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NL-17-005

January 17, 2017

U.S. Nuclear Regulatory Commission
Document Control Desk
11545 Rockville Pike, TWFN-2 F1
Rockville, MD 20852-2738

SUBJECT: Entergy Actions Concerning License Renewal Commitments 41 and 42 in Response to LR-ISG-2016-01, "Changes to Aging Management Guidance for Various Steam Generator Components"
Indian Point Nuclear Generating Unit Nos. 2 and 3
Docket Nos. 50-247 and 50-286
License Nos. DPR-26 and DPR-64

REFERENCES:
1) LR-ISG-2016-01, "Changes to Aging Management Guidance for Various Steam Generator Components" (Nov. 30, 2016) (ML16237A383)
2) NUREG-1930, Supp. 1, "Safety Evaluation Report Related to the License Renewal of Indian Point Nuclear Generating Units 2 and 3" (Aug. 2011)
3) NRC Letter, "Request for Additional Information for the Review of the Indian Point Nuclear Generating Unit Numbers 2 and 3 License Renewal Application" (Feb. 10, 2011) (ML110190809)
4) Entergy letter NL-11-032, "Response to Request for Additional Information (RAI) Aging Management Programs" (Mar. 28, 2011) (ML12334A665)
5) Entergy letter NL-11-074, "Response to Request for Additional Information (RAI) Aging Management Programs" (July 14, 2011) (ML12334A671)
6) Entergy letter NL-11-090, "Clarification for Request for Additional Information (RAI) Aging Management Programs" (July 27, 2011) (ML12334A674)
7) EPRI 3002002850, "Steam Generator Management Program: Investigation of Crack Initiation and Propagation in the Steam Generator Channel Head Assembly" (Oct. 2014)
8) EPRI Information Letter SGMP-IL-16-02, "Changes to Aging Management Guidance for Steam Generator Channel Head Components" (Oct. 2016)

Dear Sir or Madam:

The purpose of this letter is to inform the Nuclear Regulatory Commission (NRC) Staff that based on the guidance contained in LR-ISG-2016-01, "Changes to Aging Management Guidance for Various Steam Generator Components" (December 2016) (Reference 1), Entergy has taken certain actions with respect to License Renewal Commitments 41 and 42. Specifically, Entergy has determined that the industry analyses referenced in LR-ISG-2016-01 are bounding for the

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Indian Point Unit 2 (IP2) and Unit 3 (IP3) steam generator divider plate assemblies and tube-to-tubesheet welds, such that Entergy may manage the aging effect of primary water stress corrosion cracking (PWSCC) in those steam generator components in accordance with the new guidance contained in LR-ISG-2016-01. Accordingly, Entergy has eliminated License Renewal Commitment 41 because it is no longer necessary, and has closed License Renewal Commitment 42 by virtue of having satisfied Option 1 (Analysis) of that commitment.

Entergy is notifying the Staff of these actions because the Staff discussed and credited Commitments 41 and 42 in Supplement 1 to its Safety Evaluation Report (SSER 1) (Reference 2), which was issued in August 2011, about five years before the issuance of LR-ISG-2016-01. Additional background and explanation concerning Entergy's actions relative to Commitments 41 and 42 are provided below and in Attachment 1, "Indian Point Units 2 and 3 – Technical Justification for Elimination of License Renewal Commitment 41 Regarding Steam Generator Divider Plate Assemblies and Closure of Commitment 42 Regarding Tube-to-Tubesheet Welds Based On Analysis Option."

Background Concerning License Renewal Commitments 41 and 42

On February 10, 2011, in response to certain foreign operating experience, the NRC Staff issued a request for additional information (RAI) (Reference 3) in which it asked Entergy to describe the materials of construction of the IP2 and IP3 steam generator divider plate assemblies and the associated welds. The Staff further requested that, if any of the material was susceptible to PWSCC (*i.e.*, Alloy 600 and associated weld materials), Entergy explain how it plans to manage PWSCC to prevent the potential propagation of cracks into items that are part of the reactor coolant system (RCS) pressure boundary.

Entergy responded to the Staff's RAI on March 28, 2011 (Reference 4), and later amended its response by letters dated July 14, 2011 (Reference 5) and July 27, 2011 (Reference 6). Entergy explained that the IP2 and IP3 divider plates are Alloy 600, and that it conservatively assumed that the associated weld metals (*i.e.*, Alloy 182/82) were used in the welding process. Entergy also clarified that the IP2 original Westinghouse Model 44 steam generators were replaced with Model 44F units in 2000, and that the IP3 original Westinghouse Model 44 steam generators were replaced with Model 44F units in 1989.

Entergy further noted that the industry had begun to study divider plate crack growth and develop a resolution to the issue through the EPRI Steam Generator Management Program (SGMP) Engineering and Regulatory Technical Advisory Group. At that time, EPRI had concluded that a cracked divider plate in a Westinghouse Model 44F steam generator (such as those at Indian Point Energy Center (IPEC)) was not a safety concern, and that crack propagation is not likely due to the nature of the loading on the steam generator structure. However, recognizing that EPRI's evaluation of this generic issue was ongoing, Entergy stated, in Commitment 41, that it will inspect the IP2 and IP3 steam generators to assess the condition of the divider plate assemblies using an examination technique that is capable of detecting PWSCC. Specifically, Entergy stated that it will inspect the IP2 steam generator divider plates within the first ten years of the period of extended operation (before September 28, 2023), and the IP3 steam generator divider plates within the first refueling outage following the beginning of the period of extended operation (in Spring 2017).

In its February 10, 2011 RAI (Reference 3), the NRC also asked questions related to the steam generator tube-to-tubesheet welds. Those questions were not tied to the same foreign operating experience with divider plates as noted above, but instead were based on the Staff's concern that

certain tube-to-tubesheet welds and cladding materials may have insufficient chromium content to mitigate initiation of PWSCC, and that cracks in the divider plate could subsequently propagate to the tubesheet cladding and affect the tube-to-tubesheet welds. The Staff noted that unless there is an NRC-approved redefinition of the RCS pressure boundary, the effectiveness of the PWR Water Chemistry Program should be verified through a one-time inspection to ensure PWSCC is not occurring in the tube-to-tubesheet welds. Based on this background, the NRC Staff asked Entergy to justify how the Steam Generator Integrity Program (or another program) is capable of managing PWSCC in tube-to-tubesheet welds.

In its responses to Staff questions concerning whether the IP2 tube-to-tubesheet welds are part of the RCS pressure boundary or subject to permanently-approved alternate repair criteria (References 4-6), Entergy stated that the IP2 tube-to-tubesheet welds are part of the RCS pressure boundary, and that no alternate repair criteria had been approved (*e.g.*, by defining the pressure boundary via a license amendment). In Commitment 42, Entergy stated that it would address the Staff's concern through one of two options – either through an analytical evaluation or an inspection. Under the analysis option, Entergy would evaluate the tube-to-tubesheet welds to establish a technical basis for either determining that those welds are not susceptible to PWSCC, or redefining the RCS pressure boundary, such that the welds would not be required for the pressure boundary function. (The latter option requires an NRC-approved license amendment.) Entergy further explained that under the inspection option (if the analysis results are not acceptable), it would perform a one-time inspection of a representative number of welds in each steam generator. If cracking is identified, then the condition will be resolved through a repair or engineering evaluation, and an ongoing monitoring program will be established for the life of the steam generators.

In August 2011, the NRC Staff issued Supplement 1 to its Safety Evaluation Report (SSER 1) (Reference 2), in which it found Entergy's RAI response and Commitments 41 and 42 acceptable. The Staff found Commitment 41 "acceptable because the applicant will assess the condition of the divider plate assembly in each [steam generator] at both units by inspection during the period of extended operation, in a time period consistent with the detection of potential PWSCC cracks, with appropriate examination techniques." SSER 1 at 3-19. The Staff found Commitment 42 acceptable because it requires Entergy to manage the aging effect of cracking due to PWSCC in the tube-to-tubesheet welds either by: (1) demonstrating that those welds are not susceptible to PWSCC or redefining the reactor coolant pressure boundary such that it no longer includes the tube-to-tubesheet welds; or (2) implementing a one-time inspection on a representative number of welds. *Id.* at 3-23. The Staff further noted that any identified degradation would be addressed through the IPEC corrective action program.

