

May 19, 1986

Docket No. 50-247

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Mr. John D. O'Toole
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Dear Mr. O'Toole:

The Commission has issued the enclosed Amendment No. 112 to Facility Operating License No. DPR-26 for the Indian Point Nuclear Generating Unit No. 2. The amendment consists of changes to the Technical Specifications in response to your application transmitted by letter dated May 30, 1984, as supplemented December 19, 1985.

The amendment revises the Technical Specification operability and surveillance requirements for Snubbers. The changes were requested by NRC Generic Letter 84-13 dated May 3, 1984. The incorporation of this amendment clarifies and increases snubber surveillance, defines snubber testing and acceptance criteria, and includes a snubber service life program.

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular bi-weekly Federal Register notice.

Sincerely,

/s/ M. Slosson
 Marylee M. Slosson, Project Manager
 PWR Project Directorate #3
 Division of PWR Licensing-A, NRR

Enclosures:

1. Amendment No.112 to DPR-26
2. Safety Evaluation

cc: w/enclosures
 See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

DOCKET NO. 50-247

INDIAN POINT NUCLEAR GENERATING UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 112
License No. DPR-26

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Consolidated Edison Company of New York, Inc. (the licensee) dated May 30, 1984, as supplemented December 19, 1985, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-26 is hereby amended to read as follows:

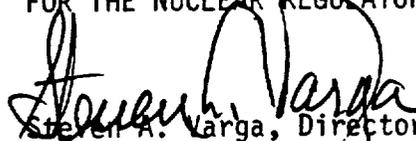
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(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 112, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance to be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION


Steven A. Varga, Director
PWR Project Directorate #3
Division of PWR Licensing-A, NRR

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 19, 1986

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 112 TO FACILITY OPERATING LICENSE NO. DPR-26

DOCKET NO. 50-247

Revise Appendix A as follows:

<u>Remove Pages</u>	<u>Insert Pages</u>
3.12-1	3.12-1
3.12-2	3.12-2
4.12-1	4.12-1
4.12-2	4.12-2
4.12-3	4.12-3
4.12-4	4.12-4
_____	4.12-5
_____	4.12-6
6-22	6-22

3.12 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. All snubbers listed in Table 3.12-1 which are located on systems required for the current mode of operation, shall be operable*.

Snubbers may be added to safety related systems without prior License Amendment to Table 3.12-1 provided that a revision to Table 3.12-1 is included with the next License Amendment request.

2. During power operation, the requirements of 3.12.1 may be modified to allow one or more snubbers to be inoperable subject to the following conditions:

- a) The inoperable snubber must be restored to service within 72 hours or the reactor shall be placed in the cold shutdown condition within the succeeding 36 hours.
- b) Either of the following must be performed:

- i. An engineering evaluation shall be performed on the supported components within 72 hours of the discovery of the inoperable snubber(s) to determine if the snubber(s) failure has imparted a physical degradation on the supported system. If the supported system is declared inoperable as a result of the evaluation, the appropriate action statement shall be followed.

or

- ii. The supported system shall be declared inoperable within 72 hours of the discovery of the inoperable snubber(s) and appropriate action statements must be followed. If the snubber(s)

* Snubber(s) taken out of service for maintenance and testing shall be considered inoperable unless returned to service within 72 hours.

is repaired or replaced, an engineering evaluation shall be performed on the supported components prior to declaring the system operable.

3. During cold shutdown or refueling, the requirements of 3.12.1 may be modified to allow one or more snubbers to be inoperable subject to the following conditions:

- a) The requirements of 3.12.2.b must be met.
- b) Snubbers declared inoperable during cold shutdown or refueling shall be made operable or replaced prior to bringing the reactor above cold shutdown.

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 during startup and shutdown. The consequence of an inoperable snubber is an increase in the probability of structural damage to piping in the event of dynamic loads. It is therefore required that all snubbers required to protect the primary coolant systems or any other safety system or component be operable during reactor operation. Because the snubber protection is required only during low-probability events, a period of 72 hours is allowed for repairs or replacements. Also within that 72 hour period, an engineering evaluation must be performed on the supported system to determine if the snubber(s) failure has imparted a physical degradation on the supported system. If necessary the appropriate action for the system in the Technical Specification shall be taken. 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. Specification 3.12.3.b prohibits startup if snubbers are known to be inoperable.

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 $\pm 25\%$
1	12 months $\pm 25\%$
2	6 months $\pm 25\%$
3,4	124 days $\pm 25\%$
5,6,7	62 days $\pm 25\%$
≥ 8	31 days $\pm 25\%$

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

Record Retention (continued)

- g. Records of training and qualification 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 except as noted in 6.10.1.
- 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 SNSC and the NFSC.
- l. Records for Environmental Qualification which are covered under the provisions of paragraph 6.13.
- m. Record of analyses required by the radiological environmental monitoring program that would permit evaluation of the accuracy of the analysis at a later date. This should include procedures effective at specified times and QA records showing that these procedures were followed.
- n. *Records of the service lives of all snubbers listed in Table 3.12-1 including the date at which the service life commences and associated installation and maintenance records.

6.11 Radiation Protection Program

Procedure 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.

6.12 High Radiation Area

6.12.1 As an acceptable alternate to the "control device" or "alarm signal" required by paragraph 20.203(c)(2) of 10 CFR 20:

- a. Each High Radiation Area in which the intensity of radiation is greater than 100 mrem/hr but less than 1000 mrem/hr shall be barricaded and conspicuously posted as a High Radiation Area and entrance thereto shall be controlled by issuance of a Radiation Work Permit and any individual or group of individuals permitted to enter such areas shall be provided with a radiation monitoring device which continuously indicates the radiation dose rate in the area.
- b. Each High Radiation Area in which the intensity of radiation is greater than 1000 mrem/hr shall be subject to the provisions of 6.12.1(a) above, and in addition locked doors shall be provided to prevent unauthorized entry to such areas and the keys shall be maintained under the administrative control of the Watch Supervisor on duty.

* The documentation referred to herein is required for all snubbers beginning with those replaced following the issuance of the amendment.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 112 TO FACILITY OPERATING LICENSE NO. DPR-26

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

INDIAN POINT NUCLEAR GENERATING UNIT NO. 2

DOCKET NO. 50-247

1.0 INTRODUCTION

Operating experiences, advances in the state-of-the-art, voids in some specific requirements, and nonuniform interpretations indicated the need for changes, clarifications, and improvements in the Standard Technical Specifications (STS) for inservice operability and surveillance requirements for snubbers. To reflect accumulated experience obtained in the past several years, the NRC staff issued Revision 1 of the snubber STS. By letters dated November 20, 1980 to Power Reactor Licensees (except SEP Licensees) and March 23, 1981 to SEP Licensees, the NRC requested all licensees to incorporate the requirements of this STS revision into their plant specific Technical Specifications (TS).

The revised STS included:

- Addition of mechanical snubbers to the surveillance program;
- Deletion of the blanket exemption for testing of greater than 50,000 lb. rated capacity snubbers. (Snubbers of greater than 50,000 lb. capacity are now included in the testing program);
- Deletion of the requirement that seal material receive NRC approval;
- Clarification of test requirements;
- Provision for in-place testing; and
- Addition of a service life monitoring program.

2.0 DISCUSSION

In response to the NRC request, by letter dated May 30, 1984, the licensee submitted an application for license amendment and proposed TS changes for operability and surveillance requirements for snubbers. By letter dated December 19, 1985, the licensee resubmitted a revised snubber TS change which superseded the surveillance requirements previously requested.

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The NRC staff has reviewed the licensee's May 30, 1984 and December 19, 1985 submittals of proposed snubber TS changes. In addition, discussions have been held with cognizant licensee personnel for clarification of several of the proposed TS changes. The staff compared the proposed snubber TS with the model STS and TS recently approved for operating licensees.

3.0 EVALUATION

The staff has evaluated the licensee's snubber TS submittal and has found it to be in substantial agreement with the STS and recently approved TS for operating licensees. The licensee's proposed snubber TS has clarified and increased snubber surveillance, defined testing and acceptance criteria, and included a snubber service life program. Specific aspects of the licensee's proposed snubber TS which are different than the STS or the recently approved TS for Operating Licensees have been identified and justified as discussed below.

3.1 Snubber Service Life Program

The licensee's proposed TS 4.12D contains the provision that a record of snubber service life be developed to monitor and replace snubbers so their service life will not be exceeded. The proposed TS includes a request to implement this program after the Cycle 7/8 refueling outage. The staff recognized that the inclusion of a service life program would require time to develop and implement the necessary procedures. Therefore, the staff finds this acceptable.

3.2 Plant Specific Installation Differences

The licensee's proposed snubber TS does not contain the STS provisions related to mechanical snubbers. The licensee has stated that mechanical snubbers are not installed at the facility, therefore, the staff finds the omission acceptable.

The licensee's proposed TS does contain provisions related to common hydraulic fluid reservoirs. These provisions refer to the twenty-four steam generator snubbers which are to be inspected independently of the accessible and inaccessible snubber groups. The approach is conservative and, therefore, the staff finds this acceptable.

4.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes to the surveillance requirements. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement nor environmental assessment need be prepared in connection with the issuance of this amendment.

5.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; and (2) 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.

Principle Contributors:
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Dated: May 19, 1986