk assessment, previous inspections, recent operational experience, and resident inspector input, the inspectors selected the following areas for review:

- Operation and performance testing of the SW system;
- Performance of the ultimate heat sink (UHS), which included SW piping integrity and SW intake structure functionality; and
- EDG and component cooling water (CCW) heat exchangers (HXs).

The inspectors reviewed the SW system design to evaluate the adequacy of system monitoring and performance testing. The inspectors reviewed a sample of SW pump and valve performance tests, system health and walkdown reports, and in-service test (IST) vibration monitoring results for adverse trends and to verify that the system functioned as designed. The inspectors verified that Entergy personnel performed the pump and valve ISTs in accordance with American Society of Mechanical Engineers (ASME) Code requirements. In addition, the inspectors reviewed Entergy's monitoring,

maintenance, and testing of interface valves between safety-related SW and non-safety related or non-seismic piping systems to ensure that adequate SW flow is available post-accident consistent with design basis assumptions.

The inspectors reviewed Entergy's buried pipe inspection and monitoring program to independently assess the condition and structural integrity of the SW piping. The inspectors reviewed a risk-informed sample of Entergy's disposition of active through-wall pipe leaks, including completed or planned corrective actions and structural evaluations. The inspectors reviewed a sample of SW pipe nondestructive examination (NDE) records including ultrasonic tests, radiographic tests, visual tests, and available videos to ensure that Entergy personnel appropriately identified and dispositioned SW leakage or degradation. The inspectors performed an above ground walkdown of accessible areas containing buried SW piping to look for soil subsidence or other indications of piping leakage and/or degradation. The inspectors also directly observed the condition of SW piping in the accessible portions of the valve pits.

The inspectors reviewed Entergy's procedures and processes to control macro fouling of the SW system. The inspectors also observed the condition of the SW bio-boxes used to monitor zebra mussel activity. The inspectors reviewed Entergy's procedures for SW and intake structure operation, abnormal SW operations, adverse weather conditions, cold weather preparations, and for a loss of the SW system. The inspectors reviewed whether Entergy maintained these procedures consistent with their design and licensing basis and that plant operators could reasonably implement the procedures as written. The inspectors independently verified that SW and intake level instrumentation, which operators rely upon for decision making, was available and functional.

The inspectors walked down control room instrument panels, the EDG and CCW HXs, accessible portions of SW piping in the reactor and turbine buildings, and SW intake area (including the SW pumps, strainers, and traveling water screens) to assess the material condition and configuration control of these structures, systems and components (SSCs). On December 9, 2009, the inspectors performed an additional focused walkdown of the SW intake area to assess SW system functionality during adverse weather conditions. The inspectors also reviewed a sample of corrective action CRs related to the SW isolation valves, SW pumps, and SW piping integrity to ensure that Entergy appropriately identified, characterized, and corrected problems related to these essential SSCs. A list of documents reviewed is provided in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Regualification Program

.1 Quarterly Resident Inspector Evaluation (71111.11Q - 1 sample)

a. Inspection Scope

On October 5, 2009, the inspectors observed annual licensed operator requalification training examinations conducted in the plant-reference simulator, to verify appropriate operator performance, and that evaluators identified and documented crew performance

problems, as applicable. The inspectors evaluated the performance of risk significant operator actions, including the use of emergency operation procedures. The inspectors assessed the clarity and the effectiveness of communications, the implementation of appropriate actions in response to alarms, the performance of timely control board operations, and the oversight and direction provided by the control room supervisor. The inspectors reviewed simulator fidelity to verify correlation with the actual plant control room, and to verify that differences in fidelity that could potentially impact training effectiveness were either identified or appropriately dispositioned. Licensed operator training was evaluated for conformance with the requirements of 10 CFR 55, "Operator Licenses." The documents reviewed during this inspection are listed in the Attachment. This observation of operator evaluations represented one inspection sample.

b. Findings

No findings of significance were identified.

.2 Licensed Operator Requalification (71111.11B – 1 sample)

a. Inspection Scope

The following inspection activities were performed using NUREG 1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1, and Inspection Procedure Attachment 71111.11, "Licensed Operator Requalification Program."

The inspectors conducted a review of recent operating history documentation found in inspection reports, licensee event reports, and Entergy's corrective action program. The inspectors also reviewed specific events from Entergy's corrective action program which indicated possible training deficiencies, to verify that they had been appropriately addressed. The resident inspector staff was also consulted for insights regarding licensed operators' performance.

The remediation plans for a crew or individual's performance were reviewed by inspectors to assess the effectiveness of the remedial training. Operators, instructors and training/operation's management were interviewed for feedback on their training program and the quality of training received.

The inspectors observed simulator performance during the conduct of the examinations, and reviewed simulator discrepancy reports to verify facility staff were in compliance with the requirements of 10 CFR 55.46. Inspectors also reviewed a sample of simulator tests including transient, steady state, and malfunction tests.

The inspectors reviewed a sample of records for requalification training attendance, program feedback, reporting, and medical examinations for compliance with license conditions, including NRC regulations.

The operating tests for the weeks of September 21, October 5, and October 19, 2009, were reviewed for content, quality, and overlap. Likewise, three 2009 comprehensive written exams were reviewed for content, quality, and overlap.

The inspectors observed the training staff administer operating exams to one shift crew during the onsite inspection week, which began October 19. The inspectors also observed post-scenario evaluations, and monitored exam security practices.

On December 15, 2009, the inspectors reviewed results of Indian Point Unit 3 2009 comprehensive written and annual operating tests to determine whether pass/fail rates were consistent with the guidance of NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process (SDP)."

Inspectors verified the following:

- Crew failure rate on the dynamic simulator was less than 20%. (Failure rate was 0.0%);
- Individual failure rate on the dynamic simulator test was less than or equal to 20%. (Failure rate was 0.0%);
- Individual failure rate on the walkthrough test (job performance measures) was less than or equal to 20%. (Failure rate was 0.0%);
- Individual failure rate on the 2009 comprehensive written exam was less than or equal to 20%. (Failure rate was 4.5%); and
- More than 75% of the individuals passed all portions of the exam (95.5% of the individuals passed all portions of the exam).

b. Findings

Introduction: An NRC-identified Severity Level IV Violation of 10 CFR 50.9, "Completeness and accuracy of information" was identified because Entergy submitted inaccurate medical information for licensed operators. The inspectors identified submittals to the NRC were inaccurate due to the omission of a tactile test (test performed to ensure that operators can distinguish among various shapes of control knobs and handles by touch) from the required licensed operator medical examinations.

Description: The NRC's requirements related to the conduct and documentation of medical examinations for operators are contained in Subpart C, Medical Requirements, of 10 CFR 55, Operators' Licenses. Specifically, 10 CFR 55.21, Medical Examination, requires every operator be examined by a physician when he or she first applies for a license and every two years, thereafter, once the license is received. The medical examination is performed in order for the physician to determine whether the operator meets the requirements of 10 CFR 55.33(a)(1). The physician is to verify that the operator's medical condition and general health will not adversely affect the performance of assigned operator duties or cause operational errors that endanger public health and safety.

The facility licensee (Entergy) must also certify which industry standard (i.e., the 1983 or 1996 version of ANSI/ANS-3.4, Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants, or other NRC-approved method) was used in making the fitness determination. For the medical examination performed for licensed operators at Indian Point Units 2 and 3, the inspectors determined that Entergy had stated on NRC Form 396 that the 1983 industry standard was used for the completion of the medical examination. The inspectors noted that ANSI-3.4 1983, Paragraph 5.4.14 "Neurological," requires licensed operators to have "Tactile discrimination (Stereognosis) sufficient to distinguish among various shapes of control

knobs and handles by touch." Additionally, the inspectors identified that the Form 396 was signed by both the medical review officer and Site Vice President, under oath, verifying the examination had been performed.

During the medical records review, the inspectors determined that Entergy personnel had not been conducting tactile testing of its licensed operators. This omission had the potential for being significant since, during a transient aggravated by limited visibility, operators may be required to perform actions relying on their ability to distinguish, by touch, between different shapes of operating switches and knobs. Following identification of the issue Entergy personnel completed corrective actions to develop and administer an appropriate test. The inspectors noted that all licensed operators passed this new test, and no new license conditions were required.

Analysis: The inspectors determined that a long-standing deficiency had existed at the Indian Point Units 2 and 3 in that the licensee's medical physician was not adequately testing all licensed operators (both initial and renewal licensees) in accordance with 10 CFR 55.21 and 55.33 with respect to ANSI/ANS-3.4 1983. 10 CFR 55.23 requires that an authorized representative of the facility licensee shall certify the medical fitness of an applicant by completing and signing an NRC Form 396. NRC Form 396, when signed by an authorized representative of the facility licensee, certifies that a physician conducted a medical examination of the applicant as required in 10 CFR 55.21, and that the guidance contained in ANSI/ANS-3.4 1983 was followed in conducting the examination and making the determination of medical qualification.

The licensee's failure to provide complete and accurate information to the NRC could have resulted in an incorrect licensing action by the NRC and is a performance deficiency because the licensee is required to comply with 10 CFR 50.9 and the issue was within the licensee's ability to foresee and prevent. Because a violation of 10 CFR 50.9 is considered to be a violation that potentially impedes or impacts the regulatory process, it is dispositioned using the traditional enforcement process. The finding was more than minor because the document which provided the information was provided to the NRC signed under oath by the company medical doctor and the site vice president. Because there was no evidence that operators mis-operated equipment due to omitted tactile tests, the finding was determined to be of very low safety significance (SL IV).

The applicability of cross-cutting aspects related to the performance deficiency of this finding will be determined after NRC review of Entergy's response to the Notice of Violation.

Enforcement: 10 CFR 50.9 states, in part, "Information provided to the Commission by an applicant for a license or by a licensee or information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the applicant or the licensee shall be complete and accurate in all material respects." Contrary to this, from October 20, 2004 through October 22, 2009, Entergy submitted inaccurate information to the NRC on NRC Form 396 regarding the medical certification and testing of its licensed operators and initial applicants. This information was material to the NRC because the NRC relied on this certification to determine whether the applicant met the requirements to operate the controls of a nuclear power plant pursuant to 10 CFR 55.

This issue has been entered into the facility corrective action program (CR-IP3-2009-04487) and is of very low safety significance. The licensee implemented immediate corrective action and satisfactorily performed the required test. The inspectors verified the adequacy and promptness of the licensee's corrective actions for the medical issue. These corrective actions included the development of a tactile test which required operators to identify by touch various control knobs and switch shapes within a bag. The new tests were administered to all licensed operators and senior licensed operators. All operators passed the test and no new deficiencies were identified.

This violation is being treated consistent with other licensed operator medical examination findings and the NRC Enforcement Policy. **(NOV 05000286/2009005-01, Incomplete Licensed Operator Medical Examinations)**

1R12 Maintenance Effectiveness (71111.12 – 2 samples)

a. Inspection Scope

The inspectors reviewed performance-based problems that involved selected structures, systems, and components (SSCs) to assess the effectiveness of maintenance activities and to verify activities were conducted in accordance with site procedures and 10 CFR 50.65 (The Maintenance Rule). The reviews focused on:

- Evaluation of Maintenance Rule scoping and performance criteria;
- Verification that reliability issues were appropriately characterized;
- Verification of proper system and/or component unavailability;
- Verification that Maintenance Rule (a)(1) and (a)(2) classifications were appropriate;
- Verification that system performance parameters were appropriately trended;
- For SSCs classified as Maintenance Rule (a)(1), that goals and associated corrective actions were adequate and appropriate for the circumstances; and
- Identification of common cause failures.

The inspectors also reviewed system health reports, maintenance backlogs, and Maintenance Rule basis documents. The documents reviewed during this inspection are listed in the Attachment. The following systems and/or components were reviewed and represented two inspection samples:

- Service water discharge valve disc erosion; and
- 32 main feed water regulating valve deficiencies.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 4 samples)

a. Inspection Scope

The inspectors reviewed maintenance activities to verify that the appropriate on-line risk assessments were performed prior to removing equipment for work as required by 10

CFR 50.65(a)(4). When planned work scope or schedules were altered to address emergent or unplanned conditions, the inspectors verified that the plant risk was promptly reassessed and managed by station personnel. The documents reviewed during this inspection are listed in the Attachment. The following activities represented four inspection samples:

- Planned risk during 138kV switchyard work regarding 33332 L&M line restoration on October 8;
- Planned risk during Undervoltage/Degraded Grid testing on October 22;
- Planned risk during 33 EDG maintenance on November 2; and
- Planned risk during emergency boration valve stroke testing on November 10.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15 – 5 samples)

a. Inspection Scope

The inspectors reviewed operability evaluations to assess the acceptability of the evaluations, the use and control of compensatory measures when applicable, and compliance with Technical Specifications. These reviews were conducted to verify that operability determinations were performed in accordance with procedure ENN-OP-104, "Operability Determinations." The inspectors assessed the technical adequacy of the evaluations to ensure consistency with the UFSAR and associated design and licensing basis documents. The documents reviewed are listed in the Attachment. The following operability evaluations were reviewed and represented five inspection samples:

- CR-IP3-2009-03911, stab from compartment 7FML/FMR from B phase missed bus bar;
- CR-IP3-2009-04123, Neutron Flux Detector N-38 failing;
- CR-IP3-2009-04165, Through-wall leak on SW line upstream of SWN-213;
- CR-IP3-2009-04351/04362, EDG east air start motor failure and potential kilowatt overload; and
- 32 ABFP oil, degraded bearing, and vibration issues.

b. Findings

Introduction: An NRC-identified NCV of very low safety significance (Green) of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," was identified because Entergy personnel did not adequately correct a condition adverse to quality to ensure the continued operability of EDGs. Specifically, Entergy personnel did not ensure that contacts associated with EDG jacket water pressure switches for the air start systems were in the appropriate state following EDG operations to support EDG restart.

