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Docket Number 50-346

10 CFR 50.90

License Number NPF-3

Serial Number 3213

January 12, 2006

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Subject: Davis-Besse Nuclear Power Station
Third Supplemental Letter Regarding License Amendment Application to
Support Mark B-HTP Fuel Design for Cycle 15
(License Amendment Request (LAR) 05-0002; TAC No. MC6888)

Ladies and Gentlemen:

By letter dated May 2, 2005 (Serial Number 3131), as supplemented on August 28, 2005 (Serial Number 3166) and September 15, 2005 (Serial Number 3183), the FirstEnergy Nuclear Operating Company (FENOC) submitted an application for amendment of the Operating License, Appendix A, Technical Specifications (TS) for the Davis-Besse Nuclear Power Station (DBNPS), License Amendment Request (LAR) 05-0002. The proposed amendment would revise TS Section 2.1.1, "Safety Limits -Reactor Core," and TS Section 2.2.1, "Limiting Safety System Settings - Reactor Protection System Setpoints" to support use of the Framatome Mark B-HTP Fuel design for Cycle 15, which is scheduled to begin following refueling in March 2006. FENOC plans to respond under separate cover regarding additional information describing instrument uncertainty calculations related to this application.

The September 15, 2005 supplemental letter proposed an additional change to TS Section 2.2.1. This change was requested by the NRC staff on July 19, 2005, and was based upon recommendations provided by the NRC to the Nuclear Energy Institute (NEI) by letter dated March 31, 2005 (ADAMS Accession No. ML050870008). Specifically, a footnote was proposed to be added to TS Table 4.3-1, "Reactor Protection System Instrumentation Surveillance Requirements," applicable to Functional Unit 7, "RC Pressure-Temperature." As depicted in Enclosure 1, this proposed footnote is superceded by a new footnote based upon recommendations provided by the NRC to the NEI by letter dated September 7, 2005 (ADAMS Accession No. ML052500004). This change was requested by the NRC staff on December 8, 2005.

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Enclosure 1 also provides proposed TS Bases changes as recommended by the September 7, 2005 letter. These Bases changes are provided for information only and will be processed under the provisions of the DBNPS TS Bases Control program. Other than the administrative description of the change itself, the previously submitted evaluation for LAR 05-0002 is unaffected, including the technical analysis, no significant hazards consideration, and environmental consideration. The proposed changes have been reviewed by the DBNPS onsite review board and the DBNPS offsite review board. Precedence for these changes is provided by Amendment 168 to Facility Operating License NPF-62 for the Clinton Power Station Unit 1, dated September 27, 2005. FENOC continues to request approval of the proposed amendment by February 1, 2006.

Enclosure 2 identifies that there are no commitments contained in this letter.

If there are any questions or if additional information is required, please contact Mr. Gregory A. Dunn, Manager – Fleet Licensing, at (330) 315-7243.

The statements contained in this submittal, including its associated enclosures and attachments are true and correct to the best of my knowledge and belief. I am authorized by the FirstEnergy Nuclear Operating Company to make this submittal. I declare under penalty of perjury that the foregoing is true and correct.

Executed on: January 12, 2006

By: Barry S. Allen
for Mark B. Bezilla, Vice President-Nuclear

MSH

Enclosures

cc: Regional Administrator, NRC Region III
Executive Director, Ohio Emergency Management Agency,
State of Ohio (NRC Liaison)
DB-1 NRC/NRR Project Manager
DB-1 NRC Senior Resident Inspector
Utility Radiological Safety Board

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Enclosure 1

REVISED TECHNICAL SPECIFICATION PAGES

- Attachment 1: Revised Proposed Markup of Technical Specification Table 4.3-1
(cover page plus two markup pages)
- Attachment 2: Revised Proposed Retyped Technical Specification Table 4.3-1
(cover page plus two retyped pages)
- Attachment 3: Technical Specification Bases Page
(cover page plus one Bases page)

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Attachment 1

**REVISED PROPOSED MARKUP
OF
TECHNICAL SPECIFICATION TABLE 4.3-1**

(two pages follow)

TABLE 4.3-1REACTOR PROTECTION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES IN WHICH SURVEILLANCE REQUIRED</u>
1. Manual Reactor Trip	N.A.	N.A.	S/U(1)	N.A.
2. High Flux	S	D(2), and Q(6,9)	N.A.	1, 2
3. RC High Temperature	S	R	SA(9)	1, 2
4. Flux - Δ Flux - Flow	S(4)	M(3) and Q(6,7,9)	N.A.	1, 2
5. RC Low Pressure	S	R	SA(9)	1, 2
6. RC High Pressure	S	R	SA(9)	1, 2
7. RC Pressure-Temperature	S	R(10)	SA(9,10)	1, 2
8. High Flux/Number of Reactor Coolant Pumps On	S	Q(6,9)	N.A.	1, 2
9. Containment High Pressure	S	E	SA(9)	1, 2
10. Intermediate Range, Neutron Flux and Rate	S	E(6)	N.A.(5)	1, 2 and *
11. Source Range, Neutron Flux and Rate	S	E(6)	N.A.(5)	2, 3, 4 and 5
12. Control Rod Drive Trip Breakers	N.A.	N.A.	Q(8,9) and S/U(1)(8)	1, 2 and *
13. Reactor Trip Module Logic	N.A.	N.A.	Q(9)	1, 2 and *
14. Shutdown Bypass High Pressure	S	R	SA(9)	2**, 3**, 4**, 5**
15. SCR Relays	N.A.	N.A.	R	1, 2 and *

