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DESCRIPTION Ltr requesting for amdt to ~~APPX~~ App A of OL/DPR-31 & DPR-41 related to hydraulic snubbers & trans the following:

ENCLOSURE Revised & addl pages to Proposed Change in re to hydraulic snubbers...

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ACKNOWLEDGED

PLANT NAME: Turkey Pt. Units 3 & 4

SAFETY

FOR ACTION/INFORMATION

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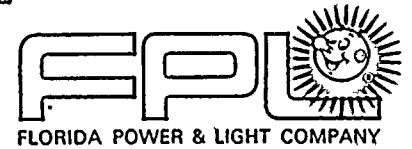
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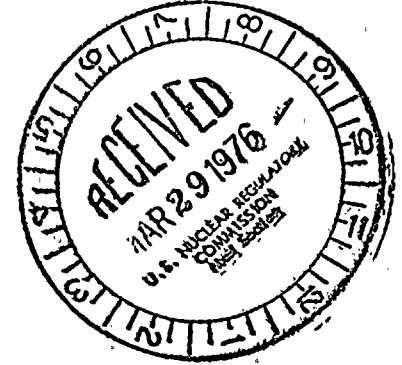
March 22, 1976

L-76-119

Director of Nuclear Reactor Regulation
Attention: Mr. Victor Stello, Jr., Director
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Stello:

Re: Turkey Point Units 3 and 4
Docket Nos. ~~50-250~~ and 50-251
Proposed Amendment to Facility
Operating Licenses DPR-31 and DPR-41



In accordance with 10 CFR 50.30, Florida Power & Light Company submits herewith three (3) signed originals and forty (40) conformed copies of a request to amend Appendix A of Facility Operating Licenses DPR-31 and DPR-41.

This submittal proposes Technical Specification changes relating to the surveillance of safety-related hydraulic snubbers at Turkey Point Units 3 and 4. The proposal supplements and modifies our proposal of November 6, 1974 and is based on model Technical Specifications transmitted to Florida Power & Light Company by your staff on December 24, 1975.

The proposed Technical Specification changes are as described below and as shown in the accompanying Technical Specification pages bearing the date of this letter in the lower right hand corner.

Page ii

The Table of Contents is revised to include Sections 3.12 and 4.14.

Page iii

The Table of Contents is revised to include Sections B3.12 and B4.14.

Page iv

The List of Tables is revised to include Table 3.12-1.

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Page 3.12-1

A new specification 3.12 is added to define the limiting conditions for operation applied to the operability of safety-related hydraulic snubbers.

Table 3.12-1, Sheets 1 through 4

A new Table 3.12-1 is added to identify all safety-related hydraulic snubbers on Units 3 and 4. The table has four categories which identify snubbers that are (a) in high radiation areas, (b) especially difficult to remove, (c) inaccessible during normal operation, and (d) accessible during normal operation. There are currently no hydraulic snubbers which fall in three of the four categories, however, these categories are included for ease of future amendment should hydraulic snubbers ever be installed in such areas.

Although they are not inaccessible during power operation, it is proposed that hydraulic snubbers located inside containment be inspected independently from those outside containment in order to prevent unnecessary radiation exposure to those personnel who perform snubber inspections. Historically, most inoperable snubbers have been found outside containment, therefore, flexibility in this Technical Specification is considered advisable to preclude unnecessary containment entry during power operation.

Pages 4.14-1 and 4.14-2

A new specification 4.14 is added to designate the surveillance requirements applicable to safety-related hydraulic snubbers.

Pages B3.12-1 and B3.12-2

A new section B3.12 is added to provide bases for new specification 3.12.

Page B4.14-1

A new section B4.14 is added to provide bases for new specification 4.14.

The proposed amendment has been reviewed and the conclusion reached that it does not involve a significant hazards consideration, therefore, prenoticing pursuant to 10 CFR 2.105 should not be required.

SECRET

CONFIDENTIAL


Director of Nuclear Reactor Regulation

Page Three

March 22, 1976

We request that, upon approval of this proposed amendment, the snubber inspection reporting requirements of the Directorate of Licensing letter of November 8, 1973 from R. C. DeYoung to Robert E. Uhrig be eliminated.

