

10 CFR 50.90
10 CFR 50.91(a)(5)

RS-23-123

December 13, 2023

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001Quad Cities Nuclear Power Station, Units 1 and 2
Renewed Facility Operating License Nos. DPR-29 and DPR-30
NRC Docket Nos. 50-254 and 50-265

Subject: Emergency License Amendment Request – Increase Technical Specifications
Completion Time in TS 3.8.1.B.4 from 7 Days to 30 Days

Reference: Letter from P. R. Simpson (Constellation Energy Generation, LLC) to U.S. NRC,
"License Amendment Request to Revise Technical Specifications to Adopt Risk
Informed Completion Times TSTF-505, Revision 2, 'Provide Risk-Informed
Extended Completion Times - RITSTF Initiative 4b,'" dated June 8, 2023
(ADAMS Accession Number: ML23159A249)

In accordance with 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," Constellation Energy Generation, LLC (CEG) requests an amendment to the Technical Specifications (TS) for Quad Cities Nuclear Power Station (QCNPS), Units 1 and 2. The proposed change to TS 3.8.1, "AC Sources – Operating" is being requested on an emergency basis pursuant to 10 CFR 50.91 (a)(5).

At 1205 CST on December 11, 2023, QCNPS experienced an electrical failure in the 2251-12 panel (exciter cabinet) for the Unit 1 emergency diesel generator (DG). The DG was 43 minutes into a two-hour monthly load test when it tripped. Prior to the DG tripping, a momentary lowering voltage on safety related bus 14-1 resulted in an undervoltage trip of 'B' Reactor Protection System (RPS). Reactor Building Ventilation isolated and Standby Gas Treatment (SBGT) automatically started. Bus 14-1 did not trip. Both units entered TS 3.8.1 Condition B for one required DG inoperable at 1056 CST in support of the monthly load test. If the Unit 1 DG is not restored to operable status within the 7 days (i.e., by 1056 hours on December 18, 2023), Condition F will be entered which directs being in MODE 3 within 12 hours (i.e., by 2256 hours on December 18, 2023).

Current plans for the repair of the exciter failure damage will exceed the current TS required Completion Time of 7 days. As a result, a one-time, deterministic risk-informed emergency license amendment is requested to extend the current Completion Time of TS 3.8.1, Required Action B.4, to avoid an unnecessary shutdown of Units 1 and 2 without a commensurate benefit in nuclear safety. Specifically, QCNPS is requesting that the Completion Time of TS 3.8.1.B.4 be extended from 7 days to 30 days. The new 30-day Completion Time is consistent with the risk-informed completion time (RICT) estimate provided for TS 3.8.1.B in Table E1-2 of the Reference, the QCNPS license amendment request for the adoption of TSTF-505, Revision 2, "Provide Risk-Informed Extended Completion Times - RITSTF Initiative 4b," which is currently under NRC review.

In order to minimize risk, consistent with defense-in-depth philosophy, QCNPS is also requesting to suspend testing of the Unit 2 and common (1/2) DGs per Surveillance Requirements (SRs) during the proposed extended Completion Time. The specific SRs to be suspended are: 3.8.1.2, 3.8.1.3, 3.8.1.4, 3.8.1.5, 3.8.1.6, 3.8.1.21, 3.8.3.1, and 3.8.3.2.

Attachment 1 provides a description and assessment of the proposed changes. Attachment 2 provides the existing TS page marked-up to show the proposed TS changes. Attachment 3 provides the revised (clean) TS page.

The proposed change has been reviewed by the QCNPS Plant Operations Review Committee, in accordance with the requirements of the CEG Quality Assurance Program.

CEG is requesting that the NRC review and approve this LAR on an emergency basis in accordance with 10 CFR 50.91(a)(5). Approval of the proposed amendment is requested by December 17, 2023. This is a one-time, deterministic risk-informed request that will remain in effect until January 10, 2024, at 1056 CST. If the Unit 1 DG is not operable by this time TS 3.8.1, Condition F, which requires being in Mode 3 no later than January 10, 2024, at 2256 CT will be entered. Surveillance testing of the Unit 2 and common (1/2) DGs for the suspended SRs will resume and be completed within seven days of restoration of the Unit 1 DG operability or by January 17, 2024, whichever occurs first.