New Staff Aging Management Guidance in LR-ISG-2016-01

LR-ISG-2016-01 (Reference 1), which the Staff first issued in draft for public comment in June 2016, describes changes to the aging management guidance for steam generator components in NUREG-1801 (GALL Report), Revision 2, and NUREG-1800 (SRP-LR), Revision 2, including guidance for managing cracking due to PWSCC in steam generator divider plate assemblies and tube-to-tubesheet welds. Specifically, it revises GALL Report aging management program (AMP) XI.M19, "Steam Generators," and SRP-LR Sections 3.1.2.2.11 and 3.1.3.2.11, "Cracking Due to Primary Water Stress Corrosion Cracking." The revised guidance reflects the Staff's acceptance of the technical conclusions from the EPRI SGMP investigation into the initiation and propagation of cracking in the steam generator channel head components, as documented in several EPRI reports, principally EPRI 3002002850, "Steam Generator Management Program: Investigation of

Crack Initiation and Propagation in the Steam Generator Channel Head Assembly" (Oct. 2014) (EPRI 2014 Report) (Reference 7).

As relevant to IP2 and IP3, LR-ISG-2016-01 provides the following guidance with respect to the steam generator divider plates:

- For units with divider plate assemblies fabricated with Alloy 600 or Alloy 600 weld materials, *if the analyses performed by the industry (as documented in the EPRI 2014 Report) are applicable and bounding for the unit*, the primary water chemistry program is supplemented with a general visual inspection of the steam generator channel head (as part of the steam generator program as discussed in LR-ISG-2016-01). The purpose of the visual inspection is to identify rust stains or other abnormal conditions that could indicate the presence of cracking (*e.g.*, distortion of divider plates). The general visual inspection is performed on each steam generator at least every 72 effective full power months or every third refueling outage, whichever results in more frequent inspections. LR-ISG-2016-01 at 4-5.

As pertinent to IP2 and IP3, LR-ISG-2016-01 provides the following guidance with respect to the steam generator tube-to-tubesheet welds:

- For units with Alloy 600 steam generator tubes and for which an alternate repair criterion such as C*, F*, W*, or H* has been permanently approved for both the hot- and cold-leg side of the steam generator, the weld is no longer part of the reactor coolant pressure boundary and a plant-specific AMP is not necessary. LR-ISG-2016-01 at 8.

- For units with thermally treated Alloy 690 steam generator tubes and with tubesheet cladding using Alloy 600 weld material, a plant-specific AMP is necessary unless the applicant confirms that the industry's analyses for tube-to-tubesheet weld cracking (*e.g.*, chromium content for the tube-to-tubesheet welds is approximately 22 percent and the tubesheet cladding is in compression) *are applicable and bounding for its unit*, and the applicant will perform general visual inspections of the tubesheet region looking for evidence of cracking (*e.g.*, rust stains on the tubesheet cladding) as part of the steam generator program. In lieu of a plant-specific AMP, the applicant may provide a rationale for why a plant-specific AMP is not necessary. LR-ISG-2016-01 at 8.

<u>Related EPRI Guidelines in Information Letter SGMP-IL-16-02 for Determining If a Plant's Steam Generators are Bounded by EPRI's SGMP Analyses</u>

In parallel with the NRC Staff's finalization of LR-ISG-2016-01, EPRI prepared, and issued on October 10, 2016, Information Letter SGMP-IL-16-02, "Changes to Aging Management Guidance for Steam Generator Channel Head Components" (Reference 8). The purpose of SGMP-IL-16-02 is to inform the industry that the NRC LR-ISG-2016-01 accepts the conclusions of the SGMP investigation into the initiation and propagation of cracking in the steam generator channel head components. SGMP-IL-16-02 states that the EPRI 2014 Report and LR-ISG-2016-01 may be used as a basis for updating aging management programs for license renewal for plants with susceptible materials. Attachment 1 to SGMP-IL-16-02 is a Checklist entitled "Guidance for Addressing Aging Management Plans for Steam Generator Channel Head Components" (EPRI Checklist) that reflects the bounding conditions considered in the EPRI 2014 Report and other related EPRI technical reports, and which licensees can use to document that the EPRI 2014 Report analysis bounds their plants' steam generators.

Applicability of LR-ISG-2016-01 Guidance to IP2 and IP3 Steam Generator Divider Plate Assemblies and Tube-to-Tubesheet Welds

The EPRI Checklist states that if Alloy 600 or Alloy 600 variations were used in fabricating a plant's steam generator divider plate assemblies or weld materials, then the reviewer should use the Checklist to verify that there is an adequate technical basis for concluding that the plant is bounded by the analyses performed in EPRI Technical Reports 3002002850, 1014982, 1020988. If all responses to the EPRI Checklist are "Yes" or other appropriate technical justification is provided, then the plant is bounded by the above-referenced EPRI Technical Reports and can appropriately rely on the aging management guidance in LR-ISG-2016-01.

As noted above, IP2 and IP3 both have divider plate assemblies fabricated with Alloy 600 and its associated weld metals (Alloy 182/82). Therefore, it is necessary to use the EPRI Checklist and the pertinent plant-specific attributes to demonstrate that IP2 and IP3 are bounded by the EPRI SGMP analyses. This demonstration is provided in the attached Technical Justification (Attachment 1) using the EPRI Checklist, which was completed using technical information obtained from the EPRI 2014 Report, the IP2 and IP3 steam generator technical manuals (TM 1440-C348 and TMMC 1440-C350[1]), and Westinghouse Electric Company LLC, the manufacturer of the Model 44F replacement steam generators installed in IP2 and IP3. As demonstrated in the Technical Justification, the industry analyses are bounding for the IP2 and IP3 steam generator divider plate assemblies and for the IP3 tube-to-tubesheet weld materials.[2] Therefore, the guidance contained in LR-ISG-2016-01 is appropriate for managing the aging effect of PWSCC in those steam generator components. Accordingly, Entergy has eliminated Commitment 41 as no longer necessary and closed Commitment 42 as satisfying Option 1 (Analysis) of that commitment.

Related Administrative Matters

Changes to the List of Regulatory Commitments are provided in Attachment 2 and reflect the deletion of Commitment 41 and closure of commitment 42. There are no new commitments being made in this submittal.

Attachment 1 to this letter contains information that is considered proprietary to EPRI and Westinghouse and should be withheld from public disclosure pursuant to 10 CFR 2.390. With respect to EPRI, Attachment 1 contains information that was obtained from the EPRI 2014 Report (Reference 7), an EPRI-proprietary document. EPRI has authorized Entergy to provide the proprietary information obtained from the EPRI 2014 Report (as contained in Attachment 1) to the

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1 Westinghouse Technical Manual No. TM 1440-C348, "Vertical Steam Generator Instructions for Consolidated Edison Company of New York, Indian Point Station – Unit 2" (2001); Westinghouse Technical Manual No. TMMC 1440-C350, "Vertical Steam Generator Instruction for New York Power Authority - Indian Point Nuclear Plant No. 3" (Dec. 1989).

2 IP2 is a unit with Alloy 600 steam generator tubes for which an alternate repair criteria, H*, has been permanently approved for both the hot- and cold-leg side of the steam generator. The H* approval was documented in Technical Specification amendment 277 dated September 5, 2014. Therefore, the tube-to-tubesheet welds are no longer part of the reactor coolant pressure boundary and a plant-specific AMP is not necessary for IP2. *See* Letter from D. Pickett, NRC, to Vice President, Operations, Entergy, "Indian Point Nuclear Generating Unit No. 2 – Issuance of Amendment re: H* Alternate Repair Criteria for Steam Generator Tube Inspection and Repair (TAC No. MF3369)" (Sept. 5, 2014) (ML14198A161); License Renewal Commitment Closure Verification Form – Commitment #42, Rev. 1 (Oct. 15, 2014) (ML15331A242).

