U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-155/83-06 (DRMSP)

Docket No. 50-155 License No. DPR-6

Licensee: Consumers Power Company
212 West Michigan Avenue
Jackson, MI 49201

Facility Name: Big Rock Point Nuclear Plant

Inspection At: Big Rock Point Site, Charlevoix, MI

Inspection Conducted: April 25-28, 1983

Inspector: P. C. Lovendale 5/23/83

Approved By: L. R. Greger, Chief 5/24/83
Facilities Radiation Protection
Section

Inspection Summary:

Inspection on April 25-28, 1983 (Report No. 50-155/83-06(DRMSP))
Areas Inspected: Routine, unannounced inspection of radiation protection program, including: qualifications; audits; training; radiation protection procedures; instruments and equipment; exposure control; posting, labeling, and control; surveys; notifications and reports; transportation activities; and review of open items. Also, the status of certain TMI Action Items were reviewed. The inspection involved 33 inspector-hours onsite by one NRC inspector.

Results: No items of noncompliance or deviations were identified.

DETAILS

1. Persons Contacted

*C. Axtell, Chemistry and Health Physics Superintendent
M. Dickson, General Health Physicist
*J. Epperson, General Health Physicist
*G. Fox, Chemistry and Radiation Protection Supervisor
*D. Hoffman, Plant Superintendent
*L. Monshor, Quality Assurance Superintendent
*J. Werner, Radiation Protection and Chemistry Supervisor
*G. Wright, NRC Senior Resident Inspector
M. Parker, NRC Resident Inspector

The inspector also contacted other licensee employees including chemistry and radiation protection technicians.

*Denotes those present at the exit meeting.

2. General

This inspection, which began at 8:00 AM on April 25, 1983, was conducted to examine the radiation protection program during normal operations. During facility tours, the inspector observed area postings, material labeling, access controls, and general plant cleanliness. No problems were noted. Also, the inspector used an NRC survey instrument (Xetex 305-B) and licensee survey instrument (Eberline RM-14 with HP-210 probe) to perform radiation and contamination surveys in selected areas of the plant. Measurements made were in agreement with posted surveys.

3. Licensee Actions on Previous Inspection Findings

(Closed) Open Item (155/81-11-07): Problems concerning radiation protection procedure coverage and adherence. The licensee has completed needed procedures for implementation of the corporate Radiation Safety Plan. No problems with procedure coverage or adherence were noted.

(Closed) Violation (155/82-04-01): Failure to post and control access to a high radiation area. The area of concern was properly posted immediately following the incident. A training session for all technicians was conducted to help ensure future compliance with high radiation area posting and control requirements. No further problems were noted.

(Closed) Violation (155/82-04-02): Failure to follow radiation protection procedures. Involved workers were re-instructed concerning the need to follow procedures. Also, new worker training programs are expected to improve performance in this area. No further problems were noted.

(Closed) Open Item (155/82-04-03): Implement a radiation work permit (RWP) program as described in the corporate Radiation Safety Plan. An RWP program which follows the guidance of the Radiation Safety Plan has been implemented. No problems were noted.

(Closed) Open Item (155/82-11-01): High efficiency particulate filter testing in accordance with Regulatory Guide 1.140. These filters are scheduled for testing during the upcoming refueling and maintenance outage (May 1983) and future testing will be conducted each refueling thereafter. No further problems were noted.

(Closed) Open Item (155/83-01-01): Implementation of a sampling program for the onsite sanitary sewerage system. A routine sampling program has been implemented. No further radioactivity has been identified in onsite sanitary sewerage system. No further problems were noted.

(Closed) Open Item (155/83-01-02): A review of actions taken in response to IE Bulletin No. 80-10 to ensure all potential release pathways have been identified. The inspector reviewed documentation of the licensee review of this matter. No problems were noted. No further release pathways were identified.

(Closed) Unresolved Item (155/83-01-03): Unavailability of a record of the colbalt shipment special form certification. The needed records were located by the licensee and reviewed by the inspector. No further problems were noted.

