ENT000695
Submitted: August 10, 2015

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

September 19, 2013

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

SUBJECT: INDIAN POINT NUCLEAR GENERATING UNIT 2 – NRC LICENSE RENEWAL TEAM INSPECTION REPORT 05000247/2013010

Dear Mr. Ventosa:

On September 12, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Indian Point Nuclear Generating Unit 2. The enclosed inspection report documents the results of our review of your completed actions for the remaining 10 commitments, which were discussed on September 12, 2013, with you and members of your staff.

The inspectors examined activities conducted by your staff to complete commitments Entergy made as part of your application for a renewed facility operating license. The inspectors also reviewed selected procedures and records, observed activities, and interviewed personnel. This inspection was conducted to follow-up on several commitments that were determined to merit additional inspection during a previous NRC License Renewal Team Inspection.

No findings were identified during this inspection. The NRC determined that the commitments reviewed associated with the license renewal application had been appropriately implemented.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Document Access and Management System (ADAMS). ADAMS is accessible from the NRC website at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

James M. Trapp, Chief
Engineering Branch 1
Division of Reactor Safety

Docket No. 50-247
License No. DPR-26

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

SUBJECT: INDIAN POINT NUCLEAR GENERATING UNIT 2 – NRC LICENSE RENEWAL TEAM INSPECTION REPORT 05000247/2013010

Dear Mr. Ventosa:

On September 12, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Indian Point Nuclear Generating Unit 2. The enclosed inspection report documents the results of our review of your completed actions for the remaining 10 commitments, which were discussed on September 12, 2013, with you and members of your staff.

The inspectors examined activities conducted by your staff to complete commitments Entergy made as part of your application for a renewed facility operating license. The inspectors also reviewed selected procedures and records, observed activities, and interviewed personnel. This inspection was conducted to follow-up on several commitments that were determined to merit additional inspection during a previous NRC License Renewal Team Inspection.

No findings were identified during this inspection. The NRC determined that the commitments reviewed associated with the license renewal application had been appropriately implemented.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Document Access and Management System (ADAMS). ADAMS is accessible from the NRC website at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

James M. Trapp, Chief
Engineering Branch 1
Division of Reactor Safety

Docket No. 50-247
License No. DPR-26

Distribution: See Next Page
DOCUMENT NAME: G:\DRS\Engineering Branch 1\-- Meyer\Indian Pt Sept\20130912 05000247 010 IPEC Commitment Inpsection Final Report.docx
ADAMS ACCESSION NUMBER: ML13263A020

☑ SUNSI Review		☑ Non-Sensitive ☐ Sensitive		☑ Publicly Available ☐ Non-Publicly Available	
OFFICE	RI/DRS	RI/DRP	RI/DRS		
NAME	GMeyer/MM	ABurrit	JTrapp		
DATE	9/18/13	9/19/13	9/19/13		

OFFICIAL RECORD COPY

Enclosure:
Inspection Report 05000247/2013010
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

Distribution w/encl: (via E-mail)
W. Dean, RA **(R1ORAMAIL RESOURCE)**
D. Lew, DRA **(R1ORAMAIL RESOURCE)**
D. Roberts, DRP **(R1DRPMAIL RESOURCE)**
M. Scott, DRP **(R1DRPMAIL RESOURCE)**
R. Lorson, DRS (**R1DRSMAIL RESOURCE)**
J. Rogge, DRS **(R1DRSMAIL RESOURCE)**
A. Burritt, DRP
T. Setzer, DRP
S. McCarver, DRP
L. McKown, DRP
S. Stewart, DRP, SRI
K. Dunham, DRP, RI
Ami Patel, DRP, RI
D. Hochmuth, DRP, AA
D. Rich, RI OEDO
RidsNrrPMIndianPoint Resource
RidsNrrDorlLpl1-1 Resource
ROPReports Resources

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.:	50-247
License No.:	DPR-26
Report No.:	05000247/2013010
Applicant:	Entergy Nuclear Northeast (Entergy)
Facility:	Indian Point Energy Center Unit 2
Location:	450 Broadway Buchanan, NY 10511-0249
Dates:	September 9-12, 2013
Inspectors:	G. Meyer, Senior Reactor Inspector M. Modes, Senior Reactor Inspector
Approved By:	James M. Trapp, Chief Engineering Branch 1 Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000247/2013010; 09/09/2013 – 09/12/2013; Indian Point Nuclear Generating Unit 2; License Renewal Inspection.

