3.13 SHOCK SUPPRESSORS (SNUBBERS)

LIMITING CONDITION FOR OPERATION

3.13 All snubbers listed in Tables 3.13-1a and 3.13-1b shall be OPERABLE.

APPLICABILITY: All modes of operation except Cold Shutdown and Refueling Shutdown.

ACTION:

With one or more snubbers inoperable, within 72 hours replace or restore the inoperable snubber(s) to OPERABLE status or declare the supported system inoperable and follow the appropriate ACTION statement for that system.

TABLE 3.13-1a SHEET 1
SAFETY RELATED HYDRAULIC SNUBBERS* - UNIT 3

FPL Tag No.	System	Approximate Elevation (feet)	Snubbers in High Radiation Areas During Shutdown**	Snubbers Especially Difficult to Remove	Inaccessible During Normal Operation	Accesible During Normal Operation
NONE						

* Snubbers may be added to or removed from safety related systems without prior License Amendment to Table 3.13-1a provided a revision to Table 3.13-1a is included with the next License Amendment request.

** Modifications to this column due to changes in high radiation areas may be made without prior License Amendment provided that a revision to Table 3.13-1a is included with the next License Amendment request.

TABLE 3.13-1b SHEET 1
SAFETY RELATED MECHANICAL SNUBBERS* - UNIT 3

FPL Tag No.	System	Approximate Elevation (feet)	Snubbers in High Radiation Areas During Shutdown**	Snubbers Especially Difficult to Remove	Inaccessible During Normal Operation	Accesible During Normal Operation
1	Charging	14	X		X	
2	Pressurizer Spray	14	X		X	
3	Pressurizer Spray	14	X		X	
4	Pressurizer Spray	14	X		X	
5	Pressurizer Spray	14	X		X	
6	Pressurizer Spray	14	X		X	
7	Pressurizer Spray	14	X		X	
8	Pressurizer Spray	14	X		X	
9	Pressurizer Spray	14	X		X	
10	Pressurizer Spray	14	X		X	
11	Pressurizer Spray	14	X		X	
12	Pressurizer Spray	14	X		X	
13	Pressurizer Spray	14	X		X	
14	Pressurizer Relief	74 1/2	X		X	
15	Pressurizer Relief	74 1/2	X		X	
16	Pressurizer Relief	74 1/2	X		X	
17	Pressurizer Relief	73	X		X	
18	Pressurizer Spray	73	X		X	
19	Pressurizer Spray	73	X		X	
20	Pressurizer Spray	73	X		X	
21	Pressurizer Spray	73	X		X	
22	Pressurizer Spray	73	X		X	
23	Pressurizer Spray	73	X		X	

TABLE 3.13-1b SHEET 2
SAFETY RELATED MECHANICAL SNUBBERS* - UNIT 3

FPL Tag No.	System	Approximate Elevation (feet)	Snubbers in High Radiation Areas During Shutdown**	Snubbers Especially Difficult to Remove	Inaccessible During Normal Operation	Accesible During Normal Operation
24	Pressurizer Relief	73	X		X	
25	Pressurizer Relief	73	X		X	
26	Pressurizer Spray	73	X		X	
27	Pressurizer Spray	73	X		X	
28	Pressurizer Spray	73	X		X	
29	Pressurizer Spray	73	X		X	
30	Pressurizer Relief	73	X		X	
31	Pressurizer Relief	73	X		X	
38	Residual Heat Removal	2	X			X
39	Residual Heat Removal	2	X			X
40	Residual Heat Removal	2	X			X
41	Residual Heat Removal	2	X			X
42	Safety Injection	12	X			X
43	Residual Healt Removal	12				X
44	Safety Injection	12				X
45	Safety Injection	12				X
46	Steam to Aux. Feedwater	26				X
47	Steam to Aux. Feedwater	26				X
48	Steam to Aux. Feedwater	26				X
49	Steam to Aux. Feedwater	30 1/2				X
50	Main Steam	32				X
51	Main Steam	32				X

