

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-305/84-21(DRS)

Docket No. 50-305

License No. DPR-43

Licensee: Wisconsin Public Service Corporation
P.O. Box 1200
Green Bay, Wisconsin 54304

Facility Name: Kewaunee

Inspection At: Kewaunee, Wisconsin

Inspection Conducted: December 10-14, 1984

Inspectors: *L. A. Reyes for*
P. L. Eng

1/15/85
Date

L. A. Reyes for
P. R. Wohld

1/15/85
Date

Approved By: *L. A. Reyes for*
L. A. Reyes, Acting Chief
Operational Programs Section

1/15/85
Date

Inspection Summary

Inspection on December 10-14, 1984 (Report No. 50-305/84-21(DRS))

Areas Inspected: Routine, announced inspection of pump and valve inservice testing program implementation; inservice testing relief requests; remote position indicator verification; valve stroke timing; reference values for inservice testing; control of measuring and test equipment; infrequently tested valves; and inservice testing records. The inspection involved a total of 87 inspector-hours onsite by two NRC inspectors, including 12 inspector-hours onsite during offshifts.

Results: Of the eight areas inspected, no items of noncompliance or deviations were identified in seven areas; two items of noncompliance were identified in the remaining two areas (inadequate implementation of Code requirements - Paragraphs 3.1.a, 3.1.b and 3.1.c; use of noncalibrated equipment - Paragraph 5).

DETAILS

1. Persons Contacted

J. Daming, Maintenance Specialist
*K. H. Evers, Plant Operations Superintendent
D. M. MacSwain, Assistant Superintendent, Instrument and Control
*M. Marchi, Plant Technical and Services Superintendent
*D. S. Nalepka, Nuclear Licensing Projects Supervisor
*R. P. Pulec, Plant Technical Supervisor
R. Repshas, Mechanical Maintenance Supervisor
G. H. Ruitter, Operations Engineer
*C. R. Steinhardt, Plant Manager
K. Weinbauer, Assistant Superintendent Maintenance
G. Youngworth, Electrical Maintenance

*Denotes those attending the exit interview on December 14, 1984.

Additional plant technical and administrative personnel were contacted by the inspectors during the course of the inspection.

2. Pump and Valve Inservice Testing Program

The inspector inspected implementation of the licensee's pump and valve inservice test program for compliance with Appendix B of 10 CFR 50, 10 CFR 50.55a(g), and Subsections IWP and IWV of Section XI of the ASME Boiler and Pressure Vessel Code (1980 Edition through Winter 1981 Addenda). The inspection included the review of administrative and surveillance procedures for inservice testing, test results and documentation, and discussions with the licensee personnel administering the program. The program in effect during the inspection was the licensee's second ten-year inservice testing program with relief requests as submitted to the Commission for approval by letter dated March 30, 1984. Field testing was not witnessed as no tests were performed during the inspection period.

The inspector found that the licensee has fully implemented its program and is conducting pump and valve inservice tests according to appropriate schedules, using approved test procedures. Both pump and valve testing appear generally well defined with the appropriate evaluation of collected data being performed by the licensee's staff. The inspectors noted that the licensee has an assertive preventive maintenance program which complements and supports the inservice testing program in assuring component operability and reliability. The licensee stated that both safety and non-safety related pumps and motor-operated valves throughout the plant were given periodic maintenance or overhaul whether or not inservice test data indicated component degradation. The licensee indicated that an assessment of including air-operated valves into the program was being performed.

Detailed areas of inspection are discussed in the paragraphs that follow.

No items of noncompliance or deviations were identified.

3. Pump and Valve Testing Details

The inspectors were favorably impressed with the licensee's surveillance program. There are areas, however, requiring additional attention as discussed below.

a. Inservice Testing Relief Requests

During the review of the inservice testing program implementation, the inspectors noted that the licensee was implementing test methods and techniques not strictly in compliance with the Code for which relief requests and not been submitted. These were:

- (1) Valve stroke times were taken as stated on the surveillance procedures as follows: "Time the opening and closing of valves from Red light ON to Green light OFF and Green light ON to Red light OFF, respectively." The Code, in Subsection IWV-3413, states that stroke timing shall be the time "from initiation of the actuating signal to the end of the actuating cycle." The stroke time measured by the licensee does not start with initiation of the actuation signal, as required; it starts with the change of state of a remote position indicator light as stated in the quote from the surveillance procedure. A relief request had not been prepared for this practice. The licensee agreed to review their procedures and take steps to bring the test methods into compliance with Code requirements.

