PLANT SYSTEMS

3/4.7.9 SNUBBERS

LIMITING CONDITION FOR OPERATION

3.7.9 All safety related snubbers ~~listed in Tables 3.7-3a and 3.7-3b~~ 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 safety related snubbers inoperable, within 72 hours replace or restore the inoperable snubber(s) to OPERABLE status and perform an engineering evaluation per Specification 4.7.9g. on the supported component or declare the supported system inoperable and follow the 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.

a. Inspection Types

As used in this specification, type of snubber shall mean snubbers of the same design and manufacturer, irrespective of capacity.

b. Visual Inspections

~~The first inservice visual inspection of each type of snubber shall be performed after 4 months but within 10 months of commencing POWER OPERATION and shall include all snubbers listed in Tables 3.7-3a and 3.7-3b. If less than two snubbers of any type are found inoperable during the first inservice visual inspection, the second inservice visual inspection shall be performed 12 months ± 25% from the date of the first inspection. Otherwise,~~ subsequent visual inspections shall be performed in accordance with the following schedule:

No. Inoperable Snubbers of Each Type per Inspection Period	Subsequent Visual Inspection Period*#
0	18 months ± 25%
1	12 months ± 25%
2	6 months ± 25%
3,4	124 days ± 25%
5,6,7	62 days ± 25%
8 or more	31 days ± 25%

*The inspection interval for each type of snubber shall not be lengthened more than one step at a time unless a generic problem has been identified and corrected; in that event the inspection interval may be lengthened one step the first time and two steps thereafter if no inoperable snubbers of that type are found.

#The provisions of Specification 4.0.2 are not applicable.

SURVEILLANCE REQUIREMENTS (Continued)

c. Refueling Outage Inspections

At least once per 18 months an inspection shall be performed of all safety related snubbers ~~listed in Tables 3.7-3a and 3.7-3b~~ attached to sections of safety systems piping that have experienced unexpected, potentially damaging transients as determined from a review of operational data and a visual inspection of the systems. In addition to satisfying the visual inspection acceptance criteria, freedom of motion of mechanical snubbers shall be verified using one of the following: (1) manually induced snubber movement; (2) evaluation of in-place snubber piston setting; (3) stroking the mechanical snubber through its full range of travel.

d. 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. Snubbers which appear inoperable as a result of visual inspections may be determined OPERABLE for the purpose of establishing the next visual inspection interval, provided that (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers, irrespective of type, that may be generically susceptible; and (2) the affected snubber is functionally tested in the as found condition and determined OPERABLE per Specification 4.7.9f. When a 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 unless the test is started with the piston in the as found setting, extending the piston rod in the tension mode direction. All snubbers connected to an inoperable common hydraulic fluid reservoir shall be determined to be OPERABLE by visually verifying the required level of oil for operation for each affected snubber; otherwise declare the snubbers inoperable.

e. Functional Tests

During the first refueling shutdown and at least once per 18 months thereafter during shutdown, a representative sample of either: (1) At least 10% of the total of each type of safety related snubber in use in the plant shall be functionally tested either in place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria of Specification 4.7.9f. an additional 10% of that type of snubber shall be functionally tested until no more failures are found or until all snubbers of that type have been functionally tested or (2) A representative sample of each type of snubber shall be functionally tested in accordance with Figure 4.7-1. "C" is the total number of snubbers of a type found not meeting the acceptance requirements of Specification 4.7.9f. The cumulative number of snubbers of a type tested is denoted by "N." At the end of each day's testing, the new values of "N" and "C" (previous day's total plus current day's increments) shall be plotted on Figure 4.7-1. If at any time the point plotted falls in the "Reject" region, all

Functional Tests (Continued)

snubbers of that type design shall be functionally tested. If at any time the point plotted falls in the "Accept" region, testing of that type of snubber shall be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers of that type shall be tested until the point falls in the "Accept" region or the "Reject" region, or all the snubbers of that type have been tested.

The representative sample selected for functional testing shall include the various configurations, operating environments, and the range of size and capacity of snubbers of each type. The representative sample should be weighted to include more snubbers from severe service areas such as near heavy equipment. Snubbers placed in the same location as snubbers which failed the previous functional test shall be included in the next test lot if the failure analysis shows that failure was due to location.

f. Functional Test Acceptance Criteria

The snubber functional test shall verify that:

1. Activation (restraining action) is achieved within the specified range in both tension and compression.
2. Snubber bleed, or release rate where required, is present in both tension and compression, within the specified range.
3. Where required, the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel.
4. For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement.
5. Fasteners for attachment of the snubber to the component and to the snubber anchorage are secure.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

g. Functional Test Failure Analysis

An engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause of the failure. The results of this evaluation shall be used, if applicable, in selecting snubbers to be tested in an effort to determine the OPERABILITY of other snubbers irrespective of type which may be subject to the same failure mode.

