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SEP 06 2011

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

Serial No. 11-500  
LIC/MJH/R0  
Docket No.: 50-305  
License No.: DPR-43

**DOMINION ENERGY KEWAUNEE, INC.**  
**KEWAUNEE POWER STATION**  
**LICENSEE EVENT REPORT 2011-004-01**

Pursuant to 10 CFR 50.73, Dominion Energy Kewaunee, Inc., hereby submits the following Licensee Event Report applicable to Kewaunee Power Station.

Report No. 50-305/2011-004-01

This report has been reviewed by the Facility Safety Review Committee and will be forwarded to the Management Safety Review Committee for its review.

If you have any further questions, please contact Mr. Jack Gadzala at (920) 388-8604.

Very truly yours,

Stephen E. Scace  
Site Vice President, Kewaunee Power Station

Attachment(s)

Commitments made by this letter: NONE

IE22  
MRK

cc: Regional Administrator, Region III  
U.S. Nuclear Regulatory Commission  
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Mr. K. D. Feintuch  
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NRC Senior Resident Inspector  
Kewaunee Power Station

**LICENSEE EVENT REPORT (LER)**  
(See reverse for required number of digits/characters for each block)

|   |                                     |                          |
|---|-------------------------------------|--------------------------|
| <b>1. FACILITY NAME</b><br>Kewaunee Power Station | <b>2. DOCKET NUMBER</b><br>05000305 | <b>3. PAGE</b><br>1 OF 4 |
|---|-------------------------------------|--------------------------|

**4. TITLE**  
Required Action for One Offsite AC Electrical Circuit Inoperable Not Performed Until After Discovery

| 5. EVENT DATE |     |      | 6. LER NUMBER |                   |        | 7. REPORT DATE |     |      | 8. OTHER FACILITIES INVOLVED |               |
|---------------|-----|------|---------------|-------------------|--------|----------------|-----|------|------------------------------|---------------|
| MONTH         | DAY | YEAR | YEAR          | SEQUENTIAL NUMBER | REV NO | MONTH          | DAY | YEAR | FACILITY NAME                | DOCKET NUMBER |
| 03            | 31  | 2011 | 2011          | -- 004            | -- 01  | 09             | 06  | 2011 | FACILITY NAME                | 05000         |
|               |     |      |               |                   |        |                |     |      | FACILITY NAME                | 05000         |

|  |  |   |   |   |  |  |  |  |  |  |  |
|--|--|---|---|---|--|--|--|--|--|--|--|
| <b>9. OPERATING MODE</b><br>1              | <b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §:</b> (Check all that apply) |   |   |   |  |  |  |  |  |  |  |
|  | <input type="checkbox"/> 20.2201(b)  | <input type="checkbox"/> 20.2203(a)(3)(i)   | <input type="checkbox"/> 50.73(a)(2)(i)(C)    | <input type="checkbox"/> 50.73(a)(2)(vii)     |  |  |  |  |  |  |  |
| <b>10. POWER LEVEL</b><br>~87%             | <input type="checkbox"/> 20.2201(d)  | <input type="checkbox"/> 20.2203(a)(3)(ii)  | <input type="checkbox"/> 50.73(a)(2)(ii)(A)   | <input type="checkbox"/> 50.73(a)(2)(viii)(A) |  |  |  |  |  |  |  |
|  | <input type="checkbox"/> 20.2203(a)(1)   | <input type="checkbox"/> 20.2203(a)(4)      | <input type="checkbox"/> 50.73(a)(2)(ii)(B)   | <input type="checkbox"/> 50.73(a)(2)(viii)(B) |  |  |  |  |  |  |  |
|  | <input type="checkbox"/> 20.2203(a)(2)(i)  | <input type="checkbox"/> 50.36(c)(1)(i)(A)  | <input type="checkbox"/> 50.73(a)(2)(iii)     | <input type="checkbox"/> 50.73(a)(2)(ix)(A)   |  |  |  |  |  |  |  |
|  | <input type="checkbox"/> 20.2203(a)(2)(ii)   | <input type="checkbox"/> 50.36(c)(1)(ii)(A) | <input type="checkbox"/> 50.73(a)(2)(iv)(A)   | <input type="checkbox"/> 50.73(a)(2)(x)       |  |  |  |  |  |  |  |
|  | <input type="checkbox"/> 20.2203(a)(2)(iii)  | <input type="checkbox"/> 50.36(c)(2)        | <input type="checkbox"/> 50.73(a)(2)(v)(A)    | <input type="checkbox"/> 73.71(a)(4)          |  |  |  |  |  |  |  |
|  | <input type="checkbox"/> 20.2203(a)(2)(iv)   | <input type="checkbox"/> 50.46(a)(3)(ii)    | <input type="checkbox"/> 50.73(a)(2)(v)(B)    | <input type="checkbox"/> 73.71(a)(5)          |  |  |  |  |  |  |  |
| <input type="checkbox"/> 20.2203(a)(2)(v)  | <input type="checkbox"/> 50.73(a)(2)(i)(A)   | <input type="checkbox"/> 50.73(a)(2)(v)(C)  | <input type="checkbox"/> OTHER                |   |  |  |  |  |  |  |  |
| <input type="checkbox"/> 20.2203(a)(2)(vi) | <input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)  | <input type="checkbox"/> 50.73(a)(2)(v)(D)  | Specify in Abstract below or in NRC Form 366A |   |  |  |  |  |  |  |  |

