



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

Docket Nos. 50-413
and 50-414

March 6, 1991

Mr. M.S. Tuckman
Vice President -
Nuclear Operations
Duke Power Company
P.O. Box 1007
Charlotte, North Carolina 28201-1007

Dear Mr. Tuckman:

SUBJECT: ISSUANCE OF AMENDMENT NO. 85 TO FACILITY OPERATING LICENSE NPF-35
AND AMENDMENT NO. 79 TO FACILITY OPERATING LICENSE NPF-52 - CATAWBA
NUCLEAR STATION, UNITS 1 AND 2 (TACS 79812, 79813)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 85 to Facility Operating License NPF-35 and Amendment No. 79 to Facility Operating License NPF-52 for the Catawba Nuclear Station, Units 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated February 28, 1991.

The amendments revise Technical Specifications (TS) Table 3.3-6, Item 3, (Action 31) to permit operation of the control room area ventilation system (CRAVS) with only 1 operable channel of air intake-radiation level monitoring instrumentation. TS 4.7.6.e(2) is also revised to reflect deletion of the automatic air intake isolation feature upon indication of the presence of High Radiation-Air Intake or Smoke Density-High signals.

The licensee requested that the proposed amendments be granted on an emergency basis. The Catawba Nuclear Station Units 1 and 2 CRAVS was declared to be inoperable and Limiting Condition for Operation 3.0.3 was entered at about 1600 hours on February 25, 1991, when the licensee determined that the system could not meet its intended function under all postulated conditions. Telephone authorization for a Temporary Waiver of Compliance from TS Table 3.3-6, Item 3 (Action 31), 4.7.6.e(2) and TS 4.7.6.e(5) was granted on February 25, 1991, and confirmed by letter dated February 27, 1991.

A copy of the related Safety Evaluation is also enclosed. Notice of issuance of the amendments will be included in the Commission's biweekly Federal Register notice.

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Mr. M. S. Tuckman

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Notice of Issuance of amendments and opportunity for hearing will be included in the Commission's next bi-weekly Federal Register notice.

Sincerely,

David B. Matthews
Project Directorate II-3
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 85 to NPF-35
2. Amendment No. 79 to NPF-52
3. Safety Evaluation

cc w/enclosures:
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DATED: March 6, 1991

AMENDMENT NO. 85 TO FACILITY OPERATING LICENSE NPF-35 - Catawba Nuclear Station, Unit 1
AMENDMENT NO. 79 TO FACILITY OPERATING LICENSE NPF-52 - Catawba Nuclear Station, Unit 2

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

DUKE POWER COMPANY

NORTH CAROLINA ELECTRIC MEMBERSHIP CORPORATION

SALUDA RIVER ELECTRIC COOPERATIVE, INC.

DOCKET NO. 50-413

CATAWBA NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 85
License No. NPF-35

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Catawba Nuclear Station, Unit 1 (the facility) Facility Operating License No. NPF-35 filed by the Duke Power Company, acting for itself, North Carolina Electric Membership Corporation and Saluda River Electric Cooperative, Inc. (licensees) dated February 28, 1991, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as 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 set forth in 10 CFR Chapter I;
 - 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.

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2. Accordingly, the license is hereby amended by page 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-35 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 85 , and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. Duke Power Company 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



David B. Matthews, Director
Project Directorate II-3
Division of Reactor Projects-I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification Changes

Date of Issuance: March 6, 1991



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

DUKE POWER COMPANY

NORTH CAROLINA MUNICIPAL POWER AGENCY NO. 1

PIEDMONT MUNICIPAL POWER AGENCY

DOCKET NO. 50-414

CATAWBA NUCLEAR STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 79
License No. NPF-52

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Catawba Nuclear Station, Unit 2 (the facility) Facility Operating License No. NPF-52 filed by the Duke Power Company, acting for itself, North Carolina Municipal Power Agency No. 1 and Piedmont Municipal Power Agency (licensees) dated February 28, 1991, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations as 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 set forth in 10 CFR Chapter I;
 - 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 hereby amended by page 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-52 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 79 , and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. Duke Power Company 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



David B. Matthews, Director
Project Directorate II-3
Division of Reactor Projects-I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification Changes

Date of Issuance: March 6, 1991

ATTACHMENT TO LICENSE AMENDMENT NO. 85

FACILITY OPERATING LICENSE NO. NPF-35

DOCKET NO. 50-413

AND

TO LICENSE AMENDMENT NO. 79

FACILITY OPERATING LICENSE NO. NPF-52

DOCKET NO. 50-414

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 areas of change.

