UNITED STATES
ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

TELEPHONE
(312) 858-2660

A. RO Inspection Report No. 50-305/74-15

Transmittal Date : December 11, 1974

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DR Central Files
Regulatory Standards (3)
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B. RO Inquiry Report No. _____

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C. Incident Notification From: _____
(Licensee & Docket No. (or License No.)

Transmittal Date : _____

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DEC 1 1 1974

Wisconsin Public Service Corporation
ATTN: Mr. E. W. James
Senior Vice President
Power Generation and
Engineering
P. O. Box 1200
Green Bay, Wisconsin 54305

Docket No. 50-305

Gentlemen:

This refers to the inspection conducted by Mr. D. Boyd of this office on September 25, October 2, 8, 11, 17, 22 and 24, November 4, 13 and 15, 1974, of activities at Kewaunee Nuclear Power Station authorized by AEC Operating License No. DPR-43 and to the discussion of our findings with Mr. Luoma and others of your staff at the conclusion of the inspection.

A copy of our report of this inspection is enclosed and identifies the areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, interviews with plant personnel, and observations by the inspector.

During this inspection, it was found that certain of your activities appear to be in violation of AEC requirements. The item and reference to the pertinent requirements are listed under Enforcement Action in the Summary of Findings Section of the enclosed inspection report. Prior to the conclusion of the inspection, the inspector determined that corrective action had been taken with respect to this violation and that measures have been taken to assure that a similar, future violation will be avoided. Consequently, no reply to this letter is required, and we have no further questions regarding this matter at this time.

In accordance with Section 2.790 of the AEC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the AEC's Public Document Room. If this report contains any information that you or your contractors believe to be proprietary, it is necessary that you make a written application to this office, within twenty days of your receipt

of this letter, to withhold such information from public disclosure. Any such application must include a full statement of the reasons for which it is claimed that the information is proprietary, and should be prepared so the proprietary information identified in the application is contained in a separate part of the document. Unless we receive an application to withhold information or are otherwise contacted within the specified time period, the written material identified in this paragraph will be placed in the Public Document Room.

No reply to this letter is necessary; however, should you have any questions concerning this inspection, we will be glad to discuss them with you.

Sincerely yours,

Gaston Fiorelli, Chief
Reactor Operations Branch

Enclosure:
RO Inspection Report
No. 050-305/74-15

bcc: RO Chief, FS&EB
RO:HQ (4)
Licensing (4)
DR Central Files
RO Files
PDR
Local PDR
NSIC
TIC
OGC, Beth, P-506A
GC (2)

U. S. ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS

REGION III

NOVEMBER R.I.P. REPORT

Report of Operations Inspection

RO Inspection Report No. 050-305/74-15

Licensee: Wisconsin Public Service Corporation
P. O. Box 1200
Green Bay, Wisconsin 54305

Kewaunee Nuclear Power Plant
Kewaunee, Wisconsin

License No. DPR-43
Category: C

Type of Licensee: PWR 560 Mwe (W)

Type of Inspection: Resident Inspection Program

Dates of Inspection: September 25, October 2, 8, 11, 17, 22, 24; November 4, 13, and 15, 1974

Dates of Previous Inspection: August 1, 6, 14, 19, 20, 27, 29 and September 4, 1974 (R.I.P Boyd)

Principal Inspector: for D. C Boyd E L Jordan 12/10/74 (Date)

Accompanying Inspector: None

Other Accompanying Personnel: T. Harpster (November 13 & 15 1974)

Reviewed By: E. L. Jordan E L Jordan 12/10/74 (Date)
Senior Reactor
Reactor Operations Branch

SUMMARY OF FINDINGS

Enforcement Action:

The following violation identified by the licensee, is considered to be of Category III Severity:

1. Environmental Technical Specifications (Appendix B), Section 4.1.1.b.1, Fish Impingement, states, "The number, size and weight of all species collected in the circulating water trash basket shall be identified by plant personnel on a daily basis. If the numbers . . . . of the impinged species."

