



**Consumers
Power
Company**

DMB

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July 1, 1986

Mr. J G Keppler, Regional Administrator
US Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

PRIORITY ROUTING

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FILE

MIDLAND ENERGY CENTER GWO 7020
DOCKET NOS 50-329 AND 50-330
MIDLAND RESPONSE TO NRC REGION III LETTER OF MAY 6, 1986
FILE: 0.4.2, 1300 SERIAL: 32736

Reference: Letter C E Norelius, NRC Region III, to J W Cook, CPCo,
dated May 6, 1986

The referenced letter transmitted Brookhaven National Laboratory's report of its review of the Midland Surveillance and Maintenance Program and requested our written evaluation of the observations and recommendations in the report.

Preliminary comments were provided to CPCo by the Brookhaven reviewers during the exit discussions at the conclusion of the October review. Further, we discussed the specific recommendations with Region III by phone in January 1986 noting the relevant activities already underway at Midland and seeking clarification of other issues. We believe that we have been responsive to both the intent and specifics of the recommendations and that our corporate philosophy is consistent with the overall comments. In those areas where the surveillance and maintenance program vary from the Brookhaven recommendations we believe the approach we have taken is appropriate given the Midland Energy Center circumstances. The program accommodates both our option to finish Midland as a nuclear facility and our ability to preserve the value of safety-related components for possible sale.

The enclosure to the letter provides our evaluation of the 13 specific recommendations.

JWC/WRB/lr

CC: RBLandsman, USNRC Region III
TSMichaels, USNRC. NRR

James W. Cook

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The following paragraphs provide Consumers Power's evaluation of the observations and recommendations contained in the Brookhaven National Laboratory (BNL) Technical Review Report (the "Report"), dated January 6, 1986, and which documents the BNL October 14-18, 1985 Midland Energy Center Review. The Report was transmitted to Consumers Power Company on May 6, 1986.

The evaluation addresses the recommendations in the order given on Page 19 of the Report. Comments made in other sections of the Report are addressed in the evaluation responses to the recommendation most closely associated with those comments.

Recommendation 1

"Conduct a QA audit of the Preventative Maintenance (PM) Program implementation in early 1986 (1.15)."

Response

The QA Department established in late 1985 an objective to "Verify by July 30, 1986 that all elements of the Q-PM Program are in place and each PM activity has been conducted satisfactorily at least once." The accomplishment of this objective will result in a comprehensive review of preventive maintenance for all Midland Energy Center Q equipment and a determination of its adequacy to date. This analysis began in January 1986 and will be completed as scheduled in July 1986. A report is to be issued on July 30, 1986 and will address the following questions:

- a. Whether a review has been made by Engineering of all Q equipment for appropriate inclusion in the preventive maintenance program?
- b. Where preventive maintenance activities are required, are they documented by work orders and maintenance instructions?
- c. Has the required preventive maintenance been performed and were the criteria and execution adequate?

Our review of the results to date indicate that the preventive maintenance program is being successfully implemented and equipment is being appropriately preserved in a serviceable condition.

Recommendation 2

"Modify the means of QA nonconformance reporting and dispositioning to preclude reports remaining open for extended periods of time (1.6)."

Response

As stated within the Brookhaven Report and in the Midland Energy Center Quality Assurance Program Plan, it is Consumers Power Company's intent to process further only those NCRs that are required to support shutdown activities and equipment salvage. To preclude NCRs remaining open for extended periods of time, the Midland Project established an objective to cause disposition of all nonconformance and audit findings related to S&M activities within 10 working days. The tracking mechanism used for this objective is the

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NCR Status Report, which is required by Midland Project Shutdown Organization Procedure QA-006, section 4.10. The monthly NCR Status Report includes the forecast dates for disposition implementation by the action organization. Since the NCR status report was initiated in February 1986, dispositions of all except 1 of the S&M related NCRs have been made within 10 working days with an average closure time of 4 days. Disposition of the one NCR not meeting the closure time objective was made in 14 days.

