

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-266/92004 (DRP); 50-301/92004 (DRP)

Docket Nos. 50-266; 50-301

License Nos. DPR-24; DPR-27

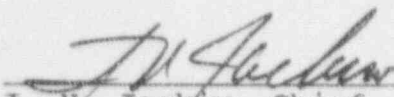
Licensee: Wisconsin Electric Company  
231 West Michigan  
Milwaukee, WI 53201

Facility Name: Point Beach, Units 1 and 2

Inspection At: Two Rivers, Wisconsin

Inspection Conducted: January 1, 1992 thru January 31, 1992

Inspectors: J. Gadzala  
D. Schrum

Approved By:   
I. N. Jackiw, Chief  
Reactor Projects Section 3A

2-14-92  
Date

Inspection Summary:

Inspection from January 1 through 31, 1992, (Reports No. 50-266/92004 (DRP); No. 50-301/92004 (DRP))

Areas Inspected: Routine, unannounced inspection by resident inspectors of corrective actions on previous findings; plant operations; radiological controls; maintenance and surveillance; emergency preparedness; security; engineering and technical support; and safety assessment/quality verification.

Results: One violation of NRC requirements and four unresolved items were identified. An executive summary follows.

Corrective Actions on Previous Findings

Point Beach recently implemented a new abnormal operating procedure for operating the fuel oil system in extreme cold temperatures. Operators are not adequately alerted to the presence of the cold temperatures that would require implementation of this procedure. The adequacy of alerting operators to low outside air temperature remains unresolved.

Plant Operations

A Unit 1 turbine runback to 80% power occurred on January 20 due

to improper performance of maintenance on a 4.16 kV safeguards bus tie breaker. Power to the affected bus was lost as a result of the improper maintenance, requiring the plant to briefly enter their "General Considerations", Limiting Condition for Operation (LCO) 15.3.0.A for the three minute period that this bus was deenergized. Operators responded to the event and carried out appropriate corrective actions.

While attempting to borate after the runback to control the power swing, the normal boration flow path was found blocked. Although normal boration was eventually restored, the cause of this blockage remains unresolved.

The runback caused axial flux difference ( $\delta\phi$ ) to transcend its control band. Operators restored  $\delta\phi$  to required limits in 14 minutes by control board indication, but the plant process computer indicated that  $\delta\phi$  had been out of the band for 17 minutes. The method of controlling  $\delta\phi$  remains unresolved.

In accordance with a commitment to the NRC, Point Beach reported eight failures or unavailabilities of safety related equipment which have no governing LCOs in technical specifications.

#### Radiological Control

The plant's cumulative exposure for 1991 was 264.9 Man Rem. This is the lowest annual dose since 1974 and is indicative of the aggressive ALARA program undertaken over the past year.

#### Maintenance/Surveillance

While installing a fuse block in safeguards breaker 1A52-61 (1A05 to 1A06 bus tie), maintenance electricians connected a jumper across auxiliary contacts in the wrong breaker cubicle. This resulted in a Unit 1 turbine runback. A violation was cited for failure to follow maintenance procedures and a lack of independent verification to detect that failure.

The annual inspection and refurbishment of the G01 emergency diesel generator was performed. In parallel with this maintenance, a section of the service water discharge piping was replaced. Several compensatory measures were taken to minimize the affect of this diesel's unavailability. Electrical availability was further reduced when one of the four offsite power lines was removed from service for about six hours during this diesel maintenance to repair a failing insulator. The diesel maintenance was done in four days.

#### Emergency Preparedness

Performance in this area remains consistent. No significant issues were noted.

### Security

Performance in this area remains consistent. No significant issues were noted.

### Engineering and Technical Support

Station battery D105 and D106 pilot cell temperatures were found to be about 56° F due to the inadequate climate control in their rooms. Preliminary calculations performed by plant engineers indicate that these batteries might not be able to deliver the required capacity at temperatures below 50° F. There are no battery room low temperature alarms to warn of abnormally cold temperatures, nor do auxiliary operators monitor or log battery room temperatures. This issue remains unresolved.

Although technical specifications permit unrestricted operation of both units with only two of the four 345 kV offsite power lines available, company engineers determined that failure of one of those two transmission lines could result in almost immediate failure of the remaining line and the tripping of any operating unit. Plant management promptly issued a special order imposing a requirement that a minimum of three transmission lines be operable. A technical specification change request was also initiated.

