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MAR 03 1982

Docket No. 50-261

Mr. J. A. Jones
 Senior Executive Vice President
 Carolina Power and Light Company
 336 Fayetteville Street
 Raleigh, North Carolina 27602



Dear Mr. Jones:

The Commission has issued the enclosed Amendment No. 63 to Facility Operating License No. DPR-23 for the H. B. Robinson Steam Electric Plant, Unit No. 2. The amendment consists of changes to the Technical Specifications in response to your application transmitted by letter dated March 27, 1981, as amended by discussions with your staff.

The amendment revises the Technical Specifications related to the operation and surveillance of shock suppressors (snubbers).

In your application letter you requested exemption from functional testing of the twelve large snubbers that are mounted on the three steam generators. In subsequent discussions between our staffs, we clarified the types of tests that would be acceptable. Consequently, members of your staff have agreed to withdraw this exemption request and to provide the basis for testing only the control units of these snubbers rather than the entire snubber (see 4.13.2(c)).

Copies of the Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

ORIGINAL SIGNED

William J. Ross, Project Manager
 Operating Reactors Branch #1
 Division of Licensing

Enclosures:

1. Amendment No. 63 to DPR-23
2. Safety Evaluation
3. Notice of Issuance

cc w/enclosures;
 See next page

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 MPA [Signature]

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 AMENDMENT
 ONLY

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Mr. J. A. Jones
Carolina Power and Light Company

cc: G. F. Trowbridge, Esquire
Shaw, Pittman, Potts and Trowbridge
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Washington, D. C. 20036

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Regional Administrator - Region II
101 Marietta Street Suite 3100
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Hartsville Memorial Library
Home and Fifth Avenues
Hartsville, South Carolina 29550

Mr. McCuen Morrell, Chairman
Darlington County Board of Supervisors
County Courthouse
Darlington, South Carolina 29535

State Clearinghouse
Division of Policy Development
116 West Jones Street
Raleigh, North Carolina 27603

Attorney General
Department of Justice
Justice Building
Raleigh, North Carolina 27602

U. S. Nuclear Regulatory Commission
Resident Inspector's Office
H. B. Robinson Steam Electric Plant
Route 5, Box 266-1A
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Michael C. Farrar, Chairman
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Appeal Board Panel
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Atlanta, Georgia 30308



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

CAROLINA POWER AND LIGHT COMPANY

DOCKET NO. 50-261

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 63
License No. DPR-23

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Carolina Power and Light Company (the licensee) dated March 27, 1981, 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 3.B of Facility Operating License No. DPR-23 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 63, 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.

FOR THE NUCLEAR REGULATORY COMMISSION



Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 3, 1982

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 63 TO FACILITY OPERATING LICENSE NO. DPR-23

DOCKET NO. 50-261

Revise Appendix A as follows:

<u>Remove Pages</u>	<u>Insert Pages</u>
3.13-1	3.13-1
3.13-2	3.13-2
4.13-1	4.13-1
4.13-2	4.13-2
4.13-3	4.13-3
4.13-4	4.13-4

3.13 SHOCK SUPPRESSORS (SNUBBERS)

Applicability

Applies to hydraulic shock suppressors (snubbers) as shown in Table 3.13-1. No mechanical snubbers are installed at the H. B. Robinson Plant.

Objectives

To provide for limiting conditions for operation which ensure the operability of snubbers during plant operation, such that normal operation or plant transients requiring operation of the snubbers will not result in consequences more severe than those previously analyzed.

Specification

- 3.13.1 During all modes of operation except cold shutdown and refueling, all snubbers specified in Table 3.13-1 shall be capable of performing their intended function in the required manner (operable) except as described below:
- a. When the reactor is at hot shutdown or at power and a snubber is determined to be inoperable, an engineering analysis must be conducted within 72 hours to determine if the snubber's inoperability has adversely affected the supported component. If so, the supported component shall be declared inoperable and appropriate action shall be taken in accordance with the appropriate Technical Specification. If the supported component has not been adversely affected, (1) an analysis shall be performed to determine if the supported component could be damaged during a future event and, if so, the snubber shall be repaired or replaced within 72 hours of finding it inoperable, or (2) the supported component shall be declared inoperable until the snubber is repaired or replaced and appropriate action shall be taken in accordance with the appropriate Technical Specification. If the analysis demonstrates that the snubber is not needed for the supported component to be adequately protected during normal operation and design events, reactor operation shall continue and the snubber shall be repaired on a routine basis.
 - b. If a snubber is determined to be inoperable while the reactor is in cold shutdown, the snubber (if needed for supported component protection) shall be repaired and reinstalled or replaced prior to reactor startup.

