



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

August 26, 2015

Mr. Jon A. Franke
Site Vice President
Susquehanna Nuclear, LLC
769 Salem Boulevard
NUCSB3
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 – REQUEST FOR ADDITIONAL INFORMATION REGARDING LICENSE AMENDMENT REQUEST TO ADOPT NUCLEAR ENERGY INSTITUTE 99-01, REVISION 6, EMERGENCY ACTION LEVEL SCHEME CHANGE (TAC NOS. MF6057 AND MF6058)

Dear Mr. Franke:

By letter dated March 19, 2015, Susquehanna Nuclear, LLC requested approval for an emergency action level (EAL) scheme change for the Susquehanna Steam Electric Station, Units 1 and 2 (SSES). SSES proposes to revise its current EAL scheme to one based upon Nuclear Energy Institute 99-01, Revision 6, "Development of Emergency Action Levels for Non-Passive Reactors." To complete its review, the U.S. Nuclear Regulatory Commission staff requests responses to the enclosed request for additional information.

The draft questions were sent to Mr. Jason Jennings to ensure that they were understandable, the regulatory basis for the questions was clear, and to determine if the information was previously docketed. Please respond to the enclosure within 45 days of the date of this letter. If you have any questions regarding this matter, please contact me at 301-415-4090 or Jeffrey.Whited@nrc.gov.

Sincerely,

A handwritten signature in cursive script that reads "Jeffrey A. Whited".

Jeffrey A. Whited, Project Manager
Plant Licensing Branch 1-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-387 and 50-388

Enclosure:
Request for Additional Information

cc w/enclosure: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION
LICENSE AMENDMENT REQUEST REGARDING
EMERGENCY ACTION LEVEL SCHEME CHANGE
SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2
DOCKET NOS. 50-387 AND 50-388

By letter dated March 19, 2015,¹ Susquehanna Nuclear, LLC (Susquehanna, the licensee),² requested approval for an emergency action level (EAL) scheme change for the Susquehanna Steam Electric Station, Units 1 and 2 (SSES). SSES proposes to revise its current EAL scheme to one based upon Revision 6 to Nuclear Energy Institute (NEI) 99-01, Revision 6, "Development of Emergency Action Levels for Non-Passive Reactors".³

The requests for additional information (RAI) listed below is needed to support the U.S. Nuclear Regulatory Commission (NRC) staff's completion of the technical review of the proposed EAL scheme change.

- RAI-1 Section 4.3, "Instrumentation Used for EALs," to NEI 99-01, Revision 6, states, in part: "Scheme developers should ensure that specific values used as EAL setpoints are within the calibrated range of the referenced instrumentation..." Please confirm that all setpoints and indications used in the proposed EAL scheme are within the calibrated range(s) of the stated instrumentation and that the resolution of the instrumentation is appropriate for the setpoint/indication.
- RAI-2 Section 2.1, "Background," and Section 4.0, "References," of the licensee's license amendment request (LAR) refer to Agencywide Documents Access and Management System (ADAMS) Accession No. ML110240324 as the document endorsed by the NRC, when in fact it is ADAMS Accession No. ML12326A805, which is part of the endorsement package contained within ADAMS Accession No. ML13091A209. Please revise accordingly to specify either one of these ADAMS accession numbers to reference the correct NRC-endorsed EAL scheme development guidance.
- RAI-3 Section 2.5, "Technical Bases Information," of the LAR states, in part:

A Plant-Specific basis section that provides Susquehanna-relevant information concerning the EAL. This is followed by a Generic basis

¹ ADAMS Accession No. ML15091A657.

² This LAR was submitted by PPL Susquehanna, LLC; however, on April 10, 2015, the NRC staff issued an order approving the transfer of the license of SSES to Talen Energy. Subsequently, on June 1, 2015, the NRC staff issued an amendment approving a name change of the licensee for SSES to Susquehanna Nuclear, LLC.

³ ADAMS Accession No. ML12326A805.

Enclosure

section that provides a description of the rationale for the EAL as provided in NEI 99-01 Rev. 6.

Due to the potential that EAL decision-makers may be confused between these two basis sections if the information appears to be inconsistent, please clarify the rationale for separate generic and plant-specific basis sections when it is acceptable to just have one basis section that is specific to the plant, or revise accordingly.

RAI-4 Section 5.0, "Definitions," does not include definitions for the following:

- Alert
- Notification of Unusual Event (UE)
- Site Area Emergency (SAE)
- General Emergency (GE)
- Emergency Action Level (EAL)
- Emergency Classification Level (ECL)
- Fission Product Barrier Threshold
- Initiating Condition (IC)

Please incorporate definitions for the above terms for staff review to ensure consistency with NRC-endorsed guidance, or provide a basis for not defining these terms.

RAI-5 The licensee references NOTE 3 for EALs RG1.2, RS1.2, and RA1.2 in the LAR. However, NOTE 3 is not applicable to these particular EALs as revised. Please explain why NOTE 3 is included, or revise accordingly.

