

Dockets Nos. 50-269(270)/287

July 5, 1977

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Duke Power Company  
 ATTN: Mr. William O. Parker, Jr.  
 Vice President  
 Steam Production  
 Post Office Box 2178  
 422 South Church Street  
 Charlotte, North Carolina 28242

Gentlemen:

The Commission has issued the enclosed Amendments Nos. <sup>Dross</sup> 43 and 40 to Facility Operating Licenses Nos. DPR-38, DPR-47 and DPR-55 for the Oconee Nuclear Station, Units Nos. 1, 2 and 3, respectively. These amendments consist of changes to the Technical Specifications and are in response to your application dated February 5, 1976.

These amendments delete the requirement that containment integrity be maintained when the reactor coolant system is open to the containment atmosphere and the requirements for a refueling shutdown are not met.

Copies of the Safety Evaluation and the Federal Register Notice are also enclosed.

Sincerely,

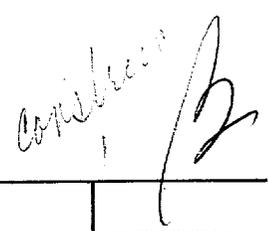
Original signed by

A. Schwencer, Chief  
 Operating Reactors Branch #1  
 Division of Operating Reactors

Enclosure:

1. Amendment No. 43 to DPR-38
2. Amendment No. 43 to DPR-47
3. Amendment No. 40 to DPR-55
4. Safety Evaluation
5. Federal Register Notice

cc w/enclosures:  
 See next page



OFFICE >	ORB#1	OELD	ORB#1		
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SURNAME >					
DATE >	6/16/76	6/ /76	6/ /76		

Duke Power Company

- 2 -

cc: Mr. William L. Porter  
Duke Power Company  
P. O. Box 2178  
422 South Church Street  
Charlotte, North Carolina 28242

J. Micheal McGarry, III, Esquire  
DeBevoise & Liberman  
700 Shoreham Building  
806-15th Street, NW.,  
Washington, D.C. 20005

Oconee Public Library  
201 South Spring Street  
Walhalla, South Carolina 29691

Honorable James M. Phinney  
County Supervisor of Oconee County  
Walhalla, South Carolina 29621

Office of Intergovernmental Relations  
116 West Jones Street  
Raleigh, North Carolina 27603

Chief, Energy Systems  
Analyses Branch (AW-459)  
Office of Radiation Programs  
U. S. Environmental Protection Agency  
Room 645, East Tower  
401 M Street, S. W.  
Washington, D. C. 20460

U. S. Environmental Protection Agency  
Region IV Office  
ATTN: EIS COORDINATOR  
345 Coutland Street, N. E.  
Atlanta, Georgia 30308



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. 43  
License No. DPR-38

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Duke Power Company (the licensee) dated February 5, 1976, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment.

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

FOR THE NUCLEAR REGULATORY COMMISSION



A. Schwencer, Chief  
Operating Reactors Branch #1  
Division of Operating Reactors

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: July 5, 1977

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 43 TO DPR-38

AMENDMENT NO. 43 TO DPR-47

AMENDMENT NO. 40 TO DPR-55

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

Revise Appendix A as follows:

Remove pages 3.6-1 and 3.6-2 and insert revised pages 3.6-1 and 3.6-2.

### 3.6 REACTOR BUILDING

#### Applicability

Applies to the containment when the reactor is in conditions other than refueling shutdown.

#### Objective

To assure containment integrity during shutdown (other than refueling shutdown), startup and operation.

#### Specification

- 3.6.1 Containment integrity shall be maintained whenever all three (3) of the following conditions exist:
- a. Reactor coolant pressure is 300 psig or greater
  - b. Reactor coolant temperature is 200<sup>o</sup>F or greater
  - c. Nuclear fuel is in the core
- 3.6.2 Containment integrity shall be maintained whenever the reactor is subcritical by less than 1%  $\Delta k/k$  or whenever positive reactivity insertions are being made which would result in the reactor being subcritical by less than 1%  $\Delta k/k$ .
- 3.6.3 Exceptions to 3.6.1 and 3.6.2 shall be as follows:
- a. If either the personnel or emergency hatches become inoperable, except as a result of an inoperable door gasket, the hatch shall be restored to an operable status within 24 hours, or the reactor shall be in cold shutdown within the next 36 hours.  
  
If a hatch is inoperable due to an inoperable door gasket:
    1. The remaining door of the affected hatch shall be closed and sealed. If the inner door gasket is inoperable, momentary passage (not to exceed 10 minutes for each opening) is permitted through the outer door for repair or test of the inner door, provided that the outer door gasket is leak tested within 24 hours after opening of the outer door.
    2. The hatch shall be restored to operable status within seven days or the reactor shall be in cold shutdown within the next 36 hours.
  - b. A containment isolation valve may be inoperable provided either:
    1. The inoperable valve is restored to operable status within four hours.
    2. The affected penetration is isolated within four hours by the use of a deactivated automatic valve secured and locked in the isolated position.

