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Docket No. 50-346

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. 48 TO FACILITY OPERATING LICENSE NO. NPF-3

The Commission has issued the enclosed Amendment No. 48 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 (TSs) in response to Item No. 2 in your application dated May 5, 1982 (No. 803). Based upon our review, we have modified your proposed TSs as agreed to by members of your staff.

This amendment modifies Table 3.7-1 and Bases 3/4.7.1.1 to reflect a change in the calculational method for determining the maximum allowable high flux trip setpoint when one or more safety valves on any steam generator are inoperable.

Copies of the Safety Evaluation and Notice of Issuance are also enclosed.

Sincerely,

Original signed by

Albert W. De Agazio, Project Manager
Operating Reactors Branch #4
Division of Licensing

Enclosures:
1. Amendment No. 48 to NPF-3
2. Safety Evaluation
3. Notice

cc w/enclosures:
See next page

Concur in license amendment & Fed. Reg. notice

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DATE	10/1/82	10/7/82:cb	10/ /82	10/8/82	10/15/82		

Toledo Edison Company

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EPA Region V
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Chicago, Illinois 60604

Ohio Department of Health
ATTN: Radiological Health
Program Director
P. O. Box 118
Columbus, Ohio 43216

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

October 20, 1982

Docket No. 50-346

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. 48 TO FACILITY OPERATING LICENSE NO. NPF-3

The Commission has issued the enclosed Amendment No. 48 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 (TSs) in response to Item No. 2 in your application dated May 5, 1982 (No. 803). Based upon our review, we have modified your proposed TSs as agreed to by members of your staff.

This amendment modifies Table 3.7-1 and Bases 3/4.7.1.1 to reflect a change in the calculational method for determining the maximum allowable high flux trip setpoint when one or more safety valves on any steam generator are inoperable.

Copies of the Safety Evaluation and Notice of Issuance are also enclosed.

Sincerely,

Albert W. De Agazio

Albert W. De Agazio, Project Manager
Operating Reactors Branch #4
Division of Licensing

Enclosures:
1. Amendment No. 48 to NPF-3
2. Safety Evaluation
3. Notice

cc w/enclosures:
See next page

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. 48
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 May 5, 1982, 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, 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. 48, 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 20, 1982

ATTACHMENT TO LICENSE AMENDMENT NO. 48

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.

Pages

3/4 7-2

B3/4 7-1

3/4.7 PLANT SYSTEMS

3/4.7.1 TURBINE CYCLE

SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.1 All main steam line code safety valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

With one or more main steam line code safety valves inoperable, operation in MODES 1, 2 and 3 may proceed provided, that within 4 hours, either the inoperable valve is restored to OPERABLE status or the High Flux Trip Setpoint is reduced per Table 3.7-1; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.1 No additional Surveillance Requirements other than those required by Specification 4.0.5, are applicable for the main steam line code safety valves of Table 4.7-1.

TABLE 3.7-1

MAXIMUM ALLOWABLE HIGH FLUX TRIP SETPOINT WITH INOPERABLE STEAM LINE SAFETY VALVES

Maximum Number of Inoperable Safety Valves on Any Steam Generator	Maximum Allowable High Flux Trip Setpoint* (Percent of RATED THERMAL POWER)
1	0.95W
2	0.82W
3	0.69W
4	0.56W
5	0.43W
6	0.31W
7	0.18W

*Based on High Flux Trip Setpoint for four pump operation, W, as per Table 2.2-1.

BASES

3/4.7.1 TURBINE CYCLE

3/4.7.1.1 SAFETY VALVES

The OPERABILITY of the main steam line code safety valves ensures that the secondary system pressure will be limited to within 110% its design pressure of 1050 psig during the most severe anticipated system operational transient. The maximum relieving capacity is associated with a turbine trip from 100% RATED THERMAL POWER coincident with an assumed loss of condenser heat sink (i.e., no steam bypass to the condenser).

The specified valve lift settings and relieving capacities are in accordance with the requirements of Section III of the ASME Boiler and Pressure Vessel Code, 1971 Edition. The total relieving capacity for all valves on all of the steam lines is 14,175,000 lbs/hr which is 120 percent of the total secondary steam flow of 11,760,000 lbs/hr at 100% RATED THERMAL POWER. A minimum of 2 OPERABLE safety valves per steam generator ensures that sufficient relieving capacity is available for the allowable THERMAL POWER restriction in Table 3.7-1.

STARTUP and/or POWER OPERATION is allowable with safety valves inoperable within the limitations of the ACTION requirements on the basis of the reduction in secondary system steam flow and THERMAL POWER required by the reduced reactor trip settings of the High Flux channels. The reactor trip setpoint reductions are derived on the following bases:

$$SP = \frac{(X) - (Y)(V)}{Z} \times W$$

where:

SP = reduced Trip Setpoint in percent of RATED THERMAL POWER (Not to Exceed W)

V = maximum number of inoperable safety valves per steam generator

W = High Flux Trip Setpoint for four pump operation as specified in Table 2.2-1

X = Total relieving capacity of all safety valves per steam generator in lbs/hour, 7,087,500 lbs/hour

Y = Maximum relieving capacity of any one safety valve in lbs/hour, 845,759 lbs/hour

Z = Required relieving capacity per steam generator in lbs/hr, 6,585,600 lbs/hr.

3/4.7.1.2 AUXILIARY FEEDWATER SYSTEMS

The OPERABILITY of the auxiliary feedwater systems ensures that the Reactor Coolant System can be cooled down to less than 280°F from normal operating conditions in the event of a total loss of offsite power.

