

ATTACHMENT A

Technical Specification

Page Revisions

Consolidated Edison Company of New York, Inc.
Indian Point Unit No. 2
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4.12 SHOCK SUPPRESSORS (SNUBBERS)

Applicability

Applies to the inspection and testing of all hydraulic snubbers listed in Table 3.12-1.

Objective

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

Specification

The following surveillance requirements apply to those snubbers listed in Table 3.12-1.

A. Visual Inspection

Snubbers whose seal material has been demonstrated by operating experience, laboratory testing, or analysis to be compatible with the operating environment shall be visually inspected to verify operability in accordance with the following schedule:

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

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

Snubbers are categorized in Table 3.12-1 as accessible or inaccessible during reactor operation. These two groups may be inspected independently according to the above schedule except as noted below.

If snubber inoperability is identified due to excessive fluid leakage from the external tubing associated with the twenty-four snubbers installed at the steam generators, this group of snubbers may be inspected independently according to the above schedule.

Visual inspection shall verify (1) that there is no visual indication of damage or impaired operability, (2) attachments

#The provision of Section 1.10 of the Technical Specifications are not applicable.

to the foundation or supporting structure are secure, and (3) in those locations where snubber movement can be manually induced without disconnecting the snubber, that the snubber has freedom of movement and is not frozen. Snubbers which appear inoperable as a result of visual inspection 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 (2) the affected snubber is functionally tested in the as found condition and determined operable per Specification 4.12.C, as applicable. However, 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 for the purpose of establishing the next visual inspection period 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 counted as inoperable snubbers.

B. Functional Testing

1. Once each refueling outage, with the provisions of Technical Specification 1.10 applicable, a representative sample of 10% of all the safety-related hydraulic snubbers shall be functionally tested for operability including verification of proper piston movement, lock-up rate and bleed. For each hydraulic snubber found inoperable, 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.

At least 25% of the snubbers in the representative sample shall include snubbers from the following three categories:

1. The first snubber away from each reactor vessel nozzle;
2. Snubbers within 5 feet of heavy equipment (valve, pump, turbine, motor, etc.); and
3. Snubbers within 10 feet of the discharge from a safety relief valve.

Snubbers identified as "Especially Difficult to Remove" or in "High Radiation Zones During Shutdown" shall also be included in the representative samples*. Table 3.12-1 shall be used 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 currently installed in another position) and the spare snubber shall be retested. Test results of these snubbers may not be included for the re-sampling.

2. 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 insure that the supported component remains capable of meeting its designed service.
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 found to be caused by a manufacturer or design deficiency, all snubbers of the same manufacturer and model which are susceptible to the same defect and located in a similar environment shall be functionally tested. This testing requirement shall be independent of the requirements stated above for snubbers not meeting the functional test acceptance criteria.

* 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.

With the exception of the steam generators snubbers, which are exempt from functional testing until prior to start-up from the end of the next complete refueling cycle following the issuance of this amendment.

C. Functional Test Acceptance Criteria

The 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. For snubbers specifically required to not displace under continuous load, the ability of the snubber to withstand load without displacement shall be verified.

D. Record of Snubber Service Life

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. Concurrent with the first visual inspection and at least once during every refueling outage, the installation and maintenance records for each snubber listed in Table 3.12-1 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 review, the snubber service life shall be re-evaluated 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. 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 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.

To further increase the assurance of snubber reliability, functional tests will be performed once each refueling cycle. Ten percent of the installed hydraulic snubbers represents an adequate sample for such tests. 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.

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.

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, in high temperature area, etc.). The requirement to monitor the snubber service life is included to insure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide a statistical basis 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 operations.

Reference

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