

February 16, 2006

10 CFR 72.44(d)(3)

U.S. Nuclear Regulatory Commission  
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**DOCKETS 50-155 AND 72-043 - LICENSE DPR-6 - BIG ROCK POINT  
PLANT - INDEPENDENT SPENT FUEL STORAGE INSTALLATION -  
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**

In accordance with 10 CFR 72.44(d)(3) and Independent Spent Fuel Storage Installation (ISFSI) Certificate of Compliance 72-1026 conditions specified by 10 CFR 72.212, Consumers Energy Company is providing the attached Big Rock Point ISFSI Annual Radioactive Effluent Release Report for the period from January 1, 2005 through December 31, 2005.

If you require additional information, please contact Linda Castiglione at (231) 547-8365.



Kurt M. Haas  
Site General Manager

cc: Administrator, Region III, USNRC  
NRC Decommissioning Inspector - Big Rock Point  
NRC NMSS Project Manager

Attachment

JE17  
NMSS01

Attachment 1

Consumers Energy  
BIG ROCK POINT  
Docket Numbers 50-155 and 72-043

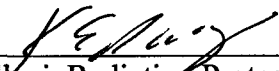
**INDEPENDENT SPENT FUEL STORAGE INSTALLATION  
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT  
January 1, 2005 through December 31, 2005**

February 16, 2006

5 Pages


**BIG ROCK POINT INDEPENDENT SPENT FUEL STORAGE INSTALLATION  
2005 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**

Report Prepared by:

  
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KEPallagi, Radiation Protection & Environmental  
Services Manager

2-8-06  
Date

Technical Review by:

  
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TAGoble, Environmental Services Superintendent

02-09-06  
Date

Administrative Review and Report Approval by:

  
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KMHaas, Site General Manager

2/15/2006  
Date

**BIG ROCK POINT INDEPENDENT SPENT FUEL STORAGE INSTALLATION  
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT  
January 1, 2005 through December 31, 2005**

**I. FACILITY DESCRIPTION**

The Independent Spent Fuel Storage Installation (ISFSI) is located within the Protected Area of the Big Rock Point (BRP) site. The storage of spent fuel at BRP meets the requirements Certificate of Compliance (No. 72-1026) issued by the NRC.

**II. EFFLUENT LIMITS AND CONTROLS**

This installation operates under effluent control limits as required by 10 CFR 72.44(d). However, the design of the sealed storage canisters at the ISFSI precludes any gaseous or liquid effluent releases. This report is submitted in compliance with ISFSI Certification of Compliance Section 1.2.4.3.4 and pursuant to 10 CFR 72.44(d)(3).

**III. RADIOLOGICAL EFFLUENT RELEASES**

As noted in Section II, by design, there are no radioactive liquid or gaseous effluents originating from the ISFSI facility. The annual radiological surveillance performed during this reporting period did not find any indication of radioactive releases occurring from the ISFSI.

**IV. ISFSI ENVIRONMENTAL MONITORING PROGRAM**

The Big Rock Point Radiological Environmental Monitoring Program (REMP) is described in the Off-Site Dose Calculation Manual (ODCM), Section I, Subsection 4.0. The ISFSI Environmental Monitoring Program which is contained within the Big Rock Point Radiological Environmental Monitoring Program (REMP), consists of thermoluminescent dosimeters (TLDs) at four locations along the perimeter of the ISFSI site and three control TLDs 10.5 to 50 miles from the site. These TLDs are read both annually and quarterly. The results for the ISFSI and control TLDs measured in 2005 are summarized in the following table.

V. ISFSI ENVIROMENTAL MEASUREMENTS

**Table 1. Big Rock Point ISFSI Environmental TLD Results (mR)**  
January 1, 2005 - December 31, 2005

| <b>TLD<br/>No. / Location</b> | <b>1<sup>st</sup><br/>Quarter</b> | <b>2<sup>nd</sup><br/>Quarter</b> | <b>3<sup>rd</sup><br/>Quarter</b> | <b>4<sup>th</sup><br/>Quarter</b> | <b>Annual</b>           |
|-------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------|
| BRP-18 - 137 m NW<br>of ISFSI | 10.7 ± 0.5                        | 10.1 ± 0.6                        | 10.0 ± 0.5                        | 10.8 ± 0.6                        | 37.7 ± 1.1              |
| BRP-19 - 137 m SW<br>of ISFSI | 11.9 ± 0.6                        | 13.1 ± 0.6                        | 13.5 ± 0.6                        | 13.6 ± 0.6                        | 44.5 ± 1.6              |
| BRP-20 - 137 m SE<br>of ISFSI | 12.3 ± 0.6                        | 12.4 ± 0.5                        | 15.0 ± 0.8                        | 13.0 ± 0.5                        | 45.9 ± 0.9              |
| BRP-21 - 137 m NE<br>of ISFSI | 10.7 ± 0.6                        | 10.2 ± 0.4                        | 10.6 ± 0.7                        | 10.9 ± 0.4                        | 34.3 ± 1.1              |
| Control                       | 12.5 ± 1.6                        | 11.5 ± 1.4                        | 13.6 ± 1.6 <sup>1</sup>           | 15.3 ± 4.5                        | 42.7 ± 4.7 <sup>1</sup> |

<sup>1</sup> Mean of two control locations located 10.5 miles east and 12 miles southeast of the BRP site.

VI. CONCLUSIONS

Based on the above measurements performed during the reporting period of January 1, 2005 and December 31, 2005, it is concluded that the dose from ISFSI operations does not exceed 25 mrem to the total body or any organ, except the thyroid, which shall be limited to less than or equal to 75 mrem to any real individual beyond the ISFSI controlled area (criteria of 10 CFR 72.104).

**BIG ROCK POINT INDEPENDENT SPENT FUEL STORAGE INSTALLATION  
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT  
January 1, 2005 through December 31, 2005**

Enclosure A: Sample Collection Anomalies

## Enclosure A

### Sample Collection Anomalies

| <u>Sample Type</u><br><u>Affected</u> | <u>Location</u>                          | <u>Date</u>                | <u>Problem Description</u>                                | <u>Evaluation</u>  |
|---------------------------------------|--|----------------------------|---|--|
| TLD-Quarterly                         | BRP-07 (TR),<br>Traverse City<br>Control | 3 <sup>rd</sup><br>Quarter | TLD was found<br>missing at end-of-<br>quarter collection | Control TLD data<br>from the remaining<br>three quarters for<br>this location was<br>consistent in value. Also<br>2005 data was reviewed<br>against previous year data for<br>this TLD location and also<br>found to be consistent. TLD<br>station relocated to prevent<br>future occurrence of missing<br>TLDs.   |
| TLD-Annual                            | BRP-07 (TR),<br>Traverse City<br>Control | 3 <sup>rd</sup><br>Quarter | TLD was found<br>missing at end-of-<br>quarter collection | TLD was replaced<br>at beginning of<br>fourth quarter. Data<br>from this replaced<br>was not included in evaluation<br>of the annual control TLDs<br>(see Table); however, review<br>of TLD results collected for<br>first and second quarters was<br>consistent with data from<br>remaining control TLD<br>locations. TLD station<br>relocated to prevent future<br>occurrence of missing TLDs. |