

August 10, 2001

LICENSEE: Nuclear Management Company, LLC

FACILITY: Palisades Plant

SUBJECT: SUMMARY OF AUGUST 1, 2001, MEETING REGARDING AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME) CODE CASE N-504-1 FOR WELD OVERLAY ON CONTROL ROD DRIVE UPPER HOUSINGS (TAC NO. MB2235)

On August 1, 2001, the Nuclear Regulatory Commission (NRC) staff met in Rockville, Maryland, with Nuclear Management Company, LLC (NMC), and NMC contractors (Structural Integrity Associates (SIA) and Westinghouse). The purpose of this public meeting was to discuss NMC's application for NRC staff approval, dated July 30, 2001, to use ASME *Boiler and Pressure Vessel Code* Case N-504-1, "Alternative Rules for Repair of Class 1, 2, and 3 Austenitic Stainless Steel Piping Section XI, Division 1." The Code case would be applied to establish the acceptability of defects in the upper pressure housings of control rod drive (CRD) stalks at the Palisades Plant by increasing the housing wall thickness by deposition of weld reinforcement material (weld overlay) on the surface of the housings. Meeting attendees are listed in Enclosure 1. Enclosure 2 is a copy of the viewgraph slides used during the presentations by NMC and SIA. Enclosure 3 shows the location of specific CRDs mentioned in this meeting summary.

The presentations by NMC and SIA consisted of a review of the contents of NMC's letter dated July 30, 2001, requesting NRC staff approval to use the Code case for repair of CRD upper housings at the Palisades Plant. The need for repair was first identified as a result of a leak observed on June 21, 2001, in the upper housing assembly of CRD-21. Inspections after plant shutdown revealed a through-wall axial crack near the butt weld joining the upper housing assembly pipe to an eccentric reducer (Weld No. 3 on page 12 of Enclosure 2). This location is several feet above the reactor vessel head. CRD-21 has now been removed for destructive examination to determine root cause, and will be replaced by a spare obtained from another nuclear power plant. Testing of metallurgical samples removed from the defective CRD-21 weld identified the cracking as transgranular stress corrosion cracking (TGSCC). Subsequent non-destructive examinations of several other CRD housings at Palisades have revealed several indications in this same weld area of those housings, and additional indications in this weld area for CRD-21. Some of the additional indications have an axial orientation and some have a circumferential orientation. The additional indications are of varying depth, but none are through-wall, and none have been found in welds other than Weld No. 3. NMC states that, if approved, the Code case would be applied to the repair of those CRD upper housing assemblies for which it can be shown to apply, and where such repair is determined to be the appropriate course of action. These and additional details, including NMC's repair plan, the applicability of the Code case to TGSCC, and crack growth rates, are found in NMC's letter dated July 30, 2001.

The NRC staff stated at the conclusion of the meeting, that application of the Code case for the repair of CRD upper housing assemblies is deemed to be a viable concept, but that NRC staff

approval would require additional information regarding the current and ongoing non-destructive testing inspection methods and results, metallurgical and root cause analyses, future crack growth potential, repair and reinspection plans, and supplementation regarding the regulatory basis of the current relief request.

No regulatory decisions or commitments were requested or made during the meeting.

/RA/

Darl S. Hood, Senior Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-255

Enclosures: 1. Attendees
2. Presentation Slides
3. CRD Head Map

cc w/encls: See next page

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DISTRIBUTION:

PUBLIC	DHood	OGC	ACRS/ACNW
PDIII-1 Reading	SBajwa	CCraig	JZwolinski/TMarsh
RBouling	TBergman	AVegel	WKoo
BElliot	BJain	DNaujock	JDavis
RBenedict	JCollins	DJackson	BBateman
JGavula	JJacobson	WSifre	

ACCESSION NO. ML012200486

*See Previous Concurrence

OFFICE	PDIII-1/PM	PDIII-1/LA	EMCB/SC	PDIII-1/SC
NAME	DHood	THarris for RBouling	WBateman*	CCraig
DATE	8/9/01	8/10/01	8/8/01	8/10/01

OFFICIAL RECORD COPY

Palisades Plant

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July 2001

Attendees
Wednesday, August 1, 2001

<u>Name</u>	<u>Organization</u>
Darl S. Hood	NRR/DLPM/PDIII-1
William Koo	NRR/DE/EMCB
Barry J. Elliot	NRR/DE/EMCB
Richard Smith	NMC/SIA
Bob Van Wagner	NMC/Palisades
Tom Fouty	NMC/Palisades
Bob Hermann	Structural Integrity Association(SIA)
Warner Bamford	Westinghouse
Bhagwat Jain	NRR/DE/EMCB
Don Naujock	NRR/DE/EMCB
Jim Davis	NRR/DE/EMCB
Jim Savage	NMC
RA Benedict	NRC/REXB
James Wong	NMC/Palisades
Anthony Giannuzzo	SIA
Marcos Herrera	SIA
Deann Raleigh	U.S. Scientech
Jay Collins	NRR/DE/EMCB
George Goralski	NMC/Palisades
Tom Bergman	NRC/OEDO
L.B. (Tad) Marsh	NRR/DLPM
Debbie Jackson	RES/DET/MEB
Bill Bateman	NRR/DE/EMCB
S. Singh Bajwa	NRR/DLPM/PDIII-1
Bud Gerling	NMC-Palisades Licensing
Paul Harden	NMC-Palisades Licensing
James Gavala (by phone)	NRC/RIII
John Jacobson (by phone)	NRC/ RIII
Wayne Sifre (by phone)	NRC/RIV