



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
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KING OF PRUSSIA, PA 19406-1415

February 11, 2011

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 05000286/2010005

Dear Mr. Pollock:

On December 31, 2010, 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 19, 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.

This report documents three NRC-identified findings of very low safety significance (Green). Additionally, one licensee-identified violation, which was determined to be of very low safety significance is listed in this report. These findings were determined to involve violations of NRC requirements. However, because of their very low safety significance and because they are entered into your corrective action program (CAP), the NRC is treating these as non-cited violations (NCVs) consistent with Section 2.3.2 of the NRC Enforcement Policy. If you contest these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region 1; 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 cross-cutting aspect assigned to the findings in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region 1, and the NRC Senior Resident Inspector at Indian Point Nuclear Generating Unit 3.

J. Pollock

2

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Sincerely,

A handwritten signature in black ink, appearing to read "Mel Gray", with a long, sweeping flourish extending to the right.

Mel Gray, Chief
Projects Branch 2
Division of Reactor Projects

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

Enclosure: Inspection Report No. 05000286/2010005
w/ Attachment: Supplemental Information

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Sincerely,

/RA/

Mel Gray, Chief
Projects Branch 2
Division of Reactor Projects

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

Enclosure: Inspection Report No. 05000286/2010005
w/ Attachment: Supplemental Information

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U.S. Nuclear Regulatory Commission

Region I

Docket No.: 50-286

License No.: DPR-64

Report No.: 05000286/2010005

Licensee: Entergy Nuclear Northeast (Entergy)

Facility: Indian Point Nuclear Generating Unit 3

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

Dates: October 1, 2010 through December 31, 2010

Inspectors: P. Cataldo, Senior Resident Inspector
M. Halter, Resident Inspector
S. Barr, Senior Emergency Preparedness Specialist – Region I
D. Caron, Senior Physical Security Inspector – Region I
T. Hedigan, Operations Engineer – Region I
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J. Noggle, Senior Health Physicist – Region I
T. Burns, Reactor Inspector – Region I
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D. Jones, Senior Reactor Inspector – Region III

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

TABLE OF CONTENTS

SUMMARY OF FINDINGS.....	3
1. REACTOR SAFETY	6
1R01 Adverse Weather Protection	6
1R04 Equipment Alignment.....	6
1R05 Fire Protection	7
1R06 Flood Protection Measures	8
1R11 Licensed Operator Requalification Program.....	8
1R12 Maintenance Effectiveness	9
1R13 Maintenance Risk Assessments and Emergent Work Control	12
1R15 Operability Evaluations	13
1R18 Plant Modifications.....	13
1R19 Post-Maintenance Testing	15
1R22 Surveillance Testing	15
2. RADIATION SAFETY	16
2RS1 Radiological Hazard Assessment and Exposure Controls.....	16
2RS2 Occupational ALARA Planning and Controls	18
4. OTHER ACTIVITIES.....	19
4OA1 Performance Indicator Verification	19
4OA2 Identification and Resolution of Problems	20
4OA3 Event Follow-Up	28
4OA5 Other Activities	31
4OA6 Meetings.....	33
4OA7 Licensee-Identified Violations	33
ATTACHMENT: SUPPLEMENTAL INFORMATION	33
SUPPLEMENTAL INFORMATION	A-1
KEY POINTS OF CONTACT	A-1
LIST OF ITEMS OPENED, CLOSED AND DISCUSSED	A-2
LIST OF DOCUMENTS REVIEWED	A-2
LIST OF ACRONYMS.....	A-12

SUMMARY OF FINDINGS

IR 05000286/2010005; 10/1/10 – 12/31/10; Indian Point Nuclear Generating (Indian Point) Unit 3; Maintenance Effectiveness; Identification and Resolution of Problems; and Event Follow-Up.

This report covered a three-month period of inspection by resident, region-based, and Nuclear Reactor Regulation (NRR) inspectors. Three findings of very low significance (Green) were identified. These findings were also determined to be 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." The cross-cutting aspect for the findings was determined using IMC 0310, "Components within the Cross-Cutting Areas." 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: Mitigating Systems

- 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 take prompt action to correct a condition adverse to quality regarding the safety-related control room air conditioning units. Specifically, Entergy personnel documented bulging and leaking control room air conditioning (CCR A/C) condenser gaskets in multiple condition reports between June and November 2010, but did not correct the condition as evidenced by the repeated nature of the gasket issues. As a result, the CCR A/C units incurred periods of unavailability while the gaskets were repaired. Entergy personnel entered this issue into the corrective action program (CAP) as CR-IP3-2011-00018. Corrective actions include performing a higher-tier apparent cause evaluation for the repeated CCR A/C gasket issues and implementing temporary and permanent plant modifications to the CCR A/C condensers.

The inspectors determined the finding is more than minor because the finding is associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, on multiple occasions, one of the CCR A/C unit trains would be made unavailable in order for Entergy personnel to conduct repairs on condenser gaskets to ensure continued reliability of the CCR A/C unit. The inspectors evaluated the finding in accordance with IMC 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," and determined it was of very low safety significance (Green) because the issue was not a design or qualification deficiency, did not represent a loss of system 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 corrective action program area of Problem Identification and Resolution because Entergy personnel did not thoroughly evaluate problems such that the resolutions address causes and extent conditions, as necessary. Specifically, Entergy personnel did not classify and prioritize the repeated gasket failures in accordance with their CAP and fully

evaluate the repeated gasket failures and implement corrective actions to correct the causes. [P.1(c) per IMC 0310] (Section 1R12)

- Green. The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion II, "Quality Assurance Program (QAP)," because Entergy personnel did not implement the qualification and experience requirements of the QAP to ensure that an individual assigned to the position of quality assurance manager (QAM) met the qualification and experience requirements of ANSI/ANS 3.1-1978. Specifically, the individual assigned as the responsible person for the Entergy's overall implementation of the QAP did not have at least one year of nuclear plant experience in the overall implementation of the QAP within the quality assurance organization prior to assuming those responsibilities. This issue was entered into Entergy's CAP as CR-HQN-2010-00386.

This finding is more than minor because if left uncorrected, it could lead to a more significant safety concern. Specifically, the failure to have a fully qualified individual providing overall oversight to the QAP had the potential to affect all cornerstones. However, this finding will be tracked under the Mitigating Systems cornerstone as the area most likely to be impacted. The finding was not suitable for quantitative assessment using existing Significance Determination Process guidance. Using IMC 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," NRC management determined the finding to be of very low safety significance (Green) because other quality assurance program functions remained unaffected by this performance deficiency, so defense-in-depth continued to exist.

The inspectors determined there was no cross-cutting aspect associated with this finding because the performance deficiency did not reflect Entergy's current performance. Specifically, the performance deficiency occurred more than three years ago and was outside the current assessment period. (Section 4OA2)

Cornerstone: Emergency Preparedness

- Green. An NRC-identified Green NCV of 10 CFR 50.54, "Conditions of Licenses," paragraph (q), was identified because the Entergy emergency plan implementing procedure (EPIP) for notification of offsite officials did not meet the requirements of the IPEC Emergency Plan. This EPIP had contained a deficiency in the backup process for offsite notification since July 2006. Entergy personnel responded by documenting the deficiency in CR-IP2-2010-07563 and by initiating a procedure change to align the backup process with the Emergency Plan commitments.

This finding is more than minor because it affected the Emergency Response Organization attribute of the EP cornerstone to ensure that the Entergy personnel are capable of implementing adequate measures to protect the public health and safety in the event of a radiological emergency. Entergy procedures allowed for a back-up notification process that did not comply with the requirements of the site emergency plan: the Emergency Plan requires that the Shift Manager or his designee notify the offsite authorities of an emergency declaration, while Form EP-4 directed the delegation of this responsibility to an offsite authority itself. In accordance with Inspection Manual Chapter (IMC) 0609, Appendix B, "Emergency Preparedness Significance Determination Process," the inspectors determined the finding to be of very low safety significance

(Green). Using IMC 0609, Appendix B, Section 4.5 and Sheet 1, "Failure to Comply," the inspectors determined that the failure to comply with an aspect of the Emergency Plan related to event notification (10 CFR 50.47(b)(5)) was a Risk Significant Planning Standard (RSPS) problem. It was not a RSPS functional failure of the IPEC event notification process, because the deficiency in the IPEC EPIP was in the backup method for offsite notification, and despite the procedural flaw offsite notifications were made in a timely and accurate manner on November 7, 2010.

The inspectors determined there was no cross-cutting aspect associated with this finding because the performance deficiency did not reflect Entergy's current performance. Specifically, the performance deficiency, associated with a procedure change made in July 2006, occurred more than three years ago and was outside the current assessment period. (Section 4OA3)

REPORT DETAILS

Summary of Plant Status

Indian Point Unit 3 operated at or near full power during 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 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 were identified.

1R04 Equipment Alignment.1 Partial System Walkdowns (71111.04Q – 3 samples)a. Inspection Scope

The inspectors performed partial system walkdowns to verify the operability of redundant or diverse trains and components during periods of system train unavailability, and where applicable, following return to service after maintenance. The inspectors reviewed 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 or work orders to ensure that Entergy personnel had identified and properly addressed equipment deficiencies that could potentially impair the capability of the available train. The documents reviewed during this inspection are listed in the Attachment. The inspectors performed a partial walkdown on the following systems, which represented three inspection samples:

- 31/32 emergency diesel generators (EDGs) during 33 EDG outage on October 5, 2010;
- 31 boric acid transfer pump (BATP) during 32 BATP maintenance on November 18, 2010; and
- 32 and 33 charging pumps (CHPs) during 31 CHP maintenance on December 22, 2010.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors performed a complete system walkdown of accessible portions of the component cooling water (CCW) system to identify discrepancies between the existing equipment lineup and the required lineup. The inspectors reviewed operating procedures, surveillance tests, piping and instrumentation drawings, equipment lineup check-off lists, and the UFSAR to verify the system was aligned to perform its required safety functions. The inspectors reviewed a sample of CRs written to address deficiencies associated with the system to ensure they were appropriately evaluated and resolved. The documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings were identified.

