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

Salem Nuclear Generating Station, Unit No. 1 and Unit No. 2
Facility Operating License Nos. DPR-70 and DPR-75
NRC Docket Nos. 50-272 and 50-311

Subject: Response to NRC Request for Additional Information dated April 30, 2010,
Regarding Scoping and Screening Methodology for the Salem Nuclear
Generating Station, Units 1 and 2 License Renewal Application

Reference: Letter from Mr. Donnie Ashley (USNRC) to Mr. Thomas Joyce (PSEG Nuclear,
LLC) "REQUEST FOR ADDITIONAL INFORMATION REGARDING SCOPING
AND SCREENING METHODOLOGY FOR THE SALEM NUCLEAR
GENERATING STATION UNITS 1 AND 2, LICENSE RENEWAL APPLICATION
(TAC NOS.ME1836 AND ME1834)", dated April 30, 2010

In the referenced letter, the NRC requested additional information related to Scoping and
Screening Methodology, Section 2.1 of the Salem Nuclear Generating Station, Units 1 and 2
License Renewal Application (LRA). Enclosed is the response to this request for additional
information.

This letter and its enclosure contain no regulatory commitments.

If you have any questions, please contact Mr. Ali Fakhar, PSEG Manager - License Renewal, at
856-339-1646.

A141
NRR

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 5/28/10

Sincerely,



Paul J. Davison
Vice President, Operations Support
PSEG Nuclear LLC

Enclosure: Response to Request for Additional Information

cc: S. Collins, Regional Administrator – USNRC Region I
B. Brady, Project Manager, License Renewal – USNRC
R. Ennis, Project Manager - USNRC
NRC Senior Resident Inspector – Salem
P. Mulligan, Manager IV, NJBNE
L. Marabella, Corporate Commitment Tracking Coordinator
Howard Berrick, Salem Commitment Tracking Coordinator

Enclosure

Response to Request for Additional Information regarding Scoping and Screening Methodology related to the Section 2.1 of the Salem Nuclear Generating Station, Units 1 and 2 License Renewal Application (LRA)

RAI 2.1-1

Background:

Pursuant to 10 CFR 54.4(a)(1), the applicant must consider the following plant systems, structures, and components within the scope of license renewal:

Safety-related systems, structures, and components which are those relied upon to remain functional during and following design-basis events (as defined in 10 CFR 50.49 (b)(1)) to ensure the following functions -

- (i) The integrity of the reactor coolant pressure boundary;
- (ii) The capability to shut down the reactor and maintain it in a safe shutdown condition; or
- (iii) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in 10 CFR 50.34(a)(1), 10 CFR 50.67(b)(2), or 10 CFR 100.11, as applicable.

License Renewal Application (LRA) Section 2.1.3.2, "Identification of Safety-Related Systems and Structures," states:

Safety-related systems and structures are included in the scope of license renewal in accordance with 10 CFR 54.4(a)(1) scoping criterion. Salem systems and structures that have been classified as safety-related are identified as "Q" in the controlled quality classification data field in the Systems, Applications and Products in Data Processing (SAP) database. Salem quality classification procedures were reviewed against the license renewal "Safety-related" scoping criterion in 10 CFR 54.4(a)(1), to confirm that Salem safety-related classifications are consistent with license renewal requirements. This review is included in a technical basis document. The basis document also provides a summary list of the systems and structures that are safety-related at Salem. These systems and structures were included in the scope of license renewal under the 10 CFR 54.4(a)(1) scoping criteria.

Issues:

1. During review of the LRA and performance of the scoping and screening methodology audit, performed on-site January 11-21, 2010, the staff determined that the scoping implementing documents discuss the use of the classification "SR," listed in the component classification field in the SAP as an initial identifier of safety-related systems. In addition, the classification "Q", listed in the component classification field in the SAP, was also used to determine whether systems identified would be included within the

scope of license renewal in accordance with 10 CFR 54.4(a)(1). The staff determined that a detailed description of the process would be required for the staff to complete its review.