Description: On November 4, 2009, during post-work testing on the 33 EDG, the 33 EDG failed to start on demand due to air start motor that had not operated properly. Subsequent troubleshooting by Entergy personnel resulted in the discovery on November 14, that the direct cause of the air start motor failure was pressure switch PS-

2282, a jacket water pressure switch associated with the air start system, did not change to the appropriate state as expected.

The 33 EDG air start system utilizes two pressure switches, one for each air start motor, to ensure the air start motors operate and allow for proper startup and operation of the EDG. PS-2282 is associated with the east air start motor, and utilizes jacket cooling water system pressure to operate as the 33 EDG comes up to speed. Contact No. 1 of the pressure switch, which is open during EDG operation, is required to close as the pressure switch responds to decreasing pressure in the jacket water system at a predetermined setpoint. For this November 4 event, Entergy personnel determined that the pressure switch had not fully returned to its at-rest state following a preceding EDG performance run during post-maintenance testing, which should have placed contact No. 1 in the desired closed position to ensure the 33 EDG was ready for operation upon demand, whether in manual or automatic mode.

The inspectors identified that previous failures of jacket water pressure switches occurred in 2008 at the station, and that Entergy personnel previously determined the cause to be inadequate contact material selection resulted in micro-welding of closed contacts during operation coupled with electrical circuit deficiencies and possibly setpoint drift. Subsequently, newer models with increased trip setpoints associated with three of five jacket water pressure switches on all three EDGs were installed by station personnel in 2008 as a result of these pressure switch design issues and contact material deficiencies. However, the two remaining pressure switches associated with the air start motors (two per EDG for a total of six pressure switches) were not replaced by Entergy personnel at that time due to station considerations regarding planned EDG air receiver design and licensing basis changes that were unrelated to the switch problem.

The inspectors evaluated the operability of the 33 EDG following the discovery of both the original air start motor failure on November 4, and Entergy personnel's identification of the direct cause of the failure on November 14. The inspectors concluded that the operability of the EDGs were not assured as a result of this known, degraded condition of the jacket water pressure switches without implementation of appropriate compensatory corrective actions. Specifically, the inspectors identified that Entergy personnel had previously recognized a potential, failure mode due to a condition adverse to quality (contact micro-welding) associated with EDG air start motor operation that would not be self-revealing until an EDG demand start was required. The inspectors noted that no failures had occurred in the jacket water pressure switches associated with the air start system in recent history prior to the failure on November 4. However, the inspectors concluded the reliability of the 33 EDG was reduced because only one air start sub-system was available between November 4 and November 11, due to the east air start motor being isolated to support troubleshooting. Additionally, between November 14 and December 17, the inspectors identified Entergy personnel did not effectively implement corrective actions to assure that the degraded switches on the air start system were in a state to support an emergency start of the EDGs.

On December 17, Entergy personnel instituted measures to ensure continued EDG operability following EDG operation. These measures included post-run verification that the contacts associated with the air start systems were in the appropriate position to ensure subsequent EDG operation, when needed. Additionally, Entergy personnel implemented corrective actions to install improved pressure switches following resolution

of licensing basis considerations associated with the EDG air receiver. These corrective actions are detailed in CR-IP3-2009-04819.

Analysis: The inspectors determined that station personnel did not implement corrective measures in a timely manner for a degraded EDG air start system pressure switch condition and that this constituted a performance deficiency. The inspectors determined this issue was more than minor because it affected the equipment performance attribute of the Mitigating System cornerstone and affected its objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the 33 EDG incurred unavailability and reliability was impacted during 33 EDG standby conditions with one air start sub-system available prior to Entergy's implementation of appropriate compensatory measures. The inspectors evaluated the finding using IMC 0609, Attachment 4, "Initial Screening and Characterization of Findings." The inspectors determined the finding was of very low safety significance because the finding was not a design or qualification deficiency, did not represent a loss of safety function, and was not risk significant with respect to external events.

The inspectors determined that this finding had a cross-cutting aspect in the area of Problem Identification and Resolution because Entergy personnel did not implement adequate corrective actions to address continued EDG operability concerns with degraded jacket water pressure switches in a timely manner. (P.1(d) per IMC0305)

Enforcement: 10 CFR 50, Appendix B, Criterion XVI, Corrective Actions, requires, in part, that the conditions adverse to quality, such as deficiencies and defective material and equipment are promptly identified and corrected. Contrary to the above, Entergy personnel did not correct a condition adverse to quality associated with jacket water pressure switches or implement corrective measures in a timely manner. Specifically, Entergy personnel did not implement actions in 2008 to replace jacket water pressure switches or take actions from November 4 through December 17, 2009, to ensure that contacts for the 33 EDG pressure switches for the air start systems were in the appropriate state following EDG operation. Because this violation is of very low safety significance and has been entered into the Entergy's corrective action program, CR-IP3-2009-01550, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (**NCV 05000286/2009005-02, Untimely Compensatory Measures for Degraded EDG Pressure Switches**)

1R18 Plant Modifications (71111.18 – 1 sample)

.1 33 Emergency Diesel Generator East Side Jacket Water Heater Disabled

a. Inspection Scope

The inspectors reviewed the design documentation associated with the temporary disabling of the east side jacket water heater. The inspectors verified the adequacy of the temporary modification and reviewed the associated temporary procedure changes. This verification included review of the system impacts of reduced heating capacity during standby and review of operator round records to ensure jacket water temperature was within specifications to support an emergency start of the diesel generator. The inspectors also reviewed the work package that installed this temporary modification.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19 – 5 samples)

a. Inspection Scope

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

- 32 SW pump motor replacement on October 1;
- 33 Charging pump repack on October 4;
- 32 EDG maintenance outage testing on October 7;
- Condensate storage tank level switch replacement on October 20; and
- 34 FCV (flow control valve) motor lead replacements on November 5.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 – 5 samples)

a. Inspection Scope

The inspectors observed performance of surveillance tests and/or reviewed test data of selected risk-significant structures, systems, and components, to assess whether test results satisfied Technical Specifications, UFSAR, technical requirements manual, and Entergy procedure requirements. The inspectors verified that: test acceptance criteria were sufficiently clear; tests demonstrated operational readiness and were consistent with design basis documentation; test instrumentation had accurate calibrations and appropriate range and accuracy for the application; tests were performed as written; and applicable test prerequisites were satisfied. Following the tests, the inspectors verified whether equipment was capable of performing the required safety functions. The documents reviewed during this inspection are listed in the Attachment. The following surveillance tests were reviewed and represented five inspection samples, which included an in-service testing (IST) surveillance:

- 3-PT-Q132, Emergency Boration Flow Path Valve CH-MOV-333, on November 11 (IST);
- 3-PT-Q080, Pressurizer Block Valve Timing Test RC-MOV-535 and 536, on November 13;
- 3-PT-M62A, 480-Volt Undervoltage / Degraded Grid Protection System Bus 2A and 3A Functional, on November 19;
- 0-SOP-LEAKRATE-001, RCS Leakrate Surveillance, Evaluation, and Leak Identification, on November 22; and
- 3-PT-Q120B, 32 ABFP (Turbine Driven) Surveillance and IST, on November 25.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

An onsite review was conducted to assess the maintenance and testing of Indian Point Energy Center's (IPEC) current ANS. During the inspection, the inspector interviewed the Entergy staff responsible for overseeing the ANS testing and maintenance of the system. The inspector reviewed ANS procedures and the ANS design report to ensure Entergy's compliance with design report commitments for system maintenance and testing. The inspector reviewed CRs pertaining to the ANS for causes, trends, and corrective actions. The inspector also reviewed Entergy's root cause report related to siren test results conducted in September 2009. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 2. Planning Standard, 10 CFR 50.47(b)(5) and the related requirements of 10 CFR 50, Appendix E, were used as reference criteria. The documents reviewed during this inspection are listed in the Attachment.

b. Findings

Introduction: A self-revealing NCV of very low safety significance (Green) of 10 CFR 50.47(b)(5) was identified because Entergy personnel did not ensure the alert and notification system (ANS) sirens remained available for notification of the populace within the plume exposure pathway emergency planning zone (EPZ). Specifically, Entergy personnel did not use procedures, step lists, or checklists while performing maintenance on the ANS siren system which caused approximately 8% of the siren system to be in a degraded condition for 56 days.

Description: The new ANS siren system is comprised of 172 sirens located throughout the four counties within the 10 mile Emergency Planning Zone (EPZ). Of the 172 sirens, 13 are capable of voice reproduction. The voice enabled sirens are located in areas, such as Harriman State and Croton Point Parks, where the population may not have access to media that would transmit Emergency Alert Messages.

The inspector's review of Entergy's root cause evaluations determined that, in July 2009, Entergy received new voice chips along with two data files (one for voice and one for non-voice sirens) along with instructions for installation of the chips and data files from

the siren system vendor. The new voice chips and software provided an upgrade to the previous voice message. On July 15, 2009, Entergy personnel discussed the task of installing new voice chips on the digital message boards (DMB) for the 13 voice enabled sirens and installing the updated voice data file for each siren. The first voice chip installation and data file update was performed on July 20, 2009. Although the siren system vendor provided the installation instructions for the data file, the instructions were not included in the Entergy work instructions nor were they provided to the technician performing the upgrade.

On July 22, 2009, technicians continued to update all voice sirens with the new voice chip and the new data file. While updating a single voice siren data file, the UPDATE ALL command was inadvertently invoked three times within a short period of time. The technician recognized the error and proceeded to abort the process all three times. A similar data file update error had previously occurred on July 20, 2009. While actions were taken to recover from the error, a CR was not documented and no actions were taken to prevent reoccurrence. Between July 22 and July 29, 2009, the technicians continued to update the remaining voice sirens with the new voice chips and data file with no additional instances of the UPDATE ALL command being invoked. The installation of voice chips and the voice data files was completed on July 29, 2009. All voice sirens were updated and verified with the voice chips and the new data file. The post maintenance testing for this activity would not have identified the latent error with the non-voice enabled sirens because it was not intended to have modified these sirens during this work activity.

As a result of the data file update error on July 22, 2009, 14 non-voice sirens were inadvertently configured as voice sirens. After the technician made the file update error on July 22, 2009, the technician did not verify that the correct data files were installed for all non-voice sirens (three non-voice sirens were verified as having the correct files after the July 20, 2009 data update error). This error caused 14 non-voice sirens to be left in a condition where the sirens would function (annunciate); however, the indication at the siren activation points would indicate that the sirens had failed (red-dots versus green-dot for successful activation).

In August 2009, routine polling, silent tests and annual Preventive Maintenance (PM) were conducted by Entergy. The annual PM procedure requires verification if the individual siren's data file is correct for the type of siren (voice or non-voice). During the PMs, several siren data files were found to be incorrect and were corrected during the PM. The last four PMs conducted on non-voice sirens in the August/September timeframe each began with a non-voice siren verification failure. This failure was an indication that the non-voice siren was configured with a voice siren data file. The Entergy Root Cause report determined that the failure should have been identified by the technician and indicated that there was a more significant problem with the siren data files. This problem was neither documented in a CR nor was it reported to management. The silent tests that were conducted would not have identified voice data file configuration errors.

On September 16, 2009, Entergy conducted a full volume test of the siren system. Of the 172 sirens activated during the test, 18 siren failures were observed (red dots on displays indicating siren failures). Of the 18 failures observed, four were reported as amplifier (AMP) failures and 14 were reported as DMB errors. The inspector did not identify a performance deficiency associated with the four AMP siren failures. The 14

DMB errors were due to an incorrect data file being installed for the siren. The sirens indicating an error were non-voice sirens that were installed with the voice data file.

According to procedure IP-EP-AD30, IPEC ATI Siren System Administration, maintenance on the siren system will be performed using procedures, step lists, and checklists per IP-EP-AD31, IPEC Siren System Maintenance Administration Procedure. IP-EP-AD31 states checklist and procedures will be used if the work is beyond the skill of the craft or the vendor tech manuals. Contrary to IP-EP-AD30, the inspectors determined the technician did not use detailed written procedures nor work instructions to perform the siren updates. Instead the technician relied on performing the task from memory. As a result, on September 16, 2009, 14 DMB failures occurred due to an incorrect data file being installed for the sirens.