1R05 Fire Protection

Resident Inspector Quarterly Walkdowns (71111.05Q – 4 samples)

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.

- Pre-Fire Plan (PFP)-351;
- PFP-362;
- PFP-372; and
- PFP-373.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06 – 1 sample)

.1 Internal Flooding Review

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 and around the 480 volt switchgear room that are utilized to minimize the potential impacts of flooding on safety-related equipment. The inspectors performed area walkdowns to assess the adequacy of information provided in the Unit 3 Flooding System Interaction Study and the UFSAR.

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program

.1 Quarterly Review (71111.11Q – 1 sample)

a. Inspection Scope

On November 18, 2010, the inspectors observed licensed-operator requalification training conducted in the classroom and in the plant-reference simulator to verify appropriate operator performance and that evaluators identified crew performance deficiencies, 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 training represented one inspection sample.

b. Findings

No findings were identified.

.2 Biennial Review (71111.11B – 1 sample)

a. Inspection Scope

On December 6, 2010, an NRC region-based inspector conducted an in-office review of results of licensee-administered annual operating tests. Results from the comprehensive written exams were not included in this review because those exams were part of the 2009 testing cycle. The inspection assessed whether pass rates were consistent with the guidance of NRC IMC 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process (SDP)." The inspector verified that:

- Crew failure rate was less than 20 percent. (Crew failure rate was 0 percent);
- Individual failure rate on the dynamic simulator test was less than or equal to 20 percent. (Individual failure rate was 2 percent);
- Individual failure rate on the walk-through test was less than or equal to 20 percent (Individual failure rate was 0 percent); and
- Overall pass rate among individuals for all portions of the exam was greater than or equal to 75 percent. (Overall pass rate was 98 percent)

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 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). When applicable, 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:

- 480 volt breaker failure on November 16, 2010; and
- Central control room air conditioning (CCR A/C) repetitive heat exchanger leaks in 2010.

b. Findings

Introduction: 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 take prompt action to correct a condition adverse to quality regarding the safety-related control room air conditioning units. Specifically, Entergy personnel documented bulging and leaking control room air conditioning (CCR A/C) condenser gaskets in multiple condition reports between June and November 2010, but did not correct the condition, as evidenced by the repeated nature of the gasket issues.

Description: During plant status and condition report reviews between June and November 2010, the inspectors noted several condition reports and operating log entries that documented service water leaks on the CCR A/C unit condensers, which required the units to be made unavailable and inoperable while the leaks were repaired by Entergy personnel. The inspectors also noted additional condition reports that documented the identification of bulging gaskets on the CCR A/C unit condensers which were at risk of developing service water leaks. The two safety-related CCR A/C units are utilized during an accident scenario to prevent the temperature of the control room from exceeding the design temperature of equipment and instrumentation installed within the control room. The following adverse gasket conditions were documented in the corrective action program since June 2010:

- On June 27, 2010, 32 CCR A/C condenser B developed a service water leak at the east end of the bell cap gasket. The unit was declared inoperable and was removed from service for gasket replacement. This issue was documented in CR-IP3-2010-1890;
- On July 7, 2010, the 32 CCR A/C end bell cap gaskets for both condensers were observed to be bulged and at risk for failure. This issue was documented in CR-IP3-2010-2009;
- On September 21, 2010, 32 CCR A/C condenser B developed a service water leak at the end bell cap gasket. The unit was subsequently shutdown and removed from service for gasket replacement. This issue was documented in CR-IP3-2010-2843;
- On September 30, 2010, the 32 CCR A/C end bell cap gaskets for both condensers were observed to be bulged and at risk for failure. This issue was documented in CR-IP3-2010-2928;
- On October 20, 2010, the gasket being installed on the end bell cap of the inboard CCR A/C condenser bulged out when the procedural torque values of 15 foot-pounds (first pass) and 35 foot-pounds (second pass) were used. This issue was documented in CR-IP3-2010-3171;

- On October 29, 2010, 31 CCR A/C condenser B west end bell cap gasket bulged out and developed a service water leak. On November 1, 2010 the unit was removed from service for gasket replacement. This issue was documented in CR-IP3-2010-3355; and
- On November 2, 2010, 31 CCR A/C condenser B west end bell cap gasket bulged out and developed a service water leak. On November 4, 2010 the unit was removed from service for gasket replacement.

The inspectors also noted that on September 22, 2010, Entergy personnel (CR-IP3-2010-02847) documented the occurrence of a repeat functional failure of the CCR A/C system, that the system had exceeded its allowed functional failures, and that the system was being evaluated for transition to (a)(1) status per procedure EN-DC-205, "Maintenance Rule." Entergy's Maintenance Rule Expert Panel subsequently approved the system for transition to (a)(1) status and approved the (a)(1) action plan on January 7, 2011. The inspectors noted that the issue was not reviewed by the Expert Panel within 60 days, as prescribed by procedure EN-DC-206, "Maintenance Rule (a)(1) Process."

The inspectors determined that this issue, as described in the condition reports, was consistent with an adverse condition as described in EN-LI-102, "Corrective Action Process," attachment 9.2, "Examples of Adverse Conditions," due to the gasket failures and deformations. The inspectors also noted the adverse trend and the high frequency of the gasket leaks presented Entergy personnel several opportunities to correct the adverse condition regarding gasket leaks and failures. The inspectors reviewed procedure EN-LI-102, Attachment 9.1, "Condition Report Classifications/Category," which provides Entergy staff guidance on classifying condition reports based on a number of factors regarding the condition. The inspectors determined the gasket problems, based on the number and repeat nature of the issues, should have been classified as a Category 'B' condition report and should not have continued to have been treated as a Category 'C' or 'D' issue per EN-LI-102. The inspectors noted that all CCR A/C gasket failure conditions had been assigned 'C' or 'D' level condition reports. Further, the inspectors determined EN-LI-102 prescribes that an apparent cause of the issue be documented (if categorized a Category 'B' condition) and corrective actions taken to correct the condition and to address the apparent cause(s). The inspectors noted that an apparent cause evaluation had not been performed.

The inspectors determined that, although Entergy personnel had identified each instance of CCR A/C condenser gasket bulges and leaks, the adverse condition was not corrected in a timely manner, as made evident by the repeated occurrence of the issue and the failure to evaluate the condition adverse to quality in accordance with the site corrective action process. Specifically, based on the number of gasket failures/deformations identified by Entergy personnel from June to September 2010, the inspectors determined Entergy personnel did not implement actions to correct the repeated gasket bulges and failures in accordance with EN-LI-102. As a result, there were additional occurrences of gasket bulges and leaks in October and November 2010, and the CCR A/C units incurred additional unavailability.

Entergy personnel entered this issue into their CAP as CR-IP3-2011-00018. Completed corrective actions included implementing a temporary modification (EC-25727) on 31

CCR A/C, which installed a gasket retainer ring to prevent the gasket from bulging, and a permanent modification (EC 26365) on 32 CCR A/C unit, which removed the sacrificial zinc anode in the condenser head, in order to permit improved gasket sealing surface. Planned corrective actions include performing a higher-tier apparent cause evaluation for the repeated CCR A/C gasket failures, removing temporary modification EC-25727 from 31 CCR A/C, and installing EC 26365 on 31 CCR A/C during the next scheduled six month maintenance of the unit.

Analysis: The inspectors determined there was a performance deficiency because Entergy personnel did not take timely action consistent with corrective action program guidance for a condition adverse to quality, and correct the gasket leak condition. The inspectors determined the finding is more than minor because the finding is associated with the Equipment Performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, on multiple occasions, one of the CCR A/C unit trains was unavailable in order for Entergy personnel to conduct repairs on condenser gaskets to ensure continued reliability of the CCR A/C unit. The inspectors evaluated the finding in accordance with IMC 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," and determined it was of very low safety significance (Green) because the issue was not a design or qualification deficiency, did not represent a loss of system 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, Corrective Action Program, because Entergy personnel did not thoroughly evaluate problems such that the resolutions address causes and extent conditions, as necessary. Specifically, Entergy personnel did not classify and prioritize the repeated gasket failures in accordance with their CAP, and therefore did not evaluate the causes of the repeated gasket failures and implement corrective actions to address the causes. (P.1(c) per IMC 0310)

Enforcement: 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and non-conformances are promptly identified and corrected. Contrary to the above, on October 1, 2010, Entergy personnel did not implement prompt measures to correct a condition adverse to quality associated with the CCR A/C unit condensers. This resulted in additional periods of time when one of the CCR A/C units was inoperable and unavailable to perform its safety function. Because this violation was of very low safety significance and was entered into Entergy's corrective action program, this violation is being treated as an NCV, consistent with section 2.3.2 of the NRC Enforcement Policy. **(NCV 05000286/2010005-01, Repeated Control Room Air Conditioner Gasket Failures.)**

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:

- Elevated risk due to hurricane warning/flood warning on October 1, 2010;
- Elevated risk during 480 volt breaker continuity testing on November 16, 2010;
- Elevated risk during 480 volt relay testing on November 18, 2010; and
- Elevated risk during 3PT-Q116C, 33 safety injection pump surveillance, on December 1, 2010.

b. Findings

No findings were identified.

1R15 Operability Evaluations (71111.15 – 3 samples)

Resident Quarterly Review

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 three inspection samples:

- 31 battery charger voltage issues on October 13, 2010;
- 36 service water pump (SWP) discharge piping leaks on October 20, 2010; and
- 31 CCR A/C condenser gasket leaks on October 29, 2010.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18 – 2 samples)

.1 Temporary Modification: 33 EDG Demonstration Test

a. Inspection Scope

The inspectors observed and evaluated a demonstration test of the 33 emergency diesel generator (EDG) conducted on October 5, 2010. This evaluation included a review of 3-TOP-209, "33 EDG Performance Test," and its associated 10 CFR 50.59 screening. The inspectors verified the test was consistent with the system design bases

documentation, including the Updated Final Safety Analysis Report and Technical Specifications, and that the special procedure did not affect system operability and availability. The inspectors reviewed whether the test was performed in accordance with the applicable test procedure, and that the 33 EDG was returned to its original configuration.

