



Point Beach Nuclear Plant  
6610 Nuclear Rd., Two Rivers, WI 54241

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NPL 97-0587

10 CFR 50.54(f)

December 18, 1997

U.S. NUCLEAR REGULATORY COMMISSION  
Document Control Desk  
Mail Station P1-137  
Washington, DC 20555

Ladies/Gentlemen:

DOCKETS 50-266 AND 50-301  
SURVEILLANCE TESTING UPDATE TO RESPONSE TO NRC GENERIC LETTER 96-04  
BORAFLEX DEGRADATION IN SPENT FUEL POOL STORAGE RACKS  
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

This letter provides an update to Wisconsin Electric Power Company's initial response to Generic Letter 96-04, dated October 23, 1996. Wisconsin Electric's response referred to Boraflex surveillance testing conducted in September, 1996, and committed to "forward a summary of the results and actions taken if the results indicate significant Boraflex degradation or otherwise alter the conclusions contained in [the] response." This letter satisfies that commitment and adds one new commitment which is indicated in italics.

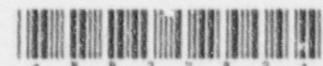
**Overview of the Boraflex Surveillance Program at Point Beach Nuclear Plant**

Boraflex panels were installed as part of the spent fuel pool re-racking modification at Point Beach Nuclear Plant in 1979-1980. The designer of the Boraflex poison plate assemblies was Wachter Associates, Inc. The original Boraflex surveillance program evaluated sample coupons that were subjected to accelerated exposures along with a full-length test panel. In 1989, the coupon analysis showed significant degradation while the full-length test panel was intact. A reevaluation of the Boraflex surveillance program was conducted in the 1989 to 1990 time frame.

In the NRC letter and safety evaluation dated February 21, 1990, addressing completion of TAC Nos. 65052 and 65063 (Point Beach Unit Nos. 1 and 2, Boraflex Surveillance Program), the current Boraflex surveillance program at Point Beach was established. Our surveillance program utilizes blackness testing (neutron attenuation measurements) to examine ten (10) full-length Boraflex panels selected from those that have been exposed to the greatest number of freshly discharged fuel assemblies at the time of the surveillance. This surveillance is completed at 5-year intervals. The surveillance program is designed to detect gap formation and other degradation to the Boraflex panels that could compromise the neutron attenuation ability and provides sufficient time to perform corrective actions.

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If significantly degraded Boraflex is found, the corrective action specified by the current surveillance program requires new fuel assemblies or spent fuel assemblies with a burnup less than 38,000 MWD/MT be stored in a designated area in the fuel storage pool in a checkerboard pattern.

The initial Boraflex blackness testing in accordance with this program was completed in August, 1991, and showed no measurable gap formation or significant Boraflex degradation. Eleven spent fuel pool cells and 42 Boraflex panels were tested.

The second round of Boraflex blackness testing was completed in September, 1996. Six spent fuel pool cells and 22 Boraflex panels were tested. The extra panels were tested to provide a larger sample of the more exposed panels. The extra testing was not based on need or previous test results.

#### **Summary Of September, 1996, Boraflex Blackness Testing**

Blackness testing of Point Beach spent fuel pool Boraflex panels was conducted on September 10, 1996. Calibration test runs showed that gaps of 1/2-inch width or larger could be detected in the Boraflex absorber material of the actual racks. The Boraflex blackness testing yielded the following results:

|                            |                |
|----------------------------|----------------|
| Number of panels tested:   | 22             |
| Number of gaps identified: | 0              |
| Gap sizes:                 | No gaps found. |
| Gap distribution:          | No gaps found. |

Inspections revealed that there were no detectable gaps as large as 1/2 inch in width. Although measurable shrinkage or gap formation was not detected by the tests, observations made on 2 panels associated with spent fuel cells N-40 and P-40 yielded data which made the test results potentially unreliable. The inspection trace for the south panel of cell N-40 failed and is not considered reliable, but there is no obvious indication of a gap. For cell P-40 the inspection trace for the south panel is unusual for about the bottom two feet of the cell. It is believed that this may reflect a temporary fault in the measuring equipment channel representing this side of the cell; although it could indicate the possible loss of some Boraflex. The loss of Boraflex is considered unlikely but cannot be verified by the inspection trace data.

#### **Proposed Actions to Support Boraflex Panel Retesting**

In order to resolve and disposition this potentially unreliable test data, and to confirm our conclusion that there are no measurable gaps in the south panels in cells N-40 and P-40, we will perform additional testing. We currently plan to perform the retesting of these panels during the summer of 1998, following the completion of our Unit 1 refueling outage and following the loading of additional spent fuel dry storage casks. As a conservative measure, we have administratively log controlled the future use of cells N-40 and P-40 until satisfactory completion of the retests or until additional engineering analysis are completed.

*Upon successful completion of retesting of the two panels in question, we will submit a summary of those results. If the results indicate significant Boraflex degradation, our summary will also identify corrective actions implemented.*

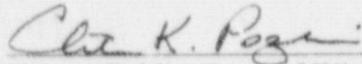
We believe this information is responsive to the commitment from Wisconsin Electric's initial response to Generic Letter 96-04. Please contact us if you require additional information.

Sincerely,



Douglas F. Johnson  
Manager,  
Regulatory Services & Licensing

Subscribed and sworn before me on  
this 18<sup>th</sup> day of December, 1997.



Notary Public, State of Wisconsin Christine K. Pozorski

My commission expires 8-30-98.

cc: NRC Resident Inspector  
NRC Regional Administrator  
Jeff Kitsembel, PSCW  
Ramtin Mahini, EPRI