REQUEST FOR ADDITIONAL INFORMATION
BY THE OFFICE OF NUCLEAR REACTOR REGULATION
COMANCHE PEAK UNITS 1 & 2 LICENSE RENEWAL APPLICATION REVIEW
VISTRA OPERATIONS COMPANY LLC
COMANCHE PEAK, UNITS 1, 2
DOCKET NO. 05000445, 05000446
ISSUE DATE: 6/14/2023

Set 1

RAI B.2.2.1-1

Regulatory Basis:
Pursuant to 10 CFR 54.21(a)(3), the license renewal application (LRA) must demonstrate that the effects of aging for structures and components will be adequately managed so that the intended function(s) will be maintained consistent with the current licensing basis for the period of extended operation.

Background:
In its supplement dated April 6, 2023, the applicant revised the enhancement regarding the "corrective actions" program element of the Fatigue Monitoring aging management program (AMP). The revised enhancement indicates that the corrective action should consider the impact on high-energy line break (HELB) locations. In relation to this enhancement, LRA Section 4.3.6 addresses the time-limited aging analysis (TLAA) on the HELB analysis. LRA Section 4.3.6 explains that the HELB TLAA uses the screening criterion of a cumulative usage factor (CUF) value of 0.1 for break location postulation.

In comparison, Final Safety Analysis Report (FSAR), Section 3.6B.2 describes the current licensing basis (CLB) screening criteria that are used to determine the intermediate locations of postulated breaks for the HELB analyses. Specifically, FSAR Section 3.6B2.1.2 indicates that the CUF value of 0.1 is included in the screening criteria for HELB location postulation for ASME Code Section III, Class 1 piping.

FSAR Section 3.6.B2.1.2 also indicates that the postulation of HELB locations for non-Class 1 piping is, in part, based on the allowable stress range for expansion stress (S_A), consistent with Branch Technical Position MEB 3-1 (ADAMS Accession No. ML052340555). S_A may need to be adjusted by a stress range reduction factor that is determined by the number of thermal cycles, as addressed in the implicit fatigue analysis in LRA Section 4.3.3 that was dispositioned in accordance with 10 CFR 54.21(c)(1)(iii).

Issue:
The postulation of non-Class 1 HELB locations is not clearly discussed in LRA Section 4.3.6 and the revised enhancement of the Fatigue Monitoring AMP. Therefore, the staff needs clarification on whether the corrective actions in the revised enhancement will consider the potential impact of transient cycles on both Class 1 and non-Class 1 HELB locations (e.g., potential need for identification of additional HELB locations and related evaluation).

Request:
Clarify whether the corrective actions in the revised enhancement will consider the potential impact of transient cycles on both Class 1 and non-Class 1 HELB locations. If not, explain why

the corrective actions do not need to consider such impact on both Class 1 and non-Class 1 HELB locations.

RAI 4.3.2-1

Regulatory Basis:
Pursuant to 10 CFR 54.21(c), the LRA must include an evaluation of time-limited aging analyses (TLAAs). The applicant must demonstrate that (i) the analyses remain valid for the period of extended operation, (ii) the analyses have been projected to the end of the period of extended operation, or (iii) the effects of aging on the intended function(s) will be adequately managed for the period of extended operation.

Background:
In its supplement dated April 6, 2023, the applicant revised LRA Section 4.3.2 with respect to the components that are subject to fatigue waiver evaluations. Specifically, the applicant indicated that reactor coolant pump (RCP) and steam generator (SG) locations conform to the waiver of fatigue requirements of ASME Code, Section III, Subparagraph NB-3222.4(d).

Issue:
The applicant's supplement does not describe the specific locations or components of the reactor coolant pumps (RCPs) and steam generators (SGs) that are subject to the fatigue waiver evaluations.

In addition, LRA Table 4.3.4-1 identifies the RCP casing to discharge nozzle interface as a limiting environmentally assisted fatigue (EAF) location. Therefore, the staff needs clarification on whether the fatigue wavier is applied to the RCP casing but not to the casing to nozzle interface.

