

June 11, 1998

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Mr. John K. Wood
 Vice President - Nuclear, Davis-Besse
 Centerior Service Company
 c/o Toledo Edison Company
 Davis-Besse Nuclear Power Station
 5501 North State Route 2
 Oak Harbor, OH 43449-9760

SUBJECT: AMENDMENT NO. 222 TO FACILITY OPERATING LICENSE NO. NPF-3 -
 DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1 (TAC NO. M99569)

Dear Mr. Wood:

The Commission has issued the enclosed Amendment No. 222 to Facility Operating License No. NPF-3 for the Davis-Besse Nuclear Power Station, Unit No. 1. The amendment revises the Technical Specifications (TSs) in response to your application dated August 26, 1997.

This amendment revises Technical Specification Section 3/4.2, "Power Distribution Limits." The departure from nucleate boiling parameters limiting condition for operation was modified due to an industry notification.

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

Sincerely,

Original signed by:

Allen G. Hansen, Project Manager
 Project Directorate III-3
 Division of Reactor Projects III/IV
 Office of Nuclear Reactor Regulation

Docket No. 50-346

- Enclosures: 1. Amendment No. 222 to
 License No. NPF-3
 2. Safety Evaluation

cc w/encls: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

June 11, 1998

Mr. John K. Wood
Vice President - Nuclear, Davis-Besse
Centerior Service Company
c/o Toledo Edison Company
Davis-Besse Nuclear Power Station
5501 North State Route 2
Oak Harbor, OH 43449-9760

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Sincerely,

A handwritten signature in black ink, appearing to read "Allen G. Hansen".

Allen G. Hansen, Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-346

Enclosures: 1. Amendment No. 222 to
License No. NPF-3
2. Safety Evaluation

cc w/encls: See next page

John K. Wood
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Davis-Besse Nuclear Power Station, Unit 1

cc:

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President, Board of County
Commissioner of Ottawa County
Port Clinton, OH 43252



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

TOLEDO EDISON COMPANY

CENTERIOR SERVICE COMPANY

AND

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

DOCKET NO. 50-346

DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 222
License No. NPF-3

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Toledo Edison Company, Centerior Service Company, and The Cleveland Electric Illuminating Company (the licensees) dated August 26, 1997, 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. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-3 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 222, are hereby incorporated in the license. The Toledo Edison 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 U.S. NUCLEAR REGULATORY COMMISSION



Allen G. Hansen, Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of issuance: June 11, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 222

FACILITY OPERATING LICENSE NO. NPF-3

DOCKET NO. 50-346

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

Remove

TS 3/4 2-13

Insert

TS 3/4 2-13

POWER DISTRIBUTION LIMITS

DNB PARAMETERS

LIMITING CONDITION FOR OPERATION

3.2.5 The following DNB related parameters shall be maintained within the limits shown on Table 3.2-2.

- a. Reactor Coolant Hot Leg Temperature
- b. Reactor Coolant Pressure
- c. Reactor Coolant Flow Rate

APPLICABILITY: MODE 1

ACTION:

If any parameter above exceeds its limit, restore the parameter to within its limit within 2 hours or reduce THERMAL POWER to less than 5% of RATED THERMAL POWER within the next 4 hours.

SURVEILLANCE REQUIREMENTS

4.2.5.1 Each of the parameters of Table 3.2-2 shall be verified to be within their limits at least once per 12 hours.

4.2.5.2 The Reactor Coolant System total flow rate shall be determined to be within its limit by measurement at least once per 18 months.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 222 TO FACILITY OPERATING LICENSE NO. NPF-3

TOLEDO EDISON COMPANY

CENTERIOR SERVICE COMPANY

AND

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1

DOCKET NO. 50-346

1.0 INTRODUCTION

By letter dated August 26, 1997, Toledo Edison Company, Centerior Service Company, and The Cleveland Electric Illuminating Company (the licensees), submitted a request for changes to the Davis-Besse Nuclear Power Station, Unit No. 1, Technical Specifications (TSs).

The proposed amendment would revise Technical Specification Section 3/4.2, "Power Distribution Limits." The departure from nucleate boiling (DNB) parameters limiting condition for operation (LCO) action statement would be modified due to an industry notification.

2.0 LICENSING BASIS

The licensing basis for the systems affected by the proposed changes includes the Davis-Besse Updated Safety Analysis Report (USAR) Section 4, "Reactor." Specifically, Section 4.4 discusses the thermal hydraulic aspects of system design.