This report covers an announced one week inspection, using the guidance provided in NRC inspection procedure Temporary Instruction 2516/001, "Review of License Renewal Activities," of activities conducted by Entergy to complete commitments made to the NRC as a part of the Indian Point Energy Center, Unit 2, application for a renewed operating license. The commitments reviewed during this inspection are recorded in Supplement 1 to NUREG-1930, "Safety Evaluation Report Related to the License Renewal of Indian Point Generating Units Numbers 2 and 3," Attachment 1, dated August 2011, and in other related correspondence.

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

No findings were identified. The inspectors concluded Entergy had made sufficient progress to complete our review of 44 commitments.

REPORT DETAILS

4. OTHER ACTIVITIES

4OA5 Review of License Renewal Activities (TI 2516/001)

.1 Background

The expiration date of the operating license for Indian Point Unit 2 is midnight on September 28, 2013. Indian Point Unit 2 meets the criteria in Title 10 of the *Code of Federal Regulations* (10 CFR) 2.109(b), "Effect of timely renewal application," and will likely operate beyond the current operating license expiration date. Due to the Commission's decision to revise the Waste Confidence Decision and Rule and because of the ongoing Atomic Safety and Licensing Board hearings, the Commission is not expected to issue a renewed license for Indian Point Unit 2 before the expiration date of the original license. Therefore, Indian Point would continue operations under the timely renewal provisions of 10 CFR 2.109(b).

The team used NRC Inspection Manual Temporary Instruction 2516/001 to conduct this inspection. The Temporary Instruction was written specifically for plants like Indian Point Unit 2, where the holders of an operating license meet the criteria of 10 CFR 2.109, for timely renewal, but a final decision by the NRC on the license renewal application is not expected prior to the period of extended operation. The inspection objectives and requirements of the Temporary Instruction are to report the status of license renewal commitment implementation, the status of aging management program implementation, and to verify the description of programs and activities for managing the effects of aging are consistent with the Updated Final Safety Analysis Report.

The NRC has conducted three separate license renewal inspections that have reviewed a total of 44 license renewal commitments. Our first license renewal inspection conducted during a refueling outage, reviewed four commitments as documented in NRC Inspection Report 05000247/2012008 (ML12110A315). On May 23, 2013, the NRC completed a License Renewal Commitment Team Inspection, as documented in NRC Inspection Report 05000247/2013009 (ML13186A179). The team inspection concluded that Entergy had made sufficient progress to complete review of 30 commitments and identified 11 commitments that merited further assessment during a planned follow-up inspection. During the current planned follow-up inspection, the inspectors completed our review of ten of the 11 commitments identified by the team as requiring additional review. Commitment 47, one of the 11 commitments previously identified for additional review, was not assessed during this inspection because Entergy revised the completion date for this commitment to March 1, 2015, in a letter to the NRC (ML13142A202).

.2 Commitment Reviews

.2.1 Commitment 6: Enhance the Fatigue Monitoring Program to monitor steady state cycles and feedwater cycles or perform an evaluation to determine monitoring is not required. Review the number of allowed events and resolve discrepancies between reference documents and monitoring procedures.

a. Inspection Scope

In the prior inspection, the inspectors noted that Entergy had awarded contracts to perform calculations to determine whether monitoring of steady state cycles and feedwater cycles was required. The inspectors also noted that Entergy planned to revise procedure 2-PT-2Y015, Thermal Cycle Monitoring Program, if the calculations demonstrated that a change in the number of allowable steady state cycles and feedwater cycles was identified.

During this inspection, the inspectors reviewed Westinghouse calculation lPP-13-20, Revision 1, dated August 14, 2013, reporting the "Steady State Fluctuations and Feedwater Cycling Transient Disposition," presenting LTR-PAFM-13-87, Revision 2. This result determined that both transients do not significantly affect the fatigue of the primary system and can be removed from the transient cycle counting program. It was determined the feedwater cycle transient must still be tracked for the secondary side of the steam generator and feedwater piping, with a 25,000 cycle limit. The inspectors verified that procedure 2-PT-2Y015, "Thermal Cycle Monitoring Program," Revision 4, tracked the feedwater cycle transients.