Troubleshooting testing conducted following the September 16, 2009, full volume test, demonstrated that while the 14 sirens indicated that they had failed to function, the sirens most likely sounded based on this subsequent testing. In the case of a siren indicating failure during an actual event, Entergy would use an installed reverse calling system to notify the affected public. Following the siren test failures, Entergy diagnosed the data file error, installed the correct data file, and had all 14 sirens returned to an operable status on the day of the test. On October 22, 2009, a subsequent full volume test demonstrated 100 percent successful siren activation.

Analysis: The inspector determined that Entergy's failure to use procedures, step lists or checklists while performing maintenance on the siren system was a performance deficiency resulting in approximately 8% of the system to be degraded for 56 days. The finding is greater than minor because it is associated with the emergency preparedness (EP) cornerstone attribute of Facilities and Equipment (Maintenance of Equipment) and affected the EP cornerstone objective of ensuring the capability to implement adequate measures to protect the health and safety of the public in the event of a radiological emergency. This finding was evaluated using IMC 0609, Appendix B, "Emergency Preparedness Significance Determination Process," Sheet 1, "Failure to Comply." The finding is associated with the failure to meet or implement a regulatory requirement (planning standard). The finding is not more than Green because it did not result in a Risk Significant Planning Standard (RSPS) function being lost or degraded. The SDP defines degradation of this RSPS to be, "the public alert and notification system (e.g., sirens, other supporting primary notification methods) has design flaws or deficiencies in the test program, maintenance program, or procedures that degrade a portion of the system for a significant period from the time of discovery (e.g., 100% over 25 days, greater than 48% over 45 days, greater than 24% over 90 days, greater than 12% over 6 months)." In this case, approximately 8% of sirens were degraded for over 45 days; therefore, it was concluded that the RSPS was not degraded (as defined by the SDP) and the finding was determined to be of very low safety significance (Green).

This finding has a cross-cutting aspect associated with the area of Human Performance because Entergy did not ensure adequate supervisory and management oversight of work activities performed by station personnel and siren technicians (H.4(c)).

Enforcement: 10 CFR 50.54(q) states in part that the facility licensee shall follow and maintain in effect emergency plans which meet the standards in 50.47(b) and the requirements in Appendix E of this part. Planning Standard 10 CFR 50.47 (b)(5) requires, in part, that a means to provide early notification and clear instruction to the

populace within the plume exposure pathway EPZ have been established. Contrary to the above, from July 22, 2009 until September 16, 2009, a means to provide early notification and clear instruction to the populace within the plume exposure pathway EPZ had not been established in the areas adjacent to the 14 non-functional sirens. A contributing cause for this violation was the failure to use procedures, step lists or checklists during a siren maintenance activity conducted on July 22, 2009. Because this violation was of very low safety significance and it was entered into Entergy's corrective action program (CR-IP2-2009-3701); this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy. **(NCV 05000286/2009005-03, Siren Test Failure)**

1EP3 Emergency Response Organization (ERO) Staffing and Augmentation System (71114.03 - 1 sample)

a. Inspection Scope

The inspector conducted a review of IPEC's ERO augmentation staffing requirements and the process for notifying and augmenting the ERO. This was performed to ensure the readiness of key licensee staff to respond to an emergency event and activate their emergency facilities in a timely manner. The inspector reviewed the IPEC ERO roster, sampling of training records, and CRs related to the ERO staffing augmentation system. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 3. Planning Standard, 10 CFR 50.47(b)(2) and related requirements of 10 CFR 50, Appendix E, were used as reference criteria.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level (EAL) and Emergency Plan Changes (71114.04 - 1 sample)

a. Inspection Scope

Since the last NRC inspection of this program area, Entergy personnel implemented changes to different sections of their emergency plan. Entergy personnel had determined that, in accordance with 10 CFR 50.54(q), any change made to the emergency plan, and its lower-tier implementing procedures, had not resulted in any decrease in effectiveness of the plan, and that the revised plan continued to meet the standards in 50.47(b) and the requirements of 10 CFR 50 Appendix E. The inspector reviewed all emergency plan changes, including the changes to lower-tier emergency plan implementing procedures, to evaluate for any potential decreases in effectiveness of the emergency plan. However, this review by the inspectors was not documented in an NRC Safety Evaluation Report and does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 4. The requirements in 10 CFR 50.54(q) were used as reference criteria. The documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses (71114.05 - 1 sample)**a. Inspection Scope**

The inspector reviewed a sampling of self-assessment procedures and reports to assess Entergy's ability to evaluate their EP performance and programs. The inspector reviewed a sampling of CRs from December 2007 through November 2009, initiated by Entergy at IPEC from drills and audits. Additionally, the inspectors reviewed 10 CFR 50.54(t) audits; and self-assessment reports. This inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 5, Planning Standard, 10 CFR 50.47(b)(14) and the related requirements of 10 CFR 50, Appendix E, were used as reference criteria. The documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06 – 1 sample)**a. Inspection Scope**

The inspectors evaluated an emergency classification conducted on October 5, 2009, during a licensed-operator requalification examination conducted in the plant-reference simulator. The inspectors observed an operating crew respond to simulated initiating events and malfunctions that ultimately resulted in the simulated implementation of the site emergency plan. In particular, the inspectors verified the adequacy and accuracy of the simulated emergency classification of 'Site Area Emergency.' The inspectors verified this initial classification was appropriately credited as an opportunity toward NRC performance indicator data. The inspectors observed the management evaluation and training critique following termination of the scenarios, and verified that performance deficiencies were appropriately identified and addressed within the critique and, as applicable, within the corrective action program. Also, the inspectors reviewed the summary performance report for the evaluation and verified that appropriate attributes of drill performance including deficiencies were captured. This evaluation constituted one inspection sample.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY**Cornerstone: Occupational Radiation Safety (OS)****2OS1 Access Control to Radiologically Significant Areas (71121.01 – 15 samples)****a. Inspection Scope**

During September 28 through October 2, 2009, the inspectors conducted activities to verify that Entergy staff at IPEC were properly implementing physical, engineering, and

administrative controls for access to high radiation areas (HRAs), and other radiologically controlled areas, and that workers were adhering to these controls when working in these areas. Implementation of the access control program was reviewed against the criteria contained in 10 CFR 20, site technical specifications, and licensee's procedures required by the Technical Specifications as criteria for determining compliance. During the inspection, the inspectors interviewed the radiation protection manager, radiation protection supervisors, and radiation workers. The documents reviewed during this inspection are listed in the Attachment.

The inspectors performed independent radiation dose rate measurements and reviewed the following items:

Plant Walk Downs and RWP Reviews

The inspectors reviewed exposure significant work areas within radiation areas, HRAs, and airborne areas in the plant to assess licensee controls and surveys for adequacy. Work reviewed included 3R15 Refueling Outage and On-Line work activities:

- U2 RCP Platform Entry (Oil Addition)
- U2 Vapor Containment, Replace 21 CRD Fan Motor radiation work permit (RWP) 2009-2033
- U2 Testing and Fuel Moves, RWP 2009-2043
- U2 Dry Cask Storage & Associated Work, RWP 2009-2029
- Radiation protection support for locked HRA (LHRA) Entries, RWP 2009-3501
- Maintenance Support, RWP 2009-3506
- Waste Management, RWP 2009-3504
- Scaffolding, RWP 2009-3518
- Outage Valve Work, RWP 2009-3520
- Reactor Disassembly & Reassembly, RWP 2009-3521
- Split Pin Repair & Associated Work, RWP 2009-3530
- RCP Pump & Motor Work, RWP 2009-3534

With a survey instrument and assistance from a Health Physics qualified individual, the inspectors walked down various areas to determine: whether the RWP, procedure, and engineering controls were in place and whether surveys and postings were adequate. The inspectors reviewed RWPs that provide access to exposure-significant areas of the plant. Specified electronic personal dosimeter alarm set points were reviewed by inspectors with respect to current radiological condition applicability and workers were queried to verify their understanding of plant procedures governing alarm response and knowledge of radiological conditions in their work area.

The inspectors determined there were no RWPs for airborne radioactivity areas with the potential for individual worker internal exposures of >50 millirem (mrem) committed effective dose equivalent (CEDE). Additionally, the inspectors determined there were no internal dose assessments that resulted in actual internal exposures greater than 50 mrem CEDE.

Problem Identification and Resolution

The inspectors reviewed access control-related CRs generated since the last inspection in this area was conducted. Staff members were interviewed and documents reviewed to determine that follow-up activities are being conducted in an effective and timely manner, commensurate with their safety and risk. For repetitive deficiencies or significant individual deficiencies in problem identification and resolution, the inspectors determined if the licensee's assessment activities addressed the repetitive aspects. The inspectors reviewed events to determine whether there existed performance indicator occurrences that involved dose rates greater than 25 Rem/hour at 30 cm, dose rates greater than 500 Rem/hour at 1 meter, unintended exposures greater than 100 mrem total effective dose equivalent (TEDE), greater than 5 Rem shallow dose equivalent (SDE), or greater than 1.5 Rem lens dose equivalent (LDE).

Job-in-Progress Reviews

The inspectors observed aspects of various on-going activities to confirm that radiological controls, such as required surveys, area postings, job coverage, and job site preparations were conducted. The inspectors verified that personnel dosimetry was properly worn and that workers were knowledgeable of work area conditions. The inspectors attended briefing meetings for U2 Badger Testing and ISFSI related activities.

High Risk Significant, High Dose Rate High Radiation Areas and Very HRA (VHRA) Controls

Key control associated with LHRA and VHRA were reviewed by inspectors to assess Entergy's controls and inventory and to verify accessible LHRA were properly secured and posted during plant tours. The inspectors discussed with radiation protection supervision the adequacy of high dose rate HRA and VHRA controls and procedures and verified that no programmatic or procedural changes have occurred that reduce the effectiveness and level of worker protection.

Radiation Worker Performance

During observation of the work activities listed above, the inspectors evaluated radiation worker performance with respect to the specific radiation protection work requirements and their knowledge of the radiological conditions in their work areas. The inspectors reviewed CRs related to radiation worker performance to determine if an observable pattern traceable to a similar cause was evident.

Radiation Protection Technician Proficiency

During observation of the work activities listed above, inspectors evaluated radiation protection technician work performance with respect to their knowledge of the radiological conditions, the specific radiation protection work requirements and radiation protection procedures. The inspectors reviewed CRs related to radiation protection technician performance to determine if an observable pattern traceable to a similar cause was evident.

b. Findings

No findings of significance were identified

2OS2 ALARA Planning and Controls (71121.02 - 10 samples)

a. Inspection Scope

During September 28 through October 2, 2009, the inspectors conducted the following activities to verify that Entergy staff were properly maintaining individual and collective radiation exposures as low as is reasonably achievable (ALARA). Implementation of the ALARA program was reviewed for conformance with the criteria contained in 10 CFR 20, applicable industry standards, and Entergy procedures. The documents reviewed during this inspection are listed in the Attachment.

Inspection Planning

The inspectors reviewed pertinent information regarding cumulative exposure history, current exposure trends, and on-going activities to assess current performance and outage exposure challenges. The inspectors determined the site's 3-year rolling collective average exposure. The inspectors reviewed work performed during the inspection period, the associated ALARA plans, RWPs, ALARA Committee Reviews, exposure estimates, actual exposures and post job reviews. Jobs reviewed included those listed earlier in this report in Section 2OS1. The inspectors reviewed implementing procedures associated with maintaining occupational exposures ALARA. This included a review of the processes used to estimate and track work activity exposures.

Radiological Work Planning

With respect to the work activities reviewed, the inspectors reviewed dose summary reports, related post-job ALARA reviews, related RWPS, exposure estimates and actual exposures, and ALARA Committee meeting paperwork. The inspectors reviewed ALARA work activity evaluations, exposure estimates, and exposure mitigating requirements were reviewed for work packages. The inspectors' review was to verify whether the licensee has established procedures and work controls, based on sound radiation protection principles. The inspectors compared the results achieved with the intended dose that was established in the planning of the work. The inspectors evaluated the basis for inconsistencies between the intended and actual work activity doses and station management awareness and involvement.

Job Site Inspections and ALARA Controls

The inspectors reviewed work activities that present the highest radiological risk to workers. The inspectors evaluated the licensee's use of engineering controls to achieve dose reductions and to verify that procedures and controls are consistent with ALARA reviews. Associated ALARA Plans and RWPS were reviewed by inspectors to determine if appropriate exposure and contamination controls were being employed.

Radiation Worker Performance

Through observations and interviews, the inspectors reviewed whether workers and technicians were found to be knowledgeable of the work area radiological conditions and low dose waiting areas.

Declared Pregnant Workers

The inspectors reviewed information associated with declared pregnant workers during the assessment period and whether appropriate monitoring and controls were being utilized to ensure compliance with 10 CFR 20.

Problem Identification and Resolution

The inspectors reviewed elements of the licensee's corrective action program related to implementing radiological controls to determine if problems are being entered into the program for timely resolution.

b. Findings

No findings of significance were identified.

