

Docket Number 50-346  
License Number NPF-3  
Serial Number 2197  
Enclosure  
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APPLICATION FOR AMENDMENT  
TO  
FACILITY OPERATING LICENSE NPF-3  
DAVIS-BESSE NUCLEAR POWER STATION  
UNIT NUMBER 1

Attached are requested changes to the Davis-Besse Nuclear Power Station, Unit Number 1 Facility Operating License Number NPF-3. Also included is the Safety Assessment and Significant Hazards Consideration.

The proposed changes (submitted under cover letter Serial Number 2197) concern:

Appendix A, Technical Specification 2.1.2, Reactor Core

Appendix A, Technical Specification 2.2.1, Reactor Protection System Setpoints

Appendix A, Technical Specification Bases 2.1.1, and 2.1.2, Reactor Core

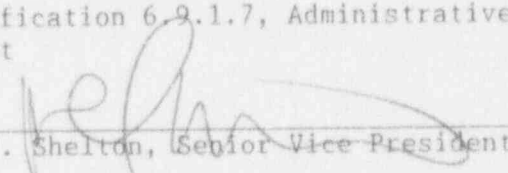
Appendix A, Technical Specification Bases 2.2.1, Reactor Protection System Instrumentation Setpoints

Appendix A, Technical Specification 3.2.2, Power Distribution Limits, Nuclear Heat Flux Hot Channel Factor -  $F_Q$

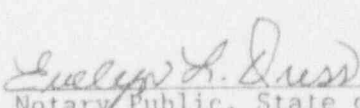
Appendix A, Technical Specification 3.2.3, Power Distribution Limits, Nuclear Enthalpy Rise Hot Channel Factor  $F_{\Delta H}^N$

Appendix A, Technical Specification Bases 3/4.2, Power Distribution Limits

Appendix A, Technical Specification 6.9.1.7, Administrative Controls, Core Operating Limits Report

By:   
D. C. Shelton, Senior Vice President, Nuclear

Sworn and Subscribed before me this 18th day of March, 1994.

  
Notary Public, State of Ohio

EVELYN L. DRESS  
NOTARY PUBLIC, STATE OF OHIO  
My Commission Expires July 28, 1994

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The following information is provided to support issuance of the requested changes to Davis-Besse Nuclear Power Station, Unit Number 1 Operating License Number NPF-3, Appendix A, Technical Specification (TS) 2.1.2 (Reactor Core), TS 2.2.1 (Reactor Protection System Setpoints), Bases 2.1.1 and 2.1.2 (Reactor Core), Bases 2.2.1 (Reactor Protection System Instrumentation Setpoints), TS 3.2.2 (Power Distribution Limits, Nuclear Heat Flux Hot Channel Factor -  $F_Q$ ), TS 3.2.3 (Power Distribution Limits, Nuclear Enthalpy Rise Hot Channel Factor -  $F_{\Delta H}^N$ ), Bases 3/4.2 (Power Distribution Limits), and TS 6.9.1.7 (Administrative Controls, Core Operating Limits Report).

A. Time Required to Implement: This change is to be implemented within 90 days after NRC issuance of the License Amendment.

B. Reason for Change (License Amendment Request Number 93-0004, Revision 0):

This application is submitted in accordance with Generic Letter 88-16, "Removal of Cycle-Specific Limits from Technical Specifications", dated October 4, 1988 (Toledo Edison Log Number 2735), which requires that, for removal of cycle-specific limits from the Technical Specifications, the limits be determined using an NRC approved methodology. On March 16, 1993, the NRC staff approved Babcock and Wilcox (B&W) Topical Report BAW-10179P, "Safety Criteria and Methodology for Acceptable Cycle Reload Analyses" (TAC No. M80189). The NRC Safety Evaluation Report (SER) concludes that the inclusion of certain operating limits in a COLR is acceptable and that BAW-10179P is an acceptable TS reference for the B&W Fuel Company methodology used to establish the values of these limits. The operating limits that may be placed in the COLR include (but are not limited to): nuclear heat flux hot channel factor limit ( $F_Q$ ), nuclear enthalpy rise hot channel factor limit ( $F_{\Delta H}^N$ ), axial power imbalance protective limits and trip setpoint for nuclear overpower based on RCS flow. The above referenced Technical Specification and Bases changes are proposed to implement this guidance.

C. Safety Assessment and Significant Hazards Consideration: See Attachment

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SAFETY ASSESSMENT AND SIGNIFICANT HAZARDS CONSIDERATION  
FOR  
LICENSE AMENDMENT REQUEST NUMBER 93-0004

TITLE:

Revision of Various Technical Specifications and Applicable Bases to Relocate Certain Cycle-Specific Protective Limits and Core Operating Limits to the Core Operating Limits Report (COLR).