NRC, but requests that this proprietary information be withheld from public disclosure in accordance with 10 CFR 2.390. EPRI previously has requested that the EPRI 2014 Report be withheld from public disclosure in accordance with 10 CFR 2.390(a)(4), as supported by the November 6, 2014 Affidavit of Mr. Neil Wilmshurst, EPRI Vice President and Chief Nuclear Officer. *See* Letter from Neil Wilmshurst, EPRI, to Ken Karowski, NRC, "Request for Withholding of the Following Commercial Document: Steam Generator Management Program: Investigation of Crack Initiation and Propagation in the Steam Generator Channel Head Assembly. EPRI, Palo Alto, CA: 2014.3002002850" (Nov. 6, 2016) (ML14323A193).

In addition, the completed EPRI Checklist included in Attachment 1 contains IP2 and IP3 steam generator design information obtained from the above-referenced technical manuals and a December 7, 2016 Westinghouse letter to Entergy (LTR-CDA-16-40) that is Westinghouse Proprietary Class 2 information. Westinghouse has authorized Entergy to provide the Westinghouse proprietary information contained in Attachment 1 to the NRC, but requests that the proprietary information obtained from TM 1440-C348, TMMC 1440-C350, and LTR-CDA-16-40 be withheld from public disclosure in accordance with 10 CFR 2.390.[3] In support of that request, Entergy has enclosed Westinghouse Applications for Withholding Proprietary Information from Public Disclosure CAW-16-4524, CAW-16-4525, and CAW-16-4526; accompanying Affidavits by James A. Gresham, Manager, Regulatory Compliance, Westinghouse; Proprietary Information Notices; and Copyright Notices. The Affidavits set forth the bases on which the information may be withheld from public disclosure by the Commission and address with specificity the considerations listed in 10 CFR 2.390(b)(4).[4]

If you have any questions, or require additional information, please contact Mr. Robert Walpole at 914-254-6710.

I declare under penalty of perjury that the foregoing is true and correct. Executed on 1-17, 2017.

Sincerely,

AJV/rl

Attachments: 1. Technical Justification for Elimination of License Renewal Commitment 41 Regarding Indian Point Units 2 and 3 Steam Generator Divider Plate

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[3] Entergy is not including copies of TM 1440-C348, TMMC 1440-C350, or LTR-CDA-16-40 with this submittal. However, those documents were prepared and classified as Westinghouse Proprietary Class 2, and Westinghouse considers all three documents to be proprietary in their entirety.

[4] Correspondence with respect to the copyright or proprietary aspects of the Westinghouse documents listed above or the supporting Westinghouse Affidavits should reference CAW-16-4524, CAW-16-4525, or CAW-16-4526, as applicable, and should be addressed to James A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company, 1000 Westinghouse Drive, Building 3 Suite 310, Cranberry Township, Pennsylvania 16066.

Assemblies and Closure of License Renewal Commitment 42 Regarding Indian Point Unit 3 Tube-to-Tubesheet Welds Based On Analysis Option

2. Indian Point Units 2 and 3 License Renewal Application, List of Regulatory Commitments, Revision 30

Enclosures:

1. Westinghouse Letter CAW-16-4524, "Application for Withholding Proprietary Information from Public Disclosure" (Dec. 21, 2016) (concerning Westinghouse LTR-CDA-16-40)
2. Westinghouse Letter CAW-16-4525, "Application for Withholding Proprietary Information from Public Disclosure" (Dec. 22, 2016) (concerning Westinghouse TM 1440-C348)
3. Westinghouse Letter CAW-16-4526, "Application for Withholding Proprietary Information from Public Disclosure" (Dec. 22, 2016) (concerning Westinghouse TMMC 1440-C350)

cc: Mr. Daniel H. Dorman, Regional Administrator, NRC Region I
Mr. Sherwin E. Turk, NRC Office of General Counsel, Special Counsel
Mr. William Burton, NRC Senior Project Manager, Division of License Renewal
Mr. Douglas Pickett, NRR Senior Project Manager
Ms. Bridget Frymire, New York State Department of Public Service (w/o Attachment 1)
Mr. John B. Rhodes, President and CEO NYSERDA (w/o Attachment 1)
NRC Resident Inspector's Office

ATTACHMENT 1 TO NL-17-005

TECHNICAL JUSTIFICATION

FOR ELIMINATION OF LICENSE RENEWAL COMMITMENT 41 REGARDING INDIAN POINT UNITS 2 AND 3 STEAM GENERATOR DIVIDER PLATE ASSEMBLIES AND CLOSURE OF LICENSE RENEWAL COMMITMENT 42 REGARDING INDIAN POINT UNIT 3 TUBE-TO-TUBESHEET WELDS BASED ON ANALYSIS OPTION

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 AND 3
DOCKET NOS. 50-247 AND 50-286

ENCLOSURE 1 TO NL-17-005

WESTINGHOUSE LETTER CAW-16-4524, DATED DECEMBER 21, 2016

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE, "SUBJECT: LTR-CDA-16-40, TRANSMITTAL OF INDIAN POINT UNIT 2 AND UNIT 3 REPLACEMENT STEAM DESIGN INFORMATION" (PROPRIETARY)"

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 AND 3
DOCKET NOS. 50-247 AND 50-286

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CAW-16-4524

December 21, 2016

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE

Subject: LTR-CDA-16-40, "Transmittal of Indian Point Unit 2 and Unit 3 Replacement Steam Design Information" (Proprietary)

The Application for Withholding Proprietary Information from Public Disclosure is submitted by Westinghouse Electric Company LLC ("Westinghouse"), pursuant to the provisions of paragraph (b)(1) of Section 2.390 of the Commission's regulations. It contains commercial strategic information proprietary to Westinghouse and customarily held in confidence.

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-16-4524 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. The Affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

The subject document was prepared and classified as Westinghouse Proprietary Class 2. Westinghouse requests that the document be considered proprietary in its entirety. As such, a non-proprietary version will not be issued.

Accordingly, this letter authorizes the utilization of the accompanying Affidavit by Entergy Nuclear Northeast.

Correspondence with respect to the proprietary aspects of the Application for Withholding or the Westinghouse Affidavit should reference CAW-16-4524, and should be addressed to James A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company, 1000 Westinghouse Drive, Building 3 Suite 310, Cranberry Township, Pennsylvania 16066.

James A. Gresham, Manager
Regulatory Compliance

CAW-16-4524

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

COUNTY OF BUTLER:

I, James A. Gresham, am authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC ("Westinghouse"), and that the averments of fact set forth in this Affidavit are true and correct to the best of my knowledge, information, and belief.

James A. Gresham, Manager
Regulatory Compliance

Date: 12/21/16

(1) I am Manager, Regulatory Compliance, Westinghouse Electric Company LLC ("Westinghouse"), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of Westinghouse.

(2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse Application for Withholding Proprietary Information from Public Disclosure accompanying this Affidavit.

(3) I have personal knowledge of the criteria and procedures utilized by Westinghouse in designating information as a trade secret, privileged or as confidential commercial or financial information.

(4) Pursuant to the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.

(i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse.

(ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitute Westinghouse policy and provide the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

(a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of

Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

(b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e.g., by optimization or improved marketability.

(c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.

(d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.

(e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.

(f) It contains patentable ideas, for which patent protection may be desirable.

(iii) There are sound policy reasons behind the Westinghouse system which include the following:

(a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.

(b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the Westinghouse ability to sell products and services involving the use of the information.

(c) Use by our competitor would put Westinghouse at a competitive disadvantage by reducing his expenditure of resources at our expense.

(d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.

(e) Unrestricted disclosure would jeopardize the position of prominence of Westinghouse in the world market, and thereby give a market advantage to the competition of those countries.

(f) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.

(iv) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390, is to be received in confidence by the Commission.

(v) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.

(vi) The proprietary information sought to be withheld in this submittal is that which is contained in LTR-CDA-16-40, "Transmittal of Indian Point Unit 2 and Unit 3 Replacement Steam Design Information" (Proprietary), for submittal to the Commission, being transmitted by Entergy Nuclear Northeast letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse is that associated with design information regarding the partition plates, tubesheet, and tube-to-tubesheet welds of the Model 44F replacement steam generators at Indian Point Unit 2 and Unit 3 and is provided for use in response to License Renewal Commitments 41and 42 and may be used only for that purpose.