Very truly yours,



Robert E. Uhrig
Vice President

REU/MAS/cpc

Attachment

cc: Mr. Norman C. Moseley
Jack R. Newman, Esquire

1961, A. J. ...

3-22-76

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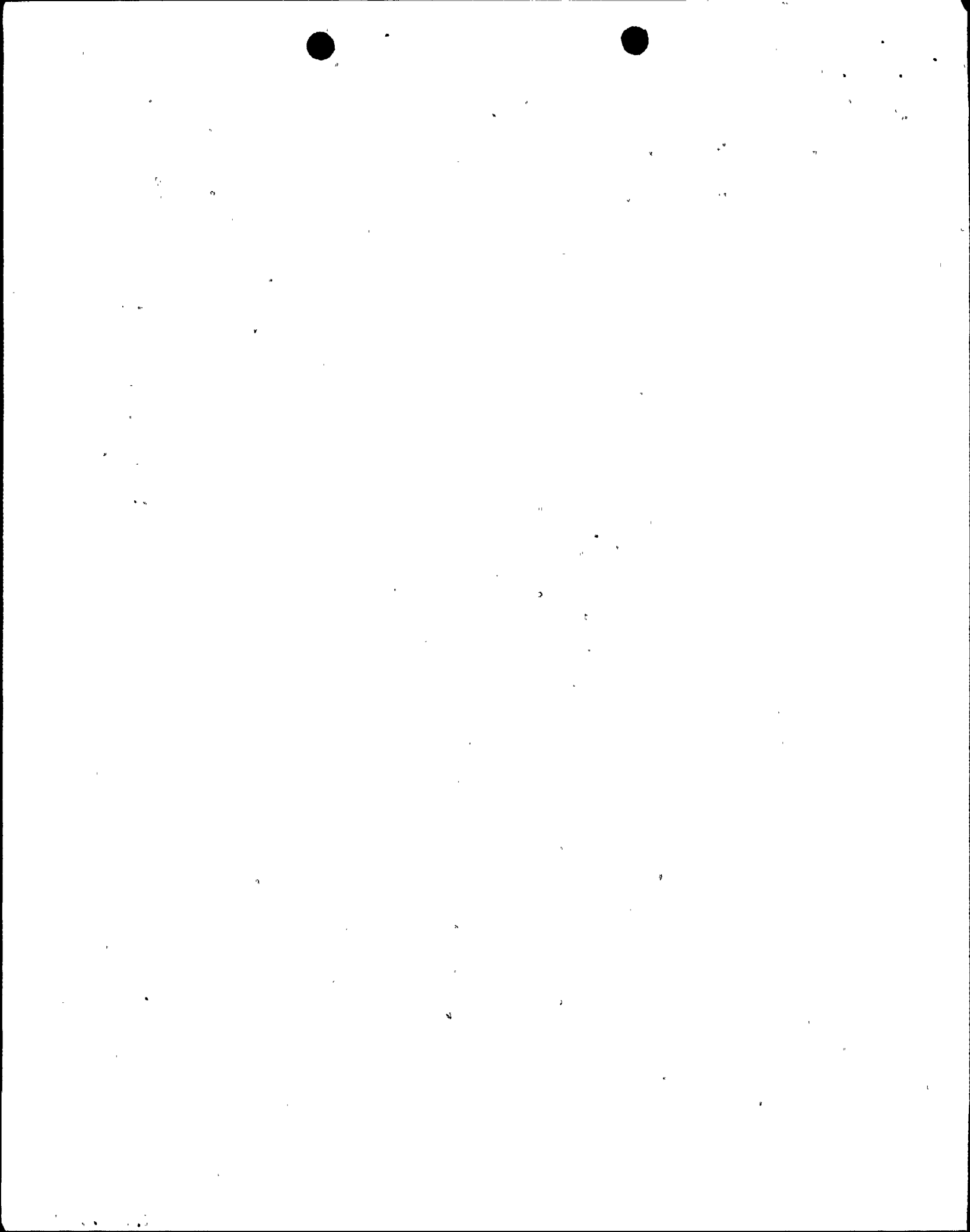
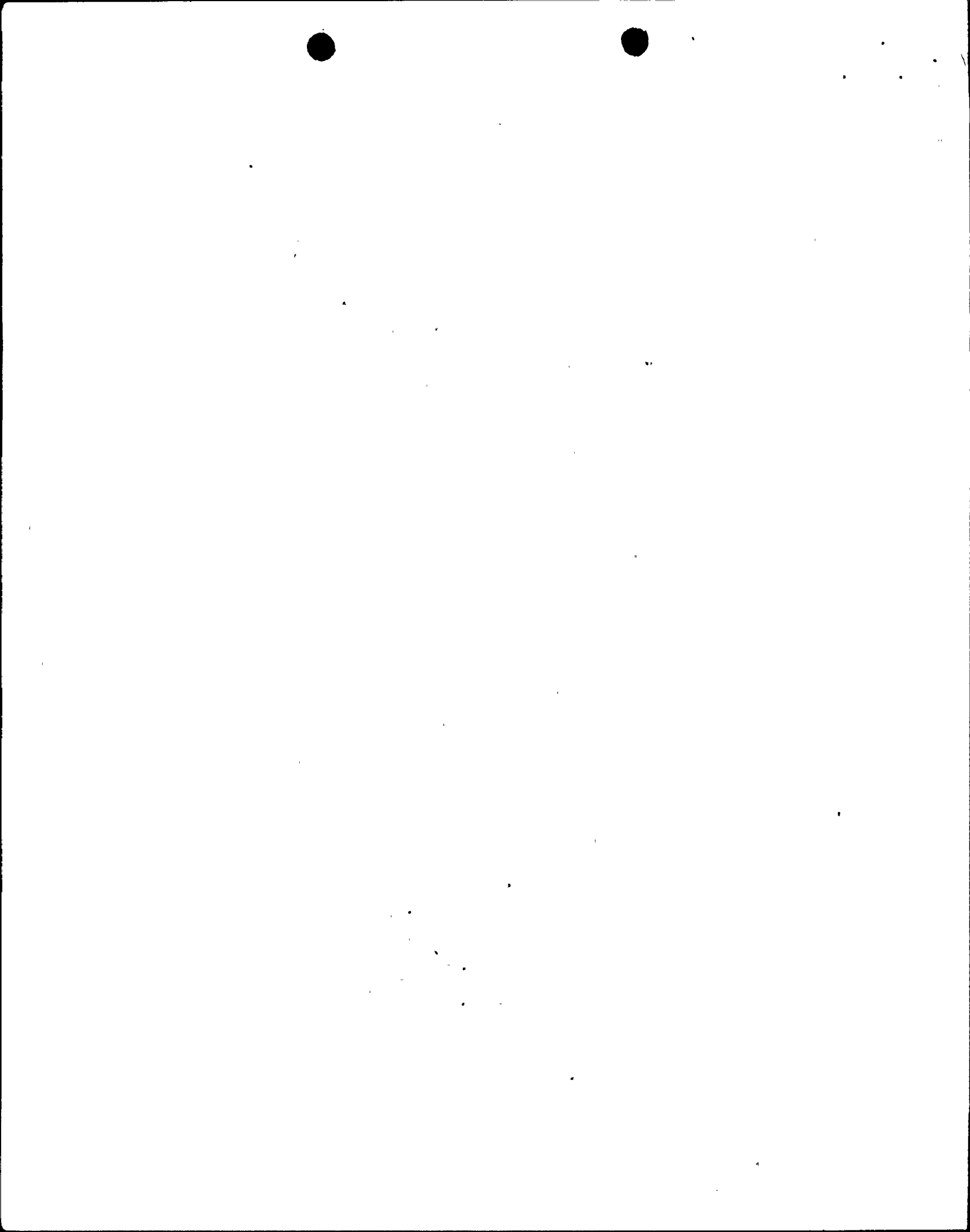