3. The affected penetration is isolated within four hours by the use of a closed manual valve or blind flange.
4. The reactor is in the hot shutdown condition within 12 hours and cold shutdown within 24 hours.

3.6.4 The reactor building internal pressure shall not exceed 1.5 psig or five inches of Hg if the reactor is critical.

3.6.5 Prior to criticality following refueling shutdown, a check shall be made to confirm that all manual containment isolation valves which should be closed are closed and tagged.

### Bases

The Reactor Coolant System conditions of cold shutdown assure that no steam will be formed and hence no pressure buildup in the containment if the Reactor Coolant System ruptures.

The selected shutdown conditions are based on the type of activities that are being carried out and will preclude criticality in any occurrence.

The reactor building is designed for an internal pressure of 59 psig and an external pressure 3.0 psi greater than the internal pressure. The design external pressure of 3.0 psi corresponds to a margin of 0.5 psi above the differential pressure that could be developed if the building is sealed with an internal temperature of 120°F with a barometric pressure of 29.0 inches of Hg and the building is subsequently cooled to an internal temperature of 80°F with a concurrent rise in barometric pressure to 31.0 inches of Hg. The weather conditions assumed here are conservative since an evaluation of National Weather Service records for this area indicates that from 1918 to 1970 the lowest barometric pressure recorded is 29.05 inches of Hg and the highest is 30.85 inches of Hg.

Operation with a personnel or emergency hatch inoperable does not impair containment integrity since either door meets the design specifications for structural integrity and leak rate. Momentary passage through the outer door is necessary should the inner door gasket be inoperative to install or remove auxiliary restraint beams on the inner door to allow testing of the hatch. The time limits imposed permit completion of maintenance action and the performance of a local leak rate test when required or the orderly shutdown and cooldown of the reactor. Timely corrective action for an inoperable containment isolation valve is also specified.

When containment integrity is established, the limits of 10CFR100 will not be exceeded should the maximum hypothetical accident occur.

### REFERENCES

FSAR, Section 5



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. 43  
License No. DPR-47

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Duke Power Company (the licensee) dated February 5, 1976, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment.

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

FOR THE NUCLEAR REGULATORY COMMISSION



A. Schwencer, Chief  
Operating Reactors Branch #1  
Division of Operating Reactors

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: July 5, 1977



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. 40  
License No. DPR-55

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Duke Power Company (the licensee) dated February 5, 1976, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment.

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

FOR THE NUCLEAR REGULATORY COMMISSION



A. Schwencer, Chief  
Operating Reactors Branch #1  
Division of Operating Reactors

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: July 5, 1977



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 43 TO FACILITY LICENSE NO. DPR-38

SUPPORTING AMENDMENT NO. 43 TO FACILITY LICENSE NO. DPR-47

SUPPORTING AMENDMENT NO. 40 TO FACILITY LICENSE NO. DPR-55

DUKE POWER COMPANY

OCONEE NUCLEAR STATION, UNITS NOS. 1, 2 AND 3

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

Introduction

By letter dated February 5, 1976, Duke Power Company (the licensee) requested changes to the Technical Specifications appended to Facility Operating Licenses DPR-38, DPR-47 and DPR-55 for the Oconee Nuclear Station, Units Nos. 1, 2 and 3. The proposed changes would revise the applicability and objective statements of Section 3.6 pertaining to the Reactor Building containment integrity such that it would apply in all modes of system operation except refueling shutdown.

Discussion

The Oconee Technical Specifications contain the definition for Refueling Shutdown (specification 1.2.6) and several requirements to be met to assure that fuel loading and refueling operations are performed in a responsible manner (specification 3.8). The Technical Specifications also include reactor building containment integrity requirements that are to be met when the reactor is subcritical by less than 1%  $\Delta k/k$ . (specification 3.6). One of these latter requirements is that containment integrity shall be maintained when the reactor coolant system is open to the containment atmosphere and the requirements for a refueling shutdown are not met (specification 3.6.2).

In its proposal, the licensee points out that specifications 1.2.6 and 3.8.4 address the reactor conditions, in lieu of containment integrity conditions, which must be maintained during a refueling condition. In addition, since the reactor is never subcritical by less than 1%  $\Delta k/k$  during a refueling shutdown ambiguity exists as to the applicability of specification 3.6.2. The licensee also indicates that routine maintenance which requires opening of the reactor coolant system to the containment atmosphere, such as instrument replacements, reactor coolant pump maintenance, etc., do not involve the possibility of reactivity insertion

accidents and therefore containment integrity should not be necessary at all times when the reactor coolant system is open.