TABLE 4.3-1 (Continued)

Notation

- (1) - If not performed in previous 7 days.
- (2) - Heat balance only, above 15% of RATED THERMAL POWER.
- (3) - When THERMAL POWER [TP] is above 50% of RATED THERMAL POWER [RTP], and at a steady state, compare out-of-core measured AXIAL POWER IMBALANCE [API_O] to incore measured AXIAL POWER IMBALANCE [API_I] as follows:
$$\frac{RTP}{TP} [API_O - API_I] = \text{Offset Error}$$

Recalibrate if the absolute value of the Offset Error is $\geq 2.5\%$
- (4) - AXIAL POWER IMBALANCE and loop flow indications only.
- (5) - CHANNEL FUNCTIONAL TEST is not applicable. Verify at least one decade overlap prior to each reactor startup if not verified in previous 7 days.
- (6) - Neutron detectors may be excluded from CHANNEL CALIBRATION.
- (7) - Flow rate measurement sensors may be excluded from CHANNEL CALIBRATION. However, each flow measurement sensor shall be calibrated at least once each REFUELING INTERVAL.
- (8) - The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of both the undervoltage and shunt trip devices of the Reactor Trip Breakers.
- (9) - Performed on a STAGGERED TEST BASIS.
- (10) - If the as-found channel setpoint is conservative with respect to the Allowable Value but outside its predefined as-found acceptance criteria band, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service. If the as-found instrument channel setpoint is not conservative with respect to the Allowable Value, the channel shall be declared inoperable.

The instrument channel setpoint shall be reset to a value that is within the as-left tolerance of the Limiting Trip Setpoint, or a value that is more conservative than the Limiting Trip Setpoint; otherwise, the channel shall be declared inoperable. The Limiting Trip Setpoint and the methodology used to determine the Limiting Trip Setpoint, the predefined as-found acceptance criteria band, and the as-left setpoint tolerance band are specified in the TS Bases, or a document incorporated into the USAR.

- * - With any control rod drive trip breaker closed.
- ** - When Shutdown Bypass is actuated.

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**REVISED PROPOSED RETYPED
TECHNICAL SPECIFICATION TABLE 4.3-1**

(two pages follow)

TABLE 4.3-1

REACTOR PROTECTION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES IN WHICH SURVEILLANCE REQUIRED</u>
1. Manual Reactor Trip	N.A.	N.A.	S/U(1)	N.A.
2. High Flux	S	D(2), and Q(6,9)	N.A.	1, 2
3. RC High Temperature	S	R	SA(9)	1, 2
4. Flux - Δ Flux - Flow	S(4)	M(3) and Q(6,7,9)	N.A.	1, 2
5. RC Low Pressure	S	R	SA(9)	1, 2
6. RC High Pressure	S	R	SA(9)	1, 2
7. RC Pressure-Temperature	S	R(10)	SA(9,10)	1, 2
8. High Flux/Number of Reactor Coolant Pumps On	S	Q(6,9)	N.A.	1, 2
9. Containment High Pressure	S	E	SA(9)	1, 2
10. Intermediate Range, Neutron Flux and Rate	S	E(6)	N.A.(5)	1, 2 and *
11. Source Range, Neutron Flux and Rate	S	E(6)	N.A.(5)	2, 3, 4 and 5
12. Control Rod Drive Trip Breakers	N.A.	N.A.	Q(8,9) and S/U(1)(8)	1, 2 and *
13. Reactor Trip Module Logic	N.A.	N.A.	Q(9)	1, 2 and *
14. Shutdown Bypass High Pressure	S	R	SA(9)	2**, 3**, 4**, 5**
15. SCR Relays	N.A.	N.A.	R	1, 2 and *

TABLE 4.3-1 (Continued)

Notation

- (1) - If not performed in previous 7 days.
 - (2) - Heat balance only, above 15% of RATED THERMAL POWER.
 - (3) - When THERMAL POWER [TP] is above 50% of RATED THERMAL POWER [RTP], and at a steady state, compare out-of-core measured AXIAL POWER IMBALANCE [API_O] to incore measured AXIAL POWER IMBALANCE [API_I] as follows:
$$\frac{RTP}{TP} [API_O - API_I] = \text{Offset Error}$$

