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ACCESSION NBR: 8707230569 DOC. DATE: 87/07/20 NOTARIZED: NO DOCKET #
FACIL: 50-305 Kewaunee Nuclear Power Plant, Wisconsin Public Servic 05000305
AUTH. NAME AUTHOR AFFILIATION
ROPSON, D. J. Wisconsin Public Service Corp.
HINTZ, D. C. Wisconsin Public Service Corp.
RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-006-00: on 870618, Westinghouse notified util that removal of internals from relief valve could violate containment integrity design basis. Util evaluation showed notification did not apply to plant. W/870720 ltr.

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TITLE: Part 21 Rept (50 DKT)

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NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Kewaunee Nuclear Power Plant	0 5 0 0 0 3 0 5	1 OF 0 3

TITLE (4) Potential Violation of Component Cooling Water Containment Isolation Function Identified by Westinghouse in a 10 CFR 21 Report

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
0 6	1 8	8 7	8 7	0 0 6	0 0	0 7	2 0	8 7	NA	0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9): N

POWER LEVEL (10): 1 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	X OTHER (Specify in Abstract below and in Text, NRC Form 366A)
20.405(a)(1)(iii)	50.73(c)(2)(i)	50.73(a)(2)(viii)(A)	
20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	Part 21

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (AREA CODE)
Daniel J. Ropson - Superintendent Nuclear Licensing & Systems	4 1 4 4 3 3 - 1 3 3 2

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) X NO

EXPECTED SUBMISSION DATE (15): N/A — MONTH | DAY | YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On June 18, 1987, while the plant was operating at 100% power, Westinghouse Electric Corporation notified Wisconsin Public Service Corporation (WPSC) of a 10 CFR 21 item with regard to Westinghouse supplied Component Cooling Water System (CCWS).

Due to a recommendation made by Westinghouse, WPSC removed the internals from the relief valve on the CCW surge tank, in July of 1984. Westinghouse made the recommendation to prevent the possible overpressurization of the CCWS during a leak in a reactor coolant pump thermal barrier. Upon reevaluation of their recommendation, Westinghouse determined that the removal of the valve's internals could result in a violation of the containment integrity design basis for some plants, including Kewaunee.

WPSC immediately began evaluating the applicability of the June 18, 1987 10 CFR 21 notification with the assistance of Westinghouse and Fluor Engineers, Inc., the KNPP architectural engineering firm. This evaluation determined that the Part 21 notification did not apply to the Kewaunee Plant. Therefore, no further corrective action was required.

This event is being reported by WPSC in response to the 10 CFR 21 report sent to the NRC by Westinghouse.

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Description of the Event

On June 18, 1987, while the plant was operating at 100% power, Westinghouse Electric Corporation notified Wisconsin Public Service Corporation (WPSC) of a 10 CFR 21 item with regard to Westinghouse supplied Component Cooling Water Systems (CCWS) [CC].

On June 12, 1984, Westinghouse notified WPSC that a leak of reactor coolant into the CCWS through one of the reactor coolant pump thermal barriers [HX] could result in the overpressurization of the CCWS. One of the recommendations made by Westinghouse to resolve this concern was to remove the internals from the relief valve [RV] on the CCW surge tank [TK]. The pressure relief valve on the CCW surge tank was originally designed to provide overpressure protection for the tank. Westinghouse indicated that due to the design of the CCW system, there is a potential to overpressurize the lower elevation piping should the CCW surge tank pressure approach the relief valve setpoint. Removing the internals would open the system to the atmospheric pressure and prevent it from overpressurizing. After WPSC reviewed and approved this proposed change, it was implemented in July of 1984.

Westinghouse's June 18, 1987, 10 CFR 21 notification stated that when the relief valve internals were removed, the CCWS became an open system outside containment. They further stated that this might be in violation of the design basis of some plants, including the Kewaunee Plant.

Westinghouse further advised WPSC that the containment isolation [JM] design and licensing bases for KNPP should be evaluated since credit may have been taken in the original design basis for a closed system outside of containment .

