Salem Generating Station, Units 1 and 2
Facility Operating License Nos. DPR-70 and DPR-75
NRC Docket Nos. 50-272 and 50-311

Subject: License Amendment Request: Changes to Snubber Surveillance Requirements

Pursuant to 10 CFR 50.90, PSEG Nuclear LLC (PSEG) hereby requests amendments to the Facility Operating Licenses listed above for Salem Generating Station, Units 1 and 2. The proposed amendments would revise the Technical Specification (TS) surveillance requirements (SRs) for snubbers to conform to planned revisions to the in-service inspection (ISI) program.

Attachment 1 to this letter describes the proposed changes and provides justification for the changes. PSEG has concluded that the proposed changes present no significant hazards consideration under the standards set forth in 10 CFR 50.92. Attachment 2 provides the marked up Technical Specification pages. Marked up TS Bases pages are provided for information only in Attachment 3.

PSEG Nuclear requests approval of the proposed amendment by October 4, 2011. Once approved, the amendment shall be implemented within 60 days. Approval by the requested date will support implementation of the revised ISI program for Salem Unit 1.

There are no regulatory commitments contained in this letter.

These proposed changes have been reviewed by the Plant Operations Review Committee.

We are notifying the State of New Jersey of this application for changes to the TS and Operating License by transmitting a copy of this letter and its attachments to the designated State Official.

If you have any questions or require additional information, please contact Mr. Paul Duke at 856-339-1466.
I declare under penalty of perjury that the foregoing is true and correct.

Executed on October 4, 2010

Sincerely,

[Signature]

Carl J. Fricker
Site Vice President - Salem

cc: Administrator, Region I, NRC
R. Ennis, Project Manager - USNRC
NRC Senior Resident Inspector - Salem
P. Mulligan, Manager IV, NJBNE
L. Marabella, Corporate Commitment Tracking Coordinator
H. Berrick, Station Commitment Tracking Coordinator Salem

Attachments (3)
1. Description of Proposed Changes, Technical Analysis, and Regulatory Analysis
2. Markup of Technical Specification pages
3. Markup of Technical Specification Bases pages (information only)
ATTACHMENT 1

License Amendment Request

Salem Generating Station
NRC Docket Nos. 50-272 and 50-311

Description of Proposed Changes, Technical Analysis, and Regulatory Analysis

Subject: Changes to Snubber Surveillance Requirements

1.0 DESCRIPTION

2.0 PROPOSED CHANGE

3.0 BACKGROUND

4.0 TECHNICAL ANALYSIS

5.0 REGULATORY ANALYSIS

  5.1 No Significant Hazards Consideration

  5.2 Applicable Regulatory Requirements/Criteria

6.0 ENVIRONMENTAL CONSIDERATION

7.0 REFERENCES
DESCRIPTION OF PROPOSED CHANGES, TECHNICAL ANALYSIS, AND REGULATORY ANALYSIS

1.0 DESCRIPTION

In accordance with 10 CFR 50.90, PSEG Nuclear LLC (PSEG) requests the following amendment to Appendix A, Technical Specifications (TS), of Facility Operating Licenses DPR-70 and DPR-75 for Salem Nuclear Generating Station, Unit Nos. 1 and 2, respectively. The proposed change would revise the Technical Specification (TS) surveillance requirements (SRs) for snubbers to conform to planned revisions to the inservice inspection (ISI) program.

2.0 PROPOSED CHANGE

TS Surveillance Requirement (SR) 4.7.9 would be revised to replace the TS requirements for snubber examination, testing and service life monitoring with reference to the inservice inspection program for snubbers. The revised SR 4.7.9 would be revised to read as follows:

Each snubber shall be demonstrated OPERABLE by performance of the program for examination, testing and service life monitoring for snubbers.

Reference to SR 4.7.9c in TS ACTION 3.7.9 would be replaced with reference to the program for snubbers.

