

RS-12-034

February 27, 2012

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-001Quad Cities Nuclear Power Station, Unit 2
Renewed Facility Operating License No. DPR-30
NRC Docket No. 50-265

Subject: Introduction of Lead Test Assemblies

- References:
1. Topical Report CENPD-287-P-A, "Fuel Assembly Mechanical Design Methodology for Boiling Water Reactors"
 2. Topical Report WCAP-15942-P-A, "Fuel Assembly Mechanical Design Methodology for Boiling Water Reactors Supplement 1 to CENP-287"
 3. Topical Report WCAP-15942-P-A Supplement 1, Revision 0, "Material Changes for SVEA-96 Optima2 Fuel Assemblies"

The purpose of this letter is to notify the U.S. Nuclear Regulatory Commission of the use of Lead Test Assemblies (LTA) as stated in Reference 1. Westinghouse Electric Company LLC (Westinghouse) and Exelon Generation Company, LLC, have collaborated to introduce an advanced alloy channel material in the Quad Cities Nuclear Power Station, Unit 2 Cycle 22, scheduled to begin operation in April 2012. The advanced alloy material is a zirconium-based alloy, Low Tin ZIRLO™. Low Tin ZIRLO™ as a channel material is not specifically identified in the Westinghouse licensing topical report (Reference 2). Therefore, the use of these channels requires the application of the LTA provision of Reference 1 requiring the NRC to be notified on the first application of new fuel designs prior to loading into a reactor.

In accordance with Reference 1, the elements of an approved licensing process for LTA programs include the following:

- All new designs and design features will be evaluated with the methodology accepted by the NRC relative to the approved design bases;
- Significant new design features will be tested prior to full reload application;

- The NRC will be notified of the first application of new fuel designs prior to loading into a reactor. New fuel designs and design features will be provided to the NRC for information as supplements to this topical report; and
- Sufficient, post-irradiation surveillance program will be performed to confirm that the fuel, including fuel assemblies with new design features, are operating as expected.

Evaluation of the Low Tin ZIRLO™ channels was completed using the methodology accepted by the NRC, and the channels were demonstrated to meet the acceptance criteria for use. The use of the ZIRLO™ channel in place of the currently licensed Zircaloy-2 channel material will be limited to eight fuel assemblies. The features of the channel design were provided to the NRC in September 2010 in Reference 3 (ADAMS Accession No. ML102590064). Westinghouse plans a surveillance program on the LTAs to confirm that the fuel is operating as expected.

There are no regulatory commitments contained in this letter.

Should you have any questions concerning this letter, please contact Joseph A. Bauer at (630) 657-2804.

Respectfully,



David M. Gullott
Manager – Licensing
Exelon Generation Company, LLC

cc: NRC Regional Administrator, Region III
NRC Senior Resident Inspector – Quad Cities Nuclear Power Station
NRR Project Manager – Quad Cities Nuclear Power Station