Failure to test or obtain relief from Code test requirements is a violation of Kewaunee Technical Specification 4.2 and is considered an example of an item of noncompliance (305/84-21-01; item 1.a in the Notice of Violation).

- (2) The licensee has not been measuring pump suction pressure with the pump idle as required by Subsection IWP-3100. The licensee stated that they were aware of this inconsistency and were in the process of preparing a relief request to exempt them from this Code requirement. However, this test practice has been in effect since initial inservice testing program implementation and, therefore, constitutes a failure to test or obtain relief from Code test requirements. This is considered an example of an item of noncompliance (305/84-21-01; item 1.b. in the Notice of Violation).
- (3) The licensee is not performing valve leak testing or initiating corrective action per the methods described in Subsections IWV-3420 through 3427. Leak testing of valves is generally done per the method described in 10 CFR 50, Appendix J, for Type C local leak rate tests. Although this is the alternate method used by most licensees, the licensee had not submitted a relief request from the leak tests delineated in Section XI of the Code. The licensee stated that they were aware of this discrepancy and were in the process of preparing a relief request to address this concern. However, this test practice has also been in effect since initial program implementation

and is considered to be an example of an item of noncompliance (305/84-21-01; item 1.c. in the Notice of Violation).

b. Remote Position Indicator Verification

IWV-3300 of the 1980 Edition of the Code states, "Valves with remote position indicators shall be observed at least once every 2 years to verify that valve operation is accurately indicated." The licensee stated that it was their understanding that until the beginning of their second ten year inservice testing interval and application of the 1980 Edition of the Code, they were not required to verify remote position indicators on all valves as required by IWV-3300. The inspector pointed out that Code interpretation XI-1-79-18, regarding remote position indicator verification, was issued by the ASME Code Committee in December 1979 and the licensee has been required to verify indicator accuracy since issuance of the interpretation. Further investigation revealed that the licensee's preventive maintenance program verifies remote position indication for motor-operated valves on an annual basis immediately following valve maintenance. In addition, the licensee stated that many of the air-operated valves in the plant had been recently environmentally qualified and the remote position indicators verified. The inspector agreed that the licensee was addressing the concern responsibly. However, for those valves which had not been verified within the last two years, it will be necessary to verify the accuracy of the position indicators prior to startup from the next refueling outage. The licensee agreed to evaluate their situation in this regard and inform the Commission of their position prior to this time. Completion of remote position indicator verification for all valves in the inservice testing program is considered to be an unresolved item (50-305/84-21-02(DRS)).

c. Valve Stroke Timing

The licensee has developed normal ranges and alert values for valve stroke times. These are in the approved test procedures against which valve stroke time test data is evaluated. Valves with stroke times exceeding the alert value are adjusted, repaired, or put on a monthly stroke test frequency until the stroke time returns below the test procedure alert value. The licensee indicated that an assertive program is in effect to keep the valve stroke times in the normal range and below alert values. Upon reaching the alert range for stroke times, a Surveillance Procedure Exception Report (SPER) is initiated identifying the stroke time increase. The SPER is then routed to the appropriate individual who then initiates adjustment or repair of the valve. In the meantime, the valve is put on a monthly test frequency until the stroke time is back within the normal range. Success of the licensee's program is evident from a statement by the staff that only one valve in the program was currently stroking above its alert value and that corrective action had been initiated.

In the inspector's judgement, the licensee's approach and corrective action associated with alert values for valve stroke times is a good

one and meets the intent of the Code; however, the program is somewhat different than that prescribed by the Code in this area. The licensee agreed to initiate a relief request, explaining the differences from Code requirements and describing the alternate testing evaluation currently in place. Testing and data evaluation per Code requirements in this area is considered an open item (50-305/84-21-03(DRS)) pending submittal and approval of the appropriate relief request.

