

NOV 30 1990

Docket No. 50-155

Consumers Power Company
ATTN: Mr. David P. Hoffman
Vice President
Nuclear Operations
1945 West Parnall Road
Jackson, MI 492012

Gentlemen:

Thank you for your letter dated October 29, 1990, informing us of the steps you have taken to correct violations 155/90-010-01 and -02 associated with Big Rock Point, which we brought to your attention in our letter dated September 28, 1990.

In your letter, you requested that we reconsider a weakness in the engineering support area characterized in the report. You concluded that our assessment was based on two violations (i.e., diesel generator wiring errors and a Part 21 oversight) and the absence of the "system engineer" concept. The absence of the systems engineering concept was not a significant factor in this characterization. We also did not base our conclusion entirely on the violations. Our conclusion was also based on other problems identified during the inspection. An example involved the lack of root cause analysis to determine why the backup core spray valve, MO-7071, failed to open four times in a 20 month period. In addition, there was a lack of engineering involvement or analysis to determine whether the design basis value of 57 ft. lbs. required to open the MO-7071 valve was adequate. Furthermore, Section 2.6 of the Big Rock Point Maintenance Team Inspection Report summarized examples of either lack of or poor engineering support as follows:

- ° No engineering involvement was noted when vibration tests indicated bearing vibration that exceeded the first and alarm levels.
- ° The lack of current and up-to-date drawings and data setpoint information.
- ° The lack of followup action of a self-identified problem dealing with the safety-related station battery ground detector.
- ° No trending of individual component failure. Personal memory was relied upon to discern multiple component failures.

It is our conclusion that engineering involvement and support of maintenance could be greatly improved. Therefore, we believe the report characterization of engineering support as a weakness was proper.

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In your letter, you also referred to an error in the number of reactor trips. You were correct and our statement of two trips in 1990 should have been more appropriately described as unplanned outages.

We will examine the matters discussed in your response during a future inspection.

We will gladly discuss any questions you may have concerning this matter.

Sincerely,

ORIGINAL SIGNED BY T. O. MARTIN

T. O. Martin, Director
Division of Reactor Safety

cc: Mr. D. VandeWalle, Director,
Nuclear Licensing
Mr. W. L. Beckman, Plant
Manager

cc w/ltr dated 10/29/90:
DCD/DCB (RIDS)
OC/LFDCB
Resident Inspector, RIII
James R. Padgett, Michigan Public
Service Commission
Michigan Department of Public
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Armando Masciantonio, LPM, NRR
Tom Foley, LPEB, NRR
Commissioner Curtiss, OCM/JC
Director, Division of Reactor
Safety - RI, RII, RIV, and
RV

RIII
HAW
Walker/jk
11/27/90

RIII
RM
Mendez
11/27/90

RIII
SB
Burgess (YES)
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DLS for
DeFayette
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Ring
Ring
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Wright
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Martin
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Consumers
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**POWERING
MICHIGAN'S PROGRESS**

Big Rock Point Nuclear Plant, 10269 US-31 North, Charlevoix, MI 49720

William L Beckman
Plant Manager

October 29, 1990

Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

DOCKET 50-155 - LICENSE DPR-6 - BIG ROCK POINT PLANT -
RESPONSE TO INSPECTION REPORT 90010

The subject Inspection Report was received on October 3, 1990 covering the Special Maintenance Team Inspection conducted by Mr. H. A. Walker and others. Two violations and one unresolved item were discussed in the report to which this letter provides our response.

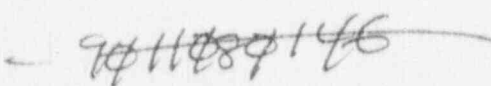
Consumers Power Company appreciates the conclusion from the inspection team that overall, the maintenance program at Big Rock Point was satisfactory and that material condition of the plant was good with a very low backlog of equipment awaiting repair. The identified strengths that plant operation is supported by long-term, highly skilled, and dedicated employees coupled with close and effective coordination between organizations is also recognized by CPCo management as the primary driving force behind Big Rock Point's good performance over the past twenty-eight years. It is personnel effort that compensates for the relatively small staff in implementing the continued program improvements associated with the nuclear power industry.