Functional Test Failure Analysis (Continued)

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

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 type subject to the same defect shall be functionally tested. This testing requirement shall be independent of the requirements stated in Specification 4.7.9.e for snubbers not meeting the functional test acceptance criteria.

h. Functional Testing of Repaired and Replaced Snubbers

Snubbers which fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers which have repairs which might affect the functional test result shall be tested to meet the functional test criteria before installation in the unit. These snubbers shall have met the acceptance criteria subsequent to their most recent service, and the functional test must have been performed within 12 months before being installed in the unit.

i. Snubber Seal Replacement Program

The seal service life of hydraulic snubbers shall be monitored to ensure that the seals do not fail between surveillance inspections. The maximum expected service life for the various seals, seal materials, and applications shall be estimated based on engineering information and the seals shall be replaced so that the maximum expected service life does not expire during a period when the snubber is required to be OPERABLE. The seal replacements shall be documented and the documentation shall be retained in accordance with Specification 6.10.2.

j. Exemption From Visual Inspection or Functional Tests

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 snubber for the applicable design conditions at either the completion of their fabrication or at a subsequent date. ~~Snubbers so exempted shall continue to be listed in Tables 3.7-3a and 3.7-3b with footnotes indicating the extent of the exemptions.~~

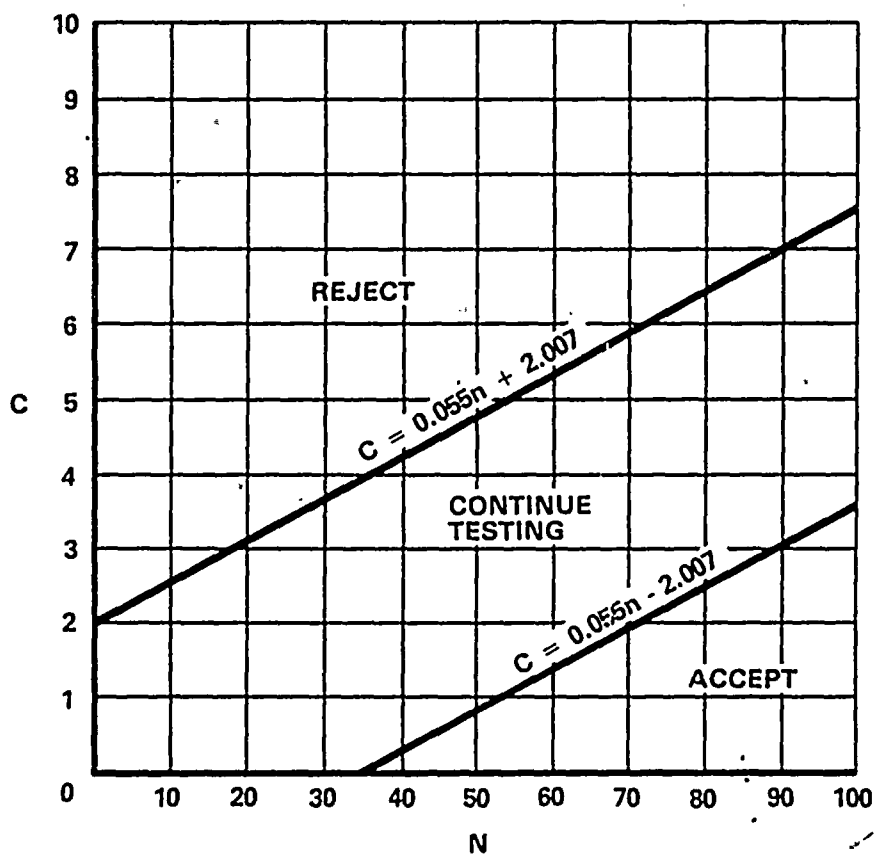

FIGURE 4.7-1 SAMPLING PLAN FOR SNUBBER FUNCTIONAL TEST

TABLE 3.7-3a

~~SAFETY-RELATED HYDRAULIC SNUBBERS*~~

~~Manufacturer: Paul Monroe~~

~~System~~	~~Quantity~~	~~Design Rating~~
~~R.C. Pumps~~	~~4~~	~~150.0 kips~~

~~Manufacturer: Taylor Devices~~

~~System~~	~~Quantity~~	~~Design Rating~~
~~Steam Generators**~~	~~16~~	~~440.0 kips~~