3.0 BACKGROUND

For the current third 10 year inservice inspection intervals, snubber testing and examination are performed in accordance with the specific requirements of TS 3/4.7.9 in lieu of the requirements contained in American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (the Code), Section XI, Article IWF-5000. The NRC authorized use of TS 3/4.7.9 in lieu of ASME Code requirements pursuant to 10 CFR 50.55a(a)(3)(i) for the third 10-year ISI intervals for Salem Unit Nos. 1 and 2 (References 1 and 2, respectively).

10 CFR 50.55a(g)(4)(ii) requires that inservice examination of components conducted during successive 120-month inspection intervals must comply with the requirements of the latest edition and addenda of the Code incorporated by reference in 10 CFR 50.55a(b) 12 months before the start of the 120-month inspection interval. If a revised inservice inspection program for a facility conflicts with the technical specification for the facility, 10 CFR 50.55a(g)(5)(ii) requires licensees to apply to the Commission for amendment of the technical specifications to conform the technical specification to the revised program.

For the Unit 1 fourth 10 year ISI interval beginning May 20, 2011, as permitted by 10 CFR 50.55a(b)(3)(v), PSEG intends to adopt Subsection ISTD, "Preservice and Inservice Examination and Testing of Dynamic Restraints (Snubbers) in Light-Water Reactor Nuclear Power Plants," of the ASME OM Code, 2004 Edition, in place of the requirements for snubbers in Section XI, Articles IWF-5200(a) and (b) and IWF-5300(a) and (b). PSEG also intends to adopt Subsection ISTD 2004 Edition for the remainder of the Unit 2 third 10 year interval which ends November 27, 2013.

The proposed changes to TS 3/4.7.9 are required to conform the technical specifications to the revised ISI program for snubbers.
4.0 TECHNICAL ANALYSIS

Licensees are required to perform the ISI and testing of snubbers in accordance with ASME BPV Code, Section XI or the OM Code and the applicable addenda as required by 10 CFR 50.55a(g) or 10 CFR 50.55a(b)(3)(v), except where the NRC has granted specific written relief, pursuant to 10 CFR 50.55a(g)(6)(i), or authorized alternatives pursuant to 10 CFR 50.55a(a)(3). 10 CFR 50.55a(a)(3) states that licensees may use alternatives to the requirements of 10 CFR 50.55a(g) when authorized by the NRC if (i) the proposed alternatives would provide an acceptable level of quality and safety, or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

As noted in Regulatory Information Summary 2010-06 (Reference 3), licensees have the option to control the ASME Code-required ISI and testing of snubbers through their TS. For plants using their TS to govern ISI and testing of snubbers, 10 CFR 50.55a(g)(5)(ii) requires that if a revised ISI program for a facility conflicts with the TS, the licensee shall apply to the Commission for amendment of the TS to conform the TS to the revised program. Therefore, when performing 120-month program updates in accordance with 10 CFR 50.55a(g)(4), licensees must submit any required amendments to ensure their TS remain consistent with the new code of record or NRC-approved alternative used in lieu of the Code requirements. The TS governing the snubber ISI and testing program do not eliminate the 10 CFR 50.55a requirements to update the program at 120-month intervals, in accordance with 10 CFR 50.55a(g)(4), or to request and receive NRC authorization for alternatives to the Code requirements, when appropriate.

The proposed change replaces the specific TS requirements for snubber examination, testing and service life monitoring with reference to the program for examination, testing and service life monitoring for snubbers, thereby ensuring the TS are consistent with the revised program for Salem Unit 1. For Unit 2, the proposed change makes the TS consistent with Unit 1, thereby permitting use of common procedures for the Salem snubber program.

Snubbers will continue to be demonstrated OPERABLE by performance of a program for examination, testing and service life monitoring in compliance with 10 CFR 50.55a or authorized alternatives. The change to TS ACTION 3.7.9 for inoperable snubbers is administrative in nature and is required for consistency with the proposed change to SR 4.7.9. The program for ISI and testing of snubbers in accordance with ASME BPV Code, Section XI or the OM Code and the applicable addenda as required by 10 CFR 50.55a(g) is required to include evaluation of supported components/systems when snubbers are found to be unacceptable.
5.0 REGULATORY ANALYSIS

5.1 No Significant Hazards Consideration
PSEG has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10 CFR 50.92, “Issuance of amendment,” as discussed below:

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed changes revise Surveillance Requirement 4.7.9 to conform the technical specifications to the revised inservice inspection program for snubbers. Snubber examination, testing and service life monitoring will continue to meet the requirements of 10 CFR 50.55a(g) except where the NRC has granted specific written relief, pursuant to 10 CFR 50.55a(g)(6)(i), or authorized alternatives pursuant to 10 CFR 50.55a(a)(3).

