September 12, 2003

Mr. Kurt M. Haas
General Manager
Big Rock Point Nuclear Plant
Consumers Energy Company
10269 US 31 North
Charlevoix, MI 49720

SUBJECT: BIG ROCK POINT INSPECTION REPORT 05000155/2003-004(DNMS)

Dear Mr. Haas:

On August 16, 2003, the NRC completed an inspection at the Big Rock Point Nuclear Plant. The purpose of the inspection was to determine whether decommissioning activities were conducted safely and in accordance with NRC requirements. Specifically, the inspectors evaluated decommissioning support activities and radiological safety. At the conclusion of on-site inspections on August 16, 2003, the inspectors discussed the inspection findings with you and members of your staff.

This inspection consisted of an examination of decommissioning activities at the Big Rock Point Nuclear Plant as they relate to safety and compliance with the Commission's rules and regulations. Areas examined during the inspection are identified in the enclosed report. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities in progress, and interviews with personnel.

Based on the results of this inspection, the NRC did not identify any violations. The decommissioning activities reviewed were being conducted in accordance with applicable regulations and license conditions.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

We will gladly discuss any questions you may have regarding this inspection.

Sincerely,
/RA/
Christopher G. Miller, Chief
Decommissioning Branch

Docket No. 05000155
License No. DPR-6

Enclosure: Inspection Report 05000155/2003-004(DNMS)

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No.	05000155
License No.	DPR-06
Report No.	05000155/2003-004(DNMS)
Licensee:	Consumers Energy Company
Facility:	Big Rock Point Nuclear Plant
Location:	10269 U.S. 31 North Charlevoix, MI 49720
Dates:	July 14 - August 16, 2003
Inspector:	William Snell, Health Physics Manager Ed Kulzer, Radiation Protection Specialist
Approved by:	Christopher G. Miller, Chief Decommissioning Branch Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

Big Rock Point Restoration Project
NRC Inspection Report 05000155/2003-004(DNMS)

This routine decommissioning inspection involved review of the licensee's performance related to decommissioning support activities and radiological safety. During this inspection period, major activities included cleaning and draining the spent fuel pool and preparations for removal of the reactor vessel and steam drum.

Decommissioning Support Activities

- Management of the decommissioning organization and staffing levels were adequate to effectively implement the decommissioning process. (Section 1.1)

Radiological Safety

- Training and records for 14 new radiation and "junior" radiation protection technicians met program requirements. The technicians used appropriate techniques during radiological surveys. There were no concerns in this area. (Section 2.1)

- The licensee integrated As-Low-As-Reasonably-Achievable (ALARA) radiation protection practices into the work activities associated with the lifting of the reactor vessel for placement into the shipping cask. (Section 2.2)

- The final radiological survey packages for the Lawn and Tool Building, the Butler Building, and the Source Check Building were very thorough, well organized, and complete. The inspectors identified no concerns with the demolition of these buildings. (Section 2.3)

- No concerns were identified regarding the information provided in the "Big Rock Point Radioactive Environmental Report, January 1, 2002 - December 31, 2002" and the "Big Rock Point Annual Radiological Effluent Release Report, January 1, 2002 - December 31, 2002." (Section 2.4)

- The "Waste Disposition Interim Action" document issued by the licensee provided guidance for adequate management oversight to prevent radioactive waste from being mixed into the non-radioactive waste streams leaving the site. (Section 2.5)

- The licensee complied with regulatory requirements while releasing batch quantities of water from the site. (Section 2.6)

Report Details[1]

1.0 Decommissioning Support Activities

1.1 Organization, Management and Cost Controls (36801)

a. Inspection Scope

The inspectors evaluated the licensee's decommissioning organization and staffing to determine whether adjustments were made to accommodate changes in the status of decommissioning activities.

b. Observations and Findings

Based on attendance at the licensee's daily management meetings where decommissioning issues such as project status, performance indicators, schedules, condition reports, radiation protection, the As-Low-As-Reasonably-Achievable (ALARA) program, safety, changing conditions at the facility, and accident trends were discussed, the inspectors observed the management team effectively working together to implement the site's decommissioning program.