In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b), a copy of this application, with attachments, is being provided to the designated State Officials.

There are no regulatory commitments contained in this submittal. Should you have any questions concerning this submittal, please contact Ms. Rebecca L. Steinman at (779) 231-6162.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 13th day of December 2023.

Respectfully,

**Humphrey,
Mark D.**

Digitally signed by
Humphrey, Mark D.
Date: 2023.12.13 16:36:46
-06'00'

Mark Humphrey
Senior Manager Licensing
Constellation Energy Generation, LLC

Attachments:

1. Evaluation of Proposed Changes
2. Mark-up of QCNPS Technical Specifications Page
3. Clean QCNPS Technical Specifications Page

cc: NRC Regional Administrator, Region III
NRC Senior Resident Inspector, Quad Cities Nuclear Power Station
NRC Project Manager, Quad Cities Nuclear Power Station
Illinois Emergency Management Agency – Division of Nuclear Safety

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Evaluation of Proposed Changes

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Completion Time in TS 3.8.1.B.4 from 7 Days to 30 Days

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1.0 SUMMARY DESCRIPTION

In accordance with 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," Constellation Energy Generation, LLC (CEG) requests an amendment to the Technical Specifications (TS) for Quad Cities Nuclear Power Station (QCNPS), Unit 1. The proposed change to TS 3.8.1, "AC Sources – Operating," is being requested on an emergency basis pursuant to 10 CFR 50.91(a)(5).

The proposed one-time deterministic emergency change revises TS 3.8.1 to extend the Completion Time for Required Action B.4 from 7 days to 30 days. The new 30-day Completion Time is consistent with the Risk-Informed Completion Time (RICT) estimate provided in Table E1-2 of Reference 1, which is the QCNPS license amendment request for the adoption of TSTF-505, Revision 2, "Provide Risk-Informed Extended Completion Times - RITSTF Initiative 4b." This extension provides sufficient time to complete repairs to the Unit 1 emergency diesel generator (DG) and avoid an unnecessary shutdown of QCNPS Units 1 and 2 without a commensurate benefit in nuclear safety. In addition, the proposed change suspends testing of the Unit 2 and common (1/2) DGs per Surveillance Requirements (SRs) during the proposed extended Completion Time.

The need for this emergency license amendment request was unavoidable. On December 11, 2023, the Unit 1 DG tripped approximately 43 minutes into the two -hour monthly load test. When the DG exciter failed, an arc flash occurred in the 2251-12 panel resulting in charring and cabinet door deflection. There was no available data which could have indicated that the Unit 1 DG exciter would fail during the monthly surveillance test. The extended Completion Time is necessary due to the extensive nature of the work necessary to restore the Unit 1 DG to operable status.

2.0 DETAILED DESCRIPTION

2.1 System Design and Operation

The QCNPS onsite AC power system consists of two main generators, two main step-up transformers, two unit auxiliary transformers (UATs), two reserve auxiliary transformers (RATs), distribution buses, three standby emergency DGs, and two standby station blackout (SBO) DGs. The unit Class 1E AC Electrical Power Distribution System AC sources consist of the offsite power sources and the onsite standby power sources (DGs 1, 2, and 1/2). As required by Updated Final Safety Analysis Report (UFSAR), Section 3.1.7.3, the design of the AC electrical power system provides independence and redundancy to ensure an available source of power to the Engineered Safety Feature (ESF) systems. See UFSAR Figure 8.3-1 for an overview of the Emergency Power System.

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The Class 1E unit AC distribution system is, for the most part, divided into redundant load groups (Divisions 1 and 2), so loss of any one group does not prevent the minimum safety functions from being performed. The exception is that the opposite unit's AC Electrical Power Distribution System powers shared loads (i.e., standby gas treatment subsystem, Control Room Emergency Ventilation (CREV) System (Unit 2 only), and Control Room Emergency Ventilation Air Conditioning (AC) System (Unit 2 only)). Although shared by both units, the CREV System and Control Room Emergency Ventilation AC System are single train systems that are powered only from a single Unit 1 motor control center. Each unit's load group has connections to two physically independent offsite power sources and a single DG.