4. Organization and Qualifications

No significant personnel changes within the chemistry and radiation protection group have occurred. Eleven of the thirteen chemistry and radiation protection technicians now appear to meet the education and experience requirements of ANSI N18.1-1971, "Selection and Training of Nuclear Power Plant Personnel". The most junior technician has about one year of experience. All of the technicians appear to meet the qualifications for "individuals qualified in radiation protection procedures".

No items of noncompliance or deviations were identified.

5. Licensee Audits

An audit of the radiation protection program conducted by the corporate QA group in September 1982 was reviewed. Findings included, among others, inadequate personal contamination monitoring and failure to adhere to the respirator fit test procedure. No problems with licensee corrective actions were noted and no similar problems were identified during this inspection.

No items of noncompliance or deviations were identified.

6. Training

The status of technician participation in the licensee's basic and advanced chemistry and health physics courses was reviewed. The basic course contains mostly theory and lasts for eleven weeks. All thirteen technicians have satisfactorily completed this course. The advanced course contains mostly operational health physics topics and is divided into six one-week sections. One technician has completed four sections, all remaining technicians have completed one section. In addition, all but three technicians have completed an onsite plant systems course.

An ALARA training course for supervisors is under development by the Nuclear Training Center. This course will be about five days in length and is expected to start in August 1983.

No items of noncompliance or deviations were identified.

7. Radiation Protection Procedures

The licensee has recently completed rewriting nearly all radiation protection administrative and working level procedures in order to implement the corporate Nuclear Operations Department, Radiation Safety Plan. The inspector reviewed the following health physics procedures to determine if they are consistent with 10 CFR 20, the Radiation Safety Plan, and good health physics practices.

RP-27, revision 5, Issuing and Recording Radiation Work Permits

RP-28, revision 2, Installation of Temporary Shielding

RP-29, revision 15, Radiological Surveys

RP-30, revision 1, Establishing Area Controls (Posting)

RP-31, revision 16, Personal Dosimetry

RP-33, revision 2, Post Monitoring Evaluation

RP-37, revision 10, Respiratory Protection Program

RP-38, revision 2, Policy for Whole Body Counting and Whole Body Count Evaluation

RP-40, revision 1, Respirator Fitting

RM-53, revision 10, Radioactive Materials Shipment

RP-103, revision 0, ALARA Pre-job Planning

RP-104, revision 0, ALARA Work Document Preparation and Review

RP-106, revision 0, ALARA Post Job Reviews

Procedure RP-37, Attachment 4, needs revision to include the latest changes to 10 CFR 20.103. Also, Form RP-37-1 needs revision to include the allowable protection factor for the Bio-Pak 60 SCBA. The needed changes were discussed during the exit meeting. No other problems were noted.

No items of noncompliance or deviations were identified.

8. Instruments and Equipment

Records of portable instrumentation calibrations performed from January 1982 to date were selectively reviewed. No problems with the frequencies or methods of calibration were noted.

No items of noncompliance or deviations were identified.

9. Exposure Control

a. External exposure

Records of whole body and extremity exposures received during the fourth quarter of 1982 and the first quarter of 1983 were reviewed. No exposures in excess of 10 CFR 20.101 or licensee administrative limits were noted. The maximum whole body exposures for the fourth quarter of 1982 and first quarter of 1983 were 666 mrems and 375 mrems respectively. The maximum whole body exposure for 1982 was 4.32 rems. The total whole body dose for 1982 as reported in accordance with 10 CFR 20.407 was 328 person-rems; about the same as 1981. No problems were noted.

b. Internal Exposure

The licensee's program for control of internal exposures includes reduction of surface contamination levels and use of engineering controls, protective clothing and equipment, survey information, and stay time calculations. Whole body counting is used to supplement the routine monitoring program to ensure its effectiveness.

Whole body counting data, respiratory protection training records, MPC-hour determinations, and air activity surveys for January 1982 to date were reviewed. During this period, about 600 whole body counts were performed. No exposures greater than the 40 MPC-hour control measure were indicated.

c. ALARA

The inspector discussed recent ALARA program accomplishments with the cognizant health physicist.

Much attention has been given to reducing the person-rem estimates for the upcoming 10-year inservice inspection (ISI).

