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U.S. Nuclear Regulatory Commission
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Salem Generating Station, Units 1 and 2
Renewed Facility Operating License Nos. DPR-70 and DPR-75
NRC Docket Nos. 50-272 and 50-311

Subject: Salem Generating Station Response to NRC Request for Additional Information Associated With Near-Term Task Force Recommendation 2.3: Seismic Walkdowns

- References:
- (1) US Nuclear Regulatory Commission (NRC) letter, "Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident," dated March 12, 2012
 - (2) PSEG letter LR-N12-0372, "Salem Generating Station Response to Recommendation 2.3: Seismic Walkdown of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated November 26, 2012
 - (3) Electric Power Research Institute (EPRI) Report 1025286, "Seismic Walkdown Guidance: For Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic," dated June 2012
 - (4) NRC letter, Request for Additional Information Associated With Near-Term Task Force Recommendation 2.3, Seismic Walkdowns, dated November 1, 2013

On March 12, 2012, the Nuclear Regulatory Commission (NRC) issued a request for information (Reference 1) to PSEG Nuclear LLC (PSEG). Enclosure 3 of Reference 1 requests licensees to perform seismic walkdowns using an NRC-endorsed methodology. By letter dated November 26, 2012 (Reference 2), PSEG responded to the information request for Salem Generating Station (SGS) Units 1 and 2, utilizing the NRC-endorsed walkdown guidance in EPRI Technical Report 1025286 (Reference 3). By letter dated November 1, 2013 (Reference 4), the NRC requested PSEG to provide additional information regarding seismic walkdowns. Enclosure 1 contains PSEG's response to Reference 4 for SGS Units 1 and 2.

There are no regulatory commitments contained in this letter.

If you have any questions or require additional information, please do not hesitate to contact Mrs. Emily Bauer at 856-339-1023.

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

Executed on 12/2/2013
(Date)

Sincerely,



Christopher J. Schwarz
Vice President – Operations Support
Salem Generating Station

Enclosure 1: Salem Generating Station Response to NRC Request for Additional Information Associated With Near-Term Task Force Recommendation 2.3: Seismic Walkdowns

cc: Mr. E. Leeds, Director of Office of Nuclear Reactor Regulation
Mr. W. Dean, Administrator, Region I, NRC
Mr. J. Hughey, Project Manager, NRC
NRC Senior Resident Inspector, Salem
Mr. P. Mulligan, Manager IV, NJBNE
Salem Commitment Tracking Coordinator
PSEG Commitment Coordinator – Corporate

ENCLOSURE 1

**SALEM GENERATING STATION RESPONSE TO NRC REQUEST FOR
ADDITIONAL INFORMATION ASSOCIATED WITH NEAR-TERM TASK FORCE
RECOMMENDATION 2.3: SEISMIC WALKDOWNS**

SALEM GENERATING STATION RESPONSE TO NRC REQUEST FOR ADDITIONAL
INFORMATION ASSOCIATED WITH NEAR-TERM TASK FORCE
RECOMMENDATION 2.3: SEISMIC WALKDOWNS

**NRC Request #1 - Conduct of the Walkdowns, Determination of Potentially
Adverse Seismic Conditions (PASCs), Dispositioning of Issues, and Reporting**

As a result of the audits and walkdown report reviews, the NRC staff noted that licensees' interpretations of the seismic walkdown guidance varied, which resulted in meaningful differences in the process used to disposition identified issues and in the documentation that was provided to the NRC staff. In particular, the application of engineering judgment in determining what constituted a potentially adverse seismic condition (PASC), the threshold for conducting licensing basis evaluations (LBEs), and determining what information was to be reported to the NRC staff varied.