Snubber examination, testing and service life monitoring is not an initiator of any accident previously evaluated. Therefore, the probability of an accident previously evaluated is not significantly increased.

Snubbers will continue to be demonstrated OPERABLE by performance of a program for examination, testing and service life monitoring in compliance with 10 CFR 50.55a or authorized alternatives. The proposed change to TS ACTION 3.7.9 for inoperable snubbers is administrative in nature and is required for consistency with the proposed change to SR 4.7.9. Therefore the proposed change does not adversely affect plant operations, design functions or analyses that verify the capability of systems, structures, and components to perform their design functions. The consequences of accidents previously evaluated are not significantly increased.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed changes do not involve any physical alteration of plant equipment. The proposed change does not change the method by which any safety-related system performs its function. As such, no new or different types of equipment will be installed, and the basic operation of installed equipment is unchanged. The methods governing plant operation and testing remain consistent with current safety analysis assumptions.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.
3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No.

The proposed changes ensure snubby examination, testing and service life monitoring will continue to meet the requirements of 10 CFR 50.55a(g) except where the NRC has granted specific written relief, pursuant to 10 CFR 50.55a(g)(6)(i), or authorized alternatives pursuant to 10 CFR 50.55a(a)(3). Snubbers will continue to be demonstrated OPERABLE by performance of a program for examination, testing and service life monitoring in compliance with 10 CFR 50.55a or authorized alternatives. The proposed change to TS ACTION 3.7.9 for inoperable snubbers is administrative in nature and is required for consistency with the proposed change to SR 4.7.9.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, PSEG concludes that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of “no significant hazards consideration” is justified.

5.2 Applicable Regulatory Requirements/Criteria

10 CFR 50.55a(g)(4)(ii) requires that inservice examination of components conducted during successive 120-month inspection intervals must comply with the requirements of the latest edition and addenda of the Code incorporated by reference in 10 CFR 50.55a(b) 12 months before the start of the 120-month inspection interval.

If a revised inservice inspection program for a facility conflicts with the technical specification for the facility, 10 CFR 50.55a(g)(5)(ii) requires licensees to apply to the Commission for amendment of the technical specifications to conform the technical specification to the revised program.

The proposed change amends the TS Surveillance Requirements to conform the TS to the inservice inspection program for snubbers which shall meet the requirements of 10 CFR 50.55a(g) except where the NRC has granted specific written relief, pursuant to 10 CFR 50.55a(g)(6)(i), or authorized alternatives pursuant to 10 CFR 50.55a(a)(3).

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission’s regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

6.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released
offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

7.0 REFERENCES

1. Salem Nuclear Generating Station, Unit No. 1 - Relief from ASME Code Requirements Related to the Salem Inservice Inspection Program, Relief Request S1-RR-F01, (TAC No. MB6098), Accession No. ML032090200

2. Salem Nuclear Generating Station, Unit No. 2, Evaluation of Relief Request S2-I3-RR-F01 (TAC No. MC6668), Accession No. ML051180344

ATTACHMENT 2

Salem Generating Station
NRC Docket Nos. 50-272 and 50-311

Changes to Snubber Surveillance Requirements

Markup of Proposed Technical Specification Page Changes

**Revised Unit 1 TS Pages**
- 3/4 7-28
- 3/4 7-29
- 3/4 7-30
- 3/4 7-31
- 3/4 7-32

**Revised Unit 2 TS Pages**
- 3/4 7-23
- 3/4 7-24
- 3/4 7-25
- 3/4 7-26
- 3/4 7-27
PLANT SYSTEMS

3/4.7.9 SNUBBERS

LIMITING CONDITION FOR OPERATION

3.7.9 All snubbers shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4. (MODES 5 and 6 for snubbers located on systems required OPERABLE in those MODES).

