

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-266/85022(DRP); 50-301/85021(DRP)

Docket Nos. 50-266; 50-301

Licenses No. DPR-24; DPR-27

Licensee: Wisconsin Electric Company
231 West Michigan
Milwaukee, Wisconsin 53203

Facility Name: Point Beach Unit 1 and 2

Inspection At: Two Creeks, Wisconsin

Inspection Conducted: December 1, 1985 through January 31, 1986

Inspectors: *[Signature]*
R. L. Hague

2-12-86
Date

[Signature]
R. J. Leemon

2-12-86
Date

[Signature]
R. A. Paul

2/12/86
Date

Approved By: I. N. Jackiw, Chief
Reactor Projects Section 2B

[Signature]
Date 2/11/86

Inspection Summary

Inspection on December 1, 1985 to January 31, 1986, (Report Nos. 50-266/85022(DRP); 50-301/85021(DRP))

Areas Inspected: Routine, unannounced inspection by resident inspectors of licensee action on previous inspection findings; operational safety; maintenance; surveillance; radiological controls; design changes and modifications; cold weather preparations; start-up from refueling; determination of shutdown margin; TMI status update; reactor trips; and licensee event report follow-up. The inspection involved a total of 492 inspector-hours onsite by three inspectors including 88 inspector-hours on off-shifts.

Results: No items of noncompliance or deviations were identified.

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DETAILS

1. Persons Contacted

- *J. J. Zach, Manager, PBNP
- T. J. Koehler, General Superintendent
- G. J. Maxfield, Superintendent - Operation
- *J. C. Reisenbuechler, Superintendent - EQR
- W. J. Herrman, Superintendent - Maintenance & Construction
- R. S. Bredvad, Health Physicist
- R. Krukowski, Security Supervisor
- *F. A. Flentje, Staff Services Supervisor
- *J. E. Knorr, Regulatory Engineer

The inspector also talked with and interviewed members of the Operation, Maintenance, Health Physics, and Instrument and Control Sections.

*Denotes personnel attending exit interviews.

2. Licensee Action on Previous Inspection Findings (92701 and 92702)

(Closed) Open Item (266/83021-06; 301/83020-06): Deficiencies in Maintenance Related Procedures. Revisions to procedures dealing with technical manual review, preventative maintenance, machinery history, ignition control, and preparation of special and routine maintenance procedures are in place and correct the earlier deficiencies.

(Closed) Unresolved Item (266/84014-03; 301/84012-03): Audit Report Availability Regarding Audit of Chemistry and Radiochemistry Activities in Accordance with Technical Specification 15.6.5.3. The licensee made audits available for inspector review.

(Closed) Open Item (266/85010-01): Changes Required to Emergency Classification Reporting Procedures. The latest revision dated December 30, 1985 appears to have corrected earlier deficiencies.

(Closed) Open Item (266/85011-02; 301/85011-02): Recalibrate Two Incorrect Geometries on Germanium Detector One Prior to Use for Counting Charcoal Absorbers. These geometries have been recalibrated.

(Closed) Violation, Severity Level 4 (266/85011-03; 301/85011-03): Failure to Perform an Evaluation as Required by 10 CFR 20.201(b). This evaluation was performed and results were sent to the region.

(Closed) Open Item (266/85011-05; 301/85011-05): Revise Calibration Procedure (CAMP-300) to Require Comparison of Like Geometries Following Calibration. This procedure was revised as requested.

(Closed) Open Item (266/85015-01; 301/85015-01): Possible Excessive Torque on Battery Terminal Connectors. The licensee ran a test program on spare battery cells and established an optimum torque value for future use.

(Closed) Violation, Severity Level 4 (266/85015-02; 301/85015-02): Spent Fuel Assemblies Stored Adjacent to Spent Fuel Pit Wall. This item was a no response violation and corrective actions were completed prior to issuance of Inspection Reports No. 266/85015; No. 301/85015. Therefore it should not have been carried as an open item.

(Closed) Open Item (266/85018-01): Incorrect Footnote on Control Room Shift Log. The log was revised and a copy sent to region for concurrence.

