

February 24, 1987

Handwritten marks: a large 'D' and '2016' with arrows pointing to the date.

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

<u>Distribution</u>	WJones
Docket File	FOB, PWR-B
NRC & LPDRs	LFMB
GE Edison	RIngram
PBD-6	HPastis
FMiraglia	Gray File+4
OGC-MNBB 9604	EJordan
OPA	TBarnhart-12
LHarmon	JPartlow
ACRS-10	BGrimes
RLipinski	TMarsh
DCrutchfield	

Mr. Hal B. Tucker
Vice President - Nuclear Production
Duke Power Company
P. O. Box 33189
422 South Church Street
Charlotte, North Carolina 28242

Dear Mr. Tucker:

The Commission has issued the enclosed Amendments Nos. 154, 154 and 151 to Facility Operating Licenses Nos. DPR-38, DPR-47 and DPR-55 for the Oconee Nuclear Station, Units Nos. 1, 2 and 3. These amendments consist of changes to the Station's common Technical Specifications (TSs) in response to your request dated August 13, as superseded on August 20, 1986.

These amendments revise the TSs to maintain consistency between an exemption to Appendix J and to the TSs. You also requested an exemption to 10 CFR Part 50, Appendix J, Paragraph III.A.3, to use the mass-plot method for calculating containment leakage. These amendments revise the TSs to allow the use of the mass-plot method and to be consistent with the exemption to Appendix J. The amendments and the exemption are granted for each of the three units until the presently proposed changes to Appendix J become effective. The exemption applies only to the method of calculating leakage by use of the mass-plot and not to any other aspect of the tests.

This request for amendments was noticed on August 27, 1986 (51 FR 30591). By letter dated September 11, 1986, Wisconsin Public Service Corporation gave comments on the staff's proposed no significant hazards consideration determination. A discussion of the public comments are included in our Safety Evaluation.

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

Sincerely,

/s/

Helen N. Pastis, Project Manager
PWR Project Directorate #6
Division of PWR Licensing-B

8703030498 870224
PDR ADDCK 05000269
P PDR

Enclosures:

1. Amendment No. 154 to DPR-38
2. Amendment No. 154 to DPR-47
3. Amendment No. 151 to DPR-55
4. Safety Evaluation

cc w/enclosures:
See next page

*See previous white for concurrences

PBD-6* RIngram 2/5/87	2/18/87 PBD-6* HPastis: 2/5/87	PBD-6* GE Edison 2/5/87	PBEB* TMarsh 2/6/87	PBD-6* JStolz 2/9/87	OGC* CWoodhead 2/10/87
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Dear Mr. Tucker:

The Commission has issued the enclosed Amendments Nos. , and to Facility Operating Licenses Nos. DPR-38, DPR-47 and DPR-55 for the Oconee Nuclear Station, Units Nos. 1, 2 and 3. These amendments consist of changes to the Station's common Technical Specifications (TSs) in response to your request dated August 13, as superseded on August 20, 1986.

These amendments revise the TSs to maintain consistency between an exemption to Appendix J and to the TSs. You also requested an exemption to 10 CFR Part 50, Appendix J, Paragraph III.A.3, to use the mass-plot method for calculating containment leakage. These amendments revise the TSs to allow the use of the mass-plot method and to be consistent with the exemption to Appendix J. The amendments and the exemption are granted for each of the three units until any final changes in rulemaking of Appendix J become effective. If the mass-plot method, described and evaluated, is consistent with the final Appendix J, it can remain in effect. The exemption applies only to the method of calculating leakage by use of the mass-plot and not to any other aspect of the tests.

This request for amendments was noticed on August 27, 1986 (51 FR 30591). By letter dated September 11, 1986, Wisconsin Public Service Corporation gave comments on the staff's proposed no significant hazards consideration determination. A discussion of the public comments are included in our Safety Evaluation.

