From:	Galvin, Dennis
Sent:	Tuesday, June 15, 2021 12:09 PM
To:	Jack Hicks (Jack.Hicks@luminant.com)
Cc:	Struble, Garry
Subject:	Comanche Peak – Draft Supplemental Information Request – License Amendment Request to Adopt TSTF-505, Rev 2 (EPID L-2021-LLA-0085)
Attachments:	Comanche Peak TSTF-505 LAR Draft Supplemental Request Enclosure L-2021-LLA-0085 Issued 2021-06-15.pdf

Dear Mr. Hicks,

By letter dated May 11, 2021, Vistra Operations Company LLC (Vistra OpCo or the licensee) submitted a license amendment request (LAR) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21131A233) for Comanche Peak Nuclear Power Plant, Unit Nos. 1 and 2 (Comanche Peak or CPNPP). The proposed LAR would adopt TSTF-505, Revision 2, "Provide Risk-Informed Extended Completion Times - RITSTF Initiative 4b", (ADAMS Accession No. ML18183A493).

To complete its review, the NRC staff has prepared the attached supplemental information request in DRAFT form. To arrange a clarification call and to discuss the due date, please contact me at (301) 415-6256.

Respectfully,

Dennis Galvin
Project Manager
U.S Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Operating Reactor Licensing
Licensing Project Branch 4
301-415-6256

Docket Nos. 50-445 and 50-446

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Recipients:
"Struble, Garry" <Garry.Struble@luminant.com>
Tracking Status: None
"Jack Hicks (Jack.Hicks@luminant.com)" <Jack.Hicks@luminant.com>
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SUPPLEMENTAL INFORMATION NEEDED

LICENSE AMENDMENT REQUEST TO ADOPT TSTF-505, REVISION 2, "PROVIDE RISK-INFORMED EXTENDED COMPLETION TIMES - RITSTF INITIATIVE 4B"

VISTRA OPERATIONS COMPANY LLC

COMANCHE PEAK NUCLEAR POWER PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-445 AND 50-446

By letter dated May 11, 2021, Vistra Operations Company LLC (Vistra OpCo or the licensee) submitted a license amendment request (LAR) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21131A233) for Comanche Peak Nuclear Power Plant, Unit Nos. 1 and 2 (Comanche Peak or CPNPP). The proposed LAR would adopt TSTF-505, Revision 2, "Provide Risk-Informed Extended Completion Times - RITSTF Initiative 4b" (ADAMS Accession No. ML18183A493). The U.S. Nuclear Regulatory Commission (NRC) staff has identified that the following information is needed to begin its technical review:

Acceptance Review Information Insufficiencies

1. LAR Enclosure 7, "PRA [Probabilistic Risk Assessment] Model Update Process," Section 2.2, "Review of Plant Changes for Incorporation into the PRA Model," Item 3 proposes a standard frequency of 48 months for PRA model updates; however, Nuclear Energy Institute (NEI) report NEI 06-09, "Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines," Section 2.3.4, "PRA Technical Adequacy," Item 7.1 (ADAMS Package Accession No. ML122860402) states that the PRA shall be maintained and updated on a periodic basis not to exceed two refueling cycles. Comanche Peak has a nominal 18-month refueling cycle which, according to NEI 06-09, should bound the PRA update to every 36 months. Provide an explanation and justification for the inconsistency between the PRA model update frequency proposed in the LAR and frequency in NEI 06-09.

2. LAR Enclosure 1, "List of Revised Required Actions to Corresponding PRA Functions," Table E1-1, "In Scope TS/LCO [Technical Specification/Limiting Condition of Operation] to Corresponding PRA [Probabilistic Risk Assessment] Functions,' does not provide information on the PRA success criteria for TS Condition 3.7.4.C, "Three or more required ARV [atmospheric relief valve] lines inoperable." Provide the applicable PRA success criteria.

3. LAR Enclosure 1, Table E1-2, "In Scope TS/LCO Conditions RICT [Risk-Informed Completion Time] Estimate," does not provide a RICT estimate for TS Condition 3.4.9.B, "One required group of pressurizer heaters inoperable." Provide a RICT for this TS.