3. Operational Safety Verification and Engineered Safety Features System Walkdown (71709 and 71710)

The inspectors observed control room operations, reviewed applicable logs and conducted discussions with control room operators during the months of December, 1985 and January, 1986. During these discussions and observations, the inspectors ascertained that the operators were alert, cognizant of plant conditions, attentive to changes in those conditions, and took prompt action when appropriate. The inspectors verified the operability of selected emergency systems, reviewed tagout records and verified proper return to service of affected components. Tours of the Auxiliary and Turbine Buildings were conducted to observe plant equipment conditions, including potential fire hazards, fluid leaks, and excessive vibrations and to verify that maintenance requests had been initiated for equipment in need of maintenance.

The inspectors, by observation and direct interview, verified that the physical security plant was being implemented in accordance with the station security plan.

The inspectors observed plant housekeeping/cleanliness conditions and verified implementation of radiation protection controls. During the months of December, 1985 and January, 1986, the inspectors walked down the accessible portions of the Auxiliary Feedwater, Vital Electrical, Diesel Generating, Component Cooling, Safety Injection, and Containment Spray systems to verify operability.

These reviews and observations were conducted to verify that facility operations were in conformance with the requirements established under Technical Specifications, 10 CFR and administrative procedures.

At 5:20 a.m. on December 20, 1985, Unit 1 experienced a 20% turbine runback. The unit was at 100% power prior to the runback. The cause for the runback was the failure of an isolation transformer in the yellow instrument bus which supplies power to nuclear instrumentation power range channel 44. Loss of the power range initiated the reactor protection system's negative rate runback of 20%.

At 4:26 a.m. on December 31, 1985, Unit 2 experienced a lockout in the switchyard which caused a generator trip, turbine trip, and then a reactor trip. The lockout caused only a loss of outgoing power and not a loss of incoming power. Power to the vital buses was not lost, however, there

was no autotransfer of the non-vital buses to offsite power and both reactor coolant pumps tripped. In addition, the B main steam isolation valve did not shut when operators manually attempted to shut it from the control room. The licensee declared an Unusual Event at 4:55 a.m. Power was quickly restored to the non-vital buses, B reactor coolant pump was started and the licensee terminated the Unusual Event at 6:24 a.m. The cause of the lockout was due to the failure of a lightning arrestor which produced a short to ground condition on phase "A" of bus section 4.

The unit was taken critical at 6:13 p.m. on December 31, 1985. Due to the MSIV closure problem, the 2B MSIV was cycled three times at 7:00 p.m. All three closure times were less than the required five seconds. At 10:05 a.m. on January 1, 1986, Unit 2 was put back on line and at 6:35 on January 2, 1986, the unit was at full load. The reason for not receiving an auto bus transfer was traced to the synchronizing check relay which, due to an out-of-sync phase relationship, would not permit the transfer.

During the reporting of the Unusual Event the licensee failed to inform the NRC duty officer of the failure of the MSIV. The Region is reviewing this matter in relation to compliance with 10 CFR 50.72. This is an Unresolved Item (266/85022-01; 301/85021-01).

On January 2, 1986, at 5:50 p.m. Unit 1 experienced a 20% turbine runback from 100% power. The runback was caused by a power spike on nuclear instrumentation power range channel 44. The spike was caused by a faulty 25-volt power supply in the C power range drawer. This power supply was replaced and the unit was returned to 100% power at 6:35 a.m. on January 3, 1986.

No violations or deviations were identified.

4. Monthly Surveillance Observation (61726)

The inspector observed technical specifications required surveillance testing on the Reactor Protection and Safeguards Analog Channels and Nuclear Instrumentation and verified that testing was performed in accordance with adequate procedures, the test instrumentation was calibrated, that limiting conditions for operation were met, that removal and restoration of the affected components were accomplished, that test results conformed with technical specifications and procedure requirements and were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

The inspector also witnessed or reviewed portions of the following test activities:

ICP 13.2	Calibration of Containment Hydrogen Monitors
TS-2	Diesel Biweekly Operational Test

REI-6.0 Flux Mapping

ICP 2.3 Periodic Test of Reactor Protection System Logic

No violations or deviations were identified.

