

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-266/88020(DRP); 50-301/88018(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, Units 1 and 2

Inspection At: Two Creeks, Wisconsin

Inspection Conducted: September 1 through October 15, 1988

Inspector: R. J. Leemon

Approved By: *R. DeFayette*
R. DeFayette, Chief
Reactor Projects Section 3A

10/28/88
Date

Inspection Summary

Inspection from September 1 through October 15, 1988 (Reports No. 50-266/88020(DRP); No. 50-301/88018(DRP))

Areas Inspected: Routine, unannounced inspection by the resident inspector of operational safety; ESF walkdown; maintenance; surveillance; physical security; and radiological protection.

Results: One violation was identified (Severity Level IV) for failure to follow procedures during the performance of Surveillance Test ICP 2.1. This led to the SI Unblock Bistable Test Switch being in the trip position for 13 days (Paragraph 3). Six employees were discharged after a drug investigation (Paragraph 2); Unit 2 had a reactor trip (Paragraph 2); all other inspection results indicated acceptable licensee performance.

DETAILS

1 Persons Contacted

- *J. J. Zach, Manager, PBNP
- T. J. Koehler, General Superintendent
- G. J. Maxfield, Superintendent - Operations
- J. C. Reisenbuechler, Superintendent - EQRS
- W. J. Herrman, Superintendent - Maintenance and Construction
- D. F. Johnson, Superintendent - Health Physics
- R. Krukowski, Security Supervisor
- *F. A. Flentje, Administrative Specialist
- J. E. Knorr, Regulatory Engineer
- T. L. Fredrichs, Superintendent - Chemistry

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

*Denotes personnel attending exit interviews.

2. Operational Safety Verification and Engineered Safety Features System Walkdown (71707 and 71710)

The inspector observed control room operations, reviewed applicable logs and conducted discussions with control room operators during the period of inspection. During these discussions and observations, the inspector ascertained that the operators were alert, cognizant of plant conditions, attentive to changes in those conditions, and took prompt action when appropriate. The inspector 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 inspector observed plant housekeeping/cleanliness conditions. The licensee has started a plant labeling program and is painting areas of the plant to identify them as Unit 1 or Unit 2 areas. The licensee is also repainting general areas of the plant. During the period of inspection, the inspector 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.

Unit 1

Unit 1 operated at full power throughout the period with brief power reductions for monthly testing of the turbine stop and governor valves.

Unit 2

Unit 2 operated at full power throughout most of the period with brief power reductions for monthly testing of the turbine stop and governor valves. On September 14, 1988, Unit 2 began End-of-Life Tave coastdown operation. On October 7, 1988, the unit was taken off line to begin a 42-day refueling outage. Major maintenance/modification activities planned are: installation of Anticipated Transient Without Scram (ATWS) System Mitigating System Actuation Circuitry; Foxboro electronic refurbishment (Phase 1); eddy current testing of the steam generator; sleeving of the steam generators; core reload; and overhaul of the high pressure turbine.

Safety Injection Block Switches Design Deficiency

During a control room design review meeting concerning the placement of controls on the control board, a licensed senior reactor operator questioned the use of a single manual safety injection (SI) "block/unblock" switch for both SI trains. On August 18, 1988, analysis of the suspected design deficiency revealed that it would be possible for a failure of the switch to render both trains of SI inoperable (the switch had not actually failed). The licensee initiated a design change to separate SI block by train; this is nearing completion and will be installed on each unit during the next scheduled refueling outage.

Until the logic is modified, the plant's emergency operating procedures have immediate action steps which require the verification of safety injection, and the licensee issued a note in the control room "night order" book explaining the potential single failure of the SI block switches. This was reported to the NRC under Licensee Event Report (LER) 50-301/88-007-LL and corrective action will be tracked under this LER number.

Alleged Drug Use By Plant Employees

During the week of September 12, 1988, the licensee was notified by local police that an informant (not an employee) had provided names of five plant employees (mechanic electricians) who were alleged to use drugs off-duty. On September 19, 1988, urine samples were taken from the five individuals. A search for drugs was made of their plant lockers and cars in the parking lot; no drugs were found. During interviews, three of the five individuals admitted to using drugs (two to using marijuana and one to using cocaine). All five individuals were suspended and denied site access pending further investigation. Initial test results were positive for four of the five tests.