(a) This information is part of that which will enable Westinghouse to provide sufficient detail of steam generator manufacturing information and technology.

(b) Further, this information has substantial commercial value as follows:

(i) Westinghouse plans to sell the use of similar information to its customers for the purpose of providing as-built steam generator design documentation.

(ii) Westinghouse can sell support and defense of industry guidelines and acceptance criteria for plant-specific applications.

(iii) The information requested to be withheld reveals the distinguishing aspects of a methodology which was developed by Westinghouse.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar technical evaluation justifications and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

Further the deponent sayeth not.

PROPRIETARY INFORMATION NOTICE

Transmitted herewith is the proprietary version of a document, furnished to the NRC in connection with requests for generic and/or plant-specific review and approval. The document is to be considered proprietary in its entirety.

COPYRIGHT NOTICE

ENCLOSURE 2 TO NL-17-005

WESTINGHOUSE LETTER CAW-16-4525, DATED DECEMBER 22, 2016

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE, "SUBJECT: TM 1440-C348, "VERTICAL STEAM GENERATOR INSTRUCTIONS FOR CONSOLIDATED EDISON COMPANY OF NEW YORK, INDIAN POINT STATION – UNIT 2" (PROPRIETARY)"

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 AND 3
DOCKET NOS. 50-247 AND 50-286

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CAW-16-4525

December 22, 2016

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE

Subject: TM 1440-C348, "Vertical Steam Generator Instructions for Consolidated Edison Company of New York Indian Point Station – Unit 2" (Proprietary)

The Application for Withholding Proprietary Information from Public Disclosure is submitted by Westinghouse Electric Company LLC ("Westinghouse"), pursuant to the provisions of paragraph (b)(1) of Section 2.390 of the Commission's regulations. It contains commercial strategic information proprietary to Westinghouse and customarily held in confidence.

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-16-4525 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. The Affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

The subject document was prepared and classified as Westinghouse Proprietary Class 2. Westinghouse requests that the document be considered proprietary in its entirety. As such, a non-proprietary version will not be issued.

Accordingly, this letter authorizes the utilization of the accompanying Affidavit by Entergy Nuclear Northeast.

Correspondence with respect to the proprietary aspects of the Application for Withholding or the Westinghouse Affidavit should reference CAW-16-4525, and should be addressed to James A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company, 1000 Westinghouse Drive, Building 3 Suite 310, Cranberry Township, Pennsylvania 16066.

James A. Gresham, Manager
Regulatory Compliance

CAW-16-4525

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

COUNTY OF BUTLER:

I, James A. Gresham, am authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC ("Westinghouse"), and that the averments of fact set forth in this Affidavit are true and correct to the best of my knowledge, information, and belief.

James A. Gresham, Manager
Regulatory Compliance

Date: 12/22/16

(1) I am Manager, Regulatory Compliance, Westinghouse Electric Company LLC ("Westinghouse"), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of Westinghouse.

(2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse Application for Withholding Proprietary Information from Public Disclosure accompanying this Affidavit.

(3) I have personal knowledge of the criteria and procedures utilized by Westinghouse in designating information as a trade secret, privileged or as confidential commercial or financial information.

(4) Pursuant to the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.

(i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse.

(ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitute Westinghouse policy and provide the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

(a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of

Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

(b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e.g., by optimization or improved marketability.

(c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.

(d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.

(e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.

(f) It contains patentable ideas, for which patent protection may be desirable.

(iii) There are sound policy reasons behind the Westinghouse system which include the following:

(a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.

(b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the Westinghouse ability to sell products and services involving the use of the information.

(c) Use by our competitor would put Westinghouse at a competitive disadvantage by reducing his expenditure of resources at our expense.

(d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.

(e) Unrestricted disclosure would jeopardize the position of prominence of Westinghouse in the world market, and thereby give a market advantage to the competition of those countries.

(f) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.

(iv) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390, is to be received in confidence by the Commission.

(v) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.

(vi) The proprietary information sought to be withheld in this submittal is that which is contained in TM 1440-C348, "Vertical Steam Generator Instructions for Consolidated Edison Company of New York Indian Point Station – Unit 2" (Proprietary), for submittal to the Commission, being transmitted by Entergy Nuclear Northeast letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse is that associated with design information regarding the Model 44F replacement steam generators at Indian Point Unit 2 and is provided for use in response to License Renewal Commitments 41 and 42 and may be used only for that purpose.

(a) This information is part of that which will enable Westinghouse to provide sufficient detail of steam generator manufacturing information and technology.

(b) Further, this information has substantial commercial value as follows:

(i) Westinghouse plans to sell the use of similar information to its customers for the purpose of providing as-built steam generator design documentation.

(ii) Westinghouse can sell support and defense of industry guidelines and acceptance criteria for plant-specific applications.

(iii) The information requested to be withheld reveals the distinguishing aspects of a methodology which was developed by Westinghouse.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar technical evaluation justifications and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

Further the deponent sayeth not.

PROPRIETARY INFORMATION NOTICE

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ENCLOSURE 3 TO NL-17-005

WESTINGHOUSE LETTER CAW-16-4526, DATED DECEMBER 22, 2016

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE, "SUBJECT: TM 1440-C350, "VERTICAL STEAM GENERATOR INSTRUCTIONS FOR NEW YORK POWER AUTHORITY, INDIAN POINT STATION – UNIT 3" (PROPRIETARY)"

Westinghouse Electric Company
1000 Westinghouse Drive
Cranberry Township, Pennsylvania 16066
USA

U.S. Nuclear Regulatory Commission
Document Control Desk
11555 Rockville Pike
Rockville, MD 20852

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CAW-16-4526

December 22, 2016

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE

Subject: TM 1440-C350, "Vertical Steam Generator Instructions for New York Power Authority Indian Point Nuclear Plant No. 3" (Proprietary)

The Application for Withholding Proprietary Information from Public Disclosure is submitted by Westinghouse Electric Company LLC ("Westinghouse"), pursuant to the provisions of paragraph (b)(1) of Section 2.390 of the Commission's regulations. It contains commercial strategic information proprietary to Westinghouse and customarily held in confidence.

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-16-4526 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. The Affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

The subject document was prepared and classified as Westinghouse Proprietary Class 2. Westinghouse requests that the document be considered proprietary in its entirety. As such, a non-proprietary version will not be issued.

Accordingly, this letter authorizes the utilization of the accompanying Affidavit by Entergy Nuclear Northeast.

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James A. Gresham, Manager
Regulatory Compliance

CAW-16-4526

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

COUNTY OF BUTLER:

I, James A. Gresham, am authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC ("Westinghouse"), and that the averments of fact set forth in this Affidavit are true and correct to the best of my knowledge, information, and belief.

James A. Gresham, Manager
Regulatory Compliance

Date: 12/22/16

(1) I am Manager, Regulatory Compliance, Westinghouse Electric Company LLC ("Westinghouse"), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of Westinghouse.

(2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse Application for Withholding Proprietary Information from Public Disclosure accompanying this Affidavit.

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(iv) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390, is to be received in confidence by the Commission.

(v) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.

(vi) The proprietary information sought to be withheld in this submittal is that which is contained in TM 1440-C350, "Vertical Steam Generator Instructions for New York Power Authority Indian Point Nuclear Plant No. 3" (Proprietary), for submittal to the Commission, being transmitted by Entergy Nuclear Northeast letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse is that associated with design information regarding the Model 44F replacement steam generators at Indian Point Unit 3 and is provided for use in response to License Renewal Commitments 41 and 42 and may be used only for that purpose.

(a) This information is part of that which will enable Westinghouse to provide sufficient detail of steam generator manufacturing information and technology.

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(ii) Westinghouse can sell support and defense of industry guidelines and acceptance criteria for plant-specific applications.

(iii) The information requested to be withheld reveals the distinguishing aspects of a methodology which was developed by Westinghouse.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar technical evaluation justifications and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

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Further the deponent sayeth not.