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Applicability: Applies to the operational status of safety-related hydraulic pipe restraints (snubbers).

Objective: To define the limiting conditions for operation applied to the operability of safety-related hydraulic snubbers.

- Specification:
1. During all modes of operation except Cold Shutdown and Refueling Shutdown, all hydraulic snubbers listed in Table 3.12-1 shall be operable except as noted in 3.12.2 through 3.12.4 below.
 2. From the time that a hydraulic snubber is determined to be inoperable, continued reactor operation is permissible only during the succeeding 72 hours. If the snubber is made operable within the 72 hour time frame, reactor shutdown is not required.
 3. If the requirements of 3.12.1 and 3.12.2 cannot be met, an orderly shutdown shall be initiated and the reactor shall be in a cold shutdown condition within 36 hours.
 4. If a hydraulic snubber is determined to be inoperable while the reactor is in the cold shutdown mode or the refueling mode, the snubber shall be made operable prior to reactor startup.
 5. Changes to Table 3.12-1 may be made without prior License Amendment provided that safety evaluations, documentation, and reporting are provided in accordance with 10 CFR 50.59 and that a revision to Table 3.12-1 is included with a subsequent License Amendment request.

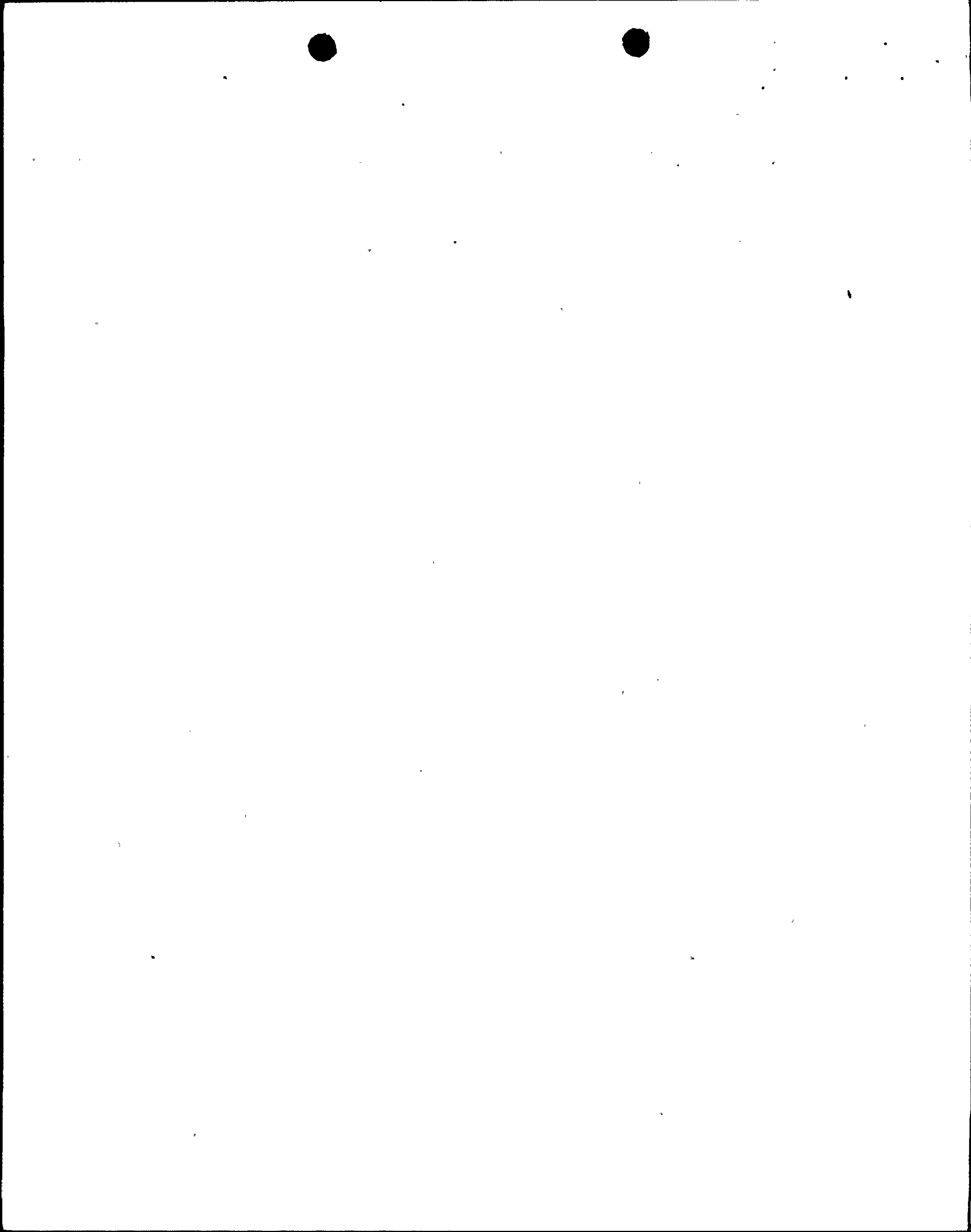


TABLE 3.12-1 SHEET 1

SAFETY RELATED HYDRAULIC SNUBBERS - UNIT 3

