

September 4, 2003

Mr. Ronald A. Jones
Vice President, Oconee Site
Duke Energy Corporation
P. O. Box 1439
Seneca, SC 29679

SUBJECT: OCONEE NUCLEAR STATION, UNITS 1, 2 AND 3 RE: ISSUANCE OF
AMENDMENTS (TAC NOS. MB7737, MB7738, AND MB7739)

Dear Mr. Jones:

The Nuclear Regulatory Commission has issued the enclosed Amendment Nos. 334, 334 and 335 to Renewed 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 (TSs) in response to your application dated February 19, 2003.

The amendments revise TS 5.5.10, "Steam Generator (SG) Tube Surveillance Program." Specifically, the changes would relocate the existing TS 5.5.10 program requirements applicable to the original SGs (OSGs) to the new TS 5.5.21. Also, the licensee proposes a replacement SG tube surveillance program, TS 5.5.10, that would be consistent with the replacement steam generators scheduled to be installed in Oconee Units 1, 2, and 3 in Fall 2003, Spring 2004, and Fall 2004, respectively. This new TS 5.5.10 program would delete SG repair methods and make other clarifications that are needed to make the new TS consistent with the replacement SGs. The OSGs will continue to be operated under the same surveillance requirements TS 5.5.21 (TS 5.5.10 renumbered) until they have been replaced. Once the OSGs are replaced for all three units, TS 5.5.21 will be obsolete and will be deleted by a future License Amendment Request.

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,

/RA/

Leonard N. Olshan, Senior Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

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

Enclosures:

1. Amendment No. 334 to DPR-38
2. Amendment No. 334 to DPR-47
3. Amendment No. 335 to DPR-55
4. Safety Evaluation

cc w/encls: See next page

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DUKE ENERGY CORPORATION

DOCKET NO. 50-269

OCONEE NUCLEAR STATION, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No.334
Renewed 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) Renewed Facility Operating License No. DPR-38 filed by the Duke Energy Corporation (the licensee) dated February 19, 2003, 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 Renewed Facility Operating License No. DPR-38 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 334, 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 and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

John A. Nakoski, Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: September 4, 2003

DUKE ENERGY CORPORATION

DOCKET NO. 50-270

OCONEE NUCLEAR STATION, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 334
Renewed 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) Renewed Facility Operating License No. DPR-47 filed by the Duke Energy Corporation (the licensee) dated February 19, 2003, 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 Renewed Facility Operating License No. DPR-47 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 334, 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 and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

John A. Nakoski, Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: September 4, 2003

DUKE ENERGY CORPORATION

DOCKET NO. 50-287

OCONEE NUCLEAR STATION, UNIT 3

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 335
Renewed 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) Renewed Facility Operating License No. DPR-55 filed by the Duke Energy Corporation (the licensee) dated February 19, 2003, 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 Renewed Facility Operating License No. DPR-55 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 335, 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 and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

John A. Nakoski, Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: September 4, 2003

ATTACHMENT TO LICENSE AMENDMENT NO. 334
RENEWED FACILITY OPERATING LICENSE NO. DPR-38
DOCKET NO. 50-269
AND
TO LICENSE AMENDMENT NO. 334
RENEWED FACILITY OPERATING LICENSE NO. DPR-47
DOCKET NO. 50-270
AND
TO LICENSE AMENDMENT NO. 335
RENEWED FACILITY OPERATING LICENSE NO. DPR-55
DOCKET NO. 50-287

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

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TS 5.0-13
TS 5.0-14
TS 5.0-15
TS 5.0-16
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TS 5.0-18
TS 5.0-19
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TS 5.0-28
TS 5.0-29
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TS 5.0-31
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TS 5.0-36
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO
AMENDMENT NO. 334 TO RENEWED FACILITY OPERATING LICENSE DPR-38
AMENDMENT NO. 334 TO RENEWED FACILITY OPERATING LICENSE DPR-47
AND AMENDMENT NO. 335 TO RENEWED FACILITY OPERATING LICENSE DPR-55
DUKE ENERGY CORPORATION
OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3
DOCKET NOS. 50-269, 50-270, AND 50-287

