

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: 7/7/2023

Set 3

RAI 3.3.2.2.2-1

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:

Guidance in NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," (SRP-LR) Section 3.3.2.2.2, "Cracking due to Stress Corrosion Cracking and Cyclic Loading," addresses cracking in stainless steel non-regenerative heat exchanger components. The SRP-LR guidance states that the GALL Report (NUREG-1801, "Generic Aging Lessons Learned Report) recommends that a plant-specific aging management program (AMP) be evaluated to verify the absence of cracking and notes that an acceptable verification program includes radioactivity monitoring of the heat exchanger shell side water. Comanche Peak LRA Section 3.3.2.2.2 addresses this Further Evaluation item by crediting the Water Chemistry AMP and augmenting it with the One-Time Inspection AMP, which will verify the absence of cracking through the use of appropriate visual, surface, or volumetric nondestructive examination techniques. Consistent with the SRP-LR guidance, LRA Section 3.3.2.2.2 further states that absence of cracking of the letdown heat exchanger components is also verified by monitoring radiation levels in the Component Cooling Water (CCW) system, through the Closed Treated Water Systems AMP.

Issue:

Comanche Peak LRA Section B.2.3.12, "Closed Treated Water Systems," states that the program will be consistent with corresponding program in NUREG-1801, Section XI.M21A. The staff notes that the NUREG-1801, Section XI.M21A program does not specifically address radiation monitoring. Consequently, the Comanche Peak Closed Treated Water Systems AMP may be inconsistent with the NUREG-1801 AMP. The staff also notes that, although radioactivity is a monitored parameter in the recommended EPRI guidelines provided in XI.M21A, radioactivity is only classified as a diagnostic parameter with no associated limits (as opposed to a control parameter with specified ranges and action levels). In addition, the EPRI guidelines recommend a quarterly monitoring frequency for radioactivity. Although LRA Section 3.3.2.2.2

states that radiation levels in the CCW system are monitored through the Closed Treated Water System AMP to verify the absence of cracking of the letdown heat exchanger components, the associated AMP discussion in the LRA does not include any information about radiation level monitoring in the CCW system.

Request:

Provide information related to the radiation monitoring in the CCW system that is credited in LRA Section 3.3.2.2.2 (e.g., method, frequency (continuous/periodic), radioactivity limits, actions levels) for verifying the absence of cracking of the letdown heat exchanger components. Include a discussion whether the Closed Treated Water Systems AMP, which performs this activity, is consistent with guidance in NUREG-1801, Section XI.M21A. If monitoring is done on a periodic basis, provide a justification for the frequency relative to the maintaining intended function(s).