



September 13, 2007

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

Serial No. 07-0572
KPS/LIC/RR: R9
Docket No. 50-305
License No. DPR-43

DOMINION ENERGY KEWAUNEE, INC.
KEWAUNEE POWER STATION
REPLY TO A NOTICE OF VIOLATION (VIO 05000305/2007003-01)
NRC INSPECTION REPORT 05000350/2007003

By letter dated August 14, 2007 (Reference 1), the Nuclear Regulatory Commission (NRC) identified a violation of NRC requirements during inspection activities conducted from April 1 through June 30, 2007.

The violation was cited as issuance of an operating procedure change to Procedure E-O-05, "Response to Natural Events" in May 2006, without an adequate safety evaluation for potential adverse consequences during a tornado. Specifically, the violation states that the 10 CFR 50.59 Screening, No. 06-35-00, performed on May 15, 2006, did not assess all aspects of a tornado strike, including potential fire, toxic gas, or radiological hazards nor did the screening assess the impact of these hazards on control room habitability when compensatory measures were adopted that disabled the system.

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,

A handwritten signature in black ink, appearing to read "L. Hartz".

Leslie N. Hartz
Site Vice President, Kewaunee Power Station

Reference:

1. Letter from Jamnes L. Cameron (NRC) to David A. Christian (Dominion), "Kewaunee Power Station – NRC Integrated Inspection Report 05000305/2007003 and Notice of Violation," dated August 14, 2007

Attachment:

1. Reply to a Notice of Violation (VIO 05000305/2007003-01), NRC Inspection Report 05000305/20070003.

Commitments made by this letter:

1. DEK will conduct a review of the 10 CFR 50.59 evaluation process to determine and correct any training or implementation weaknesses.

cc: Regional Administrator, Region III
U. S. Nuclear Regulatory Commission
2443 Warrenville Road
Suite 210
Lisle, Illinois 60532-4352

Director, Office of Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Enforcement/Investigations Officer, Region III
U. S. Nuclear Regulatory Commission
2443 Warrenville Road
Suite 210
Lisle, Illinois 60532-4352

NRC Senior Resident Inspector
Kewaunee Power Station

Serial No. 07-0572

Attachment 1

**REPLY TO A NOTICE OF VIOLATION (VIO 05000305/2007003-01)
NRC INSPECTION REPORT 05000350/2007003**

**KEWAUNEE POWER STATION
DOMINION ENERGY KEWAUNEE, INC.**

Reply to a Notice of Violation (VIO 05000305/2007003-01)
NRC Inspection Report 05000305/2007003

Notice of Violation (Reference 1)

"During an NRC inspection conducted from April 1 through June 30, 2007, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

Title 10 CFR 50.59(d)(1) requires, in part, that the licensee maintain records of changes in the facility, of changes in procedures, and of tests and experiments. These records must include a written evaluation which provides the bases for the determination that the change, test, or experiment does not require a license amendment.

Contrary to the above, the licensee issued an operating procedure change to Procedure E-O-05, "Response to Natural Events" in May 2006, without an adequate safety evaluation for potential adverse consequences during a tornado. Specifically, the licensee's 10 CFR 50.59 Screening, No. 06-035-00, performed on May 15, 2006, did not assess all aspects of a tornado strike, including potential fire, toxic gas, or radiological hazards; nor did the screening assess the impact of these hazards on control room habitability when compensatory measures were adopted that disabled the system.

This violation is associated with a Severity Level IV violation."

Response to Notice of 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 Notice of Violation. The 10 CFR 50.59 evaluation, documented in Screening 06-035-00, performed on May 15, 2006, did not document an assessment of all aspects of a tornado strike, including potential fire, toxic gas, or radiological hazards; nor did the screening document an assessment of the impact of these hazards on control room habitability when compensatory measures were adopted. At the time of the procedure change, the service water lines to the CRAC were not adequately protected from a tornado event. These compensatory measures would have allowed the isolation function of the control room boundary to be disabled in the event that a tornado rendered the service water supply lines to the Control Room Air Conditioning (CRAC) incapable of supplying cooling water to the CRAC. The compensatory measures were implemented to provide an alternate means of cooling the control room after the plant was placed in a safe shutdown condition, in the event that the service water lines to the CRAC were destroyed by a tornado.

