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January 18, 2006

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

Serial No. 05-907
KPS/LIC/RR: R1
Docket No. 50-305
License No. DPR-43

**DOMINION ENERGY KEWAUNEE, INC.**
**KEWAUNEE POWER STATION**
**REPLY TO A NOTICE OF VIOLATION (EA-05-176)**
**NRC INSPECTION REPORT 05000305/2005018**

By letter dated December 21, 2005 (Reference 1), the Nuclear Regulatory Commission (NRC) provided the final significance determination and a notice of violation associated with a finding regarding the potential for turbine building flooding at Kewaunee Power Station (Kewaunee). The finding involved a failure to provide adequate design control to ensure that the safety-related function of certain Class I systems and components would be protected from serious flooding or excessive steam releases as a result of potential failures of non-Class I systems in the turbine building.

On November 8, 2005, Dominion Energy Kewaunee (DEK) had an opportunity to discuss this finding with the NRC at a regulatory conference. During the regulatory conference DEK presented an overview of the finding, corrective actions implemented to address the finding, and the methodology and results of our risk assessment of the finding.

By letter dated November 14, 2005 (Reference 2), DEK provided NRC with an update to the improvement initiatives that were developed to correct this finding and improve the overall performance of Kewaunee. DEK remains committed to implementing these improvement initiatives. The attachment to this letter provides a written response to the notice of violation, as required.

If you have questions or require additional information, please feel free to contact Mr. Thomas Breene at 920-388-8599.

Very truly yours,

David A. Christian
Sr. Vice President-Nuclear and
Chief Nuclear Officer, Dominion Generation

References:

1. Letter from J. L. Caldwell (NRC) to D. A. Christian (Dominion), dated December 21, 2005, Final Significance Determination for a yellow Finding and Notice of Violation (NRC Inspection Report 05000305/2005018); Kewaunee Power Station (ADAMS Accession No. ML053570014).

2. Letter from W. R. Matthews (DEK) to NRC, dated November 14, 2005, Kewaunee Power Station Update on Improvement Initiatives (ADAMS Accession No. ML053190099).

Attachment:

1. Reply to a Notice of Violation (EA-05-176), NRC Inspection Report 05000305/2005018.

Commitments made by this letter: None.

cc : Regional Administrator
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Mr. S. C. Burton
NRC Senior Resident Inspector
Kewaunee Power Station

**Attachment 1**

**Serial No. 05-907**

**Reply to a Notice of Violation (EA-05-176)**
**NRC Inspection Report 05000305/2005018**

**Dominion Energy Kewaunee, Inc.**
**Kewaunee Power Station**

# Reply to a Notice of Violation
# NRC Inspection Report 05000305/2005018

## Statement of Violation (Reference 1):

"During the NRC inspection conducted from April 15 through September 6, 2005 a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

> Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that measures be established to assure that the design basis for safety-related functions of structures, systems, and components are correctly translated into specifications, drawings, procedures, and instructions. Further, Criterion III requires that the design control measures shall provide for verifying or checking the adequacy of designs.
>
> Kewaunee Updated Safety Analysis Report, Section B.5, states, in part, that Class 1 structures, systems, or components are to be protected against damage from the rupture of a pipe or tank resulting in serious flooding or excessive steam release to the extent that the Class 1 function is impaired.
>
> Contrary to the above, as of June 2005, the licensee failed to implement design control measures to ensure that the design basis for safety-related functions of some Class 1 systems and components were correctly translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to ensure that the safety-related function of the auxiliary feedwater pumps, the 480 volt safeguards buses, the safe shutdown panel, the emergency diesel generators, and the 4160 volt safeguards buses, each Class 1 systems or components, would be protected from serious flooding or excessive steam releases as a result of random or seismically induced failures of non-Class 1 systems in the turbine building.

This violation is associated with a Yellow Significance Determination Process finding."