The inspectors reviewed the engineering report which compiled the demonstration test results, and was utilized by Entergy personnel to affirm the design basis supporting functions of the EDG starting air system and components. Specifically, the inspectors reviewed whether the system would support (1) four successive starts of the EDGs with a starting air tank pressure of 250 psig, and (2) a single start of the EDGs with a starting air tank pressure of 90 psig.

b. Findings

No findings were identified.

.2 Permanent Modification: EC-26066, 32 Boric Acid Transfer Pump (BATP) Motor Pedestal Repair

a. Inspection Scope

The inspectors reviewed design documentation associated with the repair of the 32 BATP motor pedestal hold down bolts and bolt holes, performed under engineering change EC 26066 and EC 20440. This change was required to ensure appropriate structural integrity was maintained between the BATP motor and its pedestal. The inspectors verified the adequacy of the modification to ensure consistency with the applicable design requirements, and associated calculations, procedures, and drawings. This verification included attributes, such as engineering design change program requirements, as well as associated 10 CFR 50.59 screening, to ensure that the BATP motor would continue to perform applicable design functions.

During implementation of the modification, the inspectors verified that appropriate configuration and testing controls were utilized, which included lockout/tagout requirements. Additionally, the inspectors verified that the material changes and modifications were appropriate for the specific application, and that structural and seismic requirements were satisfied. Following implementation, the inspectors verified that post-modification testing criteria were adequate and that acceptable results were obtained. Additionally, the inspectors verified that applicable drawings were appropriately revised consistent with the requirements of the modification.

b. Findings

No findings 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 engineering personnel. The inspectors verified that: test acceptance criteria were clear and the test demonstrated operational readiness consistent with design basis documentation; test instrumentation had current calibrations with the appropriate range and accuracy for the application; and the tests were performed as written, with applicable prerequisites satisfied. Upon completion of the tests, the inspectors reviewed whether equipment was returned to the proper alignment necessary to perform its safety function. Post-maintenance testing was evaluated for conformance against the requirements of 10 CFR 50, Appendix B, Criterion XI, "Test Control." The documents reviewed are listed in the Attachment. The following post-maintenance activities were reviewed and represented five inspection samples:

- 33 EDG maintenance outage on October 6, 2010;
- Steam Dump, PCV-1122 actuator replacement on October 12 – 14, 2010;
- 31 battery charger troubleshooting and repair on October 19, 2010;
- 36 SWP strainer preventive maintenance on December 2, 2010; and
- N-41B detector potentiometer replacement on December 13, 2010.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 4 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 four inspection samples, which included an in-service testing (IST) surveillance:

- 3-PT-Q80, pressurizer block valve IST, on October 15, 2010;
- 3-PT-Q31, liquid waste containment isolation valve (CIV), on October 17, 2010;
- 3-PT-Q120B, 32 auxiliary boiler feed pump (ABFP), on October 29, 2010; and
- 3-PT-M79B, 32 EDG surveillance, on November 2, 2010.

b. Findings

No findings were identified.

2. **RADIATION SAFETY**

Cornerstone: Occupational/Public Radiation Safety (PS)

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01 – 1 sample)

a. Inspection Scope

Inspection Planning

The inspectors reviewed all licensee performance indicators (PIs) for the Occupational Exposure cornerstone for follow up and reviewed the results of the most recent radiation protection program audit.

Contamination and Radioactive Material Control

The inspectors selected three sealed sources from the licensee's inventory records, verified that the sources were accounted for, and have been leak tested within the past six months. The inspectors verified that there have not been any source transfer transactions since the last inspection involving nationally tracked sources.

Radiological Hazards Control and Work Coverage

During tours of the facility and review of ongoing work, the inspectors evaluated ambient radiological conditions, verified that existing conditions were consistent with posted surveys, RWPs, and worker briefings, as applicable. During available job performance observations, the inspectors verified the adequacy of radiological controls, radiation protection job coverage, contamination controls, and evaluated the licensee's use of electronic pocket dosimeters in high noise areas. The inspectors verified that dosimeters of legal record were being placed on the individual's body consistent with monitoring the highest expected dose due to external radiation sources.

During this inspection, there were no active work activities within airborne radioactivity areas with the potential for individual worker internal exposures for evaluation. The inspectors examined the licensee's physical and programmatic controls for highly activated or contaminated materials (nonfuel) stored within spent fuel and other storage pools and verified that appropriate controls were in place to preclude inadvertent removal of these materials from the pools. The inspectors conducted selective inspection of posting and physical controls for high radiation areas (HRAs) and very high radiation areas (VHRAs) to verify conformance with TS and procedural requirements.

Risk Significant High Radiation Area and Very High Radiation Area Controls

The inspectors reviewed the controls and procedures for high risk HRAs and VHRAs. The inspectors verified that any changes to licensee procedures did not substantially

reduce the effectiveness and level of worker protection. The inspectors discussed with a health physics supervisor the controls in place for special areas that have the potential to become VHRAs during certain plant operations to determine if these plant operations include prior communication with the HP organization to allow for timely actions to properly post, control, and monitor the radiation hazards including re-access authorization.

Radiation Worker Performance

During job performance observations, the inspectors observed radiation worker performance with respect to radiation work permit requirements to determine if workers are aware of the radiological conditions in their workplace and if their work performance reflects the conditions of the radiation work permit requirements. The inspectors reviewed several radiological problem reports since the last inspection that include the cause of the event to be attributable to human performance errors. This review included a determination of any similar observable patterns and effectiveness review of any prior corrective actions taken by the licensee to resolve any similar prior radiological problems.

Radiation Protection Technician Proficiency

During job performance observations, the inspectors observed the performance of radiation protection technicians with respect to applicable radiation work permit requirements to determine if technicians were aware of the radiological conditions in their workplace, the RWP controls/limits in place and if their performance was consistent with their training and qualifications with respect to the radiological hazards and work activities. The inspectors reviewed several radiological problem reports since the last inspection that include the cause of the event to be attributable to radiation protection technician error. This review included a determination of any similar observable patterns and effectiveness review of any prior corrective actions taken by the licensee to resolve any similar prior radiological problems.

Specific documents reviewed during this inspection are listed in the attachment. These activities constitute completion of one sample as defined in NRC Inspection Procedure 71124.01.

b. Findings

No findings were identified.

2RS2 Occupational ALARA Planning and Controls (71124.02 – 1 sample)

a. Inspection Scope

Inspection Planning

The inspectors reviewed site procedures associated with maintaining occupational exposures ALARA, including a review of processes used to estimate and track exposures from specific work activities.

Radiological Work Planning

Based on radiation work permit outage work activity collective exposure results, from the Unit 2 Spring 2010 refueling outage, the inspectors selected for review those work activities that resulted in a dose of 5 person-rem or greater. This review included the basis of the exposure estimates with reference to historical performance metrics, and exposure mitigation requirements planned for these outage tasks.

With respect to the outage work activity samples, the inspectors compared the actual exposure results with the estimated exposure established in the licensee's ALARA plans for these work activities. The inspectors also compared the person-hour estimates provided by maintenance planning and other groups to the radiation protection group with the work activity person-hour actual results, to evaluate the performance results. The inspectors determined the reasons (e.g., failure to adequately plan the activity, failure to provide sufficient work controls) for any inconsistencies between intended and actual work activity doses. The inspectors also determined if any identified exposure overrun causes were identified and entered into Entergy's CAP.

Verification of Dose Estimates and Exposure Tracking Systems

The Unit 2 Spring refueling outage ALARA work packages that resulted in greater than 5 person-rem were reviewed to include the assumptions and basis (including dose rate and man-hour estimates) for their collective exposure estimates. Applicable procedures were reviewed to determine the methodology for estimating exposures for specific work activities and determining the intended dose outcome.

The inspectors verified for the selected work activities that the licensee has established measures to track, trend, and if necessary to reduce, occupational doses for ongoing work activities and that criteria are established to prompt additional reviews and/or additional ALARA planning and controls. The inspectors evaluated the licensee's method of adjusting exposure estimates when unexpected changes in scope or emergent work were encountered. The inspectors determined if adjustments to exposure estimates (intended dose) were based on sound radiation protection and ALARA principles or if they were only adjusted to account for failures to control the work.

Source Term Reduction and Control

Through a review of licensee records, the inspectors evaluated the historical trends and current status of significant tracked plant source terms known to contribute to elevated facility aggregate exposure and reviewed the licensee's contingency plans for expected

changes in the source term as the result of changes in plant fuel performance issues or changes in plant primary chemistry.

Radiation Worker Performance

The inspectors observed radiation worker and radiation protection technician performance during work activities being performed in radiation areas and high radiation areas. The inspectors determined if workers demonstrated the ALARA philosophy in practice and whether there were any procedure compliance issues and whether the training and skill level of the radiation workers was sufficient with respect to the radiological hazards and the work tasks involved.

Specific documents reviewed during this inspection are listed in the attachment. These activities constitute completion of one sample as defined in NRC Inspection Procedure 71124.02.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151 – 3 samples)

.1 Reactor Coolant System Leakage

a. Inspection Scope

The inspectors reviewed performance indicator (PI) data listed below to verify the accuracy of the data recorded from October 2009 through September 2010. The inspectors used Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Performance Indicator Guideline," as applicable, and reviewed associated Entergy procedures and data to verify individual PI accuracy and completeness. The documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings were identified.

.2 Occupational Exposure Control Effectiveness

a. Inspection Scope

The inspector reviewed implementation of Entergy's Occupational Exposure Control Effectiveness Performance Indicator (PI) Program. Specifically, the inspectors reviewed CRs and radiological controlled area dosimeter exit logs for the past four (4) calendar quarters (through 3rd quarter 2010). These records were reviewed for occurrences involving locked high radiation areas, very high radiation areas, and unplanned exposures against the criteria specified in NEI 99-02, "Regulatory Assessment

Performance Indicator Guideline,” to verify that all occurrences that met the NEI criteria were identified and reported.

b. Findings

No findings were identified.