4. In Section 3.1.2.3 "Evaluation of Instrumentation and Control Systems" of the TSTF-505, Revision 2 Model Safety Evaluation, the NRC clarifies the basis of the staff's safety evaluation is to consider "a number of potential plant conditions allowed by the new TSs" and to consider "what redundant or diverse means were available to assist the licensee in responding to various plant conditions." The TSTF-505, Revision 2, Enclosure 1, states that

description of proposed changes to the protective instrumentation and control features in TS Section 3.3, “Instrumentation,” should confirm that at least one redundant or diverse means (e.g., other automatic features or manual action) to accomplish the safety functions (e.g., reactor trip, safety injection, or containment isolation) remain available during the use of the RICT.

In addition, the RG 1.174, “An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis,” Revision 2 (ADAMS Accession No. ML100910006) states the licensee should “assess whether the proposed LB [licensing basis] change meets the defense-in-depth principle” by not over-relying on programmatic activities as compensatory measures associated with the change in the LB. The RG 1.174, Revision 3 (ADAMS Accession No. ML17317A256) further elaborates that human actions (e.g., manual system actuation) are considered as one type of compensatory measure.

This LAR, however, does not provide a defense-in-depth assessment to address these guidelines for each proposed RICT TS. Describe the defense-in-depth for instrumentation and control features per the guidelines in TSTF-505, Revision 2, Enclosure 1.

5. The licensee stated in this LAR that “[t]he proposed amendment is consistent with TSTF-505, Revision 2. TSTF-505, Revision 2 excludes loss of function (LOF) conditions, in which there is insufficient operable equipment to meet the safety function of the system, from the RICT program.

   The NRC staff identified TS Conditions that appear to include LOF based on the data in columns “Tech Spec Description” and “Design Success Criteria” in Table E1-1:

   - 3.3.1.P One or more Turbine Stop Valve Closure Turbine Trip channel(s) inoperable.
   - 3.3.5.B Two channels per bus for the Preferred offsite source bus undervoltage function inoperable.
   - 3.3.5.C Two channels per bus for the Alternate offsite source bus undervoltage function inoperable.
   - 3.3.5.D Two channels per bus for the 6.9 kV bus loss of voltage function inoperable.
   - 3.3.5.E Two channels per bus for one or more degraded voltage or low grid undervoltage function inoperable.
   - 3.3.5.F One or more Automatic Actuation Logic and Actuation Relays trains inoperable.
   - 3.4.11.C One block valve inoperable.
   - 3.7.4.C Three or more required ARV lines inoperable.

   While the LAR provides a justification for inclusion in the RICT program for several of these TS conditions, the justification does not address LOF. Justify that the proposed TS changes preclude LOF conditions or modify the proposed TS changes to remove LOF conditions from the RICT program. For TS conditions that have the potential to encompass a LOF situation, the NRC staff notes that TSTF-505, Revision 2, Section 2.3 and Table 1, Note 1 identify an optional note that might be proposed to limit the use of a RICT in these situations.

6. TSTF-505, Revision 2, Table 1, “Conditions Requiring Additional Technical Justification: NUREG-1431, Westinghouse STS [Standard Technical Specifications],” requires additional justification for the following TS conditions listed below. The mark-up pages in TSTF-505, Revision 2 also indicate that additional technical justification is need for these TS conditions.

- 3.3.1.D One Power Range Neutron Flux – High channel inoperable.
- 3.3.1.S One RTB [Reactor Trip Breaker] train inoperable.
- 3.4.9.B One required group of pressurizer heaters inoperable.
- 3.6.2.C One or more containment air locks inoperable for reasons other than Condition A or B.
- 3.6.6.A One containment spray train inoperable.
- 3.7.2.A One MSIV [Main Steam Isolation Valve] inoperable in MODE 1.
- 3.7.4.B Two required ARV lines inoperable.

The LAR does not contain such technical justification on changes to these conditions. Provide the additional justification for these conditions in accordance with TSTF-505, Revision 2.

7. Condition 3.7.8.A, "Required SSW Pump on the opposite unit or its associated cross-connects inoperable," and the Required Actions A.1 and A.2 are plant-specific and per the TSTF-505, Revision 2 model application, a description of the variation and a justification of the applicability of TSTF-505 are required. LAR Attachment 1 treats Condition 3.7.8.A as an administrative difference, which is for differences in numbering or titles, which do not affect the applicability of TSTF-505. However, Condition 3.7.8.A is associated with the portion of the limiting condition for operation that is not covered by TSTF-505 and thus is a non-administrative plant-specific variation and a justification for the applicability of TSTF-505 is needed. Provide a description and justification of the applicability of TSTF-505 to Required Actions 3.7.8.A.1 and 3.7.8.A.2 in accordance with TSTF-505.

