



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

September 30, 1985

Docket Nos: 50-369
and 50-370

Mr. H. B. Tucker, Vice President
Nuclear Production Department
Duke Power Company
422 South Church Street
Charlotte, North Carolina 28242

Dear Mr. Tucker:

Subject: Issuance of Amendment No. 46 to Facility Operating License
NPF-9 and Amendment No. 27 to Facility Operating License
NPF-17 - McGuire Nuclear Station, Units 1 and 2


The Nuclear Regulatory Commission has issued the enclosed Amendment No. 46 to Facility Operating License NPF-9 and Amendment No. 27 to Facility Operating License NPF-17 for the McGuire Nuclear Station, Units 1 and 2. These amendments are in response to your application dated April 9, 1985.

The amendments change the Technical Specification surveillance requirements related to the inservice inspection program for snubbers. The amendments are effective as of their dates of issuance.

A copy of the related safety evaluation supporting Amendment No. 46 to Facility Operating License NPF-9 and Amendment No. 27 to Facility Operating License NPF-17 is enclosed.

Notice of issuance will be included in the Commission's next monthly Federal Register notice.

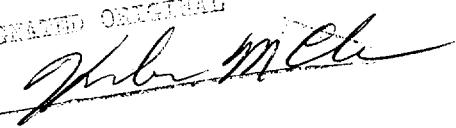
Sincerely,


Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

Enclosures:

1. Amendment No. 46 to NPF-9
2. Amendment No. 27 to NPF-17
3. Safety Evaluation

cc w/encl:
See next page

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September 30, 1985

AMENDMENT NO. 46 TO FACILITY OPERATING LICENSE NPF-9 - McGUIRE NUCLEAR STATION, UNIT 1
AMENDMENT NO. 27 TO FACILITY OPERATING LICENSE NPF-17 - McGUIRE NUCLEAR STATION, UNIT 2

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

DUKE POWER COMPANY

DOCKET NO. 50-369

McGUIRE NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 46
License No. NPF-9

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the McGuire Nuclear Station, Unit 1 (the facility) Facility Operating License No. NPF-9 filed by the Duke Power Company (licensee) dated April 9, 1985, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the 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 set forth in 10 CFR Chapter I;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public;
 - 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 hereby amended by page changes to the Technical Specifications as indicated in the attachments to this license amendment and paragraph 2.C.(2) of Facility Operating License No. NPF-9 is hereby amended to read as follows:

(2) Technical Specifications


The Technical Specifications contained in Appendix A, as revised through Amendment No. 46, are hereby incorporated into this license.

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The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

Attachment:
Technical Specification Changes

Date of Issuance: September 30, 1985



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

DUKE POWER COMPANY

DOCKET NO. 50-370

McGUIRE NUCLEAR STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 27
License No. NPF-17

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the McGuire Nuclear Station, Unit 2 (the facility) Facility Operating License No. NPF-17 filed by the Duke Power Company (licensee) dated April 9, 1985, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the 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 set forth in 10 CFR Chapter I;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public;
 - 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 hereby amended by page changes to the Technical Specifications as indicated in the attachments to this license amendment and paragraph 2.C.(2) of Facility Operating License No. NPF-17 is hereby amended to read as follows:

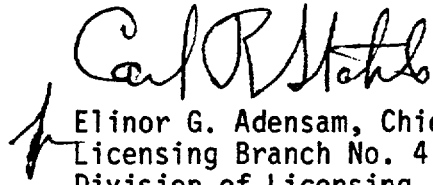
(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 27, are hereby incorporated into this license.

The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

Attachment:
Technical Specification Changes

Date of Issuance: September 30, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 46

FACILITY OPERATING LICENSE NO. NPF-9

DOCKET NO. 50-369

AND

TO LICENSE AMENDMENT NO. 27

FACILITY OPERATING LICENSE NO. NPF-17

DOCKET NO. 50-370

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed 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.

