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AEP:NRC:5034-01  
10 CFR 54

Docket Nos. 50-315  
50-316

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Mail Stop O-P1-17  
Washington, DC 20555-0001

Donald C. Cook Nuclear Plant, Units 1 and 2  
Applicant's Comments on the Safety Evaluation Report with Open Items Related to the License  
Renewal of Donald C. Cook Nuclear Plant, Units 1 and 2  
(TAC Nos. MC1202 and MC1203)

- References:
1. Letter from M. K. Nazar, Indiana Michigan Power Company (I&M), to U. S. Nuclear Regulatory Commission (NRC) Document Control Desk, "Donald C. Cook Nuclear Plant Units 1 and 2, Application for Renewed Operating Licenses," AEP:NRC:3034, dated October 31, 2003 [Accession No. ML033070177].
  2. Letter from P. T. Kuo, NRC, to M. K. Nazar, I&M, "Safety Evaluation Report (SER) with Open Items Related to the License Renewal of Donald C. Cook Nuclear Plant, Units 1 and 2," dated December 21, 2004 [Accession No. ML043570535].

Dear Sir or Madam:

By Reference 1, Indiana Michigan Power Company (I&M) submitted an application to renew the operating licenses for Donald C. Cook Nuclear Plant (CNP), Units 1 and 2. Based on information provided in the license renewal application (LRA), subsequent responses to U. S. Nuclear Regulatory Commission (NRC) requests for additional information and other questions related to the LRA, the NRC staff developed a draft safety evaluation report (DSER) titled, "Safety Evaluation Report with Open Items Related to the License Renewal of the Donald C. Cook Nuclear Plant, Units 1 and 2." By letter dated December 21, 2004 (Reference 2), the NRC staff issued for comment, the DSER. This letter provides I&M's comments on the DSER. These comments provide additional or clarifying information, but do not impact the NRC staff's conclusions documented in the DSER.

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During the license renewal aging management program inspection in November 2004, the NRC inspection team raised a concern regarding the ability of the established commitment management process to ensure accurate implementation of the license renewal commitments. Specifically, the team was concerned that the level of detail provided in the commitment text (as provided in the Regulatory Commitment attachments to I&M's correspondence) may not provide sufficient detail to support future implementation. To resolve this concern, I&M enhanced the commitment text (as reflected in the Commitment Management database) to provide a more detailed description of the program enhancements provided in Appendix B of the LRA. The enhanced commitment text, as well as additional commitments that were not reflected in Appendix A to the DSER, is provided in Attachment 2 to this letter.

Attachment 1 to this letter provides I&M's comments on the DSER. Attachment 2 provides a table of the enhanced commitments for the CNP license renewal application. There are no new commitments made in this submittal.

Should you have any questions, please contact Mr. Richard J. Grumbir, Project Manager, License Renewal, at (269) 697-5141.

Sincerely,



Daniel P. Fadel  
Engineering Vice President

NH/rdw

Enclosure: Affirmation

Attachments:

- 1) Applicant's Comments on the "Safety Evaluation Report with Open Items Related to the License Renewal of Donald C. Cook Nuclear Plant, Units 1 and 2"
- 2) Clarifications to License Renewal Commitments

c: J. L. Caldwell, NRC Region III  
K. D. Curry, AEP Ft. Wayne, w/o attachments  
J. T. King, MPSC, w/o attachments  
C. F. Lyon, NRC Washington DC  
MDEQ - WHMD/HWRPS, w/o attachments  
NRC Resident Inspector  
J. G. Rowley, NRC Washington DC

**AFFIRMATION**

I, Daniel P. Fadel, being duly sworn, state that I am Engineering Vice President of Indiana Michigan Power Company (I&M), that I am authorized to sign and file this request with the Nuclear Regulatory Commission on behalf of I&M, and that the statements made and the matters set forth herein pertaining to I&M are true and correct to the best of my knowledge, information, and belief.

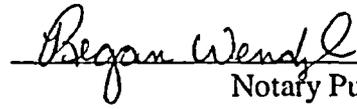
Indiana Michigan Power Company



Daniel P. Fadel  
Engineering Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

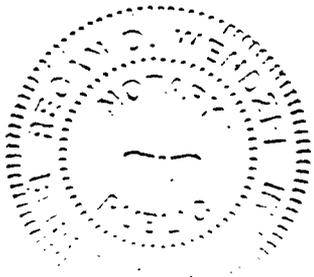
THIS 2<sup>nd</sup> DAY OF March, 2005

  
\_\_\_\_\_  
Notary Public

REGAN D. WENZEL

Notary Public, Berrien County, MI

My Commission Expires My Commission Expires Jan. 21, 2009



**Applicant's Comments on the "Safety Evaluation Report with Open Items Related to the License Renewal of Donald C. Cook Nuclear Plant, Units 1 and 2"**

In October 2003, Indiana Michigan Power Company (I&M) submitted an application to renew the operating licenses for Donald C. Cook Nuclear Plant (CNP), Units 1 and 2. Based on information provided in the license renewal application (LRA), subsequent responses to U. S. Nuclear Regulatory Commission (NRC) requests for additional information (RAI) and other questions related to the LRA, the NRC staff developed a draft safety evaluation report (DSER) titled, "Safety Evaluation Report with Open Items Related to the License Renewal of the Donald C. Cook Nuclear Plant, Units 1 and 2." This attachment provides I&M's comments on the DSER. These comments provide additional or clarifying information, but do not impact the NRC staff's conclusions documented in the DSER. (Note: Where revised text is suggested, new text is shown in *italics*, and deleted text is shown in ~~strikeout~~.)

**Page 1-1, Section 1.1.** In the first sentence of the second paragraph, please note that CNP was licensed to Section 104b (not 103) of the Atomic Energy Act of 1954.

**Page 1-1, Section 1.1.** The next-to-last sentence of the second paragraph should be revised, as follows, to reflect current licensing basis information in Section 1.0 of the CNP Updated Final Safety Analysis Report (UFSAR), "Units 1 and 2 of CNP consist of ~~a~~ Westinghouse Electric pressurized-water reactors (PWRs) licensed to generate ~~3250 and 3411~~ *3304 and 3468* megawatts-thermal (MWt), or approximately ~~1099 and 1153~~ *1080 and 1155 gross* megawatts-electric (MWe), respectively."

**Page 2-14, Section 2.1.3.1.2 and Page 2-27, Section 2.1.3.1.3.** The DSER makes reference to procedure 12-EHP-5043-SCD-001, "Safety Classification Determinations." This plant procedure will continue to be used as a controlled document following completion of the LRA review. It is suggested that more general wording be used when discussing controlled documents in the DSER, as a specific reference may be construed as "incorporation by reference." In contrast, documents that are specific to the license renewal project are intended to be used for this project only, and will become plant records upon completion of this project. These include project guideline documents (i.e., documents numbered as LRP-PG-##), for which I&M does not object to the inclusion of specific references in this DSER.

**Page 2-16, Section 2.1.3.1.2.** The paragraph beginning with, "In February 2003, ..." includes a sentence stating, "The applicant subsequently included these additional components in the AMR [aging management review] reports." It is recommended that this sentence be revised to state, "The applicant subsequently included these additional components in the AMR reports, *as applicable*." This is in agreement with the RAI response and the DSER (near the bottom of Page 2-16, which noted that some components are conservatively classified as safety-related in the facility database and may be considered for future re-classification). That is to say, only the additional components that have a safety function were included in the AMR reports.

**Page 2-23, Section 2.1.3.1.2.** The first paragraph references Confirmatory Item 3.3.2.1.11-2, discussed in Section 3.3 of the DSER, which addresses the concerns associated with potential for loss of safety-related intended functions because of age-related failure of nonsafety-related systems, structures, and components. Neither DSER Section 3.3 nor Section 1.6, Summary of Confirmatory Items, discuss Confirmatory Item 3.3.2.1.11-2, although DSER Section 3.3 does discuss RAI 3.3.2.1.11-2, which was combined into Confirmatory Item 3.3.2.1.11-1.

**Page 2-26, Section 2.1.3.1.2.** Near the bottom of the page, the DSER states, "The applicant's design engineering group developed the reports, which were reviewed by a subject matter expert, LRA management, and independent contractors." The topical reports for regulated events were developed by CNP's "license renewal project," not the "design engineering group." The subsequent reviews were performed as described in this sentence, with the exception that "LRA management" should be changed to "License Renewal Project management" to more accurately reflect the organization's title.

**Page 2-27, Section 2.1.3.1.3.** System level functions were identified for mechanical systems only. It is suggested that the last full sentence of the page be revised to read, "Based on the CLB [current licensing basis] information, the applicant identified *mechanical* system or structural level functions. The applicant documented the license renewal intended functions by completing a system function scoping table for each *mechanical* system or structure function."

**Page 2-29, Section 2.1.3.1.2.** The DSER states that "As described in Section 2.1.4.1 of the LRA, a component is determined to be in-scope if it is safety related, meets the criteria of 10 CFR 54.4(a)(1), is needed to fulfill a system intended function, meets the criteria of 10 CFR 54.4(a)(2), or is needed to demonstrate compliance with a regulated event." The CNP LRA does not have a Section 2.1.4.1. It is suggested that this sentence be revised to reference LRA Section 2.1.1, which summarizes the CNP license renewal scoping methodology.

**Page 2-31, Section 2.1.3.1.4.2.** The introduction paragraph to Section 2.1.3.1.4.2 should be revised to indicate that procedure LRP-PG-03 provides guidance for screening (not scoping) of structural components. Scoping is addressed in procedure LRP-PG-01, which is discussed in DSER Section 2.1.3.1.3.

**Page 2-47, Section 2.3.1.1.2.** The DSER states "The staff reviewed LRA Section 2.3.1.2 and CNP UFSAR Sections 2.3.1.3, 2.3.1.4, and 4.2.2.1 to determine whether the applicant identified the reactor vessel and CRDM [control rod drive mechanism] pressure boundary system components within the scope of license renewal and subject to an AMR." The CNP UFSAR does not have sections numbered 2.3.1.3 or 2.3.1.4. It is suggested that this sentence be revised to state, "The staff reviewed LRA Sections 2.3.1.2, 2.3.1.3, and 2.3.1.4 and CNP UFSAR Section 4.2.2.1 ... " which are the sections that discuss the reactor vessel internals and safe ends.