Consumers Power Company is disappointed that deficiencies were identified but recognizes that improvements can be made. Attachment 1 provides a description of our actions in response to the violations.

One weakness expressed in the report that Consumers Power Company feels should be reconsidered is the apparent lack of engineering support. Although two of the four issues (i.e., D/G wiring error and Part 21 oversight) discussed in the violations could be attributed to "engineering," they were both isolated personnel errors, one of which occurred thirteen years ago.

The "system engineer" concept was implemented at Big Rock Point for a short time period approximately six years ago. It was determined to be ineffective. When the "system engineer" concept was attempted, personnel were assigned to systems based upon background discipline (i.e., Mechanical, Electrical, Civil, I&C). However, due to the good performance of plant systems and the fact the majority of workload is associated with plant modifications due to replacement of obsolete equipment and engineering evaluations, project workload could not be appropriately assigned within the "system" concept. When major projects

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associated with modifications (Neutron Monitoring System replacement, Appendix R Alternate Shutdown) or Engineering Evaluations (EEQ, Control Room Design Review, BWR IGSCC Failures, Material Procurement etc) evolved, they required the full-time support of one or more engineers for extended time periods. These assignments had to cross over system disciplines due to engineer availability and diluted the system engineer concept. Even without "system engineers" support of plant maintenance and operations is still the number one priority when the need arises. It should also be noted that engineering expertise does not reside solely within the Engineering Department. Other departments have on their staffs, degreed people in engineering and/or scientific disciplines and focus their engineering talents on specific department needs. On a daily basis, the Oncall Technical Advisors review plant operating status and associated problems as well as surveillance activities. Engineers support procedure improvement, equipment procurement, and training package development in all areas of the plant. We believe that overall, the plant has "engineering support" and the quality of this support is evidenced in the strong operating record of the plant and recent SALP evaluations in the Operations and Maintenance areas.

With respect to Core Spray Valve MO-7071, LER 90-005 dated August 31, 1990 describes the actions taken due to the valve failure. Since then, diagnostic testing has twice been performed to obtain valve performance information. In September, performance data using the VOTES equipment was obtained during valve stroke testing during power operation. No failures occurred and valve operator performance seemed adequate. During the current Refueling Outage additional diagnostic testing is in progress after modifications were completed to permit pressurization of the spool-piece adjacent to the valve to establish maximum differential pressure conditions prior to valve stroking. As this time, the testing and evaluation is not complete. Following completion of the evaluation and update to the LER or a follow-up response to this letter will be submitted to provide the results of this effort.

Section 2.1.1 of the Inspection Report refers to one reactor trip in 1989 and two in 1990 occurring at Big Rock Point. This is incorrect. No reactor trips have occurred in 1990 and the one trip in 1989 discussed in LER 89-008, dated 9/21/89 was caused by a component failure due to manufacturing deficiency.

Section 2.3.2.1 in discussing the EDG wiring error refers to a drawing update program which may be misleading. As discussed in the attachment, all identified drawing errors will be corrected by year end.

The following list also describes the actions completed since the inspection, in response to concerns identified:

- ° Section 2.3.1 - accessible spare cables in the cable spreading room have been identified and tagged
- ° Section 2.6 - The fuses for the control circuit for valves MO-7051 and MO-7061 have been corrected and the setpoint sheets for MO-7070 and MO-7071 have been revised.

- * Section 2.3.2.1 - The follow-up walkdown of the RPS-MG set control panels have been completed which resulted in only minor drawing revisions.

Section 2.4.2.1 of the inspection report notes that "the licensee agrees to perform past due PMs on past due breakers during the upcoming refueling outage". The plant has now tested all the overdue breakers except for the 2.4 kV circuit breaker (152-104). Prudent engineering for this breaker test requires that an alternate power supply be provided in case of a breaker failure. Detailed engineering of an alternate power supply could not be completed prior to the end of the current refueling outage and this breaker test has been postponed until the next refueling outage.