Remove Pages

3/4 3-53
3/4 7-15

Insert Pages

3/4 3-53
3/4 7-15

TABLE 3.3-6 (Continued)

TABLE NOTATIONS

- * With fuel in the fuel storage pool areas.
- ** With irradiated fuel in the fuel storage pool areas.
- *** When venting or purging from containment to the atmosphere, the trip setpoint shall not exceed the equivalent limits of Specification 3.11.2.1 in accordance with the methodology and parameters in the ODCM. When not venting or purging in Modes 5 or 6, the alarm setpoint concentration ($\mu\text{Ci/ml}$) shall be such that the actual submersion dose rate would not exceed 5mR/hr without alarm. When not venting or purging in Modes 1 through 4 the alarm setpoint shall be no more than 3 times the containment atmosphere activity as indicated by the radiation monitor.

ACTION STATEMENTS

- ACTION 30 - With less than the Minimum Channels OPERABLE requirement, operation may continue provided the containment purge and exhaust valves are maintained closed.
- ACTION 31 - With the number of operable channels one less than the Minimum Channels OPERABLE requirement, within 1 hour initiate and maintain operation of the Control Room Area Ventilation System with flow through the HEPA filters and activated carbon adsorbers.
- ACTION 32 - With less than the Minimum Channels OPERABLE requirement, operation may continue for up to 30 days provided an appropriate portable continuous monitor with the same Alarm Setpoint is provided in the fuel storage pool area. Restore the inoperable monitors to OPERABLE status within 30 days or suspend all operations involving fuel movement in the fuel building.
- ACTION 33 - Must satisfy the ACTION requirement for Specification 3.4.6.1.
- ACTION 34 - With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement, operation may continue provided the Fuel Handling Ventilation Exhaust System is operating and discharging through the HEPA filters and activated carbon adsorbers. Otherwise, suspend all operations involving fuel movement in the fuel building.
- ACTION 35 - With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement, operation may continue provided the Auxiliary Building Filtered Exhaust System is operating and discharging through the HEPA filter and activated carbon adsorbers.
- ACTION 36 - With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement, operation may continue for up to 30 days provided that, at least once per 12 hours, grab samples are collected and analyzed for radioactivity (gross gamma) at a lower limit of detection of no more than 10^{-7} $\mu\text{Ci/ml}$.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- c. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or activated carbon adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:
- 1) Verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Position C.5.a, C.5.c, and C.5.d* of Regulatory Guide 1.52, Revisions 2, March 1978, and the system flow rate is 6000 cfm \pm 10%;
 - 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative activated carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 0.175%; and
 - 3) Verifying a system flow rate of 6000 cfm \pm 10% during system operation when tested in accordance with ANSI N510-1980.
- d. After every 1440 hours of activated carbon adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis** of a representative activated carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 0.175%;
- e. At least once per 18 months by:
- 1) Verifying that the pressure drop across the combined HEPA filters, activated carbon adsorber banks, and moisture separators is less than 8 inches Water Gauge while operating the system at a flow rate of 6000 cfm \pm 10%;
 - 2) Verifying that on a High Radiation-Air Intake, or Smoke Density-High test signal, an alarm is received in the control room;
 - 3) Verifying that the system maintains the control room at a positive pressure of greater than or equal to 1/8 inch Water Gauge relative to adjacent areas at less than or equal to pressurization flow of 4000 cfm to the control room during system operation;
 - 4) Verifying that the heaters dissipate 25 \pm 2.5 kW, and

*The requirement for reducing refrigerant concentration to 0.01 ppm may be satisfied by operating the system for 10 hours with heaters on and operating.