TABLE 3.13-1b SHEET 3
SAFETY RELATED MECHANICAL SNUBBERS* - UNIT 3

FPL Tag No.	System	Approximate Elevation (Feet)	Snubbers in High Radiation Areas During Shutdown**	Snubbers Especially Difficult to Remove	Inaccessible During Normal Operation	Accesible During Normal Operation
60	Main Steam	32				X
61	Main Steam	32				X
75	Main Steam	32				X
76	Main Steam	32				X
77	Main Steam	32				X
78	Main Steam	32				X
79	Feedwater	58			X	
80	Feedwater	58			X	
81	Feedwater	56		X	X	
82	Feedwater	52		X	X	
83	Feedwater	52		X	X	
84	Feedwater	58			X	
85	Feedwater	55		X	X	
86	Feedwater	55		X	X	
87	Feedwater	56		X	X	
88	Feedwater	58			X	
89	Feedwater	56		X	X	
90	Feedwater	58			X	
91	Feedwater	55		X	X	
92	Reactor Coolant System	25			X	
93	Reactor Coolant System	27			X	

TABLE 3.13-1b SHEET 4
SAFETY RELATED MECHANICAL SNUBBERS* - UNIT 4

FPL Tag No.	System	Approximate Elevation (Feet)	Snubbers in High Radiation Areas During Shutdown**	Snubbers Especially Difficult to Remove	Inaccessible During Normal Operation	Accesible During Normal Operation
6	Feedwater	30			X	
7	Feedwater	30			X	
8	Pressurizer Spray	14	X		X	
9	Pressurizer Spray	14	X		X	
10	Pressurizer Spray	14	X		X	
11	Pressurizer Spray	14	X		X	
12	Pressurizer Spray	14	X		X	
13	Pressurizer Spray	14	X		X	
14	Pressurizer Spray	14	X		X	
15	Pressurizer Spray	14	X		X	
16	Pressurizer Spray	14	X		X	
17	Charging	14	X		X	
18	Feedwater	58			X	
19	Feedwater	58			X	
20	Feedwater	58			X	
21	Feedwater	58			X	
22	Feedwater	58			X	
23	Feedwater	58			X	
24	Pressurizer Relief	73	X		X	
25	Pressurizer Relief	73	X		X	
26	Pressurizer Relief	73	X		X	
27	Pressurizer Relief	73	X		X	

TABLE 3.13-1b SHEET 5
SAFETY RELATED MECHANICAL SNUBBERS* - UNIT 4

FPL Tag No.	System	Approximate Elevation (feet)	Snubbers in High Radiation Areas During Shutdown**	Snubbers Especially Difficult to Remove	Inaccessible During Normal Operation	Accesible During Normal Operation
28	Pressurizer Relief	73	X		X	
29	Pressurizer Spray	73	X		X	
30	Pressurizer Spray	73	X		X	
31	Pressurizer Relief	73	X		X	
32	Pressurizer Relief	73	X		X	
34	Pressurizer Spray	73	X		X	
35	Pressurizer Spray	73	X		X	
36	Pressurizer Spray	73	X		X	
37	Pressurizer Spray	73	X		X	
38	Pressurizer Spray	73	X		X	
39	Pressurizer Spray	73	X		X	
40	Pressurizer Spray	73	X		X	
41	Pressurizer Spray	73	X		X	
42	Pressurizer Relief	73	X		X	
43	Pressurizer Spray	14	X		X	
44	Pressurizer Spray	14	X		X	
45	Pressurizer Spray	14	X		X	
46	Pressurizer Spray	14	X		X	
47	Pressurizer Spray	14	X		X	
48	Pressurizer Spray	14	X		X	
49	Residual Heat Removal	2	X			X
50	Residual Heat Removal	2	X			X