Recalibrate if the absolute value of the Offset Error is $\geq 2.5\%$
 - (4) - AXIAL POWER IMBALANCE and loop flow indications only.
 - (5) - CHANNEL FUNCTIONAL TEST is not applicable. Verify at least one decade overlap prior to each reactor startup if not verified in previous 7 days.
 - (6) - Neutron detectors may be excluded from CHANNEL CALIBRATION.
 - (7) - Flow rate measurement sensors may be excluded from CHANNEL CALIBRATION. However, each flow measurement sensor shall be calibrated at least once each REFUELING INTERVAL.
 - (8) - The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of both the undervoltage and shunt trip devices of the Reactor Trip Breakers.
 - (9) - Performed on a STAGGERED TEST BASIS.
 - (10) - If the as-found channel setpoint is conservative with respect to the Allowable Value but outside its predefined as-found acceptance criteria band, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service. If the as-found instrument channel setpoint is not conservative with respect to the Allowable Value, the channel shall be declared inoperable.

The instrument channel setpoint shall be reset to a value that is within the as-left tolerance of the Limiting Trip Setpoint, or a value that is more conservative than the Limiting Trip Setpoint; otherwise, the channel shall be declared inoperable. The Limiting Trip Setpoint and the methodology used to determine the Limiting Trip Setpoint, the predefined as-found acceptance criteria band, and the as-left setpoint tolerance band are specified in the TS Bases, or a document incorporated into the USAR.
- * - With any control rod drive trip breaker closed.
 - ** - When Shutdown Bypass is actuated.

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TECHNICAL SPECIFICATION BASES PAGE

(1 page follows)

Note: The Bases page is provided for information only.

BASES

3/4.3.1 and 3/4.3.2 REACTOR PROTECTION SYSTEM AND SAFETY SYSTEM
INSTRUMENTATION (Continued)

For RPS Functional Unit 7, the Limiting Trip Setpoint is specified in the USAR Technical Requirements Manual. The Limiting Trip Setpoint is based on the calculated total loop uncertainty per the plant-specific methodology identified below. The Limiting Trip Setpoint may be established using Method 1 or Method 2 from Section 7 of ISA RP67.04.02-2000, *"Methodologies for the Determination of Setpoints for Nuclear Safety-Related Instrumentation."* Additional information is contained in the Technical Requirements Manual.

The purpose of a Limiting Safety System Setting is to ensure that protective action is initiated before the process conditions reach the analytical limit, thereby limiting the consequences of a design-basis event to those predicted by the safety analyses. For RPS Functional Unit 7, the Limiting Trip Setpoint is the Limiting Safety System Setting required by 10 CFR 50.36. This definition of the LSSS is consistent with the guidance issued to the industry through correspondence with NEI (Reference NRC-NEI Letter dated September 7, 2005). The definition of LSSS values continues to be discussed between the industry and the NRC, and further modifications to these TS Bases will be implemented as guidance is provided.

TS Table 4.3-1 Note 10 ensures that unexpected as-found conditions are evaluated prior to returning the channel to service, and that as-left settings provide sufficient margin for uncertainties. Specifically, for RPS Functional Unit 7, the following additional requirements are added by TS Table 4.3-1 Note 10:

- 1) If the as-found Trip Setpoint is non-conservative with respect to the Allowable Value specified in the Technical Specification, the channel shall be declared inoperable and the associated Technical Specification ACTION statement shall be followed.
- 2) If the as-found Trip Setpoint is conservative with respect to the Allowable Value, and outside the pre-defined as-found acceptance criteria band, but the instrument is functioning as required and the channel can be reset to within the setting tolerance of the Limiting Trip Setpoint, or a value more conservative than the Limiting Trip Setpoint, then the channel may be considered OPERABLE. If it cannot be determined that the instrument channel is functioning as required, the channel shall be declared inoperable and the associated Technical Specification actions shall be followed.
- 3) If the as-found Trip Setpoint is outside the predefined as-found acceptance criteria band, the condition must be entered into the corrective action program for further evaluation.

The measurement of response time at the specified frequencies provides assurance that the RPS, SFAS, and SFRCS action function associated with each channel is completed within the time limit assumed in the safety analyses.

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COMMITMENT LIST

The following list identifies those actions committed to by the Davis-Besse Nuclear Power Station, Unit Number 1, (DBNPS) in this document. Any other actions discussed in the submittal represent intended or planned actions by the DBNPS. They are described only for information and are not regulatory commitments. Please notify Gregory A. Dunn, Manager – Fleet Licensing (330-315-7243) of any questions regarding this document or associated regulatory commitments.

<u>COMMITMENTS</u>	<u>DUE DATE</u>
None	Not applicable