Recommendation 3

"Deviations from Vendor and/or Architect/Engineer layup or PM requirements should be technically justified, formally approved, and documented (2.3)."

Response

The preventive maintenance criteria were generated by Engineering based on balancing the cost of the program against the projected future benefits. The factors considered during the generation of the criteria were:

- a) Manpower Requirements
- b) Anticipated Costs
- c) Vendor and Architect/Engineer Maintenance Recommendations
- d) Technical Expertise and Experience of Company Personnel
- e) Existing Programs at Other Laid Up Nuclear Plants
- f) Assumed Duration of the Shutdown

Some deviations from Vendor recommendations were expected based on the above factors and the overall program objectives:

Prior to the shutdown, the Architect/Engineer program was consistent with the Vendor recommendations to protect equipment and retain warranties. Following shutdown, Consumers was willing to accept some refurbishment or replacement of equipment prior to a nuclear restart if any unacceptable degradation occurred. The Quality Assurance Program Plan states "Therefore an essential element of controlling surveillance and maintenance work is not the ability to measure against a pre-established design basis, but rather the ability to assure identification of the nature and scope of any changes such that surveillance and maintenance work can later be evaluated and dispositioned in accordance with the design basis applicable to the Project at the time of Project restart." (Page 8 of 44.) The philosophy reflected the objective to protect the MEC equipment for a possible nuclear restart. Experience to date shows that equipment preservation is consistent with the Company philosophy, ie maintaining it for the intended service.

Recommendation 4

"Incorporate Limitorque Motor Operators into the Surveillance and Maintenance Program (2.3)."

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Response

The Limitorque motor operators were included in the S&M program. The BNL comments caused the maintenance criteria for the valve operators to be reviewed, and it was tentatively decided to add a requirement to preserve the electrical contacts. We later reviewed the cost of maintaining the valve operators versus future replacement of the electrical contacts. We concluded that it would be more cost effective to inspect contacts and replace them before startup rather than to spray the contacts periodically with a preservative. The Bechtel trend records show that less than 2% of the motor operated valves required contact replacement after the valves were in storage for 45 months. This information was provided to Brookhaven's Mr W Gunther during a telephone conversation of March 17, 1986, during which he agreed with this recommendation. The commitment to inspect the valve operators and repair them if necessary was added to our Commitment Management System as a required action for a nuclear construction restart.

Recommendation 5

"Contact valve manufacturers to verify that present storage and layup practices are acceptable (2.3)."

Response

CPCo had discussions with other shut down nuclear projects regarding their practices on long term layup of valves, including the recommendations of various Vendors. The conclusion was that to properly layup the valves for a long term shutdown, the valve packing should be removed and the valve left partially open. This would require a significant effort to complete as part of the surveillance and maintenance program. During the initial stages of the layup program, it was believed more important to drain and dry the systems for layup. The damage that could occur from not removing the packing and opening the valve may be corrosion of the valve stem or corrosion between the valve plug and seat. There has been some corrosion of valve stems at Washington Public Power Supply System on specific stem material when in contact with packing. It was therefore CPCo's expectation to see some pitting when the valve stems are inspected but as with WPPSS, we expect the pitting to be limited.

On a project restart, it was planned that the valve packing would have to be removed and new packing installed prior to placing the systems into service. CPCo had planned to inspect valve stems and seating surfaces at that time.

Recommendation 6

"Engineering activity to preserve and protect the vessel needs to be accelerated rapidly to address the manufacturer's recommendations (2.3)."

Response

Layup actions for the reactor vessel had been started at the time of the Brookhaven review and were completed on November 23, 1985.