.3 RETS/ODCM Radiological Effluent Occurrences

a. Inspection Scope

The inspectors reviewed a listing of relevant effluent release reports for the past four (4) calendar quarters (through 3rd quarter 2010) for issues related to the public radiation safety performance indicator, which measures radiological effluent release occurrences per site that exceed 1.5 mRem/quarter whole body or 5.0 mRem/quarter organ dose for liquid effluents; 5mrads/quarter gamma air dose, 10 mrad/quarter beta air dose, and 7.5 mrads/quarter for organ dose for gaseous effluents. The review was against applicable criteria specified in NEI 99-02, “Regulatory Assessment Performance Indicator Guideline.” The purpose of the review was to verify that occurrences that met the NEI criteria were recognized and identified as Performance Indicator occurrences.

The inspectors reviewed the following documents to ensure the licensee met all requirements of the performance indicator:

- Monthly and quarterly projected dose assessment results due to radioactive liquid and gaseous effluent releases; and
- Dose assessment procedures.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (71152 – 2 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 were identified.

.2 Semi-Annual Trend Review

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, as required by Inspection Procedure 71152, "Identification and Resolution of Problems." The inspectors included in this review, repetitive or closely-related issues that may have been documented by Entergy personnel outside of the corrective action program, such as trend reports, performance indicators, major equipment problem lists, system health reports, 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 2010, to assess CRs written in various subject areas (equipment problems, human performance issues, etc.), as well as individual issues identified during the NRCs daily CR review (Section 4OA2.1). The inspectors reviewed Entergy's quarterly trend report for the second quarter of 2010, conducted under LO-IP3LO-2010-00052, and specific departmental inputs to the third quarter report, conducted under LO-IP3LO-2010-00053 and tracked within the corrective action program, as well as 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 were identified.

The inspectors evaluated a sample of departmental trend reviews that are utilized as input into the quarterly trend reports, which included the maintenance and operations departments. This review included a sample of issues and events that occurred over the course of the past two quarters to objectively determine whether issues either were appropriately considered or identified as emerging or adverse trends, and in some cases, verified the appropriate disposition of resolved trends. The inspectors verified that these issues were addressed within the scope of the corrective action program, or through department review and documentation in the quarterly trend report for overall assessment. For example, the inspectors noted that service water leaks was identified as a "monitored trend," which continued into the second quarter report, due to the ongoing challenges these service water leaks pose to safety-related and non-safety-related systems. The inspectors also noted that significant activity was planned in the upcoming outage to address known contributors to this ongoing, long-standing issue at the site. In other cases, the inspectors verified the reasonableness of "proposed" resolved trends, such as maintenance human performance issues, based on the completion of applicable success criteria, which were established to ensure successful resolution of the underlying issues that contributed to the adverse trends.

Additionally, the inspectors noted an apparent trend involving several trips of 6.9 kV breakers associated with the circulating water pumps. The relative risk of these occurrences is addressed individually within the corrective action process and involves the potential for initiating events, due to resultant loss of main condenser vacuum. However, the inspectors also noted that a plant trip would potentially require the coincident trip of two CW pumps, as well as the failure of stand-by breakers for that potential trip to occur. During this review, the inspectors noted the breaker malfunctions, while not consequential, should have warranted a more focused inspection under various station procedures and processes. In particular, other monitoring programs that compliment the trending process, such as system health and performance indicators, did not identify these breaker malfunctions for further assessment. Moreover, the inspectors noted that the implementation of the corrective action and work control processes could have been more effectively utilized to ensure the cause of these breaker trips were identified and corrected.

The inspectors also observed minor deficiencies in the implementation of the trending process, specifically involving the assignment of incorrect trend codes during the initial stages of condition report processing. While some occurrences of incorrect coding were identified, the underlying and relevant contributing causes for the specific issues identified were appropriately captured in other site programs to ensure effective resolution. The inspector noted, however, that issues coded with incorrect trend codes may not be captured during monthly and quarterly reviews/rollups by individual department coordinators, and cause important trends such as human performance and equipment problems, to be potentially missed being classified as, or contributing to, adverse or emerging trends.

.3 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-45, "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 of the deficiencies would have on operator response to plant events.

b. Findings

No findings were identified.

.4 Radiation Protection Corrective Action Review

a. Inspection Scope

The inspectors reviewed 16 condition reports initiated between May 2010 and November 2010, which were associated with the radiation protection program. The inspectors verified that problems identified by these condition reports were properly characterized in the licensee's event reporting system, and applicable causes and corrective actions were identified commensurate with the safety significance of the radiological occurrences.

b. Findings and Observations

No findings were identified.

The inspectors reviewed a condition involving tritium that was detected by Entergy personnel in the Unit 3 A2 storm drain since May 2010. Entergy personnel have determined that evidence suggests a partial return of previously released airborne tritium vapor during rainfall events that condenses and is collected in the storm drain system. CR-IP3-2010-1995 documents a review of ground-water monitoring well data during the 3rd quarter 2010 to evaluate the possible migration of tritiated water from the storm drain into the ground-water. While this evaluation indicated negligible dose to the public due to this liquid tritium release pathway, Entergy personnel have identified that ground-water monitoring of Unit 3 could be enhanced through the installation of an additional perimeter ground-water monitoring well. This corrective action is documented in CR-IP3-2010-1995. The inspectors determined that Entergy's evaluation and planned actions appear reasonable to address the condition.

.5 Selected Issue Follow-up Inspection: Entergy Fleet Quality Assurance (QA) Program Review

a. Inspection Scope

An inspection was performed at the Entergy corporate office in Jackson, Mississippi on June 14 through 17, 2010, to review the circumstances surrounding missed quality control (QC) verification inspections documented in CR-HQN-2009-01184 and CR-HQN-2010-00013. The issue involved QC verification inspections performed during construction-related activities which were required as part of the Entergy quality oversight and verification programs. The inspection was performed to determine if the licensee had taken corrective actions commensurate with the significance of the identified issues, and to assess the impact, if any, on the operability of plant equipment caused by the missed inspections. This inspection was conducted by inspectors from Regions I, II, and IV, as well as a Senior Program Engineer from the Quality and Vendor Branch of the Office of Nuclear Reactor Regulation (NRR). The inspection covered all NRC-licensed sites owned by Entergy Operations, Inc., including Arkansas Nuclear One, James A. Fitzpatrick, Grand Gulf Nuclear Station, Indian Point Units 2 and 3, Palisades Plant, Pilgrim Nuclear Power Station, River Bend Station, Vermont Yankee, and Waterford 3.

The inspectors reviewed root cause analyses documented in CR-HQN-2009-01184 and CR-HQN-2010-00013, and the results of the licensee's extent of condition reviews and plant impact assessments. The inspectors also independently assessed the potential impacts of the missed inspections on the operability of plant equipment by reviewing all of the examples identified by the licensee, and by independently reviewing completed modifications and work orders to identify additional examples. The inspectors also reviewed the corrective action database to assess reported equipment failures in order to assess whether the failure might have involved missed QC verification inspections.

The inspectors assessed causal factors that may have contributed to missing QC verification inspections. This assessment included reviewing the Entergy Quality Assurance Program Manual (QAPM) requirements, changes made to the QAPM, and the level of agreement between the QAPM and its implementing procedures.

Specific documents reviewed are listed in the attachment.

b. Findings and Observations

The inspectors identified problems with the implementation of elements of the Quality Assurance (QA) Program that affected the fleet of Entergy Operations Inc., (hereafter referred to as "Entergy") nuclear power plants that are licensed by the NRC. While the plant organizations are NRC licensees, Entergy also has corporate groups which are not NRC licensees that are actively involved in some activities affecting sites, including program and procedure changes. Entergy adopted a business strategy of adopting standard programs and procedures at all fleet plants.

On October 30, 2009, the NRC discussed with Entergy personnel the initial concerns about whether QC verification inspections were being performed consistently for the types of work that require that level of inspection. Both the non-licensed and licensed Entergy organizations responded with an appropriate review of the issues. Entergy's review of work documents that were potentially affected was extensive at each site. Entergy's total review examined over 320 Engineering Change documents and 2676 work orders. Of the 30 work orders identified to have QC verification inspection deficiencies affecting eight safety-related design changes, all 30 were determined by Entergy personnel to have sufficient documentation to provide confidence that the equipment was installed correctly. Specific corrective actions were identified and implemented to ensure that QC verification inspections would be included in current and future work documents, including procedure enhancements.

The information provided to the NRC was used to perform a focused inspection in order to assess the impact of the missed verification inspections at each of the NRC-licensed facilities. The inspection documented below independently assessed the potential impact of missed QC verification inspections on the operability of plant equipment, as well as assessing details of QA Program for the Entergy fleet.

Two findings were identified during this inspection. These findings involved missed QC verification inspections at seven Entergy sites, and the assignment of individuals to the QA Manager position that did not meet the experience and qualification requirements at eight sites. Only the findings impacting Indian Point Unit 3 are described below.

The inspectors concluded that the Entergy fleet organizational structure and Entergy strategy of adopting standardized procedures across the fleet were contributing factors to the findings. Specifically:

- Changes to adopt the standard fleet QA program created a partial conflict with existing requirements for worker qualifications at some sites. The process for creating and revising standardized fleet procedures and programs used to meet NRC requirements must ensure that site-specific regulatory requirements and commitments are properly addressed for all sites; and
- Changes that removed details from existing site-specific QA and QC program implementing procedures while shifting to standardized fleet procedures contributed to the finding involving missed QC verification inspections. Condition reports at individual sites regarding problems related to this issue were not recognized collectively as symptoms of a problem with these procedures because they were addressed at the site level.

Failure to Implement the Experience and Qualification Requirements Associated With the Quality Assurance Program

Introduction. The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion II, "Quality Assurance Program (QAP)," because Entergy personnel did not implement the qualification and experience requirements of the QAP to ensure that an individual assigned to the position of quality assurance manager (QAM) met the qualification and experience requirements of ANSI/ANS 3.1-1978. Specifically, the individual assigned as the responsible person for the Entergy's overall implementation of the QAP did not have at least one year of nuclear plant experience in the overall implementation of the QAP within the quality assurance organization prior to assuming those responsibilities.

Description. During their review of the issues surrounding the improper implementation of quality control (QC) verifications discussed above, the inspectors noted that the root cause analysis documented in CR-HQN-2010-0013 identified that lack of experience of the Quality Assurance (QA) Manager contributed to the failure to identify the trend in missed QC verification inspections. The inspectors reviewed the relevant experience and qualifications of the QA Manager at each Entergy site. The inspectors also reviewed the NRC's safety evaluation report that approved Entergy's original corporate Quality Assurance Program Manual (QAPM), which is the document that contains the QA Program. Additionally, the inspectors reviewed the administrative section of the Technical Specifications for all the Entergy sites and a sample of evaluations, performed in accordance with 10 CFR 50.54(a), that supported Entergy QAPM changes and alignment of plants that were subsequently purchased by Entergy.

The Entergy corporate QAPM required each site to meet the experience and qualification standards in ANSI/ANS 3.1-1978, "American National Standard for Selection and Training of Nuclear Power Plant Personnel." Section 4.4 included qualification and experience requirements for the personnel described as "group leaders" of five professional-technical groups, including Quality Assurance. Section 4.4.5, "Quality Assurance," required that "...the responsible person shall have six years experience in the field of quality assurance, preferably at an operating nuclear plant, or

operations supervisory experience. At least one year of this six years experience shall be nuclear power plant experience in the overall implementation of the quality assurance program. (This experience shall be obtained within the quality assurance organization.)”

On December 15, 2008, procedure EN-QV-117, “Oversight Training Program,” the Entergy procedure used by all Entergy sites to implement the requirements of ANSI/ANS 3.1-1978, was revised by the Entergy corporate QA group. Section 5.7, “Manager/QA Senior Auditor Training,” was changed to state:

Either the QA Manager or the Senior QA Auditor will meet the requirements of ANS 3.1-1978 paragraph 4.4.5 for operating plants and if applicable ANS 3.1-1993 paragraph 4.3.7 for new plants.

The inspectors reviewed completed Personnel Change Planning Checklist/Forms for QA Managers at each site. Entergy used this form to evaluate QA manager candidates prior to the implementation of an Entergy fleet-wide restructuring in July 2007. Attachment 8, “Change Management Guidelines for Alignment Implementation,” included the following conclusion for the individual that subsequently was assigned to be the QA Manager:

[Individual's name redacted] meets the minimum requirements for QA Manager with the exception of at least one year of this six years experience shall be nuclear power plant experience in the overall implementation of the quality assurance program. This requirement must be met by the QA Senior Auditor.

Based on discussions with Entergy corporate QA personnel, the inspectors determined that Entergy personnel had interpreted ANSI/ANS 3.1-1978, Sections 4.4 and 4.4.5 to allow the Senior Auditor to be considered the QA group leader described in the standard for purposes of meeting the experience requirements of Section 4.4.5 in cases where a candidate for the position of QA Manager did not satisfy the experience requirements.

In reviewing this issue, the NRC staff has determined that the group leader in this case is the individual filling the position assigned responsibility for overall implementation of the QA Program (Entergy used the title “QA Manager” for this position). The individual meeting the experience and qualification requirements must be the individual assigned the responsibilities for overall implementation of the QA Program assigned within the QA Program.

The inspectors determined that this change to procedure EN-QV-117 did not ensure that the qualifications for the QA Manager would meet the requirements of the standard. The inspectors identified an example where the Senior Auditor was credited as being the group leader for purposes of meeting ANSI/ANS 3.1-1978, and the individual who was assigned as the QA Manager did not meet the ANSI/ANS 3.1-1978 experience requirements. The team also determined that the responsibilities assigned to the QA Manager under the QAPM were not reassigned to the Senior Auditor, and the Senior Auditor did not report directly to the designated senior executive. The Senior Auditor continued to report to the QA Manager, so the person with the greater experience did not have the positional authority to decide issues.

Analysis. The performance deficiency associated with this finding was that Entergy did not implement the qualification and experience requirements of the QAP to ensure that

an individual assigned to the position of QAM met the qualification and experience requirements of ANSI/ANS 3.1-1978. This finding is more than minor because if left uncorrected, it could lead a more significant safety concern. Specifically, the failure to have a fully qualified individual providing overall oversight to the QAP had the potential to affect all cornerstones. However, this finding will be tracked under the Mitigating Systems cornerstone as the area most likely to be impacted.

The finding was not suitable for quantitative assessment using existing Significance Determination Process guidance. Using IMC 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," NRC management determined the finding to be of very low safety significance (Green) because other quality assurance program functions remained unaffected by this performance deficiency, so defense-in-depth continued to exist.

The inspectors determined that there was no cross-cutting aspect associated with this finding because the performance deficiency did not reflect Entergy' current performance. Specifically, the performance deficiency occurred more than three years ago and was outside the current assessment period.

Enforcement. 10 CFR 50, Appendix B, Criterion II, "Quality Assurance Program," requires, in part, that the licensee establish a quality assurance program which complies with Appendix B. This program shall be documented by written policies, procedures, or instructions and shall be carried out throughout plant life in accordance with those policies, procedures, or instructions. The program shall provide for indoctrination and training of personnel performing activities affecting quality as necessary to assure that suitable proficiency is achieved and maintained.

The Entergy Quality Assurance Program Manual, Revision 13, is the document used at each Entergy-owned site to describe the quality assurance program. Table 1, Section A of the Quality Assurance Program Manual states, in part, that qualifications and experience for station personnel shall meet ANSI/ANS 3.1-1978 except for positions where an exception to either ANSI/ANS 3.1-1978 or N18.1-1971 is stated in the applicable unit's Technical Specifications.

ANSI/ANS 3.1-1978, Section 4.4.5, "Quality Assurance," states, in part, that the responsible person (i.e. the Quality Assurance Manager) shall have six years experience in the field of quality assurance. At least one year of this six years experience shall be obtained within the quality assurance organization.

Contrary to the above, between July 7, 2007 and July 8, 2008, the licensee failed to implement the quality assurance program requirements intended to provide indoctrination and training of personnel performing activities affecting quality as necessary to assure that suitable proficiency was achieved and maintained. Specifically, the individual assigned to be the responsible person for the licensee's overall implementation of the Quality Assurance Program did not have at least 1 year of nuclear plant experience in the overall implementation of the Quality Assurance Program within the quality assurance organization prior to assuming those responsibilities. Because this issue was of very low safety significance and was entered into Entergy's CAP as CR-HQN-2010-00386, consistent with Section 2.3.2 of the Enforcement Policy, this violation

is being treated as a NCV. (NCV 05000286/2010005-02, Failure to Implement the Experience and Qualification Requirements of the Quality Assurance Program.)

4OA3 Event Follow-Up (71153 – 1 sample)

.1 (Closed) LER 05000286-2009-009-01, Loss of Single Train Neutron Flux Detector N-38 Required for Plant Shutdown Remote From the Control Room Due to a Power Supply Failure.

On October 14, 2009, operators determined that the low voltage power supply for neutron flux detector N-38 was not able to provide reliable power to the instrument. N-38 was declared inoperable and TS Limiting Condition for Operation (LCO) 3.3.4, Remote Shutdown, condition A was entered. Entergy personnel submitted LER 2009-009-00 to report a safety system functional failure (SSFF) in accordance with 10 CFR 50.73(a)(2)(v), due to an inability to shutdown the reactor and maintain the reactor shutdown in the event that remote shutdown from outside the control room had been necessary while N-38 was inoperable. Entergy staff entered this issue in the corrective action program as CR-IP3-2009-04123.

The inspectors reviewed this supplemental LER, which was submitted in November 2010, following NRC inspection of LER 2009-009-00, documented in NRC inspection report 05000286/2010003, and associated corrective actions implemented as a result of that inspection. The inspectors verified the information in the LER was consistent with the updated corrective action documents. There were no additional findings of significance or violations of NRC requirements identified. This LER is closed.

.2 21 Main Transformer Explosion (Unit 2 transformer)

a. Inspection Scope

The inspectors reviewed the below listed Unit 2 event to evaluate Entergy staff emergency response performance and confirm that Entergy staff implemented actions and notifications in accordance with station procedures for the Alert declaration. The emergency response organization is common to both Indian Point Units 2 and 3. The inspectors also reviewed Entergy's response to assess whether the event had an impact on Unit 3 plant and equipment.

At 1839 hours on November 7, 2010, Unit 2 experienced a reactor trip. At 1841, the Unit 2 control room operators were informed that there had been an explosion in the Unit 2 transformer yard/diesel generator building area. The station fire brigade was activated to respond to the notification of explosion. Soon thereafter, a second explosion occurred, and this one was felt and heard in the Unit 2 control room. At 1849, the Unit 2 Shift Manager declared an Alert emergency based on reports of two explosions in the transformer yard (Entergy subsequently determined that both explosions were the result of the 21 main transformer failure). The Alert declaration was made in accordance with emergency action level (EAL) 8.2.3, which states "fire or explosion in any plant area, Table 8.1, which causes or potentially causes any required safety related system or structure to become inoperable." The diesel generator building/fuel tank area is listed in Table 8.1. The operation's crew activated the IPEC emergency response organization (ERO) to respond to the event. Entergy staff terminated the emergency at 2218 hours.

The inspectors also reviewed Entergy actions and decision making to verify decisions were consistent with a conservative approach to assessing the condition and in accordance with the site emergency plan. The inspectors reviewed logs and records from the night of the event, interviewed operational and emergency planning staff, and reviewed Alert Report and other corrective action documentation.

Specific documents reviewed during this inspection are listed in the attachment. These activities constitute completion of one event follow-up sample as defined in Inspection Procedure 71153.

b. Findings

No findings were identified associated with the operational response to the reactor trip.