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

Sincerely,

Helen N. Pastis, Project Manager
PWR Project Directorate #6
Division of PWR Licensing-B

Enclosures:

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

cc w/enclosures:
See next page

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TMarsh
2/6/87

AD-DPLB
DCrutchfield
1/187

PBD-6
JStolz
2/19/87
OGC
CWoodhead
2/19/87

Mr. H. B. Tucker
Duke Power Company

Oconee Nuclear Station
Units Nos. 1, 2 and 3

cc:

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



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

DUKE POWER COMPANY

DOCKET NO. 50-269

OCONEE NUCLEAR STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 154
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 August 13, as superseded on August 20, 1986, 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 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:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 154, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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P PDR

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

FOR THE NUCLEAR REGULATORY COMMISSION


John F. Stolz, Director
PWR Project Directorate #6
Division of PWR Licensing-P

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 24, 1987



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

DUKE POWER COMPANY

DOCKET NO. 50-270

OCONEE NUCLEAR STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 154
License No. DPR-47

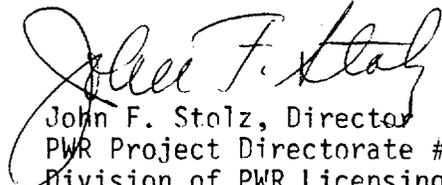
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Duke Power Company (the licensee) dated August 13, as superseded on August 20, 1986, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the 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 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. 154, 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


John F. Stolz, Director
PWR Project Directorate #6
Division of PWR Licensing-B

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 24, 1987



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

DUKE POWER COMPANY

DOCKET NO. 50-287

OCONEE NUCLEAR STATION, UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.151
License No. DPR-55

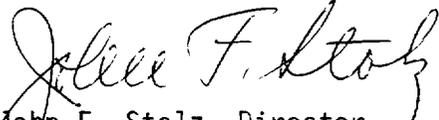
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Duke Power Company (the licensee) dated August 13, as superseded on August 20, 1986, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the 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 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. 151, 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


John F. Stolz, Director
PWR Project Directorate #6
Division of PWR Licensing-B

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 24, 1987

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 154 TO DPR-38

AMENDMENT NO. 154 TO DPR-47

AMENDMENT NO. 151 TO DPR-55

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

Replace the following page of the Appendix "A" Technical Specifications with the attached page. The revised page is identified by amendment numbers and contains vertical lines indicating the area of change.

Remove Page

4.4-1

Insert Page

4.4-1

4.4 REACTOR BUILDING

4.4.1 Containment Leakage Tests

Applicability

Applies to Containment leakage.

Objective

To verify that leakage from the Reactor Building is maintained within allowable limits.

Specification

4.4.1.1 Integrated Leak Rate Tests

4.4.1.1.1 Test Pressure

The periodic integrated leak rate test may be performed at a test pressure of not less than 29.5 psig. The containment leakage rate shall be determined in conformance with the criteria specified in Appendix J of 10CFR50 using the methods and provisions of ANSI N45.4-1972 or the mass-plot method.*

4.4.1.1.2 Frequency of Test

After the preoperational leakage rate tests, a set of three Type A tests shall be performed with the unit in a shutdown condition at approximately equal intervals during each 10 year service period. The third test of each set shall be conducted when the plant is shutdown for the 10 year inservice inspections.

4.4.1.1.3 Acceptance Criteria

The overall acceptance containment leakage rate is determined by the pre-operational leakage rate test and shall not exceed 0.25 weight percent of containment air per 24 hours at 59 psig. Any leakage in excess of 50% of the total allowed containment leakage shall be demonstrated to be to the penetration room. If the reduced pressure leakage rate 95% Upper Confidence Level (UCL) exceeds $0.75 L_c$, a test at peak pressure shall be conducted. If the peak pressure leakage rate 95% UCL exceeds $0.75 L_a$, the test schedule applicable to subsequent Type A tests shall be reviewed and approved by the Commission. If leakage rate 95% UCL during any two consecutive Type A tests exceeds either $0.75 L_a$ or $0.75 L_c$, a Type A test shall be performed at each shutdown for refueling or approximately every 18 months, whichever occurs first, until two consecutive Type A tests demonstrate leakage rate 95% UCL is less than $0.75 L_a$ or $0.75 L_c$, at which time the normal testing schedule may be resumed.

4.4.1.1.4 Accuracy

The accuracy of each Type A test shall be verified by a supplemental test which:

- a. Confirms the accuracy of the Type A test by verifying that the absolute difference between supplemental and Type A test data is within $0.25 L_a$ or $0.25 L_c$, as appropriate.

