May 29, 2001

Mr. Guy G. Campbell, Vice President - Nuclear
FirstEnergy Nuclear Operating Company
5501 North State, Route 2
Oak Harbor, OH 43449-9760

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1 - ISSUANCE OF AMENDMENT (TAC NO. MA9560)

Dear Mr. Campbell:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 246 to Facility Operating License No. NPF-3 for the Davis-Besse Nuclear Power Station, Unit 1. The amendment revises the Technical Specifications in response to your application dated August 7, 2000, as supplemented February 6, 2001.

This amendment revises the Technical Specification (TS) Section Bases 3/4.3.1 and 3/4.3.2 to clarify the actions that must be performed when Steam and Feedwater Rupture Control System (SFRCS) components and SFRCS-actuated components are inoperable. Specifically, the proposed changes will provide guidance on which TS actions are applicable for SFRCS-actuated components. The proposed changes will also add a new TS 3/4.7.1.8 which would provide appropriate requirements for the Main Feedwater Control Valves and the Startup Feedwater Control Valves. Additionally, the proposed changes add TS 3/4.7.1.9 which will provide requirements for the Turbine Stop Valves. The proposed changes are consistent with the intent of NUREG-1430, "Standard Technical Specifications – Babcock and Wilcox Plants," Revision 1, April 1995.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

/RA/

Stephen P. Sands, Project Manager, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-346

Enclosures: 1. Amendment No. 246 to License No. NPF-3
2. Safety Evaluation

cc w/encls: See next page

cc:

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Sincerely,

/RA/
Stephen P. Sands, Project Manager, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-346

Enclosures: 1. Amendment No. 246 to License No. NPF-3
2. Safety Evaluation

cc w/encls: See next page

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OGC

Accession No.: ML011550080 *See Previous Concurrence Sheet

OFFICE	PM:LPD3-2	LA:LPD3-2	NRR:SRXB*	OGC	SC:LPD3-2
NAME	SSands	THarris	JWermiel	ACoggins	AMendiola
DATE	05/18/01	05/18/01	03/29/01	05/8/01	05/29/01

FIRSTENERGY NUCLEAR OPERATING COMPANY

DOCKET NO. 50-346

DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 246
License No. NPF-3

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by the FirstEnergy Nuclear Operating Company (the licensee) dated August 7, 2000, as supplemented February 6, 2001, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 246 , are hereby incorporated in the license. FirstEnergy Nuclear Operating Company shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented not later than 120 days after issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Anthony J. Mendiola, Chief, Section 2
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: May 29, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 246

FACILITY OPERATING LICENSE NO. NPF-3

DOCKET NO. 50-346

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
INDEX VII	INDEX VII
INDEX XII	INDEX XII
	3/4 7-12d
	3/4 7-12e
B 3/4 3-1a	B 3/4 3-1a
	B 3/4 3-1b
B 3/4 7-3	B 3/4 7-3
B 3/4 7-4	B 3/4 7-4
B 3/4 7-4a	B 3/4 7-4a

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 246 TO FACILITY OPERATING LICENSE NO. NPF-3

FIRSTENERGY NUCLEAR OPERATING COMPANY

DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1

DOCKET NO. 50-346

1.0 INTRODUCTION

By letter dated August 7, 2000 (Ref. 1), as supplemented by letter dated February 6, 2001 (Ref. 2), FirstEnergy Nuclear Operating Company (FENOC), the licensee for operations of Davis-Besse Nuclear Power Station (DBNPS), submitted proposed changes to the Technical Specifications (TS) for the Nuclear Regulatory Commission (NRC) to review and approve. The proposed TS changes involve (1) TS Bases 3/4.3.1 and 3/4.3.2, Reactor Protection System and Safety System Instrumentation, (2) new TS 3/4.7.1.8, Main Feedwater Control Valves and Startup Feedwater Control Valves, and (3) new TS 3/4.7.1.9, Turbine Stop Valves.

The proposed changes to TS Bases 3/4.3.1 and 3/4.3.2 are to clarify the actions that must be performed when steam and feedwater rupture control system (SFRCS) components and SFRCS-actuated components are inoperable. The proposed TS 3/4.7.1.8 and TS 3/4.7.1.9 and associated Bases are to provide the required limiting conditions for operation (LCO), action items and associated completion times, and surveillance requirements for the main feedwater control valves, startup feedwater control valves, and turbine stop valves. In support of its proposed TS changes, the licensee provided safety analyses (Refs. 1 and 2) for NRC to review and approve.

The supplemental information contained clarifying information and did not change the initial no significant hazards consideration determination and did not expand the scope of the original *Federal Register* Notice.

2.0 EVALUATION

The following evaluation is based on the staff review on the proposed TS changes in Reference 1 and the response to the staff's request for additional information in Reference 2.

