



October 1, 2007

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

Serial No. 07-0501
KPS/LIC/GR: R2
Docket No. 50-305
License No. DPR-43

DOMINION ENERGY KEWAUNEE, INC.
KEWAUNEE POWER STATION
INSERVICE INSPECTION PROGRAM RELIEF REQUEST RR-G-2, REVISION 1

Pursuant to 10 CFR 50.55a(a)(3)(i), Dominion Energy Kewaunee, Inc. (DEK) requests Nuclear Regulatory Commission (NRC) approval of revision 1 to Relief Request RR-G-2. Relief Request RR-G-2 was originally submitted to the NRC on December 16, 2003 (reference 1) as part of the Kewaunee Power Station (KPS) fourth 10-year in-service inspection interval program. Relief Request RR-G-2 was subsequently approved by the NRC on February 18, 2005 (reference 2).

Relief Request RR-G-2, revision 1 is associated with the performance of VT-2 visual examinations required by ASME Boiler and Pressure Vessel Code, Section XI, 1998 Edition, 2000 Addenda, Paragraph IWA-5242, Insulated Components. IWA-5242 states:

(a) For systems bolated for the purpose of controlling reactivity, insulation shall be removed from pressure retaining bolted connections for VT-2 visual examination.

Relief request RR-G-2, revision 1 would permit KPS to delete the 4-hour hold-time requirement currently identified in RR-G-2, Section 4, "Alternative Method of Examination." This requirement states that a 4-hour hold time shall be established prior to the VT-2 visual examination to allow leakage from the subject bolted connections to migrate through the insulation. Deletion of the 4-hour hold-time requirement will only apply to performance of the Class 1 system leakage test following each refueling outage. Deletion of the 4-hour hold-time requirement is consistent with ASME Boiler and Pressure Vessel Code, Section XI, Code Case N-533-1 (reference 3). Code Case N-533-1 is included in the list of conditionally acceptable Section XI code cases in NRC Regulatory Guide 1.147, Revision 14 (reference 4), Table 2. Required hold-times for Class 1, Class 2, and Class 3 system leakage tests will also comply with 10 CFR 50.55a (b)(2)(xx).

Additional changes to relief request RR-G-2, revision 1 include:

1. Editorial updates of the table titled, "Pressure Retaining Components with Bolted Connections that are Insulated."
2. Change from the use of ASME Boiler and Pressure Vessel Code, Section XI, Code Case N-566-1 (reference 5) to Code Case N-566-2, "Corrective Action for Leakage Identified at Bolted Connections Section XI, Division 1." Code Case N-

References:

1. Letter from Thomas Coutu (Nuclear Management Company) to NRC Document Control Desk, "In-service Inspection Program for Fourth Inspection Interval," dated December 16, 2003.
2. Letter from L. Raghavan (NRC) to Craig Lambert (Nuclear Management Company, LLC), "Kewaunee Nuclear Power Plant Fourth 10-Year Inservice Inspection Interval Program Requests for Relief (TAC NOS. MC2497, MC2498, MC2499, MC2500, MC2501, MC2503, MC2504, MC2505, MC2506, MC2507 and MC2509)," dated February 18, 2005.
3. ASME Boiler and Pressure Vessel Code, Section XI, Code Case N-533-1, "Alternative Requirements for VT-2 Visual Examination of Class 1, 2 and 3 Insulated Pressure-Retaining Bolted Connections Section XI, Division 1," dated February 26, 1999.
4. NRC Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 14, dated August 2005.
5. ASME Boiler and Pressure Vessel Code, Section XI, Code Case N-566-2, "Corrective Action for Leakage Identified at Bolted Connections, Section XI, Division 1," dated December 1998.

Attachment:

1. Relief Request No. RR-G-2, Revision 1

Commitments made by this letter: NONE

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

Mr. P. D. Milano
Project Manager
U.S. Nuclear Regulatory Commission
Mail Stop O-8-C-2
Washington, DC 20555-0001

NRC Senior Resident Inspector
Kewaunee Power Station

Attachment 1

IN-SERVICE INSPECTION PROGRAM RELIEF REQUEST RR-G-2, REVISION 1

RELIEF REQUEST NO. RR-G-2, REVISION 1

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

**KEWAUNEE POWER STATION
RELIEF REQUEST NO. RR-G-2, REVISION 1**

1. Components Affected

All Class 1 and Class 2 pressure retaining bolted connections that are insulated.

2. Section XI Requirements

VT-2 visual examination per the 1998 Edition 2000 Addenda of Section XI, Table IWB-2500-1, Examination Category B-P, Table IWC-2500-1, Examination Category C-H, and Paragraph IWA-5242 which states:

- (a) For systems borated for the purpose of controlling reactivity, insulation shall be removed from pressure retaining bolted connections for VT-2 visual examination.

