Dominion Energy Kewaunee, Inc.
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Dominion®

May 5, 2006

10CFR50.90

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

Serial No. 05-896A
KPS/LIC/GR: R2
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 - 219**
**ONE-TIME EXTENSION OF SURVEILLANCE REQUIREMENTS**

By letter dated February 6, 2006, (Reference 1) Dominion Energy Kewaunee, Inc. (DEK) requested an amendment to Facility Operating License Number DPR-43 for Kewaunee Power Station (Kewaunee). The proposed amendment adds a license condition to extend certain Technical Specification (TS) surveillance test intervals on a one-time basis to account for the effects of an extended forced outage in the spring of 2005. Additionally, DEK requested approval of relief request RR-G-4 regarding the testing of snubbers.

In e-mails from the NRC Project Manager for Kewaunee dated April 7, 2006, and April 21, 2006, the NRC staff transmitted requests for additional information concerning LAR-219. The attachment to this letter contains DEK's response to the NRC request for additional information. These responses do not change the significant hazards determination for the proposed amendment discussed in Reference 1.

As stated in Reference 1, DEK requests approval of the proposed amendment and relief request by June 30, 2006 to allow for proper scheduling of refueling activities. Once approved, DEK will implement this amendment within 60-days.

If you have any questions or require additional information, please contact Mr. Gerald Riste at 920-388-8424.

Very truly yours,

Eugene S. Grecheck
Vice President-Nuclear Support Services

Attachment: Dominion Energy Kewaunee's Response To NRC's Request For Additional Information Regarding License Amendment Request – 219, One-Time Extension of Surveillance Requirements

Enclosure: Kewaunee Power Station Inservice Inspection Program for Fourth Inspection Interval, Appendix E

Commitments made in this letter: None

References

1. Letter from Leslie N. Hartz, (DEK) to Document Control Desk (NRC), "License Amendment Request – 219, One-Time Extension of Surveillance Requirements," dated February 6, 2006. (ADAMS Accession No. ML060450487)

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COMMONWEALTH OF VIRGINIA )
)
COUNTY OF HENRICO )

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Eugene S. Grecheck, who is the Vice President – Nuclear Support Services 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 5TH day of May, 2006.

My Commission Expires: May 31, 2006.

Vicki L. Hull
Notary Public

(SEAL)

Attachment

# DOMINION ENERGY KEWAUNEE'S RESPONSE TO NRC'S REQUEST FOR ADDITIONAL INFORMATION REGARDING LICENSE AMENDMENT REQUEST – 219, ONE-TIME EXTENSION OF SURVEILLANCE REQUIREMENTS

KEWAUNEE POWER STATION

DOMINION ENERGY KEWAUNEE, INC.

# Dominion Energy Kewaunee's (DEK) Response To NRC's Request For Additional Information Regarding License Amendment Request – 219, One-Time Extension of Surveillance Requirements

The Nuclear Regulatory Commission (NRC) has requested additional information regarding Operating License DPR-43, License Amendment Request (LAR) - 219, "One-Time Extension of Surveillance Requirements," for Kewaunee Power Station (Kewaunee). The following is a listing of the NRC questions followed by the corresponding Dominion Energy Kewaunee, Inc. (DEK) responses.

## A. Questions from NRC Branch - EEEB

Question 1: Concerning TS 4.6.a.2, discuss any plans for pre-test maintenance of the EDGs.

DEK Response:

The 2006 refueling outage maintenance on the emergency diesel generators (EDGs) will not begin until the testing required by TS 4.6.a.2 has been completed. Scheduled surveillance procedures and work orders will continue to be performed during the extended interval.

Question 2: Describe the corrective actions taken for the 1996 event described on page 31 of the submittal.