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ATTACHMENT 2 TO NL-17-005

LICENSE RENEWAL APPLICATION

IPEC LIST OF REGULATORY COMMITMENTS

Rev. 30

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NO. 3
DOCKET NO. 50-286

List of Regulatory Commitments

Rev. 30

The following table identifies those actions committed to by Entergy in this document.

Changes are shown as strikethroughs for ~~deletions~~ and underlines for additions.

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
1	Enhance the Aboveground Steel Tanks Program for IP2 and IP3 to perform thickness measurements of the bottom surfaces of the condensate storage tanks, city water tank, and fire water tanks once during the first ten years of the period of extended operation. Enhance the Aboveground Steel Tanks Program for IP2 and IP3 to require trending of thickness measurements when material loss is detected.	IP2: Complete	NL-07-039 NL-13-122	A.2.1.1 A.3.1.1 B.1.1
	Implement LRA Sections, A.2.1.1, A.3.1.1 and B.1.1, as shown in NL-14-147.	IP2 & IP3: December 31, 2019	NL-14-147	A.2.1.1 A.3.1.1 B.1.1
	Implement LRA Sections, A.2.1.1 and B.1.1, as shown in NL-15-092	IP2 & IP3: December 31, 2019	NL-15-092	A.2.1.1 B.1.1
2	Enhance the Bolting Integrity Program for IP2 and IP3 to clarify that actual yield strength is used in selecting materials for low susceptibility to SCC and clarify the prohibition on use of lubricants containing MoS_2 for bolting. The Bolting Integrity Program manages loss of preload and loss of material for all external bolting.	IP2: Complete IP3: Complete	NL-07-039 NL-07-153 NL-13-122	A.2.1.2 A.3.1.2 B.1.2 Audit Items 201, 241, 270

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
3	Implement the Buried Piping and Tanks Inspection Program for IP2 and IP3 as described in LRA Section B.1.6. This new program will be implemented consistent with the corresponding program described in NUREG-1801 Section XI.M34, Buried Piping and Tanks Inspection. Include in the Buried Piping and Tanks Inspection Program described in LRA Section B.1.6 a risk assessment of in-scope buried piping and tanks that includes consideration of the impacts of buried piping or tank leakage and of conditions affecting the risk for corrosion. Classify pipe segments and tanks as having a high, medium or low impact of leakage based on the safety class, the hazard posed by fluid contained in the piping and the impact of leakage on reliable plant operation. Determine corrosion risk through consideration of piping or tank material, soil resistivity, drainage, the presence of cathodic protection and the type of coating. Establish inspection priority and frequency for periodic inspections of the in-scope piping and tanks based on the results of the risk assessment. Perform inspections using inspection techniques with demonstrated effectiveness.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-07-153 NL-15-121 NL-09-106 NL-09-111 NL-11-101	A.2.1.5 A.3.1.5 B.1.6 Audit Item 173
4	Enhance the Diesel Fuel Monitoring Program to include cleaning and inspection of the IP2 GT-1 gas turbine fuel oil storage tanks, IP2 and IP3 EDG fuel oil day tanks, IP2 SBO/Appendix R diesel generator fuel oil day tank, and IP3 Appendix R fuel oil storage tank and day tank once every ten years. Enhance the Diesel Fuel Monitoring Program to include quarterly sampling and analysis of the IP2 SBO/Appendix R diesel generator fuel oil day tank, IP2 security diesel fuel oil storage tank, IP2 security diesel fuel oil day tank, and	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-07-153 NL-15-121 NL-08-057	A.2.1.8 A.3.1.8 B.1.9 Audit items 128, 129, 132, 491, 492, 510

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
	IP3 Appendix R fuel oil storage tank. Particulates, water and sediment checks will be performed on the samples. Filterable solids acceptance criterion will be less than or equal to 10mg/l. Water and sediment acceptance criterion will be less than or equal to 0.05%. Enhance the Diesel Fuel Monitoring Program to include thickness measurement of the bottom of the following tanks once every ten years. IP2: EDG fuel oil storage tanks, EDG fuel oil day tanks, SBO/Appendix R diesel generator fuel oil day tank, GT-1 gas turbine fuel oil storage tanks, and diesel fire pump fuel oil storage tank; IP3: EDG fuel oil day tanks, EDG fuel oil storage tanks, Appendix R fuel oil storage tank, and diesel fire pump fuel oil storage tank. Enhance the Diesel Fuel Monitoring Program to change the analysis for water and particulates to a quarterly frequency for the following tanks. IP2: GT-1 gas turbine fuel oil storage tanks and diesel fire pump fuel oil storage tank; IP3: Appendix R fuel oil day tank and diesel fire pump fuel oil storage tank. Enhance the Diesel Fuel Monitoring Program to specify acceptance criteria for thickness measurements of the fuel oil storage tanks within the scope of the program. Enhance the Diesel Fuel Monitoring Program to direct samples be taken and include direction to remove water when detected. Revise applicable procedures to direct sampling of the onsite portable fuel oil contents prior to transferring the contents to the storage tanks. Enhance the Diesel Fuel Monitoring Program to direct the addition of chemicals including biocide when the presence of biological activity is confirmed.			

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
5	Enhance the External Surfaces Monitoring Program for IP2 and IP3 to include periodic inspections of systems in scope and subject to aging management review for license renewal in accordance with 10 CFR 54.4(a)(1) and (a)(3). Inspections shall include areas surrounding the subject systems to identify hazards to those systems. Inspections of nearby systems that could impact the subject systems will include SSCs that are in scope and subject to aging management review for license renewal in accordance with 10 CFR 54.4(a)(2).	IP2: Complete	NL-07-039 NL-13-122	A.2.1.10 A.3.1.10 B.1.11
	Implement LRA Sections A.2.1.10, A.3.1.10 and B.1.11, as shown in NL-14-147.	IP2 & IP3: December 31, 2019	NL-14-147	A.2.1.10 A.3.1.10 B.1.11
6	Enhance the Fatigue Monitoring Program for IP2 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. Enhance the Fatigue Monitoring Program for IP3 to include all the transients identified. Assure all fatigue analysis transients are included with the lowest limiting numbers. Update the number of design transients accumulated to date.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-07-153 NL-15-121	A.2.1.11 A.3.1.11 B.1.12, Audit Item 164

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
7	Enhance the Fire Protection Program to inspect external surfaces of the IP3 RCP oil collection systems for loss of material each refueling cycle. Enhance the Fire Protection Program to explicitly state that the IP2 and IP3 diesel fire pump engine sub-systems (including the fuel supply line) shall be observed while the pump is running. Acceptance criteria will be revised to verify that the diesel engine does not exhibit signs of degradation while running; such as fuel oil, lube oil, coolant, or exhaust gas leakage. Enhance the Fire Protection Program to specify that the IP2 and IP3 diesel fire pump engine carbon steel exhaust components are inspected for evidence of corrosion and cracking at least once each operating cycle. Enhance the Fire Protection Program for IP3 to visually inspect the cable spreading room, 480V switchgear room, and EDG room CO_2 fire suppression system for signs of degradation, such as corrosion and mechanical damage at least once every six months.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-15-121	A.2.1.12 A.3.1.12 B.1.13

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
8	Enhance the Fire Water Program to include inspection of IP2 and IP3 hose reels for evidence of corrosion. Acceptance criteria will be revised to verify no unacceptable signs of degradation. Enhance the Fire Water Program to replace all or test a sample of IP2 and IP3 sprinkler heads required for 10 CFR 50.48 using guidance of NFPA 25 (2002 edition), Section 5.3.1.1.1 before the end of the 50-year sprinkler head service life and at 10-year intervals thereafter during the extended period of operation to ensure that signs of degradation, such as corrosion, are detected in a timely manner. Enhance the Fire Water Program to perform wall thickness evaluations of IP2 and IP3 fire protection piping on system components using non-intrusive techniques (e.g., volumetric testing) to identify evidence of loss of material due to corrosion. These inspections will be performed before the end of the current operating term and at intervals thereafter during the period of extended operation. Results of the initial evaluations will be used to determine the appropriate inspection interval to ensure aging effects are identified prior to loss of intended function. Enhance the Fire Water Program to inspect the internal surface of foam based fire suppression tanks. Acceptance criteria will be enhanced to verify no significant corrosion.	IP2: Complete	NL-07-039 NL-13-122 NL-07-153 NL-08-014	A.2.1.13 A.3.1.13 B.1.14 Audit Items 105, 106
	Implement LRA Sections, A.2.1.13, A.3.1.13 and B.1.14, as shown in NL-14-147.	IP2 & IP3: December 31, 2019	NL-14-147	A.2.1.13 A.3.1.13 B.1.14
	Implement LRA Sections A.2.1.13, A.3.1.13 and B.1.14, as shown in NL-15-019	IP2 & IP3: December 31, 2019	NL-15-019	A.2.1.13 A.3.1.13 B.1.14