<u>Amended</u> <u>Page</u>	<u>Overleaf</u> <u>Page</u>
3/4 7-20	3/4 7-19
3/4 7-29	3/4 7-30
B3/4 7-5	B3/4 7-6

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

<u>No. Inoperable Snubbers of Each Type Found During Inspection</u>	<u>Time Until Subsequent Visual Inspection*#</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 or more	31 days ± 25%

c. Refueling Outage Inspections

At each refueling, the systems which have the potential for a severe dynamic event, specifically, the main steam system (upstream of the main steam isolation valves) the main steam safety and power-operated relief valves and piping, auxiliary feedwater system, main steam supply to the auxiliary feedwater pump turbine, and the letdown and charging portion of the CVCS system shall be inspected to determine if there has been a severe dynamic event. In case of a severe dynamic event, mechanical snubbers in that system which experienced the event shall be inspected during the refueling outage to assure that the mechanical snubbers have freedom of movement and are not frozen up. The inspection shall consist of verifying freedom of motion using one of the following: (1) manually induced snubber movement; (2) evaluation of in-place snubber piston setting; (3) stroking the mechanical snubber through its full range of travel. If one or more mechanical snubbers are found to be frozen up during this inspection, those snubbers shall be replaced or repaired before returning to power. The requirements of Specification 4.7.8b. are independent of the requirements of this specification.

d. Visual Inspection Acceptance Criteria

Visual inspections shall verify: (1) that there are no visible indications of damage or impaired OPERABILITY, and (2) attachments to the foundation 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 that particular snubber and for other snubbers irrespective of type that may be generically susceptible;

* The inspection interval for each type of snubber shall not be lengthened more than one step at a time unless a generic problem has been identified and corrected; in that event the inspection interval may be lengthened one step the first time and two steps thereafter if no inoperable snubbers of that type are found.

The provisions of Specification 4.0.2 are not applicable.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

d. Visual Inspection Acceptance Criteria (Continued)

and (2) the affected snubber is functionally tested in the as found condition and determined OPERABLE per Specification 4.7.8f. When a fluid port of a hydraulic snubber is found to be uncovered the snubber shall be declared inoperable and shall not be determined OPERABLE via functional testing 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.

e. Functional Tests

During the first refueling shutdown and at least once per refueling thereafter, a representative sample of snubbers shall be tested using one of the following sample plans. The sample plan shall be selected prior to the test period and cannot be changed during the test period. The NRC shall be notified of the sample plan selected prior to the test period.

- 1) At least 10% of the snubbers required by Specification 3.7.8 shall be functionally tested either in place or in a bench test. For each snubber that does not meet the functional test acceptance criteria of Specification 4.7.8f., an additional 10% of the snubbers shall be functionally tested until no more failures are found or until all snubbers have been functionally tested; or
- 2) A representative sample of the snubbers required by Specification 3.7.8 shall be functionally tested in accordance with Figure 4.7-1. "C" is the total number of snubbers found not meeting the acceptance requirements of Specification 4.7.8f (failures). The cumulative number of snubbers tested is denoted by "N." Test results shall be plotted sequentially in the order of sample assignment (i.e., each snubber shall be plotted by its order in the random sample assignments, not by the order of testing). If at any time the point plotted falls in the "Accept" region, testing of snubbers may be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers shall be tested until the point falls in the "Accept" region, or all the snubbers required by Specification 3.7.8 have been tested. Testing equipment failure during functional testing may invalidate that day's testing and allow that day's testing to resume anew at a later time, providing all snubbers tested with the failed equipment during the day of equipment failure are retested; or
- 3) An initial representative sample of fifty-five (55) snubbers shall be functionally tested. For each snubber which does not meet the functional test acceptance criteria, another sample of