5. Monthly Maintenance Observation (62703)

Station maintenance activities on safety related systems and components listed below were observed/reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides and industry codes or standards and in conformance with technical specifications.

The following items were considered during this review: the limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; functional testing and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; radiological controls were implemented; and fire prevention controls were implemented.

Work requests were reviewed to determine status of outstanding jobs and to assure that priority is assigned to safety related equipment maintenance which may affect system performance.

The following maintenance activities were observed/reviewed:

4D Diesel Annual Inspection

4D Diesel Redundant System Check

Preventative Maintenance on 1P29 Auxiliary Feedwater Pump Governor

Repair MOV2-857B Containment Sump Isolation Valve

Installation of Low Suction Pressure Trips for Auxiliary Feedwater Pumps

Reactor Trip Breaker Preventative Maintenance

At the completion of performing ICP 2.3, Reactor Protection System Logic, I&C found that when Unit 1 "A" reactor trip breaker was racked in and closed, indication of breaker position was lost in the control room. The bypass breaker was placed back in service and maintenance performed the normal refueling preventative maintenance procedure on the "A" reactor trip breaker. A 10 AMP fuse in the closing coil circuit which also provides remote indication and power for the shunt trip was found to have blown. After completing the entire maintenance procedure no cause for the blown fuse could be found. The licensee indicated that the type of fuse (Shawmut OT-10 250 volt) found to have blown in the trip breaker had given

them problems in the past in different applications. An investigation disclosed that the solder connection to the fuse link tends to fail with age. It is estimated that this particular fuse has been in service about 16 years. The fuse was replaced with an equivalent by a different manufacturer and post maintenance testing was completed satisfactorily.

On December 27, 1985, a Unit 2 containment inspection was initiated to check on an unidentified decrease in the component cooling water expansion tank level. At 3:30 p.m., the licensee found a 1 1/2 inch crack at the weld point of the component cooling line and the upper oil cooler for Unit 2's "A" reactor coolant pump. The leak was approximately four gallons per hour. Unit 2 was taken off line at 3:31 a.m. on December 28, 1985. The weld was ground out, rewelded and dyepenetrant inspected. Unit 2 was back on line at 12:46 a.m. on December 29, 1985. The licensee is investigating the cause of the crack and suspects vibration of the component cooling water line as a possible cause. The licensee will include those welds in future routine refueling weld inspections.

No violations or deviations were identified.

6. Radiological Event Followup

The inspector reviewed the circumstances and licensee actions related to an incident in which a worker improperly stored a radioactive filter in the radwaste storage area. The radioactive filter produced radiation fields which, by technical specifications, required high radiation area (HRA) controls; however, the area was not controlled (locked) as a HRA for several days. It appears no personnel overexposures occurred. The licensee properly initiated a Radiation Event Report and notified the NRC Resident Inspector upon discovering the incident.

On December 7, 1985, an auxiliary operator changed out an evaporator bottoms loop filter in the radwaste ATCOR cubicle area. He placed the filter into a steel pail, and started to transfer the filter into what he thought to be a concrete-lined drum located behind a designated shielded enclosure. However, the operator discovered that the drum could not be used because it was not concrete-lined and was filled with low radiation level filters. As a result, he "temporarily" placed the pail and filter in an unshielded area accessible to workers in the area. He then contacted the Duty Shift Superintendent (DSS) who approved storing the pail in that location until a shielded drum could be obtained. The operator surveyed the filter and found gamma radiation fields of 600-800 mR/hr at approximately eighteen inches and 3-4 R/hr at contact; taped a handwritten note across the top of the pail stating "bottoms filter 3-4 R/hr at contact"; explained what he had done to the operator who replaced him at shift change; recorded the information into the Auxiliary Operator Turnover Sheet; and upon exit replaced the HRA rope barrier he removed during entry.

On December 12, 1985, a contract health physics technician who entered the storage area observed the filter in the pail; he performed a survey of the filter and found gamma readings of 4 R/hr at contact and 1 R/hr at eighteen inches, and beta readings of 32 Rad/hr at contact and 4 Rad/hr

at eighteen inches. He then transferred the filter to the designated shielded enclosure, posted the enclosure area to reflect the radiation readings, and notified his supervisor of what he had done. He also noted, that the HRA rope barrier was down when he entered the cubicle. When the technician exited the area, he secured the HRA rope barrier.