Offsite power is supplied to the 345 kV switchyard from the transmission network by five transmission lines. From the 345 kV switchyard, one qualified electrically and physically separated circuit normally provides AC power, through reserve auxiliary transformer RAT 12, to 4160 V Essential Service System (ESS) bus 13-1 via ESS bus 13 to supply the Division 1 loads of Unit 1. From the same switchyard, another qualified, electrically and physically separated circuit normally provides AC power, through RAT 22, to 4160 V ESS bus 23-1 via ESS bus 23 to supply the Division 1 loads of Unit 2. UAT 11, which is normally supplied by the Unit 1 main generator, is normally aligned to supply the Unit 1 Division 2 4160 V ESS bus 14-1 via ESS bus 14. Finally, UAT 21, which is normally supplied by the Unit 2 main generator, is normally aligned to supply the Unit 2 Division 2 4160 V ESS bus 24-1 via ESS bus 24.

The onsite standby power source for 4160 V ESS buses 13-1, 14-1, 23-1, and 24-1 consists of three DGs. DGs 1 and 2 are dedicated to ESS buses 14-1 and 24-1, respectively. DG 1/2 is a shared power source and can supply either Unit 1 ESS bus 13-1 or Unit 2 ESS bus 23-1. A DG starts automatically on a loss of coolant accident (LOCA) signal (i.e., low reactor water level signal or high drywell pressure signal) (refer to LCO 3.3.5.1, "Emergency Core Cooling System (ECCS) Instrumentation") or on an ESS bus degraded voltage or undervoltage signal (refer to LCO 3.3.8.1, "Loss of Power (LOP) Instrumentation"). After the DG has started, it automatically ties to its respective bus after offsite power is tripped and certain permissives are met as a consequence of ESS bus undervoltage or degraded voltage, independent of or coincident with a LOCA signal. The DGs also start and operate in the standby mode without tying to the ESS bus on a LOCA signal alone. In the event of a LOCA on a unit, DG 1/2 will start and supply the unit (bus 13-1 or 23-1) experiencing the accident if no offsite power is available. This is accomplished by using the accident signal to prevent the DG 1/2 output breaker from closing on the nonaccident unit. Following the trip of offsite power, buses 13-1, 14-1, 23-1, and 24-1 are automatically disconnected from their normal supply and all nonessential loads are disconnected from the ESS bus except the 480 V ESS bus. When the DG is tied to the ESS bus, loads are then sequentially connected to its respective ESS bus, if a LOCA signal is present, by the sequencing logic. The sequencing logic controls the starting signals to motor breakers to prevent overloading the DG.

2.2 Current Technical Specifications Requirements

The Unit 1 DG was removed from service in support of the monthly load test surveillance on December 11, 2023, at 1056 CST. Due to the shared electrical distribution system at QCNPS, both Unit 1 and Unit 2 entered TS 3.8.1, Condition B for one DG inoperable. With the Unit 2 and common (1/2) DG available, the Unit 1 DG must be restored to operable status by 1056 CST on December 18, 2023, or Condition F will be entered, which requires being in

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MODE 3 within 12 hours (i.e., by 2256 on December 18, 2023).

Surveillance Requirement (SR) 3.8.1.2 verifies that each DG starts from standby conditions and achieves steady state voltage ≥ 3952 V and ≤ 4368 V and frequency of ≥ 58.8 Hz and ≤ 61.2 Hz. The Frequency of SR 3.8.1.2 is "In Accordance with the Surveillance Frequency Control Program." The current frequency of SR 3.8.1.2 at QCNPS is 31 days.

SR 3.8.1.3 verifies that each DG is synchronized and loaded and operates for ≥ 60 minutes at a load ≥ 2340 kW and ≤ 2600 kW. The Frequency of SR 3.8.1.3 is "In Accordance with the Surveillance Frequency Control Program." The current frequency of SR 3.8.1.3 at QCNPS is 31 days.

