

From: Dennis Galvin
Sent: Friday, January 19, 2024 10:40 AM
To: Jack Hicks (Jack.Hicks@luminant.com)
Cc: Nic Boehmisch (Nicholas.Boehmisch@luminant.com)
Subject: Comanche Peak – Draft Request for Additional Information – License Amendment Request to Extend the Allowed Outage Time for an Inoperable Emergency Diesel Generator (EPID L-2023-LLA-0130)
Attachments: Comanche Peak TS AOT Extension LAR - Draft RAI Issued 2024-01-19.pdf

Dear Mr. Hicks,

By letter dated September 14, 2023 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML23257A172), Vistra Operations Company LLC (Vistra OpCo, the licensee) submitted a license amendment request for Comanche Peak Nuclear Power Plant, Unit Nos. 1 and 2 (Comanche Peak), regarding changes to the Technical Specifications (TSs). Specifically, the proposed amendments would modify the Comanche Peak Technical Specification Required Action 3.8.1.B.4 to extend the allowed outage time for an inoperable emergency diesel generator from 72 hours to 14 days.

To complete its review, the NRC staff has prepared a request for additional information (RAI) in DRAFT form. To arrange a clarification call for the draft RAIs and to discuss the due date for the RAI response, 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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DRAFT REQUEST FOR ADDITIONAL INFORMATION

LICENSE AMENDMENT REQUEST TO EXTEND ALLOWED OUTAGE TIME FOR AN

INOPERABLE EMERGENCY DIESEL GENERATOR

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

DOCKET NOS. 50-445 AND 50-446

(EPID NO. L-2023-LLA-0130)

By letter dated September 14, 2023 (Agencywide Document Access Management System (ADAMS) Accession No. ML23257A172), Vistra Operations Company LLC (Vistra OpCo, the licensee) requested an amendment for Comanche Peak Nuclear Power Plant, Unit Nos. 1 and 2 (Comanche Peak) Technical Specification (TS) 3.8.1, "AC Sources – Operating." The amendment would allow an extension in the Required Action B.4 allowed outage time (AOT) from 72 hours to 14 days (the terms AOT and completion time (CT) are used interchangeably) for an inoperable emergency diesel generator (EDG), based on the availability of Alternate Power Diesel Generator (APDG). The U.S. Nuclear Regulatory Commission (NRC) staff has determined that additional information is needed to complete its review of the license amendment request (LAR).

Regulatory Requirements and Guidance

Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.63, "Loss of All Alternating Current Power," requires that each light-water-cooled nuclear power plant to be able to withstand and recover from a station blackout (i.e., loss of the offsite electric power system concurrent with reactor trip and unavailability of the onsite emergency alternating current electric power system) of a specified duration. The 10 CFR 50.63 requirements provide assurance that necessary operator actions can be performed and that necessary control room–area equipment will be functional under the expected environmental conditions during and following a station blackout, thereby ensuring that the core will be cooled, and appropriate containment integrity will be maintained.

10 CFR 50.36(a)(1) states, in part, that each applicant for a license authorizing operation of a production or utilization facility shall include in his application proposed TSs. A summary statement of the bases or reasons for such specifications shall also be included in the application, but shall not become part of the TSs.

10 CFR 50.36(c)(2)(i), "Limiting conditions for operation," states, in part, that TS will include limiting conditions for operation, which are "the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met."

NUREG-0800, Branch Technical Position (BTP) 8-8, "Onsite (Emergency Diesel Generators) and Offsite Power Sources Allowed Outage Time Extensions," (ML113640138) provides guidance, from a deterministic perspective, for reviewing the EDGs outage time extension request.

Request Additional Information (RAI)

RAI #1

Section B of BTP 8-8 states, in part:

The TS must contain Required Actions and Completion Times to verify that the supplemental AC source is available before entering extended AOT. The availability of AAC [alternate alternating current] or supplemental power source shall be checked every 8-12 hours (once per shift).

...

The availability of AAC or supplemental power source should be verified within the last 30 days before entering extended AOT by operating or bringing the power source to its rated voltage and frequency for 5 minutes and ensuring all its auxiliary support systems are available or operational.

In Section 2.2 of the LAR, the licensee stated that the proposed change satisfies the guidelines in NUREG-0800, BTP 8-8 to verify the availability of the APDG prior to entering the extended 14-day CT. After the initial verification, BTP 8-8 states that the availability of AAC or supplemental power source continue to be checked once every 12 hours (i.e., once per shift). The initial verification should occur within the last 30 days before entering the extended 14-day CT. However, the NRC staff found that the LAR did not include proposed TS required actions and completion times for the AAC power source availability verification.

Additionally, insert B of the TS bases markup in attachment 2 to the LAR states, in part:

Prior to a planned entry into Required Action B.4 the following actions will be taken;

1. The associated Unit's Alternate Power Diesel Generator (APDG) will be verified in standby, ready to align to a pre-determined 6.9 kV Class 1E bus, and with fuel oil level at approximately 100%.

The NRC staff notes that 10 CFR 50.36(a)(1) describes information in the TS bases as reasons for the TS requirements, but it is not a part of the TS. However, the above quoted portion of the TS bases markup introduces a requirement which should also be a part of the TS but is not proposed.

