

ATTACHMENT I

PROPOSED TECHNICAL SPECIFICATIONS CHANGES

RELATED TO

SNUBBER SURVEILLANCE

POWER AUTHORITY OF THE STATE OF NEW YORK  
INDIAN POINT 3 NUCLEAR POWER PLANT  
DOCKET NO. 50-286  
NOVEMBER 24, 1981

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### 3.13 SHOCK SUPPRESSORS (SNUBBERS)

#### Applicability

Applies to the operability of snubbers required for protection of safety-related components.

#### Objective

To define the time during which reactor operation is permitted after detection of inoperable snubbers.

#### Specification

1. During those modes of operation for which a system is required to be operable, the snubbers in such systems which are also listed in Table 3.13-1, shall be OPERABLE except as noted in 3.13.2 and 3.13.3 below. The restriction of sections 3.13.2 and 3.13.3 do not apply for the purpose of snubber removal for testing and routine maintenance, when the unit is in cold shutdown.
2. If one or more snubbers, listed in Table 3.13-1 are determined to be inoperable in a system which at that time is required to be operable, then:
  - a.(1) within 72 hours replace or restore the inoperable snubber(s) to OPERABLE status, or
  - (2) perform an engineering evaluation within 72 hours which shows that the inoperable snubber is not required to provide adequate support under dynamic loads and its presence in the system will not impair the operability of the system.

- b. within 7 days perform an engineering evaluation per Technical Specification 4.11.B.3 on the supported system or component.

If the requirements of paragraph 2 cannot be met or the results of paragraphs 2.a.(2) or 2.b are unacceptable, then declare the supported system inoperable and follow the appropriate limiting condition for operation action statement for that system. If an engineering evaluation can be made which demonstrates that the component or system is still operable, i.e., not degraded by the inoperability of the subject snubber(s), the supported system need not be declared inoperable.

- 3. If one or more snubbers, listed in Table 3.13-1 are determined to be inoperable in a system which at that time is not required OPERABLE, then prior to bringing the reactor above that condition for which such system is required to be operable:

- a.(1) the snubber shall be made operable or replaced, or
  - (2) perform an engineering evaluation which shows that the inoperable snubber is not required (i.e., redundant) to provide adequate support under dynamic loads.
- b. perform an engineering evaluation per Technical Specification 4.11.B.3 on the supported system or component.

- 4. If the requirements of paragraph 3 cannot be met or the results of paragraphs 3.a.(2) or 3.b are unacceptable, then declare the supported system inoperable and follow the appropriate limiting condition for operation action statement for that system. If an engineering evaluation can be made which demonstrates that the

component or system is still operable, i.e., not degraded by the inoperability of the subject snubber(s), the supported system need not be declared inoperable.

5. Snubbers may be added to safety-related systems without prior License Amendment of Table 3.13-1 provided that a revision to Table 3.13-1 is included in a subsequent License Amendment request.

#### Basis

Snubbers are required to prevent unrestrained pipe motion under dynamic loads as might occur during an earthquake or severe transient, while allowing normal thermal motion. The consequences of an inoperable snubber is an increase in the probability of structural damage to piping in the event of dynamic loads or thermal loads. It is therefore required that all snubbers necessary to protect the primary coolant system or any other safety system or component be operable during reactor operation. Because the snubber lockup protection is required only during low probability events, a period of 72 hours is allowed for repairs or replacements or the system must be declared inoperable unless an engineering evaluation can prove otherwise. The engineering evaluations shall determine whether or not (1) the snubber mode of failure has imparted a significant effect or degradation on the supported component or system and (2) the operability of a system or component may be affected by removing a redundant inoperable snubber.

NOTES:

(1) Location: AFB - Auxiliary Boiler Feed Pump  
Building and Pipe Bridge Area

PAB - Primary Auxiliary Building  
VC - Containment Building

- (2) Categories:
1. Snubber in high radiation area during shutdown.\*
  2. Snubber especially difficult to remove - (Because of size and location).\*
  3. Snubber inaccessible during normal operation.\*  
(Because of high radiation and / or temperature environment).
  4. Snubber accessible during normal operation. \*

\* Modifications to this table due to changes in Categories 1 and 2 above should be submitted to the NRC as part of the next license amendment.

#### 4.11 SHOCK SUPPRESSORS (SNUBBERS)

##### Applicability

Applies to the periodic inspection and testing requirements for all hydraulic snubbers listed in Table 3.13-1.

##### Objective

To verify that snubbers will perform their design functions in the event of a seismic or other transient dynamic event.

##### Specification

###### A. Visual Inspection

1. Snubbers shall be visually inspected in accordance with the following schedule:

<u>No. Inoperable Snubbers per Inspection Period</u>	<u>Subsequent Visual Inspection Period *#</u>
0	18 months <u>+25%</u>
1	12 months <u>+25%</u>
2	6 months <u>+25%</u>
3,4	124 days <u>+25%</u>
5,6, 7	62 days <u>+25%</u>
8 or more	31 days <u>+25%</u>

The 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.

\* The inspection interval may not be extended more than one step at a time.

# The provisions of Section 1.12 of the Technical Specifications are not applicable.

2. Visual inspection shall verify (1) that there are no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundations 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 the 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 4.11.B.4 All snubbers connected to an inoperable common hydraulic fluid reservoir shall be counted as inoperable snubbers.