Background

In May 2005, during a plant shutdown, KPS plant staff identified a nonconforming condition associated with Control Room Air Conditioning (CRAC). This nonconforming condition involved the vulnerability of the CRAC service water (SW) supply and return lines to an impact by tornado missiles. The KPS staff determined that an impact from tornado missiles was credible and could potentially render CRAC inoperable, which could cause the temperature in the control room to exceed equipment qualification limits. This vulnerability had existed since original plant startup. This nonconforming condition was entered into the corrective action process (CAP 027495) and an operability determination was completed on June 18, 2005 for the issue. The operability determination (OPR-106) concluded that the CRAC was operable based on the conclusion that adequate resources and time would be available to perform necessary recovery actions in the event that a tornado damaged the unprotected service water lines.

In May, 2006, during performance of a routine readiness review for a subsequent plant startup, KPS staff questioned the acceptability of restarting the plant with the SW lines supplying CRAC vulnerable to tornado missile impact. This condition was entered into the corrective action process as CAP 033788, which identified that the compensatory measures in OPR-106 did not contain sufficiently detailed actions for responding to the postulated event. Consequently, OPR-106 was revised and the KPS staff established detailed proceduralized compensatory measures in the event the unprotected SW supply and return piping was damaged by tornado missiles.

The KPS staff revised Procedure E-O-05, "Response to Natural Events," to establish compensatory measures requiring isolation of the SW supply lines to the CRAC chillers in the event they were damaged during a tornado strike. If tornado missile damage to the unprotected portions of the SW lines rendered them unsuitable for return to service, these compensatory measures would further require the plant to be shutdown. If restoration of the SW supply lines was protracted and control room temperatures approached limits, the control room and relay room doors were required to be opened, and portable non-safety related fans be placed in position to establish airflow for cooling the control room. The procedure change that established these compensatory measures (Revision T) was evaluated in accordance with the requirements of 10 CFR 50.59 on May 15, 2006 (Screening 06-35-00). This evaluation concluded that prior NRC approval for the compensatory measures was not required. The KPS Plant Operations Review Committee (PORC) reviewed these changes prior to plant startup.

During the fall 2006 refueling outage, DEK installed tornado missile shielding around the CRAC SW supply and return lines to ensure that the SW lines were protected from tornado missiles. Following this modification, Procedure E-O-05, was revised to remove the compensatory measures discussed above.

Assessment of Violation

The Notice of Violation stated the following:

...the licensee's 10CFR 50.59 Screening, No. 06-35-00, performed on May 15, 2006, did not assess all aspects of a tornado strike, including potential fire, toxic gas, or radiological hazards; nor did the screening assess the impact of these hazards on control room habitability when compensatory measures were adopted that disabled the system.

10 CFR 50.59 Screening No. 06-35-00 evaluated the compensatory measures promulgated in Revision T to Procedure E-O-05. The screening assessed the potential impact of the procedure revision upon functions described in the Kewaunee Power Station (KPS) current licensing basis under the conditions that would be present when the procedure would be implemented. Specifically, the screening assessed the implications of isolating service water to the CRAC chillers in the event of a tornado strike and potentially opening the KPS Control Room Exclusion Zone (CREZ) boundary after a reactor shutdown.

DEK concurs that, as stated in the inspection report, opening the control room doors would render the CREZ envelope and the Control Room Post-Accident Recirculation System ineffective. The CRAC, the CREZ, and the Control Room Post-Accident Recirculation System are specifically required by the KPS Updated Safety Analysis Report (USAR), Appendix B, to be able to withstand a tornado. USAR 7.7.1, "Control Room," states the following:

Adequate radiation protection shall be provided to permit continuous occupancy of the control room under any credible post-accident condition or as an alternative, access to other areas of the facility as necessary to shut down and maintain safe control of the facility without excessive radiation exposures of personnel.

