

September 7, 2010

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

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Docket No. 50-305
License No. DPR-43

DOMINION ENERGY KEWAUNEE, INC.
KEWAUNEE POWER STATION
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING NRC
GENERIC LETTER 2004-02

The Nuclear Regulatory Commission (NRC) issued Generic Letter (GL) 2004-02, *Potential Impact of Debris Blockage on Emergency Recirculation during Design Basis Accidents at Pressurized-Water Reactors*, on September 13, 2004. This GL was issued to resolve NRC Generic Safety Issue (GSI) 191, *Assessment of Debris Accumulation on PWR Sump Performance*. GL 2004-02 requested that addressees perform an evaluation of the Emergency Core Cooling System (ECCS) and Containment Spray System (CSS) recirculation functions in light of the information provided in the letter and, if appropriate, take additional actions to ensure system functionality.

Dominion Energy Kewaunee (DEK) responded to GL 2004-02 for Kewaunee Power Station (KPS) by letters dated March 7, 2005, July 6, 2005, September 1, 2005, February 29, 2008, and May 21, 2008. By letter dated December 18, 2008, additional updates were provided following resolution of the topics of downstream effects and chemical effects.

On August 14, 2009, the NRC staff transmitted a request for additional information (RAI) (reference 1) regarding the response to GL 2004-02 for KPS. Following a telephone conference between DEK and NRC staff members on September 15, 2009, revised RAI Questions 5, 6, 7, and 12 (reference 2) were received from NRC on October 14, 2009.

Several teleconferences were held between DEK and NRC staff members between September 2009 and July 2010 to discuss DEK's proposed responses to the RAI questions. On May 20, 2010, DEK verbally informed NRC staff of our intent to remove certain fibrous materials from the containment building in order to limit the quantity of fiber generated by a loss of coolant accident and prevent a filtering bed of fiber from forming on the containment recirculation strainer.

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Attachments:

1. Holistic Overview of GSI-191 Resolution for Kewaunee Power Station
2. Summary of Planned Changes and Implementation Schedule
3. Response to Request for Additional Information: Generic Letter 2004-02
4. List of Enclosures

References:

1. Letter from Peter S. Tam (NRC) to David A. Heacock (DEK), "Kewaunee Power Station - Request for Additional Information Regarding Response to Generic Letter 2004-02 (TAC No. MC4691)," dated August 14, 2009.
2. Email from Peter S. Tam (NRC) to Jack Gadzala, Thomas Breene and Craig Sly (DEK), "Kewaunee - Revised Questions 5, 6, 7, and 12 of the 8/14/09 RAI (TAC MC4691)," dated October 14, 2009.

Commitments made in this letter:

1. The following fibrous insulation on equipment/piping in the RCS Loop Vaults will be removed and replaced:
 - a. Fibrous insulation (TempMat) on the pressurizer surge line pipe whip restraints will be removed and replaced with a non-fibrous material.
 - b. Fibrous insulation on the Service Water piping that passes through the top of the "B" reactor coolant pump vault will be removed.
2. The JM Thermobestos insulation (calcium silicate insulation with asbestos fibers) in the "A" steam generator vault will be secured with stainless steel banding, similar to that performed in the "B" steam generator vault (opposite train) to enable use of a Zone of Influence (ZOI) size equal to 5.45D.
3. The remaining fibrous material in containment will be assumed to be Fines and subject to transport to the recirculation strainer.
4. The containment refueling cavity drain standpipe will be modified to remove the 1 inch x 1 inch grid/grating recessed into the top of the standpipe to eliminate the potential for debris to be captured on the drain opening.
5. The calculation of the minimum containment sump level at the start of recirculation will be revised to identify a postulated break at the top of the Pressurizer as a non-limiting case for evaluating the recirculation system performance, or that scenario will be removed from the calculation.

6. The allowable quantity of latent debris (dirt, dust) in containment will be limited to 51 lbm to prevent formation of a filtering bed of fiber on the recirculation strainer when combined with the remaining fiber in containment.
7. A thin bed of fiber on the recirculation strainer will be defined as greater than or equal to 1/16 inch thickness.
8. The Dominion fleet latent debris sampling and evaluation procedure will be revised prior to the next refueling outage to require a sampling frequency of every other refueling outage for low-fiber plants that are dependent upon plant cleanliness to prevent formation of a filtering bed of fiber on the recirculation strainer. The procedure will specify the sampling frequency may be relaxed after several consecutive sample results (outages) that identify minimal or no increasing volume of measured latent debris and ample latent debris inventory margin.
9. An updated response will be submitted within 90 days of issuance of the final SE on WCAP-16793-NP regarding in-vessel downstream effects.
10. Following implementation of these changes, the Kewaunee Updated Safety Analysis Report will be updated to reflect the revised recirculation system design basis, including the maximum allowable fibrous debris in containment.
11. Unless specified otherwise, all changes discussed above will be completed no later than two refueling outages following the current operating cycle's refueling outage.

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