Later that day (December 12, 1985) a station Radiation Chemistry Operator (RCO) performed routine surveys of the drum storage area. As he entered the cubicle he noted the HRA barrier was down and the area was unsecured. He then performed surveys of the storage area, filter, pail, and surrounding area, and found essentially the same readings that were posted by the contract technician earlier in the day. He notified his supervisor of the findings and it was determined that the area should be posted and controlled in accordance with technical specification requirements, which the RCO did before he departed from the area. The licensee then began to investigate the incident. The filter was subsequently transferred from the pail to a concrete lined drum on December 13, 1985.

The licensee's investigation of this incident included discussions with all participants involved. A review was made of personal dosimeter results, specific work functions, and stay times of all persons who entered the cubicle, including those persons who had handled the pail and filter, during the period December 7 through 12, 1985. As a result of this investigation the licensee determined the highest radiation exposure received by any person involved in the incident was 25 mrem to the whole body, 65 mrem to the skin of the whole body, and 90 mrem to the extremities. The inspector's review of this incident did not disclose any information that conflicted significantly with the licensee's exposure estimates.

The licensee's investigation of the incident also identified several problems.

- The auxiliary operator who initially stored the pail and bottoms filter in the unshielded area did not properly survey the filter for beta radiation. As a result, the area was not properly posted and controlled in accordance with procedural and technical specification requirements.
- The operator had failed to determine if the concrete-lined drum was empty and available for filter storage. Also, when he found the drum was unavailable for use, he should have placed the pail and filter into the shielded enclosure provided for the concrete-lined drum.
- The operator notified the DSS, informed him of the situation and survey results, and received approval for the storage of the pail and filter. However, the DSS should have challenged the situation and questioned the adequacy of the survey and ensured the actions taken were acceptable.

- After a concrete-lined drum was acquired and the low level filters were transferred into the lined drum, the bottoms filter remained in the pail for several days in the shielded enclosure as a result of poor communication and lack of followup and surveillance by operational personnel.
- The contract technician surveyed the pail and filter, transferred them to the designated shielded enclosure, and posted the area to indicate the area radiation fields. However, he failed to control the entrances to the area in accordance with procedural and technical specification requirements.
- The contract technician notified his supervisor of his radiation survey results, the action he took, and his observation that the HRA rope barrier was down when he entered the area. However, the supervisor did not provide the technician with instructions to control the area in accordance with technical specification requirements, nor did he inform the health physics staff of the situation.
- The HRA barrier rope at the entrance to the cubicle was down on at least two occasions during this period. According to the licensee this has been a recurring problem.

The inspector discussed these problems with the licensee during the inspection and exit interview, and was informed that this matter would be fully investigated and corrective actions to strengthen these weaknesses would be taken. This corrective action will be reviewed at a future inspection. (Open Item No. 266/85022-02; No. 301/85021-02)

On December 2, 1985, and on December 13, 1985, the inspectors performed confirmatory radiation and smear surveys of spent fuel shipments departing Point Beach for delivery to the Department of Energy at Richland, Washington. Survey results were well within Department of Transportation limits for contamination and radiation levels. Results of the surveys were sent to the State of Wisconsin.

No violations or deviations were identified.

7. Design, Design Changes, and Modifications (37700)

The inspector determined that design changes and modifications that were determined by the licensee to not require approval by the NRC were in conformance with the requirements of the Technical Specifications (TS) and 10 CFR 50.59.

Review of the following changes indicated that they were reviewed and approved in accordance with 10 CFR 50.59 and established QA/QC controls, and that the reviews were technically adequate.

Reactivity Control - "System Rod Control Runback Defeat (85-138)"

Reactor Coolant System - "Pressurizer Manway (85-011)"

Instrumentation - "Reactor Protection - Unit 1 Bypass Manifolds RTDS (85-031)"

Plant and Electrical Power Systems - "2 G01 and 2X01 Protective Relaying (85-094)"

The changes were controlled by established procedures. Post-modification tests and records were reviewed and evaluated by the licensee. An evaluation of training needs in regards to these modifications was performed, and where it was found to be applicable training was conducted.