**Activated carbon adsorber samples are tested at 30 degree C.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 85 TO FACILITY OPERATING LICENSE NPF-35
AND AMENDMENT NO. 79 TO FACILITY OPERATING LICENSE NPF-52

DUKE POWER COMPANY, ET AL.

CATAWBA NUCLEAR STATION, UNITS 1 AND 2

DOCKET NOS. 50-413 AND 50-414

1.0 INTRODUCTION

By letter dated February 28, 1991, Duke Power Company, et al. (the licensee) requested amendments to the Technical Specifications (TSs) appended to Facility Operating License Nos. NPF-35 and NPF-52 for the Catawba Nuclear Station, Units 1 and 2. The proposed amendments would revise Technical Specifications (TSs) Table 3.3-6, Item 3, (Action 31) and TS 4.7.6.e(2). The change is to reflect deletion of the automatic closure of the control room area ventilation system (CRAVS) air intake isolation valves upon receipt of a High Radiation-Air Intake or Smoke Density-High signal.

The licensee requested that the proposed amendments be granted on an emergency basis. The Catawba Nuclear Station Units 1 and 2 CRAVS was declared to be inoperable and Limiting Condition for Operation 3.0.3 was entered at about 1600 hours on February 25, 1991, when the licensee determined that the system could not meet its intended function under all postulated conditions. Telephone authorization for a Temporary Waiver of Compliance from TS Table 3.3-6, Item 3 (Action 31), 4.7.6.e(2) and TS 4.7.6.e(5) was granted on February 25, 1991, and confirmed by letter dated February 27, 1991.

2.0 EVALUATION

The control room area is normally maintained at a positive pressure by taking makeup air from either or both of two outside air intakes. Each intake is monitored for the presence of radioactivity, smoke and chlorine. Isolation of the intakes should, as currently described in the Final Safety Analysis Report (FSAR), occur automatically upon detection of one or more of these conditions. Consistent with this design approach, should both intakes close, the operator could override the intake monitors and open the desired intake based upon plant conditions to ensure the capability for control room pressurization. The capability for pressurization is necessary to ensure control room habitability and compliance with GDC-19 "Control Room" following a design basis accident.

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Recently, the licensee identified design inconsistencies wherein, on combinations of a loss-of-coolant-accident (LOCA), loss-of-offsite-power (LOOP) and the failure of a diesel generator, the air intake isolation valves would close and could not be reopened in a timely manner to enable meeting the GDC 19 design basis accident analysis dose limit. This condition derives from the smoke detector and radiation detector control power being provided from a non-class 1E battery backed power source. In the event of loss of power to these devices, which would occur during a LOOP, a close signal to the CRAVS outside air intake valves may be generated causing the four CRAVS outside air intake valves to go closed. This in conjunction with a simultaneous LOCA and failure of an Emergency Diesel Generator to start could preclude the re-opening of either outside air intake path to the CRAVS and pressurization of the control room under this condition may not be fully assured and the GDC 19 limit may be exceeded.

This information was reviewed by the licensee with the result being that on February 25, 1991, the licensee declared both trains of the CR ventilation systems inoperable because the system could not meet its intended function under all postulated conditions and entered TS 3.0.3 which would require unit shutdown. The licensee also requested a Temporary Waiver of Compliance on February 25, 1991, from the associated Technical Specifications which would allow (1) the isolation valves to be maintained in an open position by removing power from their actuators, (2) the implementation of certain compensatory measures, and (3) the processing of an amendment to the TS to effect a permanent resolution to the problem. The NRC staff orally granted the Temporary Waiver of Compliance (TWC) on February 25, 1991. The staff's letter of February 27, 1991, documenting the TWC, provided the staff's assessment of items (1) and (2) above. This amendment deals with item (3) above.

