



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

November 27, 2000

Mr. William R. McCollum, Jr.
Vice President, Oconee Site
Duke Energy Corporation
7800 Rochester Highway
Seneca, SC 29672

SUBJECT: OCONEE NUCLEAR STATION, UNITS 1, 2 AND 3 RE: ISSUANCE OF
AMENDMENTS (TAC NOS. MB0272, MB0273, AND MB0274)

Dear Mr. McCollum:

The Nuclear Regulatory Commission has issued the enclosed Amendment Nos. 317 ,
317 , and 317 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 October 18, 2000.

The amendments revise the implementation date of TS Amendment Nos. 312, 312, and 312,
from November 30, 2000, so that implementation will be on or before implementation of
amendments resulting from the application that must be submitted by April 5, 2001. This
submittal will be based on your engineering study that is being conducted to evaluate both the
appropriate Keowee Hydro Unit out-of-tolerance surveillance criteria and resolve overshoot
concerns. Since the new implementation date of Amendment Nos. 312, 312, and 312 is
undetermined, this amendment requires that you inform the staff in writing prior to
implementation.

There are no changes to the enclosed TS pages. They reflect the TS provisions that were in
effect prior to distribution of Amendment Nos. 312, 312, and 312. They are enclosed to ensure
accuracy of the TS.

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,

David E. LaBarge, 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. 317 to DPR-38
2. Amendment No. 317 to DPR-47
3. Amendment No. 317 to DPR-55
4. Safety Evaluation

cc w/encls: See next page

Mr. William R. McCollum, Jr.
 Vice President, Oconee Site
 Duke Energy Corporation
 P. O. Box 1439
 Seneca, SC 29679

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There are no changes to the enclosed TS pages. They reflect the TS provisions that were in effect prior to distribution of Amendment Nos. 312, 312, and 312. They are enclosed to ensure accuracy of the TS.

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Sincerely,

/RA/

David E. LaBarge, Senior Project Manager, Section 1
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cc w/encls: See next page

DOCUMENT NAME: G:\PDII-1\OCONEE\B0272 AMM.wpd *See previous concurrence

OFFICE	PDII-1/PM	PDII-1/LA	EEIB	PDII-1/SC	OGC ^{* NLO with comments}
NAME	DLaBarge:cn	CHawes <i>CHH</i>	JCalvo*	REmch <i>RE</i>	<i>R Weisman</i>
DATE	11/8/00	11/21/00	10/26/00	11/27/00	11/18/00

OFFICIAL RECORD COPY

* Do not issue until Nov 25, 2000.

Comments incorporated 11/18/00



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

DUKE ENERGY CORPORATION

DOCKET NO. 50-269

OCONEE NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 317
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 Energy Corporation (the licensee) dated October 18, 2000, 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 such that Amendment No. 312 shall not be implemented until the engineering evaluation required by Amendment No. 316 is completed with respect to overshoot and an implementation schedule has been approved by the staff.

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

FOR THE NUCLEAR REGULATORY COMMISSION



Richard L. Emch, Jr., Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: November 27, 2000



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

DUKE ENERGY CORPORATION

DOCKET NO. 50-270

OCONEE NUCLEAR STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.317
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 Energy Corporation (the licensee) dated October 18, 2000, 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 such that Amendment No. 312 shall not be implemented until the engineering evaluation required by Amendment No. 316 is completed with respect to overshoot and an implementation schedule has been approved by the staff.

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

FOR THE NUCLEAR REGULATORY COMMISSION



Richard L. Emch, Jr., Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: November 27, 2000



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

DUKE ENERGY CORPORATION
DOCKET NO. 50-287
OCONEE NUCLEAR STATION, UNIT 3
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 317
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 Energy Corporation (the licensee) dated October 18, 2000, 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 such that Amendment No. 312 shall not be implemented until the engineering evaluation required by Amendment No. 316 is completed with respect to overshoot and an implementation schedule has been approved by the staff.