RAI-6 Concerning EAL CU1.2, all information that is applicable to the declaration timing should be included in the EAL and reflected on the EAL Wallboard. Since the proposed EAL scheme differs in how it is formatted, the addition of a note is appropriate; however, it must be in the appropriate format as described above. Please move the note from the Susquehanna Basis to the EAL itself and incorporate onto the EAL Wallboard.

RAI-7 For EALs CU2.1, SA1.1, and SU1.1, please add a list of the alternating current (AC) power sources to the EAL to ensure consistent and timely recognition of the event, or provide justification for not including this list. It is not necessary to have this list for EALs CA2.1, SG1.1, SG1.2, and SS1.1 as these EALs are concerned with a loss of all AC power sources.

RAI-8 For EALs CU3.1, SG1.2, and SS2.1, the basis language states, in part:

Indicated voltage for the vital 125 VDC main distribution buses is local only. Local voltage indication is available from each bus based on dispatching a field operator in accordance with Control Room alarm response procedure AR-1(2)06-001 (A12, B12, C12, D12). Field observation of indicated voltage constitutes the point in time when

availability of indications to plant operators that an emergency action level has been, or may be, exceeded.

The inclusion of the above basis language to these EALs requires further justification. Please explain the use of an open-ended timing statement such that the time of declaration cannot be reasonably understood by the staff. It is expected that events requiring declaration are declared within a reasonable time period of availability. This particular indication is available as reflected by the panel-trouble annunciator, even though the actual panel indication may not be known until an operator is dispatched to the panel to confirm. While the staff understands this, it is difficult to determine the adequacy of these EALs, as part of the overall EAL scheme, when the staff cannot make a reasonable assurance finding as to when they will be declared.

- RAI-9 For EAL CA4.1, please incorporate, or provide a justification for not incorporating, the guidance SSES added, as follows, as a note to the EAL and reflect on the EAL Wallboard to support timely and accurate event classification:

In the absence of reliable RCS temperature indication caused by the loss of decay heat removal capability, classification should be based on the RPV increase criteria when the RCS is intact in Mode 4 or based on time to boil data when in Mode 5 or the RCS is not intact in Mode 4.

- RAI-10 The basis for EAL HG1.1, states, in part:

Loss of SAS [Secondary Alarm Station] and/or CAS [Central Alarm Station] does not impact equipment needed for safety functions.

Please explain why the above statement was added to the EAL basis, or revise accordingly. This statement may not be entirely accurate if access to areas needed to operate equipment needed for safety functions can be controlled by SAS and/or CAS such that an adversary can preclude timely access.

- RAI-11 The proposed basis for EAL HU3.2 states, in part:

Refer to NPE 91 001, SSES IPE, to identify susceptible internal flooding areas.

If the intent of this statement is to limit the areas of consideration, then provide a list of areas in the EAL for the staff to review, or otherwise explain the purpose for this statement.

- RAI-12 For EALs HU4.1 and HU4.2, the areas listed in Table H-1 seem to be limited. Please explain if the listed areas are all the areas that contain equipment needed for safe operation, safe shutdown and safe cool-down, or revise accordingly.

- RAI-13 For EALs HU4.3 and HU4.4, please confirm that the Independent Spent Fuel Storage Installation would be an area applicable to these EALs, or revise accordingly.

RAI-14 Category E – Independent Spent Fuel Storage Installation (ISFSI) guidance, states, in part:

Formal offsite planning is not required because the postulated worst-case accident involving an ISFSI has insignificant consequences to the public health and safety

The above statement is not applicable to this proposed EAL scheme. Please remove, or provide further justification for inclusion.

Category E further states:

A hostile security event that leads to a potential loss in the level of safety of the ISFSI is a classifiable event under Security category EAL HS1.1.

Please explain why this statement was added, since EAL HS1.1 specifically excludes the ISFSI. However, please incorporate guidance related to the fact that EALs HU1 and HA1 are also considered for events that occur at the ISFSI.

RAI-15 For the Fission Product Barrier (FPB) Matrix:

- a. Fuel Clad Barrier (FC) Loss A.1 and Primary Containment Barrier (PC) Potential Loss A.1 should be "SAG Entry required," rather than "SAGs entered," as this more closely aligns with the Boiling Water Reactor Owner's Group (BWROG) revision to their guidance. Please revise, or provide further justification for consideration.
- b. The cited NEI 99-01 basis sections for several of the FPB criteria are not from NRC-endorsed NEI 99-01, Revision 6. Please either revise to what has actually been endorsed, or (depending on how SSES responds to RAI-03) unify the basis sections into one.

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Sincerely,

/RA/

Jeffrey A. Whited, Project Manager
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ADAMS Accession No.: ML15230A080

*by e-mail dated 8/12/15

OFFICE	DORL/LPLI-2/PM	DORL/LPLI-2/LA	NSIR/DPR/CB/BC*	DORL/LPLI-2/BC	DORL/LPLI-2/PM
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