April 12, 2000

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

SUBJECT: OCONEE NUCLEAR STATION, UNIT 3 RE: CONCRETE AND UNBONDED POST-TENSIONING SYSTEM EXAMINATIONS (TAC NO. MA8304)

Dear Mr. McCollum:

By letter dated February 24, 2000, and supplemented by letter dated March 6, 2000, Duke Energy Corporation requested approval to use an alternative schedule to extend by three months the performance of the containment concrete and unbonded post-tensioning system examinations that are scheduled to be performed during the Oconee Nuclear Station, Unit 3 refueling outage that starts in April 2000. The staff's safety evaluation of your request is enclosed.

Based on our evaluation, your alternative proposed in this relief request for concrete examinations is authorized pursuant to 10 CFR 50.55a(a)(3)(i) on the basis that it provides an acceptable level of quality and safety. In addition, your proposed alternative for unbonded post-tensioning system examinations is authorized pursuant to 10 CFR 50.55a(a)(3)(ii) on the basis that compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Following this one-time authorization, the start of Oconee's 5-year examination schedule for concrete and unbonded post-tensioning systems will commence on May 7, 1999, in order to re-establish the schedule dates for the 30-year and subsequent examinations for the concrete and unbonded post-tensioning systems.

Sincerely,

/RA original signed by L. Olshan for/

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

Docket No. 50-287

Enclosure: As stated

cc w/encl: See next page

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST TO USE ALTERNATIVE MATERIALS IN THE FABRICATION

OF STEAM GENERATORS AT THE

OCONEE NUCLEAR STATION, UNIT 3

DUKE ENERGY CORPORATION

DOCKET NUMBER 50-287

1.0 INTRODUCTION

Inservice inspection (ISI) of the American Society of Mechanical Engineers (ASME) Code Class MC and CC components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda as required by 10 CFR 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). 10 CFR 50.55a(a)(3) states that alternatives to the requirements of paragraph (g) may be used when authorized by the NRC, if (i) the proposed alternatives would provide an acceptable level of quality and safety, or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. The containment ISI program for Oconee Nuclear Station (ONS) Unit 3 was prepared to meet the requirements of Subsection IWE and IWL of the 1992 Edition, 1992 Addenda, of the ASME Code, Section XI.

Pursuant to 10 CFR 50.55a(g)(6)(ii)(B), under certain conditions, licensees may use an expedited examination for ASME Code Class MC and CC components (including integral attachments of MC and metallic liners of CC components) to satisfy the ISI requirements of Subsection IWE and Subsection IWL. Licensees must complete the first inspection under Subsection IWE (or the expedited examination) and Subsection IWL of the 1992 Edition with the 1992 Addenda by September 9, 2001. 10 CFR 50.55a(g)(6)(ii)(B)(1) states that the inservice examinations specified for the first period of the first inspection interval in Subsection IWE of the 1992 Edition and addenda as modified in 10 CFR 50.55a(b)(2)(ix) shall serve the same purpose for operating plants as the preservice examination. 10 CFR 50.55a(g)(6)(ii)(B)(2) allows licensees to implement the inservice examinations that correspond to the number of years of operation that are specified in Subsection IWL of the 1992 Edition and addenda as modified in 10 CFR 50.55a(b)(2)(viii) and shall serve the same purpose for operating plants as the preservice examination specified for plants not yet in operation.

By letter dated February 24, 2000, as supplemented on March 6, 2000, Duke Energy Corporation submitted to the NRC an alternative to the Section XI requirements for IWL pursuant to 10 CFR 50.55a(a)(3)(i). The NRC staff's evaluation of the licensee's proposed relief for ONS Unit 3 follows.

2.0 EVALUATION

Request for Relief From Subsection IWL, Subarticle 2410(c), Concrete and Subarticle 2420(c), Unbonded Post-Tensioning System

Code Requirement: Subarticle 2410(c), Concrete, requires that licensees perform 10-year and subsequent concrete examinations not more than one year prior to the specified dates and shall be completed not more than one year after such dates.

Subarticle 2420(c), Unbonded Post Tensioning Systems, requires that licensee's 10-year and subsequent examinations commence not more than one year prior to the specified dates and shall be completed not more than one year after such dates.

Licensee's Proposed Alternative: Pursuant to 10 CFR 50.55a(a)(3)(i), the licensee proposed an alternative to the Code requirements to extend the completion date for both the concrete and post-tensioning system examination by 3 months for this 5-year interval only. The licensee stated:

> In lieu of the requirements of IWL-2410(c) and IWL-2420(c), Duke Energy Corporation proposes the following one-time alternative for Oconee Unit 3:
>
> The 25 year examinations shall commence not more than 1 year prior to the specified dates and shall be completed not more than 15 months after such dates.