Findings and Observations

No findings were identified.

.2.2 Commitment 13: Enhance the Metal-Enclosed Bus (MEB) Inspection Program to add a 480 volt bus, visually inspect the external surface of MEB enclosure assemblies, include acceptance criteria, inspect bolted connections, and remove reference to "re-torquing" connections from the applicable site procedure.

a. Inspection Scope

In the prior inspection, the inspectors identified that Entergy had not included all accessible portions of the MEB within the scope of the maintenance inspection program. The inspectors noted that sections of the emergency diesel generator 480 volt MEB in the electrical tunnel had not been visually inspected and were not included in the scope of the maintenance procedure which performed the MEB inspections and tests. As a result of the NRC's observations, Entergy initiated a Condition Report (CR-IP2-2013-01786) to revise site procedures and conduct visual inspections of those additional sections of the bus ducts prior to the period of extended operations.

During this inspection the inspectors reviewed the revised inspection and test procedures for the portions of the MEB previously considered to be inaccessible. The

inspectors reviewed the work orders under which the inspections and tests were completed for the three MEB sections and corrective action documents which resolved any identified conditions.

Findings and Observations

No findings were identified.

.2.3 Commitment 19: Implement the One-Time Inspection Program as described in License Renewal Application, Section B.1.27. This new program will be implemented consistent with the corresponding program described in NUREG-1801, Section XIM32, One-Time Inspection.

a. Inspection Scope

In the prior inspection, the inspectors noted the One-Time Inspection Program involved over 400 inspections. Because Entergy had only completed approximately half of the planned inspections, the inspectors determined that additional NRC review was merited to assess the remaining inspection results; any further actions needed, and program conclusions.

During this inspection the inspectors reviewed the One-Time Inspection Summary Report, the completed inspection tracking matrix, and 20 additional inspection reports. The inspectors determined that all inspection results were acceptable and there was no need for additional action. Further, Entergy concluded that the inspection results demonstrated that the existing aging management programs for water chemistry and the diesel fuel monitoring and oil analysis had been effective in managing aging. The test program results also indicated that additional inspections on components specified in the License Renewal Application had not identified any unacceptable degradation.

Findings and Observations

No findings were identified.

.2.4 Commitment 23: Implement the Selective Leaching Program as described in License Renewal Application, Section B.1.33. This new program will be implemented consistent with the corresponding program described in NUREG-1801, Section XIM33 Selective Leaching of Materials.

a. Inspection Scope

In the prior inspection, the inspectors noted Entergy was in the progress of completing selective leaching inspections. The inspectors determined that additional NRC inspection was merited to review the results of the remaining inspections, any further actions needed, and program conclusions.

During this inspection, the inspectors reviewed Selective Leaching Summary Report, including the final sampling plan, the destructive evaluation results of seven

components, and associated corrective action documents. Entergy determined that the visual inspections of 22 gray cast iron components and 17 copper alloy components showed an absence of selective leaching. However, destructive evaluations demonstrated that significant selective leaching (i.e., graphitization, had occurred in gray cast iron components) was occurring. While the commitment actions were complete, Entergy concluded that they would refine the process and documented a corrective action to perform engineering evaluations to develop a continuing monitoring program to manage and evaluate selective leaching.

Findings and Observations

No findings were identified

.2.5 Commitment 26: Implement the Thermal Aging Embrittlement of Cast Austenitic Stainless Steel (CASS) Program as described in License Renewal Application, Section B.1.37. This new program will be implemented consistent with the corresponding program described in NUREG 1801, Section XI.M12, Thermal Aging Embrittlement of Cast Austenitic Stainless Steel Program.

a. Inspection Scope

In the prior inspection, the inspectors noted that Entergy was planning to screen all cast austenitic stainless steel components to determine which were potentially susceptible to a loss of fracture toughness. These components were to be further evaluated, using a refined analytical technique, to determine the components susceptibility to reduction in fracture toughness. Entergy chose to perform a unique fracture mechanics analysis of these components, which was in progress at the time of the prior inspection. The inspector noted that there may be a question regarding the submittal of the analysis under ASME requirements, as stipulated in 10 CFR 50.55a.

