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SEP 27 2000

LRN – 00 - 0386

PSEG
Nuclear LLC

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Gentlemen:

SUPPLEMENT TO REQUEST FOR ADDITIONAL INFORMATION
ASME CODE SECTION XI
ANALYTICAL EVALUATION OF WALL THINNING
ALTERNATIVE TO REQUIREMENTS OF ASME SECTION XI
HOPE CREEK AND SALEM GENERATING STATIONS
DOCKET NOs. 50-354, 50-272, AND 50-311
TAC NOS. MA8600, MA8601 AND MA8595

By letters dated March 17, and July 7, 2000, PSEG Nuclear LLC requested the Nuclear Regulatory Commission (NRC) to approve the use of an alternative to the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section XI (IWA-4000) regarding the evaluation of a component where the section thickness has been reduced below minimum design thickness. In addition, teleconferences, in June 15 and August 16, 2000, were conducted to provide clarifications relative to the submittals.

The purpose of this letter is to clarify the information provided to NRC in support of this request.

Design Background.

The design code for Salem Unit 1 and 2 piping systems generally employed was ANSI B31.1. Although ANSI B31.1 is the code used for the design of Salem Units 1 and 2, the materials, fabrication, examination, testing and quality control requirements followed the requirements of ANSI B31.7. The Salem Units also have some piping systems and components that were constructed in accordance with ASME Section III.

In addition, the design specification establishes the "Owner Requirement" that the piping system is classified as Class 2 (for functional consideration), however; materials, fabrication, examination and quality control requirements are in accordance with Class 1 (ANSI B31.7). The feedwater system for Salem is designed to B31.1

Hope Creek was constructed in accordance with ASME Section III.

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However, irrespective of the original construction code used for either station, all repairs and replacements are performed in accordance ASME Section XI, IWA-4000 and IWA-7000, along with the use of supplementary Owner Requirements. IWA-4000 and IWA-7000 and Owner Requirements are also used for any system modifications.

Proposed application of Code Case N597

An example of how PSEG Nuclear would apply the Code Case is discussed below, however, PSEG Nuclear does not intend to request prior review or approval relative to future applications of Code Case N-597, once the NRC approves the Code Case.

PSEG Nuclear intends to apply this Code Case, if necessary, for the 14" feedwater elbows. These elbows are on an ASME, Class 2 line. PSEG Nuclear had previously stated that these elbows were in a ASME III, Class 2 line; however for the purposes of Technical Specifications compliance the feedwater elbows are functionally ASME class 2, but their original construction was not in accordance with ASME Section III, but ANSI B 31.7.

Presently, all the elbows meet or exceed the minimum wall thickness of the original design requirements; however two of these elbows in the Unit 2 feedwater system are expected to reach minimum wall thickness during Cycle 12. This expectation is based on detailed calculation in accordance with the requirements contained in PSEG's SC.DE-AP.ZZ-0055(Q), Rev.3, "Detailed Procedure For The Flow Accelerated Corrosion Monitoring Program At Salem Nuclear Generating Station Units 1 and 2."

The measured wall thickness for the 21 Steam Generator elbow at 2R10 was:

0.594" in the counterbore region
0.610" in the general elbow region

The measured wall thickness for the 23 Steam Generator elbow at 2R10 was:

0.604" in the counterbore region
0.647" in the general elbow region

The nominal wall thickness of the pipe (Tnom) is 0.750; and the code minimum acceptable wall thickness (Tmin) is 0.518.

As stated above, the predicted wall thicknesses were determined by performing detailed evaluations using standard industry techniques as described in NSAC

202L and procedure SC.DE-AP.ZZ-0055(Q) (AP-ZZ-0055). AP.ZZ-0055 provides detailed requirements in calculating wear rates, remaining life, and predicting remaining wall thickness, as well as establishing the requirements in preparing the component for examination by specifying surface cleaning preparation, and grid location, marking and size.

> Note: The Hope Creek Generating Station has its own equivalent procedure, HC.DE-AP.ZZ-0056(Q), Rev.2 "Detailed Procedure For The Flow Accelerated Corrosion Monitoring Program At Hope Creek Nuclear Generating Station." These procedures also satisfy the requirement of Generic Letter 89-08 "Erosion/Corrosion Induced Pipe Wall Thinning" for Salem and Hope Creek Stations respectively, and are presently scheduled to be combined into one common site procedure.

As stated above NSAC 202L provided some of the guidance used in the flow accelerated corrosion program. Although the words of NSAC 202L may have been carried over into the PSEG procedures, their common meaning and understanding were not. Specifically, the meaning and application of the word "should" in the PSEG procedures is consistent with the guidance provided in Nuclear Administrative procedure NC.NA-AP.ZZ-0001(Q) section 7.2, and not with the common interpretation that may applicable to the NSAC document. The terms Shall, Should and May are defined for global usage in all PSEG controlled procedures. The definitions are as follows:

> "Shall is to be adhered to without exception. It can be either a regulatory requirement, commitment or Nuclear Business requirement."
>
> "Should denotes a management expectation that is to be adhered to unless Supervision determines otherwise."

From an internal implementation perspective, the use of the word "should" carries the same weight and importance as that of "shall." Therefore, the procedure user should not misconstrue the use of the word "should" as being an activity that may be casually dismissed or waived. The use of these two different terms is simply a mechanism to distinguish actions that have a direct regulation or License commitment basis versus those which do not.

Should you have any questions or comments on this transmittal, please do not hesitate to contact E. H. Villar at (856) 339-5456.

Sincerely,

Dave Garchow
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Technical Support

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