### Safety Assessment/Quality Verification

One of the five Licensee Event Reports reviewed was not thorough, and did not consider Seismic Design considerations.

## DETAILS

### 1. Persons Contacted (71707) [(30702)]

- \*G. J. Maxfield, Plant Manager
- \*J. C. Reisenbuechler, Manager - Operations & Technical Support
- \*T. J. Koehler, Manager - Maintenance & Engineering
- N. L. Hoefert, Manager - Operations
- \*J. G. Schweitzer, Manager - Maintenance
- J. A. Palmer, Manager - Instrument & Controls
- W. J. Herrman, Manager - Technical Services
- T. L. Fredrichs, Manager - Chemistry
- J. J. Bevelacqua, Manager - Health Physics
- R. D. Seizert, Manager - Training
- \*F. A. Flentje, Administrative Specialist

Other company employees were also contacted including members of the technical and engineering staffs, and reactor and auxiliary operators.

\*Denotes the company personnel attending the management exit interview for summation of preliminary findings.

### 2. Corrective Action on Previous Inspection Findings (92701) (92702)

- a. (Closed) Violation (266/91013-01): Reactor Coolant Heatup Above 200° F. Without Containment Integrity Established.

On May 10, 1991, Unit 1 reactor coolant temperature was allowed to exceed 200° F. without containment integrity being established. This event occurred while performing steam generator crevice flushing at the end of a refueling outage. Operator distraction with other activities appeared to be the principal cause. Contributing to the incident was a lack of emphasis, during shift turnover, on the reason and importance of maintaining temperature below 200 degrees while performing the crevice flush procedure.

Point Beach has since revised procedure RP-6A, "Steam Generator Crevice Flush (Vacuum Mode)", to include several caution statements regarding the 200 degree limit. A step has also been added requiring the shift supervisor to verify that control room staffing is adequate to support performance of the evolution. Shift turnover status sheets have been enhanced to facilitate accuracy of information exchange between shifts.

The primary plant computer system alarming scheme will be upgraded under modification 91-199 to allow specific alarms to be selected for control board annunciation. Operators will be able to select certain parameters, based on the evolution in progress, for an elevated level of prominence.

The inspector reviewed the changes to procedures and discussed the computer modifications with cognizant engineers. No further concerns were noted and this item is closed.

b. (Closed) Unresolved Item (266/91019-04):

Delta Flux Control

Recent changes to the reactor core design have resulted in elimination of the administrative limits on delta flux. Procedure REI 12.1, "Technical Specifications and Delta Flux", had not been updated to reflect this change. Operators had instead been using the predicted delta flux curves provided in data sheet ROD 1.2 as an informal guide for controlling delta flux.

REI 12.1 has since been canceled. A new procedure, REI 12.3, "Delta Flux Control", has been written to provide guidance for rod positioning at power and during power swings such that delta flux will remain within the operating envelope. This procedure formalizes the use of ROD 1.2. The inspector reviewed the new procedure and had no further concerns. This item is closed.

c. (Closed) Unresolved Item (266/90018-04; 301/90018-04):

Gravity Feed of Emergency Diesel Generator Fuel Oil

The Electrical Distribution System Functional Inspection (EDSFI), performed in 1990, raised a concern that during an Appendix R scenario (where power is lost to the fuel oil transfer pumps), the gravity feed of fuel oil from the above ground storage tanks to the emergency fuel oil tank, and subsequently to the diesel generator day tanks, might not be accomplished during very cold winter conditions. Fuel oil flow could be hindered due to fuel oil wax buildup brought on by cold temperatures. To alleviate this concern, the plant performed test WMTP 12.33, "Diesel Generator Day Tank Fill by Gravity", on February 19, 1991. This test was monitored by the inspector and demonstrated that a gravity fill flow rate of about 615 gallons per hour could be achieved under the conditions tested. This is more than adequate to supply both diesels at full

power.

Unfortunately, outside ambient air temperature during the test was never lower than 34° F. Contact readings on the fuel oil transfer piping indicated 59° F. This defeated the purpose of verifying the rate of flow through the outdoor piping between the above ground storage tanks and the fuel oil pumphouse when ambient (and thereby fuel oil) temperatures are near or below the fuel oil cloud point (-8° F.).