Request:
1. Describe the specific locations or components of the RCPs and SGs that are subject to the fatigue waiver evaluations.
2. Considering the identification of the RCP casing to discharge nozzle interface as a limiting EAF location in LRA Table 4.3.4-1, clarify whether the fatigue wavier is applied to the RCP casing but not to the RCP casing to nozzle interface. As part of the response, describe the specific component of the RCP casing to discharge nozzle interface location (e.g., RCP casing to discharge nozzle weld).

RAI 4.3.4-1

Regulatory Basis:
Pursuant to 10 CFR 54.21(c), the LRA must include an evaluation of time-limited aging analyses (TLAAs). The applicant must demonstrate that (i) the analyses remain valid for the period of extended operation, (ii) the analyses have been projected to the end of the period of extended operation, or (iii) the effects of aging on the intended function(s) will be adequately managed for the period of extended operation.

Background:
LRA Section 4.3.4 addresses the TLAA on environmentally assisted fatigue (EAF) for ASME Code Section III, Class 1 pressure boundary components and piping. LRA Section 4.3.4 indicates that, in the detailed evaluation of EAF for sentinel (limiting) locations, the applicant considered the technical rigor of different stress analysis methods and the level of conservatism

associated with the stress analysis methods. The LRA also explains that the results of determining the technical rigor and the associated conservatism are the stress analysis method rankings for EAF locations (also called stress basis comparison rankings).

The LRA indicates that EAF locations with the lower screening environmental cumulative usage factor (CUF_{en}) values and lower rankings may be removed from the sentinel location list in comparison with the other EAF locations.

Issue:
However, the LRA does not clearly discuss the stress analysis method rankings and their technical bases. In addition, the staff found a need to clarify whether EAF locations are removed from the sentinel location list only if both the screening CUF_{en} value and stress analysis method ranking are lower than those of a more limiting location, respectively.

Request:
1. Describe the stress analysis method rankings and their technical bases.
2. Clarify whether EAF locations are removed from the sentinel location list only if both the screening CUF_{en} value and stress analysis method ranking are lower than those of a more limiting location. If not, provide justification for why the EAF locations with the higher screening CUF_{en} or higher stress analysis method ranking may be removed from the sentinel location list.

RAI 4.3.4-2

Regulatory Basis:
Pursuant to 10 CFR 54.21(c), the LRA must include an evaluation of time-limited aging analyses (TLAAs). The applicant must demonstrate that (i) the analyses remain valid for the period of extended operation, (ii) the analyses have been projected to the end of the period of extended operation, or (iii) the effects of aging on the intended function(s) will be adequately managed for the period of extended operation.

Background:
LRA Table 4.3.4-2 describes the sentinel locations of EAF for piping lines and the associated 60-year projected CUF_{en} values. The table identifies only stainless steel as a fabrication material for the limiting piping locations of EAF and does not include carbon steel, low alloy steel, or nickel alloy.

Issue:
In contrast, LRA Section 4.3.4 indicates that the sentinel location is identified for each material type in a given transient section. The transient section is a group of sub-components and locations that experience the same transients. In addition, LRA Section 4.7.1 indicates that the reactor vessel nozzle welds are fabricated with nickel alloys. However, it is unclear to the staff whether the limiting EAF locations in LRA Table 4.3.4-1 (equipment EAF) or 4.3.4-2 (piping EAF) are bounding for the nickel alloy welds of the reactor vessel nozzles in terms of CUF_{en} and environmental fatigue correction factor (F_{en}) in the EAF analysis.