There was one finding identified regarding Entergy staff's implementation of the emergency plan that impacted both Units 2 and 3 similarly. The NRC inspectors will review Entergy's evaluation of the causes of the main transformer explosion in a subsequent inspection as part of our review of the licensee event report for this event.

a. Inspection Scope

Failure of Offsite Notification Procedure to Meet the Requirements of the Site Emergency Plan

Introduction: An NRC-identified Green NCV of 10 CFR 50.54, "Conditions of Licenses," paragraph (q) was identified because the Entergy emergency implementing procedure for notification of offsite officials did not meet the requirements of the IPEC Emergency Plan.

Description: Following the declaration of the Alert emergency at 1849 hours on November 7, 2010, the central control room (CCR) crew entered emergency plan implementing procedure (EPIP) IP-EP-210, "Central Control Room." Attachment 9.1, Shift Manager/POM (Emergency Director) Checklist, of the EPIP directs the Shift Manager to complete a NYS Radiological Emergency Data Form, Part 1 (Form EP-1), and then have the CCR Offsite Communicator email and fax the form to offsite authorities. Using the radiological emergency communication system (RECS) and Form EP-4, the Offsite Communicator confirms receipt of the Part 1 Form by offsite authorities. A note in Attachment 9.1 requires that notification of state and local authorities shall be initiated within 15 minutes of an Alert declaration. The IPEC Emergency Plan, Section E, Notification Methods and Procedures, paragraph 1.b.5, requires in part that an immediate notification (within 15 minutes) of an Alert is made by the Shift Manager or his designee to the New York State and Westchester, Rockland, Putnam, and Orange Counties. NRC regulations, specifically 10 CFR 50.47(b)(5), require in part that "procedures have been established for notification, by the licensee, of State and local response organizations."

On the evening of November 7, when the Offsite Communicator attempted, via a telephone conference line, to confirm receipt of the Part 1 Form, the communicator learned that a problem had occurred with the fax machine and the only offsite authority to have received the fax was New York State. Per the direction of the guidance in Form

EP-4, the Offsite Communicator instructed the four county personnel on the telephone conference to obtain the Form 1 from the State. One of the county personnel requested the Offsite Communicator to read the Form 1 over the conference line. The Offsite Communicator complied with the request and read the Form 1 information to the four county personnel at approximately 1902 hours, within 15 minutes of 1849 hours.

On November 8, 2010, in response to Entergy's event notification to the NRC, the Region I senior emergency preparedness inspector discussed the November 7 event with the IPEC Emergency Planning Manager. The inspector questioned that Form EP-4 provided for the delegation of Entergy's responsibility for notification, an apparent contradiction of Emergency Plan requirements. Due to County staff intervention, the offsite notifications were adequately performed, but the NRC inspector identified that had the Offsite Communicator followed his procedural guidance, the notifications would not have been made in accordance with IPEC Emergency Plan requirements or with NRC regulations. The inspector determined that Form EP-4 had provided for the deficient backup method since it was revised in July 2006. Entergy initiated in CR-IP2-2010-07563 to investigate and resolve Form EP-4 deficiency concerning the backup method for offsite notification.

Entergy personnel determined the problem encountered with the fax machine on the evening of November 7, 2010, was due to a design flaw in the MIDAS software package used to construct the Form 1. The flaw involved a feature that would prevent sending the Form 1 file if the user attempts to send the file before a data compiling feature of the program has completed its function. Entergy personnel concluded that on November 7, the Offsite Communicator had attempted to send the form too soon after data had been entered. The problems encountered with MIDAS were replicated after the event, and Entergy initiated software design changes to the MIDAS program to correct the timing deficiency.

The NRC reviewed the IPEC Emergency Plan and its associated EPIPs, reviewed records from the November 7, 2010, event, and discussed the issue with IPEC and County personnel. Further, the inspector reviewed the planned changes to Form EP-4 and the intended design changes to the MIDAS and fax software. The inspector concluded the planned corrective actions appeared adequate to correct the problems identified as a result of the November 7, 2010 event.

Analysis: The performance deficiency associated with this finding was that Entergy procedures allowed for a back-up notification process that did not comply with the requirements of the site emergency plan: the emergency plan requires that the Shift Manager or his designee notify the offsite authorities of an emergency declaration, while Form EP-4 directed the delegation of this responsibility to an offsite authority itself. This finding is more than minor because it affected the Emergency Response Organization attribute of the EP cornerstone to ensure that the licensee is capable of implementing adequate measures to protect the public health and safety in the event of a radiological emergency.

In accordance with IMC 0609, Appendix B, "Emergency Preparedness Significance Determination Process," the inspectors determined the finding to be of very low safety significance (Green). Specifically, the inspectors utilized IMC 0609, Appendix B, Section 4.5 and Sheet 1, "Failure to Comply," and determined that the failure to comply with an

aspect of the Emergency Plan related to event notification (10 CFR 50.47(b)(5)) was a risk-significant planning standard (RSPS) problem. It was not a RSPS functional failure of the IPEC event notification process, because the deficiency in the IPEC EPIP was in the backup method for offsite notification, and despite the procedural flaw offsite notifications were made in a timely and accurate manner on November 7, 2010.

The inspectors determined there was no cross-cutting issue associated with the finding because the performance deficiency did not reflect current licensee performance. Specifically, the performance deficiency involving a procedure change made in 2006 occurred greater than three years ago and was outside the current assessment period.

Enforcement: 10 CFR 50.54, "Conditions of Licenses," paragraph (q) requires, in part, that a licensee "shall follow and maintain in effect emergency plans which meet the standards in 10 CFR 50.47(b) and the requirements in Appendix E of this part." 10 CFR 50.47(b)(5) requires, in part, that "procedures have been established for notification, by the licensee, of State and local response organizations."

Contrary to the above, since July 2006 Entergy IPEC EIPs provided a backup notification method that delegated the licensee's responsibility for offsite notifications to an offsite authority. The IPEC Emergency Plan and 10 CFR 50.47(b)(5) require that the Entergy IPEC staff perform the notification of offsite authorities. Due to this procedure deficiency, Entergy was in violation of 10 CFR 50.54(q) for not properly maintaining the conditions of the IPEC Emergency Plan. Entergy initiated corrective actions to correct Form EP-4 by having the Offsite Communicator read the Part 1 Form to the offsite authorities if the fax/email method does not work. Because this finding is of very low safety significance, and because it was entered into IPEC's corrective action program (CR-IP2-2010-07563), this violation is being treated as a NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. **(NCV 005000286/2010005-03, Failure of Offsite Notification Procedure to Meet the Requirements of the Site Emergency Plan)**

4OA5 Other Activities

.1 Confirmatory Order, EA-09-060, November 10, 2009, Failure to Provide Complete and Accurate Information

a. Inspection Scope

On May 22, 2008, the NRC completed a security baseline inspection at the Palisades Nuclear Plant. The inspection covered one or more of the key attributes of the security cornerstone of the NRC's Reactor Oversight Process. As a result of the inspection observations, the NRC Office of Investigations (OI) initiated an investigation (OI Case No. 3-2008-020). Based on the evidence developed during the inspection and investigation, the NRC identified a violation of 10 CFR 50.9 for inaccurate and incomplete information. Specifically, the licensee failed to ensure that information in corrective action documents was complete and accurate in all material respects and failed to provide accurate information to the Commission during a telephone conversation between a licensee employee and an NRC inspector.

The results of the investigation were sent to Entergy in a letter dated July 14, 2009. This letter offered Entergy the opportunity to either participate in Alternate Dispute Resolution (ADR) mediation or to attend a Predecisional Enforcement Conference. On July 28, 2009, the NRC and Entergy agreed to participate in ADR mediation.

On September 15, 2009, the NRC and Entergy participated in an ADR session and, as a result, a Confirmatory Order was issued pursuant to the agreement reached during the ADR process. As part of the ADR settlement agreement, Entergy agreed to a number of organizational, procedural, and management oversight related corrective actions and enhancements at Palisades Nuclear Plant and other Entergy Fleet nuclear sites.

During an inspection at Indian Point Energy Center, from November 15 - 19, 2010, the inspectors evaluated the overall effectiveness of the licensee's response to Action Item 2 of the Confirmatory Order. Specifically, Entergy developed and implemented a formal process, within the current CAP, that ensured that Safeguards and Security-Related information, which would otherwise not be contained in the CAP, is processed in an auditable manner, consistent with Entergy's existing CAP.

The evaluation was conducted through: 1) interviews with non-supervisory personnel at Indian Point Energy Center; 2) interviews with program managers and supervisors responsible for implementing the CAP at the site; and 3) an evaluation of licensee documents and procedures related to compliance with Action Item 2 of the Confirmatory Order.

The inspectors conducted the following specific inspection activities to:

- Verify CRs that require documentation of Safeguards Information (SGI) were clearly identified as Safeguards CRs;
- Verify where SGI is required to describe the condition or corrective actions, the additional information is contained in a uniquely identified and referenced safeguards document;
- Verify that CRs that require documentation of SGI reference the uniquely identified safeguards document and the uniquely identified safeguards document references the CR;
- Verify the site security manager identified situations where SGI may need to be discussed for the Condition Review Group (CRG) and Corrective Action Review Board (CARB) to properly prioritize CRs or review CR evaluations, and that members of the CRG and CARB were qualified to review SGI;
- Verify that review of the adequacy of the response to a corrective action was performed by safeguards qualified personnel when SGI was required to describe information in the Corrective Action (CA); and
- Verify that closure reviews for safeguards CRs were performed by safeguards qualified personnel.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exits

On December 2, 2010, the health physics inspector presented inspection results to Mr. Donald Mayer and other members of Entergy staff. The licensee acknowledged the findings and observations presented. The inspectors asked whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On January 10, 2011, the inspectors presented the results of the Selected Issue Follow-up Inspection of quality assurance and quality control issues to Mr. F. Inzirillo, Manager, Quality Assurance, and other members of Entergy staff. The licensee acknowledged the issues presented. The inspectors asked whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On January 19, 2010, the inspectors presented the inspection results of the integrated inspection to Mr. Joseph Pollock, Site Vice President, and other members of the Entergy staff. The licensee acknowledged the conclusions and observations presented. The inspectors asked whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy, for being dispositioned as a non-cited violation.