Subsequently the inspector, in consultation with the Division of License Renewal, determined submittal of the analysis was not required. During this inspection the inspectors reviewed the completed evaluation of the screened components' susceptibility to reduction in fracture toughness: Report 1300066.403, Revision 0, "Aging Management of CASS Piping at Indian Point 2, Flaw Tolerance Evaluation of CASS Piping at Indian Point," dated August 2013. The methodology of probabilistic fracture mechanics determined a postulated starting reference flaw of one-quarter thickness would remain below the maximum allowable flaw size during a 60 year life for all components.

Findings and Observations

No findings were identified.

.2.6 Commitment 27: Implement the Thermal Aging and Neutron Irradiation Embrittlement of Cast Austenitic Stainless Steel (CASS) Program as described in License Renewal Application, Section B.1.38. This new program will be implemented consistent with the

corresponding program described in NUREG-1801, Section XI.M13, Thermal Aging and Neutron Embrittlement of Cast Austenitic Stainless Steel program.

a. Inspection Scope

In the prior inspection, the inspectors noted a site document had not been developed that defined and implemented the screening criteria of Electric Power Research Institute (EPRI) Technical Report 1013234, "Materials Reliability Program: Screening Categorization, and Ranking of Reactor Internals Components for Westinghouse and Combustion Engineering PWR Design," (MRP-191), listed in Table 3-5, as applied to the Indian Point components listed in Table 5-1 of EPRI Report 1022863, "Materials Reliability Program: Pressurized Water Reactor Internals Inspection and Evaluation Guidelines," (MRP-227-A).

During this inspection the inspectors reviewed Entergy Nuclear Engineering Report: "Indian Point Energy Center: Thermal Aging and Neutron Irradiation Embrittlement of Cast Austenitic Stainless Steel Aging Management Program," IP-RPT-13-00049, Revision 0, dated August 14, 2013. This report implemented the above screening criteria and ranking methodology for Indian Point.

Findings and Observations

No findings were identified.

.2.7 Commitment 33: For the locations identified in License Renewal Application, Table 4.3-13 (IP2), update the fatigue usage calculations using refined fatigue analyses to determine if Cumulative Usage Factors (CUF) remain less than 1.0 when accounting for the effects of reactor water environment, using valid Fen factors.

a. Inspection Scope

In the prior inspection, the inspectors noted that calculations documented in calculation WCAP 17149-P, "Evaluation of Pressurizer Insurge/Outsurge Transients for Indian Point Unit 2," and WCAP 17199-P, "Environmental Fatigue Evaluation for Indian Point Unit 2," concluded that cumulative fatigue usage factors, including reactor water environment effects, were below the American Society of Mechanical Engineers (ASME) Code allowable value of 1.0 for transients postulated for 60 years of operation. The inspectors noted Entergy's action plan included revising the Thermal Cycle Monitoring Program procedure to reflect changes in the number of projected cycles used in WCAP 17199-P.

During this inspection the inspectors reviewed Indian Point Programs and Components Engineering Procedure 2-PT-2Y015, Revision 4, "Thermal Cycle Monitoring Program." The inspectors noted the procedure was updated to reflect the number of allowable cycles derived from the above analysis. The procedure referenced WCAP 17199-P and included a Table (Attachment 1) that included actual plant cycles rather than the number of cycles used in the original design calculations. The procedure also was revised to better reflect operational assumptions used and the bases for the revised calculations of the WCAP.

Findings and Observations

No findings were identified.

.2.8 Commitment 40: Evaluate plant specific and appropriate industry operating experience and incorporate lessons learned in establishing appropriate monitoring and inspection frequencies to assess aging effects for the new aging management programs. Documentation of the operating experience evaluated for each new program will be available on site for NRC review prior to the period of extended operation.

a. Inspection Scope

During the prior inspection, there was insufficient material to review this commitment. Subsequently, Entergy completed an operational review for the following new aging management programs embodied in separate commitments:

#3, Buried Piping and Tanks Inspection Program
#14, Non-EQ Bolted Cable Connections Program
#15, Non-EQ Inaccessible Medium-Voltage
#16, Non-EQ Instrumentation circuits Test Review Program
#17, Non-EQ Insulated Cables and Connections Program
#19, One-Time Inspection Program
#20, One-Time Small Bore Piping Program
#23, Selective Leaching Program
#26, Thermal Aging Embrittlement of Cast Austenitic Stainless Steel (CASS) Program
27, Thermal Aging and Neutron Irradiation Embrittlement of Cast Austenitic Stainless Steel (CASS) Program.