Request:
1. Justify why carbon steel, low alloy steel, or nickel alloy locations are not identified as a limiting EAF location in LRA Table 4.3.4-2.
2. Clarify whether the limiting EAF locations in LRA Table 4.3.4-1 or 4.3.4-2 are bounding for the nickel alloy welds of the reactor vessel nozzles in terms of CUF_{en} and environmental

fatigue correction factor (F_{en}) in the EAF analysis. If so, describe the bounding locations and their CUF_{en} and F_{en} values in comparison with the CUF_{en} and F_{en} values of the nickel alloy welds of the reactor vessel nozzles. If not, explain why the nickel alloy welds of the reactor vessel nozzles are not identified as a limiting EAF location in LRA Table 4.3.4-2.

RAI 4.3.4-3

Regulatory Basis:

Pursuant to 10 CFR 54.21(c), the LRA must include an evaluation of time-limited aging analyses (TLAAs). The applicant must demonstrate that (i) the analyses remain valid for the period of extended operation, (ii) the analyses have been projected to the end of the period of extended operation, or (iii) the effects of aging on the intended function(s) will be adequately managed for the period of extended operation.

Background:
The following reference indicates that there was a need to revise the CUF_{en} calculations for the accumulator nozzles based on corrections to 60-year transient cycle projections (Reference: Westinghouse CN-SDA-II-21-003-R0-ASMT-1, "Assessment Record of CN-SDA-II-21-003 for CAP IR-2022-6325," August 18, 2022). The reference document also explains that the 60-year projection cycles of the following transients needed to be corrected: (1) "refueling" transient; (2) "tube leak test" transient; (3) "accumulator line refueling" transient; (4) "reactor coolant system (RCS) venting" transient; (5) "reactor vessel stud tensioning" transient; (6) "accumulator check valve test" transient.

The reference document further indicates that the projected cycles of the "refueling" transient and "tube leak test" transient are used in the EAF analysis for the accumulator nozzles.

Issue:
The revised 60-year projected CUF_{en} value for the crotch region of the accumulator nozzle (180 degree location) in the reference is not consistent with that listed in LRA Table 4.3.4-2. The nozzle crotch region is also called analysis section number 20. The reference document indicates that the 60-year projected CUF_{en} value for the accumulator nozzle crotch region is 0.9941 in comparison with 0.974 listed in LRA Table 4.3.4-2.

Request:
1. Resolve the apparent inconsistency between the 60-year projected CUF_{en} values of the accumulator nozzle crotch region listed in the reference document and LRA Table 4.3.4-2.
2. Clarify whether the corrected transient cycle projections need a revision to the other limiting locations and their CUF_{en} values described in LRA Table 4.3.4-1 (equipment EAF) or 4.3.4-2 (piping EAF). If so, provide a revision to the tables.
3. Clarify whether the corrected transient cycle projections need a revision to LRA Table 4.3.1-2 that describes the 60-year projected cycles. If so, revise the table.

RAI 4.3.4-4

Regulatory Basis:
Pursuant to 10 CFR 54.21(c), the LRA must include an evaluation of time-limited aging analyses (TLAAs). The applicant must demonstrate that (i) the analyses remain valid for the period of extended operation, (ii) the analyses have been projected to the end of the period of extended

operation, or (iii) the effects of aging on the intended function(s) will be adequately managed for the period of extended operation.

Background:
LRA Section 4.3.4 indicates that the environmentally assisted fatigue (EAF) TLAA is dispositioned in accordance with 10 CFR 54.21(c)(1)(iii) and the aging effects of EAF will be managed by using the Fatigue Monitoring aging management program (AMP) and Steam Generators AMP. LRA Section A.3.3.4 describes the Final Safety Analysis Report (FSAR) supplement for the Fatigue Monitoring AMP.

Issue:
The FSAR supplement in LRA Section A.3.3.4 refers to 10 CFR 54.21(c)(1)(ii) instead of 10 CFR 54.21(c)(1)(iii) as a TLAA disposition, inconsistent with the TLAA disposition in LRA Section 4.3.4. Specifically, LRA Section A.3.3.4 states that the analyses have been projected to the end of the period of extended of operation and found that the CUF [cumulative usage factor] will remain below the ASME Code allowable of 1.0 in accordance with 10 CFR 54.21(c)(1)(ii). The staff also needs clarification on why CUF instead of environmental CUF (CUF_{en}) is referenced in the FSAR supplement sentence discussed above.

