Dominion Energy Kewaunee, Inc.
N490 Hwy 42, Kewaunee, WI 54216
Web Address: www.dom.com

Dominion®

JUN 21 2012

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

Serial No. 12-405
KPS/LIC/JG: R0
Docket No. 50-305
License No. DPR-43

DOMINION ENERGY KEWAUNEE, INC.
KEWAUNEE POWER STATION
POST ACCIDENT MONITORING REPORT

As required by Kewaunee Power Station (KPS) Technical Specifications (TS), Dominion Energy Kewaunee, Inc. (DEK) hereby submits the post accident monitoring (PAM) report for one required channel of PAM instrumentation inoperable.

KPS TS 5.6.4 requires submittal of the report within 14 days after entry into Condition B of TS Limiting Condition for Operation (LCO) 3.3.3, "Post Accident Monitoring (PAM) Instrumentation". Condition B of LCO 3.3.3 was entered on June 7, 2012. This condition was entered due to Train B of TS Table 3.3.3-1, Function 6a, Reactor Vessel Level Indicating System, Reactor Coolant Pumps (RCPs) ON, being inoperable.

The PAM report for this condition is provided in the attachment to this letter.

If you have questions or require additional information, please feel free to contact Mr. Jack Gadzala at 920-388-8604.

Very truly yours,

A. J. Jordan
Site Vice President, Kewaunee Power Station

Attachment

1. 14-Day PAM Report Regarding Inoperable PAM Instrumentation per Technical Specification 5.6.4

Commitments made by this letter: NONE

A001
NRR

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

Mr. K. D. Feintuch
Project Manager
U.S. Nuclear Regulatory Commission
One White Flint North, Mail Stop O8-H4A
11555 Rockville Pike
Rockville, MD 20852-2738

NRC Senior Resident Inspector
Kewaunee Power Station

ATTACHMENT 1

POST ACCIDENT MONITORING (PAM) REPORT

14-DAY PAM REPORT REGARDING INOPERABLE PAM INSTRUMENTATION PER TECHNICAL SPECIFICATION 5.6.4

KEWAUNEE POWER STATION
DOMINION ENERGY KEWAUNEE, INC.

ATTACHMENT 1

14-DAY PAM REPORT REGARDING INOPERABLE PAM INSTRUMENTATION PER TECHNICAL SPECIFICATION 5.6.4

As required by Kewaunee Power Station (KPS) Technical Specifications (TS), Dominion Energy Kewaunee, Inc. (DEK) hereby submits the post accident monitoring (PAM) report for one required channel of PAM instrumentation inoperable.

KPS TS 5.6.4 requires submittal of the report within 14 days after entry into Condition B of TS Limiting Condition for Operation (LCO) 3.3.3, "Post Accident Monitoring (PAM) Instrumentation". Condition B of LCO 3.3.3 was entered on June 7, 2012. This condition was entered due to Train B of TS Table 3.3.3-1, Function 6a, Reactor Vessel Level Indicating System, Reactor Coolant Pumps (RCPs) ON, being inoperable.

The inoperability occurred in resistance temperature detector (RTD), TE450B, RCS Loop A Cold Leg Wide Range (WR), which is a dual element RTD that includes two temperature elements (TE), TE1512401 and TE1512402. One of these two, TE1512402, failed.

TS Table 3.3.3-1, Function 6, Coolant Inventory (Reactor Vessel Level Indicating System), is a non-Type A, Category 1 variable provided for verification and long term surveillance of core cooling. It is also used for accident diagnosis and to determine reactor coolant inventory adequacy.

The Reactor Vessel Level Indicating System provides a direct measurement of the collapsed liquid level in the reactor vessel as measured from the bottom of the hot leg to the top of the reactor vessel head. The collapsed level represents the amount of liquid mass that is in the reactor vessel. Measurement of the collapsed water level is selected because it is a direct indication of the water inventory.

Redundant monitoring is provided by four channels of Coolant Inventory (Reactor Vessel Level Indicating System), two channels for use when the reactor coolant pumps (RCPs) are on and two channels for use when the RCPs are off. Each channel consists of an RTD sensor element, a transmitter, and an indicator. The Inadequate Core Cooling Monitoring System (ICCMS) computer uses the RTD signal to develop a temperature compensated level indication.