Request:

The staff requests that the applicant provide a detailed description of the use of all component classifications, in the SAP, including "SR" and "Q" that were used to identify safety-related systems to be included within the scope of license renewal or used to exclude systems, from within the scope of license renewal.

2. During review of the LRA and performance of the scoping and screening methodology audit, performed on-site January 11-21, 2010, the staff determined that the 10 CFR 54.4(a)(1) implementing document discusses incorrect or conservative SAP component data module (CDM) classifications. The implementing procedure provided the process and results of the applicant's determination that certain systems, do not perform safety-related functions as defined in 10 CFR 54.4(a)(1), and were, therefore, not included within the scope of license renewal in accordance with 10 CFR 54.4(a)(1). The staff determined that a detailed description of the process would be required for the staff to complete its review.

Request:

The staff requests that the applicant provide a detailed description of the process used to evaluate systems or components, identified as safety-related in SAP, and to conclude that the SAP component data module (CDM) classifications were conservative or incorrect and that the systems or components do not perform safety-related functions as defined in 10 CFR 54.4(a)(1).

The staff requests that the applicant perform a review of these issues and indicate if the review concludes that use of the scoping methodology precluded the identification of structures, systems and components (SSCs) which should have included within the scope of license renewal in accordance with 10 CFR 54.4(a). Describe any additional scoping evaluations to be performed to address the 10 CFR 54.4(a) criteria. As part of your response, list any additional SSCs included within the scope as a result of your efforts, and list those structures and components for which aging management reviews were conducted or any additional information related to material and environment combinations. For each structure and component, describe the aging management programs, as applicable, to be credited for managing the identified aging effects.

PSEG Response

1. The following is a detailed description of component classifications in the SAP database and a detailed process description of how SAP component classifications were used to identify safety-related systems to be included within the scope of license renewal. The basis to exclude some systems, identified as having components classified as safety-related in the SAP database, from the list of systems to be included in scope under 10 CFR 54.4(a)(1) criteria, is also described.

Component Classifications and the SAP Database

The SAP database is a component database. The SAP database is organized to include system level records that allow components to be managed as a system. System level records in SAP are not intended to contain detailed design information and do not include system level safety classifications.

The SAP database does include detailed component design information, including component level safety classification information. Predetermined classification categories are used to identify specific requirements associated with the component, including requirements for design, operation, maintenance, procurement, quality assurance or regulatory compliance.

The component design classification information is determined in accordance with the Salem classification methodology procedure SC.DE-AP.ZZ-0061(Q), "Design Classification Methodology for Component Data Module Functional Locations and Systems within SAP/R3 for Salem Generating Station." A total of 48 design classification designations, in the form of alphanumeric codes, are used to identify the classification of components. For example, Q1 through Q20 are used for safety-related components and F1 through F3 are used for fire protection components.

The component design classification designation provides the basis for component classifications identified in SAP, including safety classification (SAF), seismic classification (SEIS), nuclear pipe class (NUCL), quality assurance (QA), and environmental qualification (EQ) requirements. The classification methodology procedure provides the associated definitions and criteria for these classifications, and Attachment 1 of SC.DE-AP.ZZ-0061(Q), correlates these classifications with the component design classification designation. The following table shows the corresponding SAP classification category descriptions:

<i>SC.DE-AP.ZZ-0061(Q) Attachment 1 Description</i>	SAP Category Description
SAF	Safety related QA related
SEIS	Seismic Classification
NUCL	Safety Class/Quality Grp Code
QA	QA Required
EQ	Environmental Qualification

The "Safety related QA related" field designates safety-related components at Salem, and is used in the Salem scoping methodology to confirm that all safety-related systems were properly identified and included in scope in accordance with 10 CFR 54.4 (a)(1) criteria. A component is designated as safety-related in the SAP database by selecting the "SR" checkbox from the input table for the "Safety related QA related" field. The value of "Safety Related" will display in the "Safety-related QA related" field on the component classification screen in SAP. Safety-related classifications are based on the Salem classification methodology procedure definition of safety-related, as described in LRA Section 2.1.3.2.