**Page 2-81, Section 2.3.3.3.2.** The Applicant's Response and Staff's Evaluation sub-section provides a discussion of RAI 2.3.3.11-2, pertaining to scoping and screening of components meeting 10 CFR 54.4(a)(2). The DSER indicates that I&M's responses to this RAI were provided in letters dated May 20, 2004, and September 2, 2004. I&M's letters dated May 7, 2004 (AEP:NRC:4034-01), and September 2, 2004 (AEP:NRC:4034-15), provided the initial and supplemental responses to this RAI.

**Page 2-86, Section 2.3.3.4.2.** The first sentence on Page 2-86 states, "No short-lived components that perform a 10 CFR 54.4 intended function are depicted on the CA [compressed air] system license renewal drawings." Suggest rewording to include the drawing numbers listed in the RAI or revising the sentence to read, "No short-lived components that perform a 10 CFR 54.4 intended function are depicted *highlighted* on the CA system license renewal drawings."

**Pages 2-179 and 2-180, Section 2.5.2.** RAIs 2.5-1 and 2.5-2, pertaining to scoping of transmission and switchyard components, are not discussed in Section 2.5 of the DSER, although they are addressed in Section 3.6.2.3.4, "Station Blackout Components." It is recommended that the station blackout section of the DSER be relocated to Section 2.5, as it is more relevant to license renewal scoping [10 CFR 54.4(a)(3)] than AMR [10 CFR 54.21(a)].

**Page 3-8, Section 3.0.3.** In the Containment Leakage Rate Testing Program entry in Table 3.0.3-1, delete the second "Auxiliary Systems" entry. Add "Structures and Component Supports" to this entry.

**Page 3-8, Section 3.0.3.** In the Fire Water System Program entry in Table 3.0.3-1, delete "Structures and Component Supports." No fire water components are included in this group.

**Page 3-11, Section 3.0.3.** In the Closed Cooling Water Chemistry Control Program entry in Table 3.0.3-1, delete "Steam and Power Conversion Systems." No system in this group credits this program.

**Page 3-11, Section 3.0.3.** In the Auxiliary Systems Water Chemistry Control Program entry in Table 3.0.3-1, delete "Reactor Vessel, Internals, and Reactor Coolant System," and "Structures and Component Supports." The first deletion is appropriate because the Primary and Secondary Water Chemistry Control Program is credited for reactor coolant system components. The second deletion is appropriate because this program is not credited for aging management of any structure or component support.

**Page 3-11, Section 3.0.3.** In Table 3.0.3-1, the Bottom-Mounted Instrumentation Thimble Tube Inspection Program is listed as a new program. As noted in Section B.1.5 (Page B-28) of the LRA, this program is an existing program. Therefore, this table entry should be relocated to the section of the table that identifies existing programs.

**Page 3-12, Section 3.0.3.** In Table 3.0.3-1, the Water Chemistry Control – Chemistry One-Time Inspection Program (B.1.41) is identified as a plant-specific program, with “NA” in the Generic Aging Lessons Learned Aging Management Programs [GALL AMP(s)] column. As noted in Section B.1.41 (Page B-131) of the LRA, this program will be consistent with the NUREG-1801, Section XI.M32, One-Time Inspection Program. Therefore, it is suggested that the GALL Comparison entry be revised to indicate “Consistent,” and the GALL AMP(s) entry be revised to indicate “XI.M32.”

**Page 3-18, Section 3.0.3.1, Steam Generator Integrity:** The last paragraph in the Summary of Technical Information in the Application sub-section summarizes the Unit 2 steam generator inspection results. The CNP Unit 2 steam generators were inspected during the October 2004 refueling outage. Consequently, the inspection results presented in the DSER are outdated. The following changes are recommended: 1) the Unit 2 steam generators have been inspected six (vice five) times; 2) a total of 16 (vice 15) tubes have been plugged; and 3) five (vice four) tubes are plugged in Steam Generator 22. Additionally, it is recommended that the third sentence be revised to state, “All of the ~~16-15~~ cases of tube plugging during inservice inspections occurred in 1994, ~~and~~ 1997, ~~and~~ 2004, and were the result of mechanical damage, foreign object wear, or tube support plate wear.”

**Page 3-20, Section 3.0.3.1.** In the paragraph starting “Regarding the ...”, the DSER summarizes various aspects of the steam generator secondary side inspections that are performed under the Steam Generator Integrity Program. The DSER indicates that the interval for secondary side visual inspections is no more than two operating cycles. This statement could be misinterpreted to imply that the secondary side inspections are performed on all steam generators every two operating cycles. As noted in response to RAI 3.1-4, in I&M’s letter dated August 11, 2004 (AEP:NRC:4034-12), the components to be inspected during any particular secondary side inspection are identified by a degradation assessment. It is suggested that this paragraph be revised to include a discussion of the degradation assessments that determine when each steam generator will be inspected.

**Page 3-21, Section 3.0.3.1.** In the second paragraph of the Conclusion sub-section, it is suggested that reference to UFSAR Chapter 18 be deleted as the location for the placement of the UFSAR Supplement information. The CNP UFSAR currently has 14 chapters. A specific UFSAR location for the future location of this information is not relevant to this review.

**Page 3-22, Section 3.0.3.2.** The list of AMPs that are consistent with the GALL Report should include the Fatigue Monitoring Program, which is discussed in DSER Section 3.0.3.2.17.

**Page 3-27, Section 3.0.3.2.2.** The first paragraph of the Operating Experience sub-section for the Buried Piping Inspection Program discusses plant-specific operating experience pertaining to buried piping inspections. The last sentence states, “Failures of fuel oil tanks and piping have been limited to small leaks resulting from localized corrosion, such as pitting.” I&M is not aware of any fuel oil tank or piping failures at CNP. If this statement is referring to industry

operating experience, it is suggested that the sentence be revised to state, "Industry operating experience indicates that failures ..."

**Pages 3-31, 3-32, 3-33, and 3-34, Section 3.0.3.2.3.** The last paragraph in each discussion of RAIs 1.9.2-1 through 1.9.2-6 states, "The staff concludes that the implementation of the commitments made in response to RAI [number] will ensure ..." I&M made no commitments in its response to these RAIs. It is suggested that these statements be revised to delete reference to commitments made in the RAI responses, and instead reference commitments made in response to First Revised Order EA-03-009 (and NRC Bulletin 2003-02, as applicable in some responses) or use a phrase such as "commitments referenced in response to RAI ..."

**Page 3-32, Section 3.0.3.2.3.** The last paragraph in the Parameters Monitored or Inspected sub-section discusses "other nickel-based alloys in the primary coolant system." The scope of the Control Rod Drive Mechanism and Other Vessel Head Penetration Inspection Program, which is based on First Revised NRC Order EA-03-009, is limited to the nickel-based alloy reactor vessel head penetrations and does not include the entire reactor coolant system. Therefore, discussions of the scope of this program should not reference other reactor coolant system components.

- This comment also applies to the Detection of Aging Effects and Monitoring and Trending sub-sections on Pages 3-33 and 3-34, respectively.

**Page 3-38, Section 3.0.3.2.4.** The Staff Evaluation sub-section for the Diesel Fuel Monitoring Program includes statements referring to technical specification requirements to visually inspect the fuel oil storage tanks every 10 years. CNP's technical specifications do not require visual inspections of these tanks every 10 years. The CNP technical specifications require that emergency diesel generator (EDG) fuel oil storage tanks either be drained and cleaned or that their contents undergo a filtering test every 10 years. Visual inspections are performed on tanks that are drained for cleaning.

**Page 3-40, Section 3.0.3.2.5.** The third paragraph states, "The applicant stated in the LRA that the inspection intervals are determined by engineering evaluation ..." for fire doors. The LRA did not discuss determining inspection intervals by engineering evaluation, but instead identified exceptions to the Parameters Monitored/Inspected program element that pertain to the fire door inspection and testing intervals. These exceptions are identified on Page B-43 of the LRA.

**Page 3-50, Section 3.0.3.2.9.** The first paragraph under the Summary of Technical Information in the Application sub-section for the Non-EQ Instrumentation Circuits Test Review Program indicates that the LRA stated that this program will be consistent with GALL AMP XI.E2. As discussed in LRA Section B.1.21, this program will be consistent with, but include an exception to, the GALL AMP XI.E2 program. It is suggested that this sentence be revised to indicate that LRA Section B.1.21 also identified an exception to the GALL AMP XI.E2 program.

**Page 3-56, Section 3.0.3.2.11.** The first paragraph states, “The applicant performs testing and inspections annually and during refueling outages.” As noted on Page B-96 of the LRA, CNP’s Service Water System Reliability Program includes an exception to the Monitoring and Trending element of the NUREG-1801, Section XI.M20, “Open-Cycle Cooling Water System” program. The CNP program performs tests and inspections on a refueling outage frequency only. It is suggested that reference to annual inspections be deleted from this paragraph.

**Pages 3-59, Section 3.0.3.2.12 and Page 3-60, Section 3.0.3.2.13.** The Operating Experience sub-section includes information pertaining to the Structures Monitoring – Crane Inspection Program, which is a separate program and not part of the Structures Monitoring – Structures Monitoring Program.

- The information after the first sentence in the first paragraph is already included in the Structures Monitoring – Crane Inspection Program operating experience discussion on Page 3-61.
- The information in the second paragraph is not currently discussed in the Structures Monitoring – Crane Inspection Program operating experience discussion. It is suggested that this information be relocated to the Crane Inspection Program discussion.

**Page 3-61, Section 3.0.3.2.13.** The last paragraph in the Staff Evaluation sub-section contains the statement, “The applicant committed to modify its procedure to identify the earth underneath the roadway (shoreline).” Although I&M did commit to enhance the Structures Monitoring Program to examine the roadway west of the screenhouse for weather-related degradation, no commitment was made to “identify the earth underneath the roadway.” Furthermore, this commitment pertains to the Structures Monitoring Program, not the Crane Inspection Program.