Confirmatory tests results were as follows: one individual used cocaine; two used marijuana; and one used prescription medication.

During the interviews, five additional employees were named as allegedly using drugs. One was a licensed operator and two were in supervisory positions. Two individuals were electrical mechanics. Site access was suspended for all named individuals until the investigation was completed.

Of the five additional employees named as allegedly using drugs, one supervisor admitted to the use of, and tested positive for, the use of marijuana. Two individuals (mechanic electrical) refused to provide urine samples and were suspended. The other supervisor and the licensed operator tested negative for the use of drugs, and their site access was returned.

Wisconsin Electric Company (WE) policy at Point Beach provides that any employee using, possessing, or under the influence of any illegal drug while on-duty or on WE property shall be terminated from employment. The policy further provides that any employee involved with drugs off-duty that affect the employee's ability to perform his or her job, or that adversely affect the company or other employees, shall be subject to disciplinary action, including termination.

On September 28, 1988, WE discharged six employees. Four employees were discharged for using illegal drugs during their off-duty hours, and two employees were discharged for refusing to cooperate in the drug investigation (would not provide a urine sample).

The International Brotherhood of Electrical Workers has filed grievances objecting to the firing of five employees who belong to the union.

The licensee will evaluate the work performed by the discharged individuals to ensure that it was done properly. This is an open item (266/88020-01(DRP)).

Containment Purge Supply Isolation Valve

The licensee is modifying and improving the instrument air system for Point Beach Units 1 and 2. As part of this effort, on October 6, 1988, during an engineering evaluation of the instrument air system and an air system walkdown, the containment purge supply isolation valve (2CV-3244) was determined to be inoperable. It was discovered that the check valve in the air line between the air accumulator and the operator for (2CV-3244) was installed in the wrong air line. Therefore, on the loss of instrument air, the air accumulator would feed back to the instrument air header instead of to the air operator for the check valve which is required to keep the seals on valve (2CV-3244) seated. The air check valve was located in an air line which bypassed the accumulator. Similar air check valves for Unit 1 and Unit 2 containment purge supply systems were verified to be installed in the correct air line. The licensee isolated air to (2CV-3244) and relocated the check valve to the correct line. On October 7, 1988, valve (2CV-3244) was returned to service within the

48-hour limiting condition for operation. The safety significance of this event was minimized because the redundant valve was operating properly, and because the containment purge valves are closed during reactor operation with the control room switches red-tagged closed and sealed.

Auto Rod Withdrawal - Unit 2

On October 7, 1988, with Unit 2 almost to the end of its operating cycle, with the Bank D control rods at 219 steps and in automatic, the rods inexplicably withdrew to the full out position, 230 steps. The operator took manual control of the rods per (AOP-6C) "Uncontrolled Withdrawal of RCCA(s)", and manually stepped the rods in to reduce temperature and match reactor power to secondary power. Control Bank D was then realigned and returned to 219 steps. No instrument and control work on related systems was in progress during the event. However, test instrumentation was being connected to delta temperature instrumentation in this general time frame in preparation for the outage, but no link is known between the testing and the withdrawal event. Subsequent investigation could not find a cause nor duplicate the event.

Refueling Shutdown

On October 8, 1988, at 12:59 a.m., Unit 2 was taken off the line to start refueling outage No. 14.

Unit 2 Plant Trip From The Source Range Monitor N32

On October 8, 1988, at 3:28 a.m., Unit 2 was in hot standby and zero percent power when the source range detector N32 automatically re-energized near the trip set point, as it is designed to do, but then drifted up past the trip point (1×10^5 counts per second) and caused a source range reactor trip. All rods inserted and all other equipment operated as expected. At the time of the trip, the other source range N31 was out of service with its signal lead disconnected because it had failed during the last plant startup. At 6:19 a.m., source range detector N32 failed down scale. At this time, neutron flux was being monitored by the wide range neutron detector (2N140C) which covers the source, intermediate, and power range neutron flux levels. At 6:45 a.m., a 10 CFR 50.72 nonemergency four-hour telephone report was made to the NRC via the Emergency Notification System (Event No. 13644). The failure of N32 was traced to the source range pre-amplifier. It was replaced with a spare pre-amplifier and N32 was tested and returned to service at 9:09 a.m. The detector for source range N31 was replaced and N31 was returned to service on October 13, 1988.