Although plant staffing had increased due to an increase in decommissioning activities, the additional personnel were being effectively integrated into the work activities. No degradation in work performance was noted based on the addition of new personnel.

c. Conclusions

Management of the decommissioning organization and staffing levels were adequate to effectively implement the decommissioning process.

2.0 Radiological Safety

2.1 Occupational Radiation Exposure (83750)

a. Inspection Scope

The inspectors reviewed training records and on-the-job training for 14 new radiation and "junior" radiation protection technicians.

b. Observations and Findings

Training requirements are contained in Big Rock Point Administrative Procedure 1.7, titled "Master Training Program." Specific training requirements for radiation protection are covered in Big Rock Point Program No. D19.0, titled, "Big Rock Point Radiation & Environmental Services Program."

[1]A list of acronyms used in the report is included at the end of the Report Details.

The licensee created a new position classification titled “junior radiation protection technician.” This new classification will require the same training as that required for the radiation protection technician except that it does not require confined space entry and respirator training.

The inspectors randomly selected and reviewed the training records of 3 of the 14 new technicians. Individual training records were consistent with the requirements in the “Master Training Program” and “Big Rock Point Radiation & Environmental Services Program.”

These new radiation and junior radiation technicians were observed conducting radiological field surveys during the surveying of the Maintenance Building scheduled for dismantlement and removal to another site.

c. Conclusions

Training and records for fourteen new radiation and “junior” radiation protection technicians met program requirements. The technicians used appropriate techniques during radiological surveys. There were no concerns in this area.

2.2 Occupational Radiation Exposure (83750)

a. Inspection Scope

The inspectors evaluated ALARA activities associated with the lifting of the reactor vessel for placement into its shipping cask.

b. Observations and Findings

The inspector attended pre-job briefings and observed licensee activities during initial efforts to lift the reactor vessel and move it into a shipping cask. Dose rate levels on the exterior of the vessel were as high as 50 rem per hour (rem/hr) on contact, while components in the vicinity of the vessel were as high as 2-3 rem/hr. These high dose rates became an issue when various obstructions prevented the vessel from being lifted more than 8 to 9 inches. This required numerous additional entries into the high dose areas to remove material manually or by cutting with an acetylene torch. Throughout this evolution the licensee was consistently conscious of personnel dose. Workers were rotated to minimize the dose to each worker, and the job briefings constantly emphasized the need to minimize stay times and to maintain an awareness of where the high dose areas were located. Health physics personnel effectively monitored work activities in progress, including monitoring workers’ electronic dosimetry at least every 15 minutes.

c. Conclusions

The licensee integrated ALARA radiation protection practices into the work activities associated with the lifting of the reactor vessel for placement into the shipping cask.

2.3 Inspection of Final Surveys at Permanently Shutdown Reactors (83801)

a. Inspection Scope

The inspectors reviewed the final radiological survey packages for three buildings to verify the documentation was adequate in scope and content to support the remediation and demolition of the buildings.

b. Observations and Findings

The inspectors reviewed the final radiological survey packages for three buildings; the Lawn and Tool Building (B-22), the Butler Building (B-21), and the Source Check Building (B-13). For each of these buildings the inspectors reviewed the Quality Review Form, the Information Package, and the Verification Surveys. The information provided in the survey closure packages was very thorough, well organized, and complete. The survey data indicated that the buildings had been adequately remediated and could be demolished and disposed of via the bulk monitoring program. No concerns were identified in the survey packages for these buildings.

c. Conclusions

The final radiological survey packages for the Lawn and Tool Building, the Butler Building, and the Source Check Building were very thorough, well organized, and complete. The inspectors identified no concerns with the demolition of these buildings.

