

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Kewaunee Nuclear Power Plant										DOCKET NUMBER (2) 0 5 0 0 0 3 0 5										PAGE (3) 1 OF 0 2																		
TITLE (4) Rod Cluster Control Assembly Cladding Wear																																						
EVENT DATE (5)						LER NUMBER (8)						REPORT DATE (7)						OTHER FACILITIES INVOLVED (6)																				
MONTH			DAY			YEAR			YEAR			SEQUENTIAL NUMBER			REVISION NUMBER			MONTH			DAY			YEAR			FACILITY NAMES						DOCKET NUMBER(S)					
0 4			0 1			8 4			8 4			0 0 3			0 1			1 0 3			1 8 4			N/A						0 5 0 0 0 0 1								
0 4			0 1			8 4			8 4			0 0 3			0 1			1 0 3			1 8 4									0 5 0 0 0 0								
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5 (Check one or more of the following) (11)																																				
N																																						
POWER LEVEL (10)		0 0 0																																				
		20.402(b)																																				
		20.406(a)(1)(i)																																				
		20.406(a)(1)(ii)																																				
		20.406(a)(1)(iii)																																				
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		20.406(a)(1)(vi)																																				
		20.406(e)																																				
		50.73(a)(2)(i)																																				
		50.73(a)(2)(ii)																																				
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		50.73(a)(2)(ix)																																				
		73.71(b)																																				
		73.71(c)																																				
		X OTHER (Specify in Abstract below and in Text, NRC Form 356A)																																				
LICENSEE CONTACT FOR THIS LER (12)																																						
NAME John G. Thorgersen - Nuclear Engineer												TELEPHONE NUMBER																										
												AREA CODE 4 1 4 4 3 3 - 1 3 0 3																										
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																																						
CAUSE		SYSTEM		COMPONENT		MANUFACTURER		REPORTABLE TO NRC				CAUSE		SYSTEM		COMPONENT		MANUFACTURER		REPORTABLE TO NRC																		
B		AA		ROD		W 1 2 0		Yes																														
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (15)																										
X YES (If yes, complete EXPECTED SUBMISSION DATE)												NO																										
												0 7 0 1 8 6																										
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single space typewritten lines) (16)																																						
<p>During the Cycle IX-X refueling shutdown, an underwater visual inspection of three rod cluster control assemblies (RCCA's) revealed apparent wear marks on the cladding of the RCCA absorber rodlets. The wear marks were found to occur at a position which correlates to the location of the guide cards, which are used to position the rodlets in the guide housing, when the RCCA's are parked in their normally full out position. The cladding wear is attributable to the design of the guide cards and is a result of vibratory interaction between the rodlets and the guide cards during long periods of steady state power operation.</p> <p>Westinghouse has evaluated the wear marks on these rodlets and determined that they do not exceed Westinghouse's criteria for RCCA wear depth. They have also concluded that at a minimum, the RCCA's currently in use during Cycle X can be safely used through the end of Cycle XI without performing a detailed visual inspection during the Cycle X-XI refueling shutdown.</p> <p>WPSC has revised the normally fully withdrawn position of the RCCA's from 228 steps to 226 steps in order to minimize fretting in the existing areas and to extend the lifetime of the RCCA's.</p> <p>Although this event does not meet the reporting criteria of 10 CFR 50.73(a), it is being reported as an LER which may be of generic interest.</p> <p>Safe, functional operation of the RCCA's is ensured, and there is no impact on public health and safety.</p>																																						
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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

FACILITY NAME (1) Kewaunee Nuclear Power Plant	DOCKET NUMBER (2) 0 5 0 0 0 3 0 5 8 4	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 4	0 0 3	0 1	0 2	OF	0 2

TEXT (If more space is required, use additional NRC Form 366A's) (17)

During the Cycle IX-X refueling shutdown, Kewaunee Plant personnel visually inspected three of twenty-nine rod cluster control assemblies [RCCA's] (ROD) for evidence of cladding wear. This inspection was prompted by a recent inspection of RCCA's at another nuclear facility which revealed cladding wear greater than expected. The RCCA's inspected were R-05, R-14, and R-20. These assemblies are of the spider mounted design which contain 16 rodlets per RCCA. The assemblies are compatible with the 14 x 14 fuel design used at the Kewaunee Plant and contain silver, indium and cadmium as an absorber material.

The inspection was performed during the last week in March, 1984, using an underwater TV camera coupled with videotape recording equipment. The results were recorded on five videotapes and revealed apparent wear marks on the surfaces of the RCCA absorber rodlets. The wear marks are about one inch in length and are located at an elevation which corresponds to the guide cards, which are used to position the rodlets in the guide housing, when the RCCA's are fully withdrawn (at 228 steps) from the core. The wear is postulated to occur as a result of the vibratory interaction (fretting) between the rodlets and the guide cards during long periods of steady state power operation. This fretting is characteristic of the design of the guide cards.

Based on a detailed review of these videotapes, Westinghouse has concluded that none of the inspected RCCA's exhibit wear in excess of Westinghouse's wear criteria. They have also concluded that at a minimum, the RCCA's currently in use during Cycle X can be safely used through the end of Cycle XI without performing a detailed visual inspection during the Cycle X-XI refueling shutdown.

Westinghouse has also suggested that by changing the normally parked position of all the RCCA's by 2-3 steps, fretting in existing areas can be minimized and the lifetime of the RCCA's could be extended. WPSC has revised the normally fully withdrawn position of the RCCA's from 228 steps to 226 steps.

Although this event does not meet the reporting criteria of 10 CFR 50.73(a), it is being reported as an LER which may be of generic interest.

The safe, functional operation of the RCCA's is ensured, and there is no impact on public health and safety.

WISCONSIN PUBLIC SERVICE CORPORATION

P.O. Box 1200, Green Bay, WI 54305



October 31, 1984

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
Reportable Occurrence 84-003-01

In accordance with the requirements of 10 CFR 50.73 "Licensee Event Report System", the attached Licensee Event Report for reportable occurrence 84-003-01 is being submitted.

Very truly yours,

DCH
D. C. Hintz
Manager - Nuclear Power

JGT/js

Attach.

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