- c. Snubbers may be added to safety related systems without prior License Amendment to Table 3.13-1 provided that a revision to Table 3.13-1 is included with the next License Amendment request.

Basis

Snubbers are designed to prevent unrestrained pipe motion under dynamic loads such 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 a possible increase in the probability of structural damage to piping as a result of a seismic or other event initiating dynamic loads. It is, therefore, required that all snubbers required to protect the primary coolant system or any other safety system or component be operable during reactor operation or other periods when severe transients might cause damaging dynamic loads. Because the snubber protection is required only during low probability events, a period of 72 hours is allowed for the engineering analysis and for subsequent necessary repair or replacement of the snubber. Since plant startup should not commence with knowingly defective safety-related equipment, the specification prohibits startup with inoperable snubbers which are required for safe operation. The engineering analysis will ensure that the supported component was not damaged while the snubber was inoperable.

4.13 SHOCK SUPPRESSORS (SNUBBERS)

Applicability

Applies to hydraulic shock suppressors (snubbers) listed in Table 3.13-1. No mechanical snubbers are installed at the H. B. Robinson Plant.

Objectives

To ensure the continued operability of hydraulic snubbers by periodic surveillance.

Specification

4.13.1 Visual Inspection

- a. All hydraulic snubbers whose seal material has been demonstrated by operating experience, lab testing or analysis to be compatible with the operating environment shall be visually inspected in accordance with the following schedule:

Number of Snubbers Found Inoperable During Inspection or During Inspection Interval	Next Required Inspection Interval
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 may be categorized in two groups, "accessible or "inaccessible" based on their accessibility for inspection during reactor operation. These two groups may be inspected independently according to the above schedule.

- b. All hydraulic snubbers whose seal materials are other than ethylene propylene, Viton "A", or other material that has been demonstrated to be compatible with the operating environment shall be visually inspected for operability every 31 days.
- c. The initial inspection shall be performed within 6 months from the date of issuance of these specifications. For the purpose of entering the schedule in Specification 4.13.1.a, it shall be assumed that the facility had been on a 6 month inspection interval.

- d. Visual inspections shall verify (1) that there are no visible indications of damage or impaired OPERABILITY, (2) attachments 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 up. Snubbers which appear inoperable as a result of visual inspections may be determined OPERABLE for the purpose of establishing the next visual inspection interval, providing that (1) the affected snubber is functionally tested in the as found condition and determined OPERABLE per Specification 4.13.2; (2) the cause of the rejection is clearly established and remedied for that particular snubber. However, when the fluid port of a hydraulic snubber is found to be uncovered, the snubber shall be determined inoperable and cannot be determined OPERABLE via functional testing for the purpose of establishing the next visual inspection interval. All snubbers connected to an inoperable common hydraulic fluid reservoir shall be counted as inoperable snubbers.

4.13.2 FUNCTIONAL TESTING

- a. Once each refueling cycle, a representative sample of approximately 10% of the hydraulic snubbers shall be functionally tested for operability including verification of proper piston movement, lock up and bleed. For each snubber found inoperable, an additional 10% of the snubbers of that type shall be functionally tested until no more failures are found or all units have been tested.
- b. A representative sample selected for functional testing shall include the various configurations, operating environments and the range of size and capacity of snubbers. At least 25% of the snubbers in the representative sample shall include snubbers from the following categories:
- a. Snubbers within 5 feet of heavy equipment (valve, pump, steam generator, etc.).
 - b. Snubbers within 10 feet of the discharge from a safety/relief valve.
- c. The steam generator snubbers (500,000 lbs. ft. rated capacity) need not be removed for functional testing unless the visual inspection dictates that a snubber be removed for corrective maintenance. The testing requirement for these snubbers can be satisfied by testing the control unit (valve block) instead of the entire snubber.
- d. 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 installed in another position) and the spare snubber shall be retested. Test results of these snubbers may not be included for the re-sampling.