2.4 Review of Annual Radioactive Environmental and Effluent Release Reports (84750)

a. Inspection Scope

The “Big Rock Point Radioactive Environmental Report, January 1, 2002 - December 31, 2002" and the “Big Rock Point Annual Radiological Effluent Release Report, January 1, 2002 - December 31, 2002" were reviewed. The review included evaluations of the summaries, interpretations, and statistical evaluations provided within the Environmental Report and the summary of the quantities of radioactive liquid and gaseous effluents and solid waste released provided within the Effluent Release Report.

b. Observations and Findings

The inspectors verified that the scope and content of the above two reports were consistent with the requirements of Sections 6.7.2 and 6.7.3 of the Big Rock Point Defueled Technical Specifications. The inspectors reviewed data in the reports and agreed with the licensee’s determination that the calendar year 2002 data was consistent with related data from previous years, and no unusual or anomalous data were identified.

c. Conclusions

No concerns were identified regarding the information provided in the “Big Rock Point Radioactive Environmental Report, January 1, 2002 - December 31, 2002" and the “Big Rock Point Annual Radiological Effluent Release Report, January 1, 2002 - December 31, 2002."

2.5 Solid Radioactive Waste Management and Transportation of Radioactive Materials (86750)

a. Inspection Scope

The inspectors reviewed the adequacy of a "Waste Disposition Interim Action" issued by the licensee.

b. Observations and Findings

The licensee issued a "Waste Disposition Interim Action" dated July 15, 2003, to ensure demolition debris would be dispositioned to the appropriate waste streams as identified in each work package. The action requires an approval signature from one of three individuals; the ALARA/Work Control Coordinator, the Bulk Material Field Supervisor, or the ALARA Superintendent as a means of ensuring adequate management oversight of the disposition of waste.

The above action was taken to prevent radioactive waste from being mixed into the non-radioactive waste streams leaving the site.

c. Conclusions

The "Waste Disposition Interim Action" issued by the licensee provided adequate management oversight to prevent radioactive waste from being mixed into the non-radioactive waste streams leaving the site.

2.6 Radwaste Treatment, and Environmental and Effluent Monitoring (84750)

a. Inspection Scope

The inspector verified that batch releases of water from Big Rock Point were in compliance with regulatory requirements.

b. Observations and Findings

To reduce the volume of water on site during the spent fuel clean-up work, the licensee conducted batch releases of water to the environment during May and June 2003. Prior to release, the water was analyzed as required by Procedure No. TV-05/RCP-7, "Analysis of Liquid Radioactive Batch," Revision 40. TV-05/RCP-7 ensures that the levels of radioactivity in the water meet the release limits specified in the Offsite Dose Calculation Manual, Volume 25, Section 2.2, "Liquid Effluents Concentration," Revision 23.

The inspector reviewed the adequacy of Procedure No. TV-05/RCP-7 and the analysis results for five batch releases. This included two releases from a tank in a sealand container that were approximately 2,000 gallons and 3,600 gallons, and three releases from the Condensate Storage Tank that were 13,900 gallons, 23,100 gallons and 24,000 gallons.

c. Conclusions

Batch releases of water from Big Rock Point were being made in compliance with regulatory requirements.

3.0 Exit Meetings

The inspectors presented preliminary inspection results to members of licensee management at the conclusion of onsite inspections on July 17, 2003, and August 16, 2003. The licensee acknowledged the findings presented. The licensee did not identify any documents or processes reviewed by the inspectors as proprietary.

PARTIAL LIST OF PERSONS CONTACTED

Licensee
K. Haas, Plant General Manager
K. Pallagi, Radiation Protection & Environmental Services Manager
W. Trubilowicz, Dry Fuel Storage Manager
G. Withrow, Engineering, Operations & Licensing Manager

INSPECTION PROCEDURES USED

IP 36801	Organization, Management and Cost Controls
IP 83750	Occupational Radiation Exposure
IP 83801	Inspection of Final Surveys at Permanently Shutdown Reactors
IP 84750	Review of Annual Radioactive Environmental and Effluent Release Reports
IP 86750	Solid Radioactive Waste Management and Transportation

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened	None
Closed	None
Discussed	None

LICENSEE DOCUMENTS REVIEWED

Licensee documents reviewed and utilized during the course of this inspection are specifically identified in the “Report Details” above.

LIST OF ACRONYMS USED

ALARA	As-Low-As-Reasonably-Achievable
BRP	Big Rock Point
DNMS	Division of Nuclear Materials Safety
NRC	Nuclear Regulatory Commission