



January 20, 2009

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

Serial No. 08-0475B
LIC/CDS/R1
Docket No. 50-305
License No. DPR-43

DOMINION ENERGY KEWAUNEE, INC.
KEWAUNEE POWER STATION
RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION REGARDING
LICENSE AMENDMENT REQUEST 242, EXTENSION OF THE ONE-TIME FIFTEEN
YEAR CONTAINMENT INTEGRATED LEAK RATE TEST INTERVAL

By letter dated September 11, 2008, Dominion Energy Kewaunee, Inc. (DEK) submitted a proposed amendment to the Kewaunee Power Station (KPS) Technical Specifications (TS) (reference 1). The proposed amendment would change KPS TS 4.4.a, "*Integrated Leak Rate Tests Type A*," to permit a one-time, six-month extension, to the currently approved 15-year interval between Type A containment integrated leak rate tests.

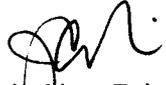
Subsequently, the Nuclear Regulatory Commission (NRC) transmitted a request for additional information (RAI) regarding the proposed amendment (reference 2). The RAI questions and associated DEK responses are provided in attachment 1 to this letter. Attachment 2 to this letter provides a revised version of the marked-up KPS TS page 4.4-1, which was originally provided in attachment 2 of the proposed amendment (reference 1). The revised wording of TS 4.4.a eliminates ambiguity and the potential for misinterpretation of the intent of the proposed amendment request.

The attached responses and supplemental information do not change the conclusions of the no significant hazards determination provided in reference 1.

A complete copy of this submittal has been transmitted to the State of Wisconsin as required by 10 CFR 50.91(b)(1).

If you have any questions or require additional information, please contact Mr. Craig Sly at (804) 273-2784.

Sincerely,

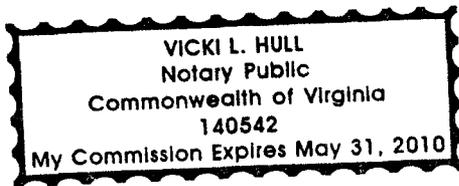


J. Alan Price
Vice President – Nuclear Engineering

COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by J. Alan Price, who is Vice President – Nuclear Engineering of Dominion Energy Kewaunee, Inc. He has affirmed before me that he is duly authorized to execute and file the foregoing document in behalf of that Company, and that the statements in the document are true to the best of his knowledge and belief.

Acknowledged before me this 20TH day of January, 2009.
My Commission Expires: May 31, 2010.



Vicki L. Hull
Notary Public

Attachments:

1. Response to NRC Request for Additional Information Regarding Kewaunee License Amendment Request 242.
2. Revised Marked-up Kewaunee TS Page 4.4-1

Commitments made in this letter: None

References:

1. Letter from L. N. Hartz (DEK) to Document Control Desk (NRC), "License Amendment Request 242: Extension of the One-Time Fifteen Year Containment Integrated Leak Rate Test Interval," dated September 11, 2008. [ADAMS Accession No. ML082550700]
2. Email from Peter S. Tam (NRC) to Jack Gadzala, Thomas Breene and Craig Sly (DEK), "Kewaunee - Draft RAI re. ILRT interval extension amendment (TAC MD9612)," dated December 12, 2008. [ADAMS Accession No. ML083470367]

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

Mr. P. S. Tam
Senior 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

Public Service Commission of Wisconsin
Electric Division
P.O. Box 7854
Madison, WI 53707

ATTACHMENT 1

**RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION REGARDING
KEWAUNEE LICENSE AMENDMENT REQUEST 242**

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

Response to NRC Request for Additional Information Regarding Kewaunee License Amendment Request 242

Pursuant to 10 CFR 50.90, Dominion Energy Kewaunee, Inc. (DEK) submitted a proposed amendment to the Kewaunee Power Station (KPS) Technical Specifications (TS) (reference 1). The proposed amendment would change KPS TS 4.4.a, "*Integrated Leak Rate Tests Type A*," to permit a one-time, six-month extension to the currently approved 15-year interval between Type A containment integrated leak rate tests (ILRTs).