The PAM report for this condition follows. Each specific item required to be reported on by TS 5.6.4 is restated below, followed by the requisite information.

a. Preplanned alternate method of monitoring

Train A of Function 6a, Reactor Vessel Level Indicating System (RVLIS), Reactor Coolant Pumps (RCPs) ON, remains operable. This operable channel will be used

for monitoring reactor vessel level as needed. This train of Function 6a will be protected so as to minimize any potential for it to become inoperable.

To address the potential loss of Function 6a, emergency operating procedures were reviewed and changes were implemented for critical safety function status trees for core cooling and inventory. Changes were made to Procedures FR-C.2 and FR-I.3 to use alternate method of core exit thermocouples (CET), when Train B RVLIS void fraction monitoring is unavailable (e.g., the RTD for "A" Cold Leg input to RVLIS "B" Train is not available and RCP "A" is the only RCP running). These changes are consistent with Westinghouse Owners Group Guidelines used by nuclear facilities that do not use RVLIS. These alternate methods provide operators with suitable indication that also meets NRC Regulatory Guide RG-1.97 (PAM instrumentation) guidance for post accident monitoring.

The failed RTD did not provide a control function; it only provided indication to aid operators in implementation of the critical safety function status trees in response to design basis accidents. Core exit thermocouples provide redundant and diverse indication to operators and were thus evaluated to be an acceptable alternate indication to the failed RTD.

b. Cause of the inoperability

The inoperability was caused by the RTD ceasing to function. Since the RTD remains installed, the specific reason for failure was not able to be determined (this RTD had been in service since the time of its installation in 1986).

c. Plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status

Repair of Reactor Coolant Loop A Cold Leg RTD Temperature Element TE1512402 to ICCMS Train B is planned for the next refueling outage or forced outage (as documented in corrective action CA 234891), whichever occurs first. The next refueling outage is scheduled for October 2013. The repair and restoration of the failed RTD to Operability is planned per the following primary option. A contingency option is also discussed in the event the primary restoration option is untenable.

Primary Option: Swap T_{hot} and T_{cold} RTDs in RCS Loop A

The preferred option is to swap the hot leg (T_{hot}) and cold leg (T_{cold}) RTDs in RCS Loop A (either the probes or the entire assemblies, depending on field inspection results). This option will restore component Operability in the least amount of time.

The existing configuration consists of dual element 4-wire RTDs in the T_{hot} and T_{cold} applications. In the T_{cold} application, both elements are utilized for indication. For the T_{hot} application, only one element is utilized; the other is an

installed spare. The intent of this activity would be to swap the T_{hot} RTD with the T_{cold} RTD. The failed RTD element (T_{cold}) would then be used in the location of the spare in the T_{hot} application (i.e., the failed RTD would become the spare, or unused, RTD). The RTD removed from the T_{hot} application would be connected into the T_{cold} application and both elements would be utilized per existing plant design.

Since the swapped RTD that would be placed in service has been installed as a spare for an extended period of time, DEK is evaluating a followup plan to replace the swapped RTD with a new RTD (using matching component dimensions to the old RTD) during a future refueling outage. Installing new RTD will first require that field measurements be taken during the next refueling outage (concurrent with the RTD swap activity) to allow fabrication of new RTD assembly components (which would allow the new RTD to be installed during a subsequent refueling outage without the need to disturb the seal weld).

Contingency Option: Replace Entire Failed RTD with New RTD Assembly

The contingency option involves replacing the entire RTD assembly, which could be done during a single refueling outage because the vendor supplies the assembly with the RTD element being the same length as the existing element (in contrast, the connector components in the existing RTD assembly are non-standard sizes). This allows for a relatively straightforward removal of the entire old RTD assembly and replacement with a new RTD assembly. A new spare RTD assembly has been procured, tested, and is available for installation.

The existing (failed) RTD is seal welded into its thermowell. Replacing the entire RTD assembly requires that the seal weld from the RTD assembly to the thermowell be removed by grinding away the weld material. With the weld material removed, the old RTD assembly can be removed from the system (electrically and mechanically). The new RTD assembly would then be installed, seal welded into the thermowell; electrically terminated, and tested. This repair option is anticipated to require approximately 2.5 days to complete and would be performed during the next plant shutdown (refueling or forced shutdown).

However, due to the length of time to perform this activity, significant dose is expended, which makes this a less desirable option. Because this contingency option would incur significantly more dose than the primary option, it would only be pursued if the primary option proved untenable.