2.1 TS 3/4.7.1.8 - Main Feedwater Control Valves and Startup Feedwater Control Valves

As described in DBNPS updated safety analysis report (USAR) Sections 3.6.2.7.1.6 and 15.4.4.2.2, the main feedwater isolation valves (MFIVs) for each steam generator (SG) consist of the main feedwater stop valves (MFSVs), main feedwater control valves (MFCVs), and startup feedwater control valves (SFCVs). In the DBNPS plant, there is one MFSV, one MFCV,

and one SFCV located upstream of each SG. The MFSV and MFCV are located on the primary feedwater flow path and one SFCV is located on each MFCV bypass line. While the MFSVs provide a means of isolating flow to the SGs following a high energy line break, the MFCVs and SFCVs provide a means of controlling the amount of feedwater flow to SGs during normal plant operations. In addition, the MFCVs and SFCVs provide a safety-related backup to the feedwater isolation function of the MFSVs. In the event of an SFRCS signal, the MFSVs, MFCVs, and SFCVs are credited in the transient analysis to close and isolate main feedwater to the SGs. The function of feedwater isolation limits the overcooling of the reactor coolant system (RCS) following a main feedwater line break (MFLB), main steamline break (MSLB), or excess feedwater event. Additionally, this function limits the mass and energy released to the containment during an MFLB or MSLB.

A new TS 3/4.7.1.8 is proposed to be added to the DBNPS TS. This proposed TS specifies the requirements of the LCO for the MFCVs and SFCVs. Item (c)(2)(ii)(C) of 10 CFR 50.36 states, in part, that “A technical specification limiting condition for operation of a nuclear reactor must be established ... for a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.” Since the MFCVs and SFCVs are credited in the transient analysis as a safety-related backup to the MFSVs to close and isolate feedwater to the SGs, the proposal of adding a new TS for MFCVs and SFCVs is consistent with the requirements of item (c)(2)(ii)(C) of 10 CFR 50.36 and, therefore, is acceptable.

The LCO specified in the proposed TS 3/4.1.7.8 requires that all MFCVs and SFCVs be operable while the plant is in Modes 1, 2, and 3. If one or more MFCVs or SFCVs are incapable of isolating a flow path, the proposed TS requires that the inoperable flowpath(s) be isolated within 72 hours and that the flowpath(s) be verified isolated at least once per 7 days. If the flowpath(s) cannot be isolated within 72 hours, the plant must be placed in hot Standby within the next 6 hours and in Hot Shutdown within the following 6 hours. The proposed surveillance requirement (SR) for MFCVs and MFCVs ensures that the SFRCS response time requirements of SR 4.3.2.2.3 are met. This SR testing is required to be performed at least once per refueling interval to ensure that the MFCVs and SFCVs can close within the time assumed in the safety analyses. Based on its review, the staff finds that the LCO, the required actions and associated completion times, and the SRs of the proposed TS are consistent with the requirements of TS 3.7.3, "Main Feedwater Stop Valves (MFSVs), Main Feedwater Control Valves (MFCVs), and Associated Startup Feedwater Control Valves (SFCVs)," of NUREG-1430, “Standard Technical Specifications - Babcox and Wilcox Plants,” (Ref. 3). The licensee’s probabilistic safety analysis (Ref. 2) also shows that a failure of an MFCV or an SFCV for 72 hours results in an insignificantly small increase in the core damage frequency. Therefore, the staff concludes that the proposed TS 3/4.7.1.8 is acceptable.

A new Bases Section 3/4.7.1.8 is also added. The added Bases Section provides a summary statement of the bases and reasons for the new TS 3/4.78.1.8, as required by 10 CFR 50.36(a). The change of adding a Bases Section does not add any new requirements and is administrative in nature. Therefore, the added Bases Section is acceptable.

2.2 TS 3/4.7.1.9 - Turbine Stop Valves

As described in USAR Section 10.2.4.1, the turbine stop valves (TSVs) are located downstream of the main steam isolation valves (MSIVs). While the MSIVs are designed to isolate steam flow from the secondary side of SGs following a high energy line break, the TSVs are designed to quickly shut off steam flow to the turbine and prevent turbine overspeed under emergency conditions. The TSVs are credited in the transient analysis as a safety related backup to the MSIVs to close and prevent the blowdown of both SGs following an MSLB event.

A new TS 3/4.7.1.9 is proposed to be added. This proposed TS specifies requirements of the LCO for the TSVs. Since the TSVs are credited in the transient analysis to avoid blowdown of both SGs during an MSLB event with failure of an MSIV, the proposal of adding a new TS for TSVs is consistent with the requirements of item (c)(2)(ii)(C) of 10 CFR 50.36 and, therefore, is acceptable.