SR 3.8.1.4 verifies each day tank contains ≥ 205 gal of fuel oil and each bulk fuel storage tank contains $\geq 10,000$ gal of fuel oil. The Frequency of SR 3.8.1.4 is "In Accordance with the Surveillance Frequency Control Program." The current frequency of SR 3.8.1.4 at QCNPS is 31 days.

SR 3.8.1.5 removes accumulated water from each day tank. The Frequency of SR 3.8.1.5 is "In Accordance with the Surveillance Frequency Control Program." The current frequency of SR 3.8.1.5 at QCNPS is 31 days.

SR 3.8.1.6 verifies each fuel oil transfer pump operates to automatically transfer fuel oil from the storage tank to the day tank. The Frequency of SR 3.8.1.6 is "In Accordance with the Surveillance Frequency Control Program." The current frequency of SR 3.8.1.6 at QCNPS is 31 days.

SR 3.8.1.21 is provided to direct that appropriate Surveillances for the required opposite unit AC sources are governed by the applicable opposite unit Technical Specifications. The Frequency of SR 3.8.1.21 is "In Accordance with applicable SRs."

SR 3.8.3.1 verifies fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program. The Frequency of SR 3.8.3.1 is "In accordance with the Diesel Fuel Oil Testing Program."

SR 3.8.3.2 verifies each required DG air start receiver pressure is ≥ 230 psig. The Frequency of SR 3.8.3.2 is "In Accordance with the Surveillance Frequency Control Program." The current frequency of SR 3.8.3.2 at QCNPS is 31 days.

2.3 Reason for the Proposed Change / Basis for Emergency Circumstances

The Unit 1 DG was removed from service in support of the monthly load test surveillance on December 11, 2023, at 1056 CT. Due to the configuration and shared electrical distribution system at QCNPS, both units entered TS 3.8.1, Condition B (i.e., one DG inoperable). At 1205 hours CST an unplanned failure of the Unit 1 DG exciter resulted in an arc flash in the 2251-12 panel resulting in charring and cabinet door deflection. The DG was 43 minutes into a two-hour monthly load test when it tripped. Prior to the DG tripping, a momentary lowering voltage on safety related bus 14-1 resulted in an undervoltage trip of 'B' Reactor Protection System (RPS).

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Reactor Building Ventilation isolated and Standby Gas Treatment (SBGT) automatically started. Bus 14-1 did not trip. Both Units remain in TS 3.8.1 Condition B as a result of the exciter failure.

Maintenance activities continue in support of restoring the Unit 1 DG to an operable status but is not expected to be complete before the expiration of the current 7-day Completion Time. If the Unit 1 DG is not restored to operable status by 1056 hours on December 18, 2023, Condition F will be entered which requires being in MODE 3 within 12 hours (i.e., by 2256 hours on December 18, 2023).

Performing surveillance or other activities on the Unit 2 or common (1/2) DG while the Unit 1 DG is inoperable could jeopardize the reliability and availability of the DGs if needed. There are eight (8) SRs, listed in Section 2.2, whose due date and late date fall within the extended completion time period for the Unit 1 DG repair.

For example, the required surveillance testing of the common (1/2) DG (SRs 3.8.1.2, 3.8.1.3, and 3.8.1.4) is scheduled to be completed no later than December 28, 2023, and similar testing for the Unit 2 DG is scheduled to be completed by no later than January 11, 2024. These dates include the 25% extension allowed per SR 3.0.2. If the Unit 1 DG is not restored to an operable status by December 28, 2023, the common (1/2) DG would exceed the monthly surveillance test frequency and would be declared inoperable for the missed surveillance. Similarly, if the Unit 2 DG is not tested by January 11, 2024, it would exceed the monthly surveillance test frequency and would be declared inoperable. Testing either the Unit 2 or common (1/2) DG during the time when the Unit 1 DG is out-of-service would also require the DG to be declared inoperable during testing. With two (2) inoperable, both QCNPS units would be required to enter TS 3.8.1, Condition E, "Two or more DGs inoperable." Condition E specifies that at least one DG be restored to an operable status within 2 hours. In addition, TS 3.8.1, Condition F to be in MODE 3, "Hot Shutdown," within 12 hours, would apply if the Condition E Completion Time is not met. This would result in unnecessary shutdown without a commensurate benefit in nuclear safety.