Provide the following:

- a) To address the above BTP 8-8 guidance, provide proposed required actions and completion times for Comanche Peak TS 3.8.1 Condition B (and the associated TS bases markup) to verify the availability of the AAC power source prior to extending the AOT.
- b) Clarify in the TS bases markup how the above BTP 8-8 guidance concerning the availability verification of the AAC power source (by operating or bringing the power source to rated voltage and frequency) will be addressed within 30 days before entering the extended AOT of TS 3.8.1 Condition B.

RAI #2

Section 2.2 of the LAR states, in part:

TS Limiting Condition for Operation (LCO) 3.8.1, *AC Sources - Operating* will be revised as follows:

Condition B (One DG inoperable), Required Action B.4 (Restore DG to OPERABLE status), Completion Time will change from “72 hours OR In accordance with the Risk Informed Completion Time Program,” to “24 hours from discovery of Condition B entry \geq 48 hours concurrent with unavailability of APDG AND 14 days OR In accordance with the Risk Informed Completion Time Program.” The AND logical connector will be indented one level. The OR logical connector will not be indented.

...

This proposed change satisfies the requirement in NUREG-0800, BTP 8-8 that if the APDG becomes unavailable during the extended 14-day CT, it must be returned to an available status, or a shutdown will be commenced within 24 hours. This condition is only permitted once within any given extended 14-day CT.

Regarding this proposed change to TS 3.8.1 Condition B:

- a) The explanation for the proposed TS completion time that starts “24 hours from discovery...” is not fully explained in the LAR. Provide further clarification for when and how this completion time segment will be applied. Also provide an associated TS bases markup.
- b) In attachment 1, the TS markup for TS 3.8.1.B.4 does not reflect the deletion of the 72-hour frontstop. Additionally, the LAR does not describe the justification for the change from “72 hours” to “24 hours from discovery of Condition B entry \geq 48 hours concurrent with unavailability of APDG.” Provide such technical justification and TS markup revision as appropriate.
- c) The proposed TS 3.8.1.B.4 appears to be missing a frontstop CT for Condition B entry durations of less than 48 hours when one EDG is inoperable while the APDG is unavailable. As currently proposed in the LAR, a plant shutdown per LCO 3.0.3 would be required because there are no remedial actions for this condition described in the Comanche Peak TS. Provide clarification for this change or consider TS revision.
- d) The proposed change contains an acronym that is not defined in Comanche Peak TS. Clarify all acronyms new to TS 3.8.1 (e.g., APDG).

RAI #3

Section B of BTP 8-8 states:

- The extended AOT will be used no more than once in a 24-month period (or refueling interval) on a per diesel basis to perform EDG maintenance activities, or any major maintenance on offsite power transformer and bus.
- The preplanned maintenance will not be scheduled if severe weather conditions are anticipated.

- The system load dispatcher will be contacted once per day to ensure no significant grid perturbations (high grid loading unable to withstand a single contingency of line or generation outage) are expected during the extended AOT.
- Component testing or maintenance of safety systems and important non safety equipment in the offsite power systems that can increase the likelihood of a plant transient (unit trip) or LOOP [Loss of Offsite Power] will be avoided. In addition, no discretionary switchyard maintenance will be performed.
- TS required systems, subsystems, trains, components, and devices that depend on the remaining power sources will be verified to be operable and positive measures will be provided to preclude subsequent testing or maintenance activities on these systems, subsystems, trains, components, and devices.
- Steam-driven emergency feed water pump(s) in case of PWR [pressurized water reactor] units will be controlled as “protected equipment.”

The LAR does not address the above guidance. Provide a discussion addressing the above guidance.

RAI #4

Section B of BTP 8-8 states, in part:

To support the one-hour time for making this power source available, plants must assess their ability to cope with loss of all AC power for one hour independent of an AAC power source. The plant should have formal engineering calculations for equipment sizing and protection and have approved procedures for connecting the AAC or supplemental power sources to the safety buses.

Section 3.6 of the LAR states, in part:

Licensed Operators and Non-Licensed Operators are trained on the purpose and use of the APDGs. Using a combination of the plant simulator and plant Job Performance Measures, the operators periodically display their ability and proficiency to respond to a loss of all AC power (i.e., Station Blackout), which includes walking through the actions required to ensure the APDGs are available to provide power to the station within one hour from the time that the emergency procedures direct their use as the emergency power source.

The LAR addresses the above BTP 8-8 guidance regarding the procedure for connecting the AAC sources to the safety buses. However, the LAR does not provide the discussion of the equipment capacity to cope with loss of all AC power (station blackout (SBO) condition) for one hour independent of an AAC power source. Provide a discussion of relevant equipment capacity. Also, provide the calculation assumptions and summary that demonstrate that the APDG size is adequate to bring the unit in SBO to cold shutdown in case of a prolonged SBO condition to meet the intent of BTP 8-8. Provide a discussion about auxiliaries which are considered necessary to determine availability of the APDG.

RAI #5

The Comanche Peak license amendment for implementation of the risk informed completion time [RICT] program which allows an inoperable EDG for up to a maximum 30-day backstop was approved by the NRC on August 8, 2022 (ML22192A007). Please explain the need for the current license amendment to extend the EDG AOT frontstop to 14 days (deterministic bases

with risk insights) which appears to be encompassed by the previously approved RICT program (risk-informed bases).