   Contrary to the above, the licensee reported that the fish impingement data had not been recorded on a daily basis. (Paragraph 9)

Licensee Action on Previously Identified Enforcement Matters: None.

Unusual Occurrences:

A. September 20, 1974, Radiation monitoring units R-11, R-12, switch in an improper position. (Paragraph 4.a)

B. September 26, 1974, Temporary loss of power to instrument bus four. (Paragraph 4.b)

C. October 15, 1974, Failure of RTD loop isolation valve. (Paragraph 4.c)

D. October 15, 1974, Malfunction of safety injection isolation valve. (Paragraph 4.d)

E. October 25, 1974, Failure of auxiliary feedwater pump to start. (Paragraph 4.c)

Other Significant Findings

A. Current Findings

   The outage which began on September 19, 1974, to change over to a volatile steam generator chemistry control and to perform baseline eddy current testing of steam generator tubes, was completed on October 19, 1974.

   The unit is currently operating at reduced power due to mechanical problems in "B" main feedwater (FW) pump.

B. Unresolved Items: None.

C. Status of Previously Reported Unresolved Items: None.

Management Interview

The management interview was conducted on November 15, 1974, with Messrs. Luoma and Lange. Mr. T. Harpster of RO:III accompanied D. Boyd, resident inspector, during the management interview.

Items discussed included the following:

A. Unusual Occurrences

1. R-11, R-12 switch position. (Paragraph 4.a)

2. Temporary loss of power to bus four. (Paragraph 4.b)

3. RTD loop isolation valve failure. (Paragraph 4.c)

4. Isolation valve failure. (Paragraph 4.d)

5. Failure of auxiliary FW pump to start. (Paragraph 4.e)

B. Violations: Fish impingement quantification records. (Paragraph 9)

C. Licensee adherence to administrative control procedures. (Paragraph C)

D. Plant operations review committee meeting minutes. (Paragraph 6)

REPORT DETAILS

1. Persons Contacted

Persons contacted during these inspection include:

Wisconsin Public Service Corporation (WPS)

C. Luoma, Plant Superintendent
R. Lange, Assistant Plant Superintendent
C. Steinhardt, Reactor Supervisor
M. Stern, Reactor Test Engineer
W. Truttman, Operations Supervisor
M. Singh, Shift Supervisor
D. Ristau, Shift Supervisor
W. Wagner, Control Operator
J. Richmond, Technical Supervisor
A. Ninmer, Assistant Maintenance Supervisor
D. McSwain, Instrument and Control Supervisor
T. Moore, Administrative Assistant

2. General

Reports issued under the recently established resident inspector program (RIP) address areas of inspection completed in the implementation of the program, and will not report in detail in each area unless the findings warrent further discussion.

3. Inspection Activities

a. Review of incident report file to October 19, 1974.

b. Review of abnormal occurrence file to October 19, 1974.

c. Observed several shift turnovers. (Both during reactor operation and reactor shutdown)

d. Observed operator performance of procedures immediately following reactor scram, and during return to power.

e. Reviewed and observed plant adherence to work request procedures. (paragraph 5)

f. Observed performance of maintenance activities (RTD manifold valve repairs; main FW pump seal repair; FW isolation valve repairs)

g. Reviewed adherence to temporary change to procedure.

h. Accompanied equipment operator on his round for full shift.

i. Reviewed recent abnormal occurrences. (Paragraphs 4.a thru e)

j. Observed and reviewed the plant operations during startup, scram recovery, steady state operation; and during cold shutdown periods.

k. Performed detailed review of representative plant procedures in following areas: Administrative; maintenance, operations, abnormal conditions, instrument and control, surveillance, security, and retraining.

l. Reviewed shift logs and records (daily).

m. Reviewed plant operations review committee minutes (to October 19, 1974) (Paragraph 6)

n. Reviewed Nuclear Safety Review and Audit Committee meeting minutes (to October 19, 1974)

o. Reviewed semi-annual operating report January 1, 1974 to June 30, 1974.

p. Reviewed and observed use of jumper control logs. (Paragraph 7)

q. Reviewed design change files.

r. Verified normal, auxiliary, and emergency electrical lineup during power operation.