**Page 3-74, Section 3.0.3.3.1.** In the last paragraph discussing RAI B.1.1.2-2, the first sentence states “The staff concludes that the commitments made in response to RAI B.1.1.2-2 ...” I&M made no commitment in this response, but rather provided clarification to the current commitment. It is requested that this statement be appropriately reworded.

**Page 3-86, Section 3.0.3.3.3.** The second paragraph of the Parameters Monitored or Inspected sub-section reflects I&M’s response to RAI B.1.3-1, Part (a), which stated that the coupon tree is moved each refueling outage to be surrounded by the highest powered discharged fuel assemblies. In I&M’s subsequent letter dated January 21, 2005 (referenced below), the response to RAI B.1.3-2, Part 2, Question 2, clarified the coupon tree relocation schedule. By procedure, the coupon tree is only required to be moved to a high flux region of the spent fuel pool when the coupons are removed for evaluation (typically one or two months prior to a reactor refueling outage).

Reference for Comment on Page 3-86, Section 3.0.3.3.3:

Letter from J. N. Jensen, I&M, to NRC Document Control Desk, "Donald C. Cook Nuclear Plant, Units 1 and 2, Response to Open and Confirmatory Items in the Draft Safety Evaluation Report Related to the License Renewal of Donald C. Cook Nuclear Plant, Units 1 and 2," AEP:NRC:5034, dated January 21, 2005.

**Page 3-87, Section 3.0.3.3.3.** The first paragraph of the Monitoring and Trending sub-section discusses a follow-up item to RAI B.1.3-1 in an NRC letter dated September 29, 2004, and an I&M response in an October 18, 2004, letter. Continued implementation of the Boral Surveillance Program was not addressed in the NRC September 29, 2004, letter or I&M's October 18, 2004, letter. The supplemental response to RAI B.1.3-1 in I&M's October 18, 2004, letter was in reference to the information discussed in the Acceptance Criteria sub-section on Pages 3-87 and 3-88.

**Page 3-90, Section 3.0.3.3.4.** The second paragraph of the Staff Evaluation sub-section presents information requested in RAI B.1.5-1. There is no discussion of the I&M response to this RAI (reference applicant's letter dated August 19, 2004, AEP:NRC:4034-13) or the NRC determination of acceptability of this response. As written, it appears that this issue is unresolved, although it is I&M's understanding that this is not the case.

**Page 3-93, Section 3.0.3.3.5.** The last paragraph states, "... Section 3 of the LRA identifies specific components for which the Heat Exchanger Monitoring Program manages aging effects." The LRA identifies component types (e.g., heat exchanger), whereas the specific components were identified in the license renewal drawings and other license renewal documents reviewed during the scoping audit.

**Page 3-94, Section 3.0.3.3.5.** The Parameters Monitored or Inspected sub-section states, "It will use eddy current testing to identify wall thinning and cracking in shell-and-tube heat exchangers." This should be revised to indicate that the program will use non-destructive examinations, such as eddy current inspections on a sample of the heat exchanger tubes (where practical) or visual inspections (where accessible), in agreement with the LRA and the UFSAR Supplement sub-section of the DSER.

**Pages 3-94 and 3-95, Section 3.0.3.3.5.** The Detection of Aging Effects and Acceptance Criteria sub-sections each refer to commitments made by I&M that are captured in Appendix A of the DSER. The commitment in Appendix A concerning this program (Item 9) does not contain the specific attributes discussed in these sub-sections.

**Page 3-110, Section 3.0.3.3.10.** The fourth paragraph of the Detection of Aging Effects sub-section discusses the visual inspections and replacement activities that will be incorporated to manage the aging effects of cracking and change of material properties of the EDG elastomer flex hoses and tubing. The Aging Management Programs discussions for the CA system (DSER Section 3.3.2.3.4, Page 3-264), EDG (DSER Section 3.3.2.3.8, Page 3-283), security diesel (DSER Section 3.3.2.3.9, Page 3-294), and post-accident containment hydrogen monitoring system (DSER Section 3.3.2.3.10, Page 3-299) include a discussion of RAI 3.3.3-2, which

indicated that flexibility of the hoses will be verified through physical manipulations. For consistency, it is suggested that this information also be included in DSER Section 3.0.3.3.10.

**Page 3-117, Section 3.0.3.1.12.** The Scope of Program sub-section states, "Technical Specification surveillance requirement 4.6.5.1.d mandates checking a sample of ice baskets at least every 40 months ..." This sentence is overly specific and is subject to change by other licensing actions currently under review by the NRC staff (i.e., conversion to Improved Technical Specifications). It is recommended that this sentence be revised to state, "Technical specifications mandate periodic checking of a sample of ice baskets ..."

**Page 3-121, Section 3.0.3.3.13.** The second paragraph in the Parameters Monitored or Inspected sub-section states that "Parameters are monitored at frequencies based on evaluation and trended by the Site Surveillance Tracking Database." The site surveillance tracking database maintains the frequencies for monitoring parameters evaluated by the System Testing Program, but is not used to trend data identified by preventive maintenance activities. Trending of system testing results will be performed using applications other than the Site Surveillance Tracking Database.

**Page 3-121, Section 3.0.3.3.13.** The first paragraph in the Detection of Aging Effects sub-section states "The applicant stated, ... it will enhance centrifugal charging pumps system testing to manage loss of material ..." It is suggested that this sentence be revised to state that CNP will implement an activity to inspect the flow orifices to monitor loss of material, rather than enhancing the actual pump testing. The last paragraph of this sub-section accurately reflects the program enhancement.

**Page 3-121, Section 3.0.3.3.13.** The last sentence of the paragraph starting with, "The letdown orifices ..." states, "The applicant records chemical and volume control system letdown flow hourly on the Unit 1 or Unit 2 critical parameters log." CNP now records letdown flow continuously on the plant process computer, rather than the critical parameters log.

**Pages 3-123 and 3-124, Section 3.0.3.3.14.** The Summary of Technical Information in the Application sub-section only credits the System Walkdown Program for managing loss of material from internal surfaces in which the external surface is representative. The LRA also credited this program for managing loss of material of external carbon steel surfaces and loss of mechanical closure integrity for bolted closures that may be exposed to borated water leakage, but these are not discussed in this sub-section of the DSER.

**Page 3-152, Section 3.1.2.2.** In the Summary of Technical Information sub-section, the summary of aging effects list includes, "quality assurance and management of nonsafety-related components." This aging management program attribute is evaluated later in this section. This is not an aging effect listed in the license renewal application (LRA), and should not be listed with these other aging effects.

- This comment also applies to Sections 3.2.2.2 (Page 3-207), 3.3.2.2 (Page 247), 3.4.2.2 (Page 3-317), and 3.5.2.2 (Page 3-359).

**Page 3-225, Section 3.2.2.3.2.** The discussion of RAI 3.2-4 includes an excerpt from I&M's response to the RAI. The RAI response indicated that CNP's current Boric Acid Corrosion Prevention Program includes components inside and outside containment. However, the third paragraph under the RAI 3.2-4 heading in the DSER mischaracterizes this as a future action to update the AMP. It is suggested that this paragraph be revised as follows, "~~The applicant has also agreed to update~~ *Since* the AMP so that the scope goes beyond GALL and covers other leaks besides those from the reactor coolant pressure boundary. ~~Therefore, the staff's concern described in RAI 3.2-4 is resolved.~~"

**Page 3-205, Section 3.2.2.1.** In the discussion of Notes C and D, the DSER discusses staff audits and determination for these Notes. However, these standard Notes are not used in LRA Table 3.2.2-1 through 3.2.2-4; thus these discussions are not applicable. This could be addressed generically by summarizing the staff audits and determinations, *as applicable*, for these notes.

- This comment also applies to Section 3.4.2.1 (Page 3-316) for Notes B and D; Section 3.5.2 (Page 3-351) for Note D; and Section 3.6.2.1 (Page 3-400) for Notes C, D, and E.

**Page 3-257, Section 3.3.2.3.2.** In the Aging Management Programs sub-section, there is discussion about selective leaching and stainless steel, carbon steel, and copper alloy components, but the only component discussed in the Aging Effects sub-section is the expansion joint and the only material in the aging effect section is elastomer. It appears that the detailed Aging Management Programs discussion is not needed or components/materials have been left out of the Aging Effect discussion.

- This comment also applies to Section 3.3.2.3.3 (Page 3-259), and isolated cases in other DSER Auxiliary Systems sections.

**Page 3-265, Section 3.3.2.3.5.** Glass is identified as a material with no aging effects in the Aging Effects sub-section, but this combination is not addressed in the Aging Management Programs sub-section as being evaluated and not requiring an AMP. In contrast, Section 3.4.2.3.3 provides an evaluation of this material and the applicable environments.

- This comment also applies to DSER Sections 3.3.2.3.6 (Page 3-269), 3.3.2.3.8 (Page 3-278), and 3.3.2.3.11 (Pages 3-309 and 310).

**Page 3-301, Section 3.3.2.3.11.** In the Aging Effects sub-section, the list of component types evaluated in the section does not include ventilation unit housing, which is listed in LRA Table 2.3.3-11 and evaluated on DSER Page 3-309, fourth paragraph.

**Page 3-301, Section 3.3.2.3.11.** The first sentence of the second bullet (stainless steel) identifies loss of mechanical closure integrity as an aging effect requiring management (AERM) for stainless steel (bolting) exposed to an external air environment. This is inconsistent with LRA Table 2.3.3-11 and the fifth paragraph on Page 3-309 of the DSER.

**Page 3-301, Section 3.3.2.3.11.** The second (stainless steel) and fourth (copper alloy) bullets do not include the external air environments for which there are no AERMs, as discussed on Page 3-309.

**Page 3-301, Section 3.3.2.3.11.** The third bullet (cast iron) does not address loss of material in a treated water environment.

**Page 3-301, Section 3.3.2.3.11.** The sixth bullet identifies elastomers as a material subject to aging management in the miscellaneous systems in scope for 10 CFR 54.4(a)(2). Elastomers are not identified in LRA Table 3.3.2-11. The combinations listed are included in other LRA 3.3.2-X tables, and the corresponding DSER sections address these.