ACTION:

With one or more snubbers inoperable, within 72 hours, replace or restore the inoperable snubber(s) to OPERABLE status and perform an engineering evaluation per Specification 4.7.9c on the supported component or declare the supported system inoperable and follow appropriate ACTION statement for that system.

SURVEILLANCE REQUIREMENTS

4.7.9 Each snubber shall be demonstrated OPERABLE by performance of the following augmented in-service inspection program, in addition to the regular in-service inspection Program requirements:

   a. Visual Inspection

      All snubbers shall be categorized into two groups: those accessible and those inaccessible during reactor operation. The visual inspection interval for each category of snubbers shall be determined based upon the criteria provided in Table 4/7-3.
b. Visual Inspection Acceptance Criteria

Visual inspections shall verify (1) that there are no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are secure, and (3) in those locations where snubber movement can be manually induced without disconnecting the snubber, that the snubber has freedom of movement and is not frozen up. Snubbers which appear inoperable as a result of visual inspections may be determined OPERABLE for the purpose of establishing the next visual inspection interval, providing that (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers that may be generically susceptible; and (2) the affected snubber is functionally tested in the as found condition and determined OPERABLE per Specification 4.7.9d or 4.7.9e as applicable. However, when the fluid port of a hydraulic snubber is found to be uncovered, the snubber shall be declared inoperable and cannot be determined OPERABLE via functional testing for the purpose of establishing the next visual inspection interval. All snubbers connected to an inoperable common hydraulic fluid reservoir shall be counted as inoperable snubbers.

c. Functional Tests

At least once per 18 months during shutdown, a representative sample of 10% of the total of each type of snubber in use in the plant shall be functionally tested either in place or in a bench test. For each type of snubber that does not meet the functional test acceptance criteria of Specification 4.7.9d or 4.7.9e, an additional 10% of that type of snubber shall be functionally tested.

The representative sample selected for functional testing shall include the various configurations, operating environments and the range of size and capacity of snubbers. At least 25% of the snubbers in the representative sample shall include snubbers from the following three categories:

1. The first snubber away from each reactor vessel nozzle
2. Snubbers within five feet of heavy equipment (valve, pump, turbine, motor, etc.)
3. Snubbers within ten feet of the discharge from a safety relief valve
In addition to the regular sample, snubbers which failed the previous functional test shall be retested during the next test period. If a spare snubber has been installed in place of a failed snubber, then both the failed snubber (if it is repaired and installed in another position) and the spare snubber shall be retested. Test results of these snubbers may not be included for the re-sampling.

If any snubber selected for functional testing either fails to lockup or fails to move, i.e., frozen in place, the cause will be evaluated and if caused by manufacturer or design deficiency all snubbers of the same design subject to the same defect shall be functionally tested. This testing requirement shall be independent of the requirements stated above for snubbers not meeting the functional test acceptance criteria.

For the snubber(s) found inoperative, an engineering evaluation shall be performed on the components which are supported by the snubber(s). The purpose of this engineering evaluation shall be to determine if the components supported by the snubber(s) were adversely affected by the inoperability of the snubber(s) in order to ensure that the supported component remains capable of meeting the designed service.

d. **Hydraulic Snubbers Functional Test Acceptance Criteria**

The hydraulic snubber functional test shall verify that:

1. Activation (restraining action) is achieved within the specified range of velocity or acceleration in both tension and compression.

2. Snubber bleed, or release rate, where required, is within the specified range in compression or tension. For snubbers specifically required to not displace under continuous load, the ability of the snubber to withstand load without displacement shall be verified.

e. **Mechanical Snubbers Functional Acceptance Criteria**

The mechanical snubber functional test shall verify that:

1. The force that initiates free movement of the snubber rod in either tension or compression is less than the specified maximum drag force.