4. Abnormal/Unusual Occurrence Review

The following information was derived from observations, review of reports, records, and discussion with members of the licensee's staff.

a. September 20, 1974,[1/]

During a reactor outage containment purging was terminated to draw a sample for analysis. Following the sampling, the selector switch for radiation monitoring units R-11 and R-12 was placed in the wrong position such that when purging was continued R-11 and R-12 were monitoring a recirculating purge flow rather than the actual atmosphere being purged. Radiation monitor, R-21, down stream of R-11 and R-12 was operating properly and did provide for monitoring of all releases during the period of time when R-11 and R-12 were essentially out of service, (5½ hours). Upon discovery that monitors R-11 and R-12 were not monitoring the containment atmosphere being vented, the filters were removed from monitor R-21, and then taken to the Laboratory for analysis. Regulatory review of these analysis results indicate that the Technical Specification release limits were not exceeded.

1/ Abnormal Occurrence Report dtd 10/1/74.

The cause for this occurrence was found to be "operator error". The operator was following a procedure but inadvertantly placed the 3-position selector switch in the wrong position.

b. September 26, 1974.[2/] Temporary loss of Power to Instrument Bus Four

During a reactor outage, a relay test group requested permission to perform a specific breaker test. The performance of this test required that the bus supply be transferred from it's normal supply to an alternate supply. This transfer failed, leaving instrument bus four de-energized for approximately twenty minutes. The cause of the transfer failure was found to be that the battery backup supply breaker was open. The reason for the breaker being open is not known, i.e., no authorizations had been issued to permit the opening of this breaker, and no work requiring this breaker to be open had been performed. The corrective action taken was to place the battery room under locked access control by the shift supervisor.

The need for strenghtening adherence to administrative controls was discussed with the licensee management.

c. October 15, 1974[3/] (Unusual Event) Failure of RTD Loop Isolation Valve

During preparations for reactor startup a loss of flow condition was found to exist in the loop A hot leg portion of the RTD bypass loop.

Investigations which included x-raying of several valves in this loop indicated that the stem was seperated from the disc in one valve and that the direction of flow through this particular isolation valve caused the now free disc to act as a check valve. Further investigations revealed that only two valves were installed such that the direction of high pressure would cause a "Free Disc" to act as a check valve. Both of these are manual normally open (locked open) isolation valves in the A and B hot leg RTD by pass loops. Flows in these loops are recorded and low flow is annunciated in the control room.

The cause of failure is believed to be that in closing these valves an attempt is made to close them too tightly. The valves are designed for approximately 2500 psig pressure and are usually very difficult to turn. An impact handle is designed into the valve by the manufacturer to aid in opening or closing the valve. The failure apparently occurs from continued impacting after the valve is already either fully closed or fully open. The valve is a Rockwell Edwards F. Stainless Steel Univalve, General Assembly Number 3624-F-316J.

2/ Abnormal Occurrence Report dtd 9/27/74.
3/ Unusual Event Report dtd

Corrective actions taken were:

1. The faulty valve was replaced with identical valve.

2. An operating instruction was issued identifying the numbers of turns required to open or close these valves.

3. A computer search was run to identify all such valves in the plant. Four were found to be in safety related systems. These were verified to be installed such that, even with a "Free Disc", flow would not be restricted.

d. October 15, 1974[4/] Malufuction of a Safety Injection Isolation Valve

During preparations for reactor startup a limitorque valve in the cold leg injection line was found to be inoperable. This normally open valve was closed to permit adjustment of an accumulator level. On attempting to reopen the valve it returned to an intermediate position and stopped.

Examination revealed that the valve was in a misalignment bind due to several missing bolts in the upper housing cover. The housing was also found to be cracked. It is believed that the bolts have been missing since construction.

The upper housing cover was replaced, aligned and the valve was functionally tested to verify proper operation.

According to the licensee's records this was the first such failure of this limitorque type SMB-00 operator.

e. October 25, 1974[5/] Failure of an Auxiliary Feedwater Pump to start

During a power reduction to permit repairs of "B" main feedwater pump isolation valve, a HI-HI steam generator water level was experienced. Auxiliary feedwater pump 1B started as it should have, but the 1A auxiliary feed pump did not start.