FPL Tag No.	Location	Approximate Elevation (feet)	Snubbers in High Radiation Areas During Shutdown	Snubbers Especially Difficult to Remove	Snubbers Inaccessible During Normal Operation	Snubbers Accessible During Normal Operation
32	Pressurizer Relief	30				X
33	Pressurizer Relief	30				X
34	Pressurizer Relief	30				X
35	Pressurizer Relief	30				X
36	Pressurizer Relief	30				X
38	RHR	0				X
39	RHR	0				X
40	RHR	0				X
41	RHR	0				X
42	RHR	12				X
43	Containment Spray	12				X
44	Containment Spray	12				X
45	Containment Spray	12				X
46	Steam to Aux. Feed	22				X
47	Steam to Aux. Feed	22				X
48	Steam to Aux. Feed	22				X
49	Steam to Aux. Feed	30				X
50	Main Steam	26				X
51	Main Steam	26				X
60	Main Steam	26				X
61	Main Steam	26				X

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TABLE 3.12-1 SHEET 2

SAFETY RELATED HYDRAULIC SNUBBERS - UNIT 3

FPL Tag No.	Location	Approximate Elevation (feet)	Snubbers in High Radiation Areas During Shutdown	Snubbers Especially Difficult to Remove	Snubbers Inaccessible During Normal Operation	Snubbers Accessible During Normal Operation
75	Main Steam	26				X
76	Main Steam	26				X
77	Main Steam	26				X
78	Main Steam	26				X
79	Feedwater	58				X
80	Feedwater	58				X
81	Feedwater	56				X
82	Feedwater	52				X
83	Feedwater	52				X
84	Feedwater	58				X
85	Feedwater	55				X
86	Feedwater	55				X
87	Feedwater	56				X
88	Feedwater	58				X
89	Feedwater	56				X
90	Feedwater	58				X
91	Feedwater	55				X

