

May 25, 1988

Docket No. 50-346  
Serial No. DB-88-008

Mr. Donald C. Shelton  
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Dear Mr. Shelton:

SUBJECT: AMENDMENT NO. 111 TO FACILITY OPERATING LICENSE NO. NPF-3  
SURVEILLANCE AND FUNCTIONAL TESTING OF SNUBBERS (TAC 65069)

The Commission has issued the enclosed Amendment No.111 to Facility Operating License No. NPF-3 for the Davis-Besse Nuclear Power Station, Unit No. 1. The amendment consists of changes to the Appendix A Technical Specifications (TS's) in response to your application dated March 12, 1987 (Serial No. 1346).

This amendment revises Technical Specifications (TS) 3/4.7.7 relating to surveillance and functional testing of snubbers. On January 30, 1985, Toledo Edison submitted to the staff a license amendment application to revise TS 3/4.7.7 in accordance with Generic Letter 84-13. Subsequently, on April 24, 1986, Amendment No. 94 was issued by the NRC with the requested changes and a provision that Toledo Edison submit a separate amendment request to include the two recommendations outlined in the NRC Safety Evaluation. In conjunction with approval of Amendment No. 94, Toledo Edison committed by letters dated January 22, 1986 (No. 1239) and March 26, 1986 (No. 1263) to submit the suggested amendment request. The recommended changes were to add a surveillance requirement which requires the performance of a post-transient inspection of all hydraulic and mechanical snubbers attached to sections of systems that have experienced an unexpected, potentially damaging transient, and also to add an acceptance criterion regarding, functional testing for snubber activation. This amendment revises the TS's to incorporate these changes.

Specifically, this amendment adds Surveillance Requirement 4.7.7.1e to provide for an inspection of all safety-related snubbers after a dynamic event. In Bases Section 4.7.7.1e the word "seismic" is being changed to "dynamic" to remain consistent with the intent of the surveillance requirement. The words "within the specified range" are added to Surveillance Requirement 4.7.7.2c.2 which will provide a limit for the acceptance criterion. In addition, two related administrative changes to the TS's are being made in this amendment. Footnote 6 to Surveillance Requirement 4.7.7.2b is being deleted, as the statement reiterates an established regulatory basis and is not necessary. Some minor word changes are being made in Footnote 2 to Surveillance Requirement 4.7.7 for clarification.

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PDR ADDCK 05000346  
P PDR

Mr. Donald C. Shelton

-2-

We have reviewed your proposed changes to TS 3/4.7.7 and find that they are consistent with guidance contained in Generic Letter 84-13 and with the Amendment No. 94 Safety Evaluation and are, therefore, acceptable. In addition, the changes are acceptable because they constitute additional limitations and restrictions not presently included in the TS's, and result in more stringent surveillance requirements.

This amendment involves changes to requirements 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 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). This amendment also involves changes in recordkeeping, reporting, or administrative procedures or requirements. Accordingly, with respect to these items, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). 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.

We have 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.

The notice of issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,



Albert W. De Agazio, Project Manager  
Project Directorate III-3  
Division of Reactor Projects - III, IV,  
V & Special Projects

Enclosures:  
Amendment No.111 to  
License No. NPF-3

cc: See next page  
\*SEE PREVIOUS CONCURRENCE

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5/25/88      05/10/88      05/18/88

Mr. Donald C. Shelton  
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Davis-Besse Nuclear Power Station  
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

TOLEDO EDISON COMPANY

AND

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

DOCKET NO. 50-346

DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 111  
License No. NPF-3

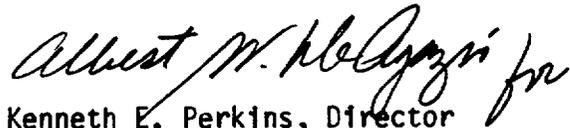
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by the Toledo Edison Company and The Cleveland Electric Illuminating Company (the licensees) dated March 12, 1987 complies with the standards and requirements of the Atomic Energy Act of 1954, as 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. NPF-3 is hereby amended to read as follows:

(a) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 111, are hereby incorporated in the license. The Toledo Edison Company shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented not later than July 9, 1988.

FOR THE NUCLEAR REGULATORY COMMISSION



Kenneth E. Perkins, Director  
Project Directorate III-3  
Division of Reactor Projects - III, IV,  
V, & Special Projects

Attachment: Changes to the Technical  
Specifications

Date of Issuance: May 25, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 111

FACILITY OPERATING LICENSE NO. NPF-3

DOCKET NO. 50-346

Replace the following pages of the Appendix "A" Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

Remove

3/4 7-20  
3/4 7-22  
-  
3/4 7-23  
B 3/4 7-5

Insert

3/4 7-20  
3/4 7-22  
3/4 7-22a  
3/4 7-23  
B 3/4 7-5

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

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3. Verify that the make up flow of the system is 300 cfm  $\pm$  10% when supplying the control room with outside air.
  