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

FOR THE NUCLEAR REGULATORY COMMISSION



Richard L. Emch, Jr., Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Technical Specification
Changes

Date of Issuance: November 27, 2000

ATTACHMENT TO LICENSE AMENDMENT NO.317

FACILITY OPERATING LICENSE NO. DPR-38

DOCKET NO. 50-269

AND

TO LICENSE AMENDMENT NO. 317

FACILITY OPERATING LICENSE NO. DPR-47

DOCKET NO. 50-270

AND

TO LICENSE AMENDMENT NO. 317

FACILITY OPERATING LICENSE NO. DPR-55

DOCKET NO. 50-287

Instructions for returning Appendix A, Technical Specifications (TS), to its status prior to approval of Amendment Nos. 312, 312, and 312 are shown below. The appropriate TS pages are included to ensure the accuracy of the TS and need only to be used if the TS pages included in the amendments have already been inserted into the TS. This is necessary because implementation of these amendments has been delayed and should not yet be reflected in the Technical Specifications.

Remove

TS LOEP1
TS LOEP7
3.8.1-17
BASES LOEP1
BASES LOEP13
BASES LOEP14
B3.8.1-4
B3.8.1-5
B3.8.1-25
B3.8.1-26

Insert

TS LOEP1
TS LOEP7
3.8.1-17
BASES LOEP1
BASES LOEP13
BASES LOEP14
B3.8.1-4
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OCONEE NUCLEAR STATION
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LOEP4	309/309/309	1/18/00
LOEP5	314/314/314	09/06/00
LOEP6	309/309/309	1/18/00
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LOEP9	310/310/310	1/18/00
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ii	315/315/315	09/18/00
iii	309/309/309	1/18/00
iv	309/309/309	1/18/00
1.1-1	300/300/300	12/16/98
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1.3-6	300/300/300	12/16/98
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1.3-8	300/300/300	12/16/98
1.3-9	300/300/300	12/16/98
1.3-10	300/300/300	12/16/98
1.3-11	300/300/300	12/16/98
1.3-12	300/300/300	12/16/98
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1.4-3	300/300/300	12/16/98
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2.0-1	313/313/313	6/21/00

LOEP1

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3.8.5-3	300/300/300	12/16/98
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3.9.2-2	300/300/300	12/16/98
3.9.3-1	303/303/303	04/28/99

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.16 -----NOTE----- Only applicable when complying with Required Action C.2.2.4. ----- Verify one KHU provides an alternate manual AC power source capability by manual or automatic KHU start with manual synchronize, or breaker closure, to energize its non- required emergency power path.</p>	<p>As specified by Required Action C.2.2.4</p>

OCONEE NUCLEAR STATION
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LOEP15	BASES REVISION	01/31/00
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OCONEE NUCLEAR STATION
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B 3.7.16-5	300/300/300	12/16/98
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B 3.8.1-11	BASES REVISION	01/31/00
B 3.8.1-12	BASES REVISION	03/27/99
B 3.8.1-13	300/300/300	12/16/98
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OCONEE NUCLEAR STATION
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B 3.8.3-1	300/300/300	12/16/98
B 3.8.3-2	BASES REVISION	08/08/00
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B 3.8.3-8	BASES REVISION	01/31/00
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B 3.8.4-3	300/300/300	12/16/98
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BASES

LCO
(continued)

An OPERABLE KHU and its required overhead emergency power path must be capable of automatically supplying power from the KHU through the KHU main step-up transformer, the 230 kV yellow bus, the Unit startup transformer and both E breakers to both main feeder buses. At least one channel of switchyard isolation (by actuation from degraded grid voltage protection) is required to be OPERABLE to isolate the 230 kV switchyard yellow bus. If closed, each N breaker must be capable of opening using either of its associated breaker trip circuits. Either of the following combinations provides an acceptable KHU and required overhead emergency power path:

<u>Keowee Hydro Unit</u>		<u>Keowee Hydro Unit</u>	
1A)	Keowee Unit 1 generator,	1B)	Keowee Unit 2 generator,
2A)	Keowee ACB 1 (enabled by one channel of Switchyard Isolate Complete),	2B)	Keowee ACB 2 (enabled by one channel of Switchyard Isolate Complete),
3A)	Keowee auxiliary transformer 1X, Keowee ACB 5, Keowee Load Center 1X.	3B)	Keowee auxiliary transformer 2X, Keowee ACB 6, Keowee Load Center 2X,
4A)	Keowee MCC 1XA,	4B)	Keowee MCC 2XA,
5A)	Keowee Battery #1, Charger #1 or Standby Charger, and Distribution Center 1DA,	5B)	Keowee Battery #2, Charger #2 or Standby Charger, and Distribution Center 2DA,
6A)	ACB-1 to ACB-3 interlock,	6B)	ACB-2 to ACB-4 interlock,
7)	Keowee reservoir level \geq 775 feet above sea level,		

Overhead Emergency Power Path

- 8) Keowee main step-up transformer,
- 9) PCB 9 (enabled by one channel of Switchyard Isolate Complete),
- 10) The 230kV switchyard yellow bus capable of being isolated by one channel of Switchyard Isolate,
- 11) A unit startup transformer and associated yellow bus PCB (CT-1 / PCB 18, CT-2 / PCB 27, CT-3 / PCB 30),
- 12) Both E breakers.