PLANT SYSTEMS

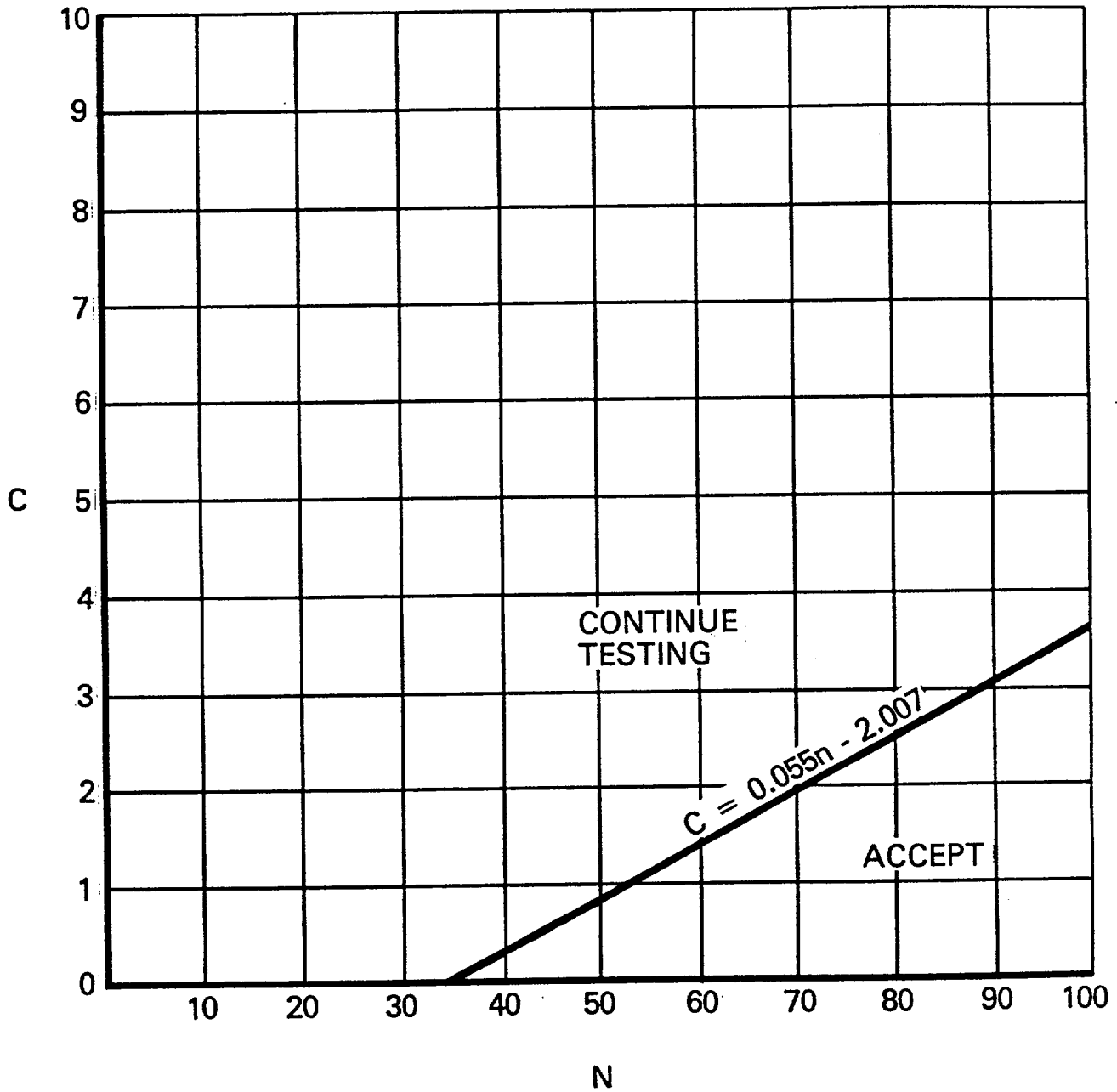


FIGURE 4.7-1
SAMPLE PLAN 2) FOR SNUBBER FUNCTIONAL TEST

PLANT SYSTEMS

3/4.7.9 SEALED SOURCE CONTAMINATION

LIMITING CONDITION FOR OPERATION

3.7.9 Each sealed source containing radioactive material either in excess of 100 microCuries of beta and/or gamma emitting material or 5 microCuries of alpha emitting material shall be free of greater than or equal to 0.005 microCurie of removable contamination.

APPLICABILITY: At all times.

ACTION:

- a. With a sealed source having removable contamination in excess of the above limits, immediately withdraw the sealed source from use and either:
 1. Decontaminate and repair the sealed source, or
 2. Dispose of the sealed source in accordance with Commission Regulations.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.9.1 Test Requirements - Each sealed source shall be tested for leakage and/or contamination by:

- a. The licensee, or
- b. Other persons specifically authorized by the Commission or an Agreement State.