4. **OTHER ACTIVITIES**

4OA1 Performance Indicator Verification (71151 – 6 samples)

a. Inspection Scope

The inspectors reviewed performance indicator (PI) data for the cornerstones listed below and used Nuclear Energy Institute 99-02, 'Regulatory Assessment Performance Indicator Guideline,' to verify individual PI accuracy and completeness. The inspectors reviewed the PI data and its supporting documentation from the fourth quarter of 2008 through the third quarter of 2009 to verify the accuracy of the reported data. The documents reviewed during this inspection are listed in the Attachment.

Barrier Integrity Cornerstone

- Reactor Coolant System Leakage.

Occupational Radiation Safety Cornerstone

- Occupational Exposure Control Effectiveness

Public Radiation Safety Cornerstone

- Radiological Effluent Technical Specifications (RETS)/Offsite Dose Calculation Manual (ODCM) Radiological Effluent Occurrences

Emergency Preparedness Cornerstone

- Drill and Exercise Performance (DEP);
- ERO Drill Participation; and
- ANS Reliability.

b. Findings

No findings of significance were identified.

40A2 Identification and Resolution of Problems (71152 – 3 samples)

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

a. Inspection Scope

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

In accordance with the baseline inspection modules, the inspectors selected corrective action program items across the Initiating Events, Mitigating Systems, and Barrier Integrity cornerstones for further follow-up and review. The inspectors assessed Entergy personnel's threshold for problem identification, the adequacy of the cause analysis, extent of condition reviews, operability determinations, and the timeliness of the associated corrective actions.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors performed a semi-annual review of site issues, to identify trends that might indicate the existence of more significant safety issues. The inspectors included in this review, repetitive or closely-related issues that may have been documented by Entergy outside of the corrective action program, such as trend reports, performance indicators, major equipment problem lists, maintenance rule assessments, and maintenance or corrective action program backlogs. The inspectors also reviewed Entergy's corrective action program database for the third and fourth quarters of 2009, to assess CRs written in various subject areas (equipment problems, human performance issues, etc.), as well as individual issues identified during the NRC's daily CR review. The inspectors reviewed Entergy's quarterly trend report for the third quarter of 2009, and specific inputs from the Engineering Department that were included in the site trend report, to verify the existence or absence of, identified trends and the adequacy of existing corrective actions to address these trends. The inspectors also reviewed EN-LI-121, "Entergy Trending Process," to verify that Entergy personnel were appropriately evaluating and trending adverse conditions in accordance with applicable procedures.

b. Findings and Observations

No findings of significance were identified.

The inspectors reviewed issues that occurred over the course of the past year, and more specifically, the third and fourth quarters of 2009, which could objectively be considered potential adverse trends. The inspectors verified these issues were either addressed within the scope of Entergy's corrective action program, or through department review and documentation in the quarterly trend report for overall assessment. For example, the inspectors reviewed the following issues:

- IP2-2009-04306 - Root Cause Evaluation: Adverse Trend - Centrifugal Pump Rework;
- IP3-2009-02554 - Isolated phase bus duct cooling issues;
- IP2-2009-02629 - Recent events involving weaknesses in supplemental personnel work practices;
- IP3-2009-03928 /02983/04847 - Fuse failures on control building exhaust fans; and
- IP3-2009-03626/02539 - Unit 3 Plant Scrams.

The inspectors did not identify an adverse trend that was not previously identified by Entergy personnel. However, the inspectors identified that Entergy personnel appeared inconsistent in their implementation of the Corrective Action Program as it related to ensuring an adverse trend evaluation was performed by station personnel consistently with respect to recent CRs regarding control building fans.

(1) On July 4, 2009, the 32 control building fan did not start due to fuse failures on the B & C phases in the electrical starting circuitry. The Condition Review Group (CRG) requested an assessment to determine if an adverse trend existed;

(2) On September 27, 2009, the 31 control building fan did not start due to fuse failures on all three electrical phases. The inspectors identified that Entergy personnel closed this issue to "track and trend" after application of trend codes, but did not document a search of the corrective action database to evaluate for adverse trending; and

(3) On December 21, 2009, the 31 control building fan experienced a blown fuse on a single electrical phase. Entergy replaced the fuse and no further action appeared to have been taken within the corrective action program.

The inspectors' assessment did not determine that an adverse trend existed or Entergy's actions were in violation of procedure requirements. However, the inspector's determined that an implementation threshold for conducting adverse trend evaluations with respect to this small sample were not consistently considered or implemented by station personnel.

.3 Annual Sample: 31 Pressurizer Backup Heater Molded Case Circuit Breaker Issues

a. Inspection Scope

The inspectors reviewed Entergy's corrective actions to address an indication of oil external to circuits 7 and 8 on the 31 pressurizer backup heater molded case circuit breaker (MCCB) panel as well as a subsequent failure of the circuit 8 MCCB. The inspectors reviewed corrective actions associated with CR-IP3-2004-02896, CR-IP3-2008-01108, CR-IP3-2008-01235, and CR-IP3-2008-01287, and assessed each

condition report to ensure apparent cause evaluations appropriately identified causes and corrective actions were adequate and appropriate for the circumstances and risk significance.

b. Findings and Observations

Introduction: An NRC-identified NCV of very low safety significance (Green) of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," was identified because Entergy personnel did not promptly identify and correct a condition adverse to quality regarding molded-case circuit breaker (MCCB) non-conformance.

Description: On October 27, 2009, the inspectors identified that Entergy personnel did not maintain or provide a basis for extending the qualification basis for original equipment Westinghouse MCCBs. Entergy personnel previously identified (IP3-2004-2704) that a portion of the population of MCCBs in safety related applications exceeded the defined design life as specified in Westinghouse Technical Bulletin (TB), TB-04-13, "Replacement Solutions for Obsolete Classic Molded Case Circuit Breakers, UL Testing Issues, Breaker Design Life and Trip Band Adjustment," dated June 28, 2004. The inspectors noted that the MCCBs had been in service for greater than 29 years compared to the 20 year design life specified in the TB-04-13. The TB-04-13 documented the defined service life for these MCCBs as being 20 years and provided operating experience that would indicate MCCB replacement at 20 years was necessary and more frequent preventive maintenance activities to ensure the MCCBs maintained reliability. The TB-04-13 further described aging of the lubricants applied internally to Westinghouse MCCBs during manufacturing as a key limiting factor for continued MCCB operability.

Previously, when Entergy personnel evaluated TB-04-13 in condition report IP3-2004-2704, station personnel initiated corrective actions to replace all safety related and important to safety MCCBs at refueling outage intervals with final expected completion date by 2011. The MCCB replacements were administratively tracked by preventive maintenance change request (PMCR)-04-480V-IMD-121. The inspectors noted that Unit 2 previously began replacement of its MCCBs installed in safety related applications in the early 1990s.

Notwithstanding Entergy's actions to complete MCCB replacement by 2011, the inspectors determined that Entergy personnel did not take timely corrective actions to replace or evaluate qualification of breakers in service which already exceeded their 20-year design life. The inspectors noted that MCCBs not yet replaced included breakers associated with the 31 instrument bus, 31 DC distribution panel, 31 DC power panel, and several panels for EDG auxiliary components.

Additionally, the inspectors identified additional opportunities in 2008 for Entergy personnel to reasonably revisit the adequacy of unit specific actions to address the MCCB aging and lubrication issues regarding Westinghouse MCCBs. For example, on two separate occasions in May 2008, circuit 8 on the 31 pressurizer backup heater MCCB panel was discovered tripped free during operator rounds (CR-IP3-2008-01108; CR-IP3-2008-01235). Entergy personnel did not determine the cause of the tripped free condition on either occasion or initiate actions to review work history and PM frequency for the subject breaker. On June 24, 2008, during MCCB circuit 8 replacement activities, Entergy staff identified a thick oily, dielectric residue covering the MCCB and initiated

CR-IP3-2008-01287. Engineering provided verbal input that the MCCB contained a non-conductive grease susceptible to break down leaving a residue. Entergy personnel did not fully evaluate the failed MCCB. Entergy's operability review only considered the tripping function of the MCCBs and the potential impact on continuity of electric power to safety related loads was not reviewed. The extent of condition review was limited to the pressurizer heater backup panels and a potential issue with similarly aged MCCBs in safety related applications was not reviewed. The inspectors concluded these were reasonable opportunities indicative of current performance for which Entergy did not thoroughly evaluate adverse conditions regarding MCCBs.

Based upon inspector questions, Entergy personnel initiated CR-IP3-2009-04262 to address the concerns with the MCCB aging issues. Entergy personnel completed a reasonable expectation of operability on October 30, 2009, and an operability determination on November 5, 2009. Entergy personnel concluded that the MCCBs beyond 20 years in service were operable but nonconforming. Entergy's evaluations for continued operability were supplemented by compensatory actions to visually inspect the MCCBs once per shift and thermography once per week. The inspectors determined the operability evaluations supplemented by additional interim inspections and remaining corrective actions for MCCB replacement by the 2011 spring refuel outage were appropriate.

Analysis: The inspectors determined that not promptly correcting non-conforming MCCBs which exceeded their design qualification life was a performance deficiency. The performance deficiency was determined to be more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the reliability of the electrical distribution system to respond to initiating events to prevent undesirable consequences. Specifically, not maintaining qualified components in the electrical distribution system could impact the ability of certain MCCBs to function as necessary during design basis events and plant transients.

The inspectors evaluated the finding in accordance with IMC 0609, Significance Determination Process, Attachment 0609.04, Phase 1 – Initial Screening and Characterization of Findings. The finding screened as very low safety significance (Green) because the finding was a design qualification deficiency confirmed not to result in loss of operability or function. Specifically, the inspectors determined there was no actual loss of function that could be attributed to operating with MCCBs greater than 20 years in service.

This finding has a cross-cutting aspect in the area of Problem Identification and Resolution because on several occasions Entergy personnel did not thoroughly evaluate MCCB qualification issues including operability and functionality considerations. This included an opportunity for Entergy personnel to evaluate the condition in 2008 when engineers identified residue indicative of lubrication breakdown. (P.1(c) per IMC0305)

Enforcement: 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, requires, in part, that conditions adverse to quality, such as nonconformances, are promptly identified and corrected. Contrary to the above, on August 2, 2004, Entergy did not promptly identify and correct a population of safety-related MCCBs that were nonconforming to the vendor's 20 year qualified design life as defined in Westinghouse Technical Bulletin, TB-04-13, Replacement Solutions for Obsolete Classic Molded Case Circuit Breakers, UL

Testing Issues, Breaker Design Life and Trip Band Adjustment, dated June 28, 2004. Specifically, Entergy personnel did not correct the non-conforming condition or provide an engineering basis for continued MCCB operability until October 30, 2009. Because this violation was of very low safety significance and was entered into Entergy's corrective action program as CR-IP3-2009-04262, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (**NCV 05000286/2009005-04: Failure to promptly identify and correct a MCCB service life nonconformance**).

.4 Operator Workarounds Review

a. Inspection Scope

The inspectors conducted a review of the aggregate impact of operator workarounds on the ability of operators to implement abnormal and emergency operating procedures, and to ensure that mitigating systems that are impacted remain capable of performing the associated safety functions. This review included operator burdens, as well as control room alarms and deficiencies. The inspectors reviewed the prioritization, assessment, and disposition of the inputs to the aggregate impact that is accomplished through the site's Unit Reliability Team, and the implementation and assessment of the Operations Aggregate Indicator, which is described in EN-OP-115, "Conduct of Operations," and OAP-045, "Operator Burden Program." The inspectors conducted plant and control panel walkdowns, as applicable, reviewed the corrective action program database, and discussed various deficiencies with Entergy personnel, to determine the overall impact the deficiencies would have on operator response to plant events.

b. Findings and Observations

No findings of significance were identified.

4OA3 Event Follow-up (71153 – 6 samples)

- .1 (Closed) LER 05000286/2008-006-01, and 2009-001-01, Automatic Actuation of an Emergency Diesel Generator and Two Auxiliary Feedwater Pumps During Surveillance Testing due to Inadvertent De-Energization of the Normal Supply Breaker to 480 Volt Safeguards Bus 6A.

On October 9, 2008, and again on January 2, 2009, during surveillance testing associated with undervoltage and degraded relays for 480V safety bus No. 6A, the normal supply breaker for the bus No. 6A opened unexpectedly, which caused various perturbations, including various loads that were de-energized/re-energized, including the 32 emergency diesel generator to start and load onto its associated bus No. 6A.

As previously documented in NRC inspection report (IR) 05000286/2009-004, Entergy personnel performed evaluations to both determine the cause of the transients, and to mitigate the potential for recurrence of these vital bus transients during surveillance activities. During this inspection period, the inspectors determined that Entergy personnel considered additional information to determine the causes of both events during a comprehensive revision to the root cause evaluation within the corrective action program under CR-IP3-2009-00011. The inspectors determined that station personnel

had reasonably evaluated and considered a wide-range of potential causes for the transients. In addition, Entergy personnel collected information to suggest that human error was a contributor to the transients. The inspectors also concluded that a likely cause may have been inadvertent contact between a relay terminal connection and a test probe. The inspectors verified that Entergy personnel had initiated appropriate procedure changes and required insulated test probes with minimally-exposed contact area to be utilized. The inspectors determined these changes would reasonably minimize any potential contact between exposed terminal connections and the probes, and as a result, mitigate the potential for future transients.

