



Duke Energy Corporation

526 South Church Street
P.O. Box 1006 (EC07H)
Charlotte, NC 28201-1006
(704) 382-2200 OFFICE
(704) 382-4360 FAX

M. S. Tuckman
Executive Vice President
Nuclear Generation

February 5, 2001

U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
ATTENTION: Document Control Desk

SUBJECT: Duke Energy Corporation

Oconee Nuclear Station - Units 1, 2 & 3
Docket Nos. 50-269, 50-270, and 50-287

McGuire Nuclear Station - Units 1 & 2
Docket Nos. 50-369 and 50-370

Catawba Nuclear Station - Units 1 & 2
Docket Nos. 50-413 and 50-414

Request for Relief from the ASME Boiler and
Pressure Vessel Code, Section XI Pursuant to
10CFR50.55a(a)(3)(i)
Duke Energy Corporation Serial Number 01-GO-0001

Pursuant to 10CFR50.55a(a)(3)(i), Duke Energy Corporation is hereby submitting Request for Relief Serial Number 01-GO-01 for NRC review and approval. This request addresses use of the alternative length sizing criteria of the Performance Demonstration Initiative at Oconee, McGuire, and Catawba Nuclear Stations.

Duke is requesting NRC approval of this request for relief by August 5, 2001. Inquiries on this matter should be directed to J. S. Warren at (704) 382-4986.

Very truly yours,

M. S. Tuckman

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MST/JSW

Attachment

xc w/att: L. A. Reyes, Regional Administrator
U.S. Nuclear Regulatory Commission, Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30303

D. E. LaBarge (Addressee Only)
NRC Senior Project Manager (ONS)
U. S. Nuclear Regulatory Commission
Mail Stop O-8 H12
Washington, DC 20555-0001

F. Rinaldi (Addressee Only)
NRC Project Manager (MNS)
U. S. Nuclear Regulatory Commission
Mail Stop O-8 H12
Washington, DC 20555-0001

C. P. Patel (Addressee Only)
NRC Project Manager (CNS)
U. S. Nuclear Regulatory Commission
Mail Stop O-8 H12
Washington, DC 20555-0001

M. C. Shannon, NRC Senior Resident Inspector (ONS)
D. J. Roberts, NRC Senior Resident Inspector (CNS)
S. M. Shaeffer, NRC Senior Resident Inspector (MNS)

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bxc w/att: C. J. Thomas
 M. T. Cash
 J. W. Bryant
 K. L. Crane
 G. D. Gilbert
 L. J. Rudy
 K. E. Nicholson
 T. K. Pasour (2)
 L. E. Nicholson
 R. P. Todd
 J. E. Smith
 J. O. Barbour
 J. J. McArdle
 J. S. Warren
 Oconee Master File - ON03DM
 McGuire Master File - MG01DM
 Catawba Master File - CN04DM
 NRIA File/ELL

DUKE ENERGY CORPORATION
Oconee Units 1, 2 and 3
McGuire Units 1 and 2
Catawba Units 1 and 2

10-YEAR INTERVAL REQUEST FOR RELIEF NO. 00-GO-0002

Pursuant to 10CFR50.55a (a) (3) (i), Duke Energy Corporation requests to use the alternative length sizing qualification criteria of the Performance Demonstration Initiative (PDI). Accordingly information is being submitted in support of our request and relief is being sought from the applicable ASME Section XI requirements.