Other Issues Identified During the Acceptance Review

The NRC staff also identified the following information requests that, although not required for the NRC to complete its acceptance review, the staff would provide the licensee if the staff ultimately accepts the application for review.

1. These are editorial items identified in the proposed changes:
   a. Proposed TS 1.3-8 in LAR Attachment 2 does not align with TSTF-505, Revision 2. Some of the defined terms and headings are not capitalized consistent with TSTF-505, Revision 2.
   b. Proposed TS 5.5.23, "Risk Informed Completion Time Program," differs from TSTF-505, Revision 3:
      i. missing title underscore,
      ii. paragraph c has an extra word in first sentence, and
      iii. paragraph e has different wording in third sentence.
   c. TS 3.3.1: Several renumbered TS Conditions do not have their corresponding Required Actions renumbered in the markups in LAR Attachment 2 (Proposed TS 3.3.1 Conditions R, S, T, U, and V).
   d. Proposed Required Action 3.3.1.V.1 (identified as Required Action 3.3.1.U.1 in LAR Attachment 2) is inconsistent with the proposed changes in TSTF-505, Revision 2. TSTF-505, Revision 2 deletes "inoperable" while the proposed change does not.
   e. TS Required Action 3.6.2.C.1 appears to add text "LCO 3.6.1" ("LCO 3.6.1" is colored.) Proposed TS Required Action 3.6.2.C.1 is the same as in the current Comanche Peak TS.

2. In the LAR, the licensee requested deletion of TS notes that have one-time change requirements but did not provide justification for these variations. This affects TS Required Actions 3.7.8.B.1, 3.7.8.B.2, 3.8.1.B.4.1, 3.8.1.B.4.2, and 3.8.4.B.2.

3. LAR Attachment 1, Section 1.0, Paragraph 4, states in part:

   > … only those Required Actions described in Attachment 4 and Enclosure 1, as reflected in the proposed TS mark-ups provided in Attachment 2, are proposed to be changed, because some of the modified Required Actions in TSTF-505 are not applicable to CPNPP, and there are some plant-specific Required Actions not included in TSTF-505 that are included in this proposed amendment.

   However, there are proposed TS mark-ups in Attachment 2, which appear to be consistent with TSTF-505, that are not described in Attachment 4 and Enclosure 1. Clarify the inconsistency between the statement in LAR Attachment 1 and the changes indicated and LAR Attachments 2 and 4.

4. As part of its TSTF-505 review, the NRC staff examines each proposed TS condition for the potential LOF. One method to do that is reviewing the design success criteria (DSC) the licensee provided in the LAR. The DSC is a minimum set of remaining equipment required to perform the safety function. The DSC must demonstrate that the proposed change will not result in a LOF. The staff notes that the following DSC in Table E1-1 of the LAR do not reflect the criteria of DSC and therefore, raise the concern of the potential LOF.

   a. TS Condition 3.8.1.C is “Two required offsite circuits inoperable.” The DSC in Table E1-1 for this TS condition is one offsite circuit. With both required offsite circuits inoperable, there is no required offsite circuit available to perform the safety function (providing alternating current (AC) power). However, according to the updated final safety analysis report (ADAMS Package Accession No. ML20315A055), the AC power system consists of the offsite circuits and the onsite AC power sources (i.e. emergency diesel generators). Therefore, with both offsite circuits inoperable, the onsite AC power sources can provide the AC power. Clarify or correct the DSC information in the Table.

   b. TS Condition 3.8.4.A is “One or two required battery chargers on one train inoperable.” The DSC in Table E1-1 for this TS condition is “One 100% capacity battery for one of two DC trains.” TS Condition 3.8.4.A is a TS condition related to battery charger inoperability, but the DSC in Table E1-1 describes the battery. Clarify or correct this DSC information in the Table.

5. LAR Table E1-1 should be reviewed to determine if additional DSC need to be clarified comparable to the two examples in the previous question.