DEK Response:

Page 31 of the LAR describes how the output breaker for emergency diesel generator (EDG) "A" initially closed but immediately reopened. The root cause of this event was an inadequate design change installation procedure. During the 1996 refueling outage, the EDG "A" output breaker was replaced. The installation procedure did not contain adequate instructions to properly adjust an actuating linkage shaft after an adjustment was made to the actuator arm pivot. Furthermore, the retest procedure did not require verification of proper operation of all contacts on the associated stationary switch. This condition led to the EDG "A" output breaker closing and immediately opening and remaining open due to an anti-pumping feature of the breaker. The actuating linkage shaft was subsequently adjusted and the test satisfactorily completed.

Corrective actions taken were:

1. For the EDG "A" output breaker, the actuating linkage shaft was adjusted and the test satisfactorily completed.
2. During the 1996 outage, eighteen breakers were replaced by this design change (EDG "A" output breaker plus seventeen others). The other seventeen breaker

replacement procedures were reviewed to determine if similar procedure deficiencies existed. Based on this review:

a. Five breakers required additional testing to assure the stationary switch contacts would operate reliably.

b. Two breaker installation procedures, for breakers not replaced during the 1996 refueling outage, required revision.

During the additional testing of the five breakers, an unexpected condition was found. Different contacts, all of which were designated as normally open (a) contacts, were found on the verge of changing state between the open and closed condition. This led to the inspection of fourteen of the eighteen breakers. Four were not inspected because two breakers did not use the normally open (a) contacts in question and the sequential event recorder could verify the acceptability of two of the breakers contacts. Of the fourteen breakers inspected, nine were adjusted for optimal positioning and contact wiping, while five did not need adjustment.

Question 3. Concerning TS 4.6.a.3, describe the procedure deficiencies and equipment failures identified in your previous performance review, include a discussion of the corrective actions taken for these deficiencies and failures.

DEK Response:

On October 28, 2004, a re-test procedure deficiency was identified after EDG "B" was unable to achieve the correct frequency during performance of the fast start test. The procedure did not include guidance for the Equipment Operator to readjust the governor synchronizer dial to its midband after completion of the overspeed test. This resulted in the governor not being set in the correct position for the fast start, causing low engine speed and corresponding low frequency. The procedure was subsequently revised to include steps for adjustment of the governor.

On October 26, 2004, during post-maintenance testing of a relief valve in the start-up air system for the EDG "B", the valve began leaking air after system pressure reached its normal operating range. This valve had been replaced during the refueling outage (RFO) and had never been placed in service. A new valve was installed and successfully tested.

On October 24, 2004, an oil leak was identified on the EDG "B" turbo charger lube oil pump shortly after the pump was re-started at the end of the maintenance. The leak was identified prior to returning EDG "B" to service and appears to have developed while the system was out of service during the maintenance. The pump and motor assembly were replaced prior to returning the EDG "B" to service.

On October 19, 2004, a hose from the fuel oil pressure gauge on the EDG "A" was identified as leaking during completion of the re-test procedure. The leak was not present during the previous operating cycle and appears to have been caused by

moving the hose around while opening the gauge panel to perform maintenance and testing of the components behind the panel during the maintenance. The fuel oil pressure gauge hoses on both EDGs were replaced.

On April 27, 2003, a jacket water leak at a temperature switch was identified during completion of the re-test procedure for the EDG "B". The leak was not present prior to the maintenance but developed as a result of maintenance on the switch. The switch was replaced to eliminate the problem.

On April 17, 2003, the control room did not receive an overspeed alarm during performance of the overspeed trip test following the EDG "A" maintenance. The limit switch, used for the local and control room overspeed trip alarm, was replaced. The failed limit switch resulted in a loss of indication only and did not prevent the EDG from tripping due to overspeed.

On April 11, 2003, a procedural deficiency was identified after an unexpected fuel leak developed during disassembly of the EDG "A" fuel oil pump suction strainer. The procedure was revised to include the suction strainer in the tagout for the refueling outage (RFO) mechanical maintenance.