2. Activation (restraining action) is achieved within the specified range of velocity or acceleration in both tension and compression.
3. Snubber release rate, where required, is within the specified range in compression or tension. For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement shall be verified.

f. Snubber Service Life Monitoring

A record of the service life of each snubber, the date at which the designated service life commences and the installation and maintenance records on which the designated service life is based shall be maintained as required by Specification 6.10.2.m.

Concurrent with the first inservice visual inspection and at least once per 18 months thereafter, the installation and maintenance records for each snubber shall be reviewed to verify that the indicated service life has not been exceeded or will not be exceeded prior to the next scheduled snubber service life review. If the indicated service life will be exceeded prior to the next scheduled snubber service life review, the snubber service life shall be reevaluated or the snubber shall be replaced or reconditioned so as to extend its service life beyond the date of the next scheduled service life review. This reevaluation, replacement or reconditioning shall be indicated in the records.
### Table 4.7-3: Snubber Visual Inspection Interval

<table>
<thead>
<tr>
<th>Population / Category</th>
<th>Extend Interval</th>
<th>Repeat Interval</th>
<th>Reduce Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>80</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>100</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>150</td>
<td>0</td>
<td>3</td>
<td>8</td>
</tr>
</tbody>
</table>

#### Notes:
1. The next visual inspection interval for the population of a snubber category shall be determined based upon the most recent inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. This decision shall be made and documented before any inspection and used as the basis upon which to determine the next inspection interval for that category.

2. Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Where the limit for unacceptable snubbers in Columns A, B, or C is determined by interpolation and includes a fractional value, the limit may be reduced to the next lower integer.

3. If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval but not greater than 48 months.

4. If the number of unacceptable snubbers is equal to or less than the number in Column B but greater than the number in Column A, the next inspection interval shall be the same as the current interval.

5. If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the current interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the next interval shall be reduced proportionally by interpolation, that is:

   \[ I_1 = I_0 \cdot \frac{U - B}{C - B} \cdot \frac{1}{3} \]

   where:
   - \( I_1 \) = next inspection interval
   - \( I_0 \) = current inspection interval
   - \( U \) = number of unacceptable snubbers found during the previous inspection interval
   - \( B \) = number in Column B
   - \( C \) = number in Column C

6. The provisions of Specification 4.0.2 are applicable for all inspection intervals up to and including 48 months.

Amendment No. 161
PLANT SYSTEMS

3/4.7.9 SNUBBERS

LIMITING CONDITION FOR OPERATION

3.7.9 All snubbers shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4. (MODES 5 and 6 for snubbers located on systems required OPERABLE in those MODES).

ACTION:

With one or more snubbers inoperative, within 72 hours, replace or restore the inoperative snubber(s) to OPERABLE status and perform an engineering evaluation per Specification 4.7.9 on the supported component or declare the supported system inoperative and follow appropriate ACTION statement for that system.

SURVEILLANCE REQUIREMENTS

4.7.9 Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program in addition to the regular Inservice Inspection Program requirements:

a. Visual Inspection

All snubbers shall be categorized into two groups: those accessible and those inaccessible during reactor operation. The visual inspection interval for each category of snubbers shall be determined based upon the criteria provided in Table 4.7-3.
b. Visual Inspection Acceptance Criteria

Visual inspections shall verify (1) that there are no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are secure, and (3) in those locations where snubber movement can be manually induced without disconnecting the snubber, that the snubber has freedom of movement and is not frozen up. Snubbers which appear inoperable as a result of visual inspections may be determined OPERABLE for the purpose of establishing the next visual inspection interval, providing that (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers that may be generically susceptible; and (2) the affected snubber is functionally tested in the as found condition and determined OPERABLE per Specification 4.7.9d or 4.7.9e as applicable. However, when the fluid port of a hydraulic snubber is found to be uncovered, the snubber shall be declared inoperable and cannot be determined OPERABLE via functional testing for the purpose of establishing the next visual inspection interval. All snubbers connected to an inoperable common hydraulic fluid reservoir shall be counted as inoperable snubbers.

c. Functional Tests

At least once per 18 months during shutdown, a representative sample of 10% of the total of each type of snubber in use in the plant shall be functionally tested either in place or in a bench test. For each type of snubber that does not meet the functional test acceptance criteria of Specification 4.7.9d or 4.7.9e, an additional 10% of that type of snubber shall be functionally tested.