3.0 BACKGROUND

On January 30, 1997, Framatome Cogema Fuels (FCF) notified Davis-Besse that the action statement for TS 3.2.5, "Power Distribution Limits - DNB Parameters - Limiting Condition for Operation," was incomplete and non-conservative for degraded reactor coolant system (RCS) flow conditions. The licensees subsequently notified NRC of this concern in Licensee Event Report (LER) 97-003 dated March 3, 1997. Revision 1 of this LER was submitted on August 19, 1997.

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4.0 EVALUATION

On November 3, 1983, the NRC issued License Amendment No. 64 for Davis-Besse. This amendment revised TS 3.2.5 to include the action statement which is the subject of this evaluation. This TS currently reads:

3.2.5 The following DNB related parameters shall be maintained within the limits shown on Table 3.2-2.

- a. Reactor Coolant Hot Leg Temperature
- b. Reactor Coolant Pressure
- c. Reactor Coolant Flow Rate

APPLICABILITY: MODE 1

ACTION:

If parameter a or b above exceeds its limit, restore the parameter to within its limit within 2 hours or reduce THERMAL POWER to less than 5% of RATED THERMAL POWER within the next 4 hours.

If parameter c exceeds its limit, either:

1. Restore the parameter to within its limit within 2 hours, or
2. Limit THERMAL POWER at least 2% below RATED THERMAL POWER for each 1% parameter c is outside its limit for four pump operation within the next 4 hours, or limit THERMAL POWER at least 2% below 75% of RATED THERMAL POWER for each 1% parameter c is outside its limit for 3 pump operation within the next 4 hours.

Actions 1 and 2 were added in Amendment No. 64.

As discussed in LER 97-003, FCF determined that the apparent cause of the inadequate TS action statement was that calculations performed by FCF in support of the licensees' application for Amendment No. 64 did not consider the need to adjust reactor protection system (RPS) trip setpoints. Upon notification by FCF, the licensees determined that the required flow rate has been maintained at the plant. In addition, administrative procedures were put in place and remain in effect (pending approval of this amendment request) to take actions consistent with the requested change if TS 3.2.5 is entered due to degraded RCS flow conditions.

FCF reactor core thermal-hydraulic analyses determined that to preserve DNB margins with reduced RCS flow, the high flux and the flux/delta flux/flow RPS trip setpoints should be reduced. In addition, the RPS variable low pressure trip setpoint should be adjusted. These actions are not currently specified in TS 3.2.5.

In lieu of performing analyses to determine the appropriate trip setpoints and including actions in the TSs to perform setpoint adjustments, the licensees propose to revise TS 3.2.5 by removing the allowance to reduce thermal power based on degraded RCS flow (actions 1 and 2 quoted above). The TS would be modified to remove actions 1 and 2, and to include the flow rate LCO in the remaining action. The proposed TS reads:

3.2.5 The following DNB related parameters shall be maintained within the limits shown on Table 3.2-2.

- a. Reactor Coolant Hot Leg Temperature
- b. Reactor Coolant Pressure
- c. Reactor Coolant Flow Rate

APPLICABILITY: MODE 1

ACTION:

If any parameter above exceeds its limit, restore the parameter to within its limit within 2 hours or reduce THERMAL POWER to less than 5% of RATED THERMAL POWER within the next 4 hours.

This would essentially restore the TS actions to the original wording at plant licensing.

The limits placed on DNB-related parameters ensure that these parameters will not be less conservative than were assumed in the applicable analyses and thereby provide assurance that the minimum DNB ratio will meet the required criteria for each analyzed transient.

RCS flow rate is not expected to vary during steady state 3 or 4 pump operation. Under the proposed TS change, if the flow rate is below the LCO limit, the parameter must be restored to within acceptable limits within 2 hours or power must be reduced as stated within the next 4 hours. This power reduction ensures adequate DNB ratio margin and eliminates the potential for a violation of the accident analysis bounds.

The 2-hour completion time for restoration provides sufficient time to adjust plant parameters, determine the cause for the off normal condition, and take corrective actions as appropriate. The time allotted is based on plant operating experience. The 6-hour completion time is reasonable, also based on plant operating experience, to reduce power in an orderly manner in conjunction with even control of steam generator heat removal.

The staff has determined that the proposed TS change adequately addresses the FCF concern discussed above. In addition, the change is consistent with the original safety analysis conducted for plant licensing, and is conservative compared to the existing TSs. Therefore, the proposed change is acceptable.

5.0 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.

6.0 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 (62 FR 52590). 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.

7.0 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.

Principal Contributors: A. Hansen
F. Orr

Date: June 11, 1998