

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-155/85010(DRS)

Docket No. 50-155

License No. DPR-06

Licensee: Consumers Power Company
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Jackson, Michigan 49201

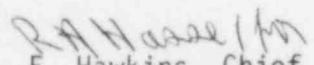
Facility Name: Big Rock Point Nuclear Plant

Inspection At: Charlevoix, Michigan
Glen Ellyn, Illinois

Inspection Conducted: June 3-7, June 10, June 17-21, July 9-12, July 17, 22,
24, and 26, 1985

Inspector:  R. Hasse

8-1-85
Date

Approved By:  F. Hawkins, Chief
Quality Assurance Programs Section

8-1-85
Date

Inspection Summary

Inspection on June 3-7, June 10, June 17-21, July 9-12, July 17, 22, 24, and 26, 1985 (Report No. 50-155/85010(DRS))

Areas Inspected: Routine inspection by one regional inspector of licensee action on previous inspection findings, maintenance activities, and QA/QC administration. The inspection involved 80 inspector-hours onsite and 15 inspector-hours in the Region III office.

Results: No violations or deviations were identified.

DETAILS

1. Persons Contacted

Consumers Power Company

D. Hoffman, Plant Superintendent
*C. Abel, Operations and Maintenance Superintendent
**G. Withrow, Maintenance Superintendent
*D. Wilks, Maintenance Supervisor
*J. Johnson, Instrumentation and Controls Supervisor
*L. Monshor, Quality Assurance Superintendent
G. Petitjean, Technical Superintendent
D. Herboldsheimer, Outage Coordinator Supervisor
W. Blosh, Senior Plant Technical Analyst
D. Staton, Shift Supervisor
**G. Slade, Executive Director, Quality Assurance (by telecon)
**R. Alexander, Technical Engineer
**T. Fisher, Senior QA Administrator
**R. Barnhart, Senior QA Administrator

USNRC

*S. Guthrie, Senior Resident Inspector

Other personnel were contacted as a matter of routine during the inspection.

*Denotes those attending the exit interview on June 21, 1985.

**Denotes those attending the exit interview on July 12, 1985.

#Denotes participation in telecon exit interview on July 26, 1985.

2. Action on Previous Inspection Findings

(Closed) Unresolved Item (155/84-15-01): Administrative procedures did not require a documented 10 CFR 50.59 review for temporary modifications (lifted leads and jumpers). The inspector verified that the applicable administrative procedures had been revised to require this review for all temporary modifications not previously addressed.

3. Program Areas Inspected

a. Maintenance Program

During the most recent SALP period (SALP 5), the licensee was rated as a Category 2 in the maintenance area. This represented a decline in performance from the SALP 4 period in which the licensee was rated a Category 1. In addition, SALP 5 noted that performance continued to decline during the rating period. The primary reason for the decline in the SALP rating was the increase in the number of problems requiring maintenance attention. A particular concern was expressed about those that could have been prevented by a more aggressive PM program (i.e., emergency diesel generator problems). Other concerns were the lack of

increased management attention to reverse the trend toward more maintenance problems and the occasional lack of aggressive action in solving maintenance problems. This inspection was augmented to assess the reasons for the declining performance and any remedial actions being taken by the licensee to reverse it.

(1) Inspection Results

The inspector reviewed the procedures controlling maintenance activities, maintenance history files for selected pieces of equipment, completed maintenance order packages, recent licensee audits of the maintenance program, the SALP 5 Report, Licensee Event Reports for 1983-85, and Deviation Reports. The inspector also interviewed licensee personnel responsible for the maintenance program. Specific observations were as follows:

- a During the review of completed maintenance orders (MO's), the inspector noted that the equipment outage requests (EOR's) were not always completed. Further investigation indicated that this problem had been identified in the licensee's 1984 audit of maintenance activities and was incorporated in that report as an observation. During the licensee's 1985 audit of this area, the problem was found to be worse and the matter was upgraded to a finding. This is considered an unresolved item pending NRC review of the licensee's prompt corrective action (155/85010-01).
- b The inspector reviewed the licensee's program for independent verification of system alignment for removal from and return to service. When protective tagging (for personnel protection) is required, independent verification of system alignment is performed for removal from service; however, the tagging system does not provide for independent verification of system alignment for return to service. In addition, instrumentation and control procedures for calibrations do not require independent verification of system alignment during either removal from or return to service.