- e. 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 design subject to the same defect shall be functionally tested. This testing requirement shall be independent of the requirements stated above for snubbers not meeting the functional test acceptance criteria.
- f. 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 ensure that the supported component remains capable of meeting the designed service.

4.13.3 Snubber Service Life Monitoring

A record of the service life of each snubber listed on Table 3.13-1, the date at which the designated service life commences and the installation and maintenance records on which the service life is based shall be maintained.

Once each refueling cycle, these records shall be reviewed to ensure that the service life will not be exceeded prior to the next review. If the service life of a snubber will be exceeded prior to the next scheduled review, the snubber's service life can be reevaluated in order to possibly extend it or the snubber shall be reconditioned or replaced. This reevaluation, replacement, or reconditioning shall be indicated in the records.

Basis

All safety-related hydraulic snubbers are visually inspected for overall integrity and operability. The inspection will include verification of proper orientation, adequate hydraulic fluid level, and proper attachment of snubber to piping and structures.

Experience at operating facilities has shown that the required surveillance program should assure an acceptable level of snubber performance provided that the seal materials are compatible with the operating environment. Viton "A" and ethylene propylene seal material have been demonstrated by lab tests and operating experience to be compatible with nuclear plant operating environments.

Snubbers containing seal material which has not been demonstrated by operating experience, lab tests or analysis to be compatible with the operating environment shall be inspected more frequently (every month) until material compatibility is confirmed or an appropriate changeout is completed.

The visual inspection frequency is based upon maintaining a constant level of snubber protection. Thus the required inspection interval varies inversely with the observed snubber failures. The number of inoperable snubbers found during a required visual inspection determines the time interval for the next required 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.

A snubber which appears inoperable as a result of a visual inspection may be declared operable if it passes a functional test and the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers that may be generically susceptible. 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.

To further increase the assurance of snubber reliability, functional tests should be performed once each refueling cycle. These tests will include stroking of the snubbers to verify proper piston movement, lock up, and bleed. Ten percent of the snubbers listed on Table 3.13-1 represent an adequate sample for such tests. Observed failures of these samples shall require testing of additional units.

Periodic functional testing of the steam generator snubbers (as a unit) is not required due to their large size and difficulty of removal. By testing the smaller and more easily removable control unit for each snubber, the operability of these large bore snubbers can be ensured.

When a snubber is found inoperable (visual or functional), 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's 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 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 adjustments of snubbers' service lives. The review of the snubber's service lives and necessary reconditioning or replacement shall take place once per operating cycle probably during the refueling outage.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 63 TO FACILITY OPERATING LICENSE NO. DPR-23
CAROLINA POWER AND LIGHT COMPANY
H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261

Introduction

By letter dated March 27, 1981, Carolina Power and Light Company (the licensee) requested amendment to Facility Operating License No. DPR-23 for the H. B. Robinson Plant, Unit No. 2.

To reflect accumulated experience obtained from operating plants in the past several years, NRC issued Revision 1 of the Standard Technical Specifications on the surveillance requirements for safety-related snubbers. On November 20, 1980, this document was transmitted to operating plants excluding those under SEP along with a request for submittal of appropriate license amendments to incorporate the requirements of this revision within 120 days. The same request was extended to SEP plants on March 23, 1981.

Description and Discussion

Numerous discoveries of inoperative snubbers in the period of 1973 to 1975 resulted in their surveillance requirements in the Technical Specifications for operating reactors plants. However, several deficiencies were identified after the original requirements were in force for several years. These deficiencies are:

1. Mechanical snubbers were not included in these requirements.
2. The rated capacity of snubbers was used as a limit to the inservice test requirement.
3. NRC approval was necessary for the acceptance of seal materials.

4. Inservice test requirements were not clearly defined.
5. In-place inservice testing was not permitted.

Since mechanical snubbers were not subject to any surveillance requirements, some licensees and permit holders believed that mechanical snubbers were preferred by NRC. Many plants used mechanical snubbers as original equipment and many others requested to replace their hydraulic snubbers with mechanical ones to simplify or avoid an inservice surveillance program. This is directly contradictory to NRC's intention, where for an unsurveyed mechanical snubber, the most likely failure is permanent lock-up. This failure mode can be harmful to the system during normal plant operations.