As a result, the inspectors did not identify a finding of significance or violation of NRC requirements. These LERs are closed.

.2 (Closed) LER 05000286/2009-005-00, Technical Specification (TS) Prohibited Condition Due to Exceeding the Allowed Completion Time for an Inoperable 480-Volt Undervoltage/Degraded Grid Relay Caused by Personnel Error

Based on a 2009 NRC inspection regarding past surveillance data related to 480-Volt bus 3A degraded voltage safety-related time delay relay, 62-1/3A, Entergy personnel determined the 62-1/3A relay had been TS inoperable during the time period October 11 through November 8, 2007. Entergy personnel determined the relay exceeded TS 3.3.5.2 surveillance requirement time delay value of equal to or less than 45 seconds. Entergy personnel determined that, at that time, personnel did not fully identify and evaluate the abnormal relay drift during 2007. Entergy personnel implemented corrective actions at that time to replace the degraded relay in November 2007. Entergy also captured the recent performance aspects in CR-IP3-2009-02664 to address management expectations and clarify guidance with respect to staff evaluation of as-found surveillance failures.

The inspectors reviewed the LER to verify its accuracy based on NRC identification of the issue during the May 2009 NRC Problem Identification and Resolution team inspection. The inspectors reviewed Entergy's evaluation and corrective actions as documented in CR-IP3-2009-02664. The inspectors determined the performance aspects that contributed to this issue were previously evaluated by the NRC and dispositioned as a Green NCV in NRC inspection report IR 50-286/2009-008. There were no additional findings of significance or violations of NRC requirements identified. This LER is closed.

.3 (Closed) LER 05000286/2009-006-00, Automatic Reactor Trip Due to a Turbine-Generator Trip Caused by Actuation of the Generator Protection System Lockout Relay During a Severe Storm with Heavy Lightning

The inspectors reviewed the LER submitted by Entergy following the plant trip on August 10, 2009, which occurred during severe thunderstorms. The inspectors reviewed the LER and corrective action program documents to evaluate whether performance issues contributed to, or complicated any subsequent operator or expected equipment action during the event, and whether appropriate corrective actions were identified, as appropriate. This LER is closed.

Introduction: A self-revealing finding (FIN) of very low safety significance (Green) was identified because Entergy personnel did not perform adequate post-maintenance

testing for a 6.9kV breaker that is utilized to transfer electrical power for a safety bus to credited off-site power sources following a plant trip.

Description: On August 10, 2009, the unit experienced a plant trip due to the results of severe thunderstorms, most likely from a lightning strike that caused protective relays susceptible to the effects of such strikes to initiate a main unit generator trip. While the unit is operating at power, 6.9kV buses that provide power to large loads, such as reactor coolant pumps, and downstream 480V safety buses via transformers, are powered through the Unit Auxiliary Transformer (UAT) from the main transformers. Following a plant trip, an automatic transfer normally occurs that transfers this input power to the 6.9kV buses to the station auxiliary transformer (SAT), a dedicated off-site power source required by technical specifications.

Following the plant trip on August 10th, the 6.9kV bus 2 failed to have its normal power source automatically transfer from the UAT to the SAT via 6.9kV bus No. 5, due to the failure of bus tie breaker 52/UT2ST5 to close on demand, as required. This resulted in the de-energization of 480V safety bus 5A, and the automatic start of emergency diesel generator No. 31 to repower 480V safety bus 5A and its associated loads.

The inspectors reviewed the licensee event report, and the apparent cause evaluation performed under condition report (CR) IP3-2009-03380. The inspectors noted that the breaker was installed during a two-year preventive maintenance (PM) activity conducted on or about July 7, 2009, and that applicable maintenance procedures and work order instructions did not ensure a functional test was performed (i.e., breaker cycled) that verified the breaker would be able to perform its required functions, when required. EN-WM-107, "Post-Maintenance Testing (PMT)," is utilized as guidance by Entergy personnel to ensure criterion for selection or scope, implementation requirements, and documentation of post-maintenance testing is performed effectively. In particular, the inspectors noted the scope of the program, especially in the planning stages of work package generation for maintenance activities, requires that post-maintenance testing activities are selected to ensure that equipment are capable of performing their intended functions.

In this case, Entergy's review determined that planned maintenance, and subsequent movement and installation of the spare breaker into the breaker cubicle, resulted at some point, in damage to a trip cam lever that operates a relay required for proper automatic operation of the breaker during a plant trip. This damaged lever was visually identified upon removal of the 6.9kV breaker from the cubicle following the event, and Entergy personnel subsequently determined that the damaged lever prevented the latch trip relay from functioning to cause breaker closure. The inspectors determined that Entergy personnel did not conduct adequate post-maintenance functional testing that ensured proper breaker functioning per PMT standards'. The inspectors verified that Entergy personnel subsequently re-installed an operable breaker, revised maintenance documents to ensure adequate PMT requirements were in place, and changed the performance of this 2-year PM to an outage-related activity to ensure functional testing would be performed, as appropriate.

Analysis: Inadequate post-maintenance functional testing to ensure risk significant breakers are able to perform intended functions was considered a performance deficiency. The inspectors determined that the performance deficiency was more than minor. Specifically, the failure to perform appropriate post-maintenance functional

testing is associated with the procedure quality performance attribute of the Mitigating Systems cornerstone and affected the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was considered to be of very low safety significance (Green) in accordance with IMC 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," because the finding was not a design or qualification deficiency, did not result in the loss of any safety function, and was not risk significant due to external events.

The inspectors determined that this finding had a cross-cutting aspect in the area of Human Performance because Entergy personnel did not ensure that adequate post-maintenance functional testing appropriate for the circumstances was performed on a 6.9kV bus tie breaker. [H.3(a) per IMC0305].

Enforcement : The inspectors determined that Entergy did not perform appropriate post-maintenance functional testing of 6.9kV breaker 52/UT2ST5PMT after replacement and performance of a 2-year preventive maintenance activity on July 7, 2009. Because this finding does not involve a violation of regulatory requirements and has very low safety significance, this issue is being treated as a FIN (**FIN 05000286/2009005-05, Inadequate post-maintenance testing and resultant failure of 6.9kV breaker auto-transfer following plant trip**).

- .4 (Closed) LER 05000286/2009-006-00, Automatic Reactor Trip Due to a Turbine Trip as a Result of a Turbine Autostop Oil Actuation Caused by a Failed Autostop Oil Fitting.

On August 10, 2009, an unplanned turbine and reactor trip occurred, which Entergy personnel later determined to be caused by a non-safety related failed fitting associated with the turbine autostop oil system. The location of the failed fitting resulted in a lowering oil pressure below a turbine trip setpoint. The inspectors reviewed the root cause evaluation performed within the corrective action program under condition report CR-IP3-2009-03592. The inspectors noted that Entergy personnel determined that the fitting configuration did not fully consider adequate thread engagement aspects that could result in a long term high cycle fatigue concern. Additionally, Entergy personnel determined that station personnel during a 1995 system modification maintained the original fitting configuration upon system restoration from that modification. Ultimately, Entergy personnel determined this fitting failed due to high cycle fatigue. Entergy maintenance personnel replaced the fitting, performed inspections of tubing and other fittings for extent of condition checks, and initiated other actions for long-term tracking of this configuration to ensure reliability going forward on both Units 2 and 3.

The inspectors concluded that this latent fitting configuration issue was not reasonably within Entergy's ability to foresee and correct. Because this non-safety related fitting is normally in a non-accessible area and there are limited outage-related opportunities to identify and observe this condition, the inspectors did not identify a performance deficiency. No findings of significance or violations of NRC requirements were identified; therefore, this LER is closed.

- .5 (Closed) LER 05000286/2009-004-00, Automatic Reactor Trip Due to a High Steam Generator 32 Water Level Caused by Inadequate 31 Main Feedwater Pump Governor Valve Setting and 32 Main Steam Generator Level Controller Set-up.

The inspectors reviewed the LER submitted by Entergy following the plant trip on May 28, 2009, which occurred during a downpower to address a problem with the 32 main boiler feedwater pump. The inspectors reviewed the LER and corrective action program documents to evaluate whether performance issues contributed to, or complicated any subsequent operator or expected equipment action during the event, and whether appropriate corrective actions were identified, as appropriate. This LER is closed.

Introduction: A self-revealing finding (FIN) of very low safety significance (Green) was identified because Entergy personnel did not conduct maintenance in accordance with maintenance procedures and processes on the 31 and 32 main boiler feedwater pumps (MBFP). The inadequate maintenance resulted in an unexpected downpower and subsequent reactor trip.

Description: On May 28, 2009, a plant operator identified abnormal noises and vibration emanating from the 32 MBFP while the unit was operating at full power. Control room operators commenced a rapid downpower to approximately 63% power and removed the pump from service. Operators subsequently identified and responded to high steam generator water level (SGWL) but were not able to stabilize SGWL before high SGWL trip setpoints initiated an automatic reactor trip by design.

The inspectors reviewed the root cause evaluations that addressed the 32 MBFP noise and vibration (CR-IP3-2009-02518) and the automatic reactor trip (CR-IP3-2009-02710). Entergy personnel determined that improper high pressure governor valve stroke settings and degraded/worn components associated with the 31 MBFP resulted in flow rates that caused inconsistencies between programmed and actual steam demand for 63% power. This resulted in feedwater regulating valves on all four SGs to cycle full open, as expected for that condition. However, coincident with this governor valve setting and degraded condition, Entergy personnel later determined the controller settings for the 32 (SGWL) control system were not consistent with the SGWL Controller Original Equipment Manufacturer Setpoint document for the plant configuration presented; thus, the controller was unable to prevent an feedwater overshoot to the 32 SG, and this resulted in a reactor trip on high SGWL. During the root cause investigation, Entergy personnel identified that the reset time internal to the 32 SGWL controller was established at 90 seconds. This instrument setting resulted in the controller being saturated during the onset of the level transient, which in effect, inhibited the normal operation of the controller. As a result, the combination of these two configuration control issues directly caused the automatic reactor trip on May 28, 2009.

Entergy personnel also identified a circumferential crack on the shaft located near the keyway in the location of the 32 MBFP pump-side coupling hub. This condition caused increased vibration and abnormal noises on the 32 MBFP. A subsequent failure analysis was performed, which determined that the crack was caused by high cycle fatigue. Entergy's analysis further stated that the fatigue cracks were initiated by a loose coupling hub, and during pump operation, continued to propagate through the shaft. Additionally, the inspectors identified that main lessons learned from a previous failure with similar crack location, morphology and causes from 1992 had not been incorporated into site procedures.

During 3R15, 32 MBFP planned replacement of the rotating assembly (pump impeller and shaft), Entergy maintenance personnel installed the pump-side coupling hub without the vendor-recommended 80% contact with the shaft. Entergy personnel determined

from maintenance documentation that approximately 50% contact was achieved between the two surfaces, incorrectly determined to be acceptable by the station, and coupled with an undersized keyway block, resulted in repetitive and high frequency impacts and its ultimate failure. The inspectors noted that Entergy's maintenance conduct was not consistent with guidance in 3-PMP-032-BFP, "Inspection, Repair, Overhaul, and/or Replacement of the Main Boiler Feed Pump."

Subsequently, the inspectors concluded that Entergy staff identified an appropriate root cause for the 32 MBFP shaft failure, as well as the SGWL controller settings that in conjunction with the degraded 31 MBFP high pressure governor valve, contributed to the SG water level deviations that resulted in the automatic reactor trip. The inspectors determined that the corrective actions were appropriate for the circumstances, which included procedure revisions to ensure appropriate MBFP coupling installation tolerances were achieved, and actions to address the degraded MBFP governor valve.

However, the inspectors identified that Entergy personnel had not addressed various performance and technical aspects within the original root cause evaluation for the May 28 trip. For example, work activities regarding the degraded governor valve were not performed in accordance with 0-TUR-402-MFW, "Main Boiler Feed Pump Turbine Inspection," and/or documented within the normal work control process, which were not identified by Entergy's root cause team. In addition, the inspectors identified discrepancies in the timeline for certain activities detailed in the LER, and the associated root cause evaluation that provided input into this regulatory document. The inspectors discussed the performance root cause evaluation with Entergy management, and subsequent corrective actions were implemented under CR-IP3-2009-04393, 04853, and 04640. The inspectors noted that the subsequent evaluations performed under CR-IP3-2009-04393, corrected the timeline of events, the programmatic and performance aspects that contributed to the events described in the subject LER, and contributed to the improved and revised root cause evaluation with adequate corrective actions appropriate for the circumstances. The inspectors noted that the corrective action plan included improvements to the Corrective Action Review Group, as well as continued actions to address the MBFP governor valve and control system problems. Additionally, the inspectors verified that Entergy personnel will evaluate the revised root cause evaluation to ensure appropriate information is submitted to the NRC in a supplement to the original LER reviewed in this report.