The inspector discussed this issue with licensee personnel, and they stated that the EOR system does require action to determine equipment operability prior to returning it to service. In some cases, this would represent independent verification of system alignment. In other cases, only the item worked on may be tested and overall system alignment may not be verified. The Nuclear Operations Department Standard governing this area was revised during this inspection to reflect this fact permitting operability testing to be used for independent verification only when personnel hazards precluded visual verification by a second qualified individual. This is considered an unresolved item pending NRC review of the revised operating procedures (155/85010-02).

c The maintenance staff is experienced and well qualified. The licensee is generally able to replace experienced personnel that leave with personnel experienced in their particular craft. Systems training is provided to the new personnel. Some skill training is also provided. While no formal on-the-job training program is used, an apprentice type program is employed. This provides "hands-on" experience with plant equipment to new staff members under the supervision of experienced personnel. An INPO accredited maintenance training program is being pursued.

d Approximately 4000 maintenance orders (MOs) are processed each year. At the time of this inspection there were 2 MOs open from 1982 (under review for necessity), 8 from 1983 and approximately 115 from 1984. The backlog appeared to be reasonable. Preventive maintenance (PM) tasks were being completed in reasonable agreement with the PM schedule.

e To assess the reasons for the declining SALP performance, the inspector reviewed the examples listed in SALP 5. The inspector also reviewed LER's for 1983-1985 for other maintenance problems which led to reportable conditions. Specific observations are as follows:

- . The problems with the emergency diesel generator involved a fuel pump shaft failure, loose and pitted contacts, and failure of a drive coupling to the engine cooling water pump due to long term wear. While the diesel engine had recently been overhauled, the remainder of the system had not been examined or refurbished. It does appear that a more complete PM program for this system would have prevented these problems.
- . An example of a corrective maintenance situation that might have been prevented by more aggressive corrective action involved the recirculating pump seal leakoff valves (IA60A and IA60B). These valves are no longer used to control seal leakage but remain in a full open position. In February 1984, the packing in IA60A failed leading to a high containment radiation level and a forced outage to repack the valve. During April 1985, IA60B packing failed leading to another forced outage to repack that valve. The inspector reviewed the deviation report associated with IA60A to determine why IA60B was not repacked after IA60A failed. The licensee evaluation of the IA60A failure appeared to conclude that the reason for the failure was that the valve was not backseated. It also noted that there was some packing left and that the packing was still pliable. Corrective action included repacking IA60A, adjusting IA60B packing, and backseating the valve. A change was also initiated to an operations valve checklist to routinely ensure these valves were

backseated. One item not addressed was anticipated packing life and establishing a repacking schedule for these valves. Considering the consequences of packing failure it would appear prudent to have repacked IA60B at the same time as IA60A or at least scheduled it for the next outage. The valves had not been repacked within the period covered by their machinery history records (1977 was earliest entry).

(2) Conclusions and Recommendations

There is evidence of weaknesses in the PM program and a lack of management aggressiveness in upgrading that program based on plant experience to prevent equipment failures. This is particularly important considering the age of the plant resulting in the increased potential for end-of-service-life failures. The licensee has taken some actions to reduce equipment failures and increase reliability. Among these are budgeting for replacement of recorders and transmitters, assessing the replacement of neutron instrumentation, and the establishment of a PM program for limitorque operators. However, the following additional actions should be considered:

- a Treat corrective maintenance MOs more like corrective action documents. Specifically, a review should be performed to ensure the root cause has been properly identified and an assessment made to determine if better PM (or other action) could prevent recurrence. The assessment should include generic implications and be completed prior to closing the MO.
- b A formal evaluation should be made for important plant equipment to assess the potential for end-of-service life failures and determine actions necessary to prevent these failures.
- c The informal assessments of equipment problems currently performed by the maintenance staff should be documented in the maintenance history files to ensure their availability for future assessments.

b. QA/QC Administration

The licensee had recently reorganized resulting in the transfer of some functions previously performed at the General Offices (GO) to the Big Rock Point (BRP) site organization. The transfer of these functions necessitated changes to the QA program implementing procedures and increased the the BRP QA staff workload. Because of NRC concerns relative to the safety impact, the inspector assessed these changes to determine the adequacy of the procedure changes, if BRP QA personnel were qualified to perform their new responsibilities, and the impact of the added workload on the ability of the BRP QA staff to adequately perform their assigned tasks.

