Dominion Energy Kewaunee, Inc.
N490 Highway 42, Kewaunee, WI 54216-9511

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APR 4 2007

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

Serial No. 07-0263
KPS/LIC/RS: RO
Docket No. 50-305
License No. DPR-43

DOMINION ENERGY KEWAUNEE, INC.
KEWAUNEE POWER STATION
LICENSEE EVENT REPORT 2007-003-00

Dear Sirs:

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

Report No. 50-305/2007-003-00

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

If you have any further questions, please contact Mr. Richard Sattler at (920) 388-8121.

Very truly yours,

M. Hartz, acting Site V.P.

Leslie N. Hartz
Site Vice President, Kewaunee Power Station

Attachment

Commitments made by this letter: NONE

IE22

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

Mr. R. F. Kuntz
Project Manager
U.S. Nuclear Regulatory Commission
Mail Stop O 7D1A
Washington, D. C. 20555

NRC Senior Resident Inspector
Kewaunee Power Station

NRC FORM 366 (6-2004) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 6-30-2007

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0066), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
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TITLE (4)

Emergency Diesel Generator design loading calculations non-conservative due to old design issues

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
02	03	2007	2007	-- 003 --	00	04	04	2007	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	N
POWER LEVEL (10)	99.69

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR : (Check all that apply) (11)

20.2201(b)		20.2203(a)(3)(ii)		50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)
20.2201(d)		20.2203(a)(4)		50.73(a)(2)(iii)	50.73(a)(2)(x)
20.2203(a)(1)		50.36(c)(1)(i)(A)		50.73(a)(2)(iv)(A)	73.71(a)(4)
20.2203(a)(2)(i)		50.36(c)(1)(ii)(A)		50.73(a)(2)(v)(A)	73.71(a)(5)
20.2203(a)(2)(ii)		50.36(c)(2)	X	50.73(a)(2)(v)(B)	OTHER Specify in Abstract below or in NRC Form 366A
20.2203(a)(2)(iii)		50.46(a)(3)(ii)		50.73(a)(2)(v)(C)	
20.2203(a)(2)(iv)		50.73(a)(2)(i)(A)	X	50.73(a)(2)(v)(D)	
20.2203(a)(2)(v)	X	50.73(a)(2)(i)(B)		50.73(a)(2)(vii)	
20.2203(a)(2)(vi)		50.73(a)(2)(i)(C)		50.73(a)(2)(viii)(A)	
20.2203(a)(3)(i)		50.73(a)(2)(ii)(A)		50.73(a)(2)(viii)(B)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Richard Sattler	(920) 388-8121

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X	YES (If yes, complete EXPECTED SUBMISSION DATE).				08	03	2007

ABSTRACT

On 2/3/07 and 2/26/07, (with the plant at 99.69% power), and again on 3/8/07 (shutdown), additional loads were identified that had not been included in the emergency diesel generator design loading calculations. In the first two occasions, based on the diesel engine derating curves and the existing ambient temperature, the emergency diesel generators were determined to be operable. For the 3/8/07 occasion, a procedure change restored diesel operability. Together, these three events identified potential loading for both emergency diesel generators in excess of their 18 month surveillance loading of 2950 kW.

At various times during the reporting period, ambient temperatures have existed that would have prevented the diesel generators from meeting their 18 month surveillance loading. The majority of these temperature events would also have prevented the diesels from meeting their newly calculated design loads.

During the reporting period, there were periods when only one diesel was inoperable with no concurrent inoperability of opposite train engineered safety features equipment. There were other periods when only one diesel was inoperable but with concurrent inoperability of the opposite train engineered safety features equipment. Finally there were periods where both diesels were concurrently inoperable (both with and without concurrently operable opposite train engineered safety features equipment).

This event is being reported in accordance with 10 CFR 50.73(a)(2)(i)(B), "Any operation or condition which was prohibited by the plant's Technical Specifications", and 10 CFR 50.73(a)(2)(v)(B) and (D), "Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to (B) remove residual heat and (D) mitigate the consequences of an accident."

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TEXT *(If more space is required, use additional copies of NRC Form 366A)* **(17)**

Event Description:

The following events were identified during an NRC Component Design Basis Inspection, using information developed (but not yet approved) by the on-going Kewaunee Power Station (KPS) Electrical Calculation Project:

1) On 2/3/07 with the plant at 99.69% power, it was identified that certain cable losses had not been included in the emergency diesel generator (EDG) [DG] loading calculations. Based on preliminary loadflow calculations, these cable losses added an additional 18.0 kW to the previously calculated design load for train A EDG and 16.5 kW to the previously calculated design load for train B EDG.

2) On 2/26/07 with the plant at 99.69% power, it was identified that additional loading from the Containment Fan Cooling Unit (CFCU) [FCU] fan motors (due to containment air density during a LOCA) had not been included in the EDG loading calculations. These loads added approximately 13.0 kW to the previously calculated design load for each EDG.

3) On 3/8/07 with the plant shutdown, it was identified that the sequencing of certain emergency operating procedural actions had the potential to add 139.8 kW to train A EDG and 82.6 kW to train B EDG.