The representative sample selected for functional testing shall include the various configurations, operating environments and the range of size and capacity of snubbers. At least 25% of the snubbers in the representative sample shall include snubbers from the following three categories:

1. The first snubber away from each reactor vessel nozzle
2. Snubbers within five feet of heavy equipment (valve, pump, turbine, motor, etc.)
3. Snubbers within ten feet of the discharge from a safety relief valve

Pages 3/4 7-25 through 3/4 7-27 have been deleted.
In addition to the regular sample, snubbers which failed the previous functional test shall be retested during the next test period. If a spare snubber has been installed in place of a failed snubber, then both the failed snubber (if it is repaired and installed in another position) and the spare snubber shall be retested. Test results of these snubbers may not be included for the re-sampling.

If any snubber selected for functional testing either fails to lockup or fails to move, i.e., frozen in place, the cause will be evaluated and if caused by manufacturer or design deficiency all snubbers of the same design subject to the same defect shall be functionally tested. This testing requirement shall be independent of the requirements stated above for snubbers not meeting the functional test acceptance criteria.

For the snubber(s) found inoperable, an engineering evaluation shall be performed on the components which are supported by the snubber(s). The purpose of this engineering evaluation shall be to determine if the components supported by the snubber(s) were adversely affected by the inoperability of the snubber(s) in order to ensure that the supported component remains capable of meeting the designed service.

d. Hydraulic Snubbers Functional Test Acceptance Criteria

The hydraulic snubber functional test shall verify that:

1. Activation (restraining action) is achieved within the specified range of velocity or acceleration in both tension and compression.

2. Snubber bleed, or release rate, where required, is within the specified range in compression or tension. For snubbers specifically required to not displace under continuous load, the ability of the snubber to withstand load without displacement shall be verified.

e. Mechanical Snubbers Functional Acceptance Criteria

The mechanical snubber functional test shall verify that:

1. The force that initiates free movement of the snubber rod in either tension or compression is less than the specified maximum drag force.

2. Activation (restraining action) is achieved within the specified range of velocity or acceleration in both tension and compression.
3. Snubber release rate, where required, is within the specified range in compression or tension. For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement shall be verified.

f. Snubber Service Life Monitoring

A record of the service life of each snubber, the date at which the designated service life commences and the installation and maintenance records on which the designated service life is based shall be maintained as required by Specification 6.10.2.m.

Concurrent with the first inservice visual inspection and at least once per 18 months thereafter, the installation and maintenance records for each snubber shall be reviewed to verify that the indicated service life has not been exceeded or will not be exceeded prior to the next scheduled snubber service life review. If the indicated service life will be exceeded prior to the next scheduled snubber service life review, the snubber service life shall be reevaluated or the snubber shall be replaced or reconditioned so as to extend its service life beyond the date of the next scheduled service life review. This reevaluation, replacement or reconditioning shall be indicated in the records.
The next visual inspection interval for the population of a snubber category shall be determined based upon the most recent inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. This decision shall be made and documented before any inspection and used as the basis upon which to determine the next inspection interval for that category.

Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Where the limit for unacceptable snubbers in Columns A, B, or C is determined by interpolation and includes a fractional value, the limit may be reduced to the next lower integer.

If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval but not greater than 48 months.

If the number of unacceptable snubbers is equal to or less than the number in Column B but greater than the number in Column A, the next inspection interval shall be the same as the current interval.