(1) Procedure Changes

The top tier implementing documents for the QA program are the Nuclear Operations Department Standards (NODS). These standards specify the organizational responsibilities and requirements for various subject areas (such as fire protection and plant security. Due in part to the reorganization, 16 NODS had been revised and 15 cancelled. Changes to Administrative Procedures (APs) (second tier implementing procedures) had not been completed at the time of this inspection.

a Inspection Results

The inspector reviewed the revised and cancelled NODS and identified the following concerns:

- 1 The inspector noted that in some cases a revised NODS referenced a cancelled NODS. In one case the reference was a "use" reference: NODS-Q01, ("Corrective Action and Nonconforming Items") was revised to require QA Support to trend certain items in accordance with NODS-M05 ("Supplier Evaluation and Selection") which had been cancelled. The inspector asked whether the requirements of the cancelled NODS were included in either the remaining NODS or the Administrative Procedures (APs). Licensee personnel stated that the situation had been reviewed and they were satisfied that all requirements of the cancelled NODS were addressed; however, they recognized that cancelled NODS were still referenced in both the APs and active NODS and could not ensure that there were no other cases in which the reference was a "use" reference. The licensee's current plan was to delete references to the cancelled NODS in the APs or NODS when they were revised for other reasons or at the time of their biennial review. The inspector was concerned that in the case where the reference was a "use" reference, as in the case noted above, this schedule could lead to the use of uncontrolled documents (cancelled NODs) or the lack of specific direction for performing safety related activities. This is considered an unresolved item pending further NRC review (155/85010-03).
- 2 The NODS provide a convenient reference to applicable requirements for a specific subject area and provide a vehicle for GO level interpretation of these requirements. The inspector was concerned that the APs become more vulnerable to missing requirements in those areas where a NODS had been cancelled since the gap between the baseline requirements (Facility License, NRC approved QA program, etc.) and the APs had been widened. The preparation of APs becomes more difficult since the baseline documents must be searched to identify applicable requirements. The workload

and potential for error are thus increased. The licensee is planning to mitigate this problem to some extent by revising its Quality Assurance Requirements Matrix (QARM). The QARM is currently a two dimensional matrix relating requirements to implementing procedures. The revision will add a third dimension relating subject to requirements. This is considered an open item pending further NRC review of the adequacy of the revised QARM for identifying regulatory requirements relating to subject areas (155/85010-04).

3 The NODS also provide a vehicle for establishing corporate level policy related to regulatory requirements in a subject area. The inspector was concerned that for those subjects covered by the cancelled NODS, this policy making authority had been effectively transferred to the plant and department level managers thereby reducing corporate level control. The licensee stated that this had been discussed extensively and that corporate level management felt they had adequate control through the performance appraisal (MBO) system. The inspector had no further questions concerning this subject.

4 Some changes in the revised NODS, taken collectively, appeared indicative of weakened controls. Specifically:

- . The Corrective Action Review Board (CARB) will no longer review completed Event Reports (ERs) or Deviation Reports (DRs). They will review only the initial reports.
- . ERs and DRs will no longer be prioritized.
- . Applicability of many NODS is for safety-related items only. The issues of "important to safety" and "reliability" are not addressed.
- . Overdue corrective actions will no longer be explicitly escalated to higher levels of management.
- . The Plant Review Committee (PRC) will no longer review Q-list changes.
- . The PRC will no longer review all violations of procedures required by the Technical Specifications, only those considered to have significant safety impact.

Individually, these items may be justified on the basis of efficiency or line management responsibility or both. However, as noted above, they do appear indicative of weakened controls.

b Conclusions and Recommendations

Based on the observation noted above, the inspector concluded that the cancellation of some of the NODS was premature in that the licensee did not adequately ensure that they were no longer required as a "use" reference nor provide a fully operational alternative for efficient identification of requirements for specific subject areas (eg, QARM). Further, overall operational controls may have been weakened. Based on these conclusions, the following actions appear warranted:

- 1 The licensee should perform an immediate and in depth review to identify any case where a cancelled NODS is required as a "use" reference. In those cases, immediate corrective action should be taken.
- 2 The revision to the QARM should be given a high priority.
- 3 The licensee's audit and trending programs should be augmented on a temporary basis to focus on these changes to determine if they have impacted the safety of facility operation.