Analysis: The inspectors determined there was a performance deficiency because Entergy staff did sufficiently implement maintenance procedures 0-TUR-402-MFW and 3-PMP-032-BFP to ensure appropriate maintenance was performed on the 31 and 32 MBFPs during the refueling outage in 2009. The inspectors concluded the finding is more than minor because the finding was associated with the equipment performance attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, maintenance performance issues resulted in reliability challenges to the non-safety related feedwater pumps and resulted in unplanned plant transients including an automatic reactor trip. The inspectors evaluated the finding using IMC 0609, Attachment 4, "Initial Screening and Characterization of Findings," and determined the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. Consequently, the finding is of very low safety significance.

The inspectors determined that this finding had a cross-cutting aspect in the area of Human Performance because Entergy personnel did not maintain effective control over the configuration of the plant due to inadequate supervisory and management oversight of maintenance and design control activities. (H.4(c) per IMC0305).

Enforcement: Enforcement action does not apply because the performance deficiency was related to non-safety related equipment, processes and procedures and did not involve a violation of regulatory requirements. Because this finding does not involve a violation of regulatory requirements and has very low safety significance, this issue is being treated as a FIN. **(FIN 05000286/2009005-06: Inadequate maintenance on MBFPs resulted in an unexpected downpower transient and reactor trip.)**

40A5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors performed observations of security force personnel and activities to ensure that the activities were consistent with site security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours. These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status review and inspection activities.

b. Findings

No findings of significance were identified.

.2 Temporary Instruction 2515/175: Emergency Response Organization, Drill/Exercise Performance Indicator, Program Review

The inspector performed NRC Temporary Instruction (TI) 2515/175, which ensured the completeness of the TI's Attachment 1, and have forwarded the data to NRC Headquarters.

40A6 Meetings, including Exit

On January 21, 2010, the inspectors presented the integrated inspection results to Mr. Tony Vitale, and other Entergy managers and staff, who acknowledged the inspection results. Entergy staff did not identify documents which were to be considered proprietary.

40A7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as NCVs.

- 10 CFR 20.1501 requires that surveys be made to comply with the regulations in 10 CFR Part 20, including 10 CFR 20.1902(b) for posting of high radiation areas (defined as an area greater than 100 mrem/hr at 30 centimeters). Contrary to this, on March 10, 2009, the licensee did not survey changes in radiological conditions during an authorized waste gas transfer from the Volume Control Tank (VCT) to the 36 Small Gas Decay Tank (SGDT). This resulted in the failure to post the SGDT as a high radiation area. Surveys performed approximately 2 to 3 hours after the transfer indicated up to 170 mrem/hr @ 30 cm. The area was subsequently posted and controlled as a high radiation area. This event is documented in the licensee's corrective action program as CR-IP3-2009-00709.
- 10 CFR 20.1501 requires that surveys be made to comply with the regulations in 10 CFR Part 20. Contrary to this requirement, on April 1, 2009, one of two partially filled yellow drums on the 46' Vapor Containment (VC) walkway, outside crane wall, was identified by an Entergy quality assurance (QA) personnel as not surveyed or labeled. A radiation protection technician surveyed the drum and identified a contact reading of 70 mrem/hr and 20 mrem/hr at 30 cm. Entergy personnel subsequently labeled the drum, informing personnel of the radiological conditions associated with the drum, and relocated the drum to reduce personnel exposure. This event is documented in the licensee's corrective action program as CR-IP3-2009-01527.

Failure to adhere to the regulatory requirements specified in 10 CFR 20.1501 constitutes a performance deficiency. These findings are more than minor because they are associated with the Occupational Radiation Safety cornerstone attribute pertaining to exposure control, and the performance deficiency adversely affected the cornerstone objective in that the failure to survey and subsequently inform personnel of the associated radiological conditions did not ensure adequate protection of worker health and safety from exposure to radiation from the radioactive materials. These findings are of very low safety significance (Green) because they did not involve a personnel over-exposure, i.e., exposure in excess of regulatory limits, or substantial potential for such over-exposure; and the ability to assess personnel exposure was not compromised.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION**KEY POINTS OF CONTACT****Entergy Personnel**

J. Pollock	Site Vice President
A. Vitale	General Manager, Plant Operations
K. Davison	Assistant General Manager, Plant Operations
P. Conroy	Director of Nuclear Safety Assurance
T. Orlando	Director, Engineering
B. Sullivan	Emergency Planning Manager
A. Williams	Site Operations Manager
S. Verrochi	System Engineering Manager
H. Anderson	Licensing Specialist
R. Christman	Training Manager
J. Cottam	Fire Protection
G. Dahl	Licensing Specialist
J. Dinelli	Assistant Operations Manager
E. Goetchius	Training Instructor
G. Hocking	Supervisor, Radiation Protection Support
D. Loope	Manager, Radiation Protection
T. McCaffrey	Acting Director, Nuclear Safety Assurance
T. McKee	LOR Program Administrator
B. Osmin	Senior Lead Engineer
S. Quinn	Security Supervisor
J. Reynolds	Acting Manager, Corrective Actions & Assessment
S. Sandike	Specialist, Effluent & Environmental Monitoring
A. Singer	Licensed Operator Requalification Training Supervisor

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

05000286/2009005-01	NOV	Incomplete Licensed Operator Medical Examinations
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Opened and Closed

05000286/2009005-02	NCV	Untimely Compensatory Measures for Degraded EDG Pressure Switches
05000286/2009005-03	NCV	Siren Test Failure
05000286/2009005-04	NCV	Failure to Promptly Identify and Correct a MCCB Service Life Nonconformance
05000286/2009005-05	FIN	Inadequate Post-Maintenance Testing and Resultant Failure of 6.9kV Breaker Auto-Transfer Following Plant Trip

A-2

05000286/2009005-06	FIN	Inadequate Maintenance on MBFPs Resulted in an Unexpected Downpower Transient and Reactor Trip.
<u>Closed</u>		
05000286/2008006-01	LER	Automatic Actuation of an Emergency Diesel Generator and Two Auxiliary Feedwater Pumps During Surveillance Testing Due to Inadvertent De-Energization of the Normal Supply Breaker to 480 Volt
05000286/2009001-01	LER	Automatic Actuation of an Emergency Diesel Generator and Two Auxiliary Feedwater Pumps During Surveillance Testing due to Inadvertent De-Energization of the Normal Supply Breaker to 480 Volt
05000286/2009004-00	LER	Automatic Reactor Trip Due to a High Steam Generator 32 Water Level Caused by Inadequate 31 Main Feedwater Pump Governor Valve Setting and 32 Steam Generator Level Controller Set-up
05000286/2009005-00	LER	Technical Specification (TS) Prohibited Condition Due to Exceeding the Allowed Completion Time for an Inoperable 480 Volt Undervoltage/Degraded Grid Relay Caused by Personnel Error
05000286/2009006-00	LER	Automatic Reactor Trip Due to a Turbine-Generator Trip Caused by Actuation of the Generator Protection System Lockout Relay During a Severe Storm with Heavy Lightning
05000286/2009007-00	LER	Automatic Reactor Trip Due to a Turbine Trip As a Result of Turbine Autostop Oil Actuation Caused by a Failed Autostop Oil Fitting

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Preparations

Procedures

OAP-48, Seasonal Weather Preparation, Rev. 5

Condition Reports (CR-IP3-)

2009-04488 2009-04491

Section 1R04: Equipment Alignment

Procedures

3-COL-FW-2, Auxiliary Feedwater System, Rev. 29
3-COL-RW-002, Service Water System, Rev. 43
3-COL-SI-001, Safety Injection System, Rev. 39

Other

Safety Injection System Health Report 3rd Quarter 2009

Section 1R05: Fire Protection

Procedures

Pre-Fire Plan, Rev. 5
AP-64.1, Fire Protection/Appendix R Systems and Components Governed by Technical Requirements Manual and Technical Specifications
EN-DC-161, Control of Combustibles, Rev. 3

Condition Reports (CR-IP3-)

2009-03917 2009-04705

Drawings

9321-H-17053, Primary Auxiliary Building Fire Barrier at El. 41'-0, Rev. 0

Work Orders

51700409 51559549 52024760 51469319 52219526

Other

IP3 Fire Hazards Analysis, Rev. 3

Section 1R06: Internal Flooding Inspection

Work Orders

52207496

Other

Individual Plant Examination
IP-RPT-06-00071, Indian Point Unit 3 Probabilistic Safety Assessment (PSA), Rev. 2

Section 1R07: Heat Sink Performance

Audits and Self-Assessments

LO-IP3LO-2009-00019, IPEC Heat Sink Performance Snapshot Self Assessment Report, dated 6/17/09

Calculations

6604.266-8-SW-021, SWS Model Input Data Calculations and Output Results for Ingersol Rand Pumps, Rev. 6
IP-CALC-08-00120, Evaluation of Wall Thinning at Extent of Condition Location 02-010, PAB-150, PAB-151, PAB-152 and PAB-153, Rev. 0

Completed Surveillance Test Procedures

3-PT-CS032A, Flow Test of SW HDR CK VLVS and Flow Test of Underground Portions of Line 409, performed 3/28/07 and 4/11/09
 3-PT-CS032B, Flow Test of SW HDR CK VLVS and Flow Test of Underground Portions of Line 408, performed 3/28/07 and 4/11/09
 3-PT-Q016, EDG and VC Temperature Valves SWN-FCV-1176 & 1176A and SWN-TCV-1104 & 1105, performed 10/13/09
 3-PT-Q058, 38 Back-Up Service Water Pump Test, performed 10/2/09
 3-PT-Q092A, 31 Service Water Pump, performed 10/24/09
 3-PT-Q092B, 32 Service Water Pump, performed 10/1/09
 3-PT-Q092C, 33 Service Water Pump, performed 10/10/09
 3-PT-Q092D, 34 Service Water Pump, performed 10/16/09
 3-PT-Q092E, 35 Service Water Pump, performed 10/16/09
 3-PT-Q092F, 36 Service Water Pump, performed 10/10/09

Condition Reports (CR-IP3-)

2007-00453	2007-03961	2007-04274	2007-04411	2007-04542	2008-00276
2008-00120	2008-00745	2008-00873	2008-02026	2008-02185	2008-02193
2008-02358	2008-02383	2008-02514	2009-00411	2009-00535	2009-00682
2009-01538	2009-01618	2009-02115	2009-02327	2009-02408	2009-03808
2009-04165	2009-04705	2009-04713	2009-04726	2009-04738	2009-04739

Design & Licensing Bases

IP3-DBD-304, Design Basis Document for the Service Water System (SWS), Rev. 3
 IPN-90-004, NYPA Letter to USNRC, Service Water System Problems Affecting Safety Related Equipment Generic Letter 89-13, dated 2/6/90
 IPN-92-040, NYPA Letter to USNRC, Service Water System Problems Affecting Safety Related Equipment Generic Letter 89-13, dated 9/9/92
 NRC Generic Letter 89-13, Service Water System Problems Affecting Safety Related Equipment, dated 7/18/89

Drawings

9321-F-20223, Flow Diagram Service Water System Nuclear Steam Supply Plant, Rev. 42
 9321-F-20333 Sh. 1, Flow Diagram Service Water System, Rev. 49
 9321-F-20333 Sh. 2, Flow Diagram Service Water System, Rev. 27
 9321-F-20350, Yard Area Installation of Mechanical Seals in Service Water Piping Line No. 408 Piping Isometric, Rev. 1

Miscellaneous

OAP-048, Seasonal Weather Preparation, updated through 12/9/09
 0-VLV-446-VCK, Inspection and Repair of 24," 18" and 14" Dual Check Valves, performed 3/27/09
 CEP-BPT-0100, Buried Piping and Tanks Inspection and Monitoring, Rev. 0
 Control Room Log Entries Report, dated 11/1/09 - 11/8/09
 IPEC Emergency Action Levels Chart, Rev. 06-01
 IPEC GL 89-13 Program: IP3 Inspection History Report, dated 12/9/09
 ISYS-APL-08-001, Site Intake Infrastructure and Material Condition Management, Rev. 1
 LO-IP3LO-2007-00258, Effectiveness Review for CR-IP3-2007-00453, dated 10/17/07
 Remote Visual Inspection Report of 10" Service Water Line #1099 during 3R15, dated 4/13/09

Report No. 0900235.401.R0, Structural Integrity Associates, Inc., G-Scan Assessment of Various Buried Piping, dated 11/16/09
Sampling Results for June-September for the Indian Point Zebra Mussel Monitoring Program, dated 10/8/09
SEP-SW-001, NRC Generic Letter 89-13 Service Water Program, Rev. 2
TS-MS-027, Specification for Service Water Piping & Piping Components, Rev. 3
Visual Inspection Report of 24" Service Water Line #408 during 3R15, dated 4/2/09