**Page 3-309, Section 3.3.2.3.11.** Management of loss of mechanical closure integrity for carbon steel and stainless steel bolting is not included in the DSER summary of AMR results, although it was identified as an AERM in LRA Table 3.3.2-11.

**Page 3-310, Section 3.3.2.3.11.** Management of cast iron pump casing exposed to a treated water internal environment is not addressed in the DSER summary of AMR results, although it was identified as an AERM in LRA Table 3.3.2-11.

**Page 3-310, Section 3.3.2.3.11.** The second paragraph (copper alloy heater coil) states that the staff could not confirm the applicability of an applicant-cited precedent. As written, it appears that this issue is unresolved, although it is I&M's understanding that this is not the case. It is suggested that the conclusion be provided, including the basis for determining its acceptability.

**Page 3-311, Section 3.3.2.3.12.** RAI 3.4-4 did not address the applicability of cracking due to stress corrosion cracking (SCC) for high-strength bolts or loss of preload "for auxiliary system bolting" as stated in the second sentence. This applicability was part of RAI B.1.2-1, which is discussed in later in this section.

**Page 3-321, Section 3.4.2.3.** The Aging Effects sub-section includes turbine casings in the list of component types that do not rely on the GALL Report for AMR. This component appears in LRA Table 3.4.2-3, annotated with Notes A and C (i.e., consistent with GALL).

**Page 3-321, Section 3.4.2.3.** The third bulleted entry in the Aging Effects sub-section lists carbon steel components exposed to an external air environment being subject to cracking fatigue. No entry for cracking fatigue of carbon steel exposed to external air is identified in LRA Tables 3.4.2-1 through 3.4.2-4. The only environments for which cracking fatigue is an applicable AERM is high-temperature steam or treated water environments, and these are annotated with either Note A or C (i.e., consistent with GALL).

**Page 3-322, Section 3.4.2.3.** The fourth bulleted entry in the Aging Effects sub-section lists carbon steel components that are annotated in the LRA with either Note A or C, which is not consistent with the component types that do not rely on the GALL Report for AMR.

**Page 3-322, Sections 3.4.2.3 and Page 3-332, Section 3.4.2.3.1.** The Inconel orifice insert internal environment identified in LRA Table 3.4.2-2 (Page 3.4-19) is not included in either the list of components in the Aging Effects sub-section of DSER Section 3.4.2.3 or in the list of component types in DSER Section 3.4.2.3.1.

**Page 3-328, Section 3.4.2.3.1.** In the Aging Effects sub-section, tubing is listed as a component type that does not rely on the GALL Report for AMR; however, this component type is not listed in LRA Tables 2.3.4-1 or 3.4.2-1, or in the bulleted list on Page 3-328 of the DSER.

**Page 3-330, Section 3.4.2.3.1.** The last sentence in the next-to-last paragraph on Page 3-330 states, "Table 3.4.1, Item 3.4.1-2, of the LRA and LRA Section 3.4.2.2.2 both identify CNP B.1.41 as the verification program ..." B.1.41 is not identified in Table 3.4.1. It is suggested that this sentence be reworded to state that, "Table 3.4.1, Item 3.4.1-2 of the LRA and ~~LRA Section 3.4.2.2.2 both identify~~ *identifies the Water Chemistry Control Program as an applicable AMP. As discussed in LRA Section 3.4.2.2.2, CNP AMP B.1.41 as-is the verification program that will supplement CNP AMP B.1.40.1 for main feedwater components for the Water Chemistry Control Programs.*"

**Page 3-331, Section 3.4.2.3.2.** The Aging Effects sub-section lists expansion joints, steam traps, and thermowells as component types that do not rely on the GALL Report for AMR; however, these component types are not listed in LRA Tables 2.3.4-2 or 3.4.2-2. It is suggested that they be deleted from the list in the Aging Effects sub-section of the DSER.

**Page 3-334, Section 3.4.2.3.3.** In the Aging Effects sub-section, a list of component types that do not rely on the GALL Report is provided. This list includes all component types listed in LRA Table 3.4.2-3, some of which (governor housing, heat exchanger (shell), pump casing, sight glass housing, strainer housing, and turbine casing) are consistent with GALL. It is not clear if the DSER intends to identify types that do not rely on GALL, as stated, or to provide a complete list of all in-scope component types, including those that are consistent with GALL.

**Page 3-334, Section 3.4.2.3.3.** In the Aging Effects sub-section, the third bulleted item should also include cast iron components (i.e., strainer housing) exposed to treated water, as identified in LRA Table 3.4.2-3 (Page 3.4-30).

**Page 3-334, Section 3.4.2.3.3.** In the Aging Effects sub-section, for the fifth bulleted item:

- Lubrication oil is not an internal environment for stainless steel in this system. LRA Table 3.4.2-3 only identifies carbon steel and copper alloy as being exposed to this environment. It is suggested that lubricating oil be deleted from the applicable environments for stainless steel components.
- Cracking - fatigue is an AERM for stainless steel components exposed to steam greater than 270°F (internal) environment, as identified in LRA Table 3.4.2-3. It is suggested that cracking-fatigue be added to the applicable AERMs for stainless steel components.

**Page 3-334, Section 3.4.2.3.3.** The component types listed in the Aging Effects sub-section bullets do not include (1) elastomers or (2) stainless steel exposed to concrete; both are listed in LRA Table 3.4.2-3 (Page 3.4-30). Elastomers are discussed in RAI 3.4-9 on DSER Pages 3-337 and 3-338, and stainless steel exposed to concrete is discussed in RAI 3.4-3 on DSER Pages 3-335 and 3-336.

**Page 3-339, Section 3.4.2.3.3 and Page 3-342, Section 3.4.2.3.4.** The applicable Water Chemistry Control Program for the auxiliary feedwater and blowdown systems is the Primary and Secondary Water Chemistry Control Program, as discussed in LRA Section B.1.40.1 and evaluated in DSER Section 3.0.3.2.15, vice the Closed Cooling Water Chemistry Control Program, as discussed in LRA Section B.1.40.2 and evaluated in DSER Section 3.0.3.3.16. It is suggested that the reference to Section 3.0.3.3.16 be replaced with 3.0.3.2.15 in the sentence after the bulleted list of AMPs.

**Page 3-341, Section 3.4.2.3.4.** Carbon steel and stainless steel components in an air (external) environment are not included in the component types listing in the DSER. These material/environment combinations are identified in LRA Table 3.4.2-4.

**Page 3-346, Section 3.5.2.** Item Number 3.5.1-7 should also include the Structures Monitoring Program (B.1.32) as an “AMP in LRA,” consistent with LRA Table 3.5.1, Item Number 3.5.1-7.

**Page 3-358, Section 3.5.2.1.1.** The information presented in the third paragraph does not apply to CNP. The CNP LRA does not include a Table 3.5.2, contains a different discussion of Interim Staff Guidance (ISG) document ISG-3, contains no plant-specific Notes 53 and 54, and does not consider leaching of calcium hydroxide or corrosion of embedded steel applicable aging effects in Section 3.5.2.2.2.

**Page 3-360, Section 3.5.2.2.1.** In the Aging of Inaccessible Concrete Areas sub-section, the DSER states that I&M used the Structures Monitoring Program to examine below grade concrete when exposed by excavation. A review of I&M’s license renewal correspondence to the NRC and program documentation could identify no basis for this statement. The LRA and subsequent correspondence state that the below-grade structures are not subject to aggressive chemical attack, based on groundwater chemistry analysis. It is requested that the statements regarding use of this program to examine below-grade concrete during excavation be deleted.

- This comment also applies to the DSER Section 3.5.2.2.1, PWR Containments sub-sections on aggressive chemical attack (Page 3-361) and corrosion of embedded steel (Page 3-362).
- This comment also applies to the DSER Section 3.5.2.2.2, Class 1 Structures sub-sections on aggressive chemical attack (Page 3-369), corrosion of embedded steel (Page 3-370), and Aging Management of Inaccessible Areas (Page 3-374).

**Page 3-361, Section 3.5.2.1.1.** The third paragraph in the “leaching of calcium hydroxide” sub-section should indicate that CNP concrete structures are not exposed to flowing water, as

discussed in LRA Section 3.5.2.2.2.1, on Page 3.5-11. As discussed in the second paragraph, leaching of calcium hydroxide becomes significant only if concrete is exposed to flowing water.

**Page 3-378, Section 3.5.2.3.** The discussion of LRA Tables 3.5.2-1 through 3.5.2-5 Notes does not include plant-specific Notes 1 through 3, which are used in these tables. It is suggested that this issue be addressed generically by summarizing the staff audits and determinations, as applicable, for these notes. (See comment on DSER Page 3-205, Section 3.2.2.1.)

**Page 3-379, Section 3.5.2.3.1.** The list of LRA Table 3.5.2-1 items that are consistent with GALL Report items is not consistent with those items provided in the LRA. Some items in the DSER Page 3-379 list are not in the LRA (e.g., ring girders, buttresses) and some items that are identified in LRA Table 3.5.2-1 are not included in the DSER list (e.g., threaded fasteners for reactor coolant system supports for the reactor vessel, steam generators, reactor coolant pumps, and pressurizer). Section 3.5.2.3.1 differs in format from other DSER Section 3.5.2.3 structural sub-sections and is the only structural sub-section that provides a list of items consistent with the GALL Report.

**Page 3-383, Section 3.5.2.3.1.** The last paragraph following I&M's response to RAI 3.5-3, states that "...the applicant should change its approach, if the industry-wide experience...indicates significant degradation in this area in the future." This appears to be an opinion that could be misinterpreted as a future requirement to which I&M has not committed. It is suggested that this be reworded to indicate that "...the applicant may opt to change its approach..."

**Page 3-386, Section 3.5.2.3.1.** In the fourth paragraph of the Aging Management Programs sub-section, the components listed in the parentheses as galvanized steel components are not all galvanized steel. Only the ice condenser lattice frames are galvanized steel; the other two components are carbon steel. It is suggested that this sentence be revised to state, "In the LRA, the applicant stated that it manages loss of material for component types exposed to borated ice (i.e., the galvanized steel ice condenser frame and carbon steel ice condenser lower support structure and ice condenser turning vanes) using CNP AMP B.1.32."

