

November 7, 2002

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 05000155/2002-005(DNMS)

Dear Mr. Haas:

On October 18, 2002, the NRC completed an inspection at the Big Rock Point Nuclear Plant Restoration Project. The focus of the inspection was on facilities management and control and radiological safety. The enclosed report presents the results of the inspection.

Overall, the decommissioning activities inspected were being adequately conducted. No violations of NRC requirements were identified.

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

Sincerely,

/RA/

Christopher G. Miller
Decommissioning Branch

Docket No. 05000155
License No. DPR-6

Enclosure: Inspection Report 05000155/2002-005(DNMS)

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No. 05000155
License No. DPR-06

Report No. 05000155/2002-005(DNMS)

Licensee: Consumers Energy Company

Facility: Big Rock Point Nuclear Plant

Location: 10269 U.S. 31 North
Charlevoix, MI 49720

Dates: September 10-October 18, 2002

Inspector: William Snell, Health Physics Manager

Approved by: Christopher G. Miller, Chief
Decommissioning Branch
Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

Big Rock Point Restoration Project NRC Inspection Report 05000155/2002-005(DNMS)

This routine decommissioning inspection covered facilities management and control and radiological safety. Overall, the decommissioning activities inspected were being adequately conducted.

Facilities Management and Control

- The training and recertification of Certified Fuel Handlers has been completed prior to the expected movement of fuel related to dry fuel storage activities. (Section 1.1)

Radiological Safety

- The licensee was effectively implementing an ALARA (As-Low-As-Reasonably-Achievable) program to maintain doses to workers as low as practicable. The ALARA initiatives associated with the pending dry cask fuel loading have been very thorough. The only aspect of the ALARA program identified as needing improvement was the documentation of the annual ALARA meeting via formal meeting minutes. (Section 2.1)

Report Details¹

1.0 Facilities Management and Control

1.1 Organization, Management & Cost Controls (36801)

a. Scope

The inspector verified that training for the certified fuel handlers was current prior to the movement of fuel for dry cask storage.

b. Observations and Findings

Inspection Report 05000155/2002-002(DNMS), dated May 3, 2002, stated that the Big Rock Point (BRP) training program for Certified Fuel Handlers was consistent with, and being implemented in accordance with, requirements identified in the BRP Restoration Project Defueled Technical Specifications. It also stated that sufficient personnel were trained as Certified Fuel Handlers to effectively carry out fuel loading operations then planned for 2002. However, the report also stated that if fuel loading activities occurred beyond the October through November 2002 time frame, procedures D25.1, "Certified Fuel Handler Initial Certification Program" and D25.2, "Certified Fuel Handler, Recertification Program," would have to be reissued and re-qualification training conducted.

As a result of delays in the Dry Cask Program, fuel loading was not expected to begin before November 2002, and will continue into 2003. The inspector reviewed the status of the D25.1 and D25.2 programs and determined that the programs were reviewed by the licensee and reissued on May 1, 2002. In addition, all Certified Fuel Handlers assigned to Dry Fuel Storage have been recertified.

c. Conclusions

The training and recertification of Certified Fuel Handlers was completed prior to the expected movement of fuel related to dry fuel storage activities.

2.0 Radiological Safety

2.1 Occupational Radiation Exposure (83750)

a. Scope

The inspector reviewed the licensee's program to maintain exposures ALARA.

b. Observations and Findings

To ensure worker doses would be maintained ALARA during fuel handling and cask movement activities, the inspector reviewed the following documents:

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

1. DFS-CASK-2 , *W150 Dose Checks and Cask Closure*, Rev 0,
2. DFS-ISFSI-2, *Perform Final Dose Rate Survey, Technical Specification 5.3.5*, Rev 0,
3. DFS-REM-2, *Remove W100/W74 from Spent Fuel Pool (SFP) to Room 444*, Rev 0,
4. DFS-REM-3, *Perform RP Checks, Decontamination and Annular Seal Removal*, Rev 1,
5. DFS-LOAD-1, *Load and Verify Lower Basket*, Rev 0,
6. DFS-LOAD-3, *Load and Verify Upper Basket*, Rev 0,
7. RP-27-4, ALARA Review Number 176, RWP Number 2002-3059, 10/8/02.

The inspectors reviewed these procedures to verify that: the potential for changes in the radiological dose rates during cask loading activities were adequately anticipated; worker doses were minimized to the extent practicable; and actions were specified in the event dose rates exceeded expectations. The procedures contained provisions for conducting appropriate surveys throughout the cask loading process. Expected dose rates were provided in the procedures. Specified action levels and hold points were provided in the procedures. The procedures were adequate to ensure worker doses would be maintained ALARA during fuel handling and cask movement activities.

The inspector reviewed the licensee's ALARA initiatives for several work activities, which included a review of selected documents and discussions with the Radiation Protection & Environmental Services (RP & ES) Manager. In particular, the ALARA activities related to the removal of mirror insulation from around the reactor vessel were reviewed including the following documents:

1. Radiation Work Permit No. B023043, *Remove and Prepare Reactor Vessel for Shipment - Recirc Pump Room*, 08/21/02;
2. *Individual Dose Control Plan*, undated BNFL Inc. ALARA document;
3. Memorandum, from Greg Garlock, BNFL to Ken Pallagi, Consumers Energy, June 11, 2002, regarding personnel exposure in 2002;
4. RP-27-7, *In-Progress ALARA Review*, ALARA Review No. 152 Rev. 1, RWP No. 2002-3043, 08/22/02; and
5. Radiation Work Permit (RWP) Entry Log printouts for RWP No. 2002-3043 for 01/01/2002 to 09/11/2002.

The mirror insulation removal work was reviewed because it was an activity in which the total worker dose for the job exceeded what was projected, while a significant amount of work still remained. The licensee halted the work and initiated an in-progress ALARA review. The ALARA review was very thorough, and the results indicated that the insulation could not be cut out and removed as quickly as expected due to inadequate

tools and equipment being used. This increased time to complete the work, and resulted in higher than expected worker doses. In response to those findings, the licensee not only initiated actions to address the inadequate tools, it also implemented other dose minimization efforts for the remaining mirror insulation work. The licensee also examined the overall ALARA planning process and the interface between Consumers Energy and its contractor. This was a very good effort resulting in improved staff awareness of the ALARA program, and it reinforced management's expectations for ALARA in lowering future doses through improved knowledge and planning.

The inspector discussed ALARA issues with the RP & ES Manager and ALARA Coordinator, and reviewed the following documents regarding the licensee's overall ALARA program:

1. Handout from ALARA Committee Meeting, 10/10/02;
2. Volume 1, Procedure D5.24, Rev No. 2, *ALARA Program*;
3. RP-27, Rev No. 42, *Issue and Control of Radiation Work Permits and Processing ALARA Reviews*; and
4. Consumers Energy Memorandum, From KEPallagi, RP & ES Manager to Self-Assessment File, *Radiation Protection 2000 Program Review*, 1/31/01.

The inspector determined that the licensee's ALARA program was being effectively implemented. The only weakness identified was in the documentation of ALARA Committee meetings. Procedure D5.24, ALARA Program, requires that all ALARA Committee meetings be documented by written minutes, and that the minutes be issued. Although the meetings were being held and were attended by the required personnel, the meeting handouts were being informally retained as the meeting minutes. The minutes were inadequate because the handouts failed to delineate specifically who attended the meetings and what decisions, if any, were made.

c. Conclusions

The licensee was effectively implementing their ALARA program to maintain doses to workers as low as practicable. ALARA initiatives associated with the pending dry cask fuel loading have been very thorough. The only aspect of the ALARA program identified as needing improvement was the documentation of the annual ALARA meeting via formal meeting minutes.

3.0 Exit Meeting

The inspectors presented initial inspection results to members of licensee management at the conclusion of the inspection on October 18, 2002. 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 & Cost Controls
IP 83750 Occupational Radiation Exposure

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LIST OF ACRONYMS USED

ALARA As-Low-As-Reasonably-Achievable
NRC Nuclear Regulatory Commission
RP Radiation Protection
RP & ES Radiation Protection & Environmental Services
RWP Radiation Work Permit
SFP Spent Fuel Pool

LICENSEE DOCUMENTS REVIEWED

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