- I. System/Components for Which Relief is Requested:** All Category B-A, Item number. B1.10 longitudinal and circumferential shell welds and B1.20 head welds.
- II. Code Requirement:**
10 CFR 50.55a(b)(2) was amended to reference ASME Section XI, 1995 Edition, with the 1996 Addenda, Appendix VIII. Supplement 4 of Appendix VIII, Subparagraph 3.2(b) length sizing qualification criteria requires that flaw lengths estimated by ultrasonic examination be the true length – ¼ inch/ + 1 inch. As amended, 10 CFR 50.55a(b)(2)(xv)(C)(1) requires use of a depth sizing acceptance criteria of 0.15 inch root mean square (RMS) in lieu of the requirements of Supplement 4, Subparagraph 3.2(b) and the statistical parameters of Subparagraph 3.2(c).
- III. Code Requirement from Which Relief is Requested:** Relief is requested from the requirement to use the length sizing criteria of – ¼ inch/+ 1 inch when qualifying personnel and procedures for length sizing. Relief is also requested to use the RMSE calculations of 3.2(a) and 3.2(b) in lieu of the statistical parameters of 3.2(c).
- IV. Basis for Relief:** Qualifications administered by the PDI have used a length sizing qualification criteria of 0.75 inch RMSE since the beginning of these demonstrations in 1994. The 0.75-inch length sizing criteria is included in ASME Code Case N-622, “Ultrasonic Examination of RPV and Piping, Bolts and Studs, Section XI, Division 1”.

The NRC performed an assessment of the PDI program in 1995. As part of this assessment, they reviewed exceptions to the ASME Code, which were parts of the PDI Program. The assessment report states that the NRC “does not take exception to the 0.75 inch RMSE length sizing tolerance”, Ref 1.

Conversations between the NRC Staff and representatives of PDI were held on January 12th 2000. In these conversations it was acknowledged that the 0.75 inch RMSE length sizing criteria should have been addressed in the modifications to

Supplement 4 of Appendix VIII in 10 CFR 50.55a(b)(2)(xv)(C), Ref. 2. It was also stated that this would be corrected in a future revision.

In a public meeting on October 11, 2000 at NRC offices in White Flint, MD, the PDI identified the discrepancy between Subparagraph 3.2(c) and the PDI program. The NRC agreed that 10 CFR 50.55a(b)(2)(xv)(C)(1) should have excluded Subparagraph 3.2(c).

Operating in parallel with the actions of the PDI, the NRC staff incorporated most of Code Case N-622 in the rule published the Federal Register, 64 FR 51370. Appendix VI to Code Case N-622 contains the proposed alternative sizing criteria, which has been authorized by the staff. The staff agrees that the omission of the length sizing tolerance of 0.75 inch RMS in the rule and the inclusion of the statistical parameters of Subparagraph 3.2(c) of Supplement 4 to Appendix VIII was an oversight.

- V. **Alternative:** Duke Energy Corporation proposes to use the 0.75 RMSE length sizing qualification criteria in lieu of the requirements of ASME Section XI, 1995 Edition with the 1996 Addenda, Appendix VIII, Supplement 4 Subparagraph 3.2(b). The RMSE calculation will be used in lieu of Subparagraph 3.2(c).
- VI. **Justification for Relief:** Since 1994 PDI has been using the 0.75 RMSE length sizing qualification criteria. NRC staff recognized that an oversight occurred with respect to the exclusion of the sizing criteria after publication of the rule. Use of the 0.75 RMSE length sizing criteria has been accepted by the NRC assessment of the PDI Program. This alternative will provide an acceptable level of quality and safety.
- VII. **Implementation Schedule:** Duke Energy Corporation will perform examinations of Category B-A, Item no. B1.10 longitudinal and circumferential shell welds and B1.20 head welds using procedures and personnel qualified through the PDI Program during the Third Period of the current interval.

References

NRC Assessment of the PDI Program, Jack R. Strosnider, Chief Materials and Chemical Engineering Branch, to Bruce J. Sheffel, Chairman, PDI, March 6, 1996,, Table 2 Item 94-005, p34.

Meeting Summary, Teleconference between NRC and representatives from PDI, D. G. Naujock, Metallurgist, NDE & Metallurgy Section, to Edmund J. Sullivan, Chief NDE & Metallurgy Section, Chemical Engineering Branch, Division of Engineering, U. S. NRC, March 6, 2000.

NRC staff letter to Mr. T. F. Plunkett, Florida Power and Light Company dated September 23, 1999.

Evaluated by: James J. Mc. Gille III Date 1/3/01

Reviewed by: Jo Barlow Date 1/24/01