Combined, these three conditions added an additional 170.8 kW to the previously calculated design load for train A EDG and 112.1 kW for train B EDG; and resulted in potential loading for both EDGs in excess of their 18 month surveillance loading of 2950 kW. (Technical Specification (TS) Surveillance 4.6.a.5).

At KPS, the loads on both EDGs are calculated to exceed their continuous rating of 2600 kW during a loss of coolant accident with loss of off-site power. Operation outside this continuous operating rating is acceptable provided the duration of the loading and the maximum combustion air temperatures remain within the limits of the vendor-supplied EDG derating curves.

For the first two conditions, the additional loads resulted in the maximum allowed outside air temperature, (based on the diesel engine derating curves), greater than the current ambient temperature. Furthermore, the addition of these loads were enveloped by the existing operability determination and therefore the EDGs were operable. The addition of the load from the 3/8/07 condition was determined to not be enveloped by the existing operability determination (for train A EDG only). A procedure change was performed on the Emergency Operating Procedures to first verify that load sequencing would not exceed 2950 kW on either EDG. After the procedure changes were implemented, further evaluation (on 3/15/07), determined that the 3/8/07 condition was not enveloped by the existing operability determination for either EDG.

During the reporting period, there were periods when only one diesel was inoperable with no concurrent inoperability of opposite train engineered safety features equipment. There were other periods when only one diesel was inoperable but with concurrent inoperability of the opposite train engineered safety features equipment. Finally there were periods where both diesels were concurrently inoperable (both with and without concurrently operable opposite train engineered safety features equipment).

Event Analysis:

This event is being reported in accordance with 10 CFR 50.73(a)(2)(i)(B), "Any operation or condition which was prohibited by the plant's Technical Specifications", and 10 CFR 50.73(a)(2)(v)(B) and (D), "Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to (B) remove residual heat and (D) mitigate the consequences of an accident."

The EDGs (either separately or jointly) would periodically have been unable to meet TS Surveillance 4.6.a.5 due to elevated ambient temperatures. TS Surveillance 4.6.a.5 states: Each diesel generator shall be loaded to 2950 kW (nominal) for 2 hours every operating cycle. Per TS 4.0.a, "Failure to meet a surveillance requirement, whether such failure is experienced during the performance of the surveillance or between performances of the surveillance shall be failure to meet the OPERABILITY requirements for the LCO."

TS LCO 3.7.b.2 states: "One diesel generator may be inoperable for a period not exceeding 7 days provided the other diesel is tested daily to ensure OPERABILITY and the engineered safety features associated with this diesel generator are OPERABLE." Based on ambient temperatures, there were multiple times of unrecognized diesel inoperability (singularly or together). These did not include the required testing of the opposite diesel, and in many of these cases, the engineered safety features associated with the opposite diesel generator were not OPERABLE.

The occasions above involving concurrent inoperability of both diesels, single diesel inoperablity that exceeded 24 hours without testing the opposite diesel, and single diesel inoperability with concurrently inoperable opposite train engineered safety features, should have resulted in entry into TS LCO 3.0.c, which did not occur. TS LCO 3.0.c states:

> When a LIMITING CONDITION FOR OPERATION is not met, and a plant shutdown is required except as provided in the associated ACTION requirements, within one hour action shall be initiated to place the unit in a MODE in which the specification does not apply by placing it, as applicable, in:
>
> 1. At least HOT STANDBY within the next 6 hours,
> 2. At least HOT SHUTDOWN within the following 6 hours, and
> 3. At least COLD SHUTDOWN within the subsequent 36 hours.

Safety Significance:

The assumption is that all accident-related equipment that can be loaded on the diesel generator is actually loaded. In actuality, the only credible event that requires the safety injection [BQ], residual heat removal [BP] and internal containment spray pumps [BE] to operate for more than 30 minutes is a large break LOCA, which has a very low initiating frequency. Furthermore, the probability that a loss of offsite power occurs at the same time as a LOCA is small. Therefore, this issue is of very low safety significance.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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TEXT *(If more space is required, use additional copies of NRC Form 366A)* **(17)**

Cause:

- The first two events involved inadequate engineering calculations. Issues with KPS electrical design calculations are well documented with corrective actions currently in place.
- For the issue of the Emergency Operating Procedures being inconsistent with the design calculations, a root cause evaluation is being performed. The results of this root cause evaluation will be provided as a supplement to this LER.

Corrective Actions:

- For the first two events, an Electrical Calculation Project is underway that is reconstituting the major plant AC and DC calculations.
- The appropriate corrective actions for the third event will be determined by the ongoing root cause evaluation and will be provided as a supplement to this LER.

Similar Events:

A review of LERs for the last three years identified the following similar events:

- LER 2005-007, Unanalyzed Condition: Design Deficiency -Component Cooling Water System Inoperable Due to Pump "Run Out" Conditions
- LER 2005-008, Turbine-Driven Auxiliary Feedwater Pump Inoperable Due to Insufficient Net Positive Suction Head
- LER 2005-010, Inadequate Engineering Analysis to Support Service Water Pump Operability
- LER 2006-004, Incorrect Assumption Regarding De-Rating of EDGs During Loaded Operation
- LER 2006-006, Safety Injection accumulator level to volume correlation and alarm setpoints non-conservative