The original exposure estimate was 288 person-rems for 670 inspections. After recalculating the number of inspections needed and swapping inspections in high radiation fields for inspections in lower radiation fields, the total estimated exposure was reduced to 63 person-rems for about 200 inspections. This reduced estimate includes eliminating inspection of a feed valve. The exposure estimate for inspecting this single valve is 48 person-rems. The licensee has contacted NRR and requested relief from inspecting this valve. Although that relief has not been approved, the inspection has been deferred until a future outage.

As a continuing effort to further reduce total exposure at the plant, the licensee has recently implemented an ALARA problem reporting system. This program was established to solicit dose saving suggestions from workers. Workers who have a suggestion for reducing exposure are encouraged to submit their suggestion to the ALARA coordinator by using the ALARA Problem Report form. The ALARA coordinator reviews the suggestions and takes appropriate actions including feedback to the originating worker. Suggestions which save significant dose may be considered for monetary rewards.

No items of noncompliance or deviations were identified.

10. Posting, Labeling, and Control

During facility tours, the inspector observed area postings, material labeling, and access controls. No significant problems were noted.

The licensee has recently implemented a new radiation work permit (RWP) program (Section 3). The new program eliminates the RWP-exempt status previously afforded certain workers. An RWP is required for work entries into radiation areas and all entries into contaminated or high radiation areas. Implementation of the RWP program was reviewed. Protective clothing, dosimetry, and radiation protection coverage requirements listed on posted RWPs appeared consistent with procedural requirements.

No items of noncompliance or deviations were identified.

11. Notification and Reports

The inspector selectively reviewed licensee reports submitted in accordance with 10 CFR 20.407, 10 CFR 20.408, and Technical Specification 6.9.1.b (occupational exposure); 10 CFR 20.409 and 10 CFR 19.13 (reports to individuals); and 10 CFR 50.72 (unusual events). No problems were noted.

No items of noncompliance or deviations were identified.

12. Surveys

The inspector selectively reviewed radiation, contamination, and airborne radioactivity surveys conducted to meet surveillance requirements and determine radiation work permit requirements. No problems were noted.

No items of noncompliance or deviations were identified.

13. TMI Action Plan Items II.B.3, II.F.1.1, II.F.1.2, II.F.1.3

The inspector reviewed the status of TMI Action Plan Items II.B.2, II.B.3, II.F.1.1, and II.F.1.2. On March 14, 1983, the Division of Licensing, NRR, issued an order which specifies completion dates for two of these TMI Action Plan items. The completion dates are based on licensee submitals. The order requires completion of Items II.F.1.1 and II.F.1.2 (noble gas effluent monitor and sampling and analysis of plant effluents) by December 31, 1983. The licensee does not anticipate any further delays in completing these two TMI Action Plan Items.

By letter dated March 31, 1981, the licensee submitted a Probabilistic Risk Assessment (PRA) for the plant to the NRC. Also, the licensee requested that implementation of TMI Action Plan Items II.B.2 and II.B.3, among others, be deferred until completion of the NRC's review of the PRA. By letter dated August 12, 1981, the NRC approved the requested deferral. The NRC's review of the PRA is presently scheduled for completion in 1983. The status of these items will be reviewed during a future inspection.

14. Transportation Activities

The inspector reviewed selected aspects of the licensee's program for receipt, packaging, and transport of radioactive materials. Procedure RM-53, "Radioactive Material Shipments" was found to be consistent with the requirements of 49 CFR 170-189, 10 CFR 71, and current burial site criteria. No problems were noted.

Records of NRC certified cask maintenance were reviewed. Most cask periodic maintenance required by the NRC "Certificate of Compliance", is performed by the cask vendor. Records of this maintenance are maintained by the licensee. No problems were noted.

No items of noncompliance or deviations were identified.

15. Exit Meeting

The inspector met with licensee representatives (denoted in Section 1) at the conclusion of the inspection on April 28, 1983. The inspector summarized the scope and findings of the inspection. The inspector stated that the radiation protection program appears to have improved significantly and encouraged continued management support of the program. In response to concerns expressed by the inspector, the licensee stated that Procedure RP-37 would be revised as needed (Section 7).