Licensee's Basis for Proposed Alternative (as stated):

> The Unit 3 Structural Integrity Test was completed on May 7, 1974. As a result, the 25 year concrete and unbonded post-tensioning system examinations performed in accordance with Subsection IWL must be performed between May 7, 1998 and May 7, 2000.
>
> As a result of operating cycle changes, Unit 3 refueling outage EOC18 is not currently scheduled to end until late in May, 2000, beyond the May 7, 2000 deadline. The proposed alternative is requested to allow for a reasonable period in which to complete the expedited examinations required by 10CFR50.55a(g)(6)(ii)(B)(2).
>
> The previous examinations of the Unit 3 unbonded post-tensioning system were completed on July 20, 1995 in accordance with the Oconee Technical Specifications applicable at that time. The approved Technical Specification schedule for these examinations varied from that specified in the ASME Code, Section XI, Subsection IWL, 1992 Edition with 1992 Addenda.
>
> The proposed alternative will require the next concrete and unbonded post-tensioning system examinations to be performed in accordance with Subsection IWL no later than August 7, 2000.

> The schedule for subsequent concrete and unbonded post-tensioning system examinations for Unit 3 shall comply with IWL-2410(c) and IWL-2420(c), with examinations being performed at 5/7/2004 (+/- 1 year) and every 5 years thereafter.
>
> For examinations starting with those 10 years after the completion of the Structural Integrity Test, examinations may be performed as much as 7 years (84 months) apart, if the +/- 1 year tolerances of IWL-2410(c) and IWL-2420(c) are used. The proposed alternative will require concrete and unbonded post-tensioning system examinations performed on Unit 3 in 2000 to be completed within 61 months of the examinations completed in 1995.

Staff Evaluation

To comply with 10 CFR 50.55a(g)(6)(ii)(B), licensees must complete the ISI requirements for reinforced concrete and post-tensioning systems of Class CC components, which corresponds to the number of years of operation that are specified in subsection IWL. The Code requires concrete and unbonded post-tensioning system 10-year and subsequent examinations to be scheduled every 5 years, and allows examinations to start no earlier than one year prior to the scheduled date and be completed no later than one year following the scheduled date. The licensee, in accordance with IWL-2410(c) and IWL-2420(c), has requested a one-time alternative to the Code in order to complete both the concrete and unbonded post-tensioning system examinations.

In accordance with 10 CFR 50.55a(a)(3)(i), the licensee requested an alternative to the specified time period to complete Code-required examinations. The licensee noted that its previous containment inspection was completed before the IWL requirements became effective using its Technical Specification (TS) requirements. The TS requirements differed from the requirements specified in ASME Code, Section XI, Subsection IWL, 1992 Edition, 1992 Addenda.

In lieu of the requirements of IWL-2410(c) and IWL-2420(c), the licensee proposed the following one-time alternative for Oconee Unit 3:

> The 25-year examinations shall commence not more than 1 year prior to the specified dates and shall be completed not more than 15 months after such dates.

The licensee's proposed alternative would allow the schedules for the concrete examinations and the unbonded post-tensioning system examinations to be aligned hereafter. The staff notes that in the Statements of Consideration in the final rule amending 10 CFR 50.55a on September 22, 1999 (64 FR 51384), the Commission indicated that the first concrete examination is to be an inservice examination that will serve as a baseline for future concrete examinations. The completion of the first concrete examination then serves as a basis for scheduling the subsequent examinations on a 5-year interval. The Commission also noted in the Statements of Consideration that the concrete examination may be performed anytime between September 9, 1996, and September 9, 2001, and is not tied to the structural integrity

test date. Thus, the licensee's proposed alternative is consistent with the final rule for concrete examination. The staff, therefore, finds that the licensee's proposed alternative provides an acceptable level of quality and safety, and the alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i).

For post-tensioning system examinations, the licensee indicated in its submittal that its unbonded post-tensioning system examinations are required to be completed by May 7, 2000, in order to meet the requirements of IWL-2420(c). The Commission stated in its Statements of Consideration for the final rule (64 FR 51384) that operating plants should maintain their 5-year schedule for post-tensioning system examinations as they transition into Subsection IWL. In doing so, the schedule for post-tensioning system examinations would continue to be tied to the structural integrity test date. As a result of operating cycle changes and the potential for delays in evaluations of examination results, the staff finds that adherence to the Code requirements of IWL-2420(c) would create an undue burden on the licensee without a compensating increase in the level of quality and safety. The staff finds that a one-time extension of three months to August 7, 2000, to complete the required IWL examinations for the unbonded post-tensioning system will not have an adverse impact on safety. The staff, therefore, finds that the licensee's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(ii).

3.0 CONCLUSION

The staff has evaluated the licensee's submittal for ONS Unit 3. The authorizing of alternatives or granting of relief is based upon fulfillment of any commitments made by the licensee in its basis for relief request and the alternative proposed. The implementation of the ISI program and relief request is subject to inspection by the NRC.

The licensee's alternative proposed in this relief request for concrete examinations is authorized pursuant to 10 CFR 50.55a(a)(3)(i) on the basis that it provides an acceptable level of quality and safety. The licensee's proposed alternative for unbonded post-tensioning system examinations is authorized pursuant to 10 CFR 50.55a(a)(3)(ii) on the basis that compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. The licensee's proposed alternative will not have an adverse impact on safety. Following this one-time alternative to the Code, the start of the 5-year schedule for examinations will commence on May 7, 1999, in order to re-establish the schedule dates for the 30-year and subsequent examinations required for the concrete and unbonded post-tensioning systems.

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Dated: April 12, 2000

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