Maximum allowable valve stroke times assigned by the licensee were discussed. Although licensee measures and programs help assure that valve degradation will be identified and rectified in a timely fashion, the inspector noted that the maximum allowable stroke times set for a given valve is generally the system response time which is not indicative of component operability or degradation. Region III has initiated a request to NRR regarding the interpretation and appropriateness of choosing various values for maximum allowable stroke times for given valves. Determination of the acceptability of system response time for the maximum allowable stroke time for a given valve will be tracked as an unresolved item (50-305/84-21-04(DRS)) pending receipt of the answer from NRR.

No other items of noncompliance or deviations were identified.

4. Reference Values for Inservice Testing

During a review of the licensee's test records, the inspector noted that the reference values and associated acceptance criteria for the safety injection pumps 1A had been changed. No explanation for this change was found in the test record. In addition, baseline stroke times for several valves had also been changed without justification. The licensee stated that such changes were initiated, performed and documented by means of a Surveillance Procedure Revision and Tracking form (SPRT). Review of the appropriate SPRTs associated with the above mentioned examples did not reveal the justification for the changes. Further investigation indicated that equipment modifications had necessitated modifications to the acceptance criteria however, the justification for the changes had not been documented. The licensee agreed that provisions should be made to document justification for changes to acceptance criteria, and stated that they would evaluate their surveillance procedure revision process to effectively address this concern. Action by the licensee to insure that justifications for changes to procedures are appropriately identified and documented is considered to be an unresolved item (50-305/84-21-05(DRS)).

No items of noncompliance or deviations were identified.

5. Control of Measuring and Test Equipment

Criterion XIi of 10 CFR 50, Appendix B, states that "Measures shall be established to assure that...measuring and testing devices used in activities affecting quality are properly controlled, calibrated and adjusted at specified periods to maintain accuracy within necessary limits." During the review of several inservice testing surveillance

test procedures, the inspector noted that none of the procedures reviewed explicitly required the use of calibrated tachometers or stopwatches where needed. In addition, the licensee stated that they do not have procedures in place to calibrate or check the accuracy of their stopwatches. Failure to require calibrated equipment for surveillance testing is considered to be an item of noncompliance (50-305/84-21-06(DRS)).

No other items of noncompliance or deviations were identified.

6. Infrequently Tested Valves

The inspector discussed scheduling considerations for testing, data evaluation, and corrective action for valves which can only be tested during plant shutdown or refueling. Subsection IWV-3413(c) of Section XI requires monthly testing until corrective action is taken for specified valve stroke time increases. Hence, for valves tested only at plant shutdown or refueling, the only reasonable alternative is to address corrective action prior to startup if a stroke time increase so indicates. The licensee stated that they would evaluate their program and change procedures, as necessary, to insure that surveillances are conducted such that any required corrective action may be performed without impacting or delaying plant startup. Completion of licensee's evaluation and procedure changes regarding this concern is considered to be an open item (50-305/84-21-07(DRS)).

No items of noncompliance or deviations were identified.

7. Inservice Testing Records

While reviewing the licensee's inservice testing records, the inspector inquired as to the location of the licensee's status summary as defined in IWP-6210 and IWV-6210. The licensee stated that their status summary was, in fact, their program submittal. It is not clear to the inspector that the inservice testing program submittal serves the purpose of a status summary. The inspector noted that the Inservice Test Book, currently kept in the shift supervisor's office, contained a summary of inservice test results, test dates and acceptability of results for tests compiled by component dating back several years. The data was organized such that component history was readily evident. The licensee stated that they intend to maintain the Inservice Testing Book in the shift supervisor's office. Hence, the inspector has no further concern on this item.

No items of noncompliance or deviations were identified.

8. Open Items

Open items are matters which have been discussed with the licensee, which will be reviewed further by the inspector, and which involve some action on the part of the NRC or licensee or both. Open items disclosed during the inspection are discussed in Paragraphs 3.c, and 6.

9. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. Unresolved items disclosed during the inspection are discussed in Paragraph 3.b., 3.c., and 4.

10. Exit Interview

The inspectors met with licensee representatives (denoted in Paragraph 1) on December 14, 1984, to discuss the scope and findings of the inspection. The licensee acknowledged the statements made by the inspectors with respect to items discussed in the report.