3. Basis for Requesting Relief

Satisfying the Code requirement of removing insulation from pressure retaining bolted connections for visual examination of borated systems will require significant planning and scheduling due to operational concerns, personnel radiation, and personnel safety. VT-2 examinations of the Class 1 System at the Kewaunee Power Station are performed at a system operating pressure of 2235 psig and a system temperature of approximately 547°F. Area radiation levels range from 5mr/hr to 100 mr/hr. Reinsulating and the removal of access equipment after the VT-2 examination requires staff to be exposed to higher system pressure, system temperature, and radiation levels than would be experienced during cold shutdown or refueling shutdown.

Additionally, the time required to replace insulation and remove the access equipment after the VT-2 examination may delay plant startup for an anticipated short time duration between performance of the Class 1 system pressure test and placing the reactor into critical operation. This relief request is intended to cover all pressure retaining bolted connections that are insulated and require VT-2 visual examination under Table IWB-2500-1 and IWC-2500-1. Representative components listed below are insulated, are part of or connected to the reactor coolant system, contain pressure retaining bolting, and are pressurized during the Class 1 system pressure test and Class 2 system pressure test.

Pressure Retaining Components With Bolted Connections That Are Insulated		
Reactor Vessel Closure Head	8" Valve RHR-1A	3" Flange FE-459
Flange Studs, Nuts and Washers	8" Valve RHR-1B	2" Valve LD-4A
Pressurizer Manway	6" Valve SI-13A	2" Valve LD-4B
Steam Generator Primary Side	6" Valve SI-13B	2" Valve LD-4C
Manways	12" Valve SI-22A	8" Valve SI-2A
2" Valve LD-2	12" Valve SI-22B	8" Valve SI-2B
2" Valve LD-3	6" Valve SI-304A	8" Valve SI-3
3" Valve PS-1A	6" Valve SI-304B	8" Valve RHR-7A
3" Valve PS-1B	3" Flange FE-458	8" Valve RHR-7B
3" Valve RC-103A		8" Valve RHR-8A
3" Valve RC-103B		8" Valve RHR-8B

4. Alternative Method of Examination

Perform the VT-2 visual examinations required by Table IWB-2500-1 and IWC-2500-1. The examination would not require removal of insulation. The requirements identified in ASME Boiler and Pressure Vessel Code, Section XI Conditionally Acceptable Section XI Code Case N-533-1 are as follows: A system pressure test and VT-2 visual examination shall be performed each refueling outage for Class 1 connections and each period for Class 2 and 3 connections without removal of insulation. Prior to conducting the VT-2 examination of Class 2 and Class 3 components not required to operate during normal plant operation, a 10-minute holding time is required after attaining test pressure. Prior to conducting the VT-2 examination of Class 2 and Class 3 components required to operate during normal plant operation, no holding time is required provided the system has been in operation for at least 4 hours for insulated components or 10 minutes for non-insulated components.

For Class 1 components, no hold time shall be required per Conditionally Acceptable Section XI Code Case N-533-1. Class 1 component VT-2 examinations shall be performed with no hold time following achieving of operating temperature (approximately 547°F) and operating pressure (2235 psig). Any evidence of leakage will be evaluated in accordance with IWA-5250(a)(2) through utilization of ASME Boiler and Pressure Vessel Code, Section XI: Code Case N-566-2. During the inservice leak test, the exposed insulation surfaces and joints at bolted connections shall be VT-2 visually examined.

For pressure retaining bolted connections in Class 1 Valves, Class 1 Flanges, Class 2 Valves, and the pressurizer manway, a supplemental VT-3 visual examination following insulation removal once every refueling outage without disassembly and without the system under operating pressure and temperature, during cold shutdown or refueling shutdown will be performed. No supplemental examinations are required to ensure integrity of the pressure retaining studs, nuts, and washers in the reactor vessel flange since they are removed and cleaned to facilitate refueling of the reactor vessel each outage. The steam generator primary side manway bolting insulation is removed, due to ease of replacing, during the Class 1 System Pressure Test so no supplemental examinations are needed to ensure their integrity.

Performing the VT-3 visual examinations during cold shutdown or refueling shutdown will significantly reduce the plant operational concerns, personnel radiation and personnel safety. Since borated water leaves a crystalline residue, the proposed supplemental VT-3 visual examination (in addition to the Class 1 system pressure test, area radiation monitors, and RCS leakage detective system) provides reasonable assurance that leakage at pressure retaining bolted connections will be detected and corrected. The proposed VT-3 visual examination at cold or refueling shutdown will permit a more thorough examination than during the Class 1 and Class 2 system pressure test due to better accessibility.