William L. Beckman (Signed)

William L. Beckman
Plant Manager

CC Administrator, Region III, USNRC
NRC Resident Inspector - Big Rock Point

Attachment

ATTACHMENT

Consumers Power Company
Big Rock Point Plant
Docket 50-155

RESPONSE TO INSPECTION REPORT 90010

October 29, 1990

4 Pages

Violation 155/90010-01

- 1. 10 CFR 50, Appendix B, Criterion V as implemented by the Consumers Power Company, Quality Assurance Topical Report, CPC-2A", Section 5.0, Revision 10, requires that activities affecting quality be prescribed by documented instructions, procedures, or drawings, and that those activities be accomplished in accordance with instructions, procedures, or drawings.

Contrary to the above:

- a. Procedure 77-EPS-202-13, "Diesel Generator Trip Modification," issued on August 22, 1977, required implementation of coincident logic in the diesel generator overcurrent trip circuitry and that the scheme be tested. One phase of the overcurrent protection was not wired in accordance with the design drawings, which resulted in a "one out of one" generator trip logic rather than a "two out of three" logic as designed. Other problems identified with the implementation of the design modification were as follows:
 - (1) The connection drawing 0740E30869, SH 3, Revision m and the schematic diagram 0740JG30kl869, SH 2, Revision p, were not updated to reflect the as-built configuration.
 - (2) Testing was inadequate since procedure 77-EPS-202-13 only required testing of the x-y logic but not the y-z or the x-z logic where the above wiring error occurred.
 - (3) There was not record that procedure 77-EPS-202-13 was properly implemented since the procedure data blocks were not completed (155/90010-01A(DRS)).
- b. Procedure T180-01C, "Personnel and Equipment Lock Powell Check Valves Leak Rate," Revision 38, required that the valve leak rate be less than 2.0 lbs/24 hours. On February 22, 1990, the leak rate test was terminated after 6.5 minutes and the leak rate was incorrectly calculated based on a 30 minute test. This resulted in an incorrectly calculated leak rate of 0.69 lbs/24 hours based on a 30 minute test while the actual leak rate was 3.18 lbs/24 hours as calculated on the correct 6.5 minute interval. As a result, the valve test results were not rejected and the valve was not repaired as required by procedure (155/90010-01B(DRS)).

Discussion

Following a review of the two occurrences discussed above and the procedures used, the cause of the errors were attributed to personnel error.

As discussed in LER 90-004 submitted to the staff on August 24, 1990, the diesel generator wiring error was caused by a repairman who mistakenly connected a wire to the wrong pin of the PJC-1 relay during implementation of procedure No. 77-EPS-202-13. The LER also points out that the reason the

error was not identified at the time of occurrence was that the procedure only tested correct logic for one sequence of relay operation. Consumers Power believes this was an isolated oversight during the modification in 1977.

The second error on the leakrate calculation occurred when the plant operator input the wrong time interval in the computer used to perform the calculation. Leakrate procedures normally utilize a 30 minute time interval to determine valve leakage rates. In this case, the test was terminated after 6.5 minutes due to depressurization of the air volume. This information was correctly recorded on the procedure data sheet. However, instead of entering the 6.5 minutes in the computer, the standard 30 minute interval was used.

Since this test was conducted on February 22, 1990, a review of other similar procedures was conducted which showed that this was the only procedure with a shortened test period and errors were not present.

Corrective Actions Taken

As discussed in the LER, the diesel generator wiring error was immediately corrected on July 28, 1990 following troubleshooting of the discrepancies. A logic circuit test and wiring verification of accessible portions of the cabinet was completed to insure the system met "as-built" requirements.

After discovery of the leakrate error, the test was rerun using the correct data. The packing of the check valve was adjusted and another test was conducted which verified the value was within leakage limits. Subsequently, the corrected leakrate value was entered into the five leakrate summary procedures completed since February 22, 1990. This showed that total leakrate values were well within Technical Specification requirements.

Actions Taken To Prevent Recurrence

In addition to the diesel generator cabinet verification, a wiring/configuration was performed on the Control Panel for the Diesel Fire Pump. The verification performed on all accessible portions of the cabinet found no discrepancies other than recommendations for drawing improvements. These improvements will be completed by December 31, 1990.