The QA Required category in SAP identifies safety-related components that are subject to the requirements of 10 CFR 50 Appendix B "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants." Components designated as "Safety Related" in the "Safety-related QA related" SAP field described above, are also designated "Yes" in the "QA Required" field, with the unique exception of design classification designation Q18. The Q18 design classification designation applies specifically to components located in the non-seismic turbine building that serve safety-related functions. Components designated as Q18 are nonsafety-related mechanical components subject to augmented quality assurance requirements. These components were identified during the scoping process as nonsafety-related components required to support the accomplishment of a safety-related intended function under 10 CFR 54.4(a)(1), and were, therefore, included within the scope of license renewal under 10 CFR 54.4(a)(2).

Design classification designation Q11 is associated with electrical instrumentation and control circuits that are also located in the non-seismic turbine building. While these circuits and associated electrical control components are classified safety-related, they are not required to meet all seismic design requirements normally applied to safety-related circuits because they are located in a non-seismic structure and also because they are either designed as fail-safe or are not credited in design basis accident analyses.

Identification of Safety-Related Systems – Detailed Process Description

The SAP component safety classification designations described above were used in the Salem scoping process to confirm that all safety-related systems were properly identified and included in scope in accordance with 10 CFR 54.4 (a)(1) criteria. The process is documented in SA-SSBD-A1, "10 CFR 54.4(a)(1) Safety-Related Systems Scoping and Screening Basis Document". The process resulted in a confirmed list of safety-related Salem systems included in the scope of license renewal in accordance with 10 CFR 54.4 (a)(1) criteria.

The first step was to obtain a list of Salem systems and associated SAP system codes from procedure CC-AA-103-5408, "SAP Users Guide to Master Data Input". The system list is included as a table in the SA-SSBD-A1 basis document.

The second step was to download a list of safety-related components from the SAP database. Specifically, all of the Salem components in the SAP database that had the "Safety related QA related" classification field coded "SR" were downloaded into an Excel database.

The third step was to review the downloaded list of safety-related components to determine which Salem systems contained safety-related components. The table of Salem systems was annotated to identify systems that contained safety-related components.

The fourth step was to review this initial list of systems that contained safety-related components against other current licensing basis (CLB) source documents to ensure that a safety-related system classification is consistent with system information in the CLB. The two primary source documents for system safety classification information are the UFSAR and the Salem Maintenance Rule Procedure ER-SA-310-1009 "System Functional Level Maintenance Rule Scoping vs. Risk Reference". This review identified several systems that included individual safety-related components; however, these same systems were not identified as having safety-related intended functions in the UFSAR or other CLB source documents. Thus, it was determined that these systems should not be classified as safety-related. The basis for this determination, including a detailed evaluation of the SAP components that were assigned to

the system and classified safety-related, is included in the SA-SSBD-A1 basis document. The process used to perform these system and component evaluations, including the technical basis, is described in the response to issue 2, below.

The final step was to update the table of Salem systems to identify the safety-related systems that will be included in the scope of license renewal in accordance with 10 CFR 54.4 (a)(1) scoping criteria. The final list is included in the SA-SSBD-A1 basis document as Attachment 1.

2. The following is a detailed description of the process used to evaluate systems and components, including the use of SAP component classifications and the conclusion that some component classifications identified as safety-related in SAP were conservative or incorrect and that the systems or components do not perform safety-related functions as defined in 10 CFR 54.4(a)(1).

Detailed Process Description

As described in LRA Section 2.1.5, the license renewal scoping process was initially performed at the system level based on the 10 CFR 54.4(a) scoping criteria. System intended functions that are the basis for including the system in scope are identified from CLB source documentation described in LRA Section 2.1.2. The in scope boundaries for the system is determined based on the identified intended functions, and is the basis for identification of the in scope components.