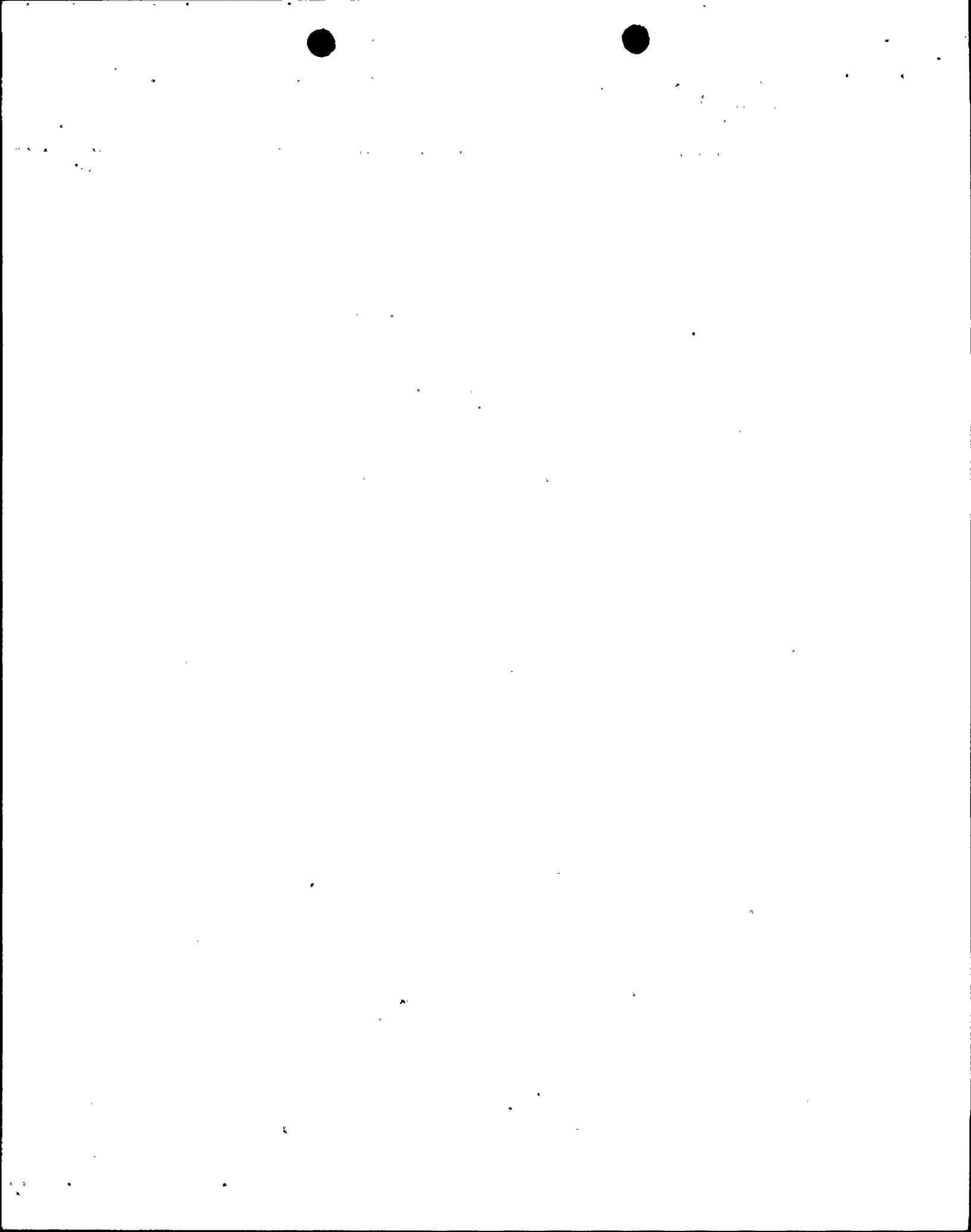


TABLE 3.12-1 SHEET 3

SAFETY RELATED HYDRAULIC SNUBBERS - UNIT 4

FPL Tag No.	Location	Approximate Elevation (feet)	Snubbers in High Radiation Areas During Shutdown	Snubbers Especially Difficult to Remove	Snubbers Inaccessible During Normal Operation	Snubbers Accessible During Normal Operation
6	Feedwater	30				X
7	Feedwater	30				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
49	RHR	0				X
50	RHR	0				X
51	RHR	0				X
52	RHR	0				X
53	RHR	10				X
54	Containment Spray	12				X
55	Containment Spray	12				X
57	Main Steam	26				X
58	Main Steam	26				X
59	Main Steam	26				X
60	Main Steam	26				X