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
	Implement LRA Sections A.2.1.13, A.3.1.13 and B.1.14, as shown in NL-15-092	IP2 & IP3: December 31, 2019	NL-15-092	A.2.1.13 A.3.1.13 B.1.14
	Implement LRA Sections A.2.1.13, A.3.1.13, and B.1.14, as shown in NL-16-122	IP2 & IP3: December 31, 2017	NL-16-122	A.2.1.13 A.3.1.13 B.1.14
9	Enhance the Flux Thimble Tube Inspection Program for IP2 and IP3 to implement comparisons to wear rates identified in WCAP-12866. Include provisions to compare data to the previous performances and perform evaluations regarding change to test frequency and scope. Enhance the Flux Thimble Tube Inspection Program for IP2 and IP3 to specify the acceptance criteria as outlined in WCAP-12866 or other plant-specific values based on evaluation of previous test results. Enhance the Flux Thimble Tube Inspection Program for IP2 and IP3 to direct evaluation and performance of corrective actions based on tubes that exceed or are projected to exceed the acceptance criteria. Also stipulate that flux thimble tubes that cannot be inspected over the tube length and cannot be shown by analysis to be satisfactory for continued service, must be removed from service to ensure the integrity of the reactor coolant system pressure boundary.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-15-121	A.2.1.15 A.3.1.15 B.1.16

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
10	Enhance the Heat Exchanger Monitoring Program for IP2 and IP3 to include the following heat exchangers in the scope of the program. • Safety injection pump lube oil heat exchangers • RHR heat exchangers • RHR pump seal coolers • Non-regenerative heat exchangers • Charging pump seal water heat exchangers • Charging pump fluid drive coolers • Charging pump crankcase oil coolers • Spent fuel pit heat exchangers • Secondary system steam generator sample coolers • Waste gas compressor heat exchangers • SBO/Appendix R diesel jacket water heat exchanger (IP2 only) Enhance the Heat Exchanger Monitoring Program for IP2 and IP3 to perform visual inspection on heat exchangers where non-destructive examination, such as eddy current inspection, is not possible due to heat exchanger design limitations. Enhance the Heat Exchanger Monitoring Program for IP2 and IP3 to include consideration of material-environment combinations when determining sample population of heat exchangers. Enhance the Heat Exchanger Monitoring Program for IP2 and IP3 to establish minimum tube wall thickness for the new heat exchangers identified in the scope of the program. Establish acceptance criteria for heat exchangers visually inspected to include no indication of tube erosion, vibration wear, corrosion, pitting, fouling, or scaling.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-07-153 NL-15-121 NL-09-018	A.2.1.16 A.3.1.16 B.1.17, Audit Item 52

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
11	Deleted		NL-09-056 NL-11-101	
12	Enhance the Masonry Wall Program for IP2 and IP3 to specify that the IP1 intake structure is included in the program.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122	A.2.1.18 A.3.1.18 B.1.19
13	Enhance the Metal-Enclosed Bus Inspection Program for IP2 and IP3 to visually inspect the external surface of MEB enclosure assemblies for loss of material at least once every 10 years. The first inspection will occur prior to the period of extended operation and the acceptance criterion will be no significant loss of material. Enhance the Metal-Enclosed Bus Inspection Program to add acceptance criteria for MEB internal visual inspections to include the absence of indications of dust accumulation on the bus bar, on the insulators, and in the duct, in addition to the absence of indications of moisture intrusion into the duct. Enhance the Metal-Enclosed Bus Inspection Program for IP2 and IP3 to inspect bolted connections at least once every five years if performed visually or at least once every ten years using quantitative measurements such as thermography or contact resistance measurements. The first inspection will occur prior to the period of extended operation. The plant will process a change to applicable site procedure to remove the reference to "re-torquing" connections for phase bus maintenance and bolted connection maintenance.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-07-153 NL-15-121 NL-08-057 NL-13-077	A.2.1.19 A.3.1.19 B.1.20 Audit Items 124, 133, 519

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
14	Implement the Non-EQ Bolted Cable Connections Program for IP2 and IP3 as described in LRA Section B.1.22.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-15-121	A.2.1.21 A.3.1.21 B.1.22
15	Implement the Non-EQ Inaccessible Medium-Voltage Cable Program for IP2 and IP3 as described in LRA Section B.1.23. This new program will be implemented consistent with the corresponding program described in NUREG-1801 Section XI.E3, Inaccessible Medium-Voltage Cables Not Subject To 10 CFR 50.49 Environmental Qualification Requirements.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-07-153 NL-15-121 NL-11-032 NL-11-096 NL-11-101	A.2.1.22 A.3.1.22 B.1.23 Audit item 173
16	Implement the Non-EQ Instrumentation Circuits Test Review Program for IP2 and IP3 as described in LRA Section B.1.24. This new program will be implemented consistent with the corresponding program described in NUREG-1801 Section XI.E2, Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Used in Instrumentation Circuits.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-07-153 NL-15-121	A.2.1.23 A.3.1.23 B.1.24 Audit item 173
17	Implement the Non-EQ Insulated Cables and Connections Program for IP2 and IP3 as described in LRA Section B.1.25. This new program will be implemented consistent with the corresponding program described in NUREG-1801 Section XI.E1, Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-07-153 NL-15-121	A.2.1.24 A.3.1.24 B.1.25 Audit item 173

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
18	Enhance the Oil Analysis Program for IP2 to sample and analyze lubricating oil used in the SBO/Appendix R diesel generator consistent with the oil analysis for other site diesel generators. Enhance the Oil Analysis Program for IP2 and IP3 to sample and analyze generator seal oil and turbine hydraulic control oil. Enhance the Oil Analysis Program for IP2 and IP3 to formalize preliminary oil screening for water and particulates and laboratory analyses including defined acceptance criteria for all components included in the scope of this program. The program will specify corrective actions in the event acceptance criteria are not met. Enhance the Oil Analysis Program for IP2 and IP3 to formalize trending of preliminary oil screening results as well as data provided from independent laboratories.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-11-101 NL-15-121	A.2.1.25 A.3.1.25 B.1.26

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
19	Implement the One-Time Inspection Program for IP2 and IP3 as described in LRA Section B.1.27. This new program will be implemented consistent with the corresponding program described in NUREG-1801, Section XI.M32, One-Time Inspection.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-07-153 NL-15-121	A.2.1.26 A.3.1.26 B.1.27 Audit item 173
20	Implement the One-Time Inspection – Small Bore Piping Program for IP2 and IP3 as described in LRA Section B.1.28. This new program will be implemented consistent with the corresponding program described in NUREG-1801, Section XI.M35, One-Time Inspection of ASME Code Class I Small-Bore Piping.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-07-153 NL-15-121	A.2.1.27 A.3.1.27 B.1.28 Audit item 173
21	Enhance the Periodic Surveillance and Preventive Maintenance Program for IP2 and IP3 as necessary to assure that the effects of aging will be managed such that applicable components will continue to perform their intended functions consistent with the current licensing basis through the period of extended operation.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-15-121	A.2.1.28 A.3.1.28 B.1.29
	Implement LRA Sections A.2.1.28, A.3.1.28 and B.1.29, as shown in NL-16-122	IP2 & IP3: December 31, 2017	NL-16-122	A.2.1.28 A.3.1.28 B.1.29
22	Enhance the Reactor Vessel Surveillance Program for IP2 and IP3 revising the specimen capsule withdrawal schedules to draw and test a standby capsule to cover the peak reactor vessel fluence expected through the end of the period of extended operation. Enhance the Reactor Vessel Surveillance Program for IP2 and IP3 to require that tested and untested specimens from all capsules pulled from the reactor vessel are maintained in storage.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-15-121	A.2.1.31 A.3.1.31 B.1.32