The plant subsequently repeated a portion of this test on Monday, January 20, 1992. Outside ambient air temperature during the test was 5° F. Contact readings on the fuel oil transfer piping indicated 16° F. The bulk fuel oil temperature in the above ground tanks dropped to only about 16° F. despite a one week period of abnormally cold temperatures preceding this test when outside air temperatures averaged about 0° F. No difficulties were encountered in demonstrating fuel flow through the supply piping from the above ground tanks to the underground emergency storage tank. This item is closed.

Point Beach recently implemented a new abnormal operating procedure AOP-16A, "Fuel Oil System Abnormal Operation". This procedure is entered if outside air temperatures fall to  $\leq -12^{\circ}$  F. The procedure directs that fuel oil in the above ground tanks be recirculated, thereby utilizing the latent heat of the bulk oil in the tanks to prevent the oil in the transfer piping from gelling. If recirculation fails, off site tanker trucks are to be brought onsite and kept in a heated warehouse for emergency use.

The inspector noted that the only means of alerting operators to low air temperatures is an alarm on the plant process computer. Problems have arisen in the past due to process computer alarms not being heeded, particularly if other evolutions are in progress. An example is the recent primary plant heat up above 200° without containment integrity, as discussed in paragraph 2.a above. Although operators log outside air temperature once per shift, there is no specification for low temperature listed on the shift log to alert operators of the need to take corrective action. The adequacy of alerting operators to low outside air temperature remains unresolved pending an evaluation by the plant and a subsequent review by the inspector (266/92004-01).

3. Plant Operations (71707) (93702)

a. Control Room Observation (71707)

The inspectors observed control room operations, reviewed applicable logs and conducted discussions with control room operators during the inspection period. During these discussions and observations, the inspectors ascertained that operators were alert, cognizant of current plant conditions, attentive to changes in those conditions and took prompt action when appropriate. The inspectors noted that a high degree of professionalism attended all facets of control room operation and that both unit control boards were generally in a 'black board' condition (no non-testing annunciators in alarm condition). Several shift turnovers were also observed and appeared to be handled in a thorough manner.

The inspectors performed walkdowns of the control boards to verify the operability of selected emergency systems, reviewed tagout records and verified proper return to service of affected components.

b. Facility Tours (71707)

Tours of the turbine building, primary auxiliary building, containment facades, gas turbine building, and circulating water pumphouse were conducted to observe plant equipment conditions, including plant housekeeping/cleanliness conditions, status of fire protection equipment, fluid leaks and excessive vibrations and to verify that maintenance requests had been initiated for equipment in need of maintenance.

During facility tours, inspectors noticed occasional signs of leakage; however, all equipment appeared to be in good operating condition. Overall, plant cleanliness remained acceptable, although equipment storage space remains at a premium.

c. Unit 1 Operational Status (93702)

The unit continued to operate at full power with the exception of a turbine runback to 80% power which occurred on January 20 due to improperly performed maintenance. Power was restored within a few hours and the unit operated at 100% power for the remainder of this period with only requested load following power reductions.

d. Unit 2 Operational Status (93702)

The unit continued to operate at full power during this period with only requested load following power reductions.

e. Unit 1 Turbine Runback (93702)

A Unit 1 turbine runback to 80% power occurred on January 20 due to improper performance of maintenance on a 4.16 kV safeguards bus tie breaker. While installing a fuse block in breaker 1A52-61 (1A05 to 1A06 bus tie), maintenance electricians connected a jumper across auxiliary breaker contacts in the wrong breaker cubicle. This inadvertently energized the trip coil of breaker 1A52-58, which supplies power to 480 VAC safeguards bus 1B03.

Among the loads lost when bus 1B03 was deenergized, was the 1Y06 120 VAC instrument bus which supplies the rod position indication system. The rod position indicators failed to zero and caused the reactor protection system to sense a dropped rod. This in turn initiated the turbine runback. Other loads supplied by this bus include various safety injection and auxiliary cooling water motor operated valves, various boric acid heat tracing, emergency diesel generator G01 auxiliaries, several auxiliary cooling water pumps, two charging pumps, one auxiliary feedwater pump, one containment spray pump, and two containment fans.

Technical Specification 15.3.7.A.1.c requires that the 1B03 bus be energized whenever the Unit 1 reactor is critical. Since no limiting condition for operation (LCO) is specified in this case, the plant briefly entered the "General Considerations" LCO 15.3.0.A for the three minute period that bus 1B03 was deenergized. Due to the brevity of this event, no actions were initiated to shut down the plant. Wisconsin Electric's event report will detail this issue.