Nondestructive Examination Reports

IP3-PT-09-038, Liquid Penetrant Examination of 34 FCU Return Piping, dated 3/23/09
IP3-RT-09-002, Radiographic Examination of SW Weld 01-010, dated 2/11/09
IP3-RT-09-007, Radiographic Examination of SW Weld 03-001, dated 2/19/09
IP3-RT-09-018, Radiographic Examination of SW Weld VC-34-8, dated 3/4/09
IP3-UT-07-038, Ultrasonic Examination of SW 18" Line #406, dated 3/8/07
IP3-UT-07-146, Ultrasonic Examination of SW 18" Line #409/SWN-39, dated 12/26/07
IP3-UT-08-016, Ultrasonic Examination of SW 18" Line #408/SWN-38, dated 3/10/08
IP3-UT-08-019, Ultrasonic Examination of SW 18" Line #409/SWN-39, dated 3/21/08
IP3-UT-08-026, Ultrasonic Examination of SW 18" Line #409/SWN-39, dated 6/12/08
IP3-UT-08-035, Ultrasonic Examination of SW 18" Line #409/SWN-39, dated 9/2/08
IP3-UT-08-062, Ultrasonic Examination of SW 18" Line #409/SWN-39, dated 12/1/08
IP3-UT-09-011, Ultrasonic Examination of SW 18" Line #409/SWN-39, dated 2/24/09
IP3-UT-09-021, Ultrasonic Examination of SW Weld PAB-34, dated 3/9/09
IP3-VT-09-042, Visual Examination (VT-2) of SW Welds SWN-42-1, SWN-43-1, SWN-37-1, SWN-216 & SWN-217, dated 11/3/09

Normal and Special (Abnormal) Operations Procedures

3-AOP-SW-1, Service Water Malfunction, Rev. 2
3-AOP-SWL-1, Low Service Water Bay Level, Rev. 1
3-ARP-012, Panel SJF – Cooling Water and Air, Rev. 47
3-ARP-049, Panel Local – Intake Structure, Rev. 5
3-COL-RW-002, Service Water System, Rev. 43
3-SOP-RW-002, Intake Structure Operation, Rev. 24
3-SOP-RW-005, Service Water System Operation, Rev. 34
OAP-008, Severe Weather Preparations, Rev. 6
OAP-048, Seasonal Weather Preparation, Rev. 5

Operating Experience

Generic Service Water System Risk-Based Inspection Guide, NUREG/CR-5865 EGG-2674
NUREG/CR-0548 Ice Blockage of Water Intakes,
LO-NOE-2007-00078, OE Impact Evaluation for NRC Information Notice 2007-06, dated 4/30/07
LO-NOE-2008-00173, OE Impact Evaluation for NRC Information Notice 2008-11, dated 11/10/08
NRC Information Notice 2007-06: Potential Common Cause Vulnerabilities in Essential Service Water Systems, dated 2/9/07
NRC Information Notice 2008-11: Service Water System Degradation at Brunswick Steam Electric Plant Unit 1, dated 6/18/08
Operating Experience Feedback Report - Service Water System Failures and Degradations, NUREG-1275 Vol. 3

Procedures

0-GNR-406-ELC, Emergency Diesel Generator 6-Year Inspection, Revs. 1 & 4
3-PT-Q058, 37 and 39 Backup Service Water Pumps Test, Rev. 1
EN-DC-150, Condition Monitoring of Maintenance Rule Structures, Rev. 0
EN-DC-340, Microbiologically Influenced Corrosion (MIC) Monitoring Program, Rev. 0
EN-DC-343, Buried Piping and Tanks Inspection and Monitoring Program, Rev. 2
ENN-DC-185, Through-Wall Leaks in ASME Section XI Class 3 Moderate Energy Piping Systems, Rev. 0
IP-RPT-09-00070, IP 3 Fourth Ten-Year Interval In-service Testing Program Plan, Rev. 0
VLV-025-GEN, Inspection and Repair of 24," 18" and 14" Dual Check Valves, Rev. 5

Risk and Margin Management

Risk-Informed Inspection Notebook for Indian Point Nuclear Power Plant Unit 3, Rev. 3

System Health Reports, Maintenance History & Trending

3PT-C01 Attachment 2, Service Water Leakage Summary Sheet (in VC only), dated 4/12/03, 3/30/05, 3/27/07, and 4/13/09
3rd Quarter, 2008 Engineering Department Quarterly Trend Report, dated 10/20/08
Equipment History Summary Report for SWN-4, SWN-5, SWN-6, SWN-35-1, SWN-35-2, SWN100-3, SWN-100-4, dated 12/7/09
IP3 Service Water System Leak History Graph, dated 11/20/09
IPEC Service Water System Component Leak History - Unit 3, dated 11/20/09
IP-RPT-07-00078, Maintenance Rule Structural Monitoring Inspection Report (Third Cycle) for Intake Structure, dated 7/30/07
Special Log 09-020, Upstream SWN-34-1 Service Water Leakage, dated 12/9/09
Special Log 09-026, SWN-33-1/SWN-32 Service Water Leakage, dated 12/9/09
Special Log 09-052, SW Leak Upstream of SWN-213, dated 12/9/09
Special Log 09-064, SWN-62-3 Leakage, dated 12/9/09
SW Bay Level Graph, 10/14/09 – 12/9/09
Unit 3 Service Water System Health Report, 3rd Qtr 2009
Unit 3 Service Water Walkdown Report (Intake Structure and SW Pump and Strainer Pits), dated 10/22/09
Unit 3 Service Water Walkdown Report (Turbine Building HXs and Piping), dated 9/17/09

Section 1R11: Licensed Operator Requalification

Miscellaneous

IPEC Simulator Evaluated Scenario, IP3 Lesson Plan I3SX-LOR-SES004, Rev. 1
Radiological Emergency Data Forms, Part 1, Notifications #1 and #2

Section 1R12: Maintenance Effectiveness

Procedures

0-SYS-409-GEN

Drawings

9321-H-20170

Condition Reports (CR-IP3-)

2005-05180 2009-04523 2009-04567

Work Orders
51548713

Other
Service Water System Health Report 3rd Quarter 2009

Section 1R13: Maintenance Risk Assessment and Emergent Work Control

Other
IPTE Supplemental Controls and Pre-Job Brief Sheets for 138KV Feeder 33332LM HIPOT
including Bus Bar Removal
Operator's Risk Report, U3 Thursday 15:00 to 19:00

Section 1R15: Operability Evaluations

Condition Reports (CR-IP3-)
2008-00698 2008-00717 2009-03108 2009-03911 2009-04165 2009-04351
2009-04362 2009-04499

Procedures
0-GNR-404-ELC, Emergency Diesel Generator 2-Year Inspection, Rev. 2

Work Orders
210601

Other
ASME Code Case N-513-2

Section 1R18: Plant Modifications

Condition Reports (CR-IP3-)
2009-04498

Work Orders
00215794

Other
EC-18677

Section 1R19: Post-Maintenance Testing

Work Orders
198373 210691

Other
EC 5000038856 (DC 97-3-039), IP3 Foxboro to NUS Bistable Replacement Program, Rev. 0

Section 1R22: Surveillance Activities

Procedures
3-PT-Q83, RWST Level Instrument Check and Calibration (LIC-921), Rev. 28

3-PT-Q120B, 32 ABFP (Turbine Driven) Surveillance and IST, Rev. 13
0-PMP-411-BFP, Turbine Driven Auxiliary Boiler Feed Pump Overhaul/Inspection, Rev. 1
0-SOP-LEAKRATE-001, RCS Leakrate Surveillance, Evaluation, and Leak Identification, Rev. 1
3-PT-Q080, Pressurizer Block Valve Timing Test RC-MOV-535 and 536, Rev. 6
3-PT-M62A, 480V Undervoltage / Degraded Grid Protection System Bus 2A and 3A Functional,
Rev. 7

Condition Reports (CR-IP3-)

2009-03179 2009-04592 CR-HQN-2009-00953

Work Orders

52191478 52216249

Section 1EP2: Alert and Notification System (ANS) Evaluation

Procedures

Alert and Notification System for the Indian Point Energy Center Entergy Nuclear, Rev. 4
Indian Point Energy Center Emergency Preparedness Plan, Rev. 8
IP-EP-AD30, IPEC ATI Siren System Administration, Rev. 2
IP-EP-AD31, IPEC ATI Siren System Maintenance Administration, Rev. 0
Alert Notification System Test Failure Root Cause Evaluation Report, Rev. 1
IP-EP-AD35, IPEC ATI Siren Site Annual Preventive Maintenance, Rev. 2
IPEC ATI Siren Annual Preventive Maintenance Test Records, February 10, 2009
ANS related Condition Reports, December 2007 – December 2009

Section 1EP3: Emergency Response Organization (ERO) Staffing and Augmentation System

Procedures

IP-EP-AD9, Notification Systems Testing and Maintenance, Rev. 7
Indian Point Energy Center Emergency Response Training Program Curriculum, Rev. 24
October 27, 2009, Entergy Nuclear Northeast, Indian Point Energy Center Emergency
Preparedness Unit 3 Off-Hours Mobilization Staffing/Training Drill Performance Report,
Drill Number 2009-5
September 17, 2009, Indian Point Energy Center Emergency Response Organization Off-hours
Notification Test 3Q09

Section 1EP4: Emergency Action Level (EAL) and Emergency Plan Changes

Procedures

EN-EP-305, Emergency Planning 10CFR50.54 (q) Review Program, Rev. 1
10 CFR 50.54(q) screenings and evaluations from December 2008 to November 2009

Section 1EP5: Correction of Emergency Preparedness Weaknesses

Procedures

EN-LI-102, Corrective Action Process, Rev. 13
QA-07-2008-IP-1, Quality Assurance Audit Report
QA-07-2009-IP-1, Quality Assurance Audit Report
QS-2008-IP-16, IPEC QA Follow-up of AFI from Emergency Plan Surveillance QS-2008-IP-16
QS-2008-IP-02, QA Evaluation of the IPEC 2/6/08 Training Drill

LO-IP3LO-2007-00185, IPEC Snapshot Self-Assessment Report, ANS Siren System Performance
 IP3-LO-2009-00092, IPEC Focused Self-Assessment Report, EP INPO Based Focus Self Assessment
 October 29, 2008, Entergy Nuclear Northeast, Indian Point Energy Center, Emergency Preparedness Unit 3 Training Drill Performance Report, Drill Number 2008-5
 November 19, 2008, Entergy Nuclear Northeast, Indian Point Energy Center, Emergency Preparedness Unit 3 Training Drill Performance Report, Drill Number 2008-6
 December 3, 2008, Entergy Nuclear Northeast, Indian Point Energy Center, Emergency Preparedness Unit 3 Training Drill Performance Report, Drill Number 2008-7
 May 13, 2009 Entergy Nuclear Northeast, Indian Point Energy Center, Emergency Preparedness Unit 2 Training Drill Performance Report, Drill Number 2009-2
 September 9, 2009 Entergy Nuclear Northeast, Indian Point Energy Center, Emergency Preparedness Unit 2 Training Drill Performance Report, Drill Number 2009-3

Sections 2OS1/2OS2: Access Control to Radiologically Significant Areas/ALARA Planning and Controls

Procedures

EN-LI-114, Performance Indicator Process
 EN-RP-100, Radworker Expectations
 EN-RP-101, Access Control for Radiologically Controlled Areas
 EN-RP-102, Radiological Control
 EN-RP-105, Radiation Work Permits
 EN-RP-108, Radiation Protection Posting
 EN-RP-110, ALARA Program
 EN-RP-121, Radioactive Material Control
 EN-RP-122, Alpha Monitoring
 EN-RP-131, Air Sampling
 EN-RP-141, Job Coverage
 EN-RP-151, Radiological Diving
 EN-RP-202, Personnel Monitoring
 EN-RP-203, Dose Assessment
 EN-RP-204, Special Monitoring Requirements
 EN-RP-205, Prenatal Monitoring
 EN-RP-208, Whole Body Counting and In-Vitro Bioassay
 O-RP-RWP-411, Discrete Radioactive Particle Controls
 O-RP-RWM-901, Interim Radwaste Storage Facility and Outside Radioactive Material Storage Area
 RP-AA-460, Controls for High Radiation and Locked High Radiation Areas

Condition Reports (CR-)

IP2-2009-02184	IP2-2009-02217	IP2-2009-02425	IP2-2009-02484
IP2-2009-02505	IP2-2009-03335	IP2-2009-03524	IP2-2009-03578
IP2-2009-03674	IP2-2009-03699	IP2-2009-03978	IP3-2009-00709
IP3-2009-01348	IP3-2009-01439	IP3-2009-01527	IP3-2009-01769
IP3-2009-01879	IP3-2009-01981	IP3-2009-01984	IP3-2009-02198
IP3-2009-02200	IP3-2009-02201	IP3-2009-02619	IP3-2009-03110
IP3-2009-03721	IP3-2009-03778	IP3-2009-03973	

Miscellaneous

ALARA Committee Reviews
IPEC 5 Year ALARA Plan 2009-2013
IP3-LO-2009-00074, IPEC Snapshot Self-Assessment Report – HRA & LHRA Controls
Oversight Observation Checklists: O2C-IPEC-2009-0202, 0205, 0223, 0224, 0241, 0266, 0279,
0281, 0368, 0496, 0520, 0531,
Radiation Protection Attention Logs (Electronic Dosimeter Alarms)
Monthly Effluent Release Reports

