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INDIANA MICHIGAN POWER

June 12, 2003

AEP:NRC:3054-10
10 CFR 2.202

Docket No: 50-316

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Stop O-P1-17
Washington, DC 20555-0001

Donald C. Cook Nuclear Plant Unit 2
REQUEST FOR RELAXATION FROM NUCLEAR REGULATORY COMMISSION ORDER EA-03-009 INTERIM INSPECTION REQUIREMENTS FOR ULTRASONIC OR EDDY-CURRENT TESTING OF EACH REACTOR VESSEL HEAD PENETRATION NOZZLE

Reference: 1) Nuclear Regulatory Commission Order EA-03-009, "Issuance of Order Establishing Interim Inspection Requirements for Reactor Pressure Vessel Heads at Pressurized Water Reactors," dated February 11, 2003

This letter transmits a request for relaxation of requirements contained in Nuclear Regulatory Commission (NRC) Order EA-03-009 which established interim inspection requirements for reactor pressure vessel heads at pressurized water reactors. These requirements involve nondestructive examination (ultrasonic, eddy current, and dye penetrant testing) of the reactor pressure vessel head penetration base material and the J-groove weld.

Section IV.C(1)(b) of NRC Order EA-03-009 requires either an ultrasonic test of each penetration or a wetted surface examination of each penetration using eddy current or dye penetrant testing. Compliance with Section IV.C(1)(b) does not allow the use of, or a combination of, both inspection techniques. Accordingly, Indiana Michigan Power Company (I&M) requires relaxation from Section IV.C.(1)(b) of NRC Order EA-03-009.

Section IV.F of NRC Order EA-03-009 states that licensees proposing to deviate from requirements contained in NRC Order EA-03-009 may request that the Director, Office of Nuclear Reactor Regulation, relax those requirements. Section IV.F further states that requests for relaxation associated with specific nozzles will be evaluated by the NRC staff using its procedure for evaluating

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proposed alternatives to the American Society of Mechanical Engineers (ASME) Code in accordance with 10 CFR 50.55a(a)(3).

In accordance with Section IV.F of NRC Order EA-03-009, I&M is requesting that the Director, Office of Nuclear Reactor Regulation, relax the requirement involving nondestructive examination as prescribed in Section IV.C(1)(b) of NRC Order EA-03-009 as described in the attachment to this letter. The format of this request is similar to that published by the Nuclear Energy Institute for proposing alternatives to the ASME Code in accordance with 10 CFR 50.55a(a)(3).

I&M considers that, upon approval by the NRC, the alternative proposed in the attachment will constitute a condition of NRC Order EA-03-009 rather than a regulatory commitment. Therefore, there are no new commitments identified in this document.

Should you have any questions, please contact Mr. Brian A. McIntyre, Manager of Regulatory Affairs, at (269) 697-5806.

Sincerely,

J. E. Pollock
Site Vice President

TW/dmb

Attachment:

Proposed Alternative No. 3 to NRC Order EA-03-009: Alternative to Requirements to Perform Either Ultrasonic Testing of Each Penetration or a Wetted Surface Examination of Each Penetration Using Eddy Current or Dye Penetrant Testing

c: Director, Office of Nuclear Reactor Regulation
H. K. Chernoff, NRC Washington DC
K. D. Curry, Ft. Wayne AEP, w/o attachments
J. E. Dyer, NRC Region III
J. T. King, MPSC, w/o attachments
MDEQ - DW & RPD, w/o attachments
NRC Resident Inspector
J. F. Stang, Jr., NRC Washington DC

AFFIRMATION

I, Joseph E. Pollock, being duly sworn, state that I am Vice President of Indiana Michigan Power Company (I&M), that I am authorized to sign and file this request with the Nuclear Regulatory Commission on behalf of I&M, and that the statements made and the matters set forth herein pertaining to I&M are true and correct to the best of my knowledge, information, and belief.

Indiana Michigan Power Company

J. E. Pollock
Site Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 12 DAY OF June, 2003

Notary Public

My Commission Expires Apr. 4, 2004

DANIELLE M. SCHRADER
Notary Public, Berrien County, MI
My Commission Expires Apr 4, 2004

PROPOSED ALTERNATIVE NO. 3 TO NRC ORDER EA-03-009: ALTERNATIVE TO REQUIREMENTS TO PERFORM EITHER ULTRASONIC TESTING OF EACH PENETRATION OR A WETTED SURFACE EXAMINATION OF EACH PENETRATION USING EDDY CURRENT OR DYE PENETRANT TESTING

NRC Order EA-03-009, Section IV.F, Criterion (1): Alternative Provides Acceptable Level of Quality and Safety

1. **Components Affected:**

Donald C. Cook Nuclear Plant Unit 2 reactor pressure vessel head penetrations.

2. **Applicable Document**

Nuclear Regulatory Commission (NRC) Order EA-03-009, "Issuance of Order Establishing Interim Inspection Requirements for Reactor Pressure Vessel Heads at Pressurized Water Reactors," dated February 11, 2003.

3. **Applicable Requirement**

NRC Order EA-03-009 requires interim inspection requirements based on susceptibility of the reactor pressure vessel head penetrations to primary water stress corrosion cracking. For plants that are designated in the most susceptible category, the requirements of Section IV.C(b) apply and are to be performed at every refueling outage. Specifically, the following inspections are to be performed (emphasis added):

IV.C(1)(b) **Either:**

(i) Ultrasonic testing of **each** RPV head penetration nozzle (i.e., nozzle base material) from two (2) inches above the J-groove weld to the bottom of the nozzle and an assessment to determine if leakage has occurred into the interference fit zone, **OR**

(ii) Eddy current testing or dye penetrant testing of the wetted surface of **each** J-groove weld and RPV head penetration nozzle base material to at least two (2) inches above the J-groove weld.

