



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 18, 1993

Docket Nos. 50-269, 50-270
and 50-287

Mr. J. W. Hampton
Vice President, Oconee Site
Duke Power Company
P. O. Box 1439
Seneca, South Carolina 29679

Dear Mr. Hampton:

SUBJECT: ISSUANCE OF AMENDMENTS - OCONEE NUCLEAR STATION, UNITS 1, 2,
AND 3 (TAC NO. M86316)

The Nuclear Regulatory Commission has issued the enclosed Amendment Nos. 200, 200, and 197 to Facility Operating Licenses DPR-38, DPR-47, and DPR-55, respectively, for the Oconee Nuclear Station, Units 1, 2, and 3. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated May 5, 1993.

The amendments will provide an interim acceptance criteria for control rod drop time on Oconee Unit 1. Specifically, Control Rod Group 1, Rod 8 and Control Rod Group 2, Rod 5 would be considered operable with an insertion time of less than or equal to 2.00 seconds provided that: (1) the average insertion time for the remaining rods in Group 1 and the average insertion time for the remaining rods in Group 2 is less than or equal to 1.50 seconds, and (2) the core average negative reactivity insertion rate is within the assumptions of the safety analysis. This acceptance criteria would apply until the end of the current fuel cycle for Oconee Unit 1.

Operation of Oconee Units 2 and 3 is not affected by this amendment. However, because Oconee Units 1, 2, and 3 share the same technical specifications, all three licenses are being amended to reflect the change to the specified rod drop times for Oconee Unit 1.

Your application requested that these amendments be treated as an emergency because insufficient time exists for the Commission's usual 30-day notice without requiring the shutdown of Oconee Unit 1. On May 4, 1993, the NRC granted an enforcement discretion in order to utilize the above interim acceptance criteria while the amendments were being processed.

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

Sincerely,

ORIGINAL SIGNED BY:

L. A. Wiens, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No. 200 to DPR-38
- 2. Amendment No. 200 to DPR-47
- 3. Amendment No. 197 to DPR-55
- 4. Safety Evaluation

cc w/enclosures:
See next page

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Duke Power Company

Oconee Nuclear Station

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

DUKE POWER COMPANY

DOCKET NO. 50-269

OCONEE NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 200
License No. DPR-38

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Oconee Nuclear Station, Unit 1 (the facility) Facility Operating License No. DPR-38 filed by the Duke Power Company (the licensee) dated May 5, 1993, 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 3.B of Facility Operating License No. DPR-38 is hereby amended to read as follows:

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Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 200, 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 its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Gus C. Lainas, Assistant Director
for Region II Reactors
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: May 18, 1993



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

DUKE POWER COMPANY

DOCKET NO. 50-270

OCONEE NUCLEAR STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 200
License No. DPR-47

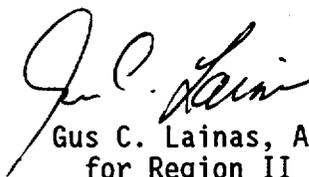
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Oconee Nuclear Station, Unit 2 (the facility) Facility Operating License No. DPR-47 filed by the Duke Power Company (the licensee) dated May 5, 1993, complies with the standards and requirements 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 3.B of Facility Operating License No. DPR-47 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 200, 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 its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Gus C. Lainas, Assistant Director
for Region II Reactors
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: May 18, 1993



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

DUKE POWER COMPANY

DOCKET NO. 50-287

OCONEE NUCLEAR STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 197
License No. DPR-55

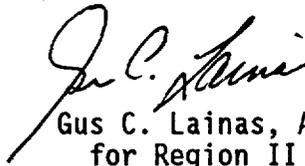
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Oconee Nuclear Station, Unit 3 (the facility) Facility Operating License No. DPR-55 filed by the Duke Power Company (the licensee) dated May 5, 1993, complies with the standards and requirements 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 3.B of Facility Operating License No. DPR-55 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 197, 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 its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Gus C. Lainas, Assistant Director
for Region II Reactors
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: May 18, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 200

FACILITY OPERATING LICENSE NO. DPR-38

DOCKET NO. 50-269

AND

TO LICENSE AMENDMENT NO. 200

FACILITY OPERATING LICENSE NO. DPR-47

DOCKET NO. 50-270

AND

TO LICENSE AMENDMENT NO. 197

FACILITY OPERATING LICENSE NO. DPR-55

DOCKET NO. 50-287

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains vertical lines indicating the areas of change.