Request
1. Provide justification for why the FSAR supplement for EAF TLAA refers to 10 CFR 54.21(c)(1)(ii), inconsistent with the TLAA disposition (i.e., 10 CFR 54.21(c)(1)(iii)) described in LRA Section 4.3.4. If justification cannot be provided, revise the FSAR supplement to delete the reference to 10 CFR 54.21(c)(1)(ii) as a TLAA disposition.
2. Explain why the CUF is mentioned rather than CUF_{en} in the FSAR supplement sentence discussed in the issue section above.

RAI 4.3.5-1

Regulatory Basis:
Pursuant to 10 CFR 54.21(c), the LRA must include an evaluation of time-limited aging analyses (TLAAs). The applicant must demonstrate that (i) the analyses remain valid for the period of extended operation, (ii) the analyses have been projected to the end of the period of extended operation, or (iii) the effects of aging on the intended function(s) will be adequately managed for the period of extended operation.

Background:
In its supplement dated April 6, 2023, the applicant revised LRA Table 4.3.1-2 with respect to the design cycles (40-year cycles) of the “bypass line tempering valve” transient. Specifically, the applicant updated the design cycles of the transient from 20 cycles to 40 cycles.

Issue:
LRA Section 4.3.5 indicates that the following reference includes the most recent fatigue evaluations in the Comanche Peak Nuclear Power Plant (CPNPP) current licensing basis for reactor vessel internal (RVI) components (Reference: WCAP-16840-NP, “Comanche Peak Nuclear Power Plant Stretch Power Uprate Licensing Report,” Revision 0).

The staff noted a potential inconsistency in the design transients between LRA Table 4.3.1-2 and WCAP-16840-NP, Table 2.2.6-1. Specifically, LRA Table 4.3.1-2 includes the “bypass line tempering valve” transient, which is only applicable to CPNPP Unit 2. However, this transient is not included in WCAP-16840-NP, Table 2.2.6-1. In addition, WCAP-16840-NP, Table 2.2.6-1

includes the “split flow bypass valve” transient, which is only applicable to CPNPP Unit 2. However, this transient is not included in LRA Table 4.3.1-2.

The applicant’s supplement dated April 6, 2023 updates “bypass line tempering valve” transient from 20 cycles to 40 cycles. The staff needs to clarify (1) whether the updated design cycle number is consistent with the design cycle number in the current licensing basis and (2) the basis of the design cycle update.

The staff further noted that the 60-year projected cycles of the Unit 1 “letdown flow shutoff with prompt return to service” transient is greater than the design cycles in LRA Table 4.3.1-3. The staff needs clarification on whether the transient cycles in LRA Table 4.3.1-3, including the Unit 1 “letdown flow shutoff with prompt return to service” transient cycles, are expected to increase the cumulative usage factors (CUFs) of RVI components above the design limit of 1.0 for the period of extended operation.

Request:

1. Clarify whether the “bypass line tempering valve” transient is identical to the “split flow bypass valve” transient. If not, resolve the inconsistency of these transients between LRA Table 4.3.1-2 and WCAP-16840-NP, Table 2.2.6-1.
2. Clarify (1) whether the updated design cycle number (40 cycles) of the “bypass line tempering valve” transient is consistent with the design cycles in the current licensing basis and (2) the basis of the design cycle update.
3. Clarify whether the transient cycles in LRA Table 4.3.1-3, including the Unit 1 “letdown flow shutoff with prompt return to service” transient cycles, are expected to increase the 60-year projected CUFs of RVI components above the design limit of 1.0. If so, discuss the affected components and their 60-year projected CUF values.

