



DEC 12 2007

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

Serial No. 07-0706
LIC/GOR/R4
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 - 217
REVISION TO REACTOR TRIP PERMISSIVE SETPOINTS

Pursuant to 10 CFR 50.90, Dominion Energy Kewaunee, Inc. (DEK) submitted a request for approval of a proposed amendment to the Kewaunee Power Station (KPS) Technical Specifications (TS) (reference 1). The proposed amendment will:

- Align the KPS TS with the model of the Westinghouse Improved Standard Technical Specification for the P-10 permissive, and;
- Revise the KPS TS Bases to ensure licensing basis functions of the P-10 permissive are clearly described.

The proposed change also revises the TS setpoints for the P-7 permissive to ensure sufficient overlap in reactor protection and consistency between the plant settings and the TS requirements and revises the TS concerning reactor trip interlocks in TS 2.3.a.6.

Subsequent to the submittal of the proposed amendment, the Nuclear Regulatory Commission (NRC) transmitted a request for additional information (RAI) (reference 2). The RAI questions and associated DEK responses are provided in the attachment to this letter.

The attached responses do not change the conclusions of the no significant hazards determination previously provided in reference 1. DEK continues to request NRC approval of KPS LAR 217 by the requested date contained in reference 1.

If you have any questions or require additional information, please contact Mr. Craig Sly at (804) 273-2784.

A001
NRR

A complete copy of this submittal has been transmitted to the State of Wisconsin as required by 10 CFR 50.91(b)(1).

Very truly yours,



L. N. Hartz
Vice President - Nuclear Support Services

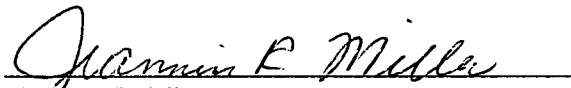
STATE OF WISCONSIN

COUNTY OF KEWAUNEE

The foregoing document was acknowledged before me, in and for the State aforesaid, today by Leslie N. Hartz, who is Vice President – Nuclear Support Services of Dominion Energy Kewaunee, Inc. She has affirmed before me that she is duly authorized to execute and file the foregoing document in behalf of that Company, and the statements in the document are true to the best of her knowledge and belief.

Acknowledged before me this 12th day of December, 2007.

My Commission expires: 3-28-2010.


Notary Public

Commitments made by this letter: NONE

References

1. Letter from Gerald T. Bischof (DEK) to Document Control Desk, "License Amendment Request 217, Revision to Reactor Trip Permissive Setpoints," dated June 12, 2007 (ADAMS Accession No. ML071700257).
2. Letter from Patrick D. Milano (NRC) to David A. Christian (DEK), "Kewaunee Power Station-Request for Additional Information Related to Reactor Trip Permissive Setpoints (TAC No. MD5843)," dated October 13, 2007 (ADAMS Accession No. ML072710564).

Attachment

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

Mr. P. D. Milano
U.S. Nuclear Regulatory Commission
Mail Stop O-8-H-4a
Washington, D. C. 20555

NRC Senior Resident Inspector
Kewaunee Power Station

Public Service Commission of Wisconsin
Electric Division
P. O. Box 7854
Madison, WI 53707

ATTACHMENT

**RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION REGARDING
KEWAUNEE LICENSE AMENDMENT REQUEST 217**

REVISION TO REACTOR TRIP PERMISSIVE SETPOINTS

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

**Response to NRC Request for Additional Information Regarding Kewaunee
License Amendment Request 217**

Revision to Reactor Trip Permissive Setpoints

Pursuant to 10 CFR 50.90, Dominion Energy Kewaunee, Inc. (DEK) submitted a request for approval of a proposed amendment to the Kewaunee Power Station (KPS) Technical Specifications (TS) (Reference 1). The proposed amendment will:

- Align the KPS TS with the model of the Westinghouse Improved Standard Technical Specification for the P-10 permissive, and;
- Revise the KPS TS Bases to ensure licensing basis functions of the P-10 permissive are clearly described.

The proposed change also revises the TS setpoints for the P-7 permissive, to ensure sufficient overlap in reactor protection and consistency between the plant settings and the TS requirements and revises the TS concerning reactor trip interlocks in TS 2.3.a.6.

Subsequently, on October 13, 2007, the Nuclear Regulatory Commission (NRC) transmitted a request for additional information (RAI) regarding the proposed amendment (Reference 2). The RAI questions and associated DEK responses are provided below.