Each steam driven auxiliary feedwater pump is capable of delivering a total feedwater flow of 850 gpm at a pressure of 1035 psig to the entrance of the steam generators. This capacity is sufficient to ensure that adequate feedwater flow is available to remove decay heat and reduce the Reactor Coolant System temperature to less than 280°F where the Decay Heat Removal System may be placed into operation.

3/4.7.1.3 CONDENSATE STORAGE FACILITIES

The OPERABILITY of the condensate storage tank with the and to minimum water volume ensures that sufficient water is available to maintain the RCS at HOT STANDBY conditions for 13 hours with steam discharge to atmosphere and to cooldown the Reactor Coolant System to less than 280°F in the event of a total loss of offsite power or of the main feedwater system. The contained water volume limit includes an allowance for water not usable because of tank discharge line location or other physical characteristics.

3/4.7.1.4 ACTIVITY

The limitations on secondary system specific activity ensure that the resultant offsite radiation dose will be limited to a small fraction of 10 CFR Part 100 limits in the event of a steam line rupture. This dose includes the effects of a coincident 1.0 GPM primary to secondary tube leak in the steam generator of the affected steam line. These values are consistent with the assumptions used in the safety analyses.

3/4.7.1.5 MAIN STEAM LINE ISOLATION VALVES

The OPERABILITY of the main steam line isolation valves ensures that no more than one steam generator will blowdown in the event of a steam line rupture. This restriction is required to 1) minimize the

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 48 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

1.0 Introduction

By letter dated May 5, 1982 (No. 303), The Toledo Edison Company requested amendment to Facility Operating License No. NPF-3 for the Davis-Besse Nuclear Power Station, Unit No. 1. The amendment would modify the Technical Specifications (TSs) to allow a change in the calculational method for determining the maximum allowable high flux trip setpoint when one or more safety valves on any steam generator are inoperable. The amendment would revise Table 3.7-1 and Bases 3/4.7.1.1 of Appendix A to License No. NPF-3.

2.0 Discussion and Evaluation

Overpressure protection for the steam generator secondary side is provided by 18 safety valves - 9 per steam generator. The specified valve lift settings and relieving capacities are in accordance with the requirements of Section III of the ASME Boiler and Pressure Vessel Code, 1971 edition. This Code requires that valve lift settings and relief capacities be such that the steam system pressure will not exceed 110% of system design pressure of 1050 psig in the event of the most severe anticipated operational transient.

The most severe anticipated operational transient from the viewpoint of determining relief capacity is a turbine trip from maximum permissible power coincident with a loss of condenser heat sink. Under these conditions, the entire steam generation must be relieved through the safety valves.

The ASME Boiler and Pressure Vessel Code requires that the required relieving capacity be obtained by the use of at least two pressure-relief valves. Thus, it is permissible to operate with one or more of the installed safety valves inoperable as long as: 1) at least two safety valves per steam generator are operable and 2) the reactor high flux trip-point is reset to provide a corresponding reduction in the required relieving capacity.

The total installed relieving capacity for the 18 safety valves is 14,174,922 lb/hr or about 7,087,500 lb/hr per steam generator at 1155 psig. This is equivalent to 120% of the steam flow at 100% rated thermal power. The current TSs allow for operation with inoperable safety valves but uses the total installed relieving capacity as the normalizing basis for determining the required high flux trip setpoint. Thus, the TSs do not give full credit for the excess installed relieving capacity. Toledo Edison Company proposes to revise the method for determining the high flux trip setpoint. The proposed method would use the required relieving capacity, 6,585,000 lb/hr per steam generator, as the normalizing basis. This change would allow credit for excess installed flow relieving capacity permitting operation at higher power than currently allowed in the event of one or more inoperable safety valves.

Toledo Edison Company also proposes changes to Table 3.7-1 of the TSs consistent with the proposed revised method described above. This table specifies the thermal power restriction as a function of the number of inoperable safety valves on any steam generator and ensures that a minimum of two safety valves per steam generator will be operable as required by the ASME Boiler and Pressure Vessel Code.

We have reviewed the licensee's proposed change to the equation for determining the high flux trip setpoint as a function of the number of inoperable safety valves and the proposed changes to Table 3.7-1 of the TSs. We conclude that these changes are acceptable. The changes will permit operation with a higher trip setpoint but will maintain adequate relieving capacity.

3.0 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.

4.0 Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant reduction in a margin of safety, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance

that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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: October 20, 1982

The following NRC personnel have contributed to this Safety Evaluation: A. De Agazio.

7590-01

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-346

THE TOLEDO EDISON COMPANY

AND

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 48 to Facility Operating License No. NPF-3, issued to The Toledo Edison Company and The Cleveland Electric Illuminating Company (the licensees), which revised Technical Specifications for operation of the Davis-Besse Nuclear Power Station, Unit No. 1 (the facility) located in Ottawa County, Ohio. The amendment is effective as of its date of issuance.

This amendment allows a change in the calculational method for determining the maximum allowable high flux trip setpoint when one or more safety valves on any steam generator are inoperable.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated May 5, 1982, (2) Amendment No. 48 to License No. NPF-3, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C., and at the University of Toledo Library, Documents Department, 2801 West Bancroft Avenue, Toledo, Ohio 43606. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 20th day of October 1982.

FOR THE NUCLEAR REGULATORY COMMISSION

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing