

ATTACHMENT I TO IPN-91- 041

PROPOSED TECHNICAL SPECIFICATION CHANGES  
RELATED TO  
SNUBBER VISUAL INSPECTION SCHEDULE

NEW YORK POWER AUTHORITY  
INDIAN POINT 3 NUCLEAR POWER PLANT  
DOCKET NO. 50-286  
DPR-64

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#### 4.11 SAFETY-RELATED SHOCK SUPPRESSORS (SNUBBERS)

##### Applicability

Applies to the periodic inspection and testing requirements for all safety-related hydraulic snubbers that are required to protect the primary coolant system or any other safety-related system or component.

##### Objective

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

##### Specification

###### A. Visual Inspection

1. Safety-related snubbers shall be visually inspected in accordance with the following schedule:

Size of Population or Category (Notes 1 & 2)	Number Of Unacceptable Snubbers		
	Column A Extend Interval (Note 3)	Column B Repeat Interval (Note 4)	Column C Reduce Interval (Note 5)
1	0	0	1
20	0	0	1
40	0	0	1
60	0	0	1
80	0	0	2
90	0	0	3
100	0	1	4
120	0	1	5
130	0	2	6
140	0	2	7
150	0	3	8
160	0	3	9
170	0	3	10
180	1	4	11
190	1	4	12
200	2	5	13

- Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous 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 shall be used as the basis upon which to determine the next inspection interval for that category.
- Note 2: Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. The next lower integer for the value of the limit for Columns A, B, C shall be used if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.
- Note 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.
- Note 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 previous interval.
- Note 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 previous 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 by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Column B and C.

2. Visual inspection shall verify (1) that there are no visible indications of damage or impaired OPERABILITY, and (2) attachments to the foundations or supporting structure are secure. Snubbers which appear inoperable as a result of visual inspections shall be classified as unacceptable and may be reclassified acceptable 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.5. However, when the fluid port of a hydraulic snubber is found to be uncovered, the snubber shall be declared inoperable via functional testing for the purpose of establishing the next visual inspection period. All snubbers connected to an inoperable common hydraulic fluid reservoir shall be counted as inoperable snubbers.

B. Functional Testing

1. At least once per 18 months during plant shutdown, a representative sample of 10% of all the safety-related hydraulic snubbers shall be functionally tested for operability, either in place or on a bench test. For each snubber that does not meet the requirement of 4.11.B.5, an additional 10% of the total installed of that type of hydraulic snubber shall be functionally tested. This additional testing will continue until no failures are found or until all snubbers of the same type have been functionally tested. The representative sample shall include each size and type of snubber in use in the plant.
2. The representative sample selected for functional testing should include the various configurations, operating environments, sizes and capacities of snubbers. At least 25% or the maximum possible if less than 25%, of the snubbers in the representative sample should 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 or relief valve.

Snubbers identified as "Especially Difficult to Remove" or in "High Radiation Zones During Shutdown" shall also be included in the representative samples\*.

Snubber selection for functional testing is developed from an engineering evaluation and is based on a rotating basis. In addition to the regular sample, snubber locations 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 previously failed snubber (if it is repaired and currently installed in another position) and the installed spare snubber shall be retested. Test results of these snubbers may not be included for the sampling required by Specification 4.11.B.1.

- 3. 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 manufacturer and model, subject to the same defect and located in a similar environment, shall be functionally tested.
- 4. 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 inoperable snubber(s) remain capable of performing their intended function in their intended manner after the action statements of Specification 3.13.2.a or 3.13.3 a were performed as necessary.

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\* 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.

5. 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, as well as the installation and maintenance records on which the designated service life is based shall be maintained as required by specification 6.10.2.o. The service life may be modified based on a performance evaluation.
2. At least once per operating cycle the installation and maintenance records for each safety-related 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 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. Performance of periodic visual inspections of snubbers complements the existing functional testing and provides additional confidence in snubber operability. The visual inspection interval for the snubbers is based on the number of unacceptable snubbers found during the previous inspection in proportion to the sizes of the various populations or categories and may be as long as two refueling cycles with good overall visual inspection results. 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. These tolerances are necessary to provide operational flexibility because of scheduling and performance considerations. The words "will not exceed" associated with a surveillance interval does not negate this allowable tolerance. Inspections performed before the interval has elapsed may be used as a new reference point to determine the next scheduled inspection; however, the results of such early

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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. The results of random inspections of individual snubbers, conducted at other than scheduled inspection intervals, will be evaluated on a case-by-case basis to determine if they should impact the scheduled interval.

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 operable 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 by determining if the system or component was exposed to a dynamic transient which required the inoperable snubber to mitigate the transient.

To provide assurance of snubber functional reliability, a representative sample of 10% of the installed snubbers will be functionally tested during plant shutdowns. The representative sample selected for functional testing includes various configurations, operating environments, locations and the range of size and capacity of snubbers. An engineering evaluation which addresses snubber performance environments and history selects the representative sample which is based on a rotating basis. Selection of a representative sample of hydraulic snubbers 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 of the same type.

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If a snubber fails a functional test, that snubber location will be retested during the next snubber testing period to determine if the failure was environmentally caused. If the failed snubber was repaired and re-installed elsewhere in the system, during the functional test effort the snubber will be retested during the next testing period to verify if the repair addressed the cause of a failure. If a failed snubber is repaired and not reinstalled in the system during the functional test effort it shall be retested before it is subsequently installed in the system as added assurance that the repair addressed the cause of failure. The results of these augmented testing efforts are intended to address previous failure modes and these test results (passing or failure) may not be included in the specification 4.11.B.1 sample selection.

The service life of a snubber is evaluated via engineering evaluation, test data, service data, manufacturer input, snubber service conditions and snubber service history (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.

#### References

- 1) Generic Letter 84-13, "Technical Specifications For Snubbers."
- 2) Generic Letter 90-09, "Alternative Requirements For Snubber Visual Inspection Intervals and Corrective Actions."

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ATTACHMENT II TO IPN-91- 041

SAFETY EVALUATION  
RELATED TO  
SNUBBER VISUAL INSPECTION SCHEDULE  
TECHNICAL SPECIFICATION CHANGES

NEW YORK POWER AUTHORITY  
INDIAN POINT 3 NUCLEAR POWER PLANT  
DOCKET NO. 50-286  
DPR-64

### Section I - Description of Change

The proposed change to Section 4.11.A of the Indian Point 3 (IP-3) Technical Specifications (TS) seeks to revise the schedule for visual inspection of snubbers in accordance with the guidance provided in Generic Letter 90-09. The proposed change replaces the visual inspection schedule with the new schedule based on unacceptable snubbers found during the previous inspection, the size of the various snubber population or categories and the length of the previous inspection interval. The values in the proposed schedule were obtained by interpolation from the table provided in Generic Letter 90-09. Also included in the proposed amendment are typographical corrections.

### Section II - Evaluation of Change

The proposed change specifies a schedule for visual inspection of snubbers that is based on the number of unacceptable snubbers found during the previous inspection, the total population or category size for each snubber type and the previous inspection interval. The existing TS surveillance interval is based on an 18 month operating cycle and does not take into account a 24 month operating cycle. The proposed inspection interval is applicable to a 24 month operating cycle and the interval may be increased to every other refueling outage as long as good overall visual inspection results are obtained. The Authority has submitted a plan for the 24 month operating cycle for IP-3 in Reference (2).

### Section III - No Significant Hazards Evaluation

Consistent with the requirements of 10 CFR 50.92, the enclosed application is judged to involve no significant hazards based on the following information:

- (1) Does the proposed license amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response:

Operation of Indian Point 3 in accordance with the proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed change does not result in any physical change to the plant which could cause an increase in the probability or consequences of any previously evaluated accident.

- (2) Does the proposed license amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response:

Operation of Indian Point 3 in accordance with the proposed license amendment does not create the probability of a new or different kind of accident from any accident previously evaluated. The proposed amendment does not alter any plant operations, maintenance requirements, system design or functions other than the snubber visual inspection interval. The NRC staff has determined that the alternate visual inspection interval maintains the same confidence level in snubber operability. The Authority agrees with this determination. Therefore, no possibility of creating a new or different type of accident would result from the proposed amendment.

- (3) Does the proposed amendment involve a significant reduction in a margin of safety?

Response:

Operation of Indian Point 3 in accordance with the proposed license amendment does not involve a significant reduction in a margin of safety. As stated above, the proposed amendment incorporates the alternate Technical Specification requirements for visual inspection of snubbers. These requirements were evaluated by the NRC staff in Generic Letter 90-09. The NRC staff has determined that the alternate visual inspection interval maintains the same confidence level in snubber operability as the current requirements. The Authority agrees with this determination. Therefore, the proposed license amendment does not involve a significant reduction in a margin of safety.

#### Section IV - Impact of Change

This change will not adversely impact the following:

- ALARA Program
- Security and Fire Protection Programs
- Emergency Plan
- FSAR or SER Conclusions
- Overall Plant Operations and the Environment

#### Section V - Conclusions

The incorporation of this change: a) will not increase 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 bases for any Technical Specification; d) does not constitute an unreviewed safety question; and e) involves no significant hazards considerations as defined in 10 CFR 50.92.

Section VI - References

- 1) Generic Letter 90-09, "Alternate Requirements for Snubber Visual Inspection Intervals And Corrective Actions," dated December 11, 1990.
- 2) NYPA letter J. C. Brons to the NRC, "New Projects", dated December 28, 1990 (JPN-90-078, IPN-90-060).
- 3) IP-3 FSAR
- 4) IP-3 SER