Investigations by the licensee revealed that the A relay in the 1A Auxiliary feed pump circuit had failed to drop out. The relay, an A. O. Smith type PM 5V6 relay, is normally closed and drops out upon the loss of normal feedwater flow. It's actuation (dropping out) initiates the start of the appropriate auxiliary feedwater pump. Examination of the relay disclosed that a mechanical interference existed between the stationary coil and the moveable armature, i,e., one edge of the armature was in contact with the coil thus adding a friction resistance to the gravity drop of the armature.

4/ Abnormal Occurrence Report dtd 10/23/74.
5/ Abnormal Occurrence Report to be issued by 11/4/74.

This is the first such failure of this type relay at this station. The licensee prepared a listing of all of these type relays and conducted an examination of each to determine if proper clearence existed none were found, other than the failed unit, to have improper clearence.

5. Adherence to Administrative Control Procedures

The inspector made a general plant review for adherence to plant administrative control procedure No. 5.4, "Clerk Request", clerk request authorization and control was found to be employeed in all cases examined where safety related work was being performed. However, records examined indicate that a relaxation of control exists for non-safety related work.

In discussing this matter with plant management the inspector was assured that it is their intent that all major plant maintenance activites be authorized and controlled in accordance with procedure 5.4, and the inspector was further assured that a dual set of standards, one for safety related work and one for non-safety related work is not intended.

6. Plant Operating Review Committee (PORC) Minutes

The inspector reviewed the PORC minutes for the year to date and checked the committee functions against the requirements of the technical specifications and against the plant administrative control procedures. All areas were found to be acceptable, however, one area of weakness was discussed with management. This area was the backlog of meeting minutes that had not been typed and distributed. Management stated that they were aware of the problem and had assigned additional personnel to aid in resolving this problem. A reinspection, ten days after the initial contact, verified that the backlog had been cleared.

A review of the offsite safety committee minutes plus discussions with members of the PORC established that information requiring the review of the offsite safety committee was communicated to that committee in a timely fashion (verbally, by individuals who are members of PORC and the offsite safety committee, or by telecopy) such that the delay in the distribution of PORC minutes did not appear to adversely affect the functioning of the safety committee.

7. Jumper Logs

A review of the plant adminstrative control over the use of temporary jumpers or lifted leads indicates that administrative control procedure 5.9, jumper control log had now been fully implemented. The initial inspection, conducted early in October, disclosed that the maintenance and instrument groups had fully implemented the procedure but that the operations group was utilizing a temporary procedure change form for jumper and lifted lead control. A recheck of this area at months end reveals that operations now has a "Jumper Log" and numbered certified leads, in accordance with the procedure.

The inspector checked behind all control room panels for the presence of jumpers and/or lifted leads. No unauthorized jumpers or lifted leads were found.

8. Staffing

The inspector was informed that one of the stations licensed Senior Reactor Operators (SRO) has left the company. The company has nine licensed SRO's remaining, and two other candidates are expected to receive SRO licenses by mid December, 1974.

A review of the present shift staffing verifies that the plant is being manned in accordance with the requirements of the Technical Specifications.

9. Fish Impingement Records

An internal review by the licensee of adherence to the environmental technical specifications revealed that the procedure being used to quantify and report the fish collected on the circulating water screens was not in accordance with the environmental technical specifications. The licensee had been checking the collection basket each shift by operations personnel and five times per week by health physics personnel. The collection basket would be emptied and the fish quantified whenever the basket was full rather than on a daily basis as stated in the technical specification.

A review of the collection data by the licensee indicates that the numbers of fish impinged on the screens is unusually small except during the cycle fish run periods. The operations staff requested a change to the technical specification proposing that a records of the number, size, weight, and species by made, as a minimum, twice per week. This proposal was accepted by Licensing on November 12, 1974, providing that a collection basket inspection is made every shift and the quantifying and reporting, above the minimum, is adjusted accordingly.