DELETE

~~* Snubbers may be added or deleted to safety-related systems without prior License Amendment to Table 3.7-3a provided that a revision to Table 3.7-3a is included with the next License Amendment request.~~

~~** Steam generator snubbers are provided with an electrical switch for remote readout of fluid condition and are accessible for visual inspection during shutdown.~~

TABLE 3.7-3b

~~SAFETY-RELATED MECHANICAL SNUBBERS*~~

~~Manufacturer: Pacific Scientific~~

System	Small			Medium		Large	
	PSA-0.25**	PSA-0.5**	PSA-1.0**	PSA-3.0**	PSA-10.0**	PSA-35.0*	PSA-100.0*
Blowdown	4	1	0	0	0	0	0
Boiler Feedwater	0	0	2	9	16	5	0
Component Cooling	0	0	0	2	0	0	0
Chemical/Volume Cntl.	9	4	4	0	0	0	0
Containment Spray	0	0	2	0	0	0	0
Main Steam	5	1	6	19	15	29	6
Main Steam Instrumtn.	14	0	0	0	0	0	0
Pressurizer Spray	0	2	1	2	0	0	0
Reactor Coolant	30	0	11	13	10	0	0
Safety Injection	20	3	17	20	16	3	0
Waste Management	2	0	1	0	0	0	0
Type Total	84	11	44	65	57	37	6
Size Total			139		122		43
Total							294

DELETE

~~*Snubbers may be added or deleted to safety related systems without prior License Amendment to Table 3.7-3b provided that a revision to Table 3.7-3b is included with the next License Amendment request.~~

~~** Snubber Type: PSA-0.25 Design Load: 350 lbs~~
~~0.5 650~~
~~1.0 1,500~~
~~3.0 6,000~~
~~10.0 15,000~~
~~35.0 50,000~~
~~100.0 120,000~~

3/4.7.9 SNUBBERS

All safety related 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 are installed, would have no adverse effect on any safety related system.

Snubbers are classified and grouped by design and manufacturer but not by size. For example, mechanical snubbers utilizing the same design features of the 2 kip, 10 kip and 100 kip capacity manufactured by company "A" are of the same type. The same design mechanical snubber manufactured by company "B", for purposes of this Specification, would be of a different type, as would hydraulic snubbers from either manufacturer.

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. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule.

To provide assurance of snubber functional reliability, one of two sampling and acceptance criteria methods are used:

1. Functionally test 10% of a type of snubber with an additional 10% tested for each functional testing failure or

2. Functionally test a sample size and determine sample acceptance or rejection using Figure 4.7-1.

Figure 4.7-1 was developed using "Wald's Sequential Probability Ratio Plan" as described in "Quality Control and Industrial Statistics" by Acheson J. Duncan.

RECORD RETENTION (Continued)

f. Records of radioactive shipments.

g. Records of sealed source and fission detector leak tests and results.

h. Records of annual physical inventory of all sealed source material of record.

6.10.2 The following records shall be retained for the duration of the unit Operating License:

a. Records and drawing changes reflecting unit design modifications made to systems and equipment described in the Final Safety Analysis Report.

b. Records of new and irradiated fuel inventory, fuel transfers, and assembly burnup histories.

c. Records of reactor tests and experiments.

d. Records of radiation exposure for all individuals entering radiation control areas.

e. Records of gaseous and liquid radioactive material released to the environs.

f. Records of transient or operational cycles for those unit components identified in Table 5.7-1.

g. Records of training and qualification for current members of the unit staff.

h. Records of inservice inspections performed pursuant to these Technical Specifications.

i. Records of quality assurance activities required by the QA Manual.

j. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.

k. Records of meetings of the FRG and the CNRB.

l. Records of the service lives of all snubbers ~~listed in Tables 3.7-4a and 3.7-4b~~ including the date at which the service life commences and associated installation and maintenance records.

m. Records of secondary water sampling and water quality.

n. Annual Radiological Environmental Operating Reports; and records of analyses transmitted to the licensee which are used to prepare the Annual Radiological Environmental Monitoring Report.

o. Meteorological data, summarized and reported in a format consistent with the recommendations of Regulatory Guides 1.21 and 1.23.

p. Records of audits performed under the requirements of Specifications 6.5.2.8 and 6.8.4.

6.11 RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained, and adhered to for all operations involving personnel radiation exposure.