Emergency Drill

On September 14, 1988, an emergency plan drill was conducted. This drill is discussed in Inspection Report 50-266/88021(DRSS); 50-301/88019(DRSS).

Plant Visit

On September 23, 1988, Mr. E. G. Greenman, Director of Region III Division of Reactor Projects, toured the Point Beach Nuclear Plant.

All other activities observed were conducted in a satisfactory manner and no violations or deviations were identified.

3. 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 2.11	"Analog Rod Position Periodic Test," Unit 1
ICP 2.13	"Periodic Test 4160V Undervoltage," Unit 1
ICP 2.8	"Nuclear Instrumentation Power Range Axial Offset Calibration Procedures," Unit 1
ICP 2.1	"Periodic Test Reactor Protection and Safeguards Analog Channels I through IV," Unit 1 (Long Form)
ICP 2.2	"Periodic Test Reactor Protection and Safeguards Analog Channels I through IV," Unit 1 (Short Form)
ICP 2.3	"I&C Surveillance Test Reactor Protection System Logic," Unit 1 (Long Form)
IT 545A	"Leakage Reduction & Preventive Maintenance Program Test of Containment Spray System," Unit 2
IT 72	"Post Maintenance or Special Inservice Test for Type XI Valves," (Completed for Valve SW-2839)
IT 102	"Inservice Testing of Common Auxiliary Feedwater Valves"
IT 85	"Inservice Testing of Main Steam Valves"
IT 600	"Waste Gas System Gaseous Leak Checks"

IT 1055 "40-Month Pressure Test of the Safety Injection System"
TS 2 "Emergency Diesel Generator G02 Biweekly"
TS 9 "Control Room Heating and Ventilation System Checks"

Reactor Trip Breakers

On September 20, 1988, while performing the reactor protection system surveillance test, the Unit 1 "B" reactor trip breaker (a Westinghouse Type DB-50) would not close. An emergency maintenance work request was written and the breaker was inspected for mechanical binding; none was found. Electrical current traces were also taken when opening and closing the breaker but no problems were identified. During the surveillance test the negative 125 VDC control power fuse had blown. Both control power fuses were replaced and the surveillance test was repeated. The breaker operated properly and it was returned to service.

Auxiliary Feedwater Pump

On September 2, 1988, during the performance of IT-08, "Inservice Testing of Turbine Driven Auxiliary Feed Pump, Unit 1," for Auxiliary Feedwater Pump (IP29) the trip mechanism did not operate when the pushbutton in the control room was pressed. The linkage in the trip mechanism was adjusted and the trip test was re-run satisfactorily.

Diesel Generator

On August 31, 1988, Diesel Generator G01 auto started when it was shutting down at the end of the scheduled surveillance test (TS-1). It was assumed that the solenoid valve on the governor that causes the fuel to be shut off to the engine did not operate properly. When the governor was returned to the fast start position, the engine increased in speed. All start circuits were tested including the relays; no problems were identified. The diesel was tested three times and the surveillance test was repeated satisfactorily. The problem did not recur. The diesel was returned to service the same day. The other diesel generator was satisfactorily tested prior to trouble shooting G01.

On September 29, 1988, Diesel Generator G01 again went to full speed instead of stopping at the end of the operability test run. The operator took manual control and stopped the diesel per operation Procedure No. 11A. It was later determined that if the control switch is held in the stop position for at least two seconds the diesel will stop with the use of the timing circuits. The licensee has conveyed this information to the operators with an entry in the night orders.

G01 was being tested because G02 was out of service for G02's annual inspection. The status of G02 at the time of the test was such that if it was needed for plant shutdown the operator could return its control switch to the auto position, and then G02 would start and load if necessary.

The licensee believed the cause of the problem was that the control room control switch was not held in the stop position long enough to operate the time delay relay. The licensee ran current traces on the control room control switch and no problems were identified. The licensee believed that G01 was in-service throughout this period.

On September 29, 1988, Diesel Generator G02 was being tested, after its annual inspection, when one of four air motors failed. (Subsequent to the inspection period it was determined that the failure was due to a sheared shaft in the air motor.) The air motor was replaced and the diesel was tested and returned to service. On September 30, 1988, during the test of Diesel Generator G02 service water cooling water valve, the solenoid valve for the service water valve failed. The solenoid valve was replaced and the service water valve was tested satisfactorily.