During this inspection the inspectors reviewed a selected sample of the reviews and noted each of the programs was subject to an operational review which included Indian Point specific experience. For example, the Buried Piping Program for Unit 2 was assessed for a period of six years, 2007 through 2013. This period of time enveloped the operational experience included in the guidance documents, such as Generic Aging Lessons Learn (NUREG-1801), Revision 2. External operational experience considered included license event reports, NRC generic letters, NRC information notices, and Institute of Nuclear Power Operations (INPO) documents.

Findings and Observations

No findings were identified.

.2.9 Commitment 43: Indian Point Energy Center will review design basis ASME Code Class 1 fatigue evaluations to determine whether the NUREG/CR-6260 locations that have been evaluated for the effects of the reactor coolant environment on fatigue usage are the limiting locations for the Unit 2 and Unit 3 configurations. If more limiting locations are identified, the most limiting location will be evaluated for the effects of the

reactor coolant environment on fatigue usage. Indian Point Energy Center will use the NUREG/CR-6909 methodology in the evaluation of the limiting locations consisting of nickel alloy, if any.

a. Inspection Scope

In the prior inspection, the inspectors noted that Entergy had awarded contracts to perform calculations to support closure of this commitment. Because the results of the calculations were not available at the time, the inspectors deferred inspection of this commitment.

During this inspection the inspectors reviewed calculation CN-PAFM-13-32, Revision 0, "Indian Point Unit 2 (IP2) and Unit 3 (IP3) Refined EAF Analyses and EAF Screening Evaluations." This calculation was the evaluation of locations previously screened by calculation CN-PAFM-12-35, Revision 1, "Indian Point Unit 2 and Unit 3 EAF Screening Evaluations," that could be more limiting than the locations identified in NUREG/CR-6260, "Application of NUREG/CR-5999 Interim Fatigue Curves to Selected Nuclear Power Plants Components." The inspectors noted the CUF_{en} result for the pressurizer nozzle was 0.999 at 60 years. Entergy was aware that accumulation of cycles at a rate greater than assumed in the calculation would require a more refined analysis, application of a non-destructive monitoring technique, or replacement of the pressurizer nozzle.

Findings and Observations

No findings were identified.

.2.10 Commitment 48: Entergy will visually inspect in-scope underground piping prior to the period of extended operation and then on a frequency of at least once every 2 years during the period of extended operation. Visual inspections will be supplemented with surface or volumetric non-destructive testing if indications of significant loss of material are observed. Adverse indications will be entered into the plant corrective action program for evaluation of extent of condition and for determination of appropriate corrective actions (e.g., increased inspection frequency, repair, or replacement).

a. Inspection Scope

In the prior inspection the inspectors noted that work orders had been issued to perform the inspections prior to the period of extended operation. The inspectors determined that additional inspection was merited regarding review of the results of the underground piping inspections.

The inspectors reviewed the results of selected inspections performed subsequent to the May 23, 2013, NRC inspection. EN-EP-S-002-MULTI, Attachment 7.2 "Pipe/Tank Coating Visual Inspection Checklist" was reviewed for the following lines:

21-EDGE-2/EDG FOST 3-inch equalizing line
21-EDGE-2/EDG FOST 4-inch fill line
21-EDGE-2/EDG FOST 4-inch vent line
22-EDGE-2/EDG FOST 3-inch equalizing line
22-EDGE-2/EDG FOST 4-inch fill line
22-EDGE-2/EDG FOST 4-inch vent line
23-EDGE-2/EDG FOST 3-inch equalizing line
23-EDGE-2/EDG FOST 4-inch fill line
23-EDGE-2/EDG FOST 4-inch vent line

The check list included the inspection of the piping for aging affects such as mechanical damage, coating breaks (referred to as a holiday), and blistering.

Findings and Observations

No findings were identified.

4OA6 Meetings, Including Exit

On September 12, 2013, the inspectors presented the inspection results to Mr. John Ventosa, Site Vice President, and other members of the Entergy staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Entergy Personnel

J. Ventosa, Site Vice President
N. Azevedo, Code Programs Supervisor
C. Caputo, License Renewal Team
J. Curry, Senior Project Manager
G. Dahl, Licensing Engineer
P. Guglielmino, Implementation Team Manager
L. Lubrano, Component Electrical Engineer
R. Sporbert, One-Time Inspection Coordinator

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED

Closed

The inspectors determined that the following 10 commitments had been appropriately implemented:

6	Fatigue cycles analysis
13	Metal enclosed bus inspection
19	One-time inspection
23	Selective leaching inspection
26	Embrittlement of CASS analysis
27	Embrittlement of CASS analysis
33	Fatigue monitoring
40	Operating experience for new programs
43	Fatigue monitoring analysis
48	Underground piping inspection

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access Management System
ASME	American Society of Mechanical Engineers
CASS	Cast Austenitic Stainless Steel
CFR	Code of Federal Regulations
CUF	Cumulative Usage Factor
ENTERGY	Entergy Nuclear Northeast
EPRI	Electric Power Research Institute
INPO	Institute of Nuclear Power Operations
IPEC	Indian Point Energy Center
LRA	License Renewal Application
MEB	Metal-Enclosed Bus

MRP	Materials Reliability Project
NRC	Nuclear Regulatory Commission
UFSAR	Updated Final Safety Evaluation Report

LIST OF DOCUMENTS REVIEWED

Commitment 6, 33, and 43

2-PT-2Y015, Revision 3, Thermal Cycle Monitoring Program
IP-RPT-11-LRD13, Revision 0, Review of the Fatigue Monitoring Aging Management Program for License Renewal Implementation
EN-LI-100, Revision 13, Process Applicability Determination
EN-AD-101, Revision 16, Procedure Process
WCAP-17199-P, July 2010, Environmental Fatigue Evaluation for Indian Point Unit 2
WCAP-17149-P, July 2010, Evaluation of Pressurizer Insurge/Outsurge Transients for Indian Point Unit 2
Entergy Letter dated August 9, 2010 (NL-10-82), License Renewal Application – Completion of Commitment #33 Regarding the Fatigue Monitoring Program Indian Point Nuclear Generating Unit Nos. 2 and 3 [ML102300504]

Commitment 13

2-ELC-016-BUS, Inspection, Cleaning and Testing of 480V Buses, Revision 2
CR-IP2-2009-03029, Water dripping at the bend in the electric tunnel
CR-IP2-2012-01903, Bus 5A surface rust noted on the interior divider panel
Work Order 52293872, Inspection of Bus 5A Switchgear and Station Service Transformer
Work Order 52294517, Inspection of Bus 5A (480 V Switchgear to EDG)
2-ELC-016-BUS, Revision 4, Inspection, Cleaning and Testing of 480V Buses
2-ELC-403-BUS, Revision 7, Inspection and Cleaning of 480 Volt Bus Duct
Work Order 351381, 21 EDG Bus Visual, Cleaning, Bolted Checks in Electrical Tunnel, completed on July 18, 2013
Work Order 351382, 22 EDG Bus Visual, Cleaning, Bolted Checks in Electrical Tunnel, completed on June 12, 2013
Work Order 351448, 23 EDG Bus Visual, Cleaning, Bolted Checks in Electrical Tunnel, completed on August 12, 2013
CR-IP2-2013-01738, MEB acceptance criteria
CR-IP2-2013-01748, Leaks in Unit 2 electrical tunnel
CR-IP2-2013-02375, 22 EDG bus inspection
CR-IP2-2013-02923, 21 EDG bus inspection
CR-IP2-2013-03330, 23 EDG bus inspection
CR-IP2-2013-02912, Thermography procedures
CR-IP2-2013-02913, Water intrusion into Unit 2 electrical tunnel