WPSC immediately began evaluating the applicability of the 10 CFR 21 notification with the assistance of Westinghouse and Fluor Engineers, Inc., the KNPP architectural engineering firm.

Cause of the Event

As noted in Westinghouse's June 18, 1987 10 CFR 21 notification opening of the CCWS outside of containment would have resulted in a violation of design basis for the Point Beach Nuclear Power Plant. Subsequently, Westinghouse identified this as a potential concern for plants that implemented the above mentioned modifications. Therefore, on June 18, 1987, Westinghouse initiated a 10 CFR 21 report which identified the Kewaunee Plant as a potential candidate of concern. This report is being supplied to respond to those concerns.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	PAGE (3)
Kewaunee Nuclear Power Plant	0 5 0 0 0 3 0 5	8 7	— 0 0 6	— 0 0	3 OF 0 3

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

Analysis of Event

The original design basis for the CCWS assumed a closed system outside of containment as one of the two barriers required to maintain containment integrity. When the internals were removed from the CCW surge tank relief valve, the system was no longer closed outside of containment. As a result, the CCWS containment penetrations were evaluated to determine if a double barrier still existed.

The evaluation determined that the modified CCWS configuration continues to meet the requirements for a closed system inside containment; thereby, providing one of the two required barriers. This was verified by comparing the CCWS design to the nine criteria for a closed system in containment supplied in section 3.5 of ANSI/ANS 56.2-1984.

For the CCW supply lines (penetrations 32N, 32E and 39) the second barrier is the CCW pump [P] discharge pressure, which is higher than the containment design pressure of 46 psig. In the event of a leak in the closed system, this higher pressure will cause CCW to leak into the containment atmosphere.

For the CCW return lines (Penetrations 33N, 33E and 40) the second barrier are the motor operated valves outside containment, CC-612A, CC-612B and CC-653, respectively.

Therefore, the modified CCWS configuration, which is open outside containment, maintains the original KNPP double barrier design basis requirements for containment integrity.

This event is not required to be reported in accordance with 10 CFR 73. However, it is being supplied to respond to the concerns raised by Westinghouse's June 18, 1987, 10 CFR 21 report.

Corrective Actions

Upon notification from Westinghouse, WPSC immediately began evaluating the CCW system design and licensing bases. The analysis included an evaluation against the nine (9) criteria of ANSI/ANS 56.2-1984 for closed loop system inside containment and a comparison of the double barrier configuration against the original licensing basis. The analysis has proven that the original design bases have been maintained. Therefore, no further actions are necessary.

Additional Information

Equipment Failure: None
Similar LERs: None
Related Information:

1. Letter from E. P. Rake, Jr. (Westinghouse Electric Corp.) to R. C. DeYoung (NRC), transmitting Part 21 report on CCWS overpressurization, dated July 13, 1984.
2. Letter from W. J. Johnson (Westinghouse Electric Corp.) to Mr. Carl Berlinger (NRC), transmitting Part 21 report on CCWS and its potential impact on containment integrity design bases, dated June 18, 1987.

WPSC (414) 433-1234
TELECOPIER (414) 433-1297

NRC-87-99

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WISCONSIN PUBLIC SERVICE CORPORATION

600 North Adams • P.O. Box 19002 • Green Bay, WI 54307-9002

July 20, 1987 10 CFR 50.73

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 87-006-00

This report is being supplied to respond to concerns raised by the June 18, 1987, 10 CFR 21 report issued by Westinghouse. However, this report is not required by 10 CFR 50.73.

Very truly yours,

Charles A. Schrock for

D. C. Hintz
Vice President - Nuclear Power

TJW/jal

Attach.

cc - INPO Records Center
Suite 1500, 1100 Circle 75 Parkway
Atlanta, GA 30339
Mr. Robert Nelson, NRC Resident Inspector
RR #1, Box 999, Kewaunee, WI 54216
US NRC, Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

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