

July 9, 2007

Mr. Bruce H. Hamilton
Vice President, Oconee Site
Duke Power Company LLC
7800 Rochester Highway
Seneca, SC 29672

SUBJECT: OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3 - APPROVAL TO USE A
LATER EDITION OF THE AMERICAN SOCIETY OF MECHANICAL
ENGINEERS (ASME), BOILER AND PRESSURE VESSEL CODE, SECTION
XI (TAC NOS. MD3746, MD3747 AND MD3748)

Dear Mr. Hamilton:

By letter dated November 30, 2006 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML063450131), you submitted a request to withdraw the previously submitted Relief Request 2004-ON-001 and to use a portion of a later edition of the American Society of Mechanical Engineers (ASME), *Boiler and Pressure Vessel Code* (Code), Section XI requirements for the Oconee Nuclear Station, Units 1, 2, and 3. Specifically, you wanted approval to use the ASME Code, Section XI, 2001 edition, Table IWD-2500-1, Category D-B, for Class 3 system pressure testing in lieu of the requirements in the 1998 edition with the 2000 addenda, Table IWD -2500-1, Category D-B, Class 3 system pressure testing for the fourth 10-year inservice inspection interval for the three Oconee units.

We find your request acceptable, and our safety evaluation is enclosed.

Sincerely,

/RA/

Leonard N. Olshan, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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

Enclosure:
Safety Evaluation

cc w/encl: See next page

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

APPROVAL TO USE A LATER EDITION OF THE ASME CODE

DUKE POWER COMPANY LLC, OCONEE NUCLEAR STATION UNITS 1, 2 AND 3

DOCKET NUMBERS 50-269, 50-270 and 50-287

1.0 INTRODUCTION

By letter dated November 30, 2006 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML063450131), Duke Power Company LLC (Duke, the licensee), withdrew the previously submitted Relief Request (RR) 2004-ON-001 and requested approval to use a portion of a later edition of the American Society of Mechanical Engineers (ASME), *Boiler and Pressure Vessel Code* (Code), Section XI requirements for the Oconee Nuclear Station (ONS), Units 1, 2, and 3.

Duke's letter dated September 22, 2004, (Adams Accession No. ML042740461) submitted RR 2004-ON-001 that requested an alternate code edition for the fourth 10-year inservice inspection (ISI) intervals (which began on January 1, 2004, for Unit 1; September 9, 2004, for Unit 2; and December 16, 2004, for Unit 3) pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.55a(a)(3)(i). The applicable code for this interval is ASME Code, Section XI, 1998 edition with the 2000 addenda. This code edition and addenda lists two pressure test requirements for Class 3 systems. Duke sought relief to use leakage tests in lieu of hydrostatic tests on Class 3 pressure-retaining components. In its letter dated November 30, 2006, Duke withdrew RR 2004-ON-001.

In lieu of RR 2004-ON-001, Duke specifically requested to use the ASME Code, Section XI, 2001 edition, Table IWD-2500-1, Category D-B, Class 3 system pressure testing for ONS, Units 1, 2, and 3. Duke requested to use this later edition of the ASME Code in place of the requirements in the 1998 edition with 2000 addenda, Table IWD-2500-1, Category D-B, Class 3 system pressure testing for the ONS, Units 1, 2, and 3 fourth 10-year ISI intervals. Duke's request is pursuant to 10 CFR 50.55a(g)(4)(iv) and in accordance with the guidance provided in the U.S. Nuclear Regulatory Commission (NRC) Regulatory Issue Summary (RIS) 2004-12, dated July 28, 2004.

Furthermore, Duke plans to comply with the pressure and temperature hold times cited in 10 CFR 50.55a(b)(2)(xx), which requires a 10-minute holding time after attaining test pressure for Class 2 and Class 3 components that do not normally operate during operation and requires

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no holding time for the remaining Class 2 and Class 3 components provided that the system has been in operation at least four hours for insulated components or ten minutes for un-insulated components.

2.0 REGULATORY EVALUATION

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2 and 3 components (including supports) shall meet the requirements, except the design and access provisions and the pre-service examination requirements, set forth in the ASME Code, Section XI, "Rules for Inservice Inspection (ISI) of Nuclear Power Plant Components," to the extent practical within the limitations of design, geometry and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during the initial 10-year inspection interval and subsequent intervals must comply with the requirements of the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) twelve months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein. The fourth 10-year ISI interval for ONS began on January 1, 2004, for Unit 1; September 9, 2004, for Unit 2; and December 16, 2004, for Unit 3. The ISI Code of Record for the fourth 10-year interval for ONS, Units 1, 2 and 3 is the 1998 edition with the 2000 addenda. The components (including supports) may meet the requirements set forth in subsequent editions and addenda of the ASME Code incorporated by reference in 10 CFR 50.55a(b) subject to the limitations and modifications listed therein and subject to the NRC approval.