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
23	Implement the Selective Leaching Program for IP2 and IP3 as described in LRA Section B.1.33. This new program will be implemented consistent with the corresponding program described in NUREG-1801, Section XI.M33 Selective Leaching of Materials.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-07-153 NL-15-121	A.2.1.32 A.3.1.32 B.1.33 Audit item 173
24	Enhance the Steam Generator Integrity Program for IP2 and IP3 to require that the results of the condition monitoring assessment are compared to the operational assessment performed for the prior operating cycle with differences evaluated.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122	A.2.1.34 A.3.1.34 B.1.35
25	Enhance the Structures Monitoring Program to explicitly specify that the following structures are included in the program. • Appendix R diesel generator foundation (IP3) • Appendix R diesel generator fuel oil tank vault (IP3) • Appendix R diesel generator switchgear and enclosure (IP3) • city water storage tank foundation • condensate storage tanks foundation (IP3) • containment access facility and annex (IP3) • discharge canal (IP2/3) • emergency lighting poles and foundations (IP2/3) • fire pumphouse (IP2) • fire protection pumphouse (IP3) • fire water storage tank foundations (IP2/3) • gas turbine 1 fuel storage tank foundation • maintenance and outage building-elevated passageway (IP2) • new station security building (IP2) • nuclear service building (IP1) • primary water storage tank foundation (IP3) • refueling water storage tank foundation (IP3)	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-07-153 NL-15-121 NL-08-057 NL-13-077	A.2.1.35 A.3.1.35 B.1.36 Audit items 86, 87, 88, 417

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
	• security access and office building (IP3) • service water pipe chase (IP2/3) • service water valve pit (IP3) • transformer/switchyard support structures (IP2) • waste holdup tank pits (IP2/3) Enhance the Structures Monitoring Program for IP2 and IP3 to clarify that in addition to structural steel and concrete, the following commodities (including their anchorages) are inspected for each structure as applicable. • cable trays and supports • concrete portion of reactor vessel supports • conduits and supports • cranes, rails and girders • equipment pads and foundations • fire proofing (pyrocrete) • HVAC duct supports • jib cranes • manholes and duct banks • manways, hatches and hatch covers • monorails • new fuel storage racks • sumps Enhance the Structures Monitoring Program for IP2 and IP3 to inspect inaccessible concrete areas that are exposed by excavation for any reason. IP2 and IP3 will also inspect inaccessible concrete areas in environments where observed conditions in accessible areas exposed to the same environment indicate that significant concrete degradation is occurring. Enhance the Structures Monitoring Program for IP2 and IP3 to perform inspections of elastomers (seals, gaskets, seismic joint filler, and roof elastomers) to identify cracking and		NL-14-146 NL-13-077	

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
	change in material properties and for inspection of aluminum vents and louvers to identify loss of material.			
	Enhance the Structures Monitoring Program for IP2 and IP3 to perform an engineering evaluation of groundwater samples to assess aggressiveness of groundwater to concrete on a periodic basis (at least once every five years). IPEC will obtain samples from at least 5 wells that are representative of the ground water surrounding below-grade site structures and perform an engineering evaluation of the results from those samples for sulfates, pH and chlorides. Additionally, to assess potential indications of spent fuel pool leakage, IPEC will sample for tritium in groundwater wells in close proximity to the IP2 spent fuel pool at least once every 3 months.		NL-08-127	Audit Item 360
	Enhance the Structures Monitoring Program for IP2 and IP3 to perform inspection of normally submerged concrete portions of the intake structures at least once every 5 years. Inspect the baffling/grating partition and support platform of the IP3 intake structure at least once every 5 years.			Audit Item 358
	Enhance the Structures Monitoring Program for IP2 and IP3 to perform inspection of the degraded areas of the water control structure once per 3 years rather than the normal frequency of once per 5 years during the PEO.		NL-11-032	
	Enhance the Structures Monitoring Program to include more detailed quantitative acceptance criteria for inspections of concrete structures in accordance with ACI 349.3R, "Evaluation of Existing Nuclear Safety-Related Concrete Structures" prior to the period of extended operation.		NL-11-101	

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
26	Implement the Thermal Aging Embrittlement of Cast Austenitic Stainless Steel (CASS) Program for IP2 and IP3 as described in LRA 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 (CASS) Program.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-07-153 NL-15-121	A.2.1.36 A.3.1.36 B.1.37 Audit item 173
27	Implement the Thermal Aging and Neutron Irradiation Embrittlement of Cast Austenitic Stainless Steel (CASS) Program for IP2 and IP3 as described in LRA 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 (CASS) Program.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-07-153	A.2.1.37 A.3.1.37 B.1.38 Audit item 173
28	Enhance the Water Chemistry Control – Closed Cooling Water Program to maintain water chemistry of the IP2 SBO/Appendix R diesel generator cooling system per EPRI guidelines. Enhance the Water Chemistry Control – Closed Cooling Water Program to maintain the IP2 and IP3 security generator and fire protection diesel cooling water pH and glycol within limits specified by EPRI guidelines.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-08-057	A.2.1.39 A.3.1.39 B.1.40 Audit item 509
29	Enhance the Water Chemistry Control – Primary and Secondary Program for IP2 to test sulfates monthly in the RWST with a limit of <150 ppb.	IP2: Complete	NL-07-039 NL-13-122	A.2.1.40 B.1.41

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
30	For aging management of the reactor vessel internals, IPEC will (1) participate in the industry programs for investigating and managing aging effects on reactor internals; (2) evaluate and implement the results of the industry programs as applicable to the reactor internals; and (3) upon completion of these programs, but not less than 24 months before entering the period of extended operation, submit an inspection plan for reactor internals to the NRC for review and approval.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-11-107	A.2.1.41 A.3.1.41
31	Additional P-T curves will be submitted as required per 10 CFR 50, Appendix G prior to the period of extended operation as part of the Reactor Vessel Surveillance Program.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-15-121	A.2.2.1.2 A.3.2.1.2 4.2.3
32	As required by 10 CFR 50.61(b)(4), IP3 will submit a plant-specific safety analysis for plate B2803-3 to the NRC three years prior to reaching the RT_{PTS} screening criterion. Alternatively, the site may choose to implement the revised PTS rule when approved.	IP3: Approximately 6 years after entering the PEO	NL-07-039 NL-07-140 NL-08-014 NL-08-127	A.3.2.1.4 4.2.5

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
33	At least 2 years prior to entering the period of extended operation, for the locations identified in LRA Table 4.3-13 (IP2) and LRA Table 4.3-14 (IP3), under the Fatigue Monitoring Program, IP2 and IP3 will implement one or more of the following: (1) Consistent with the Fatigue Monitoring Program, Detection of Aging Effects, update the fatigue usage calculations using refined fatigue analyses to determine valid CUFs less than 1.0 when accounting for the effects of reactor water environment. This includes applying the appropriate Fen factors to valid CUFs determined in accordance with one of the following: 1. For locations in LRA Table 4.3-13 (IP2) and LRA Table 4.3-14 (IP3), with existing fatigue analysis valid for the period of extended operation, use the existing CUF. 2. Additional plant-specific locations with a valid CUF may be evaluated. In particular, the pressurizer lower shell will be reviewed to ensure the surge nozzle remains the limiting component. 3. Representative CUF values from other plants, adjusted to or enveloping the IPEC plant specific external loads may be used if demonstrated applicable to IPEC. 4. An analysis using an NRC-approved version of the ASME code or NRC-approved alternative (e.g., NRC-approved code case) may be performed to determine a valid CUF. (2) Consistent with the Fatigue Monitoring Program, Corrective Actions, repair or replace the affected locations before exceeding a CUF of 1.0.	IP2: Complete IP3: Complete	NL-07-039 NL-13-122 NL-07-153 NL-08-021 NL-10-082	A.2.2.2.3 A.3.2.2.3 4.3.3 Audit item 146