**12. LICENSEE CONTACT FOR THIS LER**

|                                   |  |
|-----------------------------------|--|
| FACILITY NAME<br>William A Hennig | TELEPHONE NUMBER (include Area Code)<br>(920) 388-8312 |
|-----------------------------------|--|

**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX |
|-------|--------|-----------|--------------|--------------------|-------|--------|-----------|--------------|--------------------|
|       |        |           |              |                    |       |        |           |              |                    |

|  |                                     |       |     |      |
|--|-------------------------------------|-------|-----|------|
| <b>14. SUPPLEMENTAL REPORT EXPECTED</b><br><input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO | <b>15. EXPECTED SUBMISSION DATE</b> | MONTH | DAY | YEAR |
|  |                                     |       |     |      |

**ABSTRACT** (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

At 1744 CDT on March 28, 2011, with reactor power being raised while in Mode 1 following a refueling outage, one offsite AC electrical source became inoperable. The inoperability was due to operators' adjusting transformer load taps on that circuit, without adequately communicating information to the offsite grid operator regarding the onsite electrical demand caused by the specific configuration of operating plant equipment, such that predicted post-trip electrical grid voltage decreased below acceptance criteria.

This condition was not discovered until March 31 at 0245, following which, the transformer tap settings were properly adjusted and the electrical circuit restored to an operable status at 0255.

With one offsite AC electrical source inoperable, Technical Specification (TS) 3.8.1, Required Action A.1, applies. Required Action A.1 has a Completion Time of one hour. Performance of Required Action A.1 was not done prior to discovery of this condition. Therefore, this event is being reported pursuant to 10 CFR 50.73(a)(2)(i)(B) for any operation or condition prohibited by the plant's Technical Specifications.

**LICENSEE EVENT REPORT (LER)  
CONTINUATION SHEET**

| 1. FACILITY NAME       | 2. DOCKET | 6. LER NUMBER |                   |         | 3. PAGE |
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| Kewaunee Power Station | 05000305  | YEAR          | SEQUENTIAL NUMBER | REV NO. | 2 OF 4  |
|                        |           | 2011          | -- 004            | 01      |         |

**NARRATIVE**

**Event Description**

At 1744 CDT on March 28, 2011, with reactor power being raised while in Mode 1 following a refueling outage, one offsite AC electrical source became inoperable. The inoperability was due to operators' adjusting transformer load taps on that circuit, without adequately communicating information to the offsite grid operator regarding the onsite electrical demand caused by the specific configuration of operating plant equipment, such that predicted post-trip electrical grid voltage decreased below acceptance criteria.

Earlier that day, operators had been adjusting system voltages in preparation for scheduled testing of the "B" emergency diesel generator (EDG) [DG]. The EDG test required that bus 1-6 (powered from the Reserve Auxiliary Transformer (RAT) [XFMR]) be powered at the low end of the allowable voltage band. Operators contacted American Transmission Company (ATC) and verified that the predicted post-trip voltage was at 141.5 kV. At 1013 on March 28, operators then placed the load tap changer (LTC) [TTC] associated with the RAT Supply Transformer (RST) [XFMR] at the lowest allowable tap position (-6).

Procedurally, normal operation of the RST at the -6 LTC tap position requires a minimum predicted post-trip voltage of 141.2 kV. Although operators notified ATC of the tap change, ATC was not aware that they would need to inform KPS if predicted post-trip voltage dropped below 141.2 kV. Under normal conditions, ATC provides the minimum voltage notification at 140.0 kV.

After completion of the EDG test, the RST LTC tap was left at -6. This created a human performance error trap in that operators were now solely reliant on ATC to notify them of any change in predicted post-trip voltage below 141.2 kV, whereas ATC staff was operating under the premise that the notification should occur at 140.0 kV.

At 1744 on March 28, operators started Main Feedwater Pump (MFP) [P] "B" as part of the normal power escalation process (transitioning above 50% power). This equipment configuration required a minimum analyzed post-trip voltage of 140.61 kV. However, the actual predicted post-trip voltage at this time was below this minimum required value. Therefore, the RST/RAT offsite source became inoperable upon starting MFP B (unbeknownst to operators at the time).