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The Report discusses a concern that the frequency of humidity checks was not specified in the layup procedure. The frequency of inspection is controlled by preventive layup criteria document CP-F10-5024. The first inspection was conducted on March 4, 1986 and the humidity was less than 60% at the reactor vessel and upper and lower channel heads of the steam generator. The inspection interval for the reactor vessel in its laid up condition is consistent with the interval for other tanks and vessels within the plant. Based on our experience with other equipment, we believe the six month inspection interval is adequate. Since the reactor coolant system is sealed, contains desiccant, and has an internal closed system to circulate air, humidity changes are unlikely.

Another item mentioned in the report is the proximity of the humidity indicator to the desiccant. However, since air circulation is part of the layup criteria, proximity is not a concern. The humidity indicator on the upper and lower channel heads provide a representative reading of the reactor coolant loop humidity. These readings must also be below 60%. Based on the readings obtained to date and the continued air circulation, we expect the indicators to be representative of the air within the entire loop.

A concern was expressed by Brookhaven regarding desiccant placement. The ideal method for placing desiccant is to disperse it uniformly throughout the volume to be protected. However, to prevent contact of the desiccant with the stainless steel, we placed the desiccant in one basket as provided by B&W. This practice will be revised if the allowable humidity exceeds the criteria limits. We have also installed a humidity indicator on the reactor vessel internals.

We believe that the overall preservation measures adequately protect the integrity of the primary (RCS) system and provide comparable or superior conditions to those experienced during the prior plant construction period.

Recommendation 7

"Incorporate instrument tubing layup criteria into the system layup procedures where this was omitted (2.3)."

Response

Layup requirements for all instrument tubing have been incorporated into the appropriate procedures which previously did not address the tubing.

Recommendation 8

"Follow-up on the implementation of the layup of remaining systems including the Reactor Vessel, Steam Generator, Service Water and Component Cooling Water (2.3)."

Response

The implementation of layup requirements for the above systems had been completed for both units by the following dates:

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Reactor Vessel	- 11/23/85	Steam Generator	- 11/12/85
Service Water	- 01/10/86	Component Cooling Water	- 01/03/86

Recommendation 9

"Modify corrosion monitoring program to include monitoring/inspection of piping and equipment internals (2.4)."

Response

As discussed during the site review, the coupon monitoring program was being supplemented by a component evaluation program. This program covers the inspection of component internals of both Q and Non-Q equipment. To date the evaluations have resulted in some additional layup measures but no unacceptable equipment degradation has been found. Continuation of component evaluation, in conjunction with the coupon program, will provide information to protect the equipment for sale or service.

Recommendation 10

"Responded to IE Information Notice 85-56 scheduled to be completed on October 28, 1985 (2.5)."

Response

Information Notice 85-56 was dispositioned on October 25, 1985 in accordance with our commitment management system.

Recommendation 11

"Expedite completion of layups for outstanding systems and equipment (3.2)".

Response

Layup implementation was approximately 75% complete at the time of the October review. A thorough review of all outstanding work orders was initiated and a priority placed on implementation. Layup was 95% complete in December 1985 and was 100% complete by February 1986.

Recommendation 12

"Review adequacy of Operating Section Manpower (3.3)."

Response

The Operating Section consists of 13 people. At the current time, layup implementation is complete and continuing reviews of operating section work indicated that the project is carrying out its scheduled work within the procedural window and the backlog remains essentially at zero. It has been concluded that current manpower to operate and monitor systems is adequate.

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Recommendation 13

"Modify work order processing procedure to insure that bypass of QA responsibilities is prohibited (2.3)."

Response

Midland Project Shutdown Organization Procedure OM-001, *Revision 4, Control of Work Performed on Permanent Plant Equipment, details the requirements and methods for processing work orders. A Quality Assurance Department review and approval is required for all corrective and preventive maintenance work orders which control Q work activities. This review is required for the initial issue of a work order, and any subsequent revisions. These requirements alleviate any further concerns of possibly by-passing QC. Procedure OM-001, Rev 4, Section 5.3.2 requires the supervisor or designee to notify QAD-Verification of any hold points and/or the start of work per work order instructions.