2.4 Description of the Proposed Changes

The proposed one-time deterministic emergency change revises TS 3.8.1, "AC Sources – Operating," to provide an extension of the Completion Time for Required Action B.4 from 7 days to 30 days. This provides sufficient time to complete repairs to the Unit 1 emergency diesel generator (DG) and avoid an unnecessary shutdown of both units without a commensurate benefit in nuclear safety. The following change to the Completion Time for TS 3.8.1 Required Action B.4 is proposed.

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Current TS 3.8.1 Required Action B.4 Completion Time	Proposed TS 3.8.1 Required Action B.4 Completion Time
7 days	-----NOTE----- For the Unit 1 DG failure on December 11, 2023, restore the inoperable DG to OPERABLE status within 30 days. ----- 7 days

QCNPS is also requesting to suspend surveillance testing of the Unit 2 and 1/2 DG during the extended period when the Unit 1 DG is inoperable. Because the surveillances are being suspended rather than extending their frequencies and the frequencies are controlled by a licensee-controlled program, no changes to the TS pages for these SRs are required.

Attachment 2 contains a marked-up version of the QCNPS TS showing the proposed changes. Attachment 3 provides the revised (clean) TS page. No TS Bases changes are proposed for this one-time request.

3.0 TECHNICAL EVALUATION

3.1 Deterministic Evaluation

During the proposed Completion Time extension, Units 1 and 2 will be in MODE 1.

Offsite power is supplied to the 345 kV switchyard from the transmission network by five transmission lines. These offsite power supplies are unaffected by the Unit 1 DG repair work. As such, sufficient offsite power supplies remain available to complete the intended safety function of ensuring an available source of power to the ESF systems.

The onsite AC power system consists of two main generators, two main step-up transformers, two UATs, two RATs, distribution buses, three standby emergency DGs, and two standby SBO DGs. The AC distribution system has nominal ratings of 13.8 kV, 4160 V, 480/277 V, and 208/120 V.

The onsite standby power source for 4160 V ESS buses 13-1, 14-1, 23-1, and 24-1 consists of three DGs. DGs 1 and 2 are dedicated to ESS buses 14-1 and 24-1, respectively. However, the capability does exist to manually cross-tie the DG 2 to bus 14-1. DG 1/2 is a shared power source and can supply either Unit 1 ESS bus 13-1 or Unit 2 ESS bus 23-1. A DG starts automatically on a LOCA signal (i.e., low reactor water level signal or high drywell pressure signal) or on an ESS bus degraded voltage or undervoltage signal. After the DG has started, it automatically ties to its respective bus after offsite power is tripped and certain permissives are met as a consequence of ESS bus undervoltage or degraded voltage, independent of or coincident with a LOCA signal. The DGs also start and operate in the standby mode without

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tying to the ESS bus on a LOCA signal alone. In the event of a LOCA on a unit, DG 1/2 will start and supply the unit (bus 13-1 or 23-1) experiencing the accident if no offsite power is available. This is accomplished by using the accident signal to prevent the DG 1/2 output breaker from closing on the non-accident unit.

Additional standby DGs have been installed to meet the requirements of 10 CFR 50.63, Station Blackout Rule. The SBO system is a non-class 1E, independent source of additional on-site emergency AC power. The system consists of two diesel-driven generator sets, each having a continuous rating of 4350 kW at 4160 V at a power factor of 0.8. The 2000-hour/year rating is 4785 kW. Each generator is connectable, but not normally connected, to the safe shutdown equipment on one nuclear unit, but can also be connected to the opposite unit via the safety-related 4kV cross-ties.

QCNPS also has two portable 500 kW FLEX DGs, one for each unit, providing an additional redundant source of onsite emergency AC power.

The unavailability of the Unit 1 DG for this one-time TS change does not reduce the amount of available equipment to a level below that necessary to mitigate a design basis accident. The Unit 2 and common (1/2) DGs, SBO DGs, and FLEX DG power supplies are capable of mitigating all postulated accidents. The proposed change will continue to provide multiple means to accomplish safety functions and prevent the release of radioactive material, consistent with the defense-in-depth philosophy.

