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VPNPD-96-071

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10 CFR 50.54(f)

September 20, 1996

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US NUCLEAR REGULATORY COMMISSION
Mail Station P1-137
Washington, DC 20555-0001

Gentlemen:

DOCKETS 50-266 AND 50-301
SUPPLEMENT TO 30-DAY RESPONSE TO NRC BULLETIN 96-01
CONTROL ROD INSERTION PROBLEMS
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

In response to your September 4, 1996, letter to Mr. Vance Vanderburg, Chairman of the Westinghouse Owners Group (WOG) Analysis Subcommittee, we are submitting a supplement to the 30-day required response to NRC Bulletin 96-01: CONTROL ROD INSERTION PROBLEMS. This supplement revises our testing commitments for fuel with burnup below 30,000 MWD/MTU at Point Beach Nuclear Plant. The following paragraphs provide the history of the testing commitments, our original response and the basis for our supplemental response.

Requested Action 3 of the bulletin describes the testing requested from all licensees of Westinghouse-designed plants:

Measure and evaluate at each outage of sufficient duration during calendar year 1996 (end of cycle, maintenance, etc.), the control rod drop times and rod recoil data for all control rods. If appropriate plant conditions exist where the vessel head is removed, measure and evaluate drag forces for all rodged fuel assemblies.

- a. *Rods failing to meet the rod drop time in the technical specifications shall be deemed inoperable.*
- b. *Rods failing to bottom or exhibiting high drag forces shall require prompt corrective action in accordance with Appendix B to Part 50 of Title 10 of the Code of Federal Regulations (10 CFR 50).*

Letter VPNPD-96-019, dated April 3, 1996, contains our original 30-day required response to the bulletin. The response to Requested Action 3 states that:

For each 1996 outage of sufficient duration, we plan to measure and evaluate the BOC and EOC control rod drop times and rod recoil characteristics for all control rods. When the reactor vessel head is removed, we plan to measure and evaluate BOC drag forces for all rodged fuel assemblies. These tests are planned for the Unit 1 spring refueling outage (U1R24) and a similar testing regimen

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is planned for the Unit 2 fall refueling outage (U2R23). Within 30 days of completing the last test of each outage, we will report the outage test results to the NRC. As discussed previously, recent EOC rod drop tests for PBNP Unit 1 were acceptable.

In addition, we plan to conduct testing as a WOG test facility. Following completion of the present Unit 1 outage, Westinghouse will assist us in conducting End-of-Life control rod drag force testing on some of the highest burnup fuel assemblies in the Spent Fuel Pool.

In letter OG-96-069, dated August 22, 1996, the WOG requested relaxation of the testing requirements. The WOG proposed limiting the testing to fuel which has accumulated at least 40,000 MWD/MTU burnup for 12-foot assemblies. Your response to that request is the September 4, 1996, letter to Mr. Vanderburg which states:

With respect to the "Bulletin Relaxation Request," Attachment 1 of the August 22, 1996, letter, the staff did not find sufficient technical basis to support the request to eliminate testing on fuel with burnup below 40,000 MWD/MTU. While most of the rod insertion problems have been in high burnup fuel, there have been cases of anomalous behavior with fuel in the approximately 32,000 MWD/MTU range. If individual licensees wish to supplement their bulletin responses and request elimination of testing below 30,000 MWD/MTU, the staff will evaluate these cases depending on the availability of data on the particular fuel type.

Point Beach Nuclear Plant currently uses 12-foot, 14x14 Westinghouse Optimized Fuel Assemblies (OFA). The NRC staff has received significant data on this particular fuel type.

Our letter, VPNPD-96-033, to you dated May 22, 1996, provides control rod test data from the Point Beach Nuclear Plant Unit 1 spring 1996 refueling outage as requested by the bulletin. The EOC drop time for each control rod is less than the maximum limit of 2.2 seconds established in Technical Specifications and recoil is evident for all control rods. Drag force test results are within Westinghouse guidelines for all assemblies included in the next core reload. One fuel assembly (#BB-11) is close to the Westinghouse guideline for maximum drag force in the thimble tube region. Results of the BOC control rod drop test result for BB-11 is within limits and the assembly is therefore considered acceptable.

On May 4, a crew of Westinghouse technicians performed drag force tests in the Spent Fuel Pool (SFP) on five rodged fuel assemblies from U1C23. All five assemblies have burnup in excess of 42,000 MWD/MTU. Results are included with the BOC drag force test results reported in VPNPD-96-033. Dashpot drag forces are within Westinghouse guide-lines for all five assemblies, but the thimble tube drag forces exceed Westinghouse guide-lines in three of the five fuel assemblies (# Y-11, Z-11, and Z-12) tested. All five assemblies had complete EOC insertions with recoil. This result is consistent with the Westinghouse conclusion, presented to NRC on June 27, that both of the Westinghouse guidelines must be exceeded to produce the potential for incomplete insertion in Westinghouse 12-foot cores.

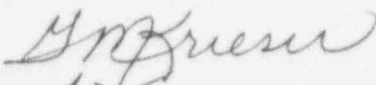
Westinghouse selected eight other high burnup assemblies from the Point Beach Nuclear Plant SFP for additional testing in support of their root cause determination. Results of these tests have been presented to NRC, most recently at the September 9 meeting on root cause determination. In addition to drop and drag testing required by the bulletin, these assemblies have been measured for axial growth and thimble tube probe tested to evaluate guide tube distortion. One observation from the Westinghouse root cause determination is that 14x14 and 15x15 assemblies appear to be less susceptible than 17x17 assemblies to incomplete insertion.

Point Beach Nuclear Plant data is also included in the WOG database of full and incomplete insertions reported to NRC in Figure 1 of OG-96-069. RCCA insertion data from six cycles of operation for each unit are included showing more than 400 complete insertions and zero incomplete insertions for 14x14 OFA assemblies at Point Beach Nuclear Plant. The conclusion of both the WOG and Westinghouse is that 12-foot Westinghouse fuel is not susceptible to incomplete insertion below a burnup of 40,000 MWD/MTU.

Based on the information provided above, we are revising our commitment to perform the drop and drag testing described in Requested Action (3) of NRC Bulletin 96-01 for fuel with burnup below 30,000 MWD/MTU at Point Beach Nuclear Plant. We presently do not plan to perform drop or drag testing for Point Beach Nuclear Plant Unit 2 assemblies below 30,000 MWD/MTU. Point Beach Nuclear Plant Unit 2 fall 1996 refueling outage is currently scheduled to begin on October 5, 1996.

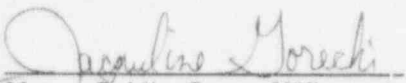
Please contact us if there are any questions or concerns.

Sincerely,



Bob Link
Vice President
Nuclear Power

Subscribed and sworn to before me
on this 20th day of September, 1996.



Notary Public, State of Wisconsin

My commission expires 10/27/96.

RJK

Attachment

cc: NRC Regional Administrator
NRC Resident Inspector
Public Service Commission of Wisconsin
Public Service Commission of Wisconsin (Attn: Paul Kitzenbel)