

December 23, 1999

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

SUBJECT: OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3 RE: EXEMPTION FROM 10  
CFR 50, APPENDIX J REQUIREMENTS FOR AIR LOCK LEAKAGE TESTING  
(TAC NOS. MA6868, MA6869, AND MA6870)

Dear Mr. McCollum:

The Commission has approved the enclosed exemption from certain requirements of Title 10 of the *Code of Federal Regulations (CFR)*, 10 CFR Part 50, Appendix J, Section III.D.2(b)(ii), pursuant to 10 CFR Part 50.12. This action is in response to your application dated October 5, 1999, to allow performance of a containment air lock door seal leak test in lieu of a full pressure test at the Oconee Nuclear Station, Units 1, 2, and 3.

The exemption allows a pressure test of the containment air lock seals to fulfill the air lock testing requirements specified in 10 CFR Part 50, Appendix J, Section III.D.2(b)(ii) providing that no work is performed on the containment air locks that could affect air lock sealing capability during periods covered by the requirement.

A copy of the exemption has been forwarded to the Office of the Federal Register for publication.

Sincerely,  
Original signed by:

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

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Enclosure: Exemption

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

December 23, 1999

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Vice President, Oconee Site  
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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

Enclosure: Exemption

cc w/encl: See next page

Oconee Nuclear Station

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
DUKE ENERGY CORPORATION	)	Docket Nos. 50-269, 50-270, and 50-287
	)	
(Oconee Nuclear Station, Units 1, 2, and 3)	)	

EXEMPTION

I.

The Duke Energy Corporation (Duke/the licensee) is the holder of Facility Operating License Nos. DPR-38, DPR-47, and DPR-55, that authorize operation of the Oconee Nuclear Station, Units 1, 2, and 3 (Oconee), respectively. The licenses provide, among other things, that the facilities are subject to all rules, regulations, and orders of the U.S. Nuclear Regulatory Commission (the Commission) now or hereafter in effect.

The facilities consist of three pressurized water reactors located on Duke's Oconee site in Seneca, Oconee County, South Carolina.

II.

Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix J, contains the following requirements:

- a. Section III.D.2(b)(i) requires that air locks be tested prior to initial fuel loading and at 6-month intervals thereafter at an internal pressure not less than  $P_a$  (the calculated peak containment internal pressure related to the design basis accident).

- b. Section III.D.2(b)(ii) requires that air locks opened during periods when containment integrity is not required shall be tested at the end of such periods at  $P_a$ .
- c. Section III.D.2(b)(iii) requires that air locks opened during periods when containment integrity is required shall be tested within 3 days after being opened. For air locks opened more frequently than once every 3 days, the air lock shall be tested at least once every 3 days during the period of frequent openings. For air lock doors having testable seals, testing the seals fulfills the 3-day test requirement.

### III.

The proposed action is in accordance with the licensee's application for exemption contained in a submittal dated October 5, 1999.

Whenever the plant is in cold shutdown (Mode 5) or refueling (Mode 6), containment integrity is not required. However, if an airlock is opened when in Modes 5 or 6 (which is usually the case), 10 CFR 50, Appendix J, Section III.D.2(b)(ii) requires that an overall air lock leakage test at not less than  $P_a$  be performed before plant heatup and startup (i.e., before Mode 4 is entered). The licensee has requested an exemption that would allow this test requirement to be met by performing an air lock door seal leakage test per 10 CFR 50, Appendix J, Section III.D.(b)(iii) during plant startup prior to entering Mode 4 if no maintenance has been performed on the air lock that could affect its sealing capability. If maintenance has been performed that could affect its sealing capability, an overall air lock leakage test per 10 CFR 50, Appendix J, Section III.D.2(b)(ii) would be necessary prior to establishing containment integrity.

The existing air lock doors are designed so that the air lock pressure test can only be performed after a strongback (structural bracing) has been installed on the inner door, since the pressure used to perform the test is opposite that of accident pressure and would tend to unseat the door. Performing the full air lock test in accordance with the present requirements

takes approximately 12 hours, since it requires installation of the strongback, performing the test, and removing the strongback. During the test, access through the air lock is prohibited, which, therefore, requires evacuation of personnel from the containment or the personnel must remain inside the containment during the test until Mode 4 is reached. The licensee has determined that pressurizing the volume between the seals to 60 pounds per square inch gauge pressure after each opening, and prior to establishing containment integrity, provides the necessary surveillance to ensure the sealing capability of the door seals.

If the periodic 6-month test of 10 CFR 50, Appendix J, Section III.D.(b)(i) and the test required by 10 CFR 50, Appendix J, Section III.D.(b)(iii) are current, no maintenance has been performed on the air lock that could affect its sealing capability, and the air lock is properly sealed as determined by the seal test, there is no reason to expect that the air lock will leak just because it has been opened in Modes 5 or 6. Therefore, there is no impact on plant operation or safety. In addition, due to the design of the air lock, the 6-month test should detect air lock deterioration.

#### IV.

Pursuant to 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 50, when (1) the exemptions are authorized by law, will not present an undue risk to public health or safety, and are consistent with the common defense and security; and (2) when special circumstances are present. This is also consistent with the determination that the staff has reached for other licensees under similar conditions based on the same considerations.

Accordingly, the staff concludes that the licensee's proposed approach of substituting the 3-day seal leakage test requirements of 10 CFR 50, Appendix J, Section III.D.(b)(iii) for the full pressure test of 10 CFR 50, Appendix J, Section III.D.(b)(ii) is acceptable when no

maintenance that could affect the sealing capability has been performed on the air lock.

Whenever maintenance that could affect the sealing capability has been performed on the air lock, the full pressure test requirements of 10 CFR 50, Appendix J, Section III.D.(b)(ii) must still be met.

Therefore, the staff concludes that requesting the exemption under the special circumstances of 10 CFR 50.12(a)(2)(ii) is appropriate and that application of the regulation is not necessary to serve the underlying purpose of the rule. The underlying purpose of the rule is to ensure that: (a) leakage through the primary containment, and systems and components penetrating the primary containment, does not exceed the allowable leakage rate values specified in the Technical Specifications or associated Bases; and (b) periodic surveillance of containment penetrations and isolation valves, and systems and components penetrating the containment, is performed so that proper maintenance and repairs are made during the service life of the containment.

#### V.

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12(a), the exemption is authorized by law, will not endanger life or property or common defense and security, and is, otherwise, in the public interest. Therefore, the Commission hereby grants Duke an exemption from the requirements of 10 CFR Part 50, Appendix J, Section III.D.2(b)(ii) for containment air lock tests as described above, for the Oconee Nuclear Station, Units 1, 2, and 3.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will not result in any significant effect on the quality of the human environment ( 64 FR 70072)

This exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:

John A. Zwolinski, Director  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland, this 23rd day of December 1999.

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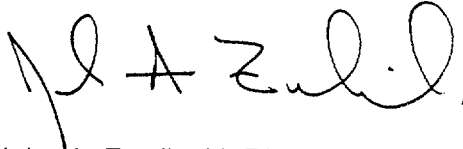
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This exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

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John A. Zwolinski, Director  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland, this 23rd day of December 1999.