The NRC staff intended that conditions initially marked No (N) or Unknown (U) in the field by the seismic walkdown engineers (SWEs) for which an analysis or calculation was performed would be considered as PASCs and that an analysis or calculation constituted an LBE. The walkdown guidance allows for analysis as part of engineering judgment; however, the intent was to allow for only simple analyses that could be readily performed in support of engineering judgment. Further, the walkdown activities were intended to allow for transparency in the licensee's process to demonstrate that PASCs were appropriately identified, that they were addressed in an appropriate manner, and the basis documented such that the current condition of the plant was clearly consistent with the CLB with regard to seismic capability.

During the audits, the NRC staff identified examples of field observations that were deemed not to be PASCs. However, the basis for the determination was not clearly recorded. In some cases, the field checklists were amplified by noting that the basis was engineering judgment. During site audit discussions, the staff was able to trace the basis for the engineering judgments and found that in many cases they were appropriate. It is expected that these situations would not be included in the walkdown report.

There were other situations that a PASC and LBE were not reported; however, the NRC staff found during the audit that a calculation, analysis (more than just simple), or evaluation was conducted but informally. An example is a confirmatory calculation performed to demonstrate that six anchor bolts out of eight was not a seismically adverse condition. Another example would be an analysis to demonstrate that an existing, slightly short weld was as seismically sound as the prescribed weld length in the plant design documentation. The staff expected these types of conditions and evaluations to be captured in the licensee's normal plant processes (e.g., condition report or corrective action program (CAP)), and also reported in the walkdown report, since they were potentially adverse seismic conditions that required more than applying judgment or simple analysis to address.

The NRC staff also found that the process that was used to deal with a field observation that was deemed to be a PASC was also not completely described or captured in the report. In many cases, the licensee reported that an LBE was not performed. However, during the audits, it was clear that an LBE (or an equivalent determination method) was performed and used in determining whether a PASC should be entered into the CAP. The staff expects that these conditions would be reported in the walkdown report.

On the whole, through the audits, the NRC staff found that it was able to conclude that the intent of the guidance was met when the licensee's overall process was completely explained, the information was updated to reflect the actual process, and results were updated. The self-assessments conducted by the licensees of the audited plants also identified the lapse in the description of the process used by the licensee to identify a PASC and disposition it.

Therefore, in order to clarify the process that was followed, please provide a description of the overall process used by the licensee (and its contractors) to evaluate observations identified in the field by the seismic walkdown engineers (SWEs). The process should include how a field observation was determined to be a potentially adverse seismic condition (PASC) or not and how the bases for determinations were recorded. Once a determination was made that an observation was a PASC, describe the process for creating a condition report (or other tracking mechanism), performing the Licensing Basis Evaluation (LBE) (or other determination method), and the resultant action, such as entering it into the CAP, or documenting the result and basis.

Also, in order to confirm that the reported information supports concluding that the plant meets the CLB, please follow one of the following three acceptable alternatives:

- (a) Provide a supplement to the table or text from the original walkdown report, if needed, to include similar conditions as the above examples and situations and for conditions for which a calculation, analysis (if more than a simple analysis), or evaluation was used for a determination. The supplement should include a short description of each condition, how it was dispositioned and the basis for the disposition, as follows: 1) for each condition that was entered into the CAP, provide the CAP reference number, initiation date, and (if known) the planned completion date, or 2) for all other conditions, provide the result of the LBE (or other determination method), the basis for the result, and how (or where) the result was captured in the plant's documentation or existing plant process.
- (b) Following the plant's standard procedures, confirm that a new CAP entry has been made to verify if appropriate actions were taken when

reporting and dispositioning identified PASCs (including conditions for which a calculation, analysis (if more than a simple analysis), or evaluation was used for a determination). The eventual CAP closeout, including the process followed and actions taken, should be in sufficient detail to enable NRC resident inspectors to follow up.

- (c) If no new conditions are identified for addition to the supplement or the CAP entry mentioned above is deemed not necessary, provide a statement of confirmation that all potentially seismic adverse conditions (including conditions for which a calculation, analysis (if more than a simple analysis), or evaluation was used for a determination) identified during the walkdowns and walk-bys were addressed and included in the report to the NRC.