The licensee is therefore proposing that specification 3.6.2 be deleted and that the applicability of specification 3.6 be changed to apply to the containment when the reactor is in conditions other than refueling shutdown.

#### Evaluation

Specification 3.6 of the Oconee Technical Specifications presently applies to the Reactor Building containment when the reactor is subcritical by less than 1%  $\Delta k/k$ . Three requirements are identified. The first is that the containment integrity be maintained whenever positive reactivity insertions which could result in the reactor being subcritical by less than 1%  $\Delta k/k$  are made by control rod motion or boron dilution. The second requires that containment integrity be maintained whenever all three of the following conditions exist: (1) Reactor coolant pressure is greater than 300 psig; (2) Reactor coolant temperature is 200°F or greater; and (3) Nuclear fuel is in the core. The third is that containment integrity be maintained when the reactor coolant system is open to the containment atmosphere and the requirements for a refueling shutdown are not met. The first two requirements are to insure that containment integrity is in effect whenever the reactor is critical and to insure that the personnel radiation exposure limits of 10 CFR Part 100 are not exceeded in the event of a Loss of Coolant Accident (LOCA). Regarding the third requirement (specification 3.6.2), we agree with the licensee that it is not consistent with the applicability of specification 3.6 in that during a refueling shutdown, the reactor is never subcritical by less than 1%  $\Delta k/k$ . In reaching this conclusion we considered the following:

- 1) Prior to commencing refueling operations, the reactor is placed in Cold Shutdown conditions which are defined in specification 1.2.1 to be when the reactor is subcritical by at least 1%  $\Delta k/k$  and T average is no more than 200°F,
- 2) As defined in specification 1.2.6, the reactor is in a Refueling Shutdown condition when, even with all rods removed, the reactor would be subcritical by at least 1%  $\Delta k/k$  and the coolant temperature at the low pressure injection pump suction is no more than 140°F, and
- 3) Specification 3.8.4 requires that during reactor vessel head removal and while loading and unloading fuel from the reactor, the boron concentration shall be maintained at not less than that required to shutdown the core to a k effective  $\leq .99$  (shutdown by at least 1%  $\Delta k/k$ ) if all control rods were removed.

Specifications 1.2.1, 1.2.6 and 3.8.4 therefore identify the reactor conditions that must exist during refueling operation. Specification 3.6.2 refers to a situation which cannot exist, ie, the reactor coolant system open to the containment atmosphere (reactor vessel head off) and the requirements for a refueling shutdown not met, without being in conflict with the above specifications.

We also agree with the licensee that routine maintenance which requires opening of the reactor coolant system to the containment atmosphere, such as instrument replacements, reactor coolant pump maintenance, etc., do not involve the possibility of reactivity insertion accidents. In addition, since this maintenance is done during cold shutdown conditions, there is no need for containment integrity to be maintained.

In view of the above, we conclude that specification 3.6.2 can be deleted and that specification 3.6 can therefore be changed to apply to the containment when the reactor is in conditions other than refueling shutdown.

We have determined that the amendments do not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendments involve an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR § 51.5(d)(4) that an environmental statement, negative declaration, or environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

#### Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the change does not involve a significant increase in the probability of consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the change does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date: July 5, 1977

UNITED STATES NUCLEAR REGULATORY COMMISSION

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

DUKE POWER COMPANY

NOTICE OF ISSUANCE OF AMENDMENTS TO FACILITY  
OPERATING LICENSES

Notice is hereby given that the U. S. Nuclear Regulatory Commission (the Commission) has issued Amendments Nos. 43, 43 and 40 to Facility Operating Licenses Nos. DPR-38, DPR-47 and DPR-55, respectively, issued to Duke Power Company which revised Technical Specifications for operation of the Oconee Nuclear Station Units Nos. 1, 2 and 3, located in Oconee County, South Carolina. The amendments are effective as of the date of issuance.

These amendments delete the requirement that containment integrity be maintained when the reactor coolant system is open to the containment atmosphere and the requirements for a refueling shutdown are not met.

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

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

For further details with respect to this action, see (1) the application for amendments dated February 5, 1976, (2) Amendments Nos. 43, 43 and 40 to Licenses Nos. DPR-38, DPR-47 and DPR-55, respectively, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. 20555 and at the Oconee County Library, 201 South Spring, Walhalla, South Carolina 29691.

A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this 5th day of July 1977.

FOR THE NUCLEAR REGULATORY COMMISSION



A. Schwencer, Chief  
Operating Reactors Branch #1  
Division of Operating Reactors