Operators responded to the event and reenergized bus 1B03 within three minutes. While attempting to borate to control the power swing, operators discovered that the normal boration path had somehow become blocked (the emergency boration flow path remained available). The blockage existed in the section of piping between the boric acid flow totalizer (1FT-110) and the boric acid blender. Upon investigation, boric acid flow control valve 1-FCV-110A was found to be cool to the touch. Operators raised the setpoints of the primary and secondary heat tracing thermostat on this section



of piping from 195° and 185° F respectively to 205° F. The blockage cleared about two hours later and the normal boration flow path was restored. The cause of this loss of normal boration remains unresolved pending completion of the plant's investigation and subsequent review by the inspector (266/92004-02). The initial indication was that the boric acid may have solidified in the piping. As an interim compensatory measure, the plant instituted twice per shift checks of the normal boration flow path.

The runback caused axial flux difference ( $\delta\phi$ ) to transcend its control band. The inability to borate hampered attempts to return  $\delta\phi$  to its control band within the required 15 minute interval. Operators used control rods to restore  $\delta\phi$  to required limits within 14 minutes based on control board indications. However, the Reactor Engineering Instructions require that plant process computer system indications be the primary method for monitoring and control of  $\delta\phi$ . The computer indicated that  $\delta\phi$  had been outside the band for 17 minutes. However, the computer's output is time weighted and a delay of this extent is anticipated. A similar event occurred August 16, 1990, and is documented in NRC Inspection Report 266/91006; 301/91006. Following that event, the plant had restructured their training curriculum to reinforce the use of the plant computer as the primary means for  $\delta\phi$  indication. Although this specific event is not considered a significant safety issue, the method of controlling  $\delta\phi$  remains unresolved pending its reevaluation by the plant and subsequent review by the inspector (266/92004-03). Unit 1 was subsequently returned to full power within two hours.

The inspector's investigation of the improper maintenance revealed that the subject jumpers were supposed to have been installed in the cubicle adjacent to the one in which the electricians had been working. The electricians had completed installation of the new fuse block on breaker 1A52-61 which is located in cubicle 1A52-61. The work plan subsequently directed that jumpers be installed across auxiliary contacts in cubicle 1A00-62, which is adjacent to cubicle 1A52-61. The insides of these two cubicles are very similar, including the layout and numbering of the auxiliary contacts. The electricians apparently did not realize that the procedure required the jumpers to be installed in a different cabinet than the one they had been working in. Although the procedure intended independent verification of this jumper installation, both of the men initialing for verification had been

working together on this job. These events constitute a violation of the requirement to independently verify conformance with procedures as required by 10 CFR 50, Appendix B, Criterion X (266/92004-04). This aspect is considered the most significant issue of this event.

f. Safety Related Equipment Inoperability (71707)

In accordance with a commitment to the NRC, Point Beach reported the following failures or unavailabilities of safety related equipment which have no governing LCO in technical specifications:

- On January 6, the licensee removed the G05 gas turbine generator from service for routine maintenance. Although not safety related, the gas turbine generator has recently been upgraded to QA status by the plant due to its support function as an alternate AC source and as the emergency power supply for the alternate shutdown system. The gas turbine is also listed in technical specifications as an alternate to the station auxiliary transformer or a 345 kV transmission line under certain conditions.
- On January 7, the diesel driven fire pump was removed from service for routine maintenance. Technical Specification 15.3.14.A.1.b states that "One fire pump may be inoperable provided that the second fire pump is tested... every 24 hours...". The licensee reported this event because of the open ended nature of this LCO.
- On January 8, the 2P15A safety injection pump discharge flow transmitter (2FT-925) was taken out of service for maintenance. This flow transmitter provides indication in the control room of safety injection flow.
- On January 13, the G501 auxiliary diesel for the gas turbine generator was taken out of service to perform modification work on the fuse block. G501 provides auxiliary electrical power to the G05 gas turbine. The gas turbine cannot start under loss of all AC conditions without electrical power from G501. Additionally, the G501 auxiliary diesel is the emergency backup power supply for the technical support center.
- On January 16, the H01/H03 bus tie breaker was removed from service for maintenance. This 13.8 kV breaker is one of two that connects the gas turbine generator to the station auxiliary transformers. The other gas turbine tie breaker (H01/H02) was taken out of service

turbine tie breaker (H01/H02) was taken out of service the following day after work was completed on the first breaker.