*The mass-plot method may be used for each unit until the presently proposed changes to Appendix J (51 FR 39538) become effective. Thereafter, the licensee shall comply with the provisions of such rule.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 154 TO FACILITY OPERATING LICENSE NO. DPR-38

AMENDMENT NO. 154 TO FACILITY OPERATING LICENSE NO. DPR-47

AMENDMENT NO. 151 TO FACILITY OPERATING 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

1.0 INTRODUCTION

By letter dated August 13, as superseded on August 20, 1986, Duke Power Company (the licensee) proposed changes to the Technical Specifications (TSs) of Facility Operating Licenses Nos. DPR-38, DPR-47 and DPR-55 for the Oconee Nuclear Station, Units Nos. 1, 2 and 3. These amendments would consist of changes to the Station's common TSs to maintain consistency between a requested exemption to Appendix J and the TSs. The licensee also requested an exemption to 10 CFR Part 50, Appendix J, Paragraph III.A.3, to use the mass-plot method for calculating containment leakage. These amendments would revise the TSs to allow the use of the mass-plot method and to be consistent with the exemption to Appendix J being issued concurrently with these amendments. The amendments and the exemption are granted for each of the three units until the presently proposed changes to Appendix J become effective. Thereafter, the licensee shall comply with the provisions of such rule. The exemption applies only to the method of calculating leakage by use of the mass-plot and not to any other aspect of the tests.

On August 27, 1986, the NRC published in the Federal Register a notice entitled "Consideration of Issuance of Amendments to Facility Operating Licenses and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing" (51 FR 30591). By letter dated September 11, 1986, Wisconsin Public Service Corporation gave comments on the staff's proposed no significant hazards consideration determination. No other comments were received on this amendment request.

2.0 DISCUSSION

The Code of Federal Regulations, 10 CFR 50.54(o), specifies that primary reactor containments for water cooled power reactors shall comply with Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors." Appendix J incorporates by reference American National Standard (ANSI) N45.4-1972, "Leakage Rate Testing of Containment Structures for Nuclear Reactors." This standard requires that containment leakage calculation be performed using either the point-to-

point method or the total time method. It is also indicated in this standard that the point-to-point method is more applicable to uninsulated containments where atmospheric stability is affected by outside diurnal changes, while the total time method is more applicable to insulated (for example, concrete) containments, that are relatively unaffected by diurnal changes.

In 1976, a comparison was made of the results of test analyses that were performed using point-to-point, total time, and mass-plot (or mass-point) techniques. ("Containment Leak Rate Testing: Why the Mass-Plot Analysis Method is Preferred," Power Engineering, February 1976). A revision to ANSI/ANS Standard 56.8-1981, "Containment System Leakage Testing" specifies the use of mass-plot, to the exclusion of the two older methods. A proposed revision to Appendix J, which has been published for public comment (Proposed Rules, FEDERAL REGISTER Volume 51, No. 209, October 29, 1986), incorporates the new standard.

On August 1, 1986, the licensee was notified via telephone that mass-plot method was not in conformance with the current Appendix J and therefore is not permitted without an exemption. Pending the revision of Appendix J which incorporates the mass-plot analysis, licensees who wish to use the mass-plot techniques must submit an application for exemption from the Appendix J requirement and propose an amendment to the TSs so that Containment Integrated Leak Rate Tests (CILRTs) will conform with ANSI-N45.4-1972.

By letter of August 13, as superseded on August 20, 1986, the licensee proposed TS amendments and requested an exemption from 10 CFR Part 50, Appendix J, Paragraph III.A.3, which requires that all Type A CILRTs be performed in accordance with ANSI N45.4-1972, "Leakage Rate Testing of Containment Structures for Nuclear Reactors." ANSI N45.4-1972 requires that leakage calculations be performed using either the total time method or the point-to-point method.

The licensee indicated that in 1976 the Commission's staff recognized the merits of the mass-plot technique and that this method became the staff recommended method to use. On that basis, the licensee has been performing calculations using the mass-plot method. While in the process of performing the leak-rate tests, the licensee was informed by the Commission that the 1976 staff position with regard to the mass-plot method is not in accordance with the current provisions of 10 CFR Part 50, Appendix J. The licensee has stated that, in support of the application for amendments and exemption from Appendix J, the mass-plot method is a more accurate method of calculating containment leakage.

