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Docket No. 50-346

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Mr. Richard P. Crouse
Vice President, Nuclear
Toledo Edison Company
Edison Plaza - Stop 712
300 Madison Avenue
Toledo, Ohio 43652

Dear Mr. Crouse:

SUBJECT: AMENDMENT NO. 67 TO FACILITY OPERATING LICENSE NO. NPF-3

The Commission has issued the enclosed Amendment No.67 to Facility Operating License No. NPF-3 for the Davis-Besse Nuclear Power Station, Unit No. 1. This amendment consists of changes to the Technical Specifications in response to Item 2 of your application dated February 22, 1983 (No. 913), as modified by letter dated October 11, 1983 (No. 994). Items 1 and 3 of this application are being acted upon separately.

This amendment modifies Appendix A Technical Specification paragraphs 4.1.2.1 and 4.1.2.2 to eliminate surveillance requirements on heat traced sections of piping in the boric acid addition piping when transferring solutions with boric acid concentration less than 5000 ppmB. The amendment also modifies Technical Specification paragraphs 3.1.2.8 and 3.1.2.9 to delete a redundant requirement for heat tracing operability.

A copy of the Safety Evaluation supporting this amendment is enclosed. Notice of Issuance will be included in the Commission's Monthly Notice.

Sincerely,

"ORIGINAL SIGNED BY:"
George W. Rivenbark, Acting Chief
Operating Reactors Branch #4
Division of Licensing

Enclosures:
1. Amendment No. 67 to NPF-3
2. Safety Evaluation

cc w/enclosures:
See next page

ORB#4:DL	ORB#4:DL	ORB#4:DL	AD:OR:DL	OELD
RIngram	ADe Agazio;cf	GRivenbark	GLainas	See Notice w/ conc. 5/6/84
5/14/84	5/14/84	5/16/84	5/2/84	5/ /84

Toledo Edison Company

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

THE TOLEDO EDISON 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. 67
License No. NPF-3

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

   A. The application for amendment by The Toledo Edison Company and The Cleveland Electric Illuminating Company (the licensees) dated February 22, 1983, as revised October 11, 1983, 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 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 license 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, Facility Operating License No. NPF-3 is hereby amended as indicated below and by changes to the Technical Specifications as indicated in the attachment to this license amendment:

   Revise paragraph 2.C.(2) to read as follows:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 67 , 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.

FOR THE NUCLEAR REGULATORY COMMISSION

George W. Rivenbark

George W. Rivenbark, Acting Chief
Operating Reactors Branch #4
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 22, 1984

ATTACHMENT TO LICENSE AMENDMENT NO. 67

FACILITY OPERATING LICENSE NO. NPF-3

DOCKET NO. 50-346

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages as indicated. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

Page
3/4 1-6
3/4 1-7
3/4 1-14
3/4 1-17

MINIMUM TEMPERATURE FOR CRITICALITY

LIMITING CONDITION FOR OPERATION

3.1.1.4 The Reactor Coolant System lowest loop temperature (T_{avg}) shall be $\geq$ 525°F.

APPLICABILITY: MODES 1 and 2*.

ACTION:

With a Reactor Coolant System loop temperature (T_{avg}) < 525°F, restore T_{avg} to within its limit within 15 minutes or be in HOT STANDBY within the next 15 minutes.

SURVEILLANCE REQUIREMENTS

4.1.1.4 The RCS temperature (T_{avg}) shall be determined to be $\geq$ 525°F:

a. Within 15 minutes prior to achieving reactor criticality, and

b. At least once per 30 minutes when the reactor is critical and the Reactor Coolant System T_{avg} is less than 530°F.

*With $K_{eff} \geq 1.0$.

3/4.1.2 BORATION SYSTEMS

FLOW PATHS - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.1 At least one of the following boron injection flow paths shall be OPERABLE.

a. A flow path from the concentrated boric acid storage system via a boric acid pump and a makeup or decay heat removal (DHR) pump to the Reactor Coolant System, if only the boric acid storage system in Specification 3.1.2.8a is OPERABLE, or

b. A flow path from the borated water storage tank via a makeup or DHR pump to the Reactor Coolant System if only the borated water storage tank in Specification 3.1.2.8b is OPERABLE.

APPLICABILITY: MODES 5 and 6.

