

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. 050-305/74-03

Transmittal Date : March 4, 1974

Distribution:  
RO Chief, FS&EB  
RO:HQ (5)  
DR Central Files  
Regulatory Standards (3)  
Licensing (13)  
RO Files

Distribution:  
RO Chief, FS&EB  
RO:HQ (4)  
L:D/D for Fuels & Materials  
DR Central Files  
RO Files

B. RO Inquiry Report No. \_\_\_\_\_

Transmittal Date : \_\_\_\_\_

Distribution:  
RO Chief, FS&EB  
RO:HQ (5)  
DR Central Files  
Regulatory Standards (3)  
Licensing (13)  
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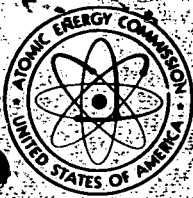
C. Incident Notification From: \_\_\_\_\_  
(Licensee & Docket No. (or License No.))

Transmittal Date : \_\_\_\_\_

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RO Chief, FS&EB  
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Licensing (4)  
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Distribution:  
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RO:HQ (4)  
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MAR 4 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 Messrs. C. M. Erb and R. C. Knop of this office on February 12, 1974 of construction activities at Kewaunee site authorized by AEC Operations License No. DPR-43 and to the discussion of our findings with Mr. G. V. Fitzpatrick 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 inspectors.

No violations of AEC requirements were identified within the scope of this inspection.

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.

Wisconsin Public Service  
Corporation

MAR 4 1974

- 2 -

Should you have any questions concerning this inspection, we will be glad to discuss them with you.

Sincerely yours,

James G. Keppler  
Regional Director

Enclosure:  
RO Inspection Rpt No.  
050-305/74-03

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

U. S. ATOMIC ENERGY COMMISSION  
DIRECTORATE OF REGULATORY OPERATIONS

REGION III

Report of Construction Inspection

RO Inspection Report No. 050-305/74-03

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

Kewaunee  
Kewaunee, Wisconsin

License No. DPR-43  
Category: B

Type of Licensee: PWR (W) - 560 Mwe

Type of Inspection: Final Construction

Date of Inspection: February 12, 1974

Date of Previous Inspection: December 20, 1973

Principal Inspector: *C.M. Erb*  
C. M. Erb

3/1/74  
(Date)

Accompanying Inspector: *R.C. Knop*  
R. C. Knop

3/1/74  
(Date)

Other Accompanying Personnel: None

Reviewed By: *W.E. Vetter*  
W. E. Vetter, Branch Chief  
Reactor Construction Branch

3-2-74  
(Date)

SUMMARY OF FINDINGS

Enforcement Action

A. Violations: None.

B. Safety Matters: None Identified.

Licensee Action on Previously Identified Enforcement Matters: None required.

Design Changes: None.

Unusual Occurrences: None.

Other Significant Findings

A. Current Findings

1. Operations

All construction work is now being processed through operations personnel.

2. Status

Extensive rework of the turbine is underway at the present time.

B. Unresolved Matters: No new unresolved matters.

C. Status of Previously Reported Unresolved Matters

1. In-service Base-line Inspection (RO Inspection Report No. 050-305/73-29)

The inspector examined the procedures and data from the base-line inspection performed by Westinghouse Electric Corporation (W) for the licensee. This matter is closed. (Paragraph 1, Report Details)

2. Lightning Strike Effects (RO Inspection Report No. 050-305/73-21)

The licensee has completed installation of the gas tube surge arresters on annunciator and sequence event recorder lines entering the Kewaunee Plant from the switchyard.

The zener diodes in the switchyard have been removed in accordance with W recommendations. This matter is closed. (Paragraph 2, Report Details)

3. Switchgear - 5-kv Switches (RO Inspection Report No. 050-305/73-29)

The inspector verified that replacement switches have been installed, and alignment on the actuating bar improved under the supervision of a McGraw Edison representative.

A final, satisfactory report to the requirements of 10 CFR Part 50.55(e) has been received from the licensee. This matter is closed.

4. Wiring Bundle Rework (RO Inspection Report No. 050-305/73-29)

A satisfactory, final report to the requirements of 10 CFR Part 50.55(e) has been received from the licensee. A revised harness has been added to eliminate scuffing of the wiring under the direction of the supplier. This matter is closed.

5. Nonconformance Reports No. NCR-547 and No. N-548

These nonconformances (NCR's) were noted on an earlier electrical inspection. One NCR related to documentation of a pressure tester, and the other NCR related to completion of a design change in a relay rack. The inspector examined pertinent information, and this matter is closed. (Paragraph 3, Report Details)

Management Interview

- A. The following persons were present at the management interview at the conclusion of the inspection.