**Response to Violation:**

1. **The reason for the violation, or, if contested the basis for disputing the violation or severity level.**

   Dominion Energy Kewaunee (DEK) does not contest the violation. A root cause evaluation (RCE) was conducted to determine the specific causes, extent of condition, and appropriate corrective actions for this finding. A summary of the RCE conclusions is as follows:

   a) Design basis documentation regarding flooding, HELB, seismic, and tornado protection lacked detail and was difficult to retrieve. This has made it difficult for the plant staff to identify the actual internal flooding design basis requirements and determine what actions were required to maintain compliance with them.

   b) Some processes related to maintaining the design basis were weak and were inconsistent with industry standards.

   c) The plant staff lacked a thorough knowledge of the design basis and fully effective processes for determining the significance of problems and prioritizing their resolution.

   d) The plant staff evaluation and resolution of identified and potential problems lacked rigor.

   e) The PRA submitted for Kewaunee's IPE was flawed with respect to flooding risk.

2. **The corrective steps that have been taken and the results achieved.**

   On February 19, 2005, Kewaunee entered a forced outage. On March 18, 2005 a letter was submitted to the NRC (Reference 2) describing Kewaunee improvement initiatives. This letter included actions to be completed prior to re-start that would ensure safety-related equipment was adequately protected from the potential effects of internal flooding. The letter also described longer-term actions designed to prevent recurrence of similar problems in the future. During the forced outage, the re-start corrective actions were completed and the affected safety-related equipment was determined to be operable. These corrective actions included:

   a) Compilation of the design and licensing basis for internal flooding to support current and future flooding design.

   b) Seismic qualification of selected piping and components.

   c) Design modifications to protect Class I plant systems and components as defined in the Kewaunee USAR, including:

- Installation of flood barriers at the doors to rooms containing auxiliary feedwater pumps, 480 volt safeguard busses, the safe shutdown panel, emergency diesel generators 1A and 1B, and 4160 volt safeguard busses 1-5 and 1-6.
- Installation of check valves in selected floor drain lines connecting the turbine building and rooms containing Class 1 equipment.
- Installation of circuitry which trips the circulating water pumps on high water level in the turbine building basement.
- Rerouting of Auxiliary feedwater (AFW) pump lubricating oil cooler drain lines to the turbine building to prevent flooding in the AFW pump rooms.

During a regulatory conference and management meeting on November 8, 2005, DEK provided the NRC staff with an overview of the activities that have been completed or are in progress to correct this finding and more generally improve performance at Kewaunee. A copy of the slides presented by DEK at this regulatory conference and the NRC meeting summary may be found in references 3 and 4, respectively.

In a letter dated November 14, 2005 (Reference 5), DEK provided the NRC with an update on the initiatives that were initially committed to on March 18, 2005 (Reference 2) and identified additional improvement actions intended to address underlying factors in the violation.

**3. The corrective steps that will be taken to avoid further violations.**

In a letter dated November 14, 2005 (Reference 5), DEK provided NRC with an update on the improvement initiatives that were initially provided on March 18, 2005 (Reference 2) and the identified completion dates for the corrective actions intended to avoid further violations.

**4. The date when full compliance will be achieved.**

Modifications to address flooding in the turbine building have been completed. Full compliance has been achieved. Kewaunee plans to submit a license amendment request to clarify the flooding design basis for the plant. This LAR is currently scheduled to be submitted in the first quarter of 2006 (Reference 5).

**References:**

1. Letter from J. L. Caldwell (NRC) to D. A. Christian (DEK), dated December 21, 2005, Final Significance Determination for a Yellow Finding and Notice of Violation (NRC Inspection Report 05000305/2005018); Kewaunee Power Station (ADAMS Accession No. ML053570014).

2. Letter from C. W. Lambert (Nuclear Management Company) to NRC, dated March 18, 2005, Kewaunee Improvement Initiatives – Commitments (ADAMS Accession No. ML050820213).

3. Kewaunee Management Meeting, Dominion Slides (ADAMS Accession No. ML053190340).

4. Regulatory Conference to Discuss a Preliminary Greater than Green Finding and Apparent Violation (NRC Inspection Report 50-305/2005-11) - Kewaunee Turbine Building Flooding Issue; Management Meeting to Discuss Kewaunee Improvement Initiatives (ADAMS Accession No. ML053210361).

5. Letter from W. R. Matthews (DEK) to NRC, dated November 14, 2005, Kewaunee Power Station Update on Improvement Initiatives (ADAMS Accession No. ML053190099).