March 19, 1986

DCR 016

Docket No. 50-346

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Mr. Joe Williams, Jr.
Vice President, Nuclear
Toledo Edison Company
Edison Plaza - Stop 712
300 Madison Avenue
Toledo, Ohio 43652

Dear Mr. Williams:

SUBJECT: AMENDMENT NO. 92 TO FACILITY OPERATING LICENSE NO. NPF-3; OPERABILITY OF DHR SYSTEM

The Commission has issued the enclosed Amendment No. 92 to Facility Operating License No. NPF-3 for the Davis-Besse Nuclear Power Station, Unit No. 1. This amendment consists of changes to the Appendix A Technical Specifications (TSs) in response to your application dated July 13, 1983.

This amendment clarifies the existing operability requirements for the Decay Heat Removal System by incorporation of the system design limits into the TSs. The associated basis was also revised to be consistent with the TS change.

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

Sincerely,
ORIGINAL SIGNED BY

Albert W. De Agazio, Project Manager
PWR Project Directorate #6
Division of PWR Licensing-B

Enclosures:
1. Amendment No. 92 to NPF-3
2. Safety Evaluation

cc w/enclosures:
See next page

PBD-6	PBD-6	PBD-6	PBD-6	PBD-6	OELD
RIngram	GDick;cf	ADe Agazio	CMcCracken	JSaltz	LHarmon
2/26/86	3/05/86	3/10/86	3/10/86	3/14/86	3/13/86

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

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. 92
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 July 13, 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 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:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No.92 , 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

John F. Stolz, Director
PWR Project Directorate #6
Division of PWR Licensing-B

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 19, 1986

ATTACHMENT TO LICENSE AMENDMENT NO. 92

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. The corresponding overleaf pages are also provided to maintain document completeness.

Remove	Insert
3/4 4-2	3/4 4-2
B 3/4 4-1	B 3/4 4-1

3/4.4. REACTOR COOLANT SYSTEM

3/4.4.1. COOLANT LOOPS AND COOLANT CIRCULATION

STARTUP AND POWER OPERATION

LIMITING CONDITION FOR OPERATION

3.4.1.1 Both reactor coolant loops and both reactor coolant pumps in each loop shall be in operation.

APPLICABILITY: MODES 1 and 2*.

ACTION:

a. With one reactor coolant pump not in operation, STARTUP and POWER OPERATION may be initiated and may proceed provided THERMAL POWER is restricted to less than 79.7% of RATED THERMAL POWER and within 4 hours the setpoints for the following trips have been reduced to the values specified in Specification 2.2.1 for operation with three reactor coolant pumps operating:

   1. High Flux
   2. Flux-ΔFlux-Flow

SURVEILLANCE REQUIREMENTS

4.4.1.1 The above required reactor coolant loops shall be verified to be in operation and circulating reactor coolant at least once per 12 hours.

4.4.1.2 The reactor protective instrumentation channels specified in the applicable ACTION statement above shall be verified to have had their trip setpoints changed to the values specified in Specification 2.2.1 for the applicable number of reactor coolant pumps operating either:

a. Within 4 hours after switching to a different pump combination if the switch is made while operating, or

b. Prior to reactor criticality if the switch is made while shutdown.

*See Special Test Exception 3.10.3.

SHUTDOWN AND HOT STANDBY

LIMITING CONDITION FOR OPERATION

3.4.1.2 a. At least two of the coolant loops listed below shall be OPERABLE:

1. Reactor Coolant Loop 1 and its associated steam generator,

2. Reactor Coolant Loop 2 