- On January 20, the 1A05/1A06 bus tie breaker was removed from service for modification of its fuse block. This 4.16kV bus tie breaker, whose purpose is primarily to facilitate bus maintenance, is normally open and racked out.
- On January 21, the P70B fuel oil transfer pump was removed from service for replacement of the pump assembly. Four hours after this pump was rendered inoperable, the plant entered the seven day LCO for the associated emergency diesel generator (G02), in accordance with their administrative procedures.
- On January 22, the north service water header basket strainer was tagged out electrically for maintenance on its gear reducer. The safety function of this strainer is primarily as a pressure boundary for the service water system. This report is considered conservative since the service water header remained operable.

These reviews and observations were conducted to verify that facility operations were conducted safely and in conformance with requirements established under technical specifications, federal regulations, and administrative procedures.

#### 4. Radiological Controls (71707)

The inspectors routinely observed the licensee's radiological controls and practices during normal plant tours and the inspection of work activities. Inspection in this area includes direct observation of the use of Radiation Work Permits (RWPs); normal work practices inside contaminated barriers; maintenance of radiological barriers and signs; and health physics (HP) activities regarding monitoring, sampling, and surveying. The inspectors also observed portions of the radioactive waste system controls associated with radwaste processing.

From a radiological standpoint the plant is in good condition, allowing access to most sections of the facility. During tours of the facility, the inspectors noted that barriers and signs also were in good condition. When minor discrepancies were identified, the HP staff quickly responded to correct any problems.

The plant's cumulative exposure for 1991 was 264.9 Rem. This is the lowest annual dose since 1974 and is a

continuation of a downward trend in the amount of personnel exposure received. This accomplishment is indicative of the aggressive As-Low-As-Reasonably-Achievable (ALARA) program undertaken over the past year.

All activities were conducted in a satisfactory manner during this inspection period.

5. Maintenance/Surveillance Observation (62703) (61726)

a. Maintenance (62703)

Station maintenance activities of 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.

Selected portions of the following maintenance activities were observed and reviewed:

- G05 gas turbine generator annual refurbishment.
- IWP 90-277, tie breaker 1A52-61 fuse block installation.

A failure to follow the maintenance procedure and a lack of independent verification to detect this failure resulted in a Unit 1 turbine runback. This violation is detailed in paragraph 3.e.

- RMP 43 (Revision 11), Diesel Annual Inspection

This maintenance action was performed the week of January 27 on the G01 diesel and consisted of the inspection and refurbishment recommended by the diesel manufacturer. In parallel with this maintenance, a section of the service water discharge piping, from and including the glycol cooler to the flow control valve, was replaced. The piping replacement is part of a larger scope service water piping replacement project driven by microscopically induced corrosion of the service water piping.

Operation with one diesel out of service places the plant in a seven day limiting condition for operation. Since Point Beach has only two diesels, a failure of the second diesel during this maintenance period would leave the plant with no emergency diesel generators. Operation with both diesels out of service is not permitted by technical specifications.

As compensatory measures, the plant successfully tested the G05 gas turbine generator on the Friday before the maintenance outage and again the following Sunday. The other diesel generator (G02), was tested on Sunday before the start of maintenance and, as required by technical specifications, every day of the G01 diesel outage. Plant management provided the NRC with a brief on this activity prior to its commencement. Maintenance personnel were assigned to perform this activity in two ten hour shifts (Point Beach normally performs maintenance only on day shift). An additional inspector from the NRC regional office was assigned to assist in monitoring this evolution.

On the second day of this activity, one of the four offsite power lines (121) was found to have a degraded insulator which was in danger of failing. Since this could have lead to failure of the transmission line, Wisconsin Electric's system operations department notified Point Beach that the line would be taken out of service immediately to repair the insulator. Repairs were successfully completed and the line restored in about six hours. Although unrestricted operation with only three offsite power lines is permitted, the concurrent unavailability of one diesel generator further reduced electrical reliability. Plant management had earlier requested the system operations department to defer any routine line

maintenance during the diesel generator outage, but concurred in the decision to perform this unanticipated repair rather than risk losing the line.

Improper rigging, caused in part by the location of padeyes, resulted in the heat exchanger piping assembly being initially mispositioned, requiring installation of an additional sling and chainfall. A maintenance person stood on top of the diesel and on the rigged piping assembly to attach the sling and chainfall. Diesel components were bumped during the process of rigging and pushing the piping assembly into position. In addition, assembly of piping was observed being performed without torque requirements. This activity could have affected the weld on the heat exchanger flange which resulted in a leak in this area. The heat exchanger had previously been qualified by the vendor with a hydrotest. Subsequent leak repairs and retesting delayed completion of this project about 12 hours, although it was still finished ahead of schedule early Friday morning.