As noted above, the potential for the closure of the CRAVS outside air intake valves during a Loss-of-Offsite Power (LOOP) concurrent with a Loss-of-Coolant Accident (LOCA) and a single failure of an emergency diesel generator resulted in the potential for exceedance of GDC 19 dose limits to personnel inside the control room. The licensee's permanent resolution to this concern is to remove the design feature wherein the CRAVS air intake valves automatically close upon receipt of smoke or radiation signals. This would preclude the valves from closing upon a LOOP. Annunciation/alarm from the smoke and radiation detectors would continue to be provided in the control room. In addition, in order to improve the availability of the subject monitors, the licensee will assure the reliability of the non-1E battery backed monitor power source and assure that the monitors will perform the required monitoring function in the event of a LOOP. This modification would assure that the position of the CRAVS outside air intake valves can be manually controlled as required in response to the postulated accident condition from the control room.

The licensee states that the Catawba control room radiation dose analysis assumes that the outside air intake valves remain open for the duration of the accident. Therefore, the staff finds it acceptable to modify the TS such that these valves will be normally open and will be operated manually as required by operators since this condition would be bounded by the accident analysis assumption in this regard. Manual operation of the isolation valves for protection from smoke is also consistent with the NRC staff review guidance in the Standard Review

Plan. The licensee plans to implement this modification shortly after issuance of this amendment to the TS.

The chlorine parameter was involved in the licensee's request for a Temporary Waiver of Compliance only because the interim solution taken by the licensee, removal of motive power from the air intake valves, also rendered automatic response to detection of chlorine inoperable for the short interim period until the permanent modification is completed. Compensatory measures for this condition were provided by the licensee and evaluated by the staff in the consideration of its issuance of the Temporary Waiver of Compliance. Upon implementation of the permanent modification, to delete the automatic closure signals on smoke or radiation from the intake valves, the automatic response including system isolation in response to chlorine will be as it is currently described in the FSAR.

Based on the NRC staff's review of the licensee's analysis of and the proposed schedule for implementing the permanent modification, as discussed above, the staff finds the licensee's action to mitigate the consequences of radiation, chlorine and smoke on the habitability of the control room to be acceptable.

3.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The State of South Carolina was informed by telephone on March 04, 1991, of the NRC staff's no significant hazards consideration determination. The State contact had no comments on the determination.

The staff has reviewed the licensee's request for the above amendments and has determined that, should this request be implemented, it would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated because the proposed permanent mode of operation of the system is bounded by the previously existing accident analysis. Also, the licensee's proposed amendments would not (2) create the possibility of a new or different kind of accident from any accident previously evaluated because changing the CRAVS from automatic to manual response to smoke or radiation does not introduce any new accident initiators. Finally, the proposed amendments would not (3) involve a significant reduction in a margin of safety because the consequences of the control room GDC 19 dose analysis are unchanged and the protection of operators from smoke is not significantly changed. Accordingly, the Commission finds that this request does not involve a significant hazards consideration.

4.0 FINDING OF EMERGENCY WARRANTING AN AMENDMENT WITHOUT NOTICE

The licensee's application for the TS change has been timely. The problem was initially identified based on a similar problem having been identified at another facility and the situation causing the emergency situation at Catawba was not known until investigation of that similar problem. The licensee states that the Catawba Nuclear Station Units 1 and 2 were subject to TS 3.0.3 at about 1600 hours on February 25, 1991, when the CRAVS was declared to be inoperable. The interim response includes removal of motive power from the valve operators, thus providing for manual control by operators as required. The permanent response involves a modification which cannot be implemented until the Technical Specifications are amended.

The staff finds that failure to grant the Temporary Waiver of Compliance and the associated amendment in a timely manner would have resulted in the shutdown of both units on February 25, 1991, until such time as the proposed changes to the TS could be granted. We also find that the licensee could not reasonably have avoided this situation, that the licensee has responded in a timely manner, and has not delayed its application to take advantage of the Emergency Licensee Amendments provision of 10 CFR 50.91. Accordingly, the staff concludes that the licensee has satisfied the requirements of 10 CFR 50.91(a)(5) and that a valid emergency exists.

4.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) the amendment does not (a) significantly increase the probability or consequences of an accident previously evaluated, (b) create the possibility of a new or different kind of accident from any previously evaluated or (c) significantly reduce a safety margin and, therefore, the amendment does not involve 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: P. Madden, PSB
R. Martin, PDII-3/DRPE

Dated: March 6, 1991