

January 12, 2001

EA-00-286

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 50-155/2000007(DNMS)

Dear Mr. Haas:

On December 20, 2000, the NRC completed an inspection at your Big Rock Point Nuclear Plant Restoration Project which examined decommissioning activities. The areas examined during this inspection were facility management and control, decommissioning support activities, and radiological safety. The enclosed report presents the results of this inspection.

Overall, reactor decommissioning activities were being performed satisfactorily, and radiological safety was being effectively conducted. However, the inspection identified one violation of NRC requirements which is being treated as a Non-Cited Violation (NCV), consistent with Section VI.A of the Enforcement Policy. Despite the minimal direct safety significance, the violation is of concern to the NRC due to the willful nature of the actions of a non-licensee individual who made an unauthorized entry into a Radiation Controlled Area.

The NCV is described in the subject inspection report. If you contest the violation or the classification as an NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with copies to the Regional Administrator, Region III and the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

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K. Haas

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We will be pleased to discuss with you any questions you may have regarding this inspection.

Sincerely,

**/RA/**

Cynthia D. Pederson, Director  
Division of Nuclear Materials Safety

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

Enclosure: Inspection Report 50-155/2000007(DNMS)

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-155  
License No: DPR-06

Report No: 50-155/2000007(DNMS)

Licensee: Consumers Energy Company

Facility: Big Rock Point Nuclear Plant

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

Dates: December 19-December 20, 2000

Inspectors: William G. Snell, Health Physics Manager  
Gary Pirtle, Physical Security Inspector

Approved By: Bruce L. Jorgensen, Chief  
Decommissioning Branch  
Division of Nuclear Materials Safety

## EXECUTIVE SUMMARY

### Big Rock Point Restoration Project NRC Inspection Report 50-155/2000007(DNMS)

This routine decommissioning inspection covered facility management and control, decommissioning support activities, and radiological safety. Overall, major decommissioning activities continued to be properly monitored and controlled.

#### Facility Management and Control

- Effective December 1, 2000, Mr. Ken Pallagi was named as the new Radiation Protection & Environmental Services Manager. (Section 1.0)

#### Decommissioning Support Activities

- Revision 16 of the Security Suitability, Training, and Qualification Plan was submitted in accordance with 10 CFR 50.54(p), and no decrease in effectiveness was identified during a review by the NRC. (Section 2.0)

#### Radiological Safety

- One Non-Cited Violation was identified for an unauthorized entry into a Radiation Controlled Area (RCA). (Section 3.1)
- Shipping and transportation of radiological waste was effectively and safely conducted during FY2000. (Section 3.2)

## Report Details

### Summary of Plant Activities

Since the previous inspection the licensee completed the dismantlement of the poison tank and emergency condenser.

#### **1.0 Facility Management and Control**

##### Organization, Management, and Cost Controls (36801)

a. Inspection Scope

The inspector conducted reviews of ongoing plant activities, attended licensee meetings, and met with licensee management to assess overall facility management and controls.

b. Observations and Findings

Effective December 1, 2000, Mr. Ken Pallagi was named as the new Radiation Protection & Environmental Services (RP & ES) Manager at Big Rock Point. Mr. Pallagi had been with Consumers Energy since 1983, and had been the RP & ES Deputy Manager since November 1998. Mr. Pallagi also had previous experience as the site Radiation Protection Manager when Big Rock Point was an operational plant.

Based on site tours, attendance at daily management meetings, and discussions with various licensee staff and management personnel, overall management and control of the facility appeared to be adequate.

c. Conclusions

No concerns were identified in this area.