- f. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove  $\geq$  99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the system at a flow rate of 3300 cfm  $\pm$  10%.
  
- g. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove  $>$  99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the system at a flow rate of 3300 cfm  $\pm$  10%.

## PLANT SYSTEMS

### 3/4.7.7 SNUBBERS

#### LIMITING CONDITION FOR OPERATION

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3.7.7 All safety-related snubbers shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4. (MODES 5 and 6 for snubbers located on systems required OPERABLE in those MODES).

ACTION:

- a. With one or more snubbers inoperable: 1. within 72 hours replace or restore the inoperable snubber(s) to OPERABLE status, or 2. verify system operability with the snubber(s) inoperable by engineering evaluation within 72 hours; or 3. declare the supported subsystem inoperable and follow the appropriate ACTION statement for that system.

and, for snubbers which have failed either the visual or functional test:

- b. Perform an engineering evaluation within 90 days to determine if any safety-related system or component has been adversely affected by the inoperability of the snubber and if the snubber mode of failure has imparted a significant effect or degradation on the supported component or system.<sup>1</sup> The provisions of Technical Specification 3.0.4 are not applicable for the component or system.

#### SURVEILLANCE REQUIREMENTS

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4.7.7 Each snubber<sup>2</sup> shall be demonstrated OPERABLE by the requirements of the following surveillance programs and pursuant to requirements of Specification 4.0.5.

##### 4.7.7.1 Visual Inspection Program

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<sup>1</sup>Engineering evaluation is not required when a snubber is removed for surveillance testing provided it is returned to OPERABLE status within the requirements of action statement a.

<sup>2</sup>Safety-related snubbers are listed in the latest revision of applicable surveillance test procedure(s). Snubbers may be added to, or removed from, safety-related systems and their assigned groups without a License Amendment.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

a. General Requirements

At least once per inspection interval, each group of snubbers in use in the Plant shall be visually inspected in accordance with Specification 4.7.7.1.b and 4.7.7.1.c. Visual inspections may be performed with binoculars, or other visual support devices, for those snubbers that are difficult to access and where required to keep exposure as low as reasonably achievable. Response to failures shall be in accordance with Specification 4.7.7.1.d.

b. Inspection Interval and Sample Criteria

The inspection interval and sample criteria may be applied on the basis of snubber groups. The snubber groups may be established based on physical characteristics and accessibility. Inaccessible snubbers are defined as those located: (a) inside containment, (b) in high radiation exposure zones, or (c) in areas where accessibility is limited by physical constraints such as the need for scaffolding. Visual inspections for a group shall be performed in accordance with the following schedule:

Snubbers are divided into four (4) groups: "Accessible" - Group I and "Inaccessible" - Group II for either hydraulic or mechanical.

<u>No. of Inoperable Snubbers Within a Group Per Inspection Interval</u>	<u>Subsequent Group Visual Inspection Interval <sup>3, 4, 5</sup></u>
0	18 months
1	12 months
2	6 months
3, 4	124 days
5, 6, 7	62 days
8 or more	31 days

The inspections for a group shall include 100 percent of snubbers in that group.

<sup>3</sup>The inspection interval shall not be lengthened more than one step at a time, and

<sup>4</sup>The provisions of Specification 4.0.2 are not applicable.

<sup>5</sup>All the time intervals are  $\pm 25\%$ , except that the inspection of inaccessible snubbers may be deferred to the next shutdown when plant conditions allow 5 days for inspection.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

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c. Acceptance Criteria

A snubber shall be considered OPERABLE as a result of a visual inspection if: (1) there are no visible indications of damage or inoperability, and (2) attachments to the foundation or supporting structure are secure.

d. Response to Failures

For each snubber unit which does not meet the visual inspection acceptance criteria of Specification 4.7.7.1.c:

Determine the snubber OPERABLE by functionally testing the snubber per Specification 4.7.7.2, unless the (hydraulic) snubber was determined inoperable because the fluid port was found uncovered;

OR

1. Perform the ACTION specified in 3.7.7a; and
2. Perform an engineering evaluation as specified in 3.7.7.b.; and
3. Increase the frequency of group inspection as described in Specification 4.7.7.1.b, unless the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers that may be generically susceptible.

e. Transient Event Inspection

An inspection shall be performed of all hydraulic and mechanical snubbers attached to sections of systems that have experienced unexpected, potentially damaging transients as determined from a review of operational data. A visual inspection of the snubbers on these systems shall be performed within six months following such an event. In addition to satisfying the visual inspection acceptance criteria, freedom-of-motion of mechanical snubbers shall be verified using at least one of the following: (1) manually induced snubber movement; or (2) evaluation of in-place snubber piston setting; or (3) stroking the mechanical snubber through its full range of travel.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

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4.7.7.2 Functional Test Program

a. General Requirements

At least once per inspection interval a representative sample of each group of snubber in use in the Plant shall be functionally tested in accordance with Specifications 4.7.7.2.b and 4.7.7.2.c. Response to the failures shall be in accordance with Specification 4.7.7.2.d.