**Page 3-389, Section 3.5.2.3.1.** Aging management of the ice condenser intermediate and upper deck curtains is not included in the DSER discussion. As identified in LRA Table 3.5.2-1 on Page 3.5-40, aging of these components will be managed by the Structures Monitoring Program.

**Page 3-392, Section 3.5.2.3.4.** In the reinforced concrete component listing (last paragraph of the Staff Evaluation sub-section):

- Roadway (LRA Table 3.5.2-4, Page 3.5-50) is omitted.
- The listing "transformer pedestals (Unit 1 power delivery to switchyard and startup)" should be separated into two individual components, as listed in LRA Table 3.5.2-4, on Page 3.5-51, as follows, "... Unit 1 power delivery to switchyard tower, start-up transformer pedestals ..."

**Page 3-394, Section 3.5.2.3.5.** The third paragraph discusses aging management of the spent fuel pool fasteners. Water in the spent fuel pool is managed by the Primary and Secondary Water Chemistry Control Program; therefore, this paragraph should be revised to reference AMP B.1.40.1 (vice B.1.40.3) and DSER Section 3.0.3.2.15 (vice 3.0.3.3.16).

**Page 3-395, Section 3.5.2.3.5.** In the first complete paragraph, the NRC staff's request in RAI B.1.34-1 is discussed. The NRC staff's request, as presented in the DSER, differs from the RAI in the NRC's August 20, 2004, letter, and I&M's September 2, 2004, letter. Additionally, the last sentence in this paragraph was not part of the RAI received by I&M.

**Page 3-395, Section 3.5.2.3.5.** Aging management of plastic cable trays and conduits, as listed in LRA Table 3.5.2-5 (Page 3.5-65) is not discussed.

**Pages 3-402 through 3-413, Section 3.6.** DSER Section 3.6 repeatedly refers to a letter dated June 16, 2004, for the electrical RAI responses, but these RAIs were actually included in I&M's June 8, 2004, letter (AEP:NRC:4034-06).

**Pages 3-403 through 3-404, Section 3.6.2.1.1.** The fifth paragraph on Page 3-403 discusses the response to RAI 3.6-5 and references I&M's June 16, 2004, letter. The revised UFSAR Supplements for the Non-EQ Inaccessible Medium-Voltage Cable Program and the Non-EQ Instrumentation Circuits Test Review Program were included in I&M's September 2, 2004, letter. In response to RAI 3.6-5, I&M's June 8, 2004, letter only provided the revised UFSAR Supplement for the Non-EQ Insulated Cables and Connections Program.

**Page 3-404, Section 3.6.2.1.1.** After the "Conclusion" heading for Section 3.6.2.1.1, "Non-EQ Inaccessible Medium-Voltage Cable", another heading for "Staff RAIs Pertaining to Recent Operating Experience and Emerging Issues" was discussed. This heading is only for the GALL XI.E2 issues, and is unrelated to the GALL XI.E3 program. It is suggested that this heading be assigned a section number (i.e., Section 3.6.2.1.2) as the GALL XI.E2 discussion is not part of Section 3.6.2.1.1. Also, it is suggested that a reference to CNP's new Non-EQ Circuits Test Review Program (LRA Section B.1.21) be provided in the first paragraph of this section so that the reader clearly understands which CNP program is being discussed.

**Page 3-404, Section 3.6.2.1.1.** The correct date of the UFSAR Supplement revision in the second paragraph of the Conclusion sub-section is October 18, 2004 (vice September 2, 2004). [Reference AEP:NRC:4034-17, Attachment 1, Pages 45 and 46]

**Page 3-411, Section 3.6.2.3.3.** The Conclusion sub-section does not appear congruent with the resolution of the NRC staff's concern with fuse holders discussed just prior to this sub-section. The concern was resolved because there are no fuse holders at CNP that are subject to the aging effects discussed in ISG-5. Without AERM, implicitly no AMP is required; which is not consistent with the phrase in the Conclusion that the applicant will have adequate AMPs for managing aging effects for these components.

**Pages 3-411 and 3-412, Section 3.6.2.3.4.** On the bottom of Page 3-411, the DSER indicates that Section 2.5 of the LRA "... described switchyard components that are relied on in safety analyses to perform a function in the recovery from SBO [station blackout]." Systems and structures that are relied upon to restore offsite alternating current (AC) power (including the onsite portion of offsite power sources) and onsite AC power were included in the scope of license renewal to comply with NRC guidance (i.e., ISG-2), not because they are relied on in safety analyses.

**Page 4-6, Section 4.2.1.2.** The discussion of end of extended life Charpy upper-shelf energy (USE) values does not clearly correlate with the information provided in I&M's June 16, 2004, and August 11, 2004, letters. It is recommended that the last two sentences on this page be combined, as follows, "Consequently, the applicant, in its letter dated August 11, 2004, indicated that the end of extended life USE values for Unit 2 beltline welds were based on RG [Regulatory Guide] 1.99, Revision 2, Position 2.2." Also, the preceding sentence should indicate that Position 1.2 (not 2.1) was used in determining USE values for Unit 1 beltline plates and welds and Unit 2 plates.

**Page 4-7, Section 4.2.2.** In the second paragraph of Section 4.2.2, the sentence discussing the two methods of determining the reference temperature for pressurized thermal shock ( $RT_{PTS}$ ) are reversed. Position 1 is used for material that does not have surveillance data available, and Position 2 is used for material that has surveillance data available.

**Pages 4-13 and 4-14, Section 4.3.2.** In the last paragraph on Page 4-13, reference is made to Confirmatory Item 4.3-1 for the evaluation of environmental fatigue of the pressurizer surge line piping. In the second full paragraph on Page 4-14, another reference is made to Confirmatory Item 4.3-1 for actions to address auxiliary spray line piping, as evaluated in WCAP-14070. These issues are not the subject of Confirmatory Item 4.3-1, which addresses environmental fatigue of the safety injection nozzles, charging nozzles, and residual heat removal (RHR) line, as discussed on DSER Page 4-17 (Section 4.3.3).

**Page 4-16, Section 4.3.2.** The fourth paragraph states, "An aging management program under the fourth option ... would require a license amendment pursuant to 10 CFR 50.59." It is premature to reach a conclusion for an evaluation that has not been performed. It is suggested that this sentence be revised to state that it would likely require prior NRC approval.

**Pages 4-32 and 4-33, Section 4.7.7.** The NRC staff evaluation for the reactor coolant pump (RCP) flywheel time-limited aging analysis (TLAA) indicates that the analysis of fatigue crack initiation and growth in WCAP-14535 is based on a 60-year term, and is therefore acceptable in accordance with 10 CFR 54.21(c)(1)(i). I&M does not object to considering this analysis a TLAA; however, the SER should indicate that the applicant's decision not to evaluate this TLAA is in accordance with the Statements of Consideration (SOC) for the amendments to 10 CFR Part 54 [60FR22479]. In accordance with the SOC, a licensee evaluation is required of previous TLAA's that were based on an assumed service life or a period of operation defined by the original license term. As noted in the LRA and DSER, the RCP flywheel TLAA is currently based on a 60-year period of operation, and as such, did not require an evaluation.

**Page A-21, Appendix A.** The Commitment entry for Item 33 (charging and safety injection nozzle fatigue analysis) is incomplete. Activities (4) and (5) are omitted. The complete text for this commitment is provided in Attachment 2 to I&M's letter dated September 21, 2004, AEP:NRC:4034-16 [ML042740439]. The enhanced commitment text provided in Attachment 2 to this letter (AEP:NRC:5034-01) includes the complete text for this commitment.

**Attachment A.** The table omits I&M's commitment to provide an enhancement related to the fatigue analysis for Class 1 portions of RHR piping. This commitment to enhance the Fatigue Monitoring Program is provided in Attachment 6 to I&M's letter dated June 16, 2004, AEP:NRC:4034-08 [ML041750561]. The enhanced commitment text provided in Attachment 2 to this letter (AEP:NRC:5034-01) includes this commitment.

**Attachment A.** The table omits the five supplemental I&M commitments provided in Attachment 2 to I&M's letter dated October 18, 2004, AEP:NRC:4034-17 [ML042960028]. The enhanced commitment text provided in Attachment 2 to this letter (AEP:NRC:5034-01) includes this commitment.

**Page C-3, Appendix C.** References to engineering reports and regulatory correspondence issued by Entergy Operations, Inc. should not be included in this DSER. Although Entergy provided support for the CNP license renewal efforts, the referenced documents do not apply to CNP.

### **Clarifications to License Renewal Commitments**

During the license renewal aging management program inspection in November 2004, the U. S. Nuclear Regulatory Commission (NRC) inspection team raised a concern regarding the ability of the established commitment management process to ensure accurate implementation of the license renewal commitments. Specifically, the team was concerned that the level of detail provided in the commitment text (as provided in the Regulatory Commitment attachments to Indiana Michigan Power Company's (I&M's) correspondence) may not provide sufficient detail to support future implementation. To resolve this concern, I&M enhanced the commitment text (as reflected in the Commitment Management database) to provide a more detailed description of the program enhancements provided in Appendix B of the License Renewal Application (LRA). The enhanced commitment text, as well as additional commitments that were not reflected in Appendix A to the draft safety evaluation report (DSER), is provided in this attachment.

### APPENDIX A: COMMITMENTS FOR LICENSE RENEWAL

During the review of the Donald C. Cook Nuclear Plant (CNP) LRA by the NRC staff, the applicant made additional commitments to provide aging management programs to manage the aging effects of structures and components prior to the extended period of operation, as well as other information. The following table lists these commitments, along with the implementation schedule and the source of the commitment.