On February 26, 2003, during completion of the re-test procedure for the EDG "A", it was identified that a bolt for mounting the air filter assembly had broken. After consulting with the EDG vendor, it was identified that a spherical washer should be used in this application to allow for the expected movement of the assembly during engine operation. The bolt was replaced and spherical washers were added for both EDGs.

On October 27, 2001, a problem developed during completion of the re-test procedure for the EDG "B" when it was identified that the engine switch was not in the correct position. The Equipment Operator identified that during the performance of the re-test procedure he did not completely rotate the switch to the manual position and promptly corrected the situation.

On October 27, 2001, during performance of the re-test procedure for the EDG "B", it was identified that cylinder number 20 had low firing temperature. All injectors had been replaced during the maintenance, but the injector for cylinder number 20 required further maintenance before the EDG could be returned to service.

On October 22, 2001, while performing final inspections on EDG "B", a mechanic found a washer between cylinders number 15 and 16, behind the center crab stand. The washer appeared to be from a rocker arm holddown nut. The washer was removed and the entire engine was inspected. No washers were found to be missing.

On October 8, 2001, during disassembly of the EDG "A" engine for the 12-year overhaul, two cadmium-coated bolts were identified. One was on a rocker arm oil line and another on a piston-cooling pipe. Cadmium coated bolts are not consistent with

originally supplied engine hardware. The two bolts were replaced with vendor-supplied replacements.

On October 6, 2001, during removal of lube oil from the EDG "A" engine sump, approximately 3 tablespoons of jacket water were found at the bottom of the sump. This condition had been anticipated as lube oil analysis trends had indicated water in the lube oil. Disassembly of the engine and hydro testing did not identify the source of the leakage. Although the source of the leakage was not identified during maintenance, subsequent lube oil analysis has confirmed the leakage has stopped.

Question 4. Concerning TS 4.6.a.4, discuss the procedure deficiencies and equipment failures identified in your previous performance review, include a discussion of the corrective actions taken for these deficiencies and failures.

DEK Response:

On October 28, 2004, during performance of the load rejection test procedure, the engine speed (measured in revolutions per minute (RPM)) for the EDG "B" was found to be outside the expected range. An investigation into the issue identified that the speed switch that drives the RPM meters had been replaced during the RFO but the requirement to calibrate the RPM meters after replacement of the speed switch was not recognized during planning of the work. The meters were calibrated and a note has been added to the stock code for the speed switch regarding the required calibration. This note provides information concerning the requirement to calibrate the RPM meters after replacement of the speed switch.

On October 27, 2004, during performance of the load rejection test procedure, the control room unexpectedly received an alarm for low air pressure in the EDG "B" start up air receivers. The Equipment Operator verified that the air pressure in the receivers was within the acceptable range. The problem could not be repeated during later tests.

On October 20, 2004, a deficiency with the EDG load rejection test procedure was identified after the EDG "A" speed and frequency were found outside the acceptance range following the load rejection test. Procedure revision W (issued July 6, 2004) lowered the acceptable upper frequency from 63Hz to 61Hz to conform with the frequency requirements when the EDG is loaded and connected to the safeguards bus. This change was re-evaluated and found to be overly conservative and unnecessary because the concern was overloading of the EDG. The change was unnecessary because at this point in the procedure, the EDG is running unloaded and the output breaker has just been opened. Revision Y (issued October 25, 2004) of the procedure reversed the change made in revision W.

On April 18, 2003, during performance of the EDG "A" load rejection test procedure, the Equipment Operator did not observe two Bus 5 load shed auxiliary relay indicating lights actuating. A procedure step before the load rejection test verified all lights were operating. After the test, all lights were again verified operating. Additionally, all of the

expected sequence event recorder points alarmed and cleared as expected, indicating satisfactory test completion. A work order was initiated to troubleshoot the issue, but the problem could not be repeated. It is believed that the operator was distracted because of other activities going on and did not notice the indicating lights.