As described in LRA Section 2.1.5.1:

Safety-related classifications for systems and structures are based on system and structure descriptions and analyses in the UFSAR, or on design basis documents such as engineering drawings, evaluations or calculations. Safety-related structures are those structures listed in the UFSAR and classified as Seismic Category I. Systems and structures that are identified as safety-related in the UFSAR or in design basis documents have been classified as satisfying criteria of 10 CFR 54.4(a)(1) and have been included within the scope of license renewal.

At Salem, the SAP database identifies components that are classified as safety-related. The criteria for safety-related classification are nearly identical with the 10 CFR 54.4(a)(1) scoping criteria. Components in the SAP database are assigned to specific systems, allowing the component data to be filtered to identify systems that contain safety-related components. If a system contains safety-related components, the system would be expected to be included in scope under 10 CFR 54.4(a)(1) criteria. Availability of this component data provided an additional confirmation of safety-related systems identified from CLB documents, as described in response to issue 1, above. The comparison of the Salem safety-related classification criteria to the 10 CFR 54.4 (a)(1) scoping criteria is documented in the SA-SSBD-A1 basis document and summarized in LRA Section 2.1.3.2. The subsequent assessment of SAP component safety classifications by system is also included in the SA-SSBD-A1 basis document, as described in response to issue 1, above.

It was recognized that this methodology could cause a system to be incorrectly classified as safety-related for license renewal if component classification or component system assignment errors exist in SAP. It was also recognized that for some components in SAP, the component safety-related classification basis is unrelated to the system in which it is assigned in SAP. For

example, electrical components in nonsafety-related mechanical systems will be classified safety-related if electrical faults can result in degradation of a safety-related (1E) power source. The component safety-related classification is, therefore, functionally related to the 1E power supply system, and is not functionally related to the mechanical system. These electrical components are evaluated with the associated Class 1E electrical systems, which are also included in scope as safety-related systems.

Results of the SAP component data review were compared to the systems identified as safety-related in the CLB source documents. Some components classified as safety-related in SAP were identified in several systems, where the system is not identified as safety-related or identified as having safety-related intended functions in other CLB source documents, such as the UFSAR and Maintenance Rule system scoping documents. These components were reviewed in detail, and it was determined that these systems should not be identified as safety-related. These determinations are described in detail in the SA-SSBD-A1 basis document.

Some cases involved electrical components that were classified as safety-related based on the requirement to protect the connected safety-related power supply system. These safety-related electrical component classifications are not functionally related to the mechanical system, as described earlier. These electrical components are evaluated with the associated Class 1E electrical systems, which are included in scope as safety-related systems. This case is the result of how some electrical components are assigned to mechanical systems in SAP for plant operation or maintenance purposes, and is not considered a component classification discrepancy.

The remaining cases are associated with SAP component classification discrepancies such as incorrect safety classification, incorrect system assignment, or invalid SAP component identification. In each case, the correct safety classification, system assignment, or other design information was verified from other CLB source documents. Changes to existing system or component safety classifications in the CLB were not required as part of the license renewal scoping process.

The Salem component classification procedure SC.DE-AP.ZZ-0061(Q), "Design Classification Methodology for Component Data Module Functional Locations and Systems within SAP/R3 for Salem Generating Station", requires identification of the applicable plant drawings and CLB source documents used to determine and verify component classification determinations. The SAP component classification discrepancies described above that were identified during the license renewal 10 CFR 54.4 (a)(1) scoping reviews were determined to be SAP errors and are not plant design issues, because the correct classifications are identified in the applicable CLB source documents. Actions were initiated to notify station personnel and correct the SAP data. SAP errors considered non-conservative or otherwise adverse to quality were entered into the corrective action process to correct the error.

Conclusion Summary

The detailed scoping methodology description provided in this response demonstrates that the Salem scoping methodology did not preclude the identification of any structures, systems and components (SSCs) that should have been included within the scope of license renewal in accordance with 10 CFR 54.4(a). No additional scoping evaluations were required to address the 10 CFR 54.4(a) criteria, and therefore, no additional SSCs were included in scope.