B. Functional Testing

1. Once each refueling outage, 10 hydraulic snubbers or 10% of the snubbers, whichever is less, shall be functionally tested for operability, either in place or in a bench test. For each snubber that does not meet the requirements of 4.11.B.4, an additional 10 hydraulic snubbers or 10% of the snubbers, whichever is less, shall be functionally tested until no more failures are found, or all units have been tested.
2. The representative sample selected for functional testing should include the various configurations, operating environments and the range of size and capacity of snubbers. At least 25%, or the maximum possible if less than 25%, of the snubbers in the representative sample shall include snubbers from the following three categories:
  - a. The first snubber away from each reactor vessel nozzle.

- b. Snubbers within 5 feet of heavy equipment (valve, pump, turbine, motor, etc.).
- c. Snubbers within 10 feet of the discharge from a safety relief valve.

A sample of those snubbers identified as "Especially Difficult to Remove" or in "High Radiation Zones During Shutdown" need not be included in the representative sample. Table 3.13-1 may be used as the basis for the sampling plan.

Snubber selection for functional testing shall be performed on a rotating basis.

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 the failed snubbers may not be included for the re-sampling.

- 3. 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.

4. The hydraulic snubber functional test shall verify that:
  - a. Activation (restraining action) is achieved within the specified range of velocity or acceleration in both tension and compression.
  - b. 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.

C. Snubber Service Life Monitoring

1. 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. The service life may be extended based on a performance evaluation.
2. At least once per operating cycle the installation and maintenance records for each snubber listed in Table 3.13-1 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 reievew, 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 re-evaluation, replacement or reconditioning shall be indicated in the records.

## Basis

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 the 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, and 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.

4.11-5

Amendment No. 6

To provide assurance of snubber functional reliability, a representative sample of the installed snubbers will be functionally tested during plant shutdowns for refueling. Selection of a representative sample of 10% or 10 of safety-related hydraulic snubbers, whichever is less, provides a confidence level within acceptable limits that these supports will be in an operable condition. Observed failures of these sample snubbers shall require functional testing of additional units.

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, 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.

4.11-6

Amendment No. 1

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

- a. Records of any drawing changes reflecting facility 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 facility radiation and contamination surveys.
- 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 facility components designed for a limited number of transient cycles.
- g. Records of training and qualifications for current members of the plant staff.
- h. Records of in-service 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 PORC and the SRC.
- l. Records for Environmental Qualification which are covered under the provisions of paragraph 6.13.
- m. Records of service lives of all hydraulic snubbers listed in Table 3.13-1 including the date at which the service life commences and associated installation and maintenance records as of the effective date of this amendment.

#### 6.11 RADIATION AND RESPIRATORY PROTECTION PROGRAM

6.11.1 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 as to maintain exposures as far below the limits specified in 10 CFR Part 20 as reasonably achievable. Pursuant to 10 CFR 20.103 allowance shall be made for the use of respiratory protective equipment in conjunction with activities authorized by the operating license for this plant in determining whether individuals in restricted areas are exposed to concentrations in excess of the limits specified in Appendix B, Table I, Column 1 of 10 CFR 20.

ATTACHMENT II

SAFETY EVALUATION

RELATED TO

SNUBBER SURVEILLANCE

POWER AUTHORITY OF THE STATE OF NEW YORK  
INDIAN POINT 3 NUCLEAR POWER PLANT  
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ATTACHMENT II

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## Section I - Description of Modification

The proposed changes to the Technical Specifications are shown in Attachment I. Section 3.13 of the Technical Specifications has been revised; Section 4.11 has been completely revised, and it now contains seven (7) subsections. The Bases for Sections 3.13 and 4.11 have been revised and expanded. These proposed changes result from the NRC letter dated November 20, 1980, signed by Mr. Darrell G. Eisenhut, addressed to All Power Reactor Licensees, entitled "Technical Specification Revisions for Snubber Surveillance." In brief, this letter requests licensees to submit a license amendment application incorporating applicable portions of newly revised Standard Technical Specifications which were enclosed with the letter.

## Section II - Purpose of Modification

The purpose of the modification is to revise, update, and expand the IP-3 Technical Specification so as to comply with the request in the NRC letter referred to in Section I.

## Section III - Impact of the Change

The proposed changes to the Technical Specifications do not change any system or subsystem. The impact is primarily in additional surveillance requirements and in record keeping. The additional snubber testing requirements should improve safety at IP-3.

## Section IV - Implementation of the Modification

The modification as proposed will not impact the Fire Protection or ALARA Programs at IP-3.

## Section V - Conclusion

The incorporation of these modifications: a) will not change the probability nor the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Safety Analysis Report; b) will not increase the possibility for an accident or malfunction of a different type than any evaluated previously in the Safety Analysis Report; c) will not reduce the margin of safety as defined in the basis for any Technical Specification; and d) does not constitute an unreviewed safety question.

## Section VI - References

- (a) IP-3 FSAR
- (b) IP-3 SER
- (c) NRC letter dated November 20, 1980 from Mr. D.G. Eisenhut to All Power Reactor Licensees, Subject: Technical Specification Revisions for Snubber Surveillance.