Remove Page

4.7-1

Insert Page

4.7-1

4.7 REACTOR CONTROL ROD SYSTEM TESTS

4.7.1 Control Rod Trip Insertion Time Test

Applicability

Applies to the surveillance of the control rod trip insertion time.

Objective

To assure the control rod trip insertion time is within that used in the safety analyses.

Specification

The control rod insertion time shall be measured at either full flow or no flow conditions as follows:

- a. For all rods following each removal of the reactor vessel head,
- b. For specifically affected individual rods following any maintenance on or modification to the control rod drive system which could affect the drop time of those specific rods, and
- c. For all rods at least once following each refueling outage.

The maximum control rod trip insertion time for an operable control rod drive mechanism, except for the Axial Power Shaping Rods (APSRs), from the fully withdrawn position to 3/4 insertion (104 inches travel) shall not exceed 1.66* seconds at reactor coolant full flow conditions or 1.40 seconds for no flow conditions. For the APSRs it shall be demonstrated that loss of power will not cause rod movement.

If the trip insertion time above is not met, the rod shall be declared inoperable.

* - For Unit 1 Cycle 15, Group 1, Rod 8 and Group 2, Rod 5 may be considered operable with an insertion time ≤ 2.00 sec provided:

- 1) the average insertion time for the remaining rods in Groups 1 and 2 is ≤ 1.50 sec, and
- 2) the core average negative reactivity insertion rate is within the assumptions of the safety analysis.

Bases

The control rod trip insertion time is the total elapsed time from power interruption at the control rod drive breakers until the control rod has completed 104 inches of travel from the fully withdrawn position. The specified trip time is based upon the safety analysis in FSAR Chapter 15.

A rod is considered inoperable if the trip insertion time is greater than the specified allowable time or the core average negative reactivity insertion rate is less than the assumptions of the safety analysis.

REFERENCES

- (1) FSAR, Section 15
- (2) Technical Specification 3.5.2



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 200 TO FACILITY OPERATING LICENSE DPR-38
AMENDMENT NO. 200 TO FACILITY OPERATING LICENSE DPR-47
AND AMENDMENT NO. 197 TO FACILITY OPERATING LICENSE DPR-55

DUKE POWER COMPANY

OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3

DOCKET NOS. 50-269, 50-270, AND 50-287

1.0 INTRODUCTION

By letter dated May 5, 1993, Duke Power Company (the licensee) submitted a request for changes to the Oconee Nuclear Station, Units 1, 2, and 3 Technical Specifications (TS). The amendments would provide an interim acceptance criteria for control rod drop time on Oconee Unit 1. These modifications would change the current acceptance criteria of 1.66 seconds from the fully withdrawn to 3/4 insertion for the control rod drop time specified in TS 4.7.1, "Control Rod Trip Insertion Time Test." This request is a result of recent testing of control rod drop times, which, in some cases, required multiple drops of the same rod in order to meet the TS acceptance criterion of 1.66 seconds. Although control rod drop time testing is only required during beginning-of-cycle (BOC) startup tests, a test was recently performed on Unit 2 at end-of-cycle (EOC) for a rod which was slow at BOC. The rod did not meet the 1.66 second criterion. This result raised a concern regarding other control rods which tested slow, the concern being that the drop time may have lengthened during the fuel cycle. For Unit 1, Cycle 15, Control Rod 8 in Group 1 and Rod 5 in Group 2 were slow at BOC.

Specifically, for the remainder of Cycle 15, the maximum control rod trip insertion time from the fully withdrawn position to 3/4 insertion (104 inches travel) for Group 1, Rod 8, and Group 2, Rod 5, shall not exceed 2.0 seconds at reactor coolant full flow conditions with the following provisions:

1. The average insertion time for the remaining rods in Groups 1 and 2 is less than or equal to 1.50 seconds, and
2. The core average negative reactivity insertion rate is within the assumption of the safety margin.