ACTION:

With none of the above flow paths OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes until at least one injection path is restored to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.1.2.1 At least one of the above required flow paths shall be demonstrated OPERABLE:

a. At least once per 7 days[1] by verifying that the pipe temperature of the heat traced portion of the flow path is $\geq$ 105°F when a flow path from the concentrated boric acid storage system is used, and

b. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed or otherwise secured in position is in its correct position.

[1] If the 7 day verification falls during transfers of makeup water or dilute boron solutions (fluid source concentration of less than 5000 ppmB), the verification period may be extended up to 8 hours after the addition of dilute boron solution has been stopped for a period of at least 8 hours.

FLOW PATHS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.2 Each of the following boron injection flow paths shall be OPERABLE:

a. A flow path from the concentrated boric acid storage system via a boric acid pump and makeup or decay heat removal (DHR) pump to the Reactor Coolant System, and

b. A flow path from the borated water storage tank via makeup or DHR pump to the Reactor Coolant System.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With the flow path from the concentrated boric acid storage system inoperable, restore the inoperable flow path to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to 1% $\Delta k/k$ at 200°F within the next 6 hours; restore the flow path to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

b. With the flow path from the borated water storage tank inoperable, restore the flow path to OPERABLE status within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.2 Each of the above required flow paths shall be demonstrated OPERABLE:

a. At least once per 7 days[1] by verifying that the pipe temperature of the heat traced portion of the flow path from the concentrated boric acid storage system is $\geq$ 105°F.

[1] If the 7 day verification falls during transfers of makeup water or dilute boron solutions (fluid source concentration of less than 5000 ppmB), the verification period may be extended up to 8 hours after the addition of dilute boron solution has been stopped for a period of at least 8 hours.

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

BORIC ACID PUMPS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.7 At least one boric acid pump in the boron injection flow path required by Specification 3.1.2.2a shall be OPERABLE and capable of being powered from an OPERABLE essential bus.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With no boric acid pump OPERABLE, restore at least one boric acid pump to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to 1% $\Delta k/k$ at 200°F within the next 6 hours; restore at least one boric acid pump to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.7 In addition to the Surveillance Requirements of Specification 4.0.5, at least one boric acid pump shall be demonstrated OPERABLE at least once per 31 days by:

a. Starting (unless already operating) the pump from the control room.

b. Verifying that the pump develops at least 93% of the discharge pressure for the applicable flow rate as determined from the manufacturer's Pump Performance Curve at a discharge pressure $\geq$ 65 psig.

c. Verifying pump operation for at least 15 minutes.

d. Verifying that the pump is aligned to receive electrical power from an OPERABLE essential bus.

BORATED WATER SOURCES - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.8 As a minimum, one of the following borated water sources shall be OPERABLE:

a. A boric acid addition system with:

1. A minimum contained borated water volume in accordance with Figure 3.1-1,

2. Between 7875 and 13,125 ppm of boron, and

3. A minimum solution temperature of 105°F.

b. The borated water storage tank (BWST) with:

1. A minimum contained borated water volume of 70,700 gallons,

2. A minimum boron concentration of 1800 ppm, and

3. A minimum solution temperature of 35°F.

APPLICABILITY: MODES 5 and 6.

ACTION:

With no borated water sources OPERABLE, suspend all operations involving CORE ALTERATION or positive reactivity changes until at least one borated water source is restored to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.1.2.8 The above required borated water source shall be demonstrated OPERABLE:

a. At least once per 7 days by:

1. Verifying the boron concentration of the water,

2. Verifying the contained borated water volume of the source, and

LIMITING CONDITION FOR OPERATION

3.1.2.9 Each of the following borated water sources shall be OPERABLE:

a. The boric acid addition system with:

1. A minimum contained borated water volume in accordance with Figure 3.1-1,

2. Between 7875 and 13,125 ppm of boron, and

3. A minimum solution temperature of 105°F.

b. The borated water storage tank (BWST) with:

1. A contained borated water volume of between 482,778 and 550,000 gallons,

2. Between 1800 and 2200 ppm of boron, and

3. A minimum solution temperature of 35°F.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With the boric acid addition system inoperable, restore the storage system to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to 1% $\Delta k/k$ at 200°F within the next 6 hours; restore the boric acid addition system to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

b. With the borated water storage tank inoperable, restore the tank to OPERABLE status within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.9 Each borated water source shall be demonstrated OPERABLE:

a. At least once per 7 days by:

1. Verifying the boron concentration in each water source,

2. Verifying the contained borated water volume of each water source, and

3. Verifying the boric acid addition system solution temperature.

b. At least once per 24 hours by verifying the BWST temperature when the outside air temperature is < 35°F.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 67 TO FACILITY OPERATING LICENSE NO. NPF-3

TOLEDO EDISON COMPANY

AND

CLEVELAND ELECTRIC ILLUMINATING COMPANY

DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1

DOCKET NO. 50-346

Introduction

By letter dated February 22, 1983, and modified by letter dated October 11, 1983, Toledo Edison Company (TED or the licensee) transmitted a Technical Specification Change Request to amend Appendix A of Facility Operating License NPF-3. The changes involve clarification of the Boration System heat tracing surveillance requirements, paragraphs 4.1.2.1, and 4.1.2.2, to alleviate an operational problem caused by the dual function of sections of boric acid addition piping between the Boric Acid Addition Tank (BAAT) and Reactor Coolant Makeup System. In addition, the licensee requested a minor rewording of paragraphs 3.1.2.8 and 3.1.2.9 to delete a redundant statement.

Evaluation

Concentrated boric acid solutions require protection from crystallization during storage and transfer, and Technical Specifications are in place to require such solutions to be maintained at or above 105°F. The 105°F specified is approximately 15°F above the crystallization point of 7wt% boric acid solution (13,125 ppmB), the upper concentration limit in the BAAT and transfer piping. Electrical heat tracing is used to maintain the temperature of the pipe at or above 105°F to prevent crystallization and assure free flowing of the concentrated solution. To assure operability of the heat tracing, Technical Specification Section 4.1.2.1 during Shutdowns (Modes 5 and 6) and Section 4.1.2.2 during Operations (Modes 1, 2, 3 and 4) require the weekly surveillance of the piping temperature to be $\geq$105°F. Boric acid solution with concentration of $\leq$5000 ppmB does not require heat tracing to prevent crystallization.

A section of boric acid addition piping between the BAAT and Reactor Coolant Makeup System functions as (1) a flow path for concentrated boric acid addition from the BAAT to the Makeup Tank and (2) a flow path at other times for addition of dilute boric acid solution from the Clean Waste Recovery System or demineralized water from the Demineralized Water Storage Tank to the Makeup Tank. When water or dilute boric acid solution at a normal temperature of 60-80°F is added to the Makeup System at high flow, the heat tracing is unable to maintain the line temperature required by Specifications 4.1.2.1 and 4.1.2.2. However, the high temperature is not required during and following transfers of dilute solution as crystallization of boric acid is not a problem.

The licensee has proposed to modify Technical Specification paragraphs 4.1.2.1 and 4.1.2.2., Surveillance Requirements for Boration Systems, to permit the delay of the heat traced line temperature surveillance during periods when dilute boron solution ($\leq$ 5000 ppmB) or demineralized water is in the piping and temperature control to prevent boric acid crystallization is not required. The proposed Technical Specifications 4.1.2.1 and 4.1.2.2 would extend the weekly surveillance period whenever dilute solutions or water are being added and for 16 hours following the completion of the transfer. The change would allow eight hours for the piping temperature to return to $\geq$105°F and then an eight-hour period in which to make the surveillance.

We agree that this Technical Specification change does not decrease the safety at the facility since when water and dilute solutions are in the piping, heat is not required and when concentrated boric acid is transferred, it comes into the piping hot (approximately 135°F) and the piping temperature will be maintained $\geq$105°F.

TED also proposes that Technical Specification 3.1.2.8.a and 3.1.2.9.a be modified to delete the words, "and associated heat tracing," since the surveillance requirements for the heat tracing operability are already included in Specifications 4.1.2.1.a and 4.1.2.2.a. We agree that the heat tracing is a part of the boric acid system and its operability is required to be confirmed by Sections 4.1.2.1.a and 4.1.2.2.a; therefore, deletion of the words is acceptable.

Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR 51.5(d)(4), that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: May 22, 1984

Principal Contributors: K. Ridgway, T. Tambling