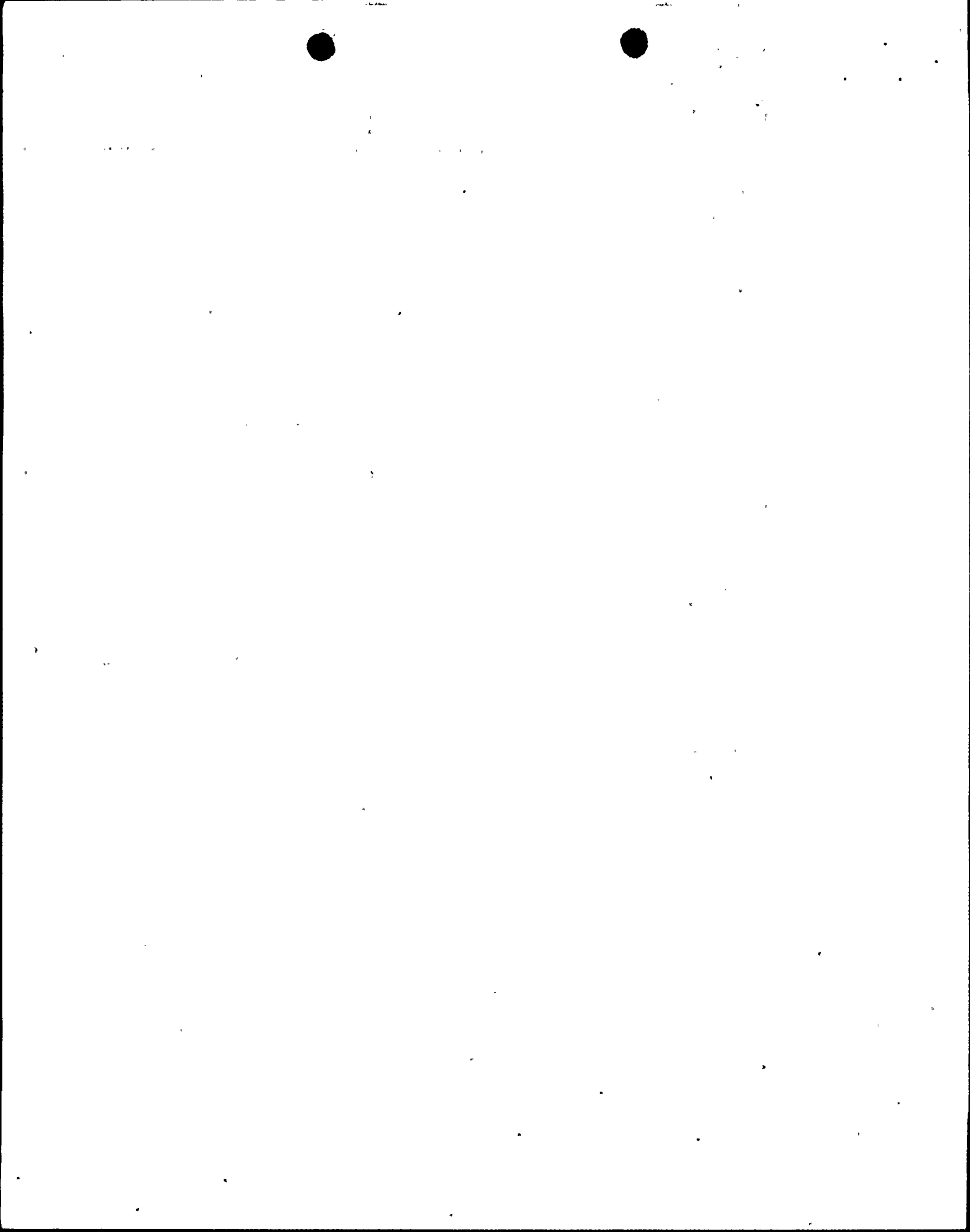


TABLE 3.12-1 SHEET 4

SAFETY RELATED HYDRAULIC SNUBBERS - UNIT 4

FPL Tag No.	Location	Approximate Elevation (feet)	Snubbers in High Radiation Areas During Shutdown	Snubbers Especially Difficult to Remove	Snubbers Inaccessible During Normal Operation	Snubbers Accessible During Normal Operation
80	Feedwater	56				X
81	Feedwater	56				X
82	Feedwater	56				X
83	Main Steam	26				X
84	Main Steam	26				X
85	Main Steam	26				X
86	Main Steam	26				X

4.14 HYDRAULIC SNUBBERS

Applicability: Applies to periodic surveillance of safety-related hydraulic pipe restraints (snubbers).

Objective: To verify operability of safety-related hydraulic snubbers listed in Table 3.12-1.

Specification: 1. All safety-related hydraulic snubbers whose seal material has been demonstrated by operating experience, laboratory testing, or laboratory analysis to be compatible with the operating environment shall be visually inspected to verify snubber operability. This inspection shall include, but not necessarily be limited to, inspection of the hydraulic fluid reservoir, fluid connections, and linkage connections to the piping and anchor. The inspections shall be conducted in accordance with the schedule described below. Early inspections as defined in the bases are permitted but may not be used to extend the required interval set by the previous regularly scheduled inspection.

<u>Number of Snubbers Found Inoperable During Inspection or During Inspection Interval</u>	<u>Next Required Inspection Interval</u>
0	18 months \pm 25%
1	12 months \pm 25%
2	6 months \pm 25%
3,4	124 days \pm 25%
5,6,7	62 days \pm 25%
<u>>8</u>	31 days \pm 25%

The required inspection interval shall not be lengthened more than one step at a time.

Snubbers may be categorized in two groups, "accessible" or "inaccessible" based on their accessibility for inspection during reactor operation. These two groups may be inspected independently according to the above schedule. In addition, snubbers inside containment may be inspected independently from those outside containment in order to prevent unnecessary containment entries caused by inoperable snubbers found outside containment during power operation.