Additional requirements applicable to this condition are contained in USAR 9.6.4, "Control Room Air Conditioning System," which states the following:

Alternate cooling mode (service water aligned directly to the air-handling unit cooling coils) will maintain the control room/relay room environment for equipment operation. The alternate cooling mode is the safety-related means of cooling.

The limiting condition for operation of the Control Room Post-Accident Recirculation System is contained in KPS Technical Specification (TS) 3.12, "Control Room Post-Accident Recirculation System." TS 3.12 requires that both trains of the Control Room Post-Accident Recirculation System be operable. If the system is inoperable, TS 3.12 requires that the reactor shall be shut down within 12 hours. The basis for TS 3.12 states the following:

The Control Room Post-Accident Recirculation System is designed to filter the Control Room atmosphere during Control Room isolation conditions. The Control Room Post-

Accident Recirculation System is designed to automatically start upon SIS [safety injection] or high radiation signal. If the system is found to be inoperable, there is no immediate threat to the Control Room and reactor operation may continue for a limited period of time while repairs are being made.

The scope of the procedure change implementing the compensatory actions that allowed disabling the Control Room Post-Accident Recirculation System was limited to plant modes where the system was not required to be operable. This limitation on plant modes was based on the requirements of TS 3.0, "Limiting Conditions for Operation," which specifies that "compliance with the limiting conditions for operation contained in the succeeding TSs is required during the operational modes or other conditions specified therein."

The 10 CFR 50.59 evaluation for the compensatory measures was premised on the required condition that the control room would only be opened under conditions where the plant had already been placed in a safe shutdown condition. Therefore, the integrity of the control room was judged as not affecting the ability to achieve safe shutdown of the facility.

Summary

The 10 CFR 50.59 evaluation did not document an assessment of all potential adverse consequences of a postulated tornado strike, including potential fire, toxic gas, or radiological hazards; nor did the evaluation document an assessment of the impact of these hazards on control room habitability. Following occurrence of the postulated tornado, a significant amount of time was determined to be available, during which the reactor would be shut down prior to implementation of the compensatory measures. Consequently, DEK staff judged that it was not necessary to include these additional potential adverse factors within the 10 CFR 50.59 evaluation documented in Screening No. 06-35-00.

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

Modifications to the Control Room Air Conditioning System SW supply and return lines were completed in October 2006. These modifications removed the vulnerability of the service water supply lines to an impact by tornado missiles and corrected the cause of the condition leading to the need for the compensatory measures issued in the change to Procedure E-O-05, "Response to Natural Events." Following this modification, Procedure E-O-05, was revised to remove the compensatory measures discussed above. Therefore, the condition that necessitated the 10 CFR 50.59 evaluation no longer exists.

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

The vulnerability of the service water supply lines to an impact by tornado missiles was the result of an old design issue associated with Control Room Air Conditioning. Modifications made to the Control Room Air Conditioning System SW supply and return lines have since removed the vulnerability of the SW supply lines to an impact by tornado missiles and obviated the need for the compensatory measures documented in the Notice of Violation.

To improve performance in the conduct of 10 CFR 50.59 evaluations (including appropriate documentation of the basis for 10 CFR 50.59 evaluations), DEK will conduct a review of the 10 CFR 50.59 evaluation process to determine and correct any training or implementation weaknesses. This activity has been entered into the DEK corrective action process. Any weaknesses identified as a result of this review will be prioritized and completed in accordance with the corrective action process.

4. The date when full compliance will be achieved.

Modifications to protect the Control Room Air Conditioning System SW supply and return lines from the effects of tornado missiles are complete and the associated compensatory measures have been removed. Therefore, the condition that was the subject of the 10 CFR 50.59 evaluation discussed above no longer exists. As a result, DEK is in full compliance with the applicable regulations.

Reference:

1. Letter from James L. Cameron (NRC) to David A. Christian (Dominion), "Kewaunee Power Station – NRC Integrated Inspection Report 05000305/2007003 and Notice of Violation," dated August 14, 2007.