On April 18, 2003, a deficiency with the EDG "A" load rejection test procedure was identified after the EDG "A" voltage was found outside the acceptance range following the load rejection test. The acceptance range for voltage had recently been included in the procedure; the voltage range provided by the revision was +10% of motor rating. The magnitude of the increase in voltage due to the loss of reactive load and true load was not fully considered. The procedure was changed to reflect the maximum voltage rating of the output breaker.

Question 5. Discuss whether there are any other surveillance requirements (SR) that will be performed during the extended SR interval, that will help ensure that the equipment will function as intended.

DEK Response:

Normally scheduled preventative maintenance and surveillance testing will continue to be performed on the EDGs until the RFO plant shutdown. The normal maintenance and surveillance testing includes:

- EDG Availability Test (Monthly and Quarterly)
- Auto Load Sequencer Test (Monthly)
- Vibration Monitoring (Monthly)
- Sampling of the Jacket Water (Monthly)
- Sampling of the Lube Oil (Monthly)

The first week of the outage the extended surveillances for the EDG "B" will be performed. Immediately following completion of the work on EDG "B", the EDG "A" surveillances will be performed.

No additional maintenance is considered necessary during the limited period associated with the extended interval because the normal maintenance will have recently been completed, the extended surveillances will be completed shortly after the RFO starts, and testing/maintenance of the opposite train diesel is not allowed when one diesel is inoperable.

## B. Questions from NRC Branch – CPTB

Question 1. Regarding the program for inservice inspection and testing of snubbers, is Kewaunee using Technical Specification Section 4.14, ASME/ANSI, OM Part 4, or a combination from both of these sources.

DEK Response:

Kewaunee satisfies both Technical Specification 4.14 and ASME/ANSI OM Part 4.

Question 2. Kewaunee TS 4.14 only provides inservice inspection and testing requirements for hydraulic snubbers. Please verify that there are no mechanical snubbers at Kewaunee.

DEK Response:

Kewaunee's snubber population consist of 100% ITT Grinnell (Anvil) hydraulic snubbers on small-bore piping and Anchor/Holth large bore hydraulic snubbers on the Steam Generators. No mechanical snubbers are installed at Kewaunee.

Question 3. Kewaunee submitted "Inservice Inspection Program for Fourth Inspection Interval" to NRC via letter dated December 16, 2003 (ML033580734). Please provide a copy of Appendix E - "List of Non-Exempt Snubbers Within the Code Class Boundary."

DEK Response:

Appendix E - "List of Non-Exempt Snubbers Within the Code Class Boundary," is enclosed. In the NRC's agency document access and management system (ADAMS), Kewaunee's "Inservice Inspection Program for the Fourth Inspection Interval," submitted to NRC via letter dated December 16, 2003, is contained in two files. The first file is ADAMS number ML033580734. The second file is ADAMS number ML033580735. Appendix E is contained in the second file on pages 274 and 275.

Question 4. In the request for relief from Code Requirements, the licensee states that all Code Class 1, 2 and 3 small bore hydraulic snubbers received visual examination except RC-H72 during the forced shutdown of November 2005. How many of these, or any other, snubbers failed this examination.

DEK Response:

As discussed in Reference 1, page 36, 55 safety-related snubbers were inspected during the November 2005 forced outage. The remaining 41 safety-related snubbers were to be inspected on-line, and have now been inspected. Of the 96 safety-related snubbers inspected, two snubbers had indications. One had contact between the paddle and the clamp; this contact did not bind the snubber. The other was initially declared inoperable because a nut was disengaged from the clamp hanger. This snubber was later declared operable, because the nut that was disengaged was from the hanger clamp, but the snubbers retaining fastener was fully engaged. In this condition, the assembly was capable of carrying the load and considered operable. This condition was corrected on the same day it was discovered.