- 10 CFR 50, Appendix B, Criterion II, "Quality Assurance Program," requires, in part, that the licensee establish a quality assurance program which complies with Appendix B. This program shall be documented by written policies, procedures, or instructions and shall be carried out throughout plant life in accordance with those policies, procedures, or instructions. Procedure, EN-QV-111, "Training and Certification of Inspection/Verification and Examination Personnel," Section 4.0 [4](i), requires that the Entergy corporate ANSI Level III inspector shall perform periodic (annual) surveillances of quality control inspection activities to ensure that the program is being adequately implemented and maintained. Contrary to the above, no surveillances of quality control inspection activities were performed for any Entergy site during calendar year 2008. The issue was not suitable for quantitative significance determination, so it was assessed using IMC 0609, Appendix M, and was evaluated using the qualitative criteria listed in Table 4.1. This finding was determined to be of very low safety significance because other quality assurance program functions remained unaffected by this performance deficiency, so defense-in-depth continued to exist. This issue was entered into the licensee's corrective action program as CR-HQN-2009-00111.

ATTACHMENT: SUPPLEMENTAL INFORMATION

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

J. Pollock	Site Vice President
J. Abisamra	Echelon Chief Engineer
H. Anderson	Licensing Specialist
V. Andreozzi	Systems Engineering Supervisor
S. Beagles	Echelon Manager of Fleet Operations
R. Burroni	Systems Engineering Manager
R. Byrd	Echelon Senior Staff Engineer
P. Conroy	Director, Nuclear Safety Assurance
G. Dahl	Licensing Specialist
J. Dent	Echelon General Manager Plant Operations, Fleet Operations Support
J. Dinelli	Site Operations Manager
T. Flynn	Maintenance Inspection Coordinator
B. Ford	Echelon Sr. Manager, Nuclear Safety and Licensing
D. Gagnon	Security Manager
E. Harris	Echelon QA Manager
F. Inzirillo	Quality Assurance Manager
D. Jacobs	Echelon Sr. Vice President of Planning, Development, and Oversight
J. McCann	White Plains Vice President of Nuclear safety, Emergency Preparedness, and Licensing
D. Morales	System Engineer
P. Morris	Echelon Manager of Administrative Services
T. Orlando	Engineering Director
T. Palmisano	Echelon Vice President of Oversight
A. Singer	Training Superintendent
I. Sinert	System Engineer
B. Sullivan	Emergency Preparedness Manager
T. Tankersly	Echelon Director of Oversight
M. Tesoriero	Programs and Components Engineering Manager
A. Vitale	General Manager, Plant Operations
B. Walpole	Licensing Manager
E. Weinkam	White Plains Senior Manager of Nuclear Safety and Licensing

LIST OF ITEMS OPENED, CLOSED AND DISCUSSEDOpen and Closed

05000286/2010-005-01	NCV	Repeated Control Room Air Conditioner Gasket Failures (Section 1R12]
05000286/2010-005-02	NCV	Failure to Implement the Experience and Qualification Requirements of the Quality Assurance Program (Section 4OA2)
05000286/2010-005-03	NCV	Failure of the Offsite Notification Procedure to Meet the Requirements of the Site Emergency Plan (Section 4OA3)

Closed

05000286/2009-009-01	LER	Loss of Single Train Neutron Flux Detector N-38 Required for Plant Shutdown Remote From the Control Room Due to a Power Supply Failure
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LIST OF DOCUMENTS REVIEWED**Section 1R01: Adverse Weather Protection**Procedures

OAP-048, Seasonal Weather Preparation, Rev. 7

Condition Reports (IP3-2010-

03564 03577 03865

Section 1R04: Equipment AlignmentProcedures

3-COL-CVCS-001, Chemical and Volume Control System, Rev. 27

3-SOP-CVCS-002, Charging, Seal Water, and Letdown Control, Rev. 49

3-COL-CC-1, Component Cooling System, Rev. 28

Condition Reports (IP3-2010-)

03914 03935 03916

Other

CCW System Health Report

Section 1R05: Fire ProtectionProcedures

SMM-DC-901, IPEC Fire Protection Program Plan, Rev. 4
 ENN-DC-147, Fire Hazards Analysis (FHA) Report, Rev. 2
 PFP-351, 480V Switchgear Room – Control Building, Rev. 5
 PFP-362, General Floor Plan – Turbine Building (15'-0"), Rev. 11
 PFP-372, 1st Floor East – Administration Building; Machine Shop, Tool Room, Maintenance
 Offices (15'-0")
 PFP-373, 1st Floor MTC. Engineering Office/Rigging Cage/Fire Brigade Room – Administration
 Building (15'-0")
 EN-DC-167, Classification of Structures, Systems, and Components, Rev. 4

Condition Reports (CR-IP3-)

2010-3237 2010-3238 2010-3575 2010-3577 2010-3578 2010-3598

Other

IP3-CALC-FP-02795, Calculation of Combustible Loadings, Rev. 0
 Operations Department Standing Order 2010-05
 Appendix A to Branch Technical Position APCSB 9.5-1, Guidelines for Fire Protection for
 Nuclear Power Plants Docketed Prior to July 1, 1976.

Section 1R06: Flood Protection MeasuresOther

PSAN IP-3 SIS, Indian Point Nuclear Power Plant Systems Interaction Study, dated
 November 10, 1983

Section 1R11: Licensed Operator RegualificationProcedures

3-FR-H.1, Response to Loss of Secondary Heat Sink, Rev. 4
 3-FR-H.1, Response to Loss of Secondary Heat Sink, Rev. 0
 3-RO-1, BOP Operator Actions During Use of EOPs, Rev. 1

Section 1R12: Maintenance EffectivenessProcedures

EN-MP-120, Material Receipt, Rev. 3
 EN-LI-102, Corrective Action Process, Rev. 16
 3-SOP-V-004, Control Room Heating, Ventilation, and Air Conditioning System, Rev. 18

Condition Reports (CR-IP3-)

2010-01890 2010-02009 2010-02843 2010-02847 2010-02928 2010-03171
 2010-03355 2010-03386 2010-03427 2010-03666 2010-03703 2011-00018

Work Orders

00241997 00251354 00255347

Other

Standard Refrigeration Company Service Manual, dated 1999
IP3-RPT-HVAC-01904, Auxiliary Feedwater Building, Electrical Tunnel, Control Building, and
Control Room HVAC Systems, Rev. 0
DRN-10-04527, CCR Air Conditioning System Preventative Maintenance, dated
September 10, 2010
DRN-10-04984, CCR Air Conditioning System Preventative Maintenance, dated
October 21, 2010
DRN-10-05135, CCR Air Conditioning System Preventative Maintenance, dated
November, 2010

Section 1R13: Maintenance Risk Assessment and Emergent Work Control

Procedures

EN-WM-104, Online Risk Assessment, Rev. 2

Section 1R15: Operability Evaluations

Procedures

EN-DC-153, Preventative Maintenance Component Classification, Rev. 5
EN-OP-104, Operability Determination Process, Rev. 4
EN-DC-205, Maintenance Rule Monitoring, Rev. 2
3-ARP-010, Panel SGF – Auxiliary Coolant System, Rev. 29
3-PT-184A, 31 CCR AC Thermal Performance Test, Rev. 5

Completed Procedures

3-PT-Q092F, 36 Service Water Pump, dated September 9, 2010
3-PT-Q092F, 36 Service Water Pump, dated October 21, 2010
3-PT-W020, Electrical Verification – Inverters and DC Distribution in Modes 1-4, dated
July 13, 2010
3-PT-W013, Station Battery Visual Inspection, dated October 13, 2010

Condition Reports (CR-IP3-)

1994-01058	2005-05307	2005-05310	2008-00873	2008-02533	2010-02069
2010-02530	2010-02731	2010-03092	2010-03188	2010-03295	2010-03887
2010-03894	2010-03098				

Calculations

IP3-CALC-CRHHV-02431, Control Room HVAC, Air Conditioning Unit Condenser Evaluation
System E32-0089, HVAC, C.R., Rev. 0
IP3-CALC-CRHHV-02425, Replace Central Control Room A/C Units 31/32 Condensers Sys E32-
0084, Rev. 2
4Y47-M-01, Central Control Room Temperature with One Unit in Operation, Rev. 1
4Y47-M-03, CCR Transient Temp Analysis, Rev. 4

Other

PM Basis Template, EN- Indicators, Mechanical, Electro-Mechanical and Electronic, Rev. 2
IP3-DBD-315, Indian Point Unit 3 Central Control Room Heating, Ventilation and Air
Conditioning System, Rev. 2
DC-96-3-129, Control Room AC Unit Condenser Replacement (32 Unit)

95-3-032, Evaluation of Indian Point 3 Central Control Room Regulatory Guide 1.97
Instrumentation and Cabinet Temperature Rise, dated August 30, 1995
UE&C Letter IUP-10066, "Service Water Flow to CCRAC Condensers," dated June 24, 1994

Section 1R18: Plant Modifications

Drawings

IP3V-0186-0025, Boric Acid Transfer Pump 31 & 32, Rev. 1

Section 1R19: Post-Maintenance Testing

Procedures

3-PT-R201, 35 Station Battery Charger Functional Test, Rev. 0
0-STR-401-SWS, Service Water Pump Strainers Inspection/Overhaul, Rev. 3
0-VLV-404-AOV, Use of Air Operated Valve Diagnostics, Rev. 8
3-PT-79C, 33 EDG Functional Test, Rev. 22

Condition Reports (CR-IP3-)

2006-01068 2008-02533 2010-03092 2010-03859 2010-03086

Work Orders

00253510 52286085 52265605 143693 131614

Other

156-100000190, Vendor Manual – SCR/SCRF Series Battery Charger Three Phase Input,
Rev. 1

NEMA MG-1, Application Data – AC and DC Small and Medium Machines

Section 1R22: Surveillance Testing

Procedures

3-SOP-EL-001, Diesel Generator Operation, Rev. 42
IP3-DBD-314, Design Basis Document for the Reactor Coolant System, Rev. 2