Inadequate prestaging of tools, components, and supplies was caused in part by a procedure with no lists of needed items. Poor planning during relay testing was demonstrated by the following situations. Testing leads were not of sufficient length to reach relays to be tested or their power sources, so shorter wires had to be connected and taped. Thus, the potential existed for wiring resistances to effect test results. Trial and error was used by maintenance personnel to make up test connections to a new indicating test box. As a result, personnel were not always certain of test results. Relay testing was completed with the improvised use of Motor Operated Valve testing equipment when the original equipment stopped working. There was lack of control of materials around the diesel systems and piping assemblies. Pipe covers were not in place during some work activities. Material and tool accountability was not maintained around the diesel when access covers were removed or opened.

Quality control checks of work in progress and of completed procedures was performed by maintenance supervisors. Maintenance personnel were resourceful in solving problems as they occurred, and a diesel expert was available during the majority of the maintenance to give advice and

coordinate efforts. Ample staffing contributed to the timely completion of work. All parts required for this annual maintenance activity were in stock. No audits or surveillances of diesel work activities by the sites's quality assurance group were observed.

Results of this inspection were discussed with the licensee; the resident inspector will monitor the licensee's resolution of these matters.

b. Surveillance (61726)

The inspectors observed surveillance testing and verified that testing was performed in accordance with adequate procedures; that 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 testing were properly reviewed and resolved by appropriate management personnel.

Selected portions of the following test activities were observed and reviewed:

- ICP 2.3, Appendix A, (Revision 6) Surveillance Test, Reactor Protection System Logic (Long)
- ICP 2.1, Appendix A, (Revision 10) Surveillance Test, Protection and Safeguards Analog (Unit 2)

No discrepancies were noted during the observance of any of the above tests.

6. Emergency Preparedness (71707)

An inspection of emergency preparedness activities was performed to assess the licensee's implementation of the site emergency plan and implementing procedures. The inspection included monthly review and tour of emergency facilities and equipment, discussions with licensee staff, and a review of selected procedures.

All activities were conducted in a satisfactory manner during this inspection period.

7. Security (71707)

The inspectors, by direct observation and interview, verified that portions of the physical security program were being implemented in accordance with the station security plan. This included checks that identification badges were properly displayed, vital areas were locked and alarmed, and personnel and packages entering the protected area were appropriately searched. The inspectors also monitored any compensatory measures that may have been enacted by the licensee.

All activities were conducted in a satisfactory manner during this inspection period.

8. Engineering and Technical Support (71707)

The inspectors evaluated licensee engineering and technical support activities to determine their involvement and support of facility operations. This was accomplished during the course of routine evaluation of facility events and concerns, through direct observation of activities and discussions with engineering personnel.

a. Station Battery Temperature (71707)

The inspector noted that station battery D105 and D106 pilot cell temperatures were about 56° F on January 16. The batteries are designed to produce 650 amp-hours at 77° F. Although the vendor technical manual specifies that the batteries are designed to operate as low as 32° F., battery capacity decreases with temperature. The inspector questioned the batteries' operability and discussed this concern with plant management.

Initial calculations performed by plant engineers indicate that these batteries would be able to deliver the required capacity at temperatures down to about 50° F. If the temperature dropped below this, the battery might not be capable of providing the design power requirements. However, there is no indication of battery room temperature in the control room, nor any battery room low temperature alarms to warn of abnormally cold temperatures. Additionally, the auxiliary building shift log does not require operators to monitor or log battery room temperatures. Auxiliary operators do tour the battery rooms at least once per shift for other readings, but they routinely traverse unheated areas of the plant and would not necessarily be alerted to the significance of cold temperatures in the battery rooms.



Although the batteries would likely heat up during discharge and thereby increase their capacity, there is no analysis to support this hypothesis. The plant has implemented interim compensatory measures to monitor battery room temperature once per shift by the auxiliary operators. A ventilation modification had already been performed to correct a problem experienced with battery room temperatures. This modification was unsuccessful in correcting the problem. This issue remains unresolved pending an evaluation by the plant and subsequent review by the inspector (266/92004-05).

b. Availability of Offsite Power Lines (71707)

Technical specifications permit unrestricted operation of both units with only two of the four 345 kV offsite power lines available. On January 24, utility engineers determined that under certain conditions, instability in the electrical transmission grid could be such that if only two offsite lines were available, the failure of one of those two transmission lines would result in almost immediate failure of the remaining line and the tripping of any operating unit. This deficiency was discovered during the performance of a long term engineering study of system-wide grid instability problems.