During the 2004 Refueling Outage Visual Inspection three indications were identified, none of which rendered the affected snubber inoperable. Two snubbers had oil leakage indications. Work requests were written for both snubbers that resulted in completely rebuilding these snubber assemblies. The third indication had the paddle in contact with the clamp. Another work request was written and the assembly was aligned in accordance with design. The snubber with the paddle-to-clamp contact was not bound. Furthermore, the snubbers with the leaking reservoirs had sufficient volume to be able to operate through the operating extension. All these indications were documented in the corrective action program.

## C. Questions from NRC Branch – EICB

Question 1. The Section 4.0, Technical Analysis, Attachment 1, of the License Amendment Request records Analytical Limit, Total Loop Error, TS Limit, Margins, Allowable Value, Actual Plant Setting, Loop Drift, and Calibration Tolerance used and/or derived using Kewaunee Power Station Nuclear Administrative Directive NAD 4.6, Plant Setpoint Accuracy, for Pressurizer Level High Reactor Trip Instrumentation. Provide similar information for all the functions in Tables 4.1-1 and 4.1-3 for which similar evaluations have been performed.

DEK Response:

See Table 1.

## References

1. Letter from Leslie N. Hartz, (DEK) to Document Control Desk (NRC), "License Amendment Request – 219, One-Time Extension of Surveillance Requirements," dated February 6, 2006. (ADAMS Accession No. ML060450487)

| TABLE 1[1][3] | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Surveillance Requirement | Item | Title/ Description | Analytical Limit (Al) | Total Loop Error (TLE) | Margin (AL to TS) | TS Limit | Margin (TS to APS) | Allowable Value (AV) | Actual Plant Setting (APS) | Loop Drift (LD) | Calibration Tolerance (Xm) |
| | | | | | | | | | | | |
| TS Table 4.1-1 | 5 | Reactor Coolant Flow (%) | 87 | 1.1381 | 1.8619 | 90 | 2.4992 | 92.4992 | 93 | +/- 0.5008 | 0.275 |
| | | | | | | | | | | | |
| TS Table 4.1-1 | 7 | Pressurizer Pressure (psig): | | | | | | | | | |
| | | Hi Trip | 2410 | 8.8974 | 16.1026 | 2385 | 1.21 | 2383.79 | 2377 | +/- 6.7898 | 2 |
| | | Lo SI | 1685 | 12.8 | 117.2 | 1815 | 6.0857 | 1821.086 | 1830 | +/- 8.9143 | 2 |
| | | Low Trip | 1735 | 13.9 | 126.1 | 1875 | 18.621 | 1893.621 | 1904 | +/- 10.379 | 2 |
| | | | | | | | | | | | |
| TS Table 4.1-1 | 11a | SG Low Level (Narrow) (%): | | | | | | | | | |
| | | Lo Lo Rx Trip | 0.0 | 4.408 | 0.592 | 5.0 | 11.35051 | 16.3505 | 17 | +/- 0.64949 | 0.5 |
| | | Lo Lo Coinc | 0.0 | 4.49086 | N/A | N/A | 20.3596[2] | 24.85051 | 25.5 | +/- 0.64949 | 0.5 |
| | | | | | | | | | | | |
| TS Table 4.1-1 | 11b | SG High Level (Narrow)(%): | | | | | | | | | |
| | | Hi Turbine Trip | 78 | 7.3884 | N/A | N/A | 3.4626[2] | 67.149 | 66.5 | +/- 0.64949 | 0.5 |
| | | | | | | | | | | | |
| TS Table 4.1-1 | 36 | Rxtr Subcooling Mon (psig) | N/A | +/- 20.2523 | N/A | N/A | N/A | N/A | N/A | +/-9.2820 | 7.5 |
| | | | | | | | | | | | |
| TS Table 4.1-1 | 42 | SG Level (Wide Range) (%): | | | | | | | | | |
| | | Control Rm Indication | N/A | +/-6.789 | N/A | N/A | N/A | N/A | N/A | +/-4.352 | 0.25 |
| | | Control Rm Recorder | N/A | +/-2.167 | N/A | N/A | N/A | N/A | N/A | +/-1.622 | 0.25 |

(1) These values are from plant calculations performed for an 18-month test interval using 30-month vendor drift.