If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the current interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the next interval shall be reduced proportionally by interpolation, that is:

\[ I_1 = I_0 - I_0 \times \frac{U - B}{C - B} \]

where:
- \( I_1 \) = next inspection interval
- \( I_0 \) = current inspection interval
- \( U \) = number of unacceptable snubbers found during the previous inspection interval
- \( B \) = number in Column B
- \( C \) = number in Column C

The provisions of Specification 4.0.2 are applicable for all inspection intervals up to and including 48 months.
ATTACHMENT 3

Salem Generating Station
NRC Docket Nos. 50-272 and 50-311

Changes to Snubber Surveillance Requirements

Markup of Technical Specification Bases Page Changes
(for information only)

Unit 1 TS Bases Pages

B 3/4 7-6
B 3/4 7-7

Unit 2 TS Bases Pages

B 3/4 7-6
B 3/4 7-7
The program for examination, testing and service life monitoring for snubbers is required to be performed in accordance with ASME BPV Code, Section XI or the OM Code and the applicable addenda as required by 10 CFR 50.55a(g) or 10 CFR 50.55a(b)(3)(v), except where the NRC has granted specific written relief, pursuant to 10 CFR 50.55a(g)(6)(i), or authorized alternatives pursuant to 10 CFR 50.55a(a)(3).
All snubbers are required OPERABLE to ensure that the structural integrity of the reactor coolant system and all other safety related systems is maintained during and following a seismic or other event initiating dynamic loads. Snubbers excluded from this inspection program are those installed on nonsafety related systems and that only if their failure or failure of the system on which they were installed, would have no adverse effect on any safety related system.

A list of individual snubbers required to be operable per the technical specifications with detailed information of snubber location and size and of system affected shall be available at the plant in accordance with Section 50.72(c) of 10 CFR Part 50. The accessibility of each snubber shall be determined and approved by the Station Operations Review Committee. The determination shall be based on the existing radiation levels and the expected time to perform a visual inspection in each snubber location as well as other factors associated with accessibility during plant operations (e.g., temperature, atmosphere, location, etc.) and the recommendations of Regulatory Guide 8.8 and 8.10. The addition or deletion of any snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

The visual inspection frequency is based upon maintaining a constant level of snubber protection to systems. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. The inspections are performed for each category of snubbers. The snubbers are categorized by accessibility (i.e., accessible or inaccessible during reactor operation). The next visual inspection for each category may be twice, the same, or reduced by as much as two-thirds of the previous inspection interval. This interval depends on the number of unacceptable snubbers found in proportion to the total number of snubbers in each category from the most recent inspection. Intervals may be increased up to 48 months if few unacceptable snubbers are found in these inspections. The visual inspection interval will not exceed 48 months. However, as for all surveillance activities, unless otherwise noted, allowable tolerances of 25% are applicable for snubbers. Table 4.7-3 establishes three limits for determining the next visual inspection interval corresponding to the population of each category of snubbers. For a category that differs from the representative sizes provided, the values for the next inspection interval may be found by interpolation from the limits provided in Columns A, B, and C. Where the limit for unacceptable snubbers in Columns A, B, or C is determined by interpolation and includes a fractional value, the limit may be reduced to the next lower integer. The first inspection interval determined using Table 4.7-3 shall be based upon the previous inspection interval as established by the requirements in effect before amendment (161). Any inspection whose results require a shorter inspection interval will override the previous schedule.
SNUBBERS (Continued)

When the cause of the rejection of a snubber is clearly established and remedied for that snubber and for any other snubbers that may be generically susceptible, and verified by inservice functional testing, that snubber may be exempted from being counted as inoperable. Generically susceptible snubbers are those which are of a specific make or model and have the same design features directly related to rejection of the snubber by visual inspection or are similarly located or exposed to the same environmental conditions, such as temperature, radiation, and vibration.

When a snubber is found inoperable, an engineering evaluation is performed, in addition to the determination of the snubber mode of failure, in order to determine if any safety-related component or system has been adversely affected by the inoperability of the snubber. The engineering evaluation shall determine whether or not the snubber mode of failure has imparted a significant effect or degradation on the supported component or system.

To provide assurance of snubber functional reliability, a representative sample of the installed snubbers will be functionally tested during plant shutdowns at 18-month intervals. Observed failures of these sample snubbers shall require functional testing of additional units.

