

May 7, 2001

Gary Van Middlesworth
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Nuclear Management Company, LLC
3277 DAEC Road
Palo, IA 52324-0351

SUBJECT: DUANE ARNOLD ENERGY CENTER - SAFETY EVALUATION FOR PROPOSED
USE OF LATER ASME CODE EDITION FOR ASME SECTION XI,
SUBARTICLES IWB-2430, IWC-2430, AND IWD-2430 (TAC NO. MB1837)

Dear Mr. Middlesworth:

By letter dated May 2, 2001, Nuclear Management Company, LLC, submitted Relief Request NDE-R041 for the Inservice Inspection (ISI) Program at the Duane Arnold Energy Center (DAEC). By Relief Request NDE-R041, you proposed to use, as an alternative to the requirements of the 1989 Edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (the Code) Section XI, the expansion criteria detailed in Subarticles IWB-2430, IWC-2430, and IWD-2430 (Additional Examinations) of the 1992 Edition of ASME Code Section XI, for Class 1, Class 2, and Class 3 components, as appropriate, when examinations reveal indications exceeding the applicable acceptance standards.

Based on the information provided in your relief request, the Nuclear Regulatory Commission (NRC) staff concludes that the alternative proposed by Relief Request NDE-R041 for the third 10-year interval will provide an acceptable level of quality and safety. Therefore, pursuant to 10 CFR 50.55a(g)(4)(iv), the NRC staff authorizes the alternative proposed in Relief Request NDE-R041 for the ISI program third 10-year interval. The NRC staff's safety evaluation is enclosed.

If you have any questions regarding this matter, please contact Brenda Mozafari at (301) 415-2020.

Sincerely,

/RA/

Claudia M. Craig, Chief, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-331

Enclosures: Safety Evaluation

cc w/encl: See next page

Duane Arnold Energy Center

cc:

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

THIRD TEN-YEAR INTERVAL INSERVICE INSPECTION PROGRAM PLAN

REQUEST FOR RELIEF NDE-R041

NUCLEAR MANAGEMENT COMPANY, LLC

DUANE ARNOLD ENERGY CENTER

DOCKET NO. 50-331

1.0 INTRODUCTION

The inservice inspection of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code) Class 1, Class 2, and Class 3 components is to be performed in accordance with Section XI of the ASME Code and applicable editions and 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).

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 preservice examination requirements, set forth in the ASME Code, Section XI, "Rules for Inservice Inspection 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 first 10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) on the date twelve months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein. The inservice inspection (ISI) code of record for Duane Arnold Energy Center (DAEC) for the third 10-year interval is the 1989 Edition of the ASME Code. 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 Commission approval.

By letter dated May 2, 2001, Nuclear Management Company, LLC (NMC, or the licensee) requested approval to change select portions of their ISI Code of record at DAEC. Specifically, the licensee proposed to adopt specific portions of the 1992 Edition with no addenda of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (Code), Section XI, Subarticles IWB-2430, IWC-2430, and IWD-2430¹ for the third 10-year ISI interval at DAEC.

1. IWD-2430 does not exist in the 1989 Edition of the Code.

2.0 RELIEF REQUEST NDE-R041, ADOPT SELECTED PORTIONS OF A LATER CODE EDITION

2.1 Code Requirement for which Relief is Requested

The 1989 Edition of Section XI of the Code, Subarticles IWB-2430 for Class 1 components and IWC-2430 for Class 2 components provide expanded sampling requirements. The 1989 Edition of Section XI of the Code does not provide expanded sampling requirements for Class 3 components.

2.2 Licensee's Proposed Alternative to Code

Pursuant to 10 CFR 50.55a(g)(4)(iv), the licensee requests approval to use the 1992 Edition with no addenda of Section XI of the Code, Subarticles IWB-2430, IWC-2430, and IWD-2430 for Class 1, 2, and 3 components, respectively, in lieu of the 1989 Edition of Section XI of the Code, Subarticles IWB-2430 and IWC-2430 when examinations reveal indications exceeding the applicable acceptance standards. The request is for the third 10-year ISI interval.

2.3 Licensee's Bases for Alternative (as stated)

“Paragraphs IWB-2430 and IWC-2430 require additional examinations to be performed when examinations reveal indications exceeding the applicable acceptance standards of Table IWB-3410-1 for Class 1 and of Article IWC-3000 for Class 2. The criteria for expansion of the examination sample as stated in IWB-2430 and IWC-2430 of the applicable ASME Code, Section XI, 1989 Edition are not clear in regard to the number and the type of components. On the contrary, the 1992 Edition of the Code addresses the additional examination requirement under the same paragraphs based on the number of examinations scheduled during the inspection period. Further, the 1992 Code specifies that the additional examination be selected from welds, areas, or parts of similar material and service and may require inclusion of piping systems other than the one containing the flaws or relevant conditions. The 1989 Edition of Section XI does not address additional examinations of Class 3 components in IWD-2000, whereas, the 1992 Edition of the Code under paragraph IWD-2430 requires additional examination based on 20 percent of the number of examinations scheduled for the inspection interval with selection criteria similar to Class 2.

The related requirements have been evaluated and there were no provisions that would require a change to the DAEC ISI Program Plan.”

3.0 EVALUATION

The licensee is requesting to use the 1992 Edition with no addenda of Section XI of the Code, Subarticles IWB-2430, IWC-2430, and IWD-2430 for Class 1, 2, and 3 components, respectively, in lieu of the same subarticles in the 1989 Edition of the Code. Use of the 1992 Edition of the Code has been incorporated by reference in 10 CFR 50.55a(b)(2). The 1989 Edition of the Code is not as definitive on expanding the examination sample size after finding a relevant flaw exceeding the acceptance standards in the Code. The 1992 Edition of the Code provided prescriptive requirements for expanding examinations. The licensee performed a

comparison of the relevant portions of the 1992 Edition of the Code and their current ISI Code to ensure that all related requirements of the 1992 Edition were addressed. After reviewing the comparison in the submittal and the Articles in the two Code editions, the staff concludes that the licensee has appropriately identified the portions of the 1992 Edition of the Code affected by the requested change. Therefore, the staff finds the licensee's request acceptable.

4.0 CONCLUSION

Pursuant to 10 CFR 50.55a(g)(4)(iv), the licensee's request to use the 1992 Edition of the ASME Code, Section XI, Subarticles IWB-2430, IWC-2430, and IWD-2430 in lieu of the 1989 Edition of the Code, Section XI, Subarticles IWB-2430 and IWC-2430 is approved for the third 10-year ISI interval.

Principal Contributor: D. Naujock

Date: May 7, 2001