The ISI of ASME Code Class 1, 2, and 3 components is to be performed in accordance with Section XI of the ASME Code and the applicable edition and addenda as required by 10 CFR 50.55a(g) except where specific written approval has been granted by the NRC pursuant to 10 CFR 50.55a(g)(4)(iv). Moreover, 10 CFR 50.55a(g)(4)(iv) states, "Inservice examination of components and system pressure tests may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in paragraph (b) of this section, subject to the limitations and modifications listed in paragraph (b) of this section and subject to Commission approval. Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met."

3.0 TECHNICAL EVALUATION

In its letter dated November 30, 2006, Duke withdrew the previously submitted RR 2004-ON-001 and 2) and requested approval to use a portion of a later version of the ASME Code Section XI.

In its letter dated September 22, 2004, the licensee submitted RR 2004-ON-001, a Request for Alternative Edition per 10 CFR 50.55a(a)(3)(i) for the ONS fourth 10-year ISI intervals. Duke sought relief to use leakage tests in lieu of hydrostatic tests on Class 3 pressure retaining components. The licensee requested to use the requirements of ASME Code, Section XI, 2001 edition, Table IWD-2500-1, Category D-B, for Class 3 system pressure testing for ONS, Unit 1, 2, and 3 in place of the 1998 edition with the 2000 addenda, Table IWD-2500-1, Category D-B, for Class 3 system pressure testing for the fourth 10-year ISI intervals.

As noted in RIS 2004-12, licensees seeking to use later editions and addenda of the ASME

Code, Section XI, pursuant to 10 CFR 50.55a(f)(4)(iv) or 10 CFR 50.55a(g)(4)(iv), are required to obtain NRC approval prior to implementation, but are not required to seek relief pursuant to 10 CFR 50.55a(a)(3), 10 CFR 50.55a(f)(5)(iv) or 10 CFR 50.55a(g)(5)(iv).

In its letter dated November 30, 2006, Duke requested approval, pursuant to 10 CFR 50.55a(g)(4)(iv) and in accordance with the guidance offered in RIS 2004-12, to use the requirements of ASME Code, Section XI, 2001 edition, Table IWD-2500-1, Category D-B, for Class 3 system pressure testing at ONS, Units 1, 2, and 3. This request for approval is to be used in place of the 1998 edition with the 2000 addenda, Table IWD-2500-1, Category D-B, for Class 3 system pressure testing for the fourth 10-year ISI intervals. Furthermore, Duke will comply with pressure and temperature hold times requiring a 10-minute holding time after attaining test pressure for Class 2 and Class 3 components that do not normally operate during operation. In addition, no holding time is required for the remaining Class 2 and Class 3 components provided that the system has been in operation for at least 4 hours for insulated components or 10 minutes for un-insulated components.

The 1998 edition with the 2000 addenda, Table IWD-2500-1, Category D-B, for Class 3 system pressure testing lists two pressure test requirements for Class 3 systems. One of these tests is a system leakage test and one is a system hydrostatic test. Alternatively, the 2001 edition, Table IWD-2500-1, Category D-B for Class 3 system pressure testing lists one pressure test required, which is a system leakage test. This request is based on performing VT-2 visual examinations at nominal operating pressures versus elevated hydrostatic pressure tests. Hydrostatic testing has been determined to only increase the leakage rate from that of a leakage test run at nominal operating pressure. Specifically, raising the test pressure from operating pressure to hydrostatic pressure does not identify additional or new leakage and provides reasonable assurance of system integrity.

The NRC staff confirmed the application of requirements for the 2001 edition, Table IWD-2500-1, Category D-B has been approved in 10 CFR 50.55(a). Also, there are no limitations or modifications addressed in 10 CFR 50.55a(b) which would apply to the implementation of the proposed alternative ASME Code requirements. Finally, the NRC staff confirmed there are no additional related requirements of the 2001 edition of the ASME Code that would require to be met to support the licensee's request.

5.0 CONCLUSION

The NRC staff concludes that the licensee's request to use the 2001 edition of ASME Code, Section XI, Table IWD-2500-1, Category D-B for Class 3 system pressure testing for ONS, Units 1, 2, and 3 as an alternative to the 1998 edition with the 2000 addenda, Table IWD-2500-1, Category D-B for Class 3 system pressure testing for the fourth 10-year ISI intervals is acceptable without limitation or modification.

Therefore, pursuant to 10 CFR 50.55a(g)(4)(iv), the NRC staff approves the use of the 2001 edition of ASME Code, Section XI, Table IWD-2500-1, Category D-B for Class 3 system pressure testing for ONS Units 1, 2, and 3 in lieu of the 1998 edition with the 2000 addenda,

Table IWD-2500-1, Category D-B for Class 3 system pressure testing for the ONS Units 1, 2, and 3 fourth 10-year ISI intervals.

All other ASME Code, Section XI requirements for which relief was not specifically requested and approved in this request remain applicable, including third-party review by the Authorized Nuclear In-service Inspector.

Principal Contributor: D. Tarantino

Date: July 9, 2007

Oconee Nuclear Station, Units 1, 2, and 3

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