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LR-N10-0324

U.S. Nuclear Regulatory Commission  
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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: Supplement to the Salem Generating Station, Units 1 and 2 License  
Renewal Application Related to the Selective Leaching of Materials Aging  
Management Program

Reference: Letter from PSEG Nuclear to USNRC "Application for Renewed Operating  
License – Salem Nuclear Generating Station, Unit No. 1 and Unit No. 2,"  
dated August 18, 2009

As a result of interactions during the recent NRC Region I license renewal inspection activities at Salem Generating Station, Units 1 and 2 (Salem), PSEG Nuclear LLC has identified changes to the Salem License Renewal Application (LRA) related to the Selective Leaching of Materials Aging Management Program. These changes are provided in the Enclosure to this letter. The changes are explained, and where appropriate to facilitate understanding, portions of the LRA are repeated with the change highlighted by strikethroughs for deleted text and bolded italics for inserted text.

This submittal has been discussed with the NRC License Renewal Project Manager for the Salem License Renewal project.

Commitment number 21 of the License Renewal Commitment List is modified as shown on page 2 of the Enclosure. There are no other new or revised regulatory commitments contained in this letter.

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

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

Executed on 9/1/10

Sincerely,



Robert C. Braun  
Senior Vice President, Operations  
PSEG Nuclear LLC

Enclosure: Changes to the Salem Generating Station Units 1 and 2 License Renewal  
Application Associated with the Selective Leaching of Materials Aging  
Management Program

cc: Regional Administrator – USNRC Region I  
B. Brady, Project Manager, License Renewal – USNRC  
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**Changes to the Salem Generating Station Units 1 and 2 License Renewal  
Application Associated with the Selective Leaching of Materials Aging  
Management Program**

**Introduction**

This Enclosure contains an update to the information provided in the Salem Nuclear Generating Station License Renewal Application (LRA) related to the Selective Leaching of Materials aging management program. The LRA is being updated as a result of discussions held with NRC Region I Staff during the License Renewal IP-71002 Inspection in August 2010. Included in this update are changes to LRA Appendix A and Appendix B. If helpful for clarity, entire sentences or paragraphs from the LRA are provided with deleted text highlighted by strikethroughs and inserted text highlighted by bolded italics. A revision to the License Renewal Commitment List, Appendix A, Table A.5 is included, with only the affected commitment shown in this Enclosure.

**Description of Changes**

The Selective Leaching of Materials aging management program descriptions in LRA Appendix A, Section A.2.1.21; LRA Appendix A, Section A.5, License Renewal Commitment List Item No. 21; and LRA Appendix B, Section B.2.1.21 are revised to clarify that periodic monitoring activities will be established for components with material and environment combinations where operating experience indicates occurrences of selective leaching. Specifically, evidence of selective leaching has been found in aluminum bronze components and gray cast iron components exposed to brackish raw water from the Delaware River. Aging management activities will be implemented to manage loss of material due to selective leaching in aluminum bronze components and gray cast iron components exposed to brackish raw water. Aging management activities will include periodic inspections in these material and environment combinations to manage loss of material due to selective leaching such that the component intended function is maintained consistent with the current licensing basis through the period of extended operation. Visual inspections, hardness tests, or other appropriate examination methods will be utilized, as required, to identify and confirm the existence of loss of material due to selective leaching.

The revisions to LRA Appendix A, Section A.2.1.21 (page A-20); LRA Appendix A, Section A.5, License Renewal Commitment List Item No. 21 (page A-65); and LRA Appendix B, Section B.2.1.21 (page B-106) are shown below:

Salem Appendix A

**A.2.1.21 Selective Leaching of Materials**

The Selective Leaching of Materials aging program is a new program that will include **one-time** inspections of a representative sample of susceptible components to determine if **where** loss of material due to selective leaching is occurring **in susceptible material and environment combinations. The program will also include aging management activities, for material and environment combinations where selective leaching is identified, to manage loss of material due to selective leaching.** Components include valve bodies, filter housing, heat exchanger components, pump casings, strainer bodies, piping and fittings, drain traps, and tanks. One-time inspections will include visual examinations, supplemented by hardness tests, and other examinations, as required. If selective leaching is found, the condition will be evaluated to determine the need to expand inspection scope.

~~These one-time~~ **One-time** inspections **of susceptible material and environment combinations, where selective leaching has not previously been confirmed,** will be performed in the last 10 years of the current term, prior to entering the period of extended operation. **For material and environment combinations where selective leaching is identified, aging management activities, such as periodic inspections, will be implemented to manage aging such that the component intended function is maintained consistent with the current licensing basis through the period of extended operation.**

**A.5 License Renewal Commitment List**

NO.	PROGRAM OR TOPIC	COMMITMENT	UFSAR SUPPLEMENT LOCATION (LRA APP. A)	ENHANCEMENT OR IMPLEMENTATION SCHEDULE	SOURCE
21	Selective Leaching of Materials	Selective Leaching of Materials is a new program that will include <b>one-time</b> inspections of a representative sample of susceptible components to determine if <b>where</b> loss of material due to selective leaching is occurring. <b>Where selective leaching is identified, further aging management activities will be implemented such that the component intended function is maintained consistent with the current licensing basis through the period of extended operation.</b>	A.2.1.21	Program to be implemented prior to the period of extended operation. One-time inspections to be performed within the ten-year period prior to the period of extended operation.	Section B.2.1.21  <b>Letter LR-N10-0324</b>

Salem Appendix B

**B.2.1.21 Selective Leaching of Materials**

**Program Description**

The Selective Leaching of Materials aging management program is a new program that ~~consists of~~ **will include** one-time inspections to determine if ~~where~~ loss of material due to selective leaching is occurring **in susceptible material and environment combinations. The program will also include aging management activities, for material and environment combinations where selective leaching is identified, to manage loss of material due to selective leaching.** The scope of the program will include components made of susceptible materials and located in potentially aggressive environments. Susceptible materials at Salem are gray cast iron, copper alloy with greater than 15% zinc and aluminum bronze with greater than 8% aluminum. Environments include raw water, closed cooling water, soil and treated water.

The Selective Leaching of Materials aging management program will be implemented prior to the period of extended operation. The program **is a condition monitoring program and** will provide for visual inspections, hardness tests, and other appropriate examinations, as required, to identify and confirm existence of the loss of material due to selective leaching. If degradation is found, the condition of affected components will be evaluated to determine the impact on their ability to perform intended functions during the period of extended operation. Condition monitoring and expanded sampling will be utilized, as required, to ensure the components perform as designed.

The Selective Leaching of Materials Program will develop a new procedure to perform visual inspections ~~and~~ **supplemented by** hardness tests **and other examinations, as required,** to determine if selective leaching is occurring. As such, there are no preventive or mitigative attributes associated with this program. In treated water and closed cycle cooling water environments, chemistry is monitored in accordance with the Water Chemistry and Closed-Cycle Cooling Water System Programs, respectively, to minimize corrosive contaminants and to control pH. In some cases, corrosion-inhibiting additives are used. These activities are considered effective in reducing selective leaching.

**One-time inspections of susceptible material and environment combinations, where selective leaching has not previously been confirmed, will be performed in the last 10 years of the current term, prior to entering the period of extended operation. For material and environment combinations where selective leaching is identified, aging management activities, such as periodic inspections and trending, will be implemented to manage aging such that the component intended function is maintained consistent with the current licensing basis through the period of extended operation.**