On March 31 at 0145, in response to a bus overvoltage alarm [EA], operators contacted ATC and requested that grid voltage be lowered. ATC made adjustments and the alarm cleared over the next hour. At 0245, operators again contacted ATC to further lower grid voltage and to inquire about the value for predicted post-trip grid voltage. ATC informed KPS operators that predicted post trip grid voltage was calculated at 140 kV.

At this point, operators discovered that the RST LTC tap changer setting was below the minimum permissible tap setting for the predicted voltage and declared this offsite power source circuit inoperable.

Operators then initiated actions to properly adjust the transformer tap settings and restored this offsite electrical circuit within about 10 minutes (at 0255).

Technical Specification (TS) Limiting Condition for Operation (LCO) 3.8.1 states (in part):

Two qualified circuits between the offsite transmission network and the onsite Class 1E AC Electrical Power Distribution System (shall be OPERABLE).

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TS 3.8.1, Required Action A.1 states:

Perform SR 3.8.1.1 for OPERABLE offsite circuit.

SR 3.8.1.1 directs performance of a verification of correct breaker alignment and indicated power availability for each offsite circuit.

The Completion Time for Required Action A.1 is 1 hour and once per 8 hours thereafter.

TS LCO 3.0.2 states (in part):

Upon discovery of a failure to meet an LCO, the Required Actions of the associated Conditions shall be met.

With one offsite AC electrical source inoperable, TS LCO 3.8.1 was not met. Although this condition existed since 1744 on March 28, it was not discovered until 0245 on March 31. In accordance with LCO 3.0.2, the first Required Action (A.1) for Condition A of TS 3.8.1 needed to be performed within one hour of discovery of the failure to meet LCO 3.8.1. The offsite AC electrical source was restored and the LCO was thereby met within about 10 minutes of discovery of the condition. Performance of Required Action A.1 was not done while the offsite source was inoperable prior to discovery of this condition. Therefore, this event is being reported pursuant to 10 CFR 50.73(a)(2)(i)(B) for any operation or condition prohibited by the plant's Technical Specifications.

**Event and Safety Consequence Analysis**

The Required Action for TS 3.8.1.A.1 was not performed during the time that the RAT/RST (Train B) offsite circuit was inoperable (from 1744 on March 28, 2011, to 0255 on March 31, 2011), because the offsite circuit inoperability was not recognized. The inoperable offsite circuit was restored within one hour of discovery; therefore, the Required Actions of TS 3.8.1.A.1 (and A.2) did not need to be performed. The correct breaker alignment and indicated power availability from the other (Train A) offsite circuit (Tertiary Auxiliary Transformer (TAT)/TAT Supply Transformer (TST)) were maintained unchanged throughout this time. Thus, the other offsite power circuit (TAT/TST) remained operable throughout this condition.

Required Action A.2 for TS 3.8.1 Condition A was not applicable during this time because there were no redundant (Train A) required features made inoperable as a result of this condition. Review of station logs determined that all redundant required features remained operable during the time that the RAT/RST offsite circuit was inoperable. Consequently, the safety significance of this condition was minimal.

The guidance in NUREG-1022, Section 3.2.2 states that "technical specifications contain LCO statements that include action statements... to provide constraints on the length of time components or systems may remain inoperable or out of service before the plant must shut down or other compensatory measures must be taken." This guidance then states "An LER is required if a condition existed for a time longer than permitted by the technical specifications [i.e., greater than the allowed outage time (or completion time in ISTS)] even if the condition was not discovered until after the allowable time had elapsed and the condition was rectified immediately upon discovery."

Therefore, this condition is being reported in accordance with this guidance as a condition prohibited by TS.

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**Cause**

The recent implementation of the new LTCs resulted in operator unfamiliarity with new requirements applicable to operation of this new equipment. This event was due to inadequate communication between various DEK staff involved in implementation of the new LTCs, which led to a misunderstanding of how to properly implement procedures to maintain proper RST LTC tap settings. Contributing to this cause were delays in completing revisions to associated calculations for this equipment. These delays resulted in the procedure upgrades associated with the installation of the LTCs to not occur until just prior to operational implementation.

**Corrective Actions**

1. As immediate corrective action, the inoperable offsite electrical circuit was restored to operable status.
2. Operations Standing Order # 11-27, RST and TST Load Tap Changer Operation, was put in place. This Standing Order requires Operations Management to be contacted prior to going below the 4L position on the RST and prior to going below the 6L position on the TST per procedure OP-KW-NOP SUB-003, RST and TST Load Tap Changer Operation, in order to maintain acceptable manual LTC positions for calculated 138 KV post trip voltage requirements.
3. Actions were initiated to revise procedure OP-KW-NOP-SUB-003, RST and TST Load Tap Changer Operation, to improve guidance on LTC operation and to determine any additional training that may be needed.

**Similar Events**

A review of Licensee Event Reports covering the last three years did not identify any similar events.