#### **2.0 Decommissioning Support Activities**

##### Physical Security Assessment (81700)

a. Inspection Scope

The inspector reviewed Revision 16 of the Security Suitability, Training, and Qualification Plan which was submitted by licensee letter, dated August 28, 2000, to verify that the changes did not decrease the effectiveness of the security training and qualification plan. The security plan was submitted in accordance with 10 CFR 50.54(p).

b. Observations and Findings

A review of the Security Suitability, Training, and Qualification Plan determined that a clarification was needed in reference to the time limit to demonstrate required physical

fitness. Critical task 5.5 in attachment 2 (job analysis sheet for vehicle escort officer) identified a three minute time limit to perform a single specific task. The time limit was intended to apply to completion of all physical fitness tasks. The Big Rock Point Security Supervisor was advised of the concern on January 2, 2001, and entered the issue into the licensee's corrective action program (Condition Report (CR) No. C-BRP-010002). The correct time limit for completing physical fitness testing will be included in the next revision to the Security Suitability, Training, and Qualification Plan.

c. Conclusions

The revision to the Security Suitability, Training, and Qualification Plan was submitted in accordance with 10 CFR 50.54(p), and no decrease in effectiveness was identified during a review by the NRC.

### **3.0 Radiological Safety**

#### **3.1 Unauthorized Entry Into a Radiation Controlled Area (83750)**

a. Inspection Scope

A detailed review was conducted regarding an unauthorized entry into a Radiation Controlled Area (RCA) by a non-licensee individual.

b. Observations and Findings

Early in calendar year 2000, Big Rock Point was approached by Florida International University (FIU) with a request to support a Department of Energy (DOE) sponsored reactor decommissioning research project. FIU had developed equipment under contract to DOE that was designed to remove external and internal radiological contamination from piping. Big Rock agreed to cooperate in "field testing" of this equipment by providing a work location and facilities at the plant site, as well as some contaminated piping. FIU set up operation at the Big Rock site in early May 2000. A large tent was erected for their use, surrounded by a security fence equipped with a locked entry.

In order to properly control activities relating to the FIU project, Big Rock prepared a Radiation Work Permit (RWP) for the project, as well as standard radiation worker training for all involved personnel. The RWP (B003038, Pipe Cleaning Project (FIU-DOE), Dated 05/03/00) specified that the job coverage radiation protection (RP) technician was to be notified prior to each radiologically controlled area (RCA) entry and that dedicated RP coverage was required for all FIU/DOE processing activities. The RCA was an area inside the tent, immediately surrounding the decontamination equipment. The RWP was placed in effect despite the fact that work was being done only on clean pipe - the first pipe with any contamination was processed on June 13. On June 14, the RCA boundaries were extended to encompass the entire tent with the entrance posted as an RCA. This was considered a preventive measure, to better control radiation workers and visitors/observers, and eliminate confusion over who was required to perform hand and foot frisks before exiting the tent.

On June 15, 2000, a university employee who was working at the Big Rock Point site as the FIU Project Manager, entered the RCA without notifying the job coverage RP technician. This occurred despite a reminder from another employee that RP accompaniment was required. At the time of this incident, the RCA was locked, requiring a key for entry, and no RP coverage was present in the area. This willful and unauthorized entry into the RCA was contrary to the provisions of RWP B003038. Compliance to RWP provisions is mandated by applicable radiation protection procedures, which are incorporated as license technical specification requirements. Thus, the willful, unauthorized RCA entry was a violation.

There were no actual or potential health and safety consequences. The individual entered the RCA to turn off equipment that was left running. The location where the individual went to accomplish this had been outside the RCA until two days before. The basis for moving the RCA boundary to include this location was to improve the control of people, not due to a change or anticipated change in radiological conditions. The radiological conditions present during the incident were such that the area radiation and contamination levels were indistinguishable from background levels. As the onsite FIU-DOE Project Manager, this individual knew there were no radiological safety issues regarding his entry.

This incident was identified by the licensee. The worker who reminded the individual that an accompaniment by an RPT was required, immediately informed an RPT of what had occurred, such that the RPT observed the individual while the individual was still in the RCA.