No violations or deviations were identified.

8. Cold Weather Preparations (71714)

The inspector ascertained that the licensee has inspected systems susceptible to freezing to ensure the presence of heat tracing, space heaters, and/or insulation; the proper setting of thermostats; and that the heat tracing and space heating circuits have been energized. The inspector reviewed the following "Cold Weather Systems and Equipment Checklists":

PC-49, Part 1	Unit 1 Turbine Hall Ventilation
PC-49, Part 2	Unit 2 Turbine Hall Ventilation
PC-49, Part 3	Auxiliary Building
PC-49, Part 4	Auxiliary Building Miscellaneous and Facades
PC-49, Part 5	Outside Areas and Miscellaneous

Fifteen maintenance work requests were written at the beginning of October, 1985, as a result of performing these checklists. As of January 7, 1986, eight of these maintenance work requests were still open. However, none of them had a serious impact on cold weather protection. The inspector found that there was no feedback mechanism to ensure that the items of concern that were found while performing these checklists have been taken care of. The licensee has committed to put such a mechanism in place. This is an Open item (266/85022-03; 301/85021-03).

No violations or deviations were identified.

9. Startup From Refueling and Determination of Shutdown Margin (71711, 61707)

The inspector observed the tests listed below and verified that the refueling outage startup testing was conducted in accordance with technically adequate procedures and that the facility was being operated within license limits.

- WMTP 9.2 Nuclear Power Range Detector Calibration Quarterly Axial Offset Test
- WMTP 6.1 Core Power Distribution and Nuclear Power Range Detector Calibration Checks
- WMTP 4.3 Control Rod Worth by Swap Method Shutdown Margin Calculation

No violations or deviations were identified.

10. TMI Status Update (25565)

The following status applies to both units:

- (Closed) II.E.1.1.1 Auxiliary Feedwater
- II.E.1.1.2 System Evaluation

The licensee completed installation of a low suction trip for auxiliary feedwater pump protection on January 31, 1986. No other modifications were required or committed to.

By letter dated January 6, 1986, Novak (NRR) to Fay (WE), NRR has approved an extension for the following items contained in the Commission's Order dated July 2, 1984, for Point Beach Nuclear Plant, Units 1 and 2.

- I.D.2 Plant safety parameter display console fully implemented. Licensee due date February, 1988.
- III.A.2 Emergency operations facility fully operational. Licensee due date February, 1988.

The above listed items for which Point Beach has been granted an extension are the only TMI action items remaining open for Point Beach Units 1 and 2.

No violations or deviations were identified.

11. Plant Trips (93702)

Following the Unit 2 trip on December 31, 1985, the inspector ascertained the status of the reactor and safety systems by observation of control room indicators and discussions with licensee personnel concerning plant parameters, emergency system status and reactor coolant chemistry. The inspector verified the establishment of proper communications and reviewed the corrective actions taken by the licensee. The inspector reviewed the post trip review and determined that all determinations and actions were completed as required and the plant was returned to operation on January 1, 1986. Further details of this trip can be found in Paragraph 3.

No violations or deviations were identified.

12. Licensee Event Reports Followup (92700)

Through direct observations, discussions with licensee personnel, and review of records, the following event reports were reviewed to determine that reportability requirements were fulfilled, immediate corrective action was accomplished, and corrective action to prevent recurrence had been accomplished in accordance with technical specifications.

- 266/85-010-00 Nuclear Instrumentation Turbine Runback
- 266/86-001-00 Nuclear Instrumentation Turbine Runback
- 301/85-002-00 Containment Isolation Valve Leakage in Excess of Technical Specifications

No violations or deviations were identified.

13. 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. An unresolved item disclosed during the inspection is discussed in Paragraph 3.

14. 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 6 and 8.

15. Exit Interview (30703)

The inspectors met with licensee representatives (denoted in Paragraph 1) throughout the inspection period and at the conclusion of the inspection period to summarize the scope and findings of the inspection activities. The licensee acknowledged the inspectors' comments. The inspectors also discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspectors during the inspection. The licensee did not identify any such documents/processes as proprietary.