NRC Question 1

Setpoint Calculation Methodology

Provide documentation (such as method type and sample calculations) of the methodology used for establishing the limiting setpoint (or nominal trip setpoint) and the limiting acceptable values for the As-Found and As-Left setpoints as measured in periodic surveillance testing. Indicate the related Analytical Limits and other limiting design values (and the sources of these values) for each setpoint.

Response:

As stated in Reference 1, permissives P-7 and P-10 are part of the KPS Nuclear Instrumentation (NI) system that is described in KPS Updated Safety Analysis Report (USAR) Section 7.4, "Nuclear Instrumentation." These permissive setpoints have been set at approximately 10% reactor power since initial licensing of the plant.

Also as stated in Reference 1, the only accident in the Updated Safety Analysis Report (USAR) of concern is an Uncontrolled Rod Cluster Control Assembly (RCCA)

Withdrawal at Power (RWAP). Review of the USAR Chapter 14 safety analyses and discussions with Westinghouse at the time indicated that the safety analysis was not adversely affected by establishing the P-10 setting at 9.5% reactor power and the reset at 7.5% reactor power.

Also in Reference 1, DEK states that the reactor trips on low reactor coolant system (RCS) flow, reactor coolant pump (RCP) breaker opening, RCP bus undervoltage and underfrequency, turbine trip, low pressurizer pressure, and high pressurizer level are blocked below the P-7 permissive, nominally 10% power.

The P-7 permissive blocks these trips when both the nuclear instrumentation system (NIS) P-10 permissive and the turbine impulse chamber pressure are below their setpoint. The RWAP analysis does not explicitly credit any of these reactor trip functions. However, implicit credit is taken for the high pressurizer level trip to prevent pressurizer overfill and subsequent water relief should pressurizer overfill be challenged and the other reactor trips do not actuate first to prevent it. There would be no adverse impact on the RWAP from establishing a lower P-10 permissive reset, and thus a lower P-7 permissive reset, of 7.8% power.

In Reference 1 DEK concludes that, "Based on evaluation of the RWAP safety analysis from the various initial power levels, reducing the minimum power level at which the permissive P-10 would actuate (due to reducing the setpoint to its minimum of 7.8% power) would not change the conclusion that minimum departure from nucleate boiling ratio (DNBR) will always be greater than the safety analysis limit."

As such, the P-7 and P-10 permissives do not have stated analytical limits and are not limiting safety system setting (LSSS) setpoints.

The calibration tolerance (the As-Found, As-Left limiting criteria) was taken from the surveillance procedure, which when multiplied by the process span is included in the calculation of the loop drift as the accuracy term. This calibration tolerance of +/-0.5% has been incorporated in the surveillance procedure since 1974. The physical characteristics of the relay dictates that a 2% deadband exists between P-10 bistable set and reset (P-7 input) values. To encompass a nominal 10% setpoint a band of 9% to 11% was chosen.

To demonstrate that the TS limits will not be exceeded if the actual plant setting is maintained within these setpoints, loop drift was calculated: The loop drift calculation used the square-root-sum-of-the-squares (SRSS) method including accuracy (0.6%), instrument drift (0.24%), and measuring and test equipment (M&TE) (0.156%) factors. This calculation determined the loop drift as 0.67%. Adding the loop drift ($\pm 0.67\%$) to the 9% to 11% band results in an 8.33% to 11.67% band. This leaves a margin of 0.53% to the TS limits of 7.8% to 12.2% (refer to Figure 2 of Reference 1).

NRC Question 2

Safety Limit (SL)-Related Determination

Provide a statement as to whether or not the setpoint is a limiting safety system setting (LSSS) for a variable on which a SL has been placed as discussed in 10 CFR 50.36(c)(1)(ii)(A). Such setpoints are described as "SL-Related" in the discussions that follow.

In accordance with 10 CFR 50.36(c)(1)(ii)(A), the following guidance is provided for identifying a list of functions to be included in the subset of LSSS specified for variables on which SLs have been placed as defined in Standard Technical Specifications (STS) Sections 2.1.1, "Reactor Core SLs," and 2.1.2, "Reactor Coolant System Pressure Boundary SLs." This subset includes automatic protective devices in TSs for specified variables on which SLs have been placed that: (1) initiate a reactor trip; or (2) actuate safety systems. As such, these variables provide protection against violating reactor core SLs or reactor coolant system pressure boundary SLs.

An example of instrument functions that might have an LSSS included in this subset, in accordance with the plant-specific licensing basis, is the pressurizer pressure reactor trip. For each setpoint, or related group of setpoints that you determined not to be SL-Related, explain the basis for this determination.