Plant management promptly issued a special order imposing a requirement that a minimum of three of the four transmission lines be operable to allow unrestricted operation of both units. A technical specification change request to increase the minimum required number of lines from two to three was also initiated. The inspector reviewed the special order and discussed this issue with plant management. No further concerns were noted.

All activities were conducted in a satisfactory manner during this inspection period.

9. Safety Assessment/Quality Verification (90712) (92700)

The licensee's quality assurance programs were inspected to assess the implementation and effectiveness of programs associated with management control, verification, and oversight activities. Special consideration was given to issues which may be indicative of overall management involvement in quality matters such as self-improvement programs, response to regulatory and industry initiatives, the frequency of management plant tours and control room observations, and management personnel's attendance at technical and planning/scheduling meetings.

a. Licensee Event Report (LER) Review (90712)

The inspectors reviewed LERs submitted to the NRC to verify that the details were clearly reported, including accuracy of the description and corrective action taken. The inspector determined whether further information was required, whether generic implications were indicated, and whether the event warranted onsite follow up. The following LERs were reviewed and closed:

\*266/91-004-01 Primary Temperature >200° Without Containment Integrity

This report provides additional information related to the event, evaluation, and corrective actions associates with the reactor coolant temperature exceeding 200° F. without containment integrity. The original LER did not provide information regarding the HI and HI-HI temperature alarms monitored on the plant process computer that are received at 196 and 198 degrees F. respectively. These alarms are intended to alert the operator to abnormal conditions and were active at the time of the event. Both of these alarms actuated but were not properly acknowledged by the operator. The alarm consists of an audible tone and a printout on the computer screen.

Due to number of activities in progress, numerous alarms were being received on the process computer. After 30 seconds, the audio portion of the alarm self-clears, but the alarm message remains on the screen. The high temperature alarm was one of those that were received. Because the operator did not acknowledge the HI alarm, the audio portion of the HI-HI temperature alarm did not actuate when that alarm was subsequently received. The alarm sequence operated as designed.

The primary plant computer system alarming scheme will be upgraded under modification 91-199 to allow specific alarms to be selected for control board annunciation. This will allow operators to select certain parameters, based on the evolution in progress, for an elevated level of prominence. As described in paragraph in 2.a above, the inspector reviewed the plant's corrective action and had no further concerns.

\*266/301/91-006 Inadvertent Start of Emergency Diesel Generator

This report describes the inadvertent start of emergency diesel generator G01 during a routine

operator status check. The operator was attempting to locate the diesel's alarm bell to determine why it did not sound during testing. Thinking it was inside annunciator panel C64A, he attempted to open the hinged access door. The panel door was apparently cocked to one side, causing it to stick. When the operator pulled hard enough, the door abruptly opened. The sudden acceleration produced sufficient force to actuate the Star Failure Auxiliary relay, which is directly mounted on the panel door. Following this actuation, the diesel operated as designed.

The plant subsequently tested this diesel with satisfactory results. An inspection of panel C64A and the affected relay revealed no abnormal conditions. The inspector observed an operator open this panel door and noted no difficulty in its operation. Plant personnel were informed of this event.

The safety assessment of this event was not thorough. Although the cause of the inadvertent start is attributed to personnel error, small regard was allotted to determining whether the location of the relay (on the panel door itself) contributed to the event or whether the seismic design of this system is adequate. Wisconsin Electric has committed to the verification of seismic adequacy of various components in response to Generic Letter 87-02. Company management informed the inspector that relays associated with the diesels will be included in this verification. This action is expected to address the broader concerns of this event.

- \*301/91-001-00 Failure of Main Steam Isolation Valves to Close
- 301/91-001-01 Failure of Main Steam Isolation Valves to Close

These reports describe the September 29, 1991, failure of both Main Steam Isolation Valves (MSIVs) on Unit 2 to close upon a demand signal from the control room. The reactor had recently been shut down for a routine refueling outage and the secondary plant was in the process of being shut down. When the operator attempted to shut the valves from the control room, neither valve left the open seat. An operator was dispatched to the valves and freed them by striking each with a hammer.