Completed Procedures

3-PT-Q031, Liquid Waste Disposal System Containment Isolation Valves, dated
October 17, 2010
3-PT-Q120B, 32 ABFP (Turbine Driven) Surveillance and IST, dated October 29, 2010
3-PT-M079B, 32 EDG Functional Test, Rev. 41
3-PT-Q080, Pressurizer Block Valve Timing Test RC-MOV-535 and 536, Rev. 6
3-PT-Q120B, 32 ABFP (Turbine Driven) Surveillance and IST, Rev. 16

Condition Reports (CR-IP3-)

2007-03686 2010-01269 2010-03354 2010-03384 2010-03134

Drawings

9321-F-30073, Three Line Diagram Low Voltage, Rev. 24
IP3V-13-0002 Sheet 1 of 2, Breaker Control Schematic (Engine Control), Rev. 14
IP3V-15-0013, Schematic Exciter Voltage Regulator, Rev. 4

Work Orders

00231653 00255504

Sections 2RS1/2RS2: Radiological Hazard Assessment and Exposure Controls/Occupational ALARA Planning and Controls

Procedures

EN-RP-101, Access Control for Radiological Controlled Areas, Rev. 5
EN-RP-105, Radiological Work Permits, Rev. 9
EN-RP-110, ALARA Program, Rev. 7
EN-RP-110-01, ALARA Initiative Deferrals

Condition Reports (CR-)

IP2-2010-1933	IP2-2010-1640	IP2-2010-1940
IP2-2010-1905	IP2-2010-2997	IP2-2010-1932
IP2-2010-2055	IP2-2010-1165	IP2-2010-1336
IP2-2010-2822	IP2-2010-6119	IP2-2010-4746
IP2-2010-3300	IP2-2010-2817	IP2-2010-3864
IP3-2010-1995		

Other

QA-14/15-2009-IP-1, Quality Assurance Audit of IPEC Radiation Protection and Radwaste

Section 40A1: Performance Indicator Verification

Procedures

0-SOP-LEAKRATE-001, RCS Leakrate Surveillance, Evaluation, and Leak Identification, Rev. 1
EN-LI-114, Performance Indicator Process, Rev. 4

Completed Procedures

EN-LI-114, Performance Indicator Process – Barrier Integrity Performance Indicator Reactor Coolant Leakage, dated January 5, 2010
EN-LI-114, Performance Indicator Process – Barrier Integrity Performance Indicator Reactor Coolant Leakage, dated April 7, 2010
EN-LI-114, Performance Indicator Process – Barrier Integrity Performance Indicator Reactor Coolant Leakage, dated July 7, 2010
EN-LI-114, Performance Indicator Process – Barrier Integrity Performance Indicator Reactor Coolant Leakage, dated October 7, 2010
0-SOP-LEAKRATE-001, RCS Leakrate Surveillance, Evaluation, and Leak Identification, dated November 14, 2010

Other

IP3 RCS Leakrate Calculation, dated November 14, 2010
IP3 RCS Leakrate Calculation, dated November 15, 2010
IP3 RCS Leakrate Calculation, dated November 16, 2010

Section 40A2: Identification and Resolution of Problems

Procedures

OAP-045, Operator Burden Program, Rev. 1

EN-OP-115, Conduct of Operations, Rev. 10

Other

Operator Aggregate Impact Index IP3, November 2010

Procedures

- EN-LI-102, Corrective Action Process, Rev. 15
- EN-LI-121, Entergy Trending Process, Rev. 8
- EN-MA-102, Inspection Program, Revs. 3 and 4
- EN-QV-100, Conduct of Nuclear Oversight, Rev. 4
- EN-QV-109, Audit Process, Rev. 16
- EN-QV-109-02, Audit Process Guidance, Rev. 0
- EN-QV-111, Training and Certification of Inspection/Verification and Examination Personnel, Rev. 8
- EN-QV-117, Oversight Training Program, Rev. 9
- EN-QV-119, Corrective Action Requests, Supplier Stop Work Orders, and Recommendations, Rev. 6
- EN-QV-123, Supplier Audits/Surveys, Rev. 3
- EN-QV-128, Assessment of Nuclear Oversight, Rev. 2
- EN-QV-129, Vulnerability Review Process, Rev. 1

Technical Specifications

- Waterford Unit 3, 6.3 Unit Staff Qualifications
- Arkansas Nuclear One -1, 5.3 Unit Staff Qualifications
- Arkansas Nuclear One -2, 6.3 Unit Staff Qualifications
- Grand Gulf, 5.3 Unit Staff Qualifications
- Indian Point 2, 5.3 Unit Staff Qualifications
- Indian Point 3, 5.3 Unit Staff Qualifications
- River Bend, 5.3 Plant Staff Qualifications
- Vermont Yankee, 5.3 Plant Staff Qualifications
- James A. Fitzpatrick, 5.3 Unit Staff Qualifications
- Palisades Nuclear Plant, 5.3 Unit Staff Qualifications
- Pilgrim Nuclear Power Station, 6.2 Unit Staff Qualifications

Condition Reports (CR-)

ANO-1-2009-02330	ANO-2010-01503	ANO-1-2010-00743
ANO-C-2009-01884	ANO-1-2010-01724	ANO-1-2010-01080
ANO-C-2009-02608	ANO-1-2010-01182	ANO-1-2010-00719
ANO-2-2010-00028	JAF-2008-03648	JAF-2009-04592
JAF-2010-03280	HQN-2010-00111	HQN-2009-01188
HQN-2010-00415	HQN-2009-00178	HQN-2009-01197
HQN-2010-00333	HQN-2009-01083	HQN-2010-00013
HQN-2010-00123	HQN-2009-01084	HQN-2010-00386
HQN-2010-00109	HQN-2009-01085	HQN-2010-00571
HQN-2010-00068	HQN-2009-01091	HQN-2010-00593
HQN-2010-00063	HQN-2009-01093	HQN-2010-00515
HQN-2010-00045	HQN-2009-01096	HQN-2010-00550
HQN-2010-00060	HQN-2009-01140	HQN-2010-00511
HQN-2009-01198	HQN-2009-01150	HQN-2010-00510
HQN-2009-01194	HQN-2009-01169	HQN-2010-00475

HQN-2010-00594	HQN-2009-01170	HQN-2010-00499
HQN-2009-01171	HQN-2009-01184	HQN-2010-00338
HQN-2009-01153	IP2-2010-04085	IP3-2009-04917
IP2-2009-05393	IP3-2010-01740	IP3-2009-04920
IP2-2009-05399	IP2-2010-03985	IP3-2009-04897
IP2-2009-05400	IP2-2010-03986	IP2-2009-05404
IP2-2009-05389	IP2-2010-03988	IP2-2009-05409
IP2-2009-05349	IP2-2010-03984	IP3-2009-04868
IP2-2009-05348	IP3-2009-04903	IP3-2009-04883
IP2-2009-05321	IP3-2009-04905	IP3-2009-04884
PLP-2009-04108	PLP-2010-02288	PLP-2009-05909
PLP-2009-05613	PLP-2010-02290	PLP-2010-02012
PLP-2009-05918	PLP-2009-05942	PLP-2009-05897
PLP-2009-05908	PNP-2009-01798	PNP-2008-03922
PNP-2009-05303	PNP-2009-02059	PNP-2009-05359
PNP-2009-05297	PNP-2009-02255	PNP-2010-00015
PNP-2010-02124	PNP-2008-00916	RBS-2008-04685
RBS-2010-01472	RBS-2010-00006	RBS-2009-05041
RBS-2010-02033	RBS-2009-06472	RBS-2009-06123
RBS-2010-00200	RBS-2009-06495	RBS-2009-06446
RBS-2010-00221	RBS-2009-06456	RBS-2009-06451
RBS-2010-00278	RBS-2009-06450	RBS-2009-06471
RBS-2010-00088	RBS-2009-06452	RBS-2009-06473
RBS-2010-00011	RBS-2009-06158	RBS-2009-06490
RBS-2009-06520	RBS-2009-06209	RBS-2010-00044
RBS-2009-06539	RBS-2009-06449	WF3-2010-01198
WF3-2010-00284	WF3-2009-07711	WF3-2010-01356
WF3-2009-07713	WF3-2010-02629	WF3-2010-00746
VTY-2009-04496	VTY-2010-04432	VTY-2010-04496
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LIST OF ACRONYMS

ABFP	Auxiliary Boiler Feed Pump
A/C	Air Conditioning
ADAMS	Agencywide Document Management System
ADR	Alternate Dispute Resolution
ALARA	As Low As Reasonably Achievable
BATP	Boric Acid Transfer Pump
CAP	Corrective Action Program
CARB	Corrective Action Review Board
CCR	Central Control Room
CCW	Component Cooling Water
CFR	Code of Federal Regulations
CHP	Charging Pump
CR	Condition Report
CRG	Condition Review Group
DRA	Deputy Regional Administrator
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
EDG	Emergency Diesel Generator
ENTERGY	Entergy Nuclear Northeast
EP	Emergency Preparedness
EPIP	Emergency Plan Implementing Procedure
ERO	Emergency Response Organization
GL	Generic Letter
HRA	High Radiation Area
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IPEC	Indian Point Energy Center
IR	Inspection Report
ISFSI	Independent Spent Fuel Storage Installation
IST	In-Service Testing
LER	Licensee Event Report
MIDAS	Meteorological Information and Dose Assessment System
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
NYPA	New York Power Authority
OEDO	Office of the Executive Director for Operations
OI	Office of Investigations
PCV	Pressure Control Valve
PFP	Pre-Fire Plan
PI	Performance Indicator
PI&R	Problem Identification and Resolution
PM	Preventive Maintenance
PMT	Post-Maintenance Testing
POM	Plant Operations Manager
QA	Quality Assurance
QAPM	Quality Assurance Program Manual

QC	Quality Control
RA	Regional Administrator
RI	Resident Inspector
RSPS	Risk-Significant Planning Standard
RWP	Radiation Work Permit
R1	Region 1
SDP	Significance Determination Process
SGI	Safeguards Information
SRI	Senior Resident Inspector
SSC	Structure, System, and Component
SWP	Service Water Pump
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report
VHRA	Very High Radiation Area
WO	Work Order