RAI 3.3.2.8c-1

Regulatory Basis:
10 CFR 54.21(a)(3) requires an applicant to demonstrate that the effects of aging for structures and components will be adequately managed so that the intended function(s) will be maintained consistent with the current licensing basis for the period of extended operation. One of the findings that the staff must make to issue a renewed license (10 CFR 54.29(a)) is that actions have been identified and have been or will be taken with respect to managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under 10 CFR 54.21, such that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the current licensing basis. In order to complete its review and enable making a finding under 10 CFR 54.29(a), the staff requires additional information in regard to the matters described below.

Background:
LRA Table 3.3.2-8c, “Miscellaneous Ventilation Systems – Summary of Aging Management Evaluation,” states that aging effects for aluminum fan housings exposed to outdoor air are not applicable and no AMP is proposed. The AMR items cite generic note I and NUREG-1800, “Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants,” Revision 2, item 3.3.1-113.

As amended by letter dated April 24, 2023 (ML23114A377), SLRA Table 3.3-1, “Summary of Aging Management Programs for Auxiliary Systems,” item 113, states the following (in part):

"[f]ans housings in the top floor of the EDG [emergency diesel generator] Building are also exposed to outdoor air. These fans remove heat from the EDG area through labyrinth missile protection features. Because the outdoor air environment at CPNPP [Comanche Peak Nuclear Power Plant] is non-aggressive, as described in Sections 3.3.2.2.3 and 3.3.2.2.5 [further evaluations for cracking and loss of material of stainless steel, respectively], the absence of aging effects listed in item 3.3-1, 113, for aluminum components exposed to indoor air, is also representative of equivalent components exposed to outdoor air where water cannot pool." NUREG-1800, Revision 2, item 3.3.1-81 states loss of material due to pitting and crevice corrosion is an applicable aging effect requiring management for aluminum piping, piping components, and piping elements exposed to outdoor air.

Issue:
NUREG-1800, Revision 2, item 3.3.1-113 does not specifically address aging effects requiring management for aluminum components exposed to outdoor air (i.e., the item addresses only air-dry, air-indoor (uncontrolled and controlled), and gas environments). However, the staff's position established in NUREG-1800, Revision 2, item 3.3.1-81 is that an outdoor air environment is sufficiently aggressive to result in loss of material due to pitting and crevice corrosion of aluminum components, irrespective of whether water is allowed to pool. In addition, the staff's position established in , "Standard Review Plan for Review of Subsequent License Renewal Applications for Nuclear Power Plants," Section 3.3.2.2.10, "Loss of Material Due to Pitting and Crevice Corrosion in Aluminum Alloys," (which can be considered as relevant operating experience during the first period of extended operation) is that moisture levels and halide concentrations should be considered high enough to facilitate pitting and/or crevice corrosion of aluminum alloys in atmospheric and uncontrolled air, unless demonstrated otherwise. Based on the above, the staff seeks further clarification with respect to why loss of material due to pitting and crevice corrosion is not aging effect requiring management for the aluminum fan housings exposed to outdoor air.

Request:
State the basis with respect to why loss of material due to pitting and crevice corrosion is not an applicable aging effect requiring management for the aluminum fan housings exposed to outdoor air. Alternatively, revise the LRA (as appropriate) to reflect that loss of material due to pitting and crevice corrosion will be managed for the subject components.

RAI 4.7.1-1

Regulatory Basis:
Pursuant to 10 CFR 54.21(c), the LRA must include an evaluation of time-limited aging analyses (TLAAs). The applicant shall demonstrate that (i) the analyses remain valid for the period of extended operation; (ii) the analyses have been projected to the end of the period of extended operation; or (iii) the effects of aging on the intended function(s) will be adequately managed for the period of extended operation.

Background:
LRA Section 4.7.1 discusses the leak-before-break (LBB) TLAA for Comanche Peak Nuclear Power Plant (CPNPP). The applicant has dispositioned this TLAA in accordance with 10 CFR 54.21(c)(1)(ii).