Subsequently, the Nuclear Regulatory Commission (NRC) transmitted a request for additional information (RAI) regarding the proposed amendment (reference 2). The RAI questions and associated DEK responses are provided below.

NRC Question 1

Based on the application, the NRC staff finds that the root cause and reason for the proposed amendment to extend the Type A test interval beyond the approved 15 years is error on the licensee's part in developing, interpreting and implementing the requirement in Technical Specifications (TS) Section 4.4.a and related sections. The language of the TS 4.4.a was subject to interpretation and was interpreted erroneously. The TS language, developed by the licensee, should be an accurate, complete, clear and stand-alone representation of the requirement(s) resulting from an LAR. The TS language should exhibit clarity in a manner that is not subject to interpretation and is not contradictory to or conflicting with other requirements in the same or related TS sections. The language of the proposed change to TS 4.4.a does not meet the above criteria, as explained below:

A TS requirement must be met in its entirety as written. The first two sentences of the second paragraph in TS 4.4.a appear to conflict with the proposed new third sentence, resulting in two conflicting requirements for the due date for the Type A test immediately following the April 1994 test. The staff notes that the TS 4.4.a requirement, as proposed in the submittal, can be met in its entirety only by complying with the more stringent of the two requirements, which is denoted in the first two sentences. In other words, the proposed requirement can be met only by performing the next test by April 2009, which is not any different from the existing TS requirement.

Thus, it appears that the licensee has neither addressed nor corrected the root cause of the error that resulted in the need for the subject LAR but has repeated the same practice that led to the error. While disregarding the root cause of the issue, the licensee has made several arguments in Sections 3.3.1, 3.3.2, and

4.4.3 in Attachment 1 of the reference LAR, in an attempt to justify them as compelling or unforeseen emergent reasons for an extension of the Type A test interval beyond the approved 15 years, which the NRC staff does not agree with. Therefore, in order for the NRC staff to complete its review of this LAR, the licensee is requested to provide information of corrective action(s) and commitment(s), including revised TS language that would eliminate such errors from happening in the future.

Response

Modification of Proposed TS Wording

DEK has reviewed the wording proposed in the amendment request (reference 1). DEK agrees that the proposed wording of TS 4.4.a can be interpreted to require a Type A test in April 2009 and subsequently another Type A test no later than October 2009. DEK did not intend for the proposed new TS to be interpreted in this manner. Therefore, DEK proposes that the wording of the proposed TS 4.4.a be modified to remedy this problem. DEK proposes to eliminate the marked-up TS page 4.4-1 that was included as attachment 2 to reference 1 and replace it with a revised marked-up TS page 4.4-1. The revised marked-up TS page 4.4-1 is provided in attachment 2 to this letter.

The current wording of TS 4.4.a is as follows:

a. Integrated Leak Rate Tests (Type A)

Perform required visual examinations and leakage rate testing in accordance with the Containment Leakage Rate Testing Program.

As a one-time change, the Type A test frequency specified in NEI 94-01, Revision 0, Paragraph 9.2.3, as "...at least once per 10 years based on acceptable performance history" is changed to "...at least once per 15 years based on acceptable performance history." This change applies only to the interval following the Type A test performed in April 1994.

As modified, the proposed TS 4.4.a would read as follows:

a. Integrated Leak Rate Tests (Type A)

Perform required visual examinations and leakage rate testing in accordance with the Containment Leakage Rate Testing Program.

As a one-time exception to the Containment Leakage Rate Testing Program change, the first Type A test frequency specified in NEI 94-01, Revision 0, Paragraph 9.2.3, as "...at least once per 10 years based on acceptable performance history" is changed to "...at least once per 15 years based on acceptable performance history." This change applies only to the interval following the Type A test performed in April 1994 shall be required no later than October 2009.

