



NRC-00-055

Wisconsin Public Service Corporation

(a subsidiary of WPS Resources Corporation)

Kewaunee Nuclear Power Plant

North 490, Highway 42

Kewaunee, WI 54216-9511

920-388-2560

July 14, 2000

10 CFR 50.73

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

Ladies/Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
Reportable Occurrence 2000-012-00

In accordance with the requirements of 10 CFR 50.73, "Licensee Event Report System," the attached Licensee Event Report (LER) for reportable occurrence 2000-012-00 is being submitted. This report does not contain any new commitments.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark L. Marchi". Below the signature, the word "for" is written in a smaller, cursive script.

Mark L. Marchi
Vice President-Nuclear

KCM

Attach.

cc - INPO Records Center
US NRC Senior Resident Inspector
US NRC, Region III

IE22

LICENSEE EVENT REPORT (LER)

(See reverse for required number of
digits/characters for each block)

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

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TITLE (4)

Failure to Expand Scope to Test Additional Relief Valves as Required by Technical Specifications

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 NAME	DOCKET NUMBER
06	14	2000	2000	-- 012	-- 00	07	14	2000	FACILITY NAME	DOCKET NUMBER
										05000
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)										
OPERATING MODE (9)		N		20.2201(b)		20.2203(a)(2)(v)		X 50.73(a)(2)(I)		50.73(a)(2)(viii)
POWER LEVEL (10)		0		20.2203(a)(1)		20.2203(a)(3)(i)		50.73(a)(2)(ii)		50.73(a)(2)(x)
				20.2203(a)(2)(i)		20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71
				20.2203(a)(2)(ii)		20.2203(a)(4)		50.73(a)(2)(iv)		OTHER
				20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A
				20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)		

LICENSEE CONTACT FOR THIS LER (12)

NAME

Kevin C. McCann, Maintenance Engineering Group Leader

TELEPHONE NUMBER (Include Area Code)

(920) 388-8410

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On June 14, 2000, it was discovered that, during a recent refueling outage, additional relief valves were not tested as required by Technical Specifications when one relief valve setpoint could not be determined. The valve tested may have had seat leakage greater than the capacity of the test pump that prevented determining an exact setpoint, rather than a low setpoint. This condition should have been conservatively treated as a test failure and additional valves tested.

The cause of the event was determined to be inadequate guidance in plant procedures on actions to take if seat leakage prevented exact determination of a relief valve setpoint.

Corrective actions taken included testing of additional relief valves. Personnel involved in relief valve testing have been advised of the actions to take when seat leakage prevents determination of an exact setpoint. Additionally, this guidance will be added to plant procedures governing relief valve testing. The process for reviewing KAP problem reports will be reviewed and revised as necessary.

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DESCRIPTION OF EVENT

On June 14, 2000, while operating at 90% power, a routine administrative review of a Kewaunee Assessment Process (KAP) problem report revealed that testing of relief valves required by Technical Specifications may not have been performed during a recent refueling shutdown.

On April 29, 2000, with the plant in refueling shutdown, setpoint testing was performed on auxiliary feedwater pump B suction relief valve [RV], MU-320B, in accordance with Preventative Maintenance Procedure PMP 03-08, "Condensate Relief Valve Testing/Verification of Setpoint Record." The expected setpressure was 122 to 128 psig. When attempting to raise pressure to this range using a small handpump [P], the maximum pressure that could be obtained was 100 psig. Discussions between the test supervisor, the certified relief valve testing technician, and engineering personnel resulted in a conclusion that the setpoint of the valve was out of range low, but that the valve also had excessive seat leakage. In accordance with the KNPP Inservice Testing Plan and plant procedures, a relief valve found to have a low as-found setpoint is not considered to be a code failure. A low setpoint requires repairing and/or resetting the valve, but does not require expanding scope to test additional valves. A KAP problem report was initiated. The conclusion that the valve setpoint was low was communicated to the Inservice Testing (IST) Engineer. He concurred that, since the valve was lifting low, this would not require a scope expansion. The valve was disassembled, repaired, and retested satisfactorily. No conditions were found in the valve that would indicate that other valves might have similar problems. No additional valves were tested.