Issue:
During the audit, the applicant indicated that Westinghouse WCAP-10527 Revision 3, "Technical Justification for Eliminating Large Primary Loop Pipe Rupture as the Structural

Design Basis for the Comanche Peak Units 1 and 2 for the License Renewal Program (60 Years)", January 2023 (Proprietary) and Westinghouse Report WCAP-10528, Revision 3, "Technical Justification for Eliminating Large Primary Loop Pipe Rupture as the Structural Design Basis for Comanche Peak Units 1 and 2 for the License Renewal Program (60 Years)", January 2023 (Non-Proprietary) contain the updated LBB evaluations for CPNPP Unit 1 and Unit 2 assuming a 60-year plant life.

The applicant indicated that the LBB evaluations for CPNPP Unit 1 and Unit 2 were updated to account for implementation and partial implementation of the Material Stress Improvement Process (MSIP). The applicant also explained that dissimilar metal weld locations at RPV nozzles, which have Alloy 82/182 nickel-base materials and are susceptible to primary water stress corrosion cracking (PWSCC), were evaluated to confirm that those locations have been appropriately evaluated for LBB. The applicant further explained that the Alloy 82/182 welds have been conservatively evaluated to consider the effects of PWSCC. However, the applicant did not submit the updated LBB evaluations for NRC staff's review as part of the LRA.

Request:
Since the LBB evaluations have been updated for the period of extended operation (PEO), please submit WCAP-10527 Revision 3 (Proprietary) and WCAP-10528, Revision 3, (Non-proprietary) for NRC staff's review on the docket.

RAI B.2.3.3-1

Regulatory Basis:
Title 10 of the Code of Federal Regulations (CFR) Section 54.21(a)(1) requires license renewal applicants to perform an integrated plant assessment in their application to identify and list systems, structures, and components (SSCs) that are within the scope of license renewal and subject to aging management review (AMR). Further, 10 CFR 54.21(a)(3) requires that for the SSCs identified to be subject to AMR, the applicants demonstrate that the effects of aging will be adequately managed such that their intended functions are maintained consistent with the current licensing basis for the period of extended operation (PEO). To complete its review and enable the staff to make a reasonable assurance finding regarding the functionality of the reviewed SSCs for the PEO, the staff needs additional information regarding the matters described below. This information is described in the following requests for additional information (RAIs).

Background:
Comanche Peak Nuclear Power Plant (CPNPP) LRA Section B.2.3.3 describes the applicant's aging management program (AMP) for the reactor head closure stud bolting (studs, nuts, washers, and threads-in-flange) of the CPNPP units. In the plant-specific operating experience section of the subject AMP, the applicant described thread damage that occurred over time in the studs and threads-in-flange (i.e., the stud holes). This RAI is to obtain information on the number of stud locations that were damaged.

Issue:
LRA Section B.2.3.3 did not state how many stud locations were damaged nor if there were recent or new thread damage since the evaluation of the damage in 2014.

Request:
a. State how many stud locations were damaged at each unit.

b. State whether the number of damaged threads increased for any stud or stud hole that had previously damaged threads, especially the one stud hole with 13.75 missing threads since 2014.
c. State whether there has been any recent or new thread damage in any stud or stud hole since 2014.

RAI B.2.3.3-2

Regulatory Basis:
Title 10 of the Code of Federal Regulations (CFR) Section 54.21(a)(1) requires license renewal applicants to perform an integrated plant assessment in their application to identify and list systems, structures, and components (SSCs) that are within the scope of license renewal and subject to aging management review (AMR). Further, 10 CFR 54.21(a)(3) requires that for the SSCs identified to be subject to AMR, the applicants demonstrate that the effects of aging will be adequately managed such that their intended functions are maintained consistent with the current licensing basis for the period of extended operation (PEO). To complete its review and enable the staff to make a reasonable assurance finding regarding the functionality of the reviewed SSCs for the PEO, the staff needs additional information regarding the matters described below. This information is described in the following requests for additional information (RAIs).