A new marked-up TS page containing the above wording is provided in attachment 2. A condition report was initiated on December 16, 2008 to document this issue in the KPS corrective action program.

Error In Interpreting TS 4.4.a

As described in Section 3.3.2 of KPS LAR 242 (reference 1) an error was made in 2005 when determining the due date for the next Type A test. This error was not discovered until June of 2008.

Cause

An Apparent Cause Evaluation was completed in August 2008 regarding this issue. The apparent cause of the event was determined to be insufficient engineering rigor when evaluating the change in schedule for performing the next Type A test from April 2009 to the Fall of 2009. Specifically, the 2005 review of the change in outage schedule did not identify that the NRC SER associated with the one time 5-year Type A test interval extension specified that the next Type A test was to be performed no later than April 2009.

Corrective Actions

Improvements have been made in the area of engineering rigor since the 2005 review of surveillance requirements was conducted. Root cause evaluations (RCE) related to the potential for AFW air entrainment and the potential for flooding of safety related equipment both identified cases of insufficient engineering rigor and lack of understanding of design and licensing bases of the plant. Corrective actions from these RCEs have resulted in improvements in engineering rigor at KPS. Training was conducted in 2005 and 2006 to re-enforce engineering standards and engineering product quality.

Specifically as a result of this issue, engineering program owners were tasked with reviewing their program documents to determine if any related License Amendment Safety Evaluations have implied requirements or statements that should be addressed and referenced by program documents. The Safety Evaluation reviews have been completed. No other unaddressed, implied requirements or statements were identified that required further action.

The procedure that governs changes to the Containment Leak Rate Test Program (CLRTP) document has been revised to require a second level review of changes to the CLRTP. The CLRTP has been revised to incorporate April 2009 as the required due date of the next Type A test at Kewaunee*. A high impact team has been assembled and activities are in progress to facilitate conducting a Type A test if the NRC does not approve the amendment request for a 6-month extension. The CLRTP will also be revised to reflect NRC expectations regarding Type A test extensions contained in Regulatory Issue Summary 2008-27 (reference 4).

DEK has no plans to submit a similar one-time Type A test interval extension in the future. We believe that our corrective actions will prevent similar mistakes in determining the required due dates of Type A tests in the future.

(Note: DEK may choose to submit a License Amendment Request in the future to permanently extend Type A test schedule to once per 15 years consistent with NEI 94-01 revision 2 and the associated NRC SER dated June 25, 2008.)

NRC Question 2

Attachment 1, Section 3.4.1 "Local Leakage Rate Testing (LLRT)," provided the combined as-found leakage results of the LLRTs performed since 2003 (in Table 2) and acceptance criteria in terms of maximum allowable combined leakage rate for all penetrations, to special ventilation zone (Zone SV) and that which bypasses the SV zone. In the context of the information provided in the above stated section of the application:

- (i) Clarify whether the values provided, in standard cubic centimeters per minute (SCCM), for maximum allowable leakage are based on La value of 0.5 weight percent or based on La value of 0.2 weight percent;*
- (ii) Explain the approximately two-fold increase in Maximum Pathway Leakage from All Penetrations and five-fold increase in Maximum Pathway Leakage to Zone SV in Table 2 for the period between 2006 and 2008 and actions taken, if any, to address the relatively significant increase in leakage.*

* If the NRC grants the requested one-time extension to Type A test frequency, the CLRTP will be revised to indicate October 2009 as the required due date of the next Type A test.

Response

- (i) The acceptance criteria provided are based on the current L_a value for Kewaunee of 0.2 weight percent per day. Please refer to the Note at bottom of page 17 of 46 of attachment 1 of reference 1. This Note states: *All values are in SCCM. L_a was 0.5 weight percent prior to 2006. L_a was changed in 2006 to 0.2 weight percent by License Amendment 190.*

The values provided in Table 2 are in standard cubic centimeters per minute (SCCM). The values in Section 3.4.1 of reference 1 are all based on a L_a of 0.2 weight percent per day, which for Kewaunee is equivalent to 215,200 SCCM.