BASES

LCO
(continued)

An OPERABLE KHU and its required underground emergency power path must be capable of automatically supplying power from the KHU through the underground feeder, transformer CT-4, both standby buses, and both Unit S breakers to both main feeder buses. If closed, each N breaker and each SL breaker must be capable of opening using either of its associated breaker trip circuits. Either of the following combinations provides an acceptable KHU and required underground emergency power path:

<u>Keowee Hydro Unit</u>	<u>Keowee Hydro Unit</u>
1A) Keowee Unit 1 generator,	1B) Keowee Unit 2 generator,
2A) Keowee ACB 3,	2B) Keowee ACB 4,
3A.1) Keowee auxiliary transformer CX, Keowee ACB 7, Keowee Load Center 1X,	3B.1) Keowee auxiliary transformer CX, Keowee ACB 8, Keowee Load Center 2X,
3A.2) One Oconee Unit 1 S breaker capable of feeding switchgear 1TC,	3B.2) One Oconee Unit 1 S breaker capable of feeding switchgear 1TC,
3A.3) Switchgear 1TC capable of feeding Keowee auxiliary transformer CX,	3B.3) Switchgear 1TC capable of feeding Keowee auxiliary transformer CX,
4A) Keowee MCC 1XA,	4B) Keowee MCC 2XA,
5A) Keowee Battery #1, Charger #1 or Standby Charger, and Distribution Center 1DA,	5B) Keowee Battery #2, Charger #2 or Standby Charger, and Distribution Center 2DA,
6A) ACB-1 to ACB-3 interlock,	6A) ACB-2 to ACB-4 interlock,
7) Keowee reservoir level \geq 775 feet above sea level,	

Underground Emergency Power Path

- 8) The underground feeder,
- 9) Transformer CT-4,
- 10) Both SK breakers,
- 11) Both standby buses,
- 12) Both S breakers, and
- 13) ACB-3 to ACB-4 interlock.

BASES

SURVEILLANCE REQUIREMENTS SR 3.8.1.16 (continued)

OPERABLE. When the overhead emergency power path is inoperable, the SR verifies by administrative means that the KHU associated with the overhead emergency power path is OPERABLE.

This SR is modified by a Note indicating that the SR is only applicable when complying with Required Action C.2.2.4.

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- REFERENCES
1. UFSAR, Section 3.1.39
 2. UFSAR, Chapter 16
 3. 10 CFR 50.36
 4. UFSAR, Chapter 6
 5. UFSAR, Chapter 15
 6. Regulatory Guide 1.32
 7. Regulatory Guide 1.129
 8. IEEE-450-1980
 9. UFSAR, Section 6.3.3.3
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 317 TO FACILITY OPERATING LICENSE DPR-38

AMENDMENT NO. 317 TO FACILITY OPERATING LICENSE DPR-47
AND AMENDMENT NO. 317 TO 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 letter dated October 18, 2000, Duke Energy Corporation (the licensee) submitted a request to change the Oconee Nuclear Station, Units 1, 2, and 3 (Oconee) Technical Specifications (TS). The requested change would revise the implementation date of Amendment Nos. 312, 312, and 312 from November 30, 2000, so that implementation will be on or before implementation of amendments resulting from the application that must be submitted by April 5, 2001. This submittal will be based on an engineering study that is being conducted to evaluate certain Keowee Hydro Unit (KHU) surveillance criteria and resolve overshoot concerns. The overshoot concerns are described in Amendment Nos. 316, 316, and 316 that were issued on October 4, 2000.