2.0 EVALUATION

Although the rod drop times for the two control rods mentioned above were slightly outside the current TS test acceptance criterion, there is a high level of confidence that the rods will trip into the core if required by the

reactor protection system. There are several reasons for this high level of confidence. First, although the trend from trip time testing has shown a reduction in speed, there has been no indication that these two rods are being mechanically bound. Secondly, there has been no drastic change in rod drop time over the last several cycles. Finally, the required TS monthly control rod movement surveillance will continue to verify the rods are not bound. The licensee has evaluated each accident described in the Oconee Final Safety Analysis Report (FSAR) with respect to the proposed changes to the rod drop time criteria. As a result, they have confirmed that the revised test acceptance criteria still assures that the negative reactivity insertion rate is within the assumptions of the safety analysis. In addition, the licensee has verified that Rod 8 of Group 1 and Rod 5 of Group 2, plus the highest worth control rod, could remain fully withdrawn from the core (stuck out) without impacting the required shutdown margin.

The NRC staff finds the proposed TS changes to the Oconee Unit 1 control rod drop time criteria acceptable for the remainder of Cycle 15. Since the negative reactivity insertion rate will remain within the assumptions of the safety analysis, the staff concludes that all safety margins will be maintained. Rod 8 of Group 1 and Rod 5 of Group 2 will be required to meet a 2.0 second drop time, while the average rod drop times for the remaining rods in Group 1 and Group 2 must meet a 1.5 second drop time. The staff, however, requires these two subject rods to be tested at the next available opportunity and changes made to the control rod drive mechanisms, if necessary.

3.0 EMERGENCY CIRCUMSTANCES

The licensee's application for the TS change has been timely. Prior to the Oconee Unit 2 outage in March 1992, the licensee had used a computer program for testing control rod drop times in which, due to the program, the rod drop time was not recorded if the time exceeded 1.381 seconds, which was still well below the criteria of 1.66 seconds. If a rod was slower than 1.381 seconds, it was dropped several times until it fell below that time. Thus, it was not known whether the drop time met the test criteria or not, but only that it was slower than the computer program cutoff time. The deficiency in this program was identified in early 1992, and it was determined that "as-found" testing of rods which had previously indicated degraded rod drop times should be performed. The first opportunity to perform this testing was on Oconee Unit 2 after shutdown on April 29, 1993. On May 4, 1993, after reviewing the results of rod drop testing on Oconee Unit 2, the licensee reevaluated rod drop tests conducted on Oconee Unit 1 during the last outage in which two rods required repeated tests before meeting the test acceptance criteria. Based on this reevaluation, the two rods were declared inoperable.

The NRC staff finds that failure to grant the proposed changes in a timely manner would result in shutdown of Oconee Unit 1. We also find that the licensee has responded in a timely manner, and has not delayed its application to take advantage of the Emergency License Amendment provisions 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 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission's regulations in 10 CFR 50.92 state that the Commission may make a final determination that a license amendment involves no significant hazards considerations, if operation of the facility, in accordance with the amendment would not (1) involve a significant increase in the probability or consequences of any accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

This amendment has been evaluated against the three standards in 10 CFR 50.92(c). In its analysis of the no significant hazards consideration, the licensee has determined that the operation of the Oconee Unit 1, in accordance with the revised control rod drop time test acceptance criteria, would not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated:

Each accident analysis addressed within the Oconee Final Safety Analysis Report (FSAR) has been examined with respect to the changes proposed within this amendment request. There is no significant increase in the probability of any Design Basis Accident (DBA) as a result of this change, nor is there a significant increase in the consequences of a DBA as a result of this change, since the revised test acceptance criteria assure the ability of the control rods to mitigate design basis accidents. Specifically, the revised test acceptance criteria assures that the negative reactivity insertion rate is within the assumptions of the safety analysis.

- (2) Create the possibility of a new or different kind of accident from any accident previously evaluated:

Operation of ONS [Oconee Nuclear Station] in accordance with the revised control rod drop time test acceptance criteria will not create any failure modes not bounded by previously evaluated accidents. Consequently, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

- (3) Involve a significant reduction in a margin of safety:

The revised control rod drop time test acceptance criteria for Unit 1 Cycle 15 assures that the negative reactivity insertion rate assumed in the accident analysis is met. Thus existing margins of safety are preserved. Therefore, there will be no significant reduction in any margin of safety.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied.

Therefore, the NRC staff has determined that the amendment request involves no significant hazards consideration.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the South Carolina State official was notified of the proposed issuance of the amendments. The State official had no comments.

6.0 ENVIRONMENTAL CONSIDERATION

The amendments change surveillance requirements. The NRC 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 radiation exposure. The Commission has made a final no significant hazards consideration finding with respect to the amendments. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

7.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: L. Kopp

Date: May 18, 1993