Compliance with the inspection requirements imposed by Section IV.C(1)(b) would be achieved by performing Section IV.C(1)(b)(i) on each penetration or Section IV.C(1)(b)(ii) on each penetration.

4. **Reason for Request**

As described above, compliance with the inspection requirements imposed by Section IV.C(1)(b) of NRC Order EA-03-009 would be achieved by performing

Section IV.C(1)(b)(i) on each penetration or Section IV.C(1)(b)(ii) on each penetration. Indiana Michigan Power Company (I&M) has determined relaxation of the inspection requirements imposed by Section IV.C(1)(b) is required.

I&M interpreted compliance with the inspection requirements imposed by Section IV.C(1)(b) of NRC Order EA-03-009 would be achieved by inspecting each nozzle by the technique prescribed in either Section IV.C(1)(b)(i), Section IV.C(1)(b)(ii) or a combination of Section IV.C(1)(b)(i) and Section IV.C(1)(b)(ii). As such, the inspections on the reactor pressure vessel head penetrations for the Unit 2 Cycle 14 refueling outage were performed based on I&M's interpretation of compliance. Additionally, neither method can be used exclusively for Donald C. Cook Nuclear Plant Unit 2 due to limitations imposed by thermal sleeve configurations, previous repair, or location in the vessel head.

Figure 1 provides a matrix of the inspection techniques used to assess service acceptability of the 79 reactor vessel head penetrations.

5. Proposed Alternative and Basis for Use

In lieu of requiring inspections to be performed as prescribed in Section IV.C(1)(b) of NRC Order EA-03-009, I&M proposes the following alternative to be used in conjunction with the proposed alternatives submitted by I&M on March 26, 2003, and supplemented on June 2, 2003.

IV.C(1)(b) For each penetration perform either:

(i) Ultrasonic testing of the RPV head penetration nozzle (i.e.,nozzle base material) from two (2) inches above the J-groove weld to the bottom of the nozzle and an assessment to determine if leakage has occurred into the interference fit zone,

(ii) Eddy current testing or dye penetrant testing of the wetted surface of the J-groove weld and RPV head penetration nozzle base material to at least two (2) inches above the J-groove weld, OR

(iii) Equivalent combination of (i) and (ii) to obtain sufficient data to assess the acceptability of the penetration nozzle base material and J-groove weld.

I&M considers this alternative will provide an acceptable level of quality and safety because either inspection technique prescribed in Section IV.C(1)(b) of NRC Order EA 03-009 is sufficient to detect the primary water stress corrosion cracking phenomena. Exclusive use of either technique does not increase the level of quality or safety. Accordingly, the proposed alternative maintains the level of quality and safety prescribed in Section IV.C(1)(b).

6. Duration of Proposed Alternative

I&M requests the proposed alternative for the inspections performed for the Unit 2 Cycle 14 Refueling Outage.

7. References

Letter from J. E. Pollock, I&M, to U. S. NRC Document Control Desk, "Donald C. Cook Nuclear Plant Unit 1 and Unit 2, Request for Relaxation from Nuclear Regulatory Commission Order Establishing Interim Inspection Requirements for Reactor Pressure Vessel Heads at Pressurized Water Reactors," AEP:NRC:3054-04, dated March 26, 2003

Letter from J. E. Pollock, I&M, to U. S. NRC Document Control Desk, "Revised Response To Request For Additional Information Regarding Relaxation Of Reactor Pressure Vessel Head Penetration Inspection Requirements In Nuclear Regulatory Commission Order," AEP:NRC:3054-08, dated June 2, 2003

Figure 1
Donald C. Cook Nuclear Plant Unit 2 Reactor Closure Head Penetration Inspection Summary

		Order Inspection Criteria	
Penetration Number	Inspection Method	IV.C(1)(b)(i)	IV.C(1)(b)(ii)
1	WS		X
2	WS		X
3	WS		X
4	WS		X
5	WS		X
6	WS		X
7	WS		X
8	WS		X
9	WS		X
10	UT	X	
11	UT	X	
12	UT	X	
13	UT	X	
14	UT	X	
15	UT	X	
16	UT	X	
17	UT	X	
18	UT	X	
19	UT	X	
20	UT	X	
21	UT	X	
22	UT	X	
23	UT	X	
24	UT	X	
25	UT	X	
26	UT	X	
27	UT	X	
28	UT	X	
29	UT	X	
30	UT	X	
31	UT	X	
32	UT	X	
33	UT	X	
34	UT	X	
35	UT	X	
36	UT	X	
37	UT	X	
38	UT	X	
39	UT	X	

		Order Inspection Criteria	
Penetration Number	Inspection Method	IV.C(1)(b)(i)	IV.C(1)(b)(ii)
40	UT	X	
41	UT	X	
42	UT	X	
43	UT	X	
44	UT	X	
45	UT	X	
46	UT	X	
47	UT	X	
48	UT	X	
49	UT	X	
50	UT	X	
51	UT	X	
52	UT	X	
53	UT	X	
54	UT	X	
55	UT	X	
56	UT	X	
57	UT	X	
58	UT	X	
59	UT	X	
60	UT	X	
61	UT	X	
62	UT	X	
63	UT	X	
64	UT	X	
65	UT	X	
66	UT	X	
67	UT	X	
68	UT	X	
69	UT	X	
70	UT	X	
71	UT	X	
72	UT	X	
73	UT and WS	X	X
74	UT	X	
75	UT and WS	X	X
76	UT	X	
77	UT	X	
78	UT	X	
Head Vent	WS		X

WS = Wetted Surface Examination
UT = Ultrasonic Testing from the ID with Leak Path Assessment