PSEG Response to NRC Request #1

PSEG is following acceptable alternative “b” in NRC Request #1 for Salem Units 1 and 2.

The seismic walkdown engineers (SWEs) used Section 4 of the EPRI guidance document (Reference 1), EPRI training on seismic walkdowns, and engineering judgment to determine whether field observations were potentially adverse seismic conditions (PASCs). Field observations that were determined not to be PASCs are documented in the seismic walkdown checklists that were transmitted to the NRC via Reference 2. The PSEG Corrective Action Program (CAP) was used to address field observations that were identified as PASCs. PSEG did not use a Licensing Basis Evaluation (LBE) process outside of the CAP, but elected to document PASCs in the CAP and in the seismic walkdown reports that were transmitted to the NRC via Reference 2.

In support of acceptable alternative “b” in NRC Request #1, PSEG has created a new CAP item (Notification 20631402) to verify that appropriate actions are taken when reporting and dispositioning identified PASCs. Notification 20631402 will drive any necessary changes to reporting and final disposition of PASCs within the CAP, to facilitate follow-up by NRC resident inspectors.

NRC Request #2 - Conduct of the Peer Review Process

As a result of the walkdown report reviews, the NRC staff noted that some descriptions of the peer reviewers and the peer review process that was followed were varied and, in some cases, unclear. In some cases, the staff could not confirm details of the process, such as if the entire process was reviewed by the peer review team, who were the peer reviewers, what was the role of each peer reviewer, and how the reviews affected the work, if at all, described in the walkdown guidance.

Therefore, in order to clarify the peer review process that was actually used, please confirm whether the following information on the peer review process was provided in the original submittal, and if not, provide the following.

- (a) Confirmation that the activities described in the walkdown guidance on page 6-1 were assessed as part of the peer review process.
- (b) A complete summary of the peer review process and activities. Details should include confirmation that any individual involved in performing any given walkdown activity was not a peer reviewer for that same activity. If there were cases in which peer reviewers reviewed their own work, please justify how this is in accordance with the objectives of the peer review efforts.

Also, if there are differences from the original submittal, please provide a description of the above information. If there are differences in the review areas or the manner in which the peer reviews were conducted, describe the actual process that was used.

PSEG Response to Request #2:

The five peer review activities highlighted on page 6-1 of Reference 1 are addressed in the five corresponding subsections in Section 9 of the seismic walkdown reports transmitted to the NRC via Reference 2. The titles for the sections are provided below:

- 9.1 Review the selection of SSC's included in the Seismic Walkdown Equipment List (SWEL)
- 9.2 Review a Sample of the Checklist Prepared for the Seismic Walkdowns and Area Walk-Bys
- 9.3 Review the Licensing Basis Evaluations
- 9.4 Review the Decision for Entering the Potentially Adverse Seismic Conditions into CAP process
- 9.5 Review the Submittal Report

The peer reviewers for the report did not participate in the selection of the structures, systems and components (SSCs) in the SWEL. One peer reviewer accompanied a walkdown team during one walkdown, but did not provide any input or participate in any discussions with the SWEs regarding their field observations. This walkdown was not

included in AWC and SWC samples chosen by the peer reviewers. The peer review process, as described in Section 9 of the seismic walkdown reports, was independent of the walkdown process. The roles of each member of the team, including the peer reviewers, are provided in Table 4-1 of the seismic walkdown reports transmitted to the NRC via Reference 2. The peer reviewers were independent of the walkdown teams.

References

1. Electric Power Research Institute (EPRI) Report 1025286, "Seismic Walkdown Guidance: For Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic," dated June 2012
2. PSEG letter LR-N12-0372, "Salem Generating Station Response to Recommendation 2.3: Seismic Walkdown of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated November 26, 2012