2. All hydraulic snubbers whose seal materials are other than ethylene propylene or other material that has been demonstrated to be compatible with the operating environment shall be visually inspected for operability every 31 days.
3. The initial inspection shall be performed within 6 months from the date of issuance of these specifications. For the purpose of entering the schedule in Specification 4.14.1, it shall be assumed that the facility had been on a 6 month inspection interval.
4. Once each refueling cycle, a representative sample of 10 snubbers or approximately 10% of the snubbers, whichever is less, shall be functionally tested for operability including verification of proper piston movement, lock up, and bleed. For each unit and subsequent unit found inoperable, an additional 10% or ten snubbers shall be so tested until no more failures are found or all units have been tested.

To provide sufficient lead time for the purchase of test equipment, this functional test requirement becomes applicable during the second refueling cycle following the effective date of Specification 4.14.

Snubbers are designed to prevent unrestrained pipe motion under dynamic loads which might occur during an earthquake or severe transient, while allowing normal thermal motion during startup and shutdown. The consequence of an inoperable snubber is an increase in the probability of structural damage to piping as a result of dynamic loads initiated by seismic or other events. Therefore, all hydraulic snubbers required to protect the primary coolant system or any other safety system or component are required to be operable during reactor operation.

Because snubber protection is required only during relatively low probability events, a period of 72 hours is allowed for repairs or replacements. In case a shutdown is required, the allowance of 36 hours to reach a cold shutdown condition will permit an orderly shutdown consistent with standard operating procedures. Since plant startup should not commence with known defective safety related equipment, Specification 3.12.4 prohibits startup with inoperable snubbers.

All safety related hydraulic snubbers are visually inspected for overall integrity and operability. The inspection will include verification of proper orientation, adequate hydraulic fluid level, and proper attachment of snubber to piping and structures.

The inspection frequency is based upon maintaining a constant level of snubber protection. Thus the required inspection interval varies inversely with the observed snubber failures. The number of inoperable snubbers found during a required inspection determines the time interval before the next inspection is required. Inspections performed before the minimum interval (nominal time less 25%) has elapsed may be used as a new reference point to determine when the next inspection is required. However, the results of early inspections performed before the original required time interval has elapsed may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule.

Experience at operating facilities has shown that the required surveillance program should assure an acceptable level of snubber performance provided that the seal materials are compatible with the operating environment.

Snubbers containing seal material which has not been demonstrated by operating experience, lab tests, or lab analysis to be compatible with the operating environment should be inspected more frequently (every month) until material compatibility is confirmed or an appropriate changeout is completed.

Examination of defective snubbers at reactor facilities and material tests performed at several laboratories (Reference 1) has shown that millable gum polyurethane deteriorates rapidly under the temperature and moisture conditions present in many snubber locations. Although molded polyurethane exhibits greater resistance to these conditions, it also may be unsuitable for application in the higher temperature environments. Data are not currently available to precisely define an upper temperature limit for the molded polyurethane. Lab tests and in-plant experience indicate that seal materials are available, primarily ethylene propylene compounds, which should give satisfactory performance under the most severe conditions expected in reactor installations.

To further increase the assurance of snubber reliability, functional tests should be performed once each refueling cycle. These tests will include stroking of the snubbers to verify proper piston movement, lock-up, and bleed. Ten percent or ten snubbers, whichever is less, represents an adequate sample for such tests. Observed failures on these samples should require testing of additional units. Those snubbers designated in Table 3.12-1 as being in high radiation areas or especially difficult to remove need not be selected for functional tests provided operability was previously verified.

Reference 1

Report H. R. Erickson, Bergen Paterson to K. R. Goller, NRC, October 7, 1974
Subject: Hydraulic Shock Sway Arrestors

B4.14

BASES FOR HYDRAULIC SNUBBERS

The bases for specification 4.14 are the same as for specification 3.12.

SAFETY EVALUATION

The proposed amendment is basically administrative and will not result in any physical change to plant equipment or systems. Although the inspection frequency is expected to be lower than the current inspection frequency, the hydraulic snubber failure rate at Turkey Point has been low enough to reasonably justify a reduced inspection frequency. Also, the functional test requirement is new and will provide increased confidence in snubber integrity and will act to reduce the probability of snubber failure.

Based on these considerations, (1) the change does not increase the probability or consequences of accidents or malfunctions of equipment important to safety and does not reduce the margin of safety as defined in the basis for any technical specification, therefore, the change does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