(2) Site QA Workload and Staff Qualifications

The site QA staff had been assigned new functions previously performed by the GO QA staff. These functions were:

- . Fuel vendor inspections
- . Inservice inspection program
- . In-line QA reviews for the GO projects organization (BRP projects)
- . Equipment environmental qualification (EEQ) program for BRP
- . Appendix R (safe shutdown) building for BRP
- . Core physics packages for BRP

The lead responsibility for the fuel vendor inspections had originally been reassigned to BRP. However, the lead was later transferred to the Palisades QA staff with BRP providing auditor support. The EEQ program and Appendix R building were primarily one time efforts.

The inspector interviewed site QA personnel and reviewed formal workload projections to determine if the site QA organization was qualified and adequately staffed to perform these newly assigned tasks.

a Inspection Results

The inspector made the following specific observations:

- 1 The workload projection did not include all categories of work performed by the QA organization. Non-projected categories included surveillance (approximately 9% of 1983 effort), training, corrective action closeout reviews, independent assessments, consulting, and other miscellaneous activities. For those categories that were projected, the projection for 1985 was based on actual manpower expended during the first 6 months of the year. It included neither the additional effort required to support the refueling outage scheduled for late 1985 nor any increase in workload due to the reorganization which was not fully reflected in the effort expended during the first six months of 1985. Site QA personnel felt that the 1985 workload for the projected categories would be approximately 10% higher than projected. No projections were available beyond 1985.

The projected categories required an increase of 10% of the total QA manpower available over that expended in 1984 in the same categories (adjusted for the anticipated 10% increase in the 1985 projection for these categories). An increase in the manpower requirements for the non-projected categories of training and consulting was also experienced during the first 6 months of 1985. The manpower to support the increase in the projected and non-projected categories was to come from a decrease in the number of surveillances to be performed during 1985. The site QA staff felt that those surveillances performed would also contain less depth than those performed during 1984. Thus, it appeared that an increase of 10% of available manpower for projected categories plus an increase in non-projected categories plus added refueling outage effort was to be recovered by reducing (not eliminating) effort in a category utilizing only 9% of available manpower during 1984. This did not appear feasible to the inspector.

- 2 The inspector was satisfied that the QA staff was qualified to perform the newly assigned functions. However, extra time was required by the staff to familiarize themselves with the specific requirements in certain areas such as inservice inspection and fuel vendor audits. Also, one QA staff member (representing 25% of available staff hours) was still in training and currently qualified to perform only certain categories of work. This impacted the flexibility in assigning staff work and increased staff training time.

b Conclusions and Recommendations

Based on the observations noted above, the inspector concluded that workload projection for the site QA staff was inadequate in that historical data was used to project workloads in a changed situation and only a portion of the total workload was projected. Further, the uncertainties noted above notwithstanding, the site QA organization did appear to be understaffed, at least for the short term.

Based on these conclusions, the following recommendations are made:

- 1 A more meaningful workload projection for the site QA staff should be made. The projection should include all categories of effort and reflect the full impact of newly assigned functions. The projection should also extend beyond 1985.
- 2 The site QA staff should be temporarily supplemented at least until all current staff members are fully qualified, the 1985 refueling outage is complete, and the above projection is completed. Any permanent change in staff level should be based on the completed projection.

4. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, violations, or deviations. Unresolved items disclosed during this inspection are presented in Paragraphs 3.a.(1).a, 3.a.(1).b, and 3.b.(1).a.1.

5. 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. An open item disclosed during this inspection is presented in Paragraph 3.b.(1).a.2.

6. Exit Interviews

The inspector met with licensee representatives (denoted in Paragraph 1) on June 21, 1985 and July 12, 1985, and summarized the purpose, scope, and findings of the inspection. A final summary of the inspection findings was presented to the licensee via telecon on July 26, 1985. The licensee indicated that the inspector had no access to proprietary information during the inspection.