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
1	The Alloy 600 Aging Management Program will be implemented prior to the period of extended operation. This program will manage aging effects of Alloy 600/690 components and Alloy 52/152 and 82/182 welds in the reactor coolant system that are not addressed by other aging management programs. This program will detect primary water stress corrosion cracking prior to the loss of component intended function by using the examination and inspection requirements specified in American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, Section XI.	Unit 1: October 25, 2014  Unit 2: December 23, 2017	ML033070177 10/31/2003 Attachment 1	B.1.1  <i>See also Item 2 below for changes in the implementation schedule and Item 3 for additional discussion related to this commitment.</i>
2	The Alloy 600 Aging Management Program commitment will also be revised to indicate that an inspection plan will be submitted for staff review and approval three years prior to the period of extended operation to determine if the program demonstrates an ability to manage the effects of aging per 10 CFR 54.21(a)(3).	Unit 1: October 25, 2011  Unit 2: December 23, 2014	ML042470410 08/11/2004 Attachment 2 RAI B.1.1.2-1	B.1.1

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
3	I&M will continue to participate in industry initiatives, such as the Westinghouse Owners Group and the Electric Power Research Institution (EPRI) Materials Reliability Program (MRP). Susceptibility rankings and program inspection requirements regarding Alloy 82/182 pipe butt welds will be consistent with the later version of the EPRI MRP safety assessment or its successors.	Unit 1: October 25, 2011  Unit 2: December 23, 2014	ML042470410 08/11/2004 Attachment 2 RAIs B.1.1.2-1 and B.1.1.2-3	B.1.1
4	<p>The Boric Acid Corrosion Prevention Program will be consistent with the program described in NUREG-1801, July 2001, Section XI.M10. The program will be enhanced to include the attributes documented in LRA, Section B.1.4, Page B-26.</p> <p>The following enhancements to the Boric Acid Corrosion Prevention Program will be implemented prior to the period of extended operation:</p> <ul style="list-style-type: none"> <li>- The program scope will be revised to address electrical components in addition to ferrite steel.</li> <li>- The program acceptance criteria will be revised to address electrical components in addition to ferrite steel.</li> </ul>	Unit 1: October 25, 2014  Unit 2: December 23, 2017	ML033070177 10/31/2003 Attachment 1	B.1.4

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
5	<p>The Buried Piping Inspection Program will be implemented prior to the period of extended operation. The program will include (a) preventive measures to mitigate corrosion, and (b) periodic inspections to manage the effects of corrosion on the pressure-retaining capability of buried carbon steel piping and tanks. Preventive measures will be in accordance with standard industry practice for maintaining external coatings and wrappings. Buried piping and tanks including buried piping and tanks constructed from carbon steel and iron that are not within the scope of license renewal will be inspected when they are excavated during maintenance. Deficiencies associated with out-of-scope piping and tanks will be evaluated for extent of condition, as applicable, to in-scope buried piping and tanks.</p> <p>The Buried Piping Inspection Program will be consistent with, but include an exception to, the program described in NUREG-1801, July 2001, Section XI.M34, as documented in LRA, Section B.1.6, Page B-31.</p>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.6</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
6	<p>The Cast Austenitic Stainless Steel (CASS) Evaluation Program will be implemented prior to the period of extended operation. The program will include a determination of the susceptibility of the CASS components to thermal aging embrittlement based on casting method, molybdenum content, and percent ferrite. Prior to the period of extended operation, CNP will develop aging management program details (for example, plans for additional volumetric inspections or flaw tolerance evaluations) for the reactor coolant system piping heats of material that are susceptible to reduction of fracture toughness.</p> <p>The CASS Evaluation Program will be consistent with the program described in NUREG-1801, July 2001, Section XI.M12, as documented in LRA, Section B.1.7, Page B-33.</p>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.7</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
7	<p>The Fire Protection Program will be consistent with, but include exceptions to, the program described in NUREG-1801, July 2001, Section XI.M26, as documented in LRA, Section B.1.11.1, Pages B-42 to B-44. The program will be enhanced to include the attributes documented in LRA, Section B.1.11.1, Pages B-45 and B-46.</p> <p>The following enhancements to the Fire Protection Program will be implemented prior to the period of extended operation:</p> <ul style="list-style-type: none"> <li>- In the carbon dioxide (CO<sub>2</sub>) and halon procedures, ensure that conditions that may affect the performance of the system (such as corrosion, mechanical damage, or damage to dampers) are observed and degraded conditions are addressed via the Corrective Action Program.</li> <li>- Enhance procedures to ensure the diesel fuel supply line is monitored for degradation during performance testing.</li> </ul>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.11.1</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
8	<p>The Fire Water System Program will be consistent with, but include exceptions to, the program described in NUREG-1801, July 2001, Section XI.M27, as documented in LRA, Section B.1.11.2, Pages B-47 and B-48. The program will be enhanced to include the attributes documented in LRA, Section B.1.11.2, Page B-49.</p> <p>The following enhancements will be implemented prior to the period of extended operation:</p> <ul style="list-style-type: none"> <li>- A sample of sprinkler heads will be inspected using the guidance of the National Fire Protection Act (NFPA) document NFPA 25, Section 2.3.3.1.</li> <li>- The Fire Water System Program will be enhanced to perform non-intrusive measurement of pipe wall thickness per the NRC interim staff guidance (ISG) (ISG-04 [ML023440137]).</li> </ul>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.11.2</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
9	The Heat Exchanger Monitoring Program will be implemented prior to the period of extended operation. The program will inspect heat exchangers for degradation using non-destructive examinations, such as eddy-current inspections or visual inspections, or if appropriate, the heat exchanger will be replaced. If degradation is found, an evaluation will be performed to determine its effects on the heat exchanger design functions	Unit 1: October 25, 2014  Unit 2: December 23, 2017	ML033070177 10/31/2003 Attachment 1	B.1.13
10	The following enhancements to the Inservice Inspection (ISI) – ASME Section XI, Augmented Inspections Program will be implemented prior to the period of extended operation: - An augmented ISI volumetric inspection of the spray additive tanks and the portions of the containment spray system that are wetted by sodium hydroxide. - An augmented ISI volumetric inspection of the portions of the discharge header in containment that may contain water with concentrated contaminants.	Unit 1: October 25, 2014  Unit 2: December 23, 2017	ML033070177 10/31/2003 Attachment 1	B.1.18
11	The following enhancement to the Instrument Air Quality Program will be implemented prior to the period of extended operation: - Enhance the CNP Program procedure prior to the period of extended operation to clearly specify frequencies for the dewpoint and dryer tours.	Unit 1: October 25, 2014  Unit 2: December 23, 2017	ML033070177 10/31/2003 Attachment 1	B.1.19

