UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

June 1, 2009

Mr. David A. Christian
President and Chief Nuclear Officer
Dominion Energy
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

SUBJECT: KEWAUNEE POWER STATION - ISSUANCE OF AMENDMENT RE: THE CONTAINMENT ISOLATION PURGE AND VENT VALVES (TAC NO. MD9466)

Dear Mr. Christian:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 206 to Facility Operating License No. DPR-43 for the Kewaunee Power Station in response to your application dated August 14, 2008.

The amendment changed Section 4.4.f.1 of the Technical Specifications to require verification that the 36-inch containment purge and vent isolation valves are sealed closed when the reactor is at greater than Cold Shutdown Conditions. The previous Section 4.4.f.1 required such verification when the reactor is critical.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next regular biweekly *Federal Register* notice.

Sincerely,

Peter S. Tam, Senior Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-305

Enclosures:
1. Amendment No. 206 to License No. DPR-43
2. Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

DOMINION ENERGY KEWAUNEE, INC.

DOCKET NO. 50-305

KEWAUNEE POWER STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 206
License No. DPR-43

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Dominion Energy Kewaunee, Inc. dated August 14, 2008, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-43 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 206, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Lois M. James, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Facility Operating License
and Technical Specifications

Date of Issuance: June 1, 2009.

ATTACHMENT TO LICENSE AMENDMENT NO. 206

FACILITY OPERATING LICENSE NO. DPR-43

DOCKET NO. 50-305

Replace the following page of the Facility Operating License No. DPR-43 with the revised page attached. The changed area is identified by a marginal line.

REMOVE	INSERT
Page 3	Page 3

Replace the following page of Appendix A, Technical Specifications, with the revised page attached. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

REMOVE	INSERT
TS 4.4-3	TS 4.4-3

C. This license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR, Chapter I: (1) Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Section 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70, (2) is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect, and (3) is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The licensee is authorized to operate the facility at steady-state reactor core power levels not in excess of 1772 megawatts (thermal).

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 206, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Fire Protection

The licensee shall implement and maintain in effect all provisions of the approved Fire Protection Program as described in the licensee's Fire Plan, and as referenced in the Updated Safety Analysis Report, and as approved in the Safety Evaluation Reports, dated November 25, 1977, and December 12, 1978 (and supplement dated February 13, 1981) subject to the following provision:

The licensee may make changes to the approved Fire Protection Program without prior approval of the Commission, only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

(4) Physical Protection

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Nuclear Management Company Kewaunee Nuclear Power Plant Physical Security Plan (Revision 0)" submitted by letter dated October 18, as supplemented by letter dated October 21, 2004, July 26, 2005, and May 15, 2006.

(5) Deleted

d. Auxiliary Building Special Ventilation System

1. Periodic tests of the Auxiliary Building Special Ventilation System, including the door interlocks, shall be performed in accordance with TS 4.4.c.1 through TS 4.4.c.3, except for TS 4.4.c.2.d.

2. Each train of Auxiliary Building Special Ventilation System shall be operated at least 15 minutes every month.

3. Each system shall be determined to be operable at the time of periodic test if it starts with coincident isolation of the normal ventilation ducts and produces a measurable vacuum throughout the special ventilation zone with respect to the outside atmosphere.

e. Containment Vacuum Breaker System

The power-operated valve in each vent line shall be tested during each refueling outage to demonstrate that a simulated containment vacuum of 0.5 psig will open the valve and a simulated accident signal will close the valve. The check and butterfly valves will be leak tested in accordance with TS 4.4.b during each refueling, except that the pressure will be applied in a direction opposite to that which would occur post-LOCA.

f. Containment Isolation Device Position Verification

1. When the reactor is greater than Cold Shutdown condition, verify each 36 inch containment purge and vent isolation valve is sealed closed every 31 days.

2. When the reactor is critical, verify each 2 inch containment vent isolation valve is closed every 31 days, except when the 2 inch containment vent isolation valves are open for pressure control, ALARA, or air quality considerations for personnel entry, or Surveillances that require the valves to be open.