A special NRC inspection team was assigned to investigate this event. Details of their inspection are contained in NRC Inspection Report 50-266/91025;

50-301/91025. Three violations and a civil penalty were proposed against the company as a result of this event.

Initial corrective actions included disassembly and refurbishment of both units' MSIVs. A composite graphite packing was installed to reduce friction of valve disk movement. The valve operators will be inspected at periodic intervals to determine appropriate maintenance. The test procedure was changed to require testing of the MSIVs both prior to reactor startup and at the end of reactor operation. The valve operators were painted to discourage any further hammering and to reveal any future occurrence. Drip trays were installed over the MSIV actuation cylinders to prevent any packing leakage from entering into the cylinder assembly and corroding it. Inspections are being conducted at periodic intervals to look for leakage or any other detrimental conditions which could affect valve operation.

The supplemental LER addressed additional corrective actions planned as a result of the plant's investigation of this event, proposed modifications to the MSIVs to address operability concerns, and the implementation schedule. The inspector will continue to monitor the status of these corrective actions via the notice of violation on this issue.

\*301/91-006      Reactor Trip During Modification Work on D11

This report describes a Unit 2 reactor scram initiated when a power supply lead to DC distribution panel D22 became disconnected during modification work. Power was subsequently lost to the Unit 2 A train reactor protection rack and associated trip breaker, causing the scram. Details appear in NRC Inspection Report 50-266/91024; 50-301/91024.

Operators responded to the scram and stabilized the unit in a hot shutdown condition. An investigation of breaker 32 in panel D11 revealed that the remaining wire attached to the breaker was loose. Both leads were subsequently reattached and torqued and power was restored to panel D22. All other breakers in panel D11 and the corresponding unit 1 panel (D13) were checked for tightness. No other excessively loose connections were found. Unit 2 was taken critical that same evening and placed on line the following morning. Full power was reached later that night.

As a long term corrective action, the company is performing an evaluation of molded case circuit breaker preventive maintenance programs to assess the need for termination checks. The LER provides component information on the affected breaker to enable the NRC to address the generic implications of the loosening of stranded cable in similar breakers.

b. LER Follow Up (92700)

The LERs denoted by asterisk above were selected for additional follow up. The inspectors verified that appropriate corrective action was taken or responsibility was assigned and that continued operation of the facility was conducted in accordance with technical specifications and did not constitute an unreviewed safety question as defined in 10 CFR 50.59. Report accuracy, compliance with current reporting requirements and applicability to other site systems and components were also reviewed.

All activities were conducted in a satisfactory manner during this inspection period.

10. Discussion of Cranes Contacting Overhead Power Lines (71707)

The inspector met with the plant manager to discuss recent events at the Fermi and Palo Verde nuclear plants involving cranes contacting overhead power lines. Details of these two events were discussed. The discussion focused on the seriousness of these events not only with respect to personnel safety, but on the potential that such an event could cause a loss of all offsite power from the resulting electrical transients.

The plant manager assembled his senior staff members to review plant policy regarding station crane use. Point Beach has no specific procedure governing crane use, but general guidance is contained in the plant's safety manual. Plant management is considering creation of a specific procedure. Additional controls are being considered such as a requirement for continuous use of a spotter while crane operations are in progress.

A subsequent safety meeting with maintenance personnel included a crane safety awareness session with emphasis on avoiding contact with overhead lines. Placards alerting personnel to this hazard are being fabricated for mounting in the two station vehicles capable of reaching the overhead power lines, a self propelled crane and a bucket truck.

Based on the discussion held and the subsequent actions

initiated, the inspector was satisfied that plant management understood the significance of this issue.

11. Nuclear Department Management Changes (71707)

The Regulatory and Staff Services Manager was promoted to fill the vacant Training Manager position effective January 1. No announcement has been made regarding a replacement for his former billet. The Nuclear Technical Services Section was reorganized effective January 13. Duties within the section were reassigned to consolidate INPO and NRC activities within a single group, entitled Regulatory Affairs.

12. Outstanding Items (92701)

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 paragraphs 2.c, 3.e, and 8.a.

13. Exit Interview (71707)

A verbal summary of preliminary findings was provided to the company representatives denoted in Section 1 on February 4, at the conclusion of the inspection. No written draft inspection material was provided to the licensee during the inspection.

The likely informational content of the inspection report with regard to documents or processes reviewed during the inspection was also discussed. Company management did not identify any documents or processes that were reported on as proprietary.