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
12	<p>The Non-EQ Inaccessible Medium-Voltage Cable Program is a new program that will be implemented prior to the period of extended operation. This program applies to inaccessible (e.g., in conduit or direct-buried) medium-voltage cables within the scope of license renewal that are exposed to significant moisture simultaneously with applied voltage. This program will test these cables to provide an indication of the condition of the conductor insulation. The specific type of test performed will be determined prior to the initial test.</p> <p>The Non-EQ Inaccessible Medium Voltage Cable Program will be consistent with the program described in NUREG-1801, July 2001, Section XI.E3, as documented in LRA, Section B.1.20, Page B-71.</p>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.20</p>
13	<p>The Non-EQ Instrumentation Circuits Test Review Program will be implemented prior to the period of extended operation. The electrical cables included in the scope of this program meet all of the following criteria:</p> <ul style="list-style-type: none"> <li>- Not subject to the EQ requirements of 10 CFR 50.49;</li> <li>- Used in instrumentation circuits with sensitive, high voltage, low-level signals; and</li> <li>- Exposed to adverse localized environments caused by heat, radiation, or moisture.</li> </ul> <p>This program will be consistent with the program described in NUREG-1801, Section XI.E2, with the exception noted in the LRA, Section B.1.21, Pages B-72 and B-73.</p>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.21</p> <p>See Item 38 for the detail added to this commitment in the supplemental response to RAI 3.6-2.</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
14	<p>The Non-EQ Insulated Cables and Connections Program will be implemented prior to the period of extended operation. The Non-EQ Insulated Cables and Connections Program will apply to accessible insulated cables and connections installed in structures within the scope of license renewal and prone to adverse localized environments.</p> <p>The Non-EQ Insulated Cables and Connections Program will be consistent with the program described in NUREG-1801, July 2001, Section XI.E1, as documented in LRA, Section B.1.22, Page B-74.</p>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.22</p>
15	<p>The following enhancements to the Pressurizer Examinations Program will be implemented prior to the period of extended operation:</p> <ul style="list-style-type: none"> <li>- The condition of the internal spray head, spray head locking bar, and coupling will be determined by a one-time visual examination (VT-3) of these components in one CNP unit. This examination will be performed to accepted ASME Section XI methods and standards to ensure that degradation of these items has not occurred.</li> <li>- If flaws are detected in the spray head, spray head locking bar, or coupling, engineering analysis will be completed to determine corrective actions which could include replacement of the spray head. The need for subsequent inspections will be determined after the results of the initial inspection are evaluated.</li> </ul>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.24</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
16	<p>The Preventive Maintenance Program will be enhanced to include the attributes documented in License Renewal Application, Section B.1.25, Pages B-86 and B-87, and as amended in the supplemental response to RAI 2.3.3.8-6.</p> <p>The following enhancements to the Preventive Maintenance (PM) Program will be implemented prior to the period of extended operation:</p> <ul style="list-style-type: none"> <li>- Revise PM tasks for the emergency diesel generator (EDG) ventilation system to include inspection of the flex joints; for the control room ventilation air handler packages to include inspection of the heat exchanger tubes and flex joints; and for the auxiliary feedwater pump room cooling units to include inspection of the internal evaporator tubes, valves and tubing.</li> <li>- The PM program will manage the aging effects for the emergency diesel engine elastomer flex hoses or tubing, reactor coolant pump lube oil leakage collection components, rubber hoses in the compressed air system, rubber hoses in the Post-Accident Containment Hydrogen Monitoring System reagent gas supply, security diesel engine elastomer flex hoses or tubing, and elastomer condensate storage tanks floating head seals.</li> </ul>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.25</p> <p><i>See Item 37 for the amendment to this commitment provided in the supplemental response to RAI 2.3.3.8-6.</i></p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
17	<p>The Reactor Vessel Integrity Program will be consistent with the program described in NUREG-1801, July 2001, Section XI.M31. The program will be enhanced to include the attributes documented in LRA, Section B.1.26, Page B-89.</p> <p>The following enhancements to the Reactor Vessel Integrity Program will be implemented prior to the period of extended operation:</p> <ul style="list-style-type: none"> <li>- I&amp;M will pull and test one additional standby capsule for each unit between 32 effective full-power years (EFPY) and 48 EFPY to cover the peak fluence expected at 60 years. A fluence update will be performed at approximately 32 EFPY when Capsules W (Unit 1) and S (Unit 2) are pulled and tested. A subsequent fluence update will be performed when the standby capsules are pulled and tested between 32 EFPY and 48 EFPY.</li> <li>- Modifications to design and operation that result in changes to the neutron energy spectrum or operating temperatures will be compared to the original environment in which the capsules were irradiated.</li> </ul>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.26</p>
18	<p>The Reactor Vessel Internals Plates, Forgings, Welds, and Bolting Program commitment will be revised to indicate that the program to manage void swelling will be submitted for staff review and approval three years prior to the period of extended operation.</p>	<p>Unit 1: October 25, 2011</p> <p>Unit 2: December 23, 2014</p>	<p>ML042390469 08/19/2004 Attachment 2 RAI B.1.27-2</p>	<p>B.1.27</p> <p><i>This commitment has been superseded by Item 36.</i></p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
19	<p>The Reactor Vessel Internals Plates, Forgings, Welds, and Bolting Program is a new program that will be implemented prior to the period of extended operation. This program will include visual inspections and non-destructive examinations of the reactor vessel internals during the period of extended operation. A visual inspection will be performed on plates, forgings, and welds to detect and monitor cracking caused by Irradiation Assisted Stress Corrosion Cracking enhanced by reduction of fracture toughness by irradiation embrittlement and distortion due to swelling. For baffle bolts, a volumetric inspection of critical locations will be performed to assess cracking.</p> <p>I&amp;M will participate in industry-wide programs designed by the pressurized water reactor (PWR) Materials Reliability Project Issues Task Group for investigating the impacts of aging on PWR vessel internal components.</p>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.27</p> <p><i>See also Item 36 below for changes in the implementation schedule</i></p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
20	<p>The Reactor Vessel Internals CASS Program will be implemented prior to the period of extended operation. This program will provide visual inspections and non-destructive examinations of the reactor vessel internals during the period of extended operation. The program will monitor propagation of cracks from existing flaws. In addition to the features of the program described in NUREG-1801, Section XI.M13, the program will manage the aging effect of distortion due to void swelling of the reactor vessel internals. Applicable components will be determined based on the neutron fluence and thermal embrittlement susceptibility of the component.</p> <p>I&amp;M will participate in industry-wide programs designed by the PWR Materials Reliability Project Issues Task Group for investigating the impacts of aging on PWR vessel internal components.</p>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.28</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
21	<p>The Service Water System Reliability Program will be consistent with, but include exceptions to, the program described in NUREG-1801, July 2001, Section XI.M20, as documented in LRA, Section B.1.29, Pages B-95 and B-96. The program will be enhanced to include the attributes documented in LRA, Section B.1.29, Page B-96.</p> <p>The following enhancements to the Service Water System Reliability Program will be implemented prior to the period of extended operation:</p> <ul style="list-style-type: none"> <li>- The Service Water System Reliability Program will be enhanced to check for selective leaching during visual inspections.</li> <li>- Develop new PM activity or revise existing PM activity to ensure the 8-inch expansion joints in the essential service water supply lines to the EDG heat exchangers are inspected for evidence of loss of material, change in material properties and cracking.</li> </ul>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.29</p>
22	<p>The Small Bore Piping Program will be implemented prior to the period of extended operation. The small bore piping inspection will involve a one-time volumetric examination of susceptible items in selected locations of Class 1 small bore piping. These inspections will occur at or near the end of the initial operating period for CNP Units 1 and 2.</p>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.30</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
23	<p>The Structures Monitoring Program will be consistent with the program described in NUREG-1801, July 2001, Section XI.S6. The program will be enhanced to include the attributes documented in LRA, Section B.1.32, Pages B-101 and B-102.</p> <p>The following enhancements to the Structures Monitoring Program will be implemented prior to the period of extended operation:</p> <ul style="list-style-type: none"> <li>- Include the following in the Structures Monitoring Program: equipment supports, instrument panels, racks, cable trays, conduits, cable tray supports, conduit supports, elastomers, pipe hangers/supports, fire protection pump house superstructure and walls, gas bottle storage tank rack and foundation, security diesel generator room, switchyard control house, fire protection water storage tank foundation, primary water storage tank foundation, and the roadway west of the greenhouse.</li> </ul>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.32</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
24	<p>The Structures Monitoring - Crane Inspection Program will be consistent with, but include exceptions to, the program described in NUREG-1801, July 2001, Section XI.M23, as documented in LRA, Section B.1.33, Page B-104. The program will be enhanced to include the attributes documented in LRA, Section B.1.33, Page B-105.</p> <p>The following enhancements to the Crane Inspection Program will be implemented prior to the period of extended operation:</p> <ul style="list-style-type: none"> <li>- Develop procedures or recurring tasks to: evaluate the effectiveness of the maintenance monitoring program and the effects of past and future usage on the structural reliability of in-scope cranes, verify that in-scope crane rails and structural components are visually inspected on a routine basis for loss of material, and verify that significant visual indications of loss of material due to corrosion or wear are evaluated according to applicable industry standards and good industry practice.</li> </ul>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.33</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
25	<p>The Structures Monitoring - Masonry Wall Program will be consistent with the program described in NUREG-1801, July 2001, Section XI.S5. The program will be enhanced to include the attributes documented in LRA, Section B.1.36, Page B-112.</p> <p>The following enhancement to the Masonry Wall Program will be implemented prior to the period of extended operation:</p> <ul style="list-style-type: none"> <li>- Include the following in the Masonry Wall Program: <ul style="list-style-type: none"> <li>- 4-hour fire-rated masonry block in the turbine building and screenhouse; and</li> <li>- Masonry block in the auxiliary building.</li> </ul> </li> </ul> <p>Enhancement of the Masonry Wall Program will include enhancement of the Plant Structures Performance Evaluation and Monitoring Program procedure to specify that the following masonry walls are within the scope of this procedure:</p> <ol style="list-style-type: none"> <li>1. Masonry Walls in the auxiliary building that perform a license renewal intended function.</li> <li>2. Fire-rated masonry walls in the turbine building and screenhouse.</li> </ol>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.36</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
26	<p>The System Testing Program will be enhanced to include the attributes documented in LRA, Section B.1.37, Pages B-114 through B-118, as clarified below.</p> <p>The following enhancements will be implemented prior to the period of extended operation:</p> <ul style="list-style-type: none"> <li>- Develop a PM procedure to inspect the centrifugal charging pumps minimum flow orifices and the Unit 1 centrifugal charging pumps discharge orifices. The PM will include ensuring that internal erosion of the orifices would be detected by inspections.</li> <li>- Ensure procedures for engineered safety features ventilation unit, the fuel handling area exhaust unit, and control room ventilation unit surveillance testing include visual verification that the drain valves and drain piping have not experienced loss of material to the extent that their pressure boundary function is compromised. The procedures will include inspection of the external surfaces of ventilation drain valves and drain piping for any through-wall degradation (e.g., pinholes, etc.) or any general corrosion.</li> </ul>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.37</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
27	<p>The System Walkdown Program will be enhanced to include the attributes documented in LRA, Section B.1.38, Page B-121, as clarified below.</p> <p>The following enhancements will be implemented in the System Walkdown Program prior to the period of extended operation to:</p> <ul style="list-style-type: none"> <li>- Ensure that balance of plant (BOP) systems are adequately addressed with regard to license renewal considerations.</li> <li>- Enhance the program description to emphasize management expectations that the entire system, where accessible, is walked down once a refueling cycle.</li> <li>- Enhance the program description to emphasize the accessibility of aspects of the system during refueling and maintenance outages.</li> <li>- Ensure that evidence of corrosion is monitored adequately.</li> <li>- Enhance the program description to emphasize the need to walkdown existing aging concerns, and to provide feedback to management regarding their condition (i.e., in system health reports or corrective action program). If the condition declines significantly, initiate a condition report for further evaluation.</li> <li>- Enhance acceptance criteria to ensure adequate detection of aging effects, including: <ul style="list-style-type: none"> <li>a) The impact of non-safety related systems, structures, and components (SSCs) on safety related components with emphasis that preventive measures will be taken prior to loss of an SSC's license renewal intended</li> </ul> </li> </ul>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.38</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
	<p>function.</p> <p>b) Extrapolation of conditions found in accessible structures/components to inaccessible structures/components.</p> <p>c) Ensuring that changes in material/environment combinations are addressed. Examples include; soil or water covering a pipe that was previously uncovered and excessive moisture in the area where previously not present.</p> <p>- Develop and implement enhanced administrative controls.</p>			
28	<p>The Wall Thinning Monitoring Program is a new program that will be implemented prior to the period of extended operation. The Wall Thinning Monitoring Program inspections will be performed to ensure piping wall thickness is above the minimum required in order to avoid failures under normal conditions and postulated transient and accident conditions, including seismic events.</p>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.39</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
29	<p>The Primary and Secondary Water Chemistry Control Program will be consistent with the program described in NUREG-1801, July 2001, Section XI.M2. The program will be enhanced to include the attributes documented in LRA Section B.1.40.1, Pages B-124 and B-125.</p> <p>The following enhancements to the Primary and Secondary Water Chemistry Control Program will be implemented prior to the period of extended operation:</p> <ul style="list-style-type: none"> <li>- Revise the program controlling procedures to require individual implementing procedures to identify and prescribe any special collection and preservation needs of a sample.</li> <li>- Bring the parameters monitored/inspected and acceptance criteria into clear alignment with the EPRI water chemistry guidelines.</li> <li>- Include sulfate monitoring criteria for the refueling water storage tank (RWST) that are consistent with the EPRI guidelines, and the sulfate criteria for other systems impacted by RWST chemistry.</li> </ul>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.40.1</p>
30	<p>The Chemistry One-Time Inspection Program will be implemented and completed prior to the period of extended operation. Combinations of non-destructive examinations (including visual, ultrasonic, and surface techniques) will be performed by qualified personnel following procedures that are consistent with the Section XI of the ASME B&amp;PV Code and 10 CFR 50, Appendix B. Follow-up of unacceptable inspection findings may include expansion of the inspection sample size and locations.</p>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.1.41</p> <p>See also Item 39 for additional discussion related to this commitment.</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
31	<p>The Fatigue Monitoring Program will be consistent with, but include an exception to, the program described in NUREG-1801, July 2001, Section X.M1, as documented in LRA, Section B.2.2, Page B-133. The program will be enhanced to include the attributes documented in LRA, Section B.2.2, Page B-134.</p> <p>The following enhancements to the Fatigue Monitoring Program will be implemented prior to the period of extended operation:</p> <ul style="list-style-type: none"> <li>- I&amp;M will perform one or more of the following prior to the period of extended operation for the pressurizer surge line: <ul style="list-style-type: none"> <li>- Further refine the fatigue analysis to lower the pressurizer surge line cumulative usage factors to below 1.0;</li> <li>- Repair the affected locations;</li> <li>- Replace the affected locations;</li> <li>- Manage the effects of fatigue of the pressurizer surge line by an NRC-approved inspection program; and/or</li> <li>- Review changes to ASME B&amp;PV Code actions relating to environmental fatigue. Any refined analysis will use the methodology approved by the ASME Committee and NRC.</li> </ul> </li> </ul>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML033070177 10/31/2003 Attachment 1</p>	<p>B.2.2</p> <p>See also Items 33, 34, and 35 for additional commitments related to the Fatigue Monitoring Program.</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
32	Interim staff guidance document ISG-5 addresses fuse holders that are not part of a larger assembly, but support safety-related and nonsafety-related functions in which a failure of a fuse precludes a safety function from being accomplished. Fuse holders that meet these requirements will be evaluated before the beginning of the period of extended operation for possible aging effects. The fuses will either be replaced, modified to remove the aging effects, or a program will be implemented to manage the aging effects. The aging management program (if needed) for fuse holders will consider the aging stressors for the metallic clips.	Unit 1: October 25, 2014  Unit 2: December 23, 2017	ML033070177 10/31/2003 Attachment 1	2.1.3