(2) These items do not have a TS Limit; Margin is calculated from the Al (+/- TLE) to the AV.

(3) Numbers are not corrected for significant figures but are as listed in the calculations.

Enclosure

# KEWAUNEE POWER STATION
# INSERVICE INSPECTION PROGRAM FOR FOURTH INSPECTION INTERVAL
# APPENDIX E

## KEWAUNEE POWER STATION

## DOMINION ENERGY KEWAUNEE, INC.

## Appendix E

## List of Non Exempt Snubbers Within Code Class Boundary

| SNUBBER ID | DRAWING NO. | CODE CLASS |
|---|---|---|
| RC-H29A | ISIM-874-2 | 1 |
| RCVC-H35 | ISIM-874-3 | 1 |
| AC-H68 | ISIM-914 | 3 |
| SW-H401 | ISIM-924-1 | 3 |
| SI-H35 | ISIM-934-2 | 2 |
| RSI-H2 | ISIM-936 | 2 |
| RSI-H2A | ISIM-936 | 2 |
| RSI-H38 | ISIM-936 | 2 |
| RSI-H78 | ISIM-936 | 2 |
| RSI-H101 | ISIM-936 | 2 |
| RSI-H102 | ISIM-936 | 2 |
| RSI-H99 | ISIM-937-1 | 2 |
| RSI-H98 | ISIM-937-2SH1 | 2 |
| RRHR-H18 | ISIM-938-1 | 1 |
| RRHR-H14 | ISIM-938-2SH1 | 2 |
| RRHR-H15 | ISIM-938-2SH1 | 2 |
| RSI-H59 | ISIM-939SH1 | 2 |
| RSI-H61 | ISIM-939SH1 | 2 |
| RSI-H63 | ISIM-939SH1 | 1 |
| RSI-H67 | ISIM-939SH1 | 1 |
| CS-H39 | ISIM-951 | 2 |
| ICS-H7 | ISIM-952 | 2 |
| ICS-H8 | ISIM-952 | 2 |
| ICS-H9 | ISIM-952 | 2 |
| CS-H33A | ISIM-953 | 2 |
| ICS-H10 | ISIM-954 | 2 |
| ICS-H11 | ISIM-954 | 2 |
| ICS-H12 | ISIM-954 | 2 |
| RHR-H38A | ISIM-958-1-1 | 2 |

## Appendix E

## List of Non Exempt Snubbers Within Code Class Boundary

| SNUBBER ID | DRAWING NO. | CODE CLASS |
|---|---|---|
| RHR-H41A | ISIM-958-1-1 | 2 |
| RHR-H35A | ISIM-959-1-1 | 2 |
| RHR-H36A | ISIM-959-2 | 2 |
| RHR-H12A | ISIM-961-2 | 2 |
| RHR-H12B | ISIM-961-2 | 2 |
| RHR-H16A | ISIM-961-2 | 2 |
| RHR-H10H | ISIM-962-2SH1 | 2 |
| RHR-H49 | ISIM-962-2SH1 | 2 |
| RSI-H83 | ISIM-982 | 2 |
| RSI-H100 | ISIM-982 | 2 |
| RTD-H2 | ISIM-1460 | 1 |
| RTD-H6 | ISIM-1460 | 1 |
| RTD-H11 | ISIM-1461 | 1 |
| RTD-H8 | ISIM-1461 | 1 |
| RCVC-H36 | ISIM-1471 | 1 |
| RCVC-H34 | ISIM-1473 | 1 |
| RCVC-H33A | ISIM-1473 | 1 |
| RCVC-H33B | ISIM-1473 | 1 |
| RCVC-H32 | ISIM-1474 | 1 |
| RCVC-H245 | ISIM-1476 | 1 |
| SG-AH-1 | M-1206 | 2 |
| SG-AH-2 | M-1206 | 2 |