DESCRIPTION:

The purpose of the proposed changes is to modify the Davis-Besse Nuclear Power Station (DBNPS) Operating License NPF-3, Appendix A Technical Specifications (TS) and associated Bases. The changes are described in detail below.

On March 16, 1993, the NRC staff approved Babcock and Wilcox (B&W) Topical Report BAW-10179P, "Safety Criteria and Methodology for Acceptable Cycle Reload Analyses" (TAC No. M80189). The NRC Safety Evaluation Report (SER) concludes that the inclusion of certain operating limits in a COLR is acceptable and that BAW-10179P is an acceptable TS reference for the B&W Fuel Company methodology used to establish the values of these limits. The operating limits that may be placed in the COLR include (but are not limited to): nuclear heat flux hot channel factor limit ( $F_N$ ), nuclear enthalpy rise hot channel factor limit ( $F_{\Delta H}^Q$ ), axial power imbalance protective limits and trip setpoint for nuclear overpower based on RCS flow. The following Technical Specification and Bases changes are proposed to implement this guidance:

Technical Specification 2.1.2, Reactor Core - - Remove Figure 2.1-2, Reactor Core Safety Limit, from the TS and relocate it to the COLR. This figure provides axial power imbalance protective limits for various combinations of reactor coolant pump operation. Revise TS 2.1.2 to refer to the COLR instead of Figure 2.1-2, and clarify that this figure is a "protective" limit rather than a "safety" limit. In addition, revise TS 2.1.2 to delete reference to two reactor coolant pump operation since reactor operation with fewer than three reactor coolant pumps in operation is not permitted, and revise the Action statement to clarify that compliance with the requirements of Specification 6.7.2 is required.

Technical Specification 2.2.1, Reactor Protection System Setpoints - - Remove Figure 2.2-1, Trip Setpoint for Flux - -  $\Delta$ Flux/Flow, from the TS and relocate it to the COLR. This figure provides trip setpoints for nuclear overpower based on reactor coolant system (RCS) flow. Revise Table 2.2-1, Reactor Protection System Instrumentation Trip Setpoints, Functional Unit 4, to refer to the COLR instead of Figure 2.2-1 and to remove the reference to footnote "#" since the allowable values for Functional Unit 4 will be in the COLR.

Bases 2.1.1 and 2.1.2, Reactor Core, and Bases 2.2.1, Reactor Protection System Instrumentation Setpoints - - In the fourth paragraph on page B 2-1, remove the references to the hot channel factor values. In the first paragraph on page B 2-2, refer to the COLR in lieu of Figure 2.1-2, refer to the COLR in lieu of a specific  $F_0$  value, refer to the COLR in lieu of a specific kw/ft limit and define a protective limit. In the third paragraph on page B 2-2, refer to the COLR in lieu of Figure 2.1-2. On page B 2-5, delete the discussion of examples of typical power level and low flow rate combinations for the pump situations of Table 2.2-1 (since Figure 2.2-1 is relocated to the COLR, these examples are no longer pertinent). In the first paragraph on page B 2-6, refer to the COLR in lieu of Figure 2.2-1.

Technical Specification 3.2.2, Power Distribution Limits, Nuclear Heat Flux Hot Channel Factor -  $F_0$  - - Remove the  $F_0$  limit relationship specified in the TS and relocate it to the COLR, revising the Limiting Condition for Operation (LCO) to read: " $F_0$  shall be within the limits specified in the Core Operating Limits Report."

Technical Specification 3.2.3, Power Distribution Limits, Nuclear Enthalpy Rise Hot Channel Factor -  $(F_{\Delta H}^N)$  - - Remove the  $(F_{\Delta H}^N)$  limit relationship specified in the TS and relocate it to the COLR, revising the LCO to read " $(F_{\Delta H}^N)$  shall be within the limits specified in the CORE OPERATING LIMITS REPORT."

Bases 3/4.2, Power Distribution Limits - - Associated with the above TS changes, on page B 3/4 2-2, refer to the COLR in lieu of specific hot channel factor limits.

Technical Specification 6.9.1.7, Administrative Controls, Core Operating Limits Report - - Add references to TS 2.1.2, 2.2.1, 3.2.2 and 3.2.3 for core operating limits to be established and documented in the COLR. Replace the present discussion of analytical methods and listing of topical reports with the following:

The analytical methods used to determine the core operating limits addressed by the individual Technical Specifications shall be: those previously reviewed and approved by the NRC, as described in BAW-10179P-A, "Safety Criteria and Methodology for Acceptable Cycle Reload Analyses", or any other new NRC-approved analytical methods used to determine core operating limits that are not yet referenced in the applicable BAW-10179P-A revision. The applicable BAW-10179P-A revision (the approved revision at the time the reload analyses are performed) shall be listed in the CORE OPERATING LIMITS REPORT. The CORE OPERATING LIMITS REPORT shall also list any new NRC-approved analytical methods used to determine core operating limits that are not yet referenced in the applicable BAW-10179P-A revision.