Commitment 19

IP-RPT-11-LRD28, Revision 0, Review of the One-Time Inspection Program
EN-FAP-LR-024, Revision 1, One-Time Inspection
NL-13-046, Amendment 13 to LRA for One-Time Inspection and Selective Leaching Programs, March 18, 2013
IPEC Unit 2 One-Time Inspection Tracking Matrix, May 3, 2013 and May 21, 2013
20 Inspection reports for one-time inspections
IP-RPT-13-LRD03, Revision 0, Unit 2 License Renewal One-Time Inspection Summary Report
IPEC Unit 2 One-Time Inspection Tracking Matrix, August 28, 2013
20 Additional inspection reports for one-time inspections

Commitment 23

IP-RPT-11-LRD34, Revision 0, Review of the Selective Leaching Program
EN-FAP-LR-02, Revision 3, Selective Leaching Inspection
NL-13-046, Amendment 13 to LRA for One-Time Inspection and Selective Leaching Programs, March 18, 2013
IPEC Unit 2 Selective Leaching Inspection Tracking Matrix, May 20, 2013
10 Inspection reports for copper-alloy selective leaching inspections
12 Inspection reports for gray cast iron selective leaching inspections
WO 00326036-01
WO 00326216-01
IP-RPT-13-LRD07, Revision 0, License Renewal Selective Leaching Inspection Summary Report
Altran 13-0313-TR-001, Laboratory Analysis of Several Valves for Selective Leaching, Revision 0
Altran 13-0313-TR-001, Laboratory Analysis of Several Valves for Selective Leaching, Revision 1
CR-IP2-2013-03037, Selective leaching of gray cast iron components
CR-IP2-2013-03360, Selective leaching of copper alloy components

Commitment 26

Entergy Letter, NL-09-018, “Reply to Request for Additional Information – Miscellaneous Items,” January 27, 2009
Entergy Letter NL-11-101, “Clarification for Additional Information (RAI) Aging Management Programs,” August 22, 2011
LR# 173, LR Request, Confirm each AMP will be implemented with ten elements
IP-RPT-11-LRD38, “Review the Thermal Aging Embrittlement of CASS Aging Management Program for License Renewal Implementation,” 1/2/2013
NRC Letter, “License Renewal Issue No. 98-0030, “Thermal Aging Embrittlement of Cast Austenitic Stainless Steel Components,” May 19, 2000
WCAP-10977, Supplement 1, “Additional Information in Support of the Technical Justification for Eliminating Large Primary LOOP Pipe Rupture as the Structural Design Basis for Indian Point Unit 2,” January 1989

Commitment 27

IP-RPT-11-LRD39, Revision), “Review of the Thermal Aging & Neutron Embrittlement of CASS Aging Management Program for License Renewal Implementation,” ED41109, 1/23/2013
EPRI 1013234 “Materials Reliability Program: Screening, Categorization, and Ranking of Reactor Internals Components for Westinghouse and Combustion Engineering PWR Design (MRP-191),” November 2006
EPRI 1022863 “Materials Reliability Program: Pressurized Water Reactor Internals Inspection and Evaluation Guidelines (MRP-227-A),” December 2011
NRC Letter “Request for Additional Information for the Review of the Indian Point Nuclear Generating Unit Nos. 2 and 3, License Renewal Application,” May 15, 2012
Entergy Letter, NL-11-101, “Clarification for Request for Additional Information (RAI) Aging Management Programs,” 8/22/2011
Entergy Letter NL-13-052, “Reply to Request for Additional Information Regarding the License Renewal Application,” 5/7/2011
LR Request #173 Confirm new programs will be implemented consistent with 10 elements of NUREG-1801.
IP-RPT-11-LRD39 “Review of the Thermal Aging and Neutron Irradiation Embrittlement of CASS Aging Management Program for License Renewal Implementation,” EC41109, 1/2/13

Commitment 48

Work Order PMRQ 00349816-01, 23 Fuel Oil Storage Tank Underground Piping Inspections
Work Order PMRQ 00349802-01, 21 Fuel Oil Storage Tank Underground Piping Inspections
Work Order PMRQ 00349814-01, 22 Fuel Oil Storage Tank Underground Piping Inspections
Work Order 00342492-01, Inspect Underground Piping by the IP2 EDG Building DF-2 Area
Work Order 00342493-01, Inspect Underground Piping by the IP2 EDG Building DF-2-1 Area
Work Order 00342494-01, Inspect Underground Piping by the IP2 EDG Building DF-2-2 Area