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
33	<p>As a supplement to the Fatigue Monitoring Program enhancement committed to in LRA Section B.2.2, I&amp;M will perform one or more of the following activities prior to the period of extended operation for the Class 1 charging and safety injection nozzles:</p> <ol style="list-style-type: none"> <li>(1) Perform a plant-specific fatigue analysis of the Class 1 charging and safety injection nozzles, which includes environmental effects, to ensure that cumulative usage factors are below 1.0;</li> <li>(2) Manage the effects of fatigue of the Class 1 charging and safety injection nozzles by an NRC-approved inspection program (e.g., periodic non-destructive examination of the affected locations at inspection intervals to be determined by a method accepted by the NRC). The inspections are expected to be able to detect cracking due to thermal fatigue prior to loss of function. Replacement or repair will then be implemented such that the intended function will be maintained for the period of extended operation;</li> <li>(3) Repair portions of the Class 1 charging and safety injection nozzles at the affected locations, as necessary to ensure the intended function will be maintained for the period of extended operation;</li> <li>(4) Replace portions of the Class 1 charging and safety injection nozzles at the affected locations, as necessary to ensure the intended function will be maintained for the period of extended operation;</li> <li>(5) Monitor ASME Code activities to use the environmental fatigue methodology approved by the ASME Code Committee and NRC.</li> </ol>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML042740439 09/21/2004 Attachment 2 RAI 4.3.3-1</p>	<p>B.2.2 &amp; 4.3.3</p> <p><i>See also Item 31</i></p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
34	I&M will review the piping loads on the remaining hot penetrations to establish the base loads for the fatigue exemption provisions of ASME Section III, N-415.1. The penetrations will be grouped based on their duty cycle during normal operations including inservice testing duty. The cycle loads and stresses will be added to the piping analysis loads as appropriate and the resultant loads will be compared to the fatigue exemption provisions of ASME Section III, N-415.1. Any penetration group that does not meet the exemption provisions will be analyzed for fatigue using the most limiting penetration to represent the group. This evaluation will be completed prior to entering the period of extended operation, and will be projected to the end of the period of extended operation.	Unit 1: October 25, 2014  Unit 2: December 23, 2017	ML041750561 6/16/04 Attachment 6 RAI 4.6.2-1	B.2.2 & 4.6.2

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
35	<p>As an enhancement to the Fatigue Monitoring Program described in LRA Section B.2.2, I&amp;M will perform one or more of the following activities prior to the period of extended operation for Class 1 portions of residual heat removal (RHR) piping:</p> <ol style="list-style-type: none"> <li>(1) A plant specific fatigue analysis of Class 1 portions of RHR piping, which includes environmental effects, will be performed to ensure that cumulative usage factors remain below 1.0;</li> <li>(2) Repair of the Class 1 portions of RHR piping at the affected locations;</li> <li>(3) Replacement of the Class 1 portions of RHR piping at the affected locations;</li> <li>(4) Manage the effects of fatigue of the Class 1 portions of RHR piping by an NRC-approved inspection program (e.g., periodic non-destructive examination of the affected locations at inspection intervals to be determined by a method accepted by the NRC). The inspections are expected to be able to detect cracking due to thermal fatigue prior to loss of function. Replacement or repair will then be implemented such that the intended function will be maintained for the period of extended operation;</li> <li>(5) Monitor ASME Code activities to use the environmental fatigue methodology approved by the ASME Code committee and NRC.</li> </ol>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML041750561 06/16/2004 Attachment 6 RAI 4.3.3-1</p>	<p>B.2.2 &amp; 4.3.3</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
36	<p>I&amp;M will submit the Reactor Vessel Internals Plates, Forgings, Welds, and Bolting Program for NRC staff review and approval three years prior to the period of extended operation.</p> <p>The Reactor Vessel Internals Plates, Forgings, Welds, and Bolting Program will be consistent with the program described in NUREG-1801, July 2001, Section XI.M16, as documented in LRA, Section B.1.27, Page B-92.</p>	<p>Unit 1: October 25, 2011</p> <p>Unit 2: December 23, 2014</p>	<p>ML042960028 10/18/2004 Attachment 2 RAI B.1.27-2</p>	<p>B.1.27</p>
37	<p>The Preventive Maintenance Program will manage loss of material for the EDG exhaust silencer internals. Visual inspections of the EDG exhaust silencer internals will be performed before the period of extended operation as part of the PM Program. The frequency of future inspections will be based on the initial inspection results.</p>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML042960028 10/18/2004 Attachment 2 RAI 2.3.3.8-6</p>	<p>B.1.25 &amp; 2.3.3.8</p>
38	<p>An insulation resistance test method, such as time-domain reflectometry (TDR), will be continued through the period of extended operation as part of the Non-EQ Instrumentation Circuits Test Review Program. The test frequency of instrumentation cables that are in the scope of this program, but are disconnected during calibration, shall be determined by I&amp;M based on engineering evaluation, but will not be less than once per ten years.</p>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML042960028 10/18/2004 Attachment 2 RAI 3.6-2</p>	<p>B.1.21 &amp; 3.6</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
39	<p>I&amp;M will include the auxiliary steam system copper heater coils, cast iron strainer housings, and carbon steel traps exposed to an internal steam environment in the Chemistry One-Time Inspection Program, which is described in LRA Section B.1.41.</p> <p>I&amp;M will include these 10 CFR 54.4(a)(2) components [i.e., components in the CONT, DRAIN, PASS, RMS, RWD, and SD systems that are subject to aging management review, and may be pressurized and contain raw or untreated water.] in the Chemistry One-Time Inspection Program.</p> <p>Loss of material from these components, if any, should progress slowly. The one-time inspection of these components will provide assurance that loss of material is occurring at a rate slow enough to ensure that the intended functions of the components will be maintained during the period of extended operation. This one-time inspection will be performed near the end of the current operating term. The visual inspections will identify indications of loss of material. If loss of material is identified, an evaluation will be performed to confirm that the rate is sufficiently slow and that loss of intended function will not occur during the period of extended operation. For material and environment combinations with no evidence of loss of material or with very gradual loss of material, no further actions will be taken. For material and environment combinations with loss of material rates such that loss of intended function could occur during the period of extended operation, corrective actions will be taken in accordance with the Corrective Action Program.</p>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML042960028 10/18/2004 Attachment 2 RAI 3.3.2.1.11-1</p>	<p>B.1.41 &amp; 3.3.2.1.11</p>

ITEM	COMMITMENT	IMPLEMENTATION SCHEDULE	SOURCE Accession Num. Document Date Attachment Num. RAI Num.	INFORMATION LRA Section Num. Comments
	Appropriate corrective actions may consist of component replacement or additional inspections for components with the material and environment combination in which the excessive loss of material is found.			
40	<p>The frequency noted on Page 6-3 of WCAP-14070 for valve leakage is assumed to occur for each of the reactor years of operation for the plant. The cycles are assumed to be for 40 years of operation. Therefore, this frequency is time-dependent and constitutes a time-limited aging analysis (TLAA).</p> <p>I&amp;M will perform one or more of the following activities to address fatigue of the auxiliary spray line piping evaluated in WCAP-14070:</p> <ol style="list-style-type: none"> <li>(1) Perform a plant-specific fatigue reanalysis of the auxiliary spray line piping prior to entering the period of extended operation to ensure that cumulative usage factors are below 1.0;</li> <li>(2) Repair piping at the affected locations;</li> <li>(3) Replace piping at the affected locations;</li> <li>(4) Manage the effects of fatigue of the auxiliary spray line piping by an NRC-approved inspection program (e.g., periodic non-destructive examination of the affected locations at inspection intervals to be determined by a method accepted by the NRC). It is expected that the inspections will be able to detect cracking due to thermal fatigue prior to loss of function. Replacement or repair, if necessary, will then be implemented such that the intended function will be maintained for the period of extended operation.</li> </ol>	<p>Unit 1: October 25, 2014</p> <p>Unit 2: December 23, 2017</p>	<p>ML042960028 10/18/2004 Attachment 2 RAI 4.3.1-1</p>	<p>B.2.2 &amp; 4.3.1</p>