- (ii) The approximately two-fold increase in maximum pathway leakage from all penetrations and five-fold increase in maximum pathway leakage to Zone SV in Table 2 for the period between 2006 and 2008 is primarily due to measured leakage through the Chemical and Volume Control system (CVCS) letdown orifice block valves. These valves (LD-4A, LD-4B, and LD-4C) are located inside containment. The valves act in a parallel arrangement to provide the full range of letdown flow needed to operate the plant. During normal operation, only one of the valves is open. The piping from these valves is combined into a single common pipe downstream of the valves. The common pipe exits the containment at penetration 11. Another containment isolation valve (LD-6) is located outside penetration 11. Kewaunee USAR section 9.2 provides a discussion of the CVCS system. The letdown orifice block valves are shown in Kewaunee USAR Figure 9.2-1 (reference 5).

The measured leakage through these valves in 2003 was 79.5 SCCM. As allowed by 10 CFR 50, Appendix J, Option B, Containment penetration 11 was not leak rate tested in 2004 or 2006. During the 2008 spring refueling outage, the measured leakage through these valves was 12,110 SCCM.

In accordance with the KPS corrective action program, a work order has been developed and is currently scheduled to repair LD-4B during the 2009 refueling outage. The LLRT testing schedule has been revised to include a Type C test of penetration 11 during every future outage until successful tests are performed during two sequential outages. After completion of two successful tests, consideration will be given to revising the testing schedule in accordance with 10 CFR 50, Appendix J, Option B.

If the 12,110 SCCM leakage measured in 2008 for penetration 11 is subtracted from the 2008 LLRT totals, the results are comparable to 2006 as shown below.

Maximum Pathway Leakage from All Penetrations

2006 total = 14,592 SCCM

2008 total – Pen 11 = 27,788 – 12,110 = 15,678 SCCM

Maximum Pathway Leakage to Zone SV

2006 total = 3,128 SCCM

2008 total – Pen 11 = 16,612 – 12,110 = 4,502 SCCM

NRC Question 3

With reference to the discussion in the last paragraph of page 18 in Section 3.4.2 of Attachment 1, explain how the intent of the requirement for visual examination in Regulatory Position C.3 in RG 1.163 (September 1995) is being implemented at Kewaunee considering the 15-year Type A test interval as opposed to the 10-year interval in the regulatory position. Indicate when the next such visual examination will be performed.

Response

NEI 94-01 Rev 0, section 9.2.1 states:

Prior to initiating a Type A test, a visual examination shall be conducted of accessible interior and exterior surfaces of the containment system for structural problems which may affect either the containment structure leakage integrity or the performance of the Type A test. This inspection should be a general visual inspection of accessible interior and exterior surfaces of the primary containment and components.

RG 1.163 (September 1995), Position 3.C states:

Section 9.2.1, "Pretest Inspection and Test methodology," of NEI 94-01 provides guidance for the visual examination of accessible interior and exterior surfaces of the containment system for structural problems. These examinations should be conducted prior to initiating a Type A test, and during two other refueling outages before the next Type A test if the interval for the Type A test has been extended to 10 years, in order to allow for early uncovering of evidence of structural deterioration.

DEK is currently implementing the second ten-year interval of the containment ISI program at KPS. The second ten-year interval has been established as from September 9, 2006 to September 9, 2016. This interval was developed in accordance with the requirements of the 2001 Edition with the 2003 Addenda of the ASME Boiler and Pressure Vessel Code, Section XI, Division 1, Subsection IWE.

As stated in sections 3.4.2 and 3.4.4 of reference 1, examination of the accessible portions of primary containment liner, penetrations, selected pressure retaining bolted connections and the moisture barrier at the liner-to-containment floor junction was conducted during refueling outages in 1998, 2000, 2001, 2003, 2004 and 2006. These examinations were conducted as part of the first ten-year interval examinations, and met the applicable requirements of the ASME code.