3. Containment isolation manual valves and blind flanges shall be verified closed as specified in TS 4.4.f.3.a and TS 4.4.f.3.b, except as allowed by TS 4.4.f.3.c.

   a. When greater than COLD SHUTDOWN, verify each containment isolation manual valve and blind flange that is located outside containment and required to be closed during accident conditions is closed every 31 days, except for containment isolation valves that are locked, sealed, or otherwise secured closed or open as allowed by TS 3.6.b.2.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATING TO AMENDMENT NO. 206 TO FACILITY OPERATING LICENSE NO. DPR-43

DOMINION ENERGY KEWAUNEE, INC.

KEWAUNEE POWER STATION

DOCKET NO. 50-305

1.0 INTRODUCTION

By application dated August 14, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML082320083), the licensee (Dominion Energy Kewaunee, Inc.) of Kewaunee Power Station (KPS) requested an amendment to Facility Operating License No. DPR-43. The amendment would change Section 4.4.f.1 of the Technical Specifications (TS) to require verification that the 36-inch containment purge and vent isolation valves are sealed closed when the reactor is at greater than Cold Shutdown Conditions. The current Section 4.4.f.1 requires such verification when the reactor is critical.

Performance of the current surveillance requirements to verify the valves are closed is only required when the reactor is critical. This is not consistent with the industry standard, which is to verify the valves are closed when the valves are required to be operable to perform their containment isolation function. The proposed amendment would bring the current TS into alignment with the industry standard. The Nuclear Regulatory Commission (NRC) staff's evaluation of the proposed action follows.

2.0 REGULATORY EVALUATION

2.1 NUREG-0737, "Clarification of TMI Action Plan Requirements"

NUREG-0737, Item 11.E.4.2, "Containment Isolation Dependability," sets forth the NRC staff's position regarding use of containment purge valves. Specifically, positions 6 and 7 of Item II.E.4.2 state:

> (6) *Containment purge valves that do not satisfy the operability criteria set forth in Branch Technical Position CSB* 6-4 *or the Staff Interim Position of October 23, 1979 must be sealed closed* as *defined in SRP [Standard Review Plan]* 6.2.4, *item II.3.f during operational conditions 1, 2, 3, and 4. Furthermore, these valves must be verified to be closed at least every 31 days.*
>
> (7) *Containment purge and vent isolation valves must close on* a *high radiation signal.*

2.2 NUREG-0800, "Standard Review Plan"

NUREG-0800, Section 6.2.4, "Containment Isolation System," Revision 3, addresses the use of containment purge and vent systems. The section with the title "Requirements" states, in part:

> *These GDCs establish requirements for the design, testing, and functional performance of isolation barriers in lines penetrating the primary containment boundary and, in general, require two isolation valves in series to maintain the isolation function, assuming any single, active failure in the containment isolation provisions. However, containment isolation provisions different from the explicit requirements of GDCs 55 and 56 are acceptable if the differences are justified.*

Specific criteria necessary to meet the relevant requirements of the regulations identified above and guidelines for acceptable alternate containment isolation provisions for certain classes of lines are stated as Item 6 of the section with the title "SRP Acceptance Criteria":

> *Sealed closed barriers may be used in place of automatic isolation valves. Sealed closed barriers include blind flanges and sealed closed isolation valves which may be closed manual valves, closed remote-manual valves, and closed automatic valves which remain closed after a LOCA [loss-of-coolant accident]. Sealed closed isolation valves should be under administrative control so they cannot be opened inadvertently. Administrative control includes mechanical devices to seal or lock the valve closed or to prevent power from being supplied to the valve operator.*

Item 14 of the Section with the title "SRP Acceptance Criteria" specifically addresses containment purge and vent valves:

> *...Containment isolation valve closure times should be selected to assure rapid isolation of the containment following postulated accidents. ... For lines providing open paths from the containment to the environs, e.g., the containment purge and vent lines, isolation valve closure times on the order of five seconds or less may be necessary. The closure times of these valves should be established on the basis of minimizing the release of containment atmosphere to the environs, to mitigate the offsite radiological consequences, and to prevent degradation of emergency core cooling system (ECCS) effectiveness by reduced containment backpressure. ... Branch Technical Position (BTP) 6-4 presents additional guidance on the design and use of containment purge systems which may be used during the normal plant operating modes (i.e., startup, power operation, hot standby and hot shutdown). ...Containment purge valves that do not satisfy the operability criteria set forth in Branch Technical Position 6-4 must be sealed closed as defined in subsection II.6 of this SRP section during operational conditions 1, 2, 3 and 4. Furthermore, these valves must be verified to be closed at least every 31 days.*