2.0 BACKGROUND

In recent discussions between the licensee and the staff, interpretation differences in the application of SR 3.8.1.9.a were identified. This annual Surveillance Requirement (SR) states: "Verify on an actual or simulated emergency actuation signal each KHU auto starts and: a. Achieves frequency ≥ 57 Hz and ≤ 63 Hz and voltage ≥ 13.5 kV and ≤ 14.49 kV in ≤ 23 seconds, and...." The staff interpreted this requirement such that the bands on frequency and voltage constitute upper and lower limits for determining the operability of the KHU.

When a KHU is started due to an emergency or the annual SR test, it reaches rated frequency and voltage within the required 23 seconds. Due to the characteristics of the KHUs, the speed of the KHUs continues to increase, causing the frequency to exceed the bands specified in SR 3.8.1.9.a for a short period of time (approximately 9 seconds). Following this brief overshoot, the frequency returns to within the limits specified in the SR.

Given the upper voltage and frequency limits specified in SR 3.8.1.9.a, the overshoot characteristics of the KHUs, and the staff's interpretation, it was found that this SR cannot be met. Consequently, both KHUs were declared inoperable on September 5, 2000, and a Notice

of Enforcement Discretion (NOED) was requested and granted verbally on September 5, 2000. The NOED was issued on September 8, 2000, and follow-up Amendment Nos. 316, 316, and 316 were issued on October 4, 2000. The TS change added a note to SR 3.8.1.9.a which stated that the upper voltage and frequency requirements were not required to be met until the NRC issues an amendment that removes the note, which will be based on an amendment that must be submitted by April 5, 2001. The purpose of this change was to allow time for engineering evaluations to be conducted to define the appropriate limits.

When Amendment Nos. 312, 312, and 312 were approved by the Commission, SR 3.8.1.17 was added to verify operability of the new KHU out-of-tolerance (OOT) logic that trips the appropriate overhead or underground power path breakers and blocks their closure. This logic is being added as part of a modification to provide OOT voltage and frequency protection for the Oconee loads when they are powered from the KHUs. These amendments were approved and issued by the staff on June 6, 2000, with an implementation date of November 30, 2000.

The KHU voltage and frequency OOT modifications that are discussed in Amendment Nos. 312, 312, and 312, will also provide delayed loading for each KHU. Since the licensee is pursuing plant changes to modify the overshoot as required by the TS change, and these changes may impact the OOT modification, the licensee has requested that the KHU OOT voltage and frequency concerns be further reviewed and resolved in conjunction with the overshoot issue.

3.0 EVALUATION

The licensee has initiated an Engineering Project to evaluate the SR Program for the KHUs relative to the overshoot characteristics. This project will utilize an improved overshoot modeling capability that the licensee has recently developed. The results of this project are likely to include additional modifications to address the overshoot issue, as well as revised SRs. Options are being explored that may alter or render obsolete the installation of the planned OOT modification. This effort is being managed to support the amendment that is required by the TS to be submitted no later than April 5, 2001.

The KHUs and their role in the Oconee emergency power system currently meet the design/licensing basis requirements for the system. The licensee committed to provide protection for OOT voltage and frequency on the KHU generators to further improve the design in response to concerns raised in the NRC Emergency Electrical Power System Report dated January 1999. The licensee considers the addition of the OOT logic to be an enhancement to the emergency power system. Also, test results from the most recent emergency power start annual surveillance test conducted on September 29, 2000, demonstrated that the KHUs were performing consistent with previous emergency start responses. The times to achieve rated speed and voltage, as well as the times the units were in the OOT region, were consistent with previous tests and within expected results. These results provide further assurance that the KHU governors have not degraded and are performing as expected.

The staff has reviewed the OOT SR criteria in the TS change associated with Amendment Nos. 312, 312, and 312, and determined that there is no increase in risk associated with the delay of application of the criteria while special engineering studies are conducted to resolve overshoot concerns. In addition, the staff believes that the results of these studies may have an impact on the design of the OOT relay modification and TS SR criteria. Therefore, delaying

implementation of Amendment Nos. 312, 312, and 312 to determine what effect the engineering study to resolve the overshoot concerns has on the OOT relay modification is acceptable. The amendment addressing these concerns must be submitted by April 5, 2001, as required by Amendment Nos. 316, 316, and 316.

Since the engineering evaluation may determine that Amendment Nos. 312, 312, and 312 could safely be implemented on or before implementation of the amendments resulting from the design study, the licensee must obtain staff approval of the schedule prior to implementation.

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 the implementation of 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 (65 FR 63896). 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.

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Date: November 27, 2000

Oconee Nuclear Station

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