3.0 EVALUATION

The licensee indicated that the mass-plot analysis was initiated and conducted at Oconee with the knowledge and upon the recommendation of the Commission's staff. Although the staff could not find any formal confirmation of the approval of the mass-plot analysis by the Commission, it is believed that at the time of its introduction to the industry, the staff recognized its merits in calculating leakage rates.

It has been recognized by the professional community that the mass-plot method is superior to the two other methods, point-to-point and total time, which are referenced in ANSI N45.4-1972 and endorsed by the present regulations. The mass-plot method calculates the mass at each point in time, and plots it against time. A linear regression line is plotted through the mass time points using a least square fit. The slope of this line is the leak rate. The Commission's staff believes that the mass-plot method was not specified in ANSI N45.4-1972 because the other more conservative methods (point-to-point and total time) were adequate and suitable for the sensitivity levels of the instrumentation in use at that time. However, with the present developments in technology, the mass-plot method has gained recognition as the proper one to use. The superiority of the mass-plot method becomes apparent when it is compared with the two other methods. In the total time method a series of leakage rates are calculated on the basis of air mass differences between an initial data point and each individual data point thereafter. If for any reason (such as instrument error, lack of temperature equilibrium, ingassing or outgassing) the initial data point is not accurate, the results of the test will be affected. In the point-to-point method, the leak rates are based on the mass difference between each pair of consecutive points which are then averaged to yield a single leakage rate estimate. Mathematically, this can be shown to be the difference between the air mass at the beginning of the test and the air mass at the end of the test expressed as a percentage of the containment air mass. It follows from the above that the point-to-point method ignores any mass readings during the test and thus the leakage rate is calculated on the basis of the difference in mass between two measurements taken at the beginning and at the end of the test, which are 24 hours apart.

The present position of the Commission's staff is formulated in the "Draft Regulatory Guide and Value/Impact Statement," published for comment, dated October 1986, which, with exceptions, endorses the ANSI/ANS Standard 56.8-1981.

Furthermore, it recommends the extended ANSI method which is basically the mass-plot method with two additional conditions pertaining to the quality of the regression fit obtained using the mass-plot method. Condition 1 represents a limit on the deviations of the data points from a straight line. Condition 2 provides a limit on the scatter of the data points about the regression line.

As stated above, Appendix J to 10 CFR Part 50 is being revised and the proposed Regulatory Guide has been published for comments. We have reviewed the proposed changes to the Technical Specifications and find them acceptable to allow the use of the mass-plot method for analyzing containment integrated leak rate tests.

4.0 SIGNIFICANT HAZARDS CONSIDERATION COMMENTS

The amendment application was noticed as a proposed no significant hazards consideration determination on August 27, 1986 (51 FR 30951). By letter dated September 11, 1986, Wisconsin Public Service Corporation gave comments on the Commission staff's proposed no significant hazards consideration determination. No other comments were received.

Wisconsin Public Service Corporation supports the Commission in its decision that no significant hazards considerations are warranted in issuing a license amendment to Duke Power Company which would allow them to perform mass-plot calculations on data acquired during a containment integrated leak rate test. They further state that the Commission should issue guidance that the mass-plot method is acceptable without specific exemption to Appendix J. They also state that the Commission should consider a reduced duration test.

The present position of the Commission's staff is formulated in the "Draft Regulatory Guide and Value/Impact Statement", published for comment in October 1986 which, with exception, endorses the ANSI/ANS Standard 56.8-1981. Appendix J to 10 CFR Part 50 is being revised and the proposed Regulatory Guide has been published for comments. If licensees want to deviate from the regulations, they need to apply to the Commission for an exemption request which is reviewed on a case-by-case basis.

5.0 ENVIRONMENTAL CONSIDERATION

These amendments involve a change in the surveillance requirements. We have 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 these amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, these 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 these amendments.

6.0 CONCLUSION

We have 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, and (2) 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.

Dated: February 24, 1987

Principal Contributor: R. Lipinski