TABLE 3.13-1b SHEET 6
SAFETY RELATED MECHANICAL SNUBBERS* - UNIT 4

FPL Tag No.	System	Approximate Elevation (feet)	Snubbers in High Radiation Areas During Shutdown**	Snubbers Especially Difficult to Remove	Inaccessible During Normal Operation	Accesible During Normal Operation
51	Residual Heat Removal	2	X			X
52	Residual Heat Removal	2	X			X
53	Residual Heat Removal	2	X			X
54	Safety Injection	12				X
55	Safety Injection	12				X
57	Main Steam	32				X
58	Main Steam	32				X
59	Main Steam	32				X
60	Main Steam	32				X
80	Feedwater	56		X	X	
81	Feedwater	56		X	X	
82	Feedwater	56		X	X	
83	Main Steam	32				X
84	Main Steam	32				X
85	Main Steam	32				X
86	Main Steam	32				X

* Snubbers may be added to or removed from safety related systems without prior License Amendment to Table 3.13-1b provided a revision to Table 3.13-1b is included with the next License Amendment request.

** Modifications to this column due to changes in high radiation areas may be made without prior License Amendment provided that a revision to Table 3.13-1b is included with the next License Amendment request.

4.14 SHOCK SUPPRESSORS (SNUBBERS)

Applicabilility: Applies to periodic surveillance of safety-related shock suppressors (snubbers).

Objective: To verify operability of safety-related shock suppressors listed in Table 3.13-1a and 3.13-1b by performance of the following augmented inservice inspection program.

Specification: 1. Visual Inspections

The first inservice visual inspection of snubbers shall be performed after four months but within 10 months of commencing POWER OPERATION and shall include all snubbers listed in Tables 3.13-1a and 3.13-1b. If less than two (2) snubbers 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 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%

Those snubbers may be categorized into two groups: Those accessible and those inaccessible during reactor operation. Each group may be inspected independently in accordance with the above schedule.

2. 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, 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/or (2) the affected snubber is functionally tested in the as found condition and determined OPERABLE per Specifications 4.13.4 or 4.13.5, as applicable.

* The inspection interval 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 may be lengthened one step the first time and two steps thereafter if no inoperable snubbers are found.

3. Functional Tests

At least once per 18 months during shutdown, a representative sample** (10% of the snubbers listed in Tables 3.13.1a and 3.13.1b) shall be functionally tested either in place or in a bench test. For each snubber that does not meet the functional test acceptance criteria of Specification 4.13.4 or 4.13.5, an additional 10% of that type of snubber shall be functionally tested. Functional testing shall continue until no additional snubbers are found inoperable or all snubbers listed in Tables 3.13.1a and 3.13.1b.

Snubbers identified in Tables 3.13-1a and 3..13-1b as "Especially Difficult to Remove" or in "High Exposure Zones During Shutdown" shall also be included in the representative sample.* Tables 3.13-1a and 3.13-1b may be used jointly or separately as the basis for the sampling plan.

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 shall not result in additional functional testing due to failure.

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 for further action or testing.

4. 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.

**The requirements of this section for functionally testing mechanical snubbers may be waived until startup following the seventh refueling outages for Units 3 and 4.

* Permanent or other exemptions from functional testing for individual snubbers in these categories may be granted by the Commission only if a justifiable basis for exemption is presented and/or snubber life destructive testing was performed to qualify snubber operability for all design conditions at either the completion of their fabrication or at a subsequent date.

5. Mechanical Snubbers Functional Test 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 in both tension and compression.

B3.13 BASES LIMTING CONDITIONS FOR OPERATION, 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 intitiating 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.

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.

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 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 adversly 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 failure of these sample snubbers shall require functional testing of additional units.

In cases where the cause of failure has been identified, additional snubbers, having a high probability for the same type failure or that are being used in the same application that caused the failure, shall be tested. This requirement increases the probability of locating inoperable snubbers without testing 100% of the snubbers.

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