1.0 INTRODUCTION

By application dated February 19, 2003, Duke Energy Corporation (the licensee) submitted a request for changes to the Technical Specifications (TSs) for the Oconee Nuclear Station Units 1, 2, and 3. The proposed changes would revise TS 5.5.10, "Steam Generator (SG) Tube Surveillance Program." Specifically, the changes would relocate the existing TS 5.5.10 program requirements applicable to the original SGs (OSGs) to the new TS 5.5.21. Additionally, the licensee proposes a replacement SG tube surveillance program, TS 5.5.10, that would be consistent with the replacement steam generators (RSGs) scheduled to be installed in Oconee Units 1, 2, and 3 in Fall 2003, Spring 2004, and Fall 2004, respectively. This new TS 5.5.10 program would delete SG repair methods and make other clarifications that are needed to make the new TS consistent with the RSGs. The OSGs will continue to be operated under the same surveillance requirements, now in the new TS 5.5.21 (TS 5.5.10 renumbered), until they have been replaced. Once the OSGs are replaced for all three units, TS 5.5.21 will be obsolete and will be deleted by a future License Amendment Request (LAR). The changes to be made to the existing TS 5.5.10 for the RSGs are as follows:

- Addition of a note stating that the new TS 5.5.10 applies only to the RSGs.
- References to sleeve repair are to be deleted from the following TS Sections:
 - 5.5.10(b)
 - 5.5.10(c)(1)(a)
 - 5.5.10(e)(1)
 - 5.5.10(e)(2)
 - 5.5.10(e)(3)
 - 5.5.10(e)(4)
 - 5.5.10(e)(5)
 - 5.5.10(e)(6)

- References to tube reroll repair methods are to be deleted from the following TS Sections:
 - 5.5.10(b)
 - 5.5.10(d)(4)
 - 5.5.10(e)(6)
 - 5.5.10(e)(8)
- “Repair Limit” is to be changed to “Plugging Limit” in TS Sections 5.5.10(b), TS 5.5.10(e)(5) and TS 5.5.10(e)(6).
- The entire second paragraph of TS Section 5.5.10(b) is to be eliminated.
- All references to tube “repair” are to be deleted from Table 5.5.10-1.
- Sections 5.5.10(c)(2) and 5.5.10(c)(3) are to be deleted from the TS.
- All references to all volatile treatment (AVT) conditions are to be deleted from TS Section 5.5.10(d)(1).

2.0 REGULATORY EVALUATION

In Section 3.2 of the submittal, the licensee identified applicable regulatory requirements that are summarized below.

On February 6 and October 6, 1973, and July 19, 1974, the Nuclear Regulatory Commission (NRC) issued the licensee Facility Operating Licenses (FOLs) for Oconee Units 1, 2, and 3. The FOLs did not include a steam generator tube surveillance program. On September 21, 1976, the NRC proposed a model SG surveillance TS (B&W STS) and requested that Duke propose a LAR for Oconee based on the model TS. Duke submitted an LAR on November 30, 1976, that was supplemented on June 21, 1977, January 23, October 16, 1979, and February 6, 1980. The OSGs have an open tube lane to simplify the inspection process of the tube bundle. Tubes adjacent to the open tube lane were found to experience high tensile stress and cracking due to the open tube lane allowing saturated fluid to reach high elevations in the tube free lane. The high tensile stress and cracking resulted in separate inspection requirements for tubes within three rows of the open tube lane. On February 22, 1980, the NRC issued Amendment Nos. 80, 80, and 77, which included TS 4.17, “Steam Generator Tubing Surveillance,” to Oconee Units 1, 2, and 3. On September 1, 1987, the NRC approved an LAR submitted by Duke Energy Corporation that would revise TS 4.17 to allow sleeve repairs for Inconel 600 SG tubes (Amendment Nos. 161, 161, and 158). Reroll repair of the tube sheet region of Inconel 600 SG tubes was approved as a revision to TS 4.17 by the NRC on November 21, 1997 (Amendment Nos. 227, 227, and 224). On July 1, 1998, the NRC approved the addition, to TS 4.17.2, of a provision that SG tubes in Oconee Units 1 and 3 with tube end anomalies were exempted from repair or plugging until repaired by the end of the next refueling outages (Amendment Nos. 230 and 227). The NRC issued Amendment Nos. 300, 300, and 300 on December 16, 1998, for Oconee Units 1, 2, and 3 that replaced the old TS (4.17) with the new TS (5.5.10). An LAR was approved by the NRC to revise TS 5.5.10(e)(6), the definition of “Repair Limit” for tube end anomalies, on December 3, 1999 (Amendment Nos. 308, 308, and 308). On December 15, 2000, the NRC approved an LAR to revise the requirements for the SG tube reroll repair process, TS 5.5.10(e)(6) (Amendment Nos. 318, 318, and 318).