On October 12, 1988, while running the surveillance test TS-1 on Diesel Generator G01, at the end of the test again the diesel generator returned to 900 rpm. The diesel was shut down with the use of local pushbuttons and the cause of the diesel's speed increase is being investigated. The problem appears to be related to the adjustment of the stop solenoid. It should be noted that the diesel never failed to start; the problems were in shutting it down. This is an open item (266/88020-02(DRP)).

Instrument and Control Technician Errors

On October 10, 1988, on Unit 1, while performing ICP 2.2, "Reactor Protection and Safeguards Analog, Unit 1," an instrument and control technician inadvertently inserted a current calibrator into the first stage pressure jack instead of the f(Tavg) jack, causing an automatic rod insertion, arming of the condenser steam dump, and the steam generator level setpoint to go to 39%. The control operator and the technician responded to the transient immediately and returned the plant to normal. The technician then completed testing of the "white" protection channel and went to lunch. After lunch and prior to commencing with testing of the "blue" channel, the technician was counseled as to what happened. The acting I&C Superintendent and the I&C Supervisor told the technician to slow down and second check himself on every step of the test. Approximately two hours later, the technician inadvertently opened the test jack for blue pressurizer level isolation instead of blue pressurizer level pressure. This caused a letdown isolation to occur and tripped the pressurizer heaters. The technician and control operator immediately returned the plant to normal. The technician involved was then removed from performing surveillance tests and counseled by the I&C Supervisor. His actions were evaluated by the licensee to determine if there were any personal factors which contributed to his apparent lack of concentration in performing his job. None were found.

On September 27, 1988, as preparations were being made to perform ICP 2.1, "Unit 1 Periodic Test Reactor Protection and Safeguard Analog, Channels I Through IV" in the red instrument rack, the Safety Injection (SI) Unblock Bistable Test Switch was already in the trip position. It appears that this switch had not been placed back to normal during the last performance of ICP 2.1 on September 14, 1988, even though the procedure required it. The switch, therefore, had been in the wrong position for 13 days. From a safety standpoint this was in the conservative direction because the logic for automatic SI Unblock was then 1 out of 2 channels instead of 2 out of 3 channels and the manual block permissive was 2 out of 2 channels instead of 2 out of 3 channels. After the I&C supervisor was informed, the switch was returned to the correct position. This failure to return the SI Unblock Bistable Test Switch to normal is a violation of ICP 2.1 (266/88020-03(DRP)).

One violation was identified; all other activities were conducted in a satisfactory manner.

4. 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:

- * Diesel Generator G02 - annual maintenance inspection
- * Charging Pump (P2C) - excessive seal leakage - repaired seals
- * Service Water Pump (P32A) - high upper vibration - balanced motor and pump

- * Emergency Diesel Generator G02 - the governor speed setting clutch was skipping excessively - adjusted clutch per technical manual and supervisor instructions. Tested by running the governor to the upper and lower limits. Clutch skipped properly when the limits were reached.

All activities observed were conducted in a satisfactory manner and no violations or deviations were identified.

5. Physical Security (71881)

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

During the inspection period, the inspector verified that the security force complement was as required by the security plan; that search equipment was operational; and that access control for personnel and packages was implemented in accordance with licensee procedures. The inspector verified that the protected and vital area barriers were being well maintained and, when required, appropriate compensatory measures were taken.

All activities observed were conducted in a satisfactory manner and no violations or deviations were identified.

6. Radiological Protection (71709)

During the inspection period, the inspector verified that health physics supervisory personnel conducted plant tours and were aware of activities which may cause unusual radiological conditions. The inspector verified that radiation work permits (RWP) contained required information, and for selected RWPs, the inspector verified that controls were being implemented as required at the work site. The inspector observed personnel within radiation controlled areas and determined that personnel monitoring equipment was properly worn and that the licensee's procedures for entry and exit were followed. The inspector observed the posting of radiation areas, hot spots, contaminated areas, and labeling of containers holding radioactive material and verified postings using a calibrated beta-gamma portable survey meter.

All activities observed were conducted in a satisfactory manner and no violations or deviations were identified.

7. 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 2 and 3.

8. Exit Interview (30703)

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