Background:
In the plant-specific operating experience section of the subject AMP, the applicant described thread damage that occurred over time in the studs and threads-in-flange (i.e., the stud holes). This RAI is to obtain information on the factors contributing to the thread damage and corrective actions taken when thread damage is found.

Issue:
LRA Section B.2.3.3 did not state the factors contributing to the subject thread damage nor the corrective actions taken when thread damage is found.

Request:
a. Describe the factors that contributed to the thread damage in the studs and stud holes.
b. Describe the corrective actions (e.g., use of lubricants, lowering tensioning limits) per 10 CFR 50 Appendix B via the “Corrective Actions” program element of the subject AMP, to prevent such damage in the future.
c. Describe whether the corrective actions on the damaged studs/stud holes include repair and/or replacement.

RAI B.2.3.3-3

Regulatory Basis:
Title 10 of the Code of Federal Regulations (CFR) Section 54.21(a)(1) requires license renewal applicants to perform an integrated plant assessment in their application to identify and list systems, structures, and components (SSCs) that are within the scope of license renewal and subject to aging management review (AMR). Further, 10 CFR 54.21(a)(3) requires that for the SSCs identified to be subject to AMR, the applicants demonstrate that the effects of aging will be adequately managed such that their intended functions are maintained consistent with the current licensing basis for the period of extended operation (PEO). To complete its review and enable the staff to make a reasonable assurance finding regarding the functionality of the reviewed SSCs for the PEO, the staff needs additional information regarding the matters

described below. This information is described in the following requests for additional information (RAIs).

Background:
In the plant-specific operating experience section of the subject AMP, the applicant described thread damage that occurred over time in the studs and threads-in-flange (i.e., the stud holes). This RAI is to clarify information on the allowable number of missing threads.

Issue:
LRA Section B.2.3.3 stated that the maximum allowable number of missing threads is 17.22, which was previously 13.1. Based on its audit of the AMP, the staff noted that for the previous maximum allowable number of missing threads of 13.1 there was no limit on stud tension/detension cycles. However, it is not clear to the staff whether there is a limit on stud tension/detension cycles for the new limit of 17.22 missing threads.

Request:
a. Clarify whether there is a limit on stud tension/detension cycles for the new limit of 17.22 missing threads.
b. If there is a limit, state the value of this limit on the number of stud tension/detension cycles and explain how this limit will be met to the end of the PEO.

RAI B.2.3.3-4

Regulatory Basis:
Title 10 of the Code of Federal Regulations (CFR) Section 54.21(a)(1) requires license renewal applicants to perform an integrated plant assessment in their application to identify and list systems, structures, and components (SSCs) that are within the scope of license renewal and subject to aging management review (AMR). Further, 10 CFR 54.21(a)(3) requires that for the SSCs identified to be subject to AMR, the applicants demonstrate that the effects of aging will be adequately managed such that their intended functions are maintained consistent with the current licensing basis for the period of extended operation (PEO). To complete its review and enable the staff to make a reasonable assurance finding regarding the functionality of the reviewed SSCs for the PEO, the staff needs additional information regarding the matters described below. This information is described in the following requests for additional information (RAIs).

Background:
LRA Section B.2.3.3 listed enhancements to certain program elements of the subject AMP.

Issue:
Based on the staff's audit of the AMP program basis document, the staff noted that one of the enhancements in LRA Section B.2.3.3 is inconsistent with the AMP program basis document in that the enhancement regarding the revision of the procurement requirements to assure the proper yield strength for replacement materials is associated with the "Scope of Program" program element instead of the "Preventive Actions" program element.

Request:
Clarify whether the enhancement regarding the revision of the procurement requirements to assure the proper yield strength for replacement materials should be associated with the "Preventive Actions" program element of the AMP (as it is in the program basis document), not with the "Scope of Program" program element of the AMP.