On June 14, 2000, the problem report generated was subjected to a routine review by a team of operations, engineering, and maintenance personnel. At this time, it was questioned if the setpoint of the valve had been accurately determined. Discussion among engineering and maintenance personnel indicated that the valve may not have been lifting. Rather, the valve may

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have had seat leakage greater than the capacity of the test pump being used, preventing the lift pressure from being obtained. Since it could not be conclusively determined that a definite setpoint had been obtained, a decision was made to treat this as a test failure, which requires that two more valves in the same grouping be tested.

The additional two valves were removed from the system and tested. MU-320C was found to have a setpoint of 143 psig, above the specified range. This valve was disassembled, repaired, and retested. MU-320A was found to have an acceptable setpoint. Since there are only three valves in this group of valves, and all of them had been tested, further valve testing was not required as a result of the failure of MU-320C.

CAUSE OF THE EVENT

Maintenance and engineering personnel interpreted the test results as indicating a low setpoint, when the setpoint had not been definitely determined. The same indications may have been due to seat leakage greater than the capacity of the test pump. This could mask a high setpoint. The test personnel did not make a conservative decision to expand scope to test additional relief valves in the group.

Several factors contributed to the decision made. The ASME Code wording is very unclear on the requirements to expand scope. There is no guidance provided in the code on actions required if a setpoint cannot be determined due to seat leakage. Plant procedures also do not provide clear guidance on actions to take in this condition.

Typically, the administrative review of KAP problem reports occurs within a few days of the event. In this case, the review was delayed due to problems in processing the KAP. Had the KAP been processed promptly, the original error would have been identified earlier. As a result, the

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remaining valves would have been tested prior to the plant resuming operation, and no Technical Specification violation would have occurred.

ANALYSIS OF THE EVENT

This condition is being reported under 10 CFR 50.73(a)(2)(i)(b), any event or condition prohibited by the plant's Technical Specifications. Technical Specification section 4.2.a.2 requires that ASME Code Class 1, 2 and 3 components be tested in accordance with ASME Boiler and Pressure Vessel Code Section XI, which further references ASME/ANSI Operation and Maintenance of Nuclear Power Plants, Parts 6 and 10. Part 1 of the Code provides requirements for testing of relief valves. The Code is not clear on the requirements for expanding scope to test additional valves when a valve setpoint cannot be determined due to seat leakage. A conservative determination was made that the additional valves in the group should have been tested when MU-320B setpoint could not be clearly determined. Failure to expand scope and test additional valves in the group was conservatively interpreted as a failure to perform a Technical Specification required surveillance test.

Analysis of the potential consequences of the relief valve as found conditions determined that there were no safety consequences. MU-320B was found to have a very small amount of leakage at 100 psig. This is approximately the maximum pressure expected during any operation of the system. Since the leakage found at this pressure was very small, it would not impact the ability of the system to perform its safety function. The disassembled inspection of MU-320B did not reveal any conditions that would indicate that the valve would not have lifted to perform its overpressure protection function.

The high setpoint found for MU-320C was sufficiently low that pressurization of the piping to that setpoint would not have resulted in any overstress condition of the piping.

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CORRECTIVE ACTIONS

All relief valves in the group have been tested and repairs and adjustments made to return them to normal operation.

Records are being reviewed for all relief valves that were tested during the 2000 refueling outage. Reviews completed to date and discussions with the test supervisor have not revealed any similar conditions that would have required testing additional valves.

Personnel involved have been advised of the need to determine a clear as-found setpoint during relief valve testing, or to expand scope to additional valves in the group, in accordance with the KNPP interpretation of ASME Code Section XI requirements. This guidance will also be added to plant procedures governing relief valve testing.

Methods of determining relief valve setpoints when seat leakage exists will be studied. This may include the use of higher capacity test pumps, or sending leaking relief valves to a certified facility for determination of the as-found setpoint.

The process and procedures used to administer the KAP program will be reviewed to determine if corrective actions can be taken to ensure more timely reviews of KAP problem reports.

ADDITIONAL INFORMATION

Relief valves in question are one inch, Consolidated Valve, model 1975C-3-XFA1.

SIMILAR EVENTS

None.