The methodology used at DEK is to perform containment system ISI inspections during refueling outages. It is our practice to complete a full containment system inspection over two refueling outages. Then the inspection cycle repeats beginning with the next refueling outage. This exceeds the frequency specified in RG 1.163 requirements.

During the period between Type A tests (1994 – present), DEK has completed more than three complete containment system inspections. The containment system ISI inspections performed during the 1998 and 2000 refueling outages constituted one full containment system inspection. Then the inspection cycle was repeated in the 2001 and 2003 refueling outages, and the 2004 and 2006 refueling outages. Finally, the 2008 refueling outage began a fourth cycle of containment system ISI inspections.

In addition to the containment ISI program, pre-Type A test and post-Type A test containment vessel inspections are performed as part of the Type A test procedure. The next inspections will be performed as part of the Type A test in 2009.

The results of examinations performed in 2003, 2004, 2006, and 2008 are provided in attachment 1, section 3.4.4 of reference 1. The results from 1998 to 2001 are provided in a letter to NRC dated June 30, 2003 (reference 3).

References:

1. Letter from L. N. Hartz (DEK) to Document Control Desk (NRC), "License Amendment Request 242: Extension of the One-Time Fifteen Year Containment Integrated Leak Rate Test Interval," dated September 11, 2008. [ADAMS Accession No. ML082550700]
2. Email from Peter S. Tam (NRC) to Jack Gadzala, Thomas Breene and Craig Sly (DEK), "Kewaunee - Draft RAI re. ILRT interval extension amendment (TAC MD9612)," dated December 12, 2008. [ADAMS Accession No. ML083470367]
3. Letter from T. Coutu (NMC) to Document Control Desk (NRC), "License Amendment Request 198 to the Kewaunee Nuclear Power Plant Technical Specifications for One-time Extension of Containment Integrated Leak Rate Test Interval," dated June 20, 2003. [ADAMS Accession No. ML031820613]
4. NRC Regulatory Issue Summary 2008-27, "Staff Position on Extension of the Containment Type A Test Interval Beyond 15 Years Under Option B of Appendix J to 10 CFR 50," dated December 8, 2008.
5. Kewaunee Power Station Updated Safety Analysis Report, Revision 21, November 2008.

ATTACHMENT 2

REVISED MARKED-UP KEWAUNEE TS PAGE 4.4-1

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

4.4 CONTAINMENT TESTS

APPLICABILITY

Applies to integrity testing of the steel containment, shield building, auxiliary building special ventilation zone, and the associated systems including isolation valves.

OBJECTIVE

To verify that leakage from the containment system is maintained within allowable limits in accordance with 10 CFR Part 50, Appendix J.

SPECIFICATION

a. Integrated Leak Rate Tests (Type A)

Perform required visual examinations and leakage rate testing in accordance with the Containment Leakage Rate Testing Program.

As a one-time exception to the Containment Leakage Rate Testing Program change, the first Type A test frequency specified in NEI 94-01, Revision 0, Paragraph 9.2.3, as "...at least once per 10 years based on acceptable performance history" is changed to "...at least once per 15 years based on acceptable performance history." This change applies only to the interval following the Type A test performed in April 1994 shall be required no later than October 2009.

b. Local Leak Rate Tests (Type B and C)

Perform required air lock, penetration, and containment isolation valve leakage testing in accordance with the Containment Leakage Rate Testing Program.

c. Shield Building Ventilation System

1. At least once per operating cycle or once every 18 months, whichever occurs first, the following conditions shall be demonstrated:

- a. Pressure drop across the combined HEPA filters and charcoal adsorber banks is < 10 inches of water and the pressure drop across any HEPA filter bank is < 4 inches of water at the system design flow rate ($\pm 10\%$).
- b. Automatic initiation of each train of the system.
- c. Operability of heaters at rating and the absence of defects by visual observation.