3.2 Risk Insights

This license amendment request is not a risk-informed request and, therefore, a risk evaluation is not required. However, to provide additional information, CEG is providing risk insights related to the proposed change.

A risk assessment was performed that demonstrated with reasonable assurance that the proposed TS changes are within the current risk acceptance guidelines in Regulatory Guide (RG) 1.177 (Reference 6.4) for one-time changes. This ensures that the TS change meets the intent of the incremental conditional core damage probability (ICCDP) and incremental conditional large early release probability (ICLERP) acceptance guidelines established for compatibility with the ICCDP and ICLERP limits of RG 1.177, which is applicable for configuration changes that require normal work controls. This acceptance guideline requires compensatory measures be implemented during the extended completion time (CT), which are discussed in below. The risk analysis was based on the ICCDP and ICLERP values for the unavailability of the Unit 1 DG and Unit 1 DG cooling water pump (DGCWP). The Unit 1 DGCWP was included conservatively because logic power was removed to isolate the panel electrically which prevents the pump from auto-starting. The pump maintains manual start capability, which is not credited in the probabilistic risk analysis (PRA). The risk analysis includes insights used from RS-23-059, "License Amendment Request to Revise Technical Specifications to Adopt Risk Informed Completion Times TSTF-505, Revision 2, 'Provide Risk-Informed Extended Completion Times - RITSTF Initiative 4b'" (Reference 6.1).

The identification of the risk management actions (RMAs) was derived from a detailed review of the results of the risk assessment. None of the RMAs were credited numerically in the base risk

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analysis; the identified compensatory actions would further lessen the overall risk incurred during the extended periods. The compensatory actions that are outlined below provide additional assurance that the risk during the extended allowed outage time of the surveillance extension will be minimized.

The following compensatory measures are recommended to limit the risk impact of the Unit 1 DG unavailability.

- All fire RMAs will be implemented for each configuration per procedural guidance.
- Any emergent work will be assessed and managed in accordance with 10 CFR 50.65(a)(4) and the applicable TS.
 - Limit maintenance activities while Unit 1 DG is unavailable.
 - Protect the other DGs, SBO DGs, and switchyard (e.g., limit activities near emergency DG equipment) to help ensure the availability of AC power.
 - Reschedule surveillances/preventative maintenance that could affect fire protection equipment (e.g., detection and suppression systems) in the Relay House.
 - Perform pre-job briefs to increase awareness of various operator actions to help minimize risk (e.g., associated with scenarios where AC Power has increased Importance):
 - Manually align and start the Unit 1 DGCWP. The Unit 1 DGCWP is still capable of being manually aligned if required.
 - Manually align and start the Safe Shutdown Makeup Pump (SSMP). The SSMP does not auto-initiate and is manually initiated from the Main Control Room. In addition, the SSMP room cooler bypass valve needs to be locally, manual closed in the SSMP room. This should include operation of the SSMP for dual unit events where SSMP may be required for both units.
 - Actions in SBO scenarios:
 - Start the SBO DGs and align to the affect Buses.
 - Crosstie AC Buses.
 - Shed non-essential loads in Station Blackout conditions to preserve the RPV and containment support systems.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

10 CFR 50.36(c)(2)(ii), stipulates that a TS LCO must be established for each item meeting one or more of the following criteria:

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1. Installed instrumentation that is used to detect, and indicate in the Control Room, a significant abnormal degradation of the reactor coolant pressure boundary.
2. A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of, or presents a challenge to the integrity of a fission product barrier.
3. A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
4. A structure, system, or component which operating experience or PRA has shown to be significant to public health and safety.

The proposed changes do not modify any plant equipment that provides emergency power to the safety-related emergency buses. Evaluation of the proposed changes has determined that the reliability of AC electrical sources is not significantly affected by the proposed changes and that applicable regulations and requirements continue to be met.

QCNPS was not licensed to the 10 CFR 50, Appendix A, General Design Criteria (GDC). QCNPS Updated Final Safety Analysis Report (UFSAR) Section 3.1 "Conformance with NRC Design Criteria," provides an assessment against the 70 draft GDC published in 1967 and concludes that the plant-specific requirements are sufficiently similar to the Appendix A GDC. Criterion 24 requires sufficient alternate sources of power to be provided to permit the required functioning of reactor protection systems. The onsite system is required to have sufficient independence, redundancy, and testability to perform its safety function, assuming a single failure. The offsite power system is required to be supplied by two physically independent circuits that are designed and located so as to minimize, to the extent practical, the likelihood of their simultaneous failure under operating and postulated accident and environmental conditions. The proposed changes do not affect QCNPS's compliance with the intent of Criterion 24.

10 CFR 50.63(a), Loss of all alternating current power, requires that each light water-cooled nuclear power plant licensed to operate be able to withstand for a specified duration and recover from a station blackout. The proposed changes do not affect QCNPS compliance with 10 CFR 50.63(a).

CEG has determined that the proposed changes do not require any exemptions or relief from regulatory requirements, other than the TS, and do not affect conformance with the intent of any GDC differently than described in the UFSAR.

4.2 Precedent

The proposed emergency license amendment was developed using relevant information from an approved change for Brunswick Steam Electric Plant dated November 26, 2017 (Reference 6.2). The Brunswick precedent involved a request to extend DG TS allowed outage completion times along with suspending the performance of surveillances for the three remaining DGs while the fourth DG was inoperable. CEG's proposed license amendment is similar in that we are also asking for an extension to the allowed outage completion time and requesting suspension of eight (8) DG TS surveillances until the Unit 1 DG is repaired.

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Peach Bottom Atomic Power Station (PBAPS) also received NRC approval on June 23, 2018 (Reference 6.3) for a one-time change suspending the emergency DG surveillance test completion requirements, but unlike this request the PBAPS amendment did not involve extending TS allowed outage completion times.

4.3 No Significant Hazards Consideration

Overview

Constellation Energy Generation, LLC (CEG) requests an emergency amendment to revise Technical Specifications (TS) Section 3.8.1, "AC Sources – Operating," to provide an extension of the Completion Time for Required Action B.4 from 7 days to 30 days. This provides sufficient time to complete repairs to the Unit 1 emergency diesel generator (DG) and avoid an unnecessary shutdown of Quad Cities Nuclear Power Station (QCNPS) Units 1 and 2 without a commensurate benefit in nuclear safety. In addition, the proposed change suspends testing of the Unit 2 and common (1/2) DGs per Surveillance Requirements (SRs) during the proposed extended Completion Time.

CEG has evaluated the proposed change against the criteria of 10 CFR 50.92(c) to determine if the proposed changes result in any significant hazards. The following is the evaluation of each of the 10 CFR 50.92(c) criteria:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

The consequences of an evaluated accident are determined by the operability of plant systems designed to mitigate those consequences. The DGs are backup power to components that mitigate the consequences of accidents. The proposed license amendment provides a deterministic one-time change an extension of the Completion Time for Required Action B.4 from 7 days to 30 days. This change has no impact on accident probabilities since the DGs are not considered accident initiators. The proposed extension of the Completion Time does not require any physical plant modifications. All planned work is aimed at restoring the inoperable DG to an operable status and suspending surveillances on the other two DGs during the period of repair helps ensure those DGs remain operable. Since no individual precursors of an accident are affected, the proposed amendment does not increase the probability of a previously analyzed event.

Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No

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Creation of the possibility of a new or different kind of accident requires creating one or more new accident precursors. The proposed license amendment provides a deterministic one-time change an extension of the Completion Time for Required Action B.4 from 7 days to 30 days. The proposed change does not involve a modification or the physical configuration of the plant (i.e., no new equipment will be installed), create any new failure modes for existing equipment, or create any new limiting single failures.

Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No

The proposed license amendment provides a deterministic, risk-informed one-time change an extension of the Completion Time for Required Action B.4 from 7 days to 30 days and suspends testing of the Unit 2 and common (1/2) DGs per Surveillance Requirements (SRs) during the proposed extended Completion Time. These changes do not impact any limiting safety setting or alter any safety limits.

Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

4.4 Conclusion

Based on the considerations discussed above: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

5.0 ENVIRONMENTAL CONSIDERATION

The proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

ATTACHMENT 1
Evaluation of Proposed Changes

6.0 REFERENCES

- 6.1. Letter from P. R. Simpson (Constellation Energy Generation, LLC) to U.S. NRC, "License Amendment Request to Revise Technical Specifications to Adopt Risk Informed Completion Times TSTF-505, Revision 2, 'Provide Risk-Informed Extended Completion Times - RITSTF Initiative 4b,'" dated June 8, 2023 (ADAMS Accession Number: ML23159A249)
- 6.2. Letter from A. Hon (U.S. NRC) to W. Gideon (Brunswick Steam Electric Plant), "Brunswick Steam Electric Plant, Units 1 and 2 – Issuance of Amendments for Technical Specification 3.8.1, "AC [Alternating Current] Sources - Operating" One-Time Extension of Emergency Diesel Generator Completion Times and Suspension of Surveillance Requirements (Emergency Situation) (EPID L-2017-LLA-0392)," dated November 26, 2017 (ADAMS Accession No. ML17328B072)
- 6.3. Letter from J. Tobin (U.S. NRC) to B. Hanson (Exelon Generation Company, LLC), "Peach Bottom Atomic Power Station, Units 2 and 3 – Issuance of Amendment Nos. 318 and 321 to Revise Technical Specifications 3.8.1 and 3.8.3, One-Time Change Suspending Emergency Diesel Generator Surveillance Test Completion Requirements (Emergency Situation) (EPID L-2018-LLA-0173), dated June 23, 2018 (ADAMS Accession No. ML18173A042)
- 6.4. Regulatory Guide 1.177, "Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications," Revision 2, dated January 2021 (ADAMS Accession No. ML20164A034)

ATTACHMENT 2

**QUAD CITIES NUCLEAR POWER STATION
UNITS 1 AND 2**

Docket Nos. 50-264 and 50-265

Facility Operating License Nos. DPR-29 and DPR-30

MARK-UP OF QCNPS TECHNICAL SPECIFICATIONS PAGE

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One required DG inoperable.	B.1 Perform SR 3.8.1.1 for OPERABLE required offsite circuit(s).	1 hour <u>AND</u> Once per 8 hours thereafter
	<u>AND</u>	
	B.2 Declare required feature(s), supported by the inoperable DG, inoperable when the redundant required feature(s) are inoperable.	4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)
	<u>AND</u>	
	B.3.1 Determine OPERABLE DG(s) are not inoperable due to common cause failure.	24 hours
	<u>OR</u>	
	B.3.2 Perform SR 3.8.1.2 for OPERABLE DG(s).	24 hours
	<u>AND</u>	
	B.4 Restore required DG to OPERABLE status.	7 days

(continued)

-----NOTE-----
For the Unit 1 DG failure on December 11, 2023, restore the inoperable DG to OPERABLE status within 30 days.

ATTACHMENT 3

**QUAD CITIES NUCLEAR POWER STATION
UNITS 1 AND 2**

Docket Nos. 50-264 and 50-265

Facility Operating License No. DPR-29 and DPR-30

CLEAN QCNPS TECHNICAL SPECIFICATIONS PAGE

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One required DG inoperable.	B.1 Perform SR 3.8.1.1 for OPERABLE required offsite circuit(s).	1 hour <u>AND</u> Once per 8 hours thereafter
	<u>AND</u>	
	B.2 Declare required feature(s), supported by the inoperable DG, inoperable when the redundant required feature(s) are inoperable.	4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)
	<u>AND</u>	
	B.3.1 Determine OPERABLE DG(s) are not inoperable due to common cause failure.	24 hours
	<u>OR</u>	
	B.3.2 Perform SR 3.8.1.2 for OPERABLE DG(s).	24 hours
	<u>AND</u>	
	B.4 Restore required DG to OPERABLE status.	-----NOTE----- For the DG failure on December 11, 2023, restore the inoperable DG to OPERABLE status within 30 days. ----- 7 days

(continued)