2.3 Appendix J of 10 CFR Part 50, "Primary Reactor Containment Leakage Testing for Water Cooled Power Reactors"

Appendix J requires primary reactor containments to meet the containment leakage test requirements set forth in this appendix. These test requirements provide for preoperational and periodic verification by tests of the leak-tight integrity of the primary reactor containment, and systems and components that penetrate containment of water-cooled power reactors, and establish the acceptance criteria for these tests. The purposes of the tests are to assure that: (a) leakage through the primary reactor containment and systems and components penetrating primary containment shall not exceed allowable leakage rate values as specified in the technical specifications or associated bases; and (b) periodic surveillance of reactor containment penetrations and isolation valves is performed so that proper maintenance and repairs are made during the service life of the containment and systems and components penetrating primary containment. Local leak tests of containment isolation valves are performed, as required during periods of reactor shutdown, in accordance with 10 CFR Part 50, Appendix J.

The licensee did not propose any change regarding the frequency of leak rate testing or the methods used for testing the containment purge supply and exhaust isolation valves.

3.0 TECHNICAL EVALUATION

3.1 System Description

The licensee's application provided the following description of the subject system.

The safety function of the containment purge and vent isolation valves is to support the Containment Isolation System by confining fission products within the Primary Containment System boundary during a design-basis accident. This is accomplished by minimizing the loss (leakage) of reactor coolant inventory and radioactive material outside of primary containment. Another function of the containment purge and ventilation system is to provide fresh, tempered air for comfort during maintenance and refueling operations and to purge contaminated air from the reactor containment vessel when access is required. Containment purging and ventilation is achieved using plant procedures and in accordance with commitments made to the NRC. The current KPS TS permit the reactor containment vessel to be vented using the 36-inch containment purge and vent valves when the reactor is operating at or below Cold Shutdown conditions.

There are four 36-inch-diameter containment purge supply and exhaust isolation valves in the containment purge and ventilation system. Two valves (RBV-1 and RBV-2) are in the containment air supply duct and two valves (RBV-3 and RBV-4) are in the exhaust air ducts. One of the two valves per duct is installed on each side of the containment boundary and each valve is considered a containment isolation valve. These are quality assurance Type 1 butterfly valves which are designed and installed to preclude valve seat leakage and to withstand the projected seismic accelerations due to a design-basis earthquake. Closure of the purge and vent valves will automatically occur in the event of high radiation in the containment system

vent. They close upon receipt of a containment ventilation isolation signal, loss of electrical power, loss of instrument air, or manual initiation by a control room switch.

A containment ventilation isolation signal is generated from any of the following:

- A safety injection signal.
- A containment isolation signal.
- A containment spray signal.
- Detection of high particulates by radiation monitor R-11 (Containment System Vent- Air Particulate).
- Detection of high radiation by radiation monitor R-12 (Containment System Vent Radioactivity Gas).
- Detection of high radiation by radiation monitor R-21 (Containment System Vent Air Activity).

3.2 Proposed TS Requirements

The current TS requirements for operability and surveillance testing of the containment purge supply and exhaust isolation valves came from a licensee letter dated March 7, 1983 (C. W. Giesler to NRC; Accession No. 8303100316), where the licensee committed to seal close the 36-inch containment purge and vent valves when the reactor is at greater than Hot Shutdown conditions, and verify the valves are sealed closed by monthly surveillance of control board indication. The licensee identified this as an interim measure until a further analysis of the containment purge and vent valves could be performed. The requirement to verify purge valves are sealed closed on a 31-day frequency when the reactor is critical was subsequently added to the KPS TS by Amendment No. 155, dated June 8, 2001 (Accession No. ML011590319).