These wiring changes were conducted in 1977. The Big Rock Point modification procedures and associated Quality Assurance program were in the infancy at that time period. Design control testing guidelines have expanded since then which now provide improved control over the modification process, and minimize the chance for this type of error.

To prevent another error in transferring the time interval from the leakrate procedures to the computer program, a time interval entry is being added to the data sheet for all the local leakrate tests. These changes are currently under review and should be issued by December 1, 1990.

Violation 155/90010-02

2. 10 CFR 50, Appendix B, Criterion XVI as implemented by the Consumers Power Company "Quality Assurance Topical Report, CPC-2A," Section 16.0, Revision 10, requires that conditions adverse to quality be promptly identified and corrected.

Contrary to the above:

- a. Action was not taken to correct or prevent the use of expired shelf life parts in safety-related systems, even though inadequate control of shelf life items was identified by previous audits in 1982, and recently in Activity Inspection Report 88-005 dated June 1988. On July 25, 1990, Buna-N seals, which had exceeded the shelf life, were observed to be installed in reactor depressurization system control valve CV-4182 (155/90010-02A(DRS)).
- b. As of July 23, 1990, action had not been taken to correct a defective melamine torque switch that was installed in the operator of valve MO-7080 even though a 10 CFR 21 report was issued by the manufacturer on November 3, 1988, stating that the change should be made as soon as possible. This resulted in an increased potential for valve failure due to torque switch failure (155/90010-02B(DRS)).

Discussion

The Big Rock Point procurement/shelf life control efforts have been implemented and have expanded consistently throughout the 1980's. This has been a difficult process because being an older plant, many items which are obviously age degradable do not have shelf life specified in the vendor documents. This requires communication with the vendor to identify useful storage life and to input this information into the system. The Buna-N seals discussed above failed to be included in the program.

Two independent failures led to the delay in Big Rock Point addressing the Limitorque Part 21 Notification. The Limitorque letter dated November 3, 1988 to the Commission identifies that a copy of the notification was sent to Consumers Power Company, however, review of our documentation records does not show that the letter was received. Cause for this is unknown; it may have been lost after arrival at Consumers Power or never delivered. The notice was also identified by the Consumers Power Operating Experience review group during a review of the INPO Significant Occurrence listing. The Part 21 report was identified as potentially applying to Consumers Power Company and a copy was requested from INPO. Upon reviewing the Part 21 notice, the Operating Experience reviewer overlooked the potential applicability to Big Rock Point and did not send the document to the plant for action.

Corrective Actions Taken

As discussed in the Inspection Report, the four Buna-N seals were removed from stock and tested. Three of the four seals were above the suggested hardness values. Discussions with the manufacturer subsequently stated that these

values were conservative and no failures had occurred in this range. Testing also showed the installed seals were leak tight and they could be replaced during power operation. Considering this, the installed seals were considered acceptable.

With respect to the Limitorque Part 21 notice, only one motor operated valve at Big Rock Point utilizes a melamine torque switch. The torque switch was inspected on June 7, 1990 and found in good condition. Further discussions with the vendor concluded this torque switch to be a modified type and that no known failures had occurred. However, to minimize the potential failure in the future, the torque switch will be replaced during the current 1990 Refueling Outage.

Actions Taken To Prevent Recurrence

Shelf-life program improvement efforts are still ongoing. A review of safety-related stock items subject to shelf-life degradation will be performed. Any expired items will be removed from stock and replacement items will be purchased as necessary. An update of procurement descriptions for stock items will be conducted to add shelf life requirements. Shelf life requirements will be provided on future procurement documents based on these updated descriptions. These efforts will be completed by June 1, 1991.

The Part 21 notification oversight appears to be an isolated occurrence and the current Operating Experience review program will minimize any recurrence. The program currently in place has each industry issue listed for Big Rock Point and then the individual assigned to perform the screening must specify why the issue is not applicable to the plant. Also, a copy of the industry issue is forwarded to the Big Rock Point site coordinator which would serve as a second check.