



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 6, 2017

Mr. Brad Berryman
Site Vice President
Susquehanna Nuclear, LLC
769 Salem Boulevard
NUCSB3
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 –
SUPPLEMENTAL INFORMATION NEEDED FOR ACCEPTANCE OF
REQUESTED LICENSING ACTION RE: LICENSE AMENDMENT REQUEST
TO REVISE DIESEL GENERATOR SURVEILLANCE REQUIREMENTS WITH
NEW STEADY STATE VOLTAGE AND FREQUENCY LIMITS
(CAC NOS. MF9131 AND MF9132)

Dear Mr. Berryman:

By letter dated January 25, 2017,¹ Susquehanna Nuclear, LLC (the licensee) submitted a license amendment request for Susquehanna Steam Electric Station, Units 1 and 2. The proposed amendment requested to change certain Surveillance Requirements (SRs) in Technical Specification 3.8.1, "AC [Alternating Current] Sources–Operating." The requests are for changes in the use of steady state voltage and frequency acceptance criteria for onsite standby power source of the diesel generators, allowing for the use of new and more conservative design analysis.

The purpose of this letter is to provide the results of the U.S. Nuclear Regulatory Commission (NRC) staff's acceptance review of this amendment request. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to complete its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies in its characterization of the regulatory requirements or the licensing basis of the plant.

Consistent with Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), an amendment to the license (including the technical specifications) must fully describe the changes requested, and following, as far as applicable, the form prescribed for original applications. Section 50.34 of 10 CFR addresses the content of technical information required. This section stipulates that the submittal address the design and operating characteristics, unusual or novel design features, and principal safety considerations.

¹ Agencywide Documents Access and Management System Accession No. ML17044A149

The NRC staff notes that per NRC guidance contained in LIC-109, Revision 2, "Acceptance Review Procedures," your application constitutes a generic review of a document currently under review by the NRC staff, i.e. topical report (TR) WCAP-17308, "Treatment of Diesel Generator (DG) Technical Specification Frequency and Voltage Tolerances." LIC 109 prohibits such a dual generic review.

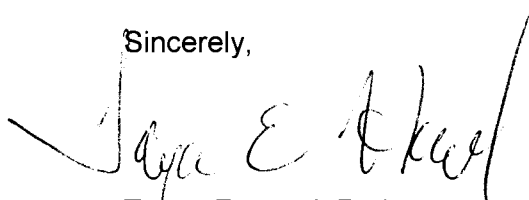
The NRC staff has reviewed your application and concluded that the information delineated in the enclosure to this letter is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed amendment in terms of regulatory requirements and the protection of public health and safety and the environment.

In order to make the application complete, the NRC staff requests that the licensee supplement the application to address the information requested in the enclosure by March 23, 2017. This will enable the NRC staff to begin its detailed technical review. If the information responsive to the NRC staff's request is not received by the above date, the application will not be accepted for review pursuant to 10 CFR 2.101, and the NRC will cease its review activities associated with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the staff's detailed technical review by separate correspondence.

The information requested and associated timeframe in this letter were discussed with Mr. Richard McIntosh and Mr. Jason Jennings of your staff on March 3, 2017.

If you have any questions regarding this matter, I may be reached at 301-415-1387 or by e-mail to Tanya.Hood@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Tanya E. Hood", is written over a horizontal line.

Tanya E. Hood, Project Manager
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-387 and 50-388

Enclosure:
Supplemental Information Needed

cc w/enclosure: Distribution via Listserv

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SUPPLEMENTAL INFORMATION NEEDED FOR ACCEPTANCE OF
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TO REVISE DIESEL GENERATOR SURVEILLANCE REQUIREMENTS WITH
NEW STEADY STATE VOLTAGE AND FREQUENCY LIMITS
(CAC NOS. MF9131 AND MF9132) DATED MARCH 6, 2017**

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ADAMS Accession No: ML17059D214

*by e-mail dated

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SUPPLEMENTAL INFORMATION NEEDED

LICENSE AMENDMENT REQUEST TO REVISE DIESEL GENERATOR SURVEILLANCE

REQUIREMENTS WITH NEW STEADY STATE VOLTAGE AND FREQUENCY LIMITS

SUSQUEHANNA NUCLEAR, LLC

ALLEGHENY ELECTRIC COOPERATIVE, INC.

SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2

DOCKET NOS. 50-387 AND 50-388

By letter dated January 25, 2017 (Agencywide Documents Access and Management System Accession No. ML17044A149), Susquehanna Nuclear, LLC (the licensee) submitted a license amendment request (LAR) for Susquehanna Steam Electric Station, Units 1 and 2. The proposed amendment would modify certain Surveillance Requirements (SRs) in Technical Specification 3.8.1, "AC [Alternating Current] Sources—Operating." The requests are for changes in the use of steady state voltage and frequency acceptance criteria for onsite standby power source of the diesel generators (DGs), allowing for the use of new and more conservative design analysis.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the information submitted by the licensee, and based on this review, determined that additional information is required to complete the assessment of the LAR. The supplemental information listed below is needed to support the NRC staff's completion of the required acceptance review of the proposed LAR.

QUESTION 1

The NRC staff has determined that clarification is needed with regard to the referencing of topical report (TR) WCAP-17308, "Treatment of Diesel Generator (DG) Technical Specification Frequency and Voltage Tolerances." WCAP-17308 is still under NRC staff review and is not an approved TR. Therefore, the NRC staff is requesting clarity of the licensee's use of this unapproved TR referenced in Attachment 3 of the LAR. This information will enable the NRC staff to complete its detailed review and make an independent assessment regarding the acceptability of the proposed amendment in terms of regulatory requirements and the protection of public health and safety and the environment.

QUESTION 2

Section 4.3.9, Appendix K Analysis, of the LAR states that "[t]here is no need to account for the impacts of uncertainties in site-specific Emergency Core Cooling System (ECCS) flow-rates, induced by a $\leq 2\%$ reduction in diesel speed in the [loss-of-coolant accident] LOCA analysis." Section 50.46 of Title 10 of the *Code of Federal Regulations* governs LOCA analyses for individual nuclear plants. The results of the limiting cases of the LOCA analyses performed using the ECCS model are often referred to as the "analysis of record" (AOR). The AOR is used to establish core operating limits for each cycle according to the licensee's approved reload methodology.

Enclosure

The proposed changes in the DG voltage limits and frequency limits may affect the ECCS pump performance and flow. Provide the method and assumptions used in the estimation and the results of the ECCS flow change resulting from the DG voltage and frequency limits changes on the AOR. Demonstrate that the change in the calculated peak clad temperature (PCT) is small and the existing margin to the PCT limit of 2,200 degrees Fahrenheit is not adversely impacted.