ATTACHMENT 2

EVALUATION/DETERMINATION OF

NO SIGNIFICANT HAZARDS CONSIDERATION

Background

In May 1984, the NRC issued Generic Letter 84-13 (Technical Specification for Snubbers) which reassessed the inclusion of snubber listings within the Technical Specifications. It was concluded in the Generic Letter that such listings are not necessary provided the snubber Technical Specification is modified to specify which snubbers are required to be OPERABLE. The Limiting Condition for Operation (LCO), surveillance requirements, and recordkeeping requirements will be maintained within the Technical Specifications. The snubber listings, when deleted from the Technical Specifications, will be maintained per controlled documents. Changes in snubber quantities, type, or locations would be a change to the facility and would, therefore, be subject to the provisions of 10 CFR Part 50.59.

Discussion

This proposed change to the Technical Specifications is being processed to delete snubber Tables 3.7-3a, "Safety Related Hydraulic Snubbers" and 3.7-3b, "Safety Related Mechanical Snubbers," from the Technical Specifications. This change closely follows NRC guidance (GL 84-13) for implementation. However, we have tailored the recommended LCO wording as described in the following discussion.

Generic Letter 84-13 recommended the following LCO wording:

> All snubbers shall be OPERABLE, the only snubbers excluded from this requirement are those installed on nonsafety-related systems and then only if their failure or failure of the system on which they are installed, would have no adverse effect on any safety-related system.

Our proposed Technical Specification would simply state: "All safety related snubbers shall be OPERABLE." All snubbers currently listed in the Technical Specification tables are safety related. Additionally, St. Lucie Unit 2 and Unit 1 Technical Specifications already contain the statement as written in the second sentence of the NRC suggested LCO. This statement, concerning snubber failures which may impact safety related systems, is currently contained in both Unit 2 and 1 Technical Specification Bases.

In addition to deleting the snubber tables from the Technical Specifications, the following changes are also proposed:

(A) Tables 3.7-3a and 3.7-3b: All references to Tables 3.7-3a and 3.7-3b have been deleted since these tables have been removed.

[illegible]

(B) First Inservice Visual Inspection: The first inservice visual inspection of snubbers at St. Lucie Unit 2 has been performed and reference to this inspection is not required since this one time Surveillance Requirement has been completed.

(C) Safety Related: This change incorporates the words "safety.related" in various locations (prior to the word "snubber") in order to maintain consistency with the LCO.

Determination of No Significant Hazards Consideration

The standards used to arrive at a determination that proposed changes do not involve a significant hazards consideration are included in 10 CFR 50.92(c), which states that the Commission may make such a determination if operation of the facility in accordance with the proposed amendment would not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or

(2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or

(3) Involve a significant reduction in a margin of safety.

With respect to criterion (1), the changes being proposed by FPL are administrative; they do not affect assumptions contained in plant safety analyses, nor do they affect Technical Specifications that do preserve safety analysis assumptions. Safety related snubbers will continue to be controlled and surveilled according to Technical Specifications. Changes in snubber quantities, types, or locations would be a change to the facility and would be adequately controlled per the provisions of 10 CFR 50.59. Therefore, the proposed changes do not affect the probability or consequences of accidents previously analyzed.

With respect to criterion (2), the changes being proposed by FPL are administrative; they will not lead to physical modifications. These changes do not add to, or delete from, the total number of plant snubbers available to provide dynamic load support during and following a seismic event or other initiating dynamic loads. Therefore, the proposed changes do not create the possibility of a new or different kind of accident.

With respect to criterion (3), the changes being proposed by FPL are administrative; they do not modify the safety margins defined in and maintained by the Technical Specifications. The NRC has concluded that snubber listings are not necessary provided the snubber Technical Specification specifies which snubbers are required to be OPERABLE. The snubber LCO has been clarified to show that all safety related snubbers must be OPERABLE. This change does not involve a significant reduction in a margin of safety since: 1) the LCO clearly specifies which snubbers are required to be OPERABLE, and 2) the snubber listing will be maintained via controlled documents.

In addition, the Commission has provided guidance (48 FR 14870) concerning the application of standards for determining whether a significant hazards consideration exists by presenting examples of amendments that are considered not likely to involve a significant hazards consideration. Example (i) relates to a purely administrative change to the Technical Specifications: for example, a change to achieve consistency throughout the Technical Specifications, correction of an error, or a change in nomenclature. The changes being proposed by FPL are similar to example (i) in 48 FR 14870 in that they are administrative changes designed to:

- Remove snubber listings from Tables 3.7-3a and 3.7-3b as per Generic Letter 84-13.

- Remove outdated material.