The test method shall have a detection sensitivity of at least 0.005 microCurie per test sample.

4.7.9.2 Test Frequencies - Each category of sealed sources (excluding startup sources and fission detectors previously subjected to core flux) shall be tested at the frequency described below.

- a. Sources in use - At least once per 6 months for all sealed sources containing radioactive materials:
 - 1) With a half-life greater than 30 days (excluding Hydrogen 3),
and
 - 2) In any form other than gas.

BASES

3/4.7.8 SNUBBERS

All 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 seismic or other event initiating dynamic loads. Snubbers excluded from this inspection program are those installed on nonsafety-related systems 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.

Snubbers are classified and grouped by design and manufacturer but not by size. For example, mechanical snubbers utilizing the same design features of the 2 kip, 10 kip, and 100 kip capacity manufactured by Company "A" are of the same type. The same design mechanical snubbers manufactured Company "B" for the purposes of this specification would be of a different type, as would hydraulic snubbers from either manufacturer.

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.

To provide assurance of snubber functional reliability one of the three sampling and acceptance criteria methods are used:

1. Functionally test 10% of a type of snubber with an additional 10% tested for each functional testing failure, or
2. Functionally test a sample size and determine sample acceptance or continue testing* using Figure 4.7-1, or
3. Functionally test a representative sample size and determine sample acceptance or rejection using the stated equation.

Figure 4.7-1 was developed using "Wald's Sequential Probability Ratio Plan" as described in "Quality Control and Industrial Statistics" by Acheson J. Duncan.

Permanent or other exemptions from the surveillance program for individual snubbers may be granted by the Commission if a justifiable basis for exemption is presented and, if applicable, snubber life destructive testing was performed to qualify the snubber for the applicable design conditions at either the completion of their fabrication or at a subsequent date. Snubbers so exempted shall continue to be listed in Tables 3.7-4a and 3.7-4b with footnotes indicating the extent of the exemptions.

*If testing continues to between 100-200 snubbers (or 1-2 weeks) and still the accept region has not been reached, then the actual % of population quality (C/N) should be used to prepare for extended or 100% testing.

PLANT SYSTEMS

BASES

SNUBBERS (Continued)

The service life of a snubber is established 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 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 not intended to affect plant operation.

3/4.7.9 SEALED SOURCE CONTAMINATION

The limitations on removable contamination for sources requiring leak testing, including alpha emitters, is based on 10 CFR 70.39(c) limits for plutonium. This limitation will ensure that leakage from Byproduct, Source, and Special Nuclear Material sources will not exceed allowable intake values.

Sealed sources are classified into three groups according to their use, with Surveillance Requirements commensurate with the probability of damage to a source in that group. Those sources which are frequently handled are required to be tested more often than those which are not. Sealed sources which are continuously enclosed within a shielded mechanism (i.e., sealed sources within radiation monitoring or boron measuring devices) are considered to be stored and need not be tested unless they are removed from the shielded mechanism.

3/4.7.10 FIRE SUPPRESSION SYSTEMS

The OPERABILITY of the Fire Suppression Systems ensures that adequate fire suppression capability is available to confine and extinguish fires occurring in any portion of the facility where safety-related equipment is located. The Fire Suppression System consists of the water system, spray, and/or sprinklers, Halon, and fire hose stations. The collective capability of the Fire Suppression Systems is adequate to minimize potential damage to safety-related equipment and is a major element in the facility fire protection program.

In the event that portions of the Fire Suppression Systems are inoperable, alternate backup fire-fighting equipment is required to be made available in the affected areas until the inoperable equipment is restored to service. When the inoperable fire-fighting equipment is intended for use as a backup means of fire suppression, a longer period of time is allowed to provide an alternate means of fire fighting than if the inoperable equipment is the primary means of fire suppression.