For all snubbers, functional testing shall consist of either bench testing or in-place testing.

b. Inspection Interval and Sample Criteria

The snubbers may be categorized into groups based on physical characteristics. Snubbers are divided into four (4) groups: "Accessible" - Group I and "Inaccessible" - Group II for either hydraulic or mechanical. Each group may be tested independently from the standpoint of performing additional tests if failures are discovered.

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PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

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The inspection interval for functional testing shall be 18 months.

Snubbers which are scheduled for removal for seal maintenance may be included in the test sample prior to any maintenance on the snubber.

The representative sample shall consist of at least 10 percent (rounded off to next highest integer) of each group of snubbers in use in the Plant. The selection process shall ensure that all snubbers, regardless of their accessibility classification, are functionally tested at least once every ten inspection intervals.

c. Acceptance Criteria

For hydraulic snubbers (either in place testing or bench testing), the test shall verify that:

1. Snubber piston will allow the hydraulic fluid to "bypass" from one side of the piston to the other to assure unrestrained action is achieved within the specified range of velocity or acceleration in both tension and compression.
2. When the snubber is subjected to a movement which creates a load condition that exceeds the specified range of velocity or acceleration, the hydraulic fluid is trapped in one end of the snubber causing suppression of that movement.
3. Snubber release rate or bleed rate, where required, occurs in compression and tension.

For mechanical snubber in place and bench testing, the test shall verify that:

1. The force that initiates free movement of the snubber rod in either tension or compression is less than the specified maximum drag force.
2. Activation (restraining action) is achieved in both tension and compression within the specified range.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

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d. Response to Failures

For each inoperable snubber per Specification 4.7.7.2.c:

1. Perform the ACTIONS specified in 3.7.7a and 3.7.7b; and
2. Within the specified inspection interval, functionally test an additional sample of at least 10 percent of the snubber units from the group that the inoperable snubber unit is in.

The functional testing of an additional sample of at least 10 percent from the inoperable snubber's group is required for each snubber unit determined to be inoperable in subsequent functional tests, or until all snubbers in that group have been tested; and

3. The cause of snubber failure will be evaluated and, if caused by a manufacturing or design deficiency, all snubbers of the same or similar design subject to the same defect shall be functionally tested within 90 days from determining snubber inoperability. This testing requirement shall be independent of the requirements in 4.7.7.2.d(2) above.

## PLANT SYSTEMS

### BASES

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## PLANT SYSTEMS

### 3/4.7.7 SNUBBERS

#### BASES

All safety-related snubbers are required OPERABLE to ensure that the structural integrity of the reactor coolant system and all other safety-related systems is maintained during and following a dynamic event. Snubbers excluded from this inspection program are those installed on safety-related systems for loads other than dynamic or on nonsafety-related and then only if their failure or failure of the system on which they are installed, would have no adverse effect on any safety-related system during a dynamic event.

Inoperable is defined as:

1. For visual test
  - a. The fluid no longer is supplied to the valve block, or
  - b. Mounting pins are disengaged from the snubber.
  - c. Attachment to foundation or supporting structure is not secure.
2. For functional test
  - a. The snubber (excluding end anchors, i.e., pin-to-pin) does not meet specified test criteria.

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 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 by 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, or are similarly located or exposed to the same environmental conditions such as temperature, radiation, and vibration.

## PLANT SYSTEMS

### BASES

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When a snubber is found inoperable through a visual or functional test, 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.

To provide assurance of snubber functional reliability, a representative sample of the installed snubbers will be functionally tested at 18-month intervals. Observed failures of these sample snubbers shall require functional testing of additional units. When a snubber is found to be inoperable due to failure to lock up or failure to move (i.e., frozen in place), the cause will be evaluated for further action or testing.

In cases where the cause of failure has been identified, additional snubbers that have a high probability for the same type of failure or are being used in the same application that caused the failure shall be tested. This requirement increases the probability of locating inoperable snubbers without testing 100% of the snubbers.

Hydraulic snubbers and mechanical snubbers may each be treated as a different entity for the above surveillance programs.