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
34	IP2 SBO / Appendix R diesel generator will be installed and operational by April 30, 2008. This committed change to the facility meets the requirements of 10 CFR 50.59(c)(1) and, therefore, a license amendment pursuant to 10 CFR 50.90 is not required.	Complete	NL-13-122 NL-07-078 NL-08-074 NL-11-101	2.1.1.3.5
35	Perform a one-time inspection of representative sample area of IP2 containment liner affected by the 1973 event behind the insulation, prior to entering the period of extended operation, to assure liner degradation is not occurring in this area. Perform a one-time inspection of representative sample area of the IP3 containment steel liner at the juncture with the concrete floor slab, prior to entering the period of extended operation, to assure liner degradation is not occurring in this area. Any degradation will be evaluated for updating of the containment liner analyses as needed.	IP2: Complete IP3: Complete	NL-08-127 NL-13-122 NL-11-101 NL-15-121 NL-09-018	Audit Item 27
36	Perform a one-time inspection and evaluation of a sample of potentially affected IP2 refueling cavity concrete prior to the period of extended operation. The sample will be obtained by core boring the refueling cavity wall in an area that is susceptible to exposure to borated water leakage. The inspection will include an assessment of embedded reinforcing steel. Additional core bore samples will be taken, if the leakage is not stopped, prior to the end of the first ten years of the period of extended operation. A sample of leakage fluid will be analyzed to determine the composition of the fluid. If additional core samples are taken prior to the end of the first ten years of the period of extended operation, a sample of leakage fluid will be analyzed.	IP2: Complete	NL-08-127 NL-11-101 NL-13-122 NL-09-056 NL-09-079	Audit Item 359

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
37	Enhance the Containment Inservice Inspection (CII-IWL) Program to include inspections of the containment using enhanced characterization of degradation (i.e., quantifying the dimensions of noted indications through the use of optical aids) during the period of extended operation. The enhancement includes obtaining critical dimensional data of degradation where possible through direct measurement or the use of scaling technologies for photographs, and the use of consistent vantage points for visual inspections.	IP2: Complete IP3: Complete	NL-08-127 NL-13-122	Audit Item 361
38	For Reactor Vessel Fluence, should future core loading patterns invalidate the basis for the projected values of RTpts or C_VUSE, updated calculations will be provided to the NRC.	IP2: Complete IP3: Complete	NL-08-143 NL-13-122 NL-15-121	4.2.1
39	Deleted		NL-09-079	
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.	IP2: Complete IP3: Complete	NL-09-106 NL-13-122 NL-15-121	B.1.6 B.1.22 B.1.23 B.1.24 B.1.25 B.1.27 B.1.28 B.1.33 B.1.37 B.1.38

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
41	~~IPEC will inspect steam generators for both units to assess the condition of the divider plate assembly. The examination technique used will be capable of detecting PWSCC in the steam generator divider plate assembly. The IP2 steam generator divider plate inspections will be completed within the first ten years of the period of extended operation (PEO). The IP3 steam generator divider plate inspections will be completed within the first refueling outage following the beginning of the PEO.~~ Deleted	~~IP2: After the beginning of the PEO and prior to September 28, 2023~~ ~~IP3: Prior to the end of the first refueling outage following the beginning of the PEO.~~	~~NL-11-032~~ ~~NL-11-074~~ ~~NL-11-090~~ ~~NL-11-101~~ NL-17-005	~~N/A~~

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
42	IPEC will develop a plan for each unit to address the potential for cracking of the primary to secondary pressure boundary due to PWSCC of tube-to-tubesheet welds using one of the following two options. Option 1 (Analysis) IPEC will perform an analytical evaluation of the steam generator tube-to-tubesheet welds in order to establish a technical basis for either determining that the tubesheet cladding and welds are not susceptible to PWSCC, or redefining the pressure boundary in which the tube-to-tubesheet weld is no longer included and, therefore, is not required for reactor coolant pressure boundary function. The redefinition of the reactor coolant pressure boundary must be approved by the NRC as a license amendment request. Option 2 (Inspection) IPEC will perform a one-time inspection of a representative number of tube-to-tubesheet welds in each steam generator to determine if PWSCC cracking is present. If weld cracking is identified: a. The condition will be resolved through repair or engineering evaluation to justify continued service, as appropriate, and b. An ongoing monitoring program will be established to perform routine tube-to-tubesheet weld inspections for the remaining life of the steam generators.	IP2: ~~Prior to March 2024~~ Complete IP3: ~~Prior to the end of the first refueling outage following the beginning of the PEO.~~ Complete IP2: ~~Between March 2020 and March 2024~~Not Applicable ~~IP3: Prior to the end of the first refueling outage following the beginning of the PEO.~~Not Applicable	NL-11-032 NL-11-074 NL-11-090 NL-11-096 NL-17-005	N/A

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
43	IPEC 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 IP2 and IP3 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. IPEC will use the NUREG/CR-6909 methodology in the evaluation of the limiting locations consisting of nickel alloy, if any.	IP2: Complete IP3: Complete	NL-11-032 NL-13-122 NL-11-101 NL-15-121	4.3.3
44	IPEC will include written explanation and justification of any user intervention in future evaluations using the WESTEMS "Design CUF" module.	IP2: Complete IP3: Complete	NL-11-032 NL-11-101 NL-13-122 NL-15-121	N/A
45	IPEC will not use the NB-3600 option of the WESTEMS program in future design calculations until the issues identified during the NRC review of the program have been resolved.	IP2: Complete IP3: Complete	NL-11-032 NL-11-101 NL-13-122 NL-15-121	N/A
46	Include in the IP2 ISI Program that IPEC will perform twenty-five volumetric weld metal inspections of socket welds during each 10-year ISI interval scheduled as specified by IWB-2412 of the ASME Section XI Code during the period of extended operation. In lieu of volumetric examinations, destructive examinations may be performed, where one destructive examination may be substituted for two volumetric examinations.	IP2: Complete	NL-11-032 NL-11-074 NL-13-122	N/A
47	Deleted.		NL-14-093	N/A

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
48	Entergy will visually inspect IPEC underground piping within the scope of license renewal and subject to aging management review prior to the period of extended operation and then on a frequency of at least once every two years during the period of extended operation. This inspection frequency will be maintained unless the piping is subsequently coated in accordance with the preventive actions specified in NUREG-1801 Section XI.M41 as modified by LR-ISG-2011-03. Visual inspections will be supplemented with surface or volumetric non-destructive testing if indications of significant loss of material are observed. Consistent with revised NUREG-1801 Section XI.M41, such 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, replacement).	IP2: Complete IP3: Complete	NL-12-174 NL-13-122 NL-15-121	N/A
49	Recalculate each of the limiting CUFs provided in section 4.3 of the LRA for the reactor vessel internals to include the reactor coolant environment effects (F_{en}) as provided in the IPEC Fatigue Monitoring Program using NUREG/CR-5704 or NUREG/CR-6909. In accordance with the corrective actions specified in the Fatigue Monitoring Program, corrective actions include further CUF re-analysis, and/or repair or replacement of the affected components prior to the CUF_{en} reaching 1.0.	IP2: Complete IP3: Complete	NL-13-052 NL-13-122 NL-15-121	A.2.2.2 A.3.2.2
50	Replace the IP2 split pins during the 2016 refueling outage (2R22).	IP2: Complete IP3: N/A	NL-13-122 NL-14-067	A.2.1.41 B.1.42

#	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE	RELATED LRA SECTION / AUDIT ITEM
51	Enhance the Service Water Integrity Program by implementing LRA Sections A.2.1.33, A.3.1.33 and B.1.34, as shown in NL-14-147.	IP2 & IP3: December 31, 2017	NL-14-147	A.2.1.33 A.3.1.33 B.1.34
	Implement LRA Sections A.2.1.33, A.3.1.33 and B.1.34, as shown in NL-16-122.	IP2 & IP3: December 31, 2017	NL-16-122	A.2.1.33 A.3.1.33 B.1.34
52	Implement the Coating Integrity Program for IP2 and IP3 as described in LRA Section B.1.42, as shown in NL-15-019.	IP2 & IP3: December 31, 2024	NL-15-019	A.2.1.42 A.3.1.42 B.1.43