Permanent or other exemptions from the surveillance program for individual snubbers may be granted by the Commission if a justifiable basis for exemption is presented and, if applicable, snubber life destructive testing was performed to qualify the snubbers for the applicable design conditions at either the completion of their fabrication or at a subsequent date. Snubbers so exempted shall be listed in the list of individual snubbers indicating the extent of the exemptions.

Hydraulic snubbers and mechanical snubbers may each be treated as a different entity for the above surveillance program.

The service life of a snubber is evaluated via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubber, seal replaced, spring replaced, in high radiation area, in high temperature area, etc.). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life. The requirements for the maintenance of records and the snubber service life review are not intended to affect plant operation.
PLANT SYSTEMS

3/4.7.9 SNUBBERS

All snubbers are required OPERABLE to ensure that the structural integrity of the reactor coolant system and all other safety related systems is maintained during and following a seismic or other event initiating dynamic loads. Snubbers excluded from this inspection program are those installed on nonsafety related systems and then only if their failure or failure of the system on which they were installed, would have no adverse effect on any safety-related system.

A list of individual snubbers required to be operable per the technical specifications with detailed information of snubber location and size and of system affected shall be available at the plant in accordance with Section 50.71(c) of 10 CFR Part 50. The accessibility of each snubber shall be determined and approved by the Station Operations Review Committee. The determination shall be based on the existing radiation levels and the expected time to perform a visual inspection in each snubber location as well as other factors associated with accessibility during plant operations (e.g., temperature, atmosphere, location, etc.) and the recommendations of Regulatory Guide 8.8 and 8.10. The addition or deletion of any snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

The visual inspection frequency is based upon maintaining a constant level of snubber protection to systems. Therefore, the required inspection interval varies inversely with the observed snubber failures and is determined by the number of inoperable snubbers found during an inspection. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. The inspections are performed for each category of snubbers. The snubbers are categorized by accessibility (i.e., accessible or inaccessible during reactor operation). The next visual inspection for each category may be twice, the same, or reduced by as much as two-thirds of the previous inspection interval. This interval depends on the number of unacceptable snubbers found in proportion to the total number of snubbers in each category from the most recent inspection. Intervals may be increased up to 48 months if few unacceptable snubbers are found in these inspections. The visual inspection interval will not exceed 48 months. However, as for all surveillance activities, unless otherwise noted, allowable tolerances of 25% are applicable for snubbers. Table 4.7-3 establishes three limits for determining the next visual inspection interval corresponding to the population of each category of snubbers. For a category that differs from the representative sizes provided, the values for the next inspection interval may be found by interpolation from the limits provided in Columns A, B, and C. Where the limit for unacceptable snubbers in Columns A, B, or C is determined by interpolation and includes a fractional value, the limit may be reduced to the next lower integer. The first inspection interval determined using Table 4.7-3 shall be based upon the previous inspection interval as established by the requirements in effect before amendment (142). Any inspection whose results require a shorter inspection interval will override the previous schedule.
SNUBBERS (Continued)

When the cause of the rejection of a snubber is clearly established and remedied for that snubber and for any other snubbers that may be generically susceptible, and verified by in-service functional testing, that snubber may be exempted from being counted as inoperable. Generically susceptible snubbers are those which are of a specific make or model and have the same design features directly related to rejection of the snubber by visual inspection or are similarly located or exposed to the same environmental conditions, such as temperature, radiation, and vibration.

When a snubber is found inoperable, an engineering evaluation is performed, in addition to the determination of the snubber mode of failure, in order to determine if any safety-related component or system has been adversely affected by the inoperability of the snubber. The engineering evaluation shall determine whether or not the snubber mode of failure has imparted a significant effect or degradation on the supported component or system.

To provide assurance of snubber functional reliability, a representative sample of the installed snubbers will be functionally tested during plant shutdowns at 18-month intervals. Observed failures of these sample snubbers shall require functional testing of additional units.

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Hydraulic snubbers and mechanical snubbers may each be treated as a different entity for the above surveillance program.

The service life of a snubber is evaluated via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubber, seal replaced, spring replaced, in high radiation area, in high temperature area, etc...). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life. The requirements for the maintenance of records and the snubber service life review are not intended to affect plant operation.