Wisconsin Public Service Corporation (WPS)

G. V. Fitzpatrick, Site Quality Engineer  
P. T. Trondson, Quality Assurance Engineer - Electrical  
E. E. Mitchell, Quality Assurance Engineer - Instrumentation

- B. Matters discussed and comments were as follows:

1. The inspector stated that the advance documentation on the ultrasonic in-service base-line inspection appeared to be satisfactory. He stated that, since radiographs of the weld in the primary coolant pump casing must form the base line, these radiographs should be available onsite. The licensee stated they were securing these radiographs from W. (Paragraph 1, Report Details)
2. The inspector stated that he had reviewed the installation of the gas tube surge arresters for switchyard intelligence wires, and there were no further questions.

The licensee representative said that a letter documenting the removal of the zener diodes, by Green Bay switch gear personnel, would be transmitted to RO:III. This letter was received in RO:III offices on February 15, 1974. This matter is closed.

3. The inspector asked the licensee if the Sun Shipbuilding Company had fabricated any supports for the reactor pressure vessel, steam generators, or primary coolant pumps. The licensee stated that no work had been performed by this company on Kewaunee supports.

## REPORT DETAILS

### Persons Contacted

The following persons, in addition to individuals listed under the Management Interview Section of this report, were contacted during the inspection.

#### Wisconsin Public Service Corporation (WPS)

C. Luoma, Plant Superintendent  
A. W. Meincke, Electrical Engineer

### Results of Inspection

#### 1. In-service Base-line Inspection

The inspector examined the advance documentation from W and found it to be satisfactory. There were 15 procedures used for different configurations, thicknesses, and materials. Calibration data sheet No. 4 was examined, together with the qualification papers for the UT operators. The following systems were listed and the isometrics shown indicating the welds and locations which were tested.

- |   |                  |                 |
|---|------------------|-----------------|
| a. Reactor coolant piping                           | - 34" x 29" I.D. | Procedure ISI-5 |
| b. Pressurizer relief lines                         | - 3" lines       |                 |
| c. Safety injection - low head                      | - 4" lines       |                 |
| d. Reactor heat removal                             | - 10" lines      |                 |
| e. Pressurizer safety                               | - 6" lines       |                 |
| f. Channel head to tube sheet weld, steam generator |                  |                 |
| g. Reactor vessel - safe ends                       |                  |                 |
| h. Reactor vessel shell welds                       |                  |                 |

Ultrasonic examination of the weld in the primary coolant pump casing was not possible. The radiographs made by the casing fabricator are to constitute the base line.

These radiographs have been reviewed by W and United Testing Company (agent for WPS) and determined to be of satisfactory quality. The inspector reviewed a letter from the licensee requesting these radiographs from W and a letter from W indicating that the radiographs would be sent to the site sometime during the next month.

#### 2. Lightning Strike Effects

The licensee has completed corrective action to minimize the effects of lightning strikes in the switchyard. This action has been taken in two parts:



- a. The zener diodes were removed from the output relay circuit of the outdoor switch gear control systems.
- b. Gas tube surge arresters were installed on each annunciator and each sequence event recorder line coming into the Kewaunee Plant.

The inspector reviewed a letter from W recommending the removal of the zener diodes. The diodes had originally been installed to protect the switch gear control relay output thyristor. Tests conducted by W indicated that the circuits, without the zener diodes installed, were capable of sustaining voltages in excess of those used for the proposed IEEE Standard SWC (Standard Withstand Capability) test.

In a letter subsequent to the inspection, the licensee confirmed that the zener diodes had been removed by the WPS switchyard electrical group on October 24, 1973, in accordance with the W recommendation.

The inspector, by means of reviewing documentation and observation of the installation, ascertained that all of the incoming annunciator and sequence events recorder cables were equipped with gas tube surge arresters in accordance with approved drawings. Tests were conducted by Multi Amp verifying that none of the arresters (Reliable Electric 1304GF5-2) fired at 300 volts or lower, and a sample (10%) were verified to fire (short to ground) at approximately 400 volts. Reset was at 150 volts. The gas-filled tubes are designed to take repeated surges (500 - 1,000) of 500 ampere pulses and can withstand a surge of 10,000 amperes without shorting.

The inspector reviewed documentation of an audit performed by the licensee confirming that none of the incoming annunciator and sequence events recorders wires were routed in any safeguard tray.

3. Nonconformance Reports No. 547 and No. 548

On No. 547, the inspector examined the documentation closing out this report, which involved a lack of calibration records for a Model PK-650 pressure tester, Serial No. 67034. This equipment was furnished and calibrated by Mansfield and Green. The last calibration date was March 12, 1973, and there is a note that another calibration will be required before March 12, 1974. The Mansfield and Green certification also references the National Bureau of Standards equipment used in calibrating their test unit. This matter is closed.

NCR No. 548 related to reactor protection relay rack RR-121, which was not wired to an approved schematic. Drawing, No. 113E449, was revised to show the 'as wired' rack was satisfactory. This revision was verified as satisfactory by transmittal No. KW-P-1784 to Pioneer Service and Engineering Company and the licensee.