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Technical Specification 6.7, Safety Limit Violation, TS 6.5.1.6, Station Review Board (SRB) Responsibilities, and TS Index - - Actions have been added in a new Technical Specification 6.7.1.2 to address the actions to be taken in the event the protective limit (formerly identified as a safety limit) of revised Technical Specification 2.1.2 is violated. Technical Specification 6.5.1.6.n has been revised to reflect the SRB's responsibility to review the Protective Limit Violation Report. The TS Index has been revised to incorporate the new specification.

SYSTEMS, COMPONENTS, AND ACTIVITIES AFFECTED:

The proposed Technical Specification changes involve cycle-specific reactor core operating limits. Core operating limits are determined using analytical methods that have been previously reviewed and approved by the NRC.

SAFETY FUNCTIONS OF THE AFFECTED SYSTEMS, COMPONENTS AND ACTIVITIES:

The core operating limits are determined so that all applicable limits (e.g. fuel thermal-mechanical limits, core thermal-hydraulic limits, Emergency Core Cooling System (ECCS) limits, and nuclear limits, such as shutdown margin and transient and accident analysis limits) of the safety analyses are met.

EFFECTS ON SAFETY:

As stated above, the NRC staff has approved the Babcock and Wilcox (B&W) Topical Report BAW-10179P. The NRC Safety Evaluation Report (SER) associated with approval of this topical report concludes that inclusion of certain operating limits in a Core Operating Limits Report (COLR) is acceptable and that BAW-10179P is an acceptable Technical Specification reference for the B&W Fuel Company methodology used to establish the value of these limits.

Relocation of cycle-specific core operating limits to the Core Operating Limits Report (COLR) as proposed by this license amendment request, including the nuclear heat flux hot channel factor limit ( $F_0$ ), the nuclear enthalpy rise hot channel factor limit ( $F_{\Delta H}^N$ ), the axial power imbalance protective limits, and the trip setpoint for nuclear overpower based on RCS flow, is an administrative change and will not impact the methodology used to determine the limits. Further, the NRC SER associated with approval of BAW-10179P explicitly includes these limits among those that may be placed in the COLR. Accordingly, there is no adverse effect on safety.

The proposed changes to the Bases, TS 6.5.1.6, TS 6.7, TS 6.9.1.7 and the TS Index are also administrative changes and have no adverse effect on safety.



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SIGNIFICANT HAZARDS CONSIDERATION:

The Nuclear Regulatory Commission has provided standards in 10CFR 50.92 (c) for determining whether a significant hazard exists due to a proposed amendment to an Operating License for a facility. A proposed amendment involves no significant hazards if operation of the facility in accordance with the proposed changes would: (1) Not involve a significant increase in the probability or consequences of an accident previously evaluated; (2) Not create the possibility of a new or different kind of accident from any previously evaluated; or (3) Not involve a significant reduction in a margin of safety. Toledo Edison has reviewed the proposed changes and determined that a significant hazards consideration does not exist because operation of the Davis-Besse Nuclear Power Station in accordance with these changes would:

- 1a. Not involve a significant increase in the probability of an accident previously evaluated because no accident initiators, assumptions or probabilities are affected by the proposed relocation of cycle-specific core operating limits to the Core Operating Limits Report.
- 1b. Not involve a significant increase in the consequences of an accident previously evaluated. The proposed changes do not affect any equipment, accident conditions, or assumptions which could lead to a significant increase in radiological consequences.
- 2a. Not create the possibility of a new kind of accident from any accident previously evaluated because no new accident initiators are introduced by these proposed changes.
- 2b. Not create the possibility of a different kind of accident from any accident previously evaluated because no different accident initiators are introduced by these proposed changes.
3. Not involve a significant reduction in a margin of safety because the proposed changes only relocate cycle-specific core operating limits to the Core Operating Limits Report; they do not allow less conservative operating limits. The analytical methods to be used in the determination of cycle-specific core operating limits are previously approved by the NRC. The same margin of safety provided in the current Technical Specifications will continue to be maintained.

CONCLUSION:

On the basis of the above, Toledo Edison has determined that the License Amendment Request does not involve a significant hazards consideration. As this License Amendment Request concerns proposed changes to the Technical Specifications that must be reviewed by the Nuclear Regulatory Commission, this License Amendment Request does not constitute an unreviewed safety question.

ATTACHMENT:

Attached are the proposed marked-up changes to the Operating License.