Response:

The P-7 and P-10 permissive setpoints in question are not SL-LSSS setpoints. These setpoints are not automatic protective devices in TSs for specified variables on which SLs have been placed that: (1) initiate a reactor trip; or (2) actuate safety systems. As such, these setpoints do not provide protection against violating reactor core SLs or reactor coolant system pressure boundary SLs.

NRC Question 3

For Setpoints Determined to be SL-Related

NRC letter to the Nuclear Energy Institute Setpoint Methodology Task Force (SMTF) dated September 7, 2005 (ADAMS No. ML052500004) describes Setpoint-Related TSs (SRTS) that are acceptable to the NRC for instrument settings associated with SL-Related setpoints. Specifically, Part "A" of the Enclosure to the letter provides limiting condition for operation notes to be added to the TS, and Part "B" includes a check list of the information to be provided in the TS Bases related to the proposed TS changes.

- a. *Describe whether and how you plan to implement the SRTS suggested in the September 7, 2005, letter. If you do not plan to adopt the suggested SRTS, then explain how you will ensure compliance with 10 CFR 50.36 by addressing items 3b and 3c, below.*
- b. *As-Found Setpoint Evaluation: Describe how surveillance test results and associated TS limits are used to establish operability of the safety system. Show that this evaluation is consistent with the assumptions and results of the setpoint calculation methodology. Discuss the plant corrective action processes (including plant procedures) for restoring channels to operable status when channels are determined to be "inoperable" or "operable but degraded." If the criteria for determining operability of the instrument being tested are located in a document other than the TS (e.g., plant test procedure) explain how the requirements of 10 CFR 50.36 are met.*
- c. *As-Left Setpoint Control: Describe the controls employed to ensure that the instrument setpoint is, upon completion of surveillance testing, consistent with the assumptions of the associated analyses. If the controls are located in a document other than the TS (e.g., plant test procedure) explain how the requirements of 10 CFR 50.36 are met.*

Response:

The P-7 and P-10 permissive setpoints are not SL-LSSs. Therefore, this question is not applicable to KPS LAR 217.

NRC Question 4

For Setpoints that are not determined to be SL-Related:

Describe the measures to be taken to ensure that the associated instrument channel is capable of performing its specified safety functions in accordance with applicable design requirements and associated analyses. Include in your discussion information on the controls you employ to ensure that the As-Left trip setting after completion of periodic surveillance is consistent with your setpoint methodology. Also, discuss the plant corrective action processes (including plant procedures) for restoring channels to operable status when channels are determined to be "inoperable" or "operable but degraded." If the controls are located in a document other than the TS (e.g., plant test procedure), describe how it is ensured that the controls will be implemented.

Response:

DEK performs periodic surveillances to verify the settings of the instrumentation. Specific settings are verified to be within an acceptance range. If the as-found value is within the acceptance range the calibration is considered acceptable.

When these instruments are tested, the surveillance procedure directs the performers to perform the following if the as-found data is not within the acceptance range (e.g., setpoint $\pm 0.5\%$ for P-10):

1. IF the As Found data is NOT within the Acceptance Range, THEN immediately notify the Shift Manager before continuing.
2. IF the As Found data is NOT within the Acceptance Range, THEN immediately notify the First Line Supervision before continuing.

When notification is made to the Shift Manager, the channel is already removed from service and considered inoperable as part of the surveillance. A condition report is required to be generated to track and evaluate this issue in the corrective action program.

Once the notification is made, an evaluation of the instrument calibration history is performed. The evaluation consists of reviewing the past calibration as-found and as-left data. In the case of setpoints, if the past calibration data were within tolerance (setpoint $\pm 0.5\%$ for this setpoint), and the present drift is not excessive (setpoint $\pm 0.67\%$ for this setpoint), the circuit is recalibrated to the setpoint value $\pm 0.5\%$. If these criteria can not be met, the component is repaired or replaced.

Based on this evaluation of the past calibration data, the component is either repaired, replaced, or recalibrated. Once repair or replacement and recalibration are complete, the surveillance is allowed to continue. In all cases, the as-left setting is required to be within the surveillance procedure specified tolerance before the surveillance can be considered satisfactory and the channel returned to service.

If repair or recalibration is not possible, the channel is not allowed to be returned to service.

References:

1. Letter from Gerald T. Bischof (DEK) to Document Control Desk, "License Amendment Request 217 Revision to Reactor Trip Permissive Setpoints," dated June 12, 2007 (ADAMS Accession No. ML071700257).
2. Letter from Patrick D. Milano (NRC) to David A. Christian (DEK), "Kewaunee Power Station-Request for Additional Information Related to Reactor Trip Permissive Setpoints (TAC No. MD5843)," dated October 13, 2007.