The LCO of the proposed TS requires that all four TSVs be operable when the plant is in Modes 1 through 3. The operability of a TSV requires that it be able to close in less than the TS SFRCS response time. When the TSVs are incapable of performing their function, the proposed action item requires that the inoperable TSVs be closed within 8 hours and verified closed at least once per 7 days. If the TSVs cannot be closed within 8 hours, the plant must be placed in Hot Standby within the next 6 hours and in Hot Shutdown within the following 6 hours. The proposed SR for TSVs ensures that the SFRCS response time requirements of SR4.3.2.2.3 are met. This SR testing is required to be performed at least once per refueling interval to ensure that the TSVs can close within the time assumed in the safety analyses. Based on its review, the staff finds that the LCO, required actions and the associated completion times, and the SRs of the proposed TS are consistent with the requirements of TS 3.7.2, “Main Steam Isolation Valves (MSIV),” of NUREG-1430. Since the TSVs provide a backup to the safety function of the MSIVs and the proposed TS for TSVs is consistent with the TS for MSIVs specified in NUREG-1430, the staff concludes that the proposed TS 3/4.7.1.9 for the TSVs is acceptable.

A new Bases Section 3/4.7.1.9 is added. The added Bases Section provides a summary statement for the bases and reasons for the new TS 3/4.7.1.9, as required by 10 CFR 50.36(a). The change of adding a Bases Section does not add any new requirements and is administrative in nature. Therefore, the added Bases Section is acceptable.

2.3 TS Bases 3/4.3.1 and 3/4.3.2 - Reactor Protection System and Safety System Instrumentation

The design goal of the SFRCS is to prevent the release of high energy steam by isolating secondary piping breaks and to automatically start the auxiliary feedwater system in events such as a main steamline break, main feedwater line break, or a loss of all four reactor coolant (RC) pumps. The licensee changes TS Bases 3/4.3.1 and 3/4.3.2 to clarify the TS requirements for the SFRCS and for SFRCS-actuated components. The changes involve the following items:

1. An added paragraph states that when the SFRCS response time requirement cannot be met because of an inoperable SFRCS component, the LCO associated with the inoperable component should be entered. It also states that when the

SFRCS response time cannot be met because of inoperable components within the SFRCS, Action 16, in Table 3.3-11 of TS 3.3.2.2 should be entered. The licensee states that the guidance in the added statement is consistent with the current practice at DBNPS.

2. Another sentence is added to specifically exclude the SFRCS signals to the main feedwater block valves (MFBVs) and the anticipatory reactor trip system (ARTS) from the TS-required logic. The licensee states that the SFRCS signals to the MFBVs and ARTS are not required to mitigate any accident and are not credited in any safety analysis. The statement is added to provide clarification of which SFRCS functions are required by TS and is consistent with current TS requirements.

3. A paragraph is deleted from the Bases. This paragraph specifies the SFRCS associated logic and output relay to include isolation of main feedwater control valves and turbine stop valves. The functions included in the paragraph are addressed by the proposed new TS 3/4.7.1.8 and 3/4.7.1.9 described in Sections 2.2 and 2.3 below.

The changes to TS Bases 3/4.3.1 and 3/4.3.2 discussed above provide clarification of the existing SFRCS requirements and do not affect any system hardware, and are administrative in nature. Therefore, the changes are acceptable.

3.0 CONCLUSION

The staff has reviewed the licensee's proposed changes to TSs and associated Bases for SFRCS, MFCVs, SFCVs and TSVs, and its supporting analyses to allow operations of DBNPS. The staff finds that the licensee's safety analyses adequately show that the proposed TS changes have met the intent of the applicable sections of the Babcock & Wilcox Owners Group (BWOG) Standard Technical Specifications (STS) described in NUREG-1430, and the acceptance of the proposed TS changes will not involve a significant increase in the consequences of an accident previously evaluated. Therefore, the staff concludes that the proposed changes to TSs and associated Bases are acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Ohio State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

This amendment changes a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR Part 20 or changes a surveillance requirement. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluent that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding (65 FR 65342). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b),

no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

7.0 REFERENCES

1. Letter from G. G. Campbell (FENOC) to US Nuclear Regulatory Commission, Document Control Desk, “License Amendment Application to Revise Technical Specifications (TS) Bases 3/4.3.1 and 3/4.3.2, Reactor Protection System and Instrumentation to Add TS 3/4.7.1.8, Main Feedwater Control Valves and Startup Feedwater Control Valves and Associated Bases; and to Add TS 3/4.7.1.9, Turbine Stop Valves, and Associated Bases. (License Amendment Request No. 98-0014, TAC MA9560),” August 7, 2000.

2. Letter from G. G. Campbell (FENOC) to US Nuclear Regulatory Commission, Document Control Desk, “Supplemental Information Regarding License Amendment Application to Add a New Technical Specification 3/4.7.1.8, Main Feedwater Control Valves and Startup Feedwater Control Valves, and Associated Bases (License Amendment Request No. 98-0014; TAC No. MA9560)," February 6, 2001.

3. NUREG-1430, “Standard Technical Specifications - Babcock and Wilcox Plants,” Revision 1, April 1995.

Principal Contributor: S. Sun

Date: May 29, 2001