During the period of 1973-1975, when the first hydraulic snubber surveillance requirements in the Technical Specifications were drafted, a compromise was made to limit the testing of snubbers to those with rated capacity of not more than 50,000 lbs. This is because of the available capacity of the test equipment and the requirements to test some parameters at the snubber rated load. Since then, greater equipment capacity and better understanding of parametric correlation both developed. To maintain this arbitrary 50,000 lbs. limit could mean an unnecessary compromise on plant safety.

The original hydraulic snubber problem started from leaking seals. Most seal materials of the 1973 vintage could not withstand the temperature and irradiation environments. Ethylene propylene was the first material that could offer a reasonable service life for those seals. In order to discourage the use of unproven material for those seals, the words "NRC approved material" were used in the Technical Specifications. Staff members were asked to approve different seal materials on many occasions. Consequently, since the basis for the approval was not defined, the development of better seal materials by the industry was actually discouraged.

The acceptance criteria in the earlier version of the testing requirements were not well-defined and resulted in non-uniform interpretations and implementation. Acceptance criteria were set individually at widely different ranges. Since the rationale of adopting a specific acceptance criteria was not clear, I&E inspectors found it impossible to make any necessary corrections. In some cases, snubbers were tested without reference to acceptance criteria.

Testing of snubbers was usually accomplished by removing snubbers from their installed positions, mounting them on a testing rig, conducting the test, removing them from rig, and reinstalling them to the working position. Many snubbers were damaged in the removing and reinstallation process. This defeated the purpose for conducting tests. Since methods and equipment have been developed to conduct in-place tests on snubbers, taking advantage of these developments could result in minimizing the damage to snubbers caused by removal and reinstallation plus time and cost savings to the plants.

From these short-comings it was concluded that the snubber surveillance requirements for the Technical Specifications should be revised.

The revised surveillance requirements correct the perceived deficiencies in the following manner:

1. A surveillance program must cover mechanical snubbers. H. B. Robinson Unit 2, however, does not use mechanical snubbers.
2. No arbitrary snubber capacity is used as a limit to the inservice test requirements. Capabilities now exist for performing functionality hydraulic tests of control valve block connectors without disassembling large snubbers. The licensee has committed to test the functionality of the control valve block connectors for large snubbers such as those attached to steam generators.
3. Seal material no longer requires NRC approval. The licensee has committed to a surveillance program that assures that snubbers are functioning within their service life. A visual inspection will be made every 31 days.
4. Clearly defined inservice test requirements for snubbers shall be implemented. The revisions that the licensee proposes for Section 4.13 of the Technical Specifications set forth the frequency and scope of visual inspections and functional testing.
5. In-place inservice testing shall be permitted. The licensee plans to test, in-place, all snubbers that cannot be easily removed.

The proposed license amendment submitted by Carolina Power and Light Company for Operating License No. DPR-23 for H. B. Robinson Unit 2 has incorporated the necessary requirements in Revision 1 of the Standard Technical Specifications for the surveillance of safety-related snubbers and is therefore, acceptable.

We have made certain changes in the revised Technical Specifications submitted by the licensee. The changes have been discussed with and accepted by the licensee.

Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts not an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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.

Date: March 3, 1982

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-261CAROLINA POWER AND LIGHT COMPANYNOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 63 to Facility Operating License No. DPR-23 issued to Carolina Power and Light Company (the licensee), which revised Technical Specifications for operation of the H. B. Robinson Steam Electric Plant, Unit No. 2, (the facility) located in Darlington County, South Carolina. The amendment is effective as of the date of issuance.

The amendment revises the Technical Specifications related to the operation and surveillance of shock suppressors (snubbers).

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since this amendment does not involve a significant hazards consideration.

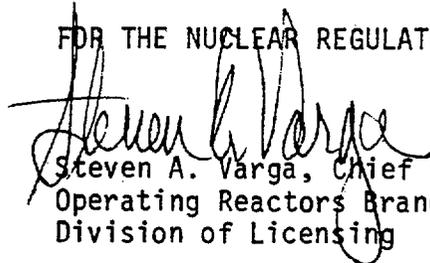
The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

- 2 -

For further details with respect to this action, see (1) the application for amendment dated March 27, 1981, (2) Amendment No. 63 to License No. DPR-23, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. and at the Hartsville Memorial Library, Home and Fifth Avenues, Hartsville, South Carolina 29550. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 3rd day of March, 1982.

FOR THE NUCLEAR REGULATORY COMMISSION


Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing