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TALEN ENERGY

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Attn: Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

10 CFR 50.59
10 CFR 72.48

SUSQUEHANNA STEAM ELECTRIC STATION
BIENNIAL 10 CFR 50.59 AND 72.48 SUMMARY REPORT AND CHANGES TO REGULATORY COMMITMENTS
PLA-8145

Docket Nos. 50-387, 50-388, and 72-28

References: 1) Susquehanna Letter to NRC, "Biennial 10 CFR 50.59 and 72.48 Summary Report and Changes to Regulatory Commitments (PLA-8026)," dated October 19, 2022 (ADAMS Accession No. ML22292A009)

2) Susquehanna Letter to NRC, "Submittal of Updated Final Safety Analysis Report Revision 71 and Fire Protection Review Report Revision 25 (PLA-8081)," dated October 12, 2023 (ADAMS Accession No. ML23291A105)

In accordance with 10 CFR 50.59(d)(2) and 10 CFR 72.48(d)(2), Susquehanna Nuclear, LLC (Susquehanna), hereby submits summary reports for Units 1 and 2 for implemented changes, tests, and experiments for which evaluations were performed in accordance with 10 CFR 50.59(c) and 10 CFR 72.48(c). Since last reported in Reference 1, during the period of September 1, 2022, through August 31, 2024, no changes, tests or experiments were approved pursuant to 10 CFR 72.48(c). A summary report of changes, tests or experiments approved pursuant to 10 CFR 50.59(c) is provided in the enclosure.

Since last reported in Reference 2, Susquehanna has not revised any regulatory commitments meeting the criteria specified in Nuclear Energy Institute 99-04, "Guidelines for Managing NRC Commitment Changes," as endorsed in NRC Regulatory Issue Summary 2000-17.

This letter contains no new or revised regulatory commitments.

Should you have any questions regarding this submittal, please contact Ms. Melisa Krick, Manager – Nuclear Regulatory Affairs, at (570) 542-1818.

DOUG LAMARCA, ACTING SVP FOR E CASULLI

E. Casulli

Enclosure: Description of Changes, Tests, and Experiments under 10 CFR 50.59(c)

Copy: NRC Region I
Ms. J. England, NRC Senior Resident Inspector
Ms. A. Klett, NRC Project Manager
Mr. M. Shields, PA DEP/BRP
Director, Division of Fuel Management

Enclosure to PLA-8145

Description of Changes, Tests, and Experiments under 10 CFR 50.59(c)

Description of Changes, Tests, and Experiments under 10 CFR 50.59(c)

Introduction
Susquehanna Steam Electric Station (SSES) had two changes, tests or experiments approved pursuant to 10 CFR 50.59(c). Below is a summary description of each evaluation.

50.59 SE 00035
Activity Description
The activity decreases the Technical Requirement Surveillance (TRS) 3.3.7.1, TRS 3.3.7.2, and TRS 3.3.7.3 testing frequency of the Unit 1 and Unit 2 Turbine Control, Stop, and Combined Intermediate Valves (referred to collectively as turbine valves) from once per 122 days to once per 184 days. The activity also reduces the allowed grace for cycling of the turbine valves from 25% in accordance with TRS 3.0.2 to 30 days. The testing consists of cycling the turbine valves from the running position and observing closure of the valves.

Summary of Evaluation
The evaluation validates that the turbine missile probability analysis remains within the regulatory requirements and is consistent with the analysis referenced in SSES Updated Final Safety Analysis Report (UFSAR) Sections 3.5.1.3 and 10.2.3. For SSES, the regulatory requirements are that P4, the probability of unacceptable turbine missile damage, is less than 1.00E-07 events per year consistent with NUREG-1048, Supplement 6, "Safety Evaluation Report Related to the Operation of Hope Creek Generating Station," Appendix U. This probability value ensures that there is an acceptable level of risk of damage from a turbine overspeed event.

As a result of the activity, P4 increased by 79 percent from 4.708E-08 to 8.431E-08.

The activity is acceptable because:

- P4, at the new turbine valve test interval, remains less than the 1.00E-07 per year limit per UFSAR Section 3.5.1.3.
- The likelihood of occurrence of a malfunction of unacceptable turbine missile damage is not increased by a factor of two since P4 remains below a value of 9.416E-08 [2 x 4.708E-08].
- Industry operating experience demonstrates that other nuclear facilities have extended the periodicity of this test to six months with no observed reduction in reliability.
- The method used to calculate the probability of unacceptable turbine missile damage is in accordance with the approved methodology in the Susquehanna licensing basis.

Therefore, adopting a 184-day frequency for testing of the turbine valves is acceptable.

50.59 SE 00037

Activity Description

The activity decreases the required inspection frequency of the Unit 1 and Unit 2 turbine valves from one valve of each type every 3 1/3 years (40 months) to each turbine valve inspected every 10 years (nominal) per TRS 3.3.7.5. Note that the current turbine missile analysis assumes each turbine valve is inspected every eight years (nominal). The inspection consists of performing a visual and surface inspection of valve seats, disks and stems and verify no unacceptable flaws or corrosion. The activity also reduces the allowed grace for cycling of the turbine valves (TRS 3.3.7.1, 3.3.7.2 and 3.3.7.3) from 30 days to two weeks and the allowed grace for TRS 3.3.7.5 to 30 days.

Summary of Evaluation

The evaluation validates that the turbine missile probability analysis remains within the regulatory requirements and is consistent with the analysis referenced in SSES UFSAR Sections 3.5.1.3 and 10.2.3. For SSES, the regulatory requirements are that P4, the probability of unacceptable turbine missile damage, is less than 1.00E-07 events per year consistent with NUREG-1048, Supplement 6, "Safety Evaluation Report Related to the Operation of Hope Creek Generating Station," Appendix U. This probability value ensures that there is an acceptable level of risk of damage from a turbine overspeed event.

As a result of the activity, P4 increased by 16 percent from 8.431E-08 to 9.804E-08.

The change is acceptable because:

- P4 at the new turbine valve inspection interval remains less than the 1.00E-07 per year limit per UFSAR Section 3.5.1.3.

- The likelihood of occurrence of a malfunction that results in unacceptable turbine missile damage is not increased by a factor of two.

- Industry operating experience demonstrates that other nuclear facilities have extended the periodicity of this inspection to 10 years with no observed reduction in reliability.

- The missile probability analysis method used to calculate P4 is in accordance with the approved methodology in the Susquehanna licensing basis.

Therefore, adopting the 10-year interval for turbine valve inspection is acceptable.