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

SAFETY EVALUATION REPORT

RELATED TO AMENDMENT NO. 46 TO FACILITY OPERATING LICENSE NPF-9

AND TO AMENDMENT NO. 27 TO FACILITY OPERATING LICENSE NPF-17

DUKE POWER COMPANY

INTRODUCTION

By letter dated April 9, 1985, Duke Power Company (the licensee) requested changes to a Technical Specification surveillance requirement which is part of an augmented inservice inspection program for snubbers. The change affects the second of three sampling plan options available for functional tests of snubbers. This second sampling plan is defined by Specification 4.7.8.e(2) and requires that a representative sample of snubbers be tested each refueling in accordance with Specification Figure 4.7-1. Figure 4.7-1 provides the acceptance criteria method for the functional test results and denotes a "reject" region and a "continue testing" region. If at any time the plotted test results fall within this "reject" region, then all snubbers are to be functionally tested. Surveillance requirement 4.7.8.e(2) and its accompanying Figure 4.7-1 are being changed to delete the "reject" region on Figure 4.7-1, to substitute an expanded "continue testing" region, and to clarify the manner in which test results should be plotted sequentially in the order of sample assignment (i.e., each snubber should be plotted by its order in the random sample assignment, not by the order of testing). References to the "reject" region in the text of Specification 4.7.8.e(2) and bases 3/4.7.8 are being deleted. Bases 3/4.7.8 is also supplemented by a footnote to note that if testing continues to between 100-200 snubbers (or 1-2 weeks) and still the "accept" region of Figure 4.7-1 has not been reached, then the actual percent of population quality (the ratio of total number of failed snubbers to the cumulative number of snubbers tested) should be used to prepare for extended or 100% testing.

EVALUATION

McGuire Technical Specification 3.7.8 requires that all safety related snubbers be operable for specified operating modes and is not changed by the proposed amendment. Only the surveillance requirement by which each snubber is to be demonstrated operable, in part by functional testing of a representative sample of snubbers each refueling, is changed, and then only with respect to the second of three available sample plans designated by Specification 4.7.8.e.

Under Specification 4.7.8.e(2), a representative sample of snubbers, beginning with an initial selection of at least 37 snubbers, is functionally tested in accordance with a graph (Specification Figure 4.7-1) of "C", the total number of snubbers found not meeting the acceptance requirements of Specification 4.7.8f (i.e., failures), versus "N", the cumulative number of snubbers tested. The existing graph denotes three separate regions designated "accept," "continue testing" and "reject." The "accept" and "continue testing" regions are separated

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by a curve, $C = 0.055N - 2.007$; the "continue testing" and "reject" regions are presently separated by a curve, $C = 0.055N + 2.007$. To apply the graph, test results are plotted on Figure 4.7-1. Under the existing Technical Specifications, if at any time the point plotted falls in the "reject" region all snubbers are to be functionally tested. If at any time the point plotted falls in the "accept" region, testing of snubbers may be terminated. When the point plotted lies in the "continue testing" region, additional snubbers are to be tested until the point falls in the "accept" region or the "reject" region, or all the required snubbers have been tested. Deletion of the "reject" region, as implemented by this amendment, effectively changes that region of the graph to a "continue testing" region. Therefore, snubbers will continue to be tested until the plotted point falls in the "accept" region or until all the safety-related snubbers have been tested.

Statistical studies within the licensee's submittal of April 9, 1985, and within a draft document by a task force of the Operations and Maintenance Group (OM-4) of the ASME Committee, "Examination and Performance Testing of Nuclear Power Plant Dynamic Restraints (Snubbers)" (ANSI/ASME OM4-1985) demonstrate that the proposed deletion of the "reject" region does not have a significant adverse effect on the effectiveness of the sampling plan. These statistical studies indicate that while the probability of false acceptance of a bad population under the proposed amendments is real, it is negligible. The Commission's review of these documents supports this conclusion. We also find that the revised plotting sequence is a more appropriate method for implementing the sampling plan. Therefore, the staff finds the proposed changes to be acceptable.

ENVIRONMENTAL CONSIDERATION

The amendments involve changes in surveillance requirements. The staff has determined that the amendments involve 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 exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration, and there have been no public comments on such finding. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR Section 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (50 FR 34939) on August 28, 1985, and consulted with the state of North Carolina. No public comments were received, and the state of North Carolina did not have any comments.

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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Darl S. Hood, Licensing Branch No. 4, DL

Dated: September 30, 1985