Items that must be included in the TSs are defined within Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36 of Part 50. Steam generator tube surveillance requirements consistent with the requirements of 10 CFR 50.36 are included within the TSs for Oconee Units 1, 2, and 3. License amendments were sought by the licensee as the SG tubes degraded within Oconee Units 1, 2, and 3. The approved amendments were developed based on the design of the OSGs. Since the SGs replacing the OSGs incorporate design and material changes (Section 3.1 of licensee's submittal), this safety evaluation focuses on the relevance of applying the methods approved for the OSGs on the RSGs.

A number of design and material changes will be incorporated with the installment of the RSGs. These changes require that repair criteria for the RSGs be different than that for the OSGs. The new TS 5.5.10 will include the repair criteria for the RSGs.

3.0 TECHNICAL EVALUATION

The NRC staff has reviewed the licensee's regulatory and technical analyses in support of its proposed license amendment that are described in Sections 2.0, 3.1, and 4.0 of the licensee's submittal. The detailed evaluation below will support the conclusion 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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

Tube plugging levels for Oconee Units 1, 2, and 3 are approaching limits that were established by the accident analysis assumptions in Chapter 15, "Accident Analysis," of the Updated Final Safety Analysis Report. Therefore, the OSGs are approaching the end of their service life and are scheduled to be replaced with similar Babcock & Wilcox SGs. A number of design and material changes will be incorporated with the installment of the RSGs and are listed in Section 3.1 of the licensee's submittal. The design of the RSGs is intended to improve the operation, maintainability, and accident tolerance of the SGs.

All surveillance requirements and their bases that are not valid for the RSGs are to be deleted from the new TS 5.5.10. These surveillance requirements are associated with SG tube sleeving repair methods, SG tube reroll repair methods, open tube lane, AVT, tube end anomalies, and "Repair Limit."

Sleeving and reroll repair methods are not applicable to the RSGs and are to be deleted from the TSs. These repair methodologies were based on Inconel 600 tubing. The RSGs will consist of Alloy 690 tubing that exhibits more resistance to intergranular attack and stress corrosion cracking.

The design of the RSGs does not incorporate an open tube lane. Therefore, the open tube lane inspection group references are to be deleted from the TSs.

All references to AVT are to be deleted from the TSs because the RSGs will always be operated with AVT, as were the OSGs.

All references to "Repair Limit" are to be changed to "Plugging Limit" due to the installment of the RSGs.

The references to the tube end anomalies and their technical bases are to be deleted from the TSs due to the tube material change and the different manufacturing processes associated with the tube installation for the RSGs.

The licensee has proposed to change the existing TS 5.5.10 and to add TS 5.5.21. The current TS 5.5.10 applies to the OSGs that are going to be replaced by the RSGs. The RSGs use a different tube material than the OSGs and lack an open tube lane. Due to these design and material differences, the SG repair methods addressed in the existing TS 5.5.10 will not be applicable to the RSGs. The new TS 5.5.10 program would delete SG repair methods not applicable to the RSGs and make other clarifications that are needed to make the new TS consistent with the RSGs. The new TS 5.5.21 incorporates all of the previous requirements of the SG tube surveillance program for the OSGs while they are operational. The NRC staff concludes that the proposed changes to TS 5.5.10 and the addition of TS 5.5.21 provides an acceptable SG tube surveillance program applicable to both the RSGs and OSGs.

4.0 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.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and 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 previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (68 FR 12949). 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.

6.0 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. Miller

Date: September 4, 2003

Oconee Nuclear Station

cc:

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