Following this incident, the licensee took prompt action, including an investigation that examined everything they had done to ensure they hadn't inadvertently created the potential for this to happen. They also interviewed all the other individuals involved and determined that everyone fully understood that an RPT was required to be present prior to entering the RCA. The licensee took reasonable actions in preparing for this project and working with the project personnel once it was started to conduct a safe operation. As a result of this incident, the individual was denied further access to the Big Rock Point site.

Although this violation was willful, it was brought to the NRC's attention by the licensee, it involved an isolated act by an individual who in his normal duties had not worked with radioactive materials, and it was addressed by appropriate remedial action. Therefore, this violation is being treated as a Non-Cited Violation, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 50-155/2000007-01(DNMS)). This violation was in the licensee's corrective action program as Condition Report C-BRP-00-0144.

c. Conclusions

One Non-Cited Violation was identified for an unauthorized entry in an RCA.

3.2 Solid Radwaste Management & Transportation (86750)

a. Inspection Scope

A discussion was held with the GTS Duratek Radwaste Project Manager, and review was conducted of the overall support provided by GTS Duratek in the management and shipment of radioactive materials for disposal.



b. Observations and Findings

GTS Duratek was contracted primarily to support the Big Rock Point decommissioning effort through the shipment of waste to the GTS facility in Tennessee for processing and to Barnwell, South Carolina for burial. Between January 1 and December 20, 2000, GTS shipments to Barnwell totaled 18,106 pounds of waste containing 2.21 curies (Ci) of activity ( $8.17\text{E}+5$  million becquerels (Mbq)). A total of 1,159,287 pounds of waste containing 5.33 Ci of activity ( $1.96\text{E}+5$  MBq) was shipped to GTS in Tennessee. GTS also oversaw and signed off on the shipment by the licensee of another 29,203 pounds of waste containing 5,420 Ci of activity ( $2.01\text{E}+8$  MBq) to Barnwell and 24,700 pounds of waste containing 38.4 Ci ( $1.46\text{E}+6$  MBq) to Allied Technical Group in Tennessee for processing and disposal. Including laundry and other miscellaneous shipments, this was accomplished via a total of 290 shipments, which included 30 casks.

During this same period only one incident of note that occurred involving a transportation shipment. In early April 2000, Barnwell notified Big Rock Point that a shipment had been received on which an orange panel containing the associated UN hazard class number was not visible as required. The licensee adequately addressed this issue which had been documented in CR C-BRP-00-0082.

c. Conclusions

No concerns were identified in this area.

#### **4.0 Exit Meeting**

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on December 20, 2000. On January 2, 2000, the site Security Supervisor was informed of a discrepancy found during an NRC review of Security Plan changes, and appropriate corrective action was initiated. 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

W. Trubilowicz, Cost, Scheduling & Purchasing Manager  
G. Withrow, Engineering, Operations & Licensing Manager  
M. Bourassa, Dry Fuel Storage Project Manager  
G. Petitjean, Licensing Supervisor  
K. Pallagi, RP & ES Manager

## **INSPECTION PROCEDURES USED**

IP 36801      Organization, Management & Cost Controls  
IP 81700      Physical Security Assessment  
IP 83750      Occupational Radiation Exposure  
IP 86750      Solid Radwaste Management and Transportation

## **ITEMS OPENED, CLOSED, AND DISCUSSED**

### Opened

NCV 50-155/2000007-01(DNMS) Unauthorized entry into an RCA.

### Closed

NCV 50-155/2000007-01(DNMS) Unauthorized entry into an RCA.

### Discussed

None

## **LIST OF ACRONYMS USED**

Ci              curies  
CR              Condition Report  
DOE            Department of Energy  
FIU              Florida International University  
MBq             million becquerels  
NCV             Non-Cited Violation  
NRC             Nuclear Regulatory Commission  
RCA             Radiation Controlled Area  
RP&ES         Radiation Protection & Environmental Services

## **LICENSEE DOCUMENTS REVIEWED**

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