Section 40A1: Performance Indicator Verification

Procedures

0-SOP-LEAKRATE-001, RCS Leakrate Surveillance, Evaluation, and Leak Identification, Rev. 1
NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Rev. 6
EN-EP-201, Performance Indicators, Rev. 9
IP-EP-AD5, Emergency Preparedness Performance Indicator Program, Rev. 3
Performance Indicator Data, 4th quarter 2008 – 3rd quarter 2009

Other

Indian Point Unit 3 Operating Logs

Section 40A2: Identification and Resolution of Problems

Condition Reports (CR-IP3-)

1996-01880	1998-02235	1999-01165	2002-00362	2004-02896	2004-02704
2008-01287	2008-01287	2008-01235	2008-01108	2008-00656	2008-00226
2009-04450	2009-04262				

Preventive Maintenance Change Requests

21444	68795	68806
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Procedures

OAP-045, Operator Burden, Program, Rev. 1
EN-LI-102, Corrective Action Process, Rev. 13

Miscellaneous

Daily Plant Status Report for Monday, December 7, 2009
Operator Aggregate Impact Index IP3, November 2009.
Westinghouse Technical Bulletin 04-13, Replacement Solutions for Obsolete Classic Molded
Case Circuit Breakers, UL Testing Issues, Breaker Design Life and Trip Band
Adjustment, 07/16/2004
Westinghouse Technical Bulletin 06-2, Aging Issues and Subsequent Operating Issues for
Breakers That are at Their 20 Year Design/Qualified Lives; UL Certification/Testing
Issues Update, 03/10/2006

Work Orders

00151859

LIST OF ACRONYMS

ABFP	Auxiliary Boiler Feedwater Pump
ADAMS	Agency Wide Document Management System
ALARA	As Low as is Reasonably Achievable
AMP	Amplifier
ANS	Alert and Notification System
ASME	American Society of Mechanical Engineers
CCW	Component Cooling Water
CEDE	Committed Effective Dose Equivalent
CFR	Code of Federal Regulations
CR	Condition Report
CRG	Condition Review Group
DEP	Drill and Exercise Performance
DMB	Digital Message Board
DRS	Division of Reactor Safety
EAL	Emergency Action Level
EDG	Emergency Diesel Generator
ENTERGY	Entergy Nuclear Northeast
EP	Emergency Preparedness
EPZ	Emergency Planning Zone
ERO	Emergency Response Organization
FIN	Finding
GL	NRC Generic Letter
HRA	High Radiation Area
HX	Heat Exchanger
IMC	Inspection Manual Chapter
IN	Information Notice
IP2	Indian Point 2
IP3	Indian Point 3
IP	Inspection Procedure
IPEC	Indian Point Energy Center
IR	Inspection Report
ISFSI	Independent Spent Fuel Storage Installation
IST	In-Service Test
LDE	Low Dose Equivalent
LER	Licensee Event Report
MBFP	Main Boiler Feedwater Pump
MCCB	Molded Case Circuit Breaker
MIC	Microbiologically Influenced Corrosion
MOV	Motor Operated Valve
NCV	Non-Cited Violation
NDE	Non-Destructive Examination
NEI	Nuclear Energy Institute
NOV	Notice of Violation
NRC	Nuclear Regulatory Commission
NYPA	New York Power Authority
PI	Performance Indicator
PI&R	Problem Identification and Resolution
PM	Preventive Maintenance
QA	Quality Assurance

ROP	Reactor Oversight Process
RSPS	Risk Significant Planning Standard
RT	Radiographic Test
RWP	Radiation Work Permit
SAT	Station Auxiliary Transformer
SDE	Shallow Dose Equivalent
SDP	Significance Determination Process
SG	Steam Generator
SGDT	Small Gas Decay Tank
SGWL	Steam Generator Water Level
SI	Safety Injection
SRI	Senior Resident Inspector
SSC	Structures, Systems, and Components
SW	Service Water
SWS	Service Water System
TB	Westinghouse Technical Bulletin
TEDE	Total Effective Dose Equivalent
TI	Temporary Instruction
TS	Technical Specifications
UAT	Unit Auxiliary Transformer
UFSAR	Updated Final Safety Analysis Report
UHS	Ultimate Heat Sink
UT	Ultrasonic Test
VC	Vapor Containment
WO	Work Order



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

March 3, 2010

Mr. Michael Colomb
Site Vice President
Entergy Nuclear Operations, Inc.
Vermont Yankee Nuclear Power Station
320 Governor Hunt Road
Vernon, VT 05354

SUBJECT: ANNUAL ASSESSMENT LETTER – VERMONT YANKEE NUCLEAR POWER STATION (REPORT 05000271/2010001)

Dear Mr. Colomb:

On February 9, 2009, the NRC staff completed its performance review of the Vermont Yankee Nuclear Power Station (Vermont Yankee). Our technical staff reviewed performance indicators (PIs) for the most recent quarter and inspection results for the period from January 1 through December 31, 2009. The purpose of this letter is to inform you of our assessment of your safety performance during this period and our plans for future inspections at your facility.

This performance review and enclosed inspection plan do not include security information. A separate letter designated and marked as "Official Use Only – Security Information" will include the security cornerstone review and resultant inspection plan.

Overall, Vermont Yankee operated in a manner that preserved public health and safety and fully met all cornerstone objectives. Plant performance for the most recent quarter, as well as for the first three quarters of the assessment cycle, was within the Licensee Response column of the NRC's Action Matrix, based on all inspection findings being classified as having very low safety significance (Green) and all PIs indicating performance at a level requiring no additional NRC oversight (Green). Therefore, we plan to conduct reactor oversight process (ROP) baseline inspections at your facility.

On February 24, 2010, Entergy verbally informed the NRC of actions that Entergy has taken regarding certain employees as a result of its independent internal investigation into the alleged contradictory or misleading information provided to the State of Vermont that was not corrected. While the NRC does not have jurisdiction over the communications between Entergy and the State of Vermont, the NRC is aware that some of these individuals have responsibilities that involve decision-making communications that are material to the NRC and/or involve NRC-regulated activities. In light of this information, the NRC issued a Demand For Information (DFI) on March 1, 2010. The letter transmitting the DFI and the details of the DFI can be found in the NRC's document system (ADAMS) under accession number ML100570237.

As part of our ongoing inspections, the NRC will continue to review Entergy's implementation of the industry voluntary ground water protection initiative using Temporary Instruction (TI) 173 and follow Entergy's activities to address the tritium in the groundwater at the Vermont Yankee Nuclear Power Station. The enclosed inspection plan details the inspections, less those related to physical protection, scheduled through June 30, 2011. The inspection plan is provided to allow for the resolution of any scheduling conflicts and personnel availability issues well in advance of inspector arrival onsite. Routine resident inspections are not listed due to their ongoing and continuous nature. The inspections in the last nine months of the inspection plan are tentative and may be revised at the mid-cycle review.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of 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).

If circumstances arise which cause us to change this inspection plan, we will contact you to discuss the change as soon as possible. Please contact me at 610-337-5306 with any questions you may have regarding this letter or the inspection plan.

Sincerely,



Donald E. Jackson, Chief
Projects Branch 5
Division of Reactor Projects

Docket Nos. 50-271
License No. DPR-28

Enclosure: Vermont Yankee Inspection/Activity Plan

cc w/encl: Distribution via ListServ

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Sincerely,
 /RA/
 Donald E. Jackson, Chief
 Projects Branch 5
 Division of Reactor Projects

Docket Nos. 50-271
 License No. DPR-28
 Enclosure: Vermont Yankee Inspection/Activity Plan

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OFFICE	RI/DRP	RI/DRP	RI/DRP		
NAME	TSetzer/TCS	DJackson/ALB for	DLew/DCL		
DATE	3/2/10	3/2/10	3/3/10		

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Vermont Yankee
 Inspection / Activity Plan
 01/01/2010 - 06/30/2011

Unit Number	Planned Dates Start End	Inspection Activity	Title	No. of Staff on Site
		ISFSI - ANNUAL SAMPLE - ISFSI INSPECTION		1
1	01/01/2010 12/31/2010	IP 60855	Operation Of An ISFSI	
		TI-173 - IMPLEMETATION OF INDUSTRY GROUND WATER		1
1	01/25/2010 03/12/2010	IP 2515/173	Review of the Implementation of the Industry Ground Water Protection Voluntary Initiative	
		7111108G - INSERVICE INSPECTION		1
1	05/03/2010 05/07/2010	IP 7111108G	Inservice Inspection Activities - BWR	
		71124 - HP OUTAGE INSPECTION ACCESS/AIR/ALARA		1
1	05/03/2010 05/07/2010	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
1	05/03/2010 05/07/2010	IP 71124.02	Occupational ALARA Planning and Controls	
1	05/03/2010 05/07/2010	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	
		71124 - HP INSTRUMENTS		1
1	05/24/2010 05/28/2010	IP 71124.05	Radiation Monitoring Instrumentation	
		7111111B - REQUAL INSP WITH P/F RESULTS		3
1	08/16/2010 08/20/2010	IP 7111111B	Licensed Operator Requalification Program	
		71124 - EFFLUENTS INSPECTION		1
1	07/12/2010 07/16/2010	IP 71124.06	Radioactive Gaseous and Liquid Effluent Treatment	
		TI-177 - MANAGING GAS ACCUMULATION IN ECCS		2
1	07/12/2010 07/16/2010	IP 2515/177	Managing Gas Accumulation In Emergency Core Cooling, Decay Heat Removal & Containment Spray System	
		11/29EXM - INITIAL OPERATOR LICENSING EXAM		5
1	11/01/2010 11/05/2010	U01791	FY11- VERMONT YANKEE INITIAL OPERATOR LICENSING EXAM	
1	11/29/2010 12/10/2010	U01791	FY11- VERMONT YANKEE INITIAL OPERATOR LICENSING EXAM	
		EP PROGR - EP PROGRAM INSPECTION		1
1	08/15/2010 08/20/2010	IP 7111402	Radiological Environmental Monitoring Program	
1	08/15/2010 08/20/2010	IP 7111403	Emergency Response Organization Augmentation Testing	
1	08/15/2010 08/20/2010	IP 7111404	Emergency Action Level and Emergency Plan Changes	
1	08/15/2010 08/20/2010	IP 7111405	Correction of Emergency Preparedness Weaknesses and Deficiencies	
1	08/15/2010 08/20/2010	IP 71151-EP01	Drill/Exercise Performance	
1	08/15/2010 08/20/2010	IP 71151-EP02	ERO Drill Participation	
1	08/15/2010 08/20/2010	IP 71151-EP03	Alert & Notification System	
		TRI FIRE - TRIENNIAL FIRE PROTECTION INSPECTION		3
1	09/13/2010 09/17/2010	IP 7111105T	Fire Protection [Triennial]	
1	09/27/2010 10/01/2010	IP 7111105T	Fire Protection [Triennial]	
		71124 - HP INSPECTION - ACCESS & ALARA		1
1	09/13/2010 09/17/2010	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
1	09/13/2010 09/17/2010	IP 71124.02	Occupational ALARA Planning and Controls	

This report does not include INPO and OUTAGE activities.
 This report shows only on-site and announced inspection procedures.

Vermont Yankee
 Inspection / Activity Plan
 01/01/2010 - 06/30/2011

Unit Number	Planned Dates Start End	Inspection Activity	Title	No. of Staff on Site
		71124 - RW TRANSPORTATION / ISFSI & PI		1
1	10/18/2010 10/22/2010	IP 60855	Operation Of An ISFSI	
1	10/18/2010 10/22/2010	IP 71124.08	Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation	
1	10/18/2010 10/22/2010	IP 71151-OR01	Occupational Exposure Control Effectiveness	
1	10/18/2010 10/22/2010	IP 71151-PR01	RETS/ODCM Radiological Effluent	
		71152B - PI&R		4
1	04/04/2011 04/08/2011	IP 71152B	Identification and Resolution of Problems	
1	04/18/2011 04/22/2011	IP 71152B	Identification and Resolution of Problems	
		EP EX - EP EXERCISE EVALUATION		4
1	05/02/2011 05/06/2011	IP 7111401	Exercise Evaluation	
1	05/02/2011 05/06/2011	IP 7111404	Emergency Action Level and Emergency Plan Changes	
1	05/02/2011 05/06/2011	IP 71151-EP01	Drill/Exercise Performance	
1	05/02/2011 05/06/2011	IP 71151-EP02	ERO Drill Participation	
1	05/02/2011 05/06/2011	IP 71151-EP03	Alert & Notification System	
		71124 - HP-DOSE / REMP / ISFSI		1
1	05/23/2011 05/27/2011	IP 60855	Operation Of An ISFSI	
1	05/23/2011 05/27/2011	IP 71124.04	Occupational Dose Assessment	
1	05/23/2011 05/27/2011	IP 71124.07	Public Radiation Safety	
		7111121 - CDBI		6
1	06/06/2011 06/10/2011	IP 7111121	Component Design Bases Inspection	
1	06/20/2011 06/24/2011	IP 7111121	Component Design Bases Inspection	
1	06/27/2011 07/01/2011	IP 7111121	Component Design Bases Inspection	

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 This report shows only on-site and announced inspection procedures.