In the application, the licensee states that when the above requirements were transferred into the KPS TS, a mismatch occurred between the surveillance requirement (SR) mode of applicability ("when the reactor is critical") and the Limiting Condition for Operability (LCO) mode of applicability (required above Cold Shutdown) associated with Containment System Integrity. The term "greater than Cold Shutdown condition" (as specified in TS 3.6.b.1) equates to the following operating modes: Intermediate Shutdown, Hot Shutdown, Hot Standby and Operating. Whereas the term "when the reactor is critical" in TS 4.4.f.1 equates only to operating modes Hot Standby and Operating. The licensee evaluated the LCO and SR mode of applicability mismatch and determined that delaying performance of this SR until the reactor is critical is not warranted. The licensee has not presented a justification for not verifying that the containment purge supply and exhaust isolation valves are sealed closed during periods when the reactor is in intermediate Shutdown or Hot Shutdown conditions.

The licensee states that there is no justification for the difference in interpretation of the TS SR (i.e., TS 4.4.f.1) and the LCO for operability (i.e., TS 3.6.b.1). Thus, the licensee proposed to revise TS 4.4.f.1, regarding containment isolation device position verification, to be consistent with the corresponding LCO mode of applicability, as follows:

When the reactor is ~~critical~~ greater than Cold Shutdown condition, verify each 36 inch containment purge and vent isolation valve is sealed closed every 31 days.

The NRC staff reviewed the proposed change to the TS and agrees that the revised TS 4.4.f.1 will be more restrictive than the current TS 4.4.f.1. The proposed amendment would not adversely affect the safe operation of the plant. The proposed amendment would not adversely impact containment integrity requirements but increases the safety of the plant by ensuring that when the containment purge and vent isolation valves are required to be operable they are also required to be verified as sealed closed. Requiring the containment purge and vent isolation valves to be verified sealed closed when the reactor is at greater than Cold Shutdown conditions ensures that operation and testing of these valves is in alignment with NUREG-0737, Item II.E.4.2, provisions 6 and 7, and NUREG-0800, Section 6.2.4.II.6.f. The proposed amendment would also align TS 4.4.f.1 with the mode of applicability for TS 3.6.b.1, the LCO requirements for the containment purge and vent isolation valves. The licensee proposed no change to the frequency of leak rate testing, closure times, and postulated radiological consequences. The proposed amendment will only add more restriction to the scope of current surveillance requirements.

The NRC staff thus finds that the proposed change to the TS, as described above, will add conservatism to SR requirements for the containment purge and vent isolation valves, and is consistent with NUREG-0737, Item II.E.4.2, provisions 6 and 7, and NUREG-0800, Section 6.2.4.II Item 6 of the section with the title "SRP Acceptance Criteria." Therefore, the NRC staff finds the proposed TS change to be acceptable.

3.3 Proposed TS Bases Changes

To support the proposed TS change, the licensee provided draft changes to the corresponding TS Bases. The NRC staff recognizes that changes to the TS Bases may be carried out under provisions of the TS Bases Control Program (see TS 6.21). The NRC staff noted that the proposed changes to the TS Bases are consistent with and supportive of the proposed change to TS 4.4.f.1.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Wisconsin State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

This amendment changes a requirement with respect to use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluent that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration (73 FR 52414) and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9).

Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Brian Lee, NRR

Date: June 1, 2009.

June 1, 2009

Mr. David A. Christian
President and Chief Nuclear Officer
Dominion Energy
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

SUBJECT: KEWAUNEE POWER STATION - ISSUANCE OF AMENDMENT RE: THE CONTAINMENT ISOLATION PURGE AND VENT VALVES (TAC NO. MD9466)

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A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next regular biweekly *Federal Register* notice.

Sincerely,
/RA/

Peter S. Tam, Senior Project Manager
Plant Licensing Branch III-1
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ADAMS ACCESSION NUMBER: **ML091271059**

OFFICE	LPL3-1/PM	LPL3-1/LA	EMCB/BC	ITSB/BC	OGC	LPL3-1/BC
NAME	PTam	THarris for BTully	RDennig*	RElliott	MSmith	LJames
DATE	5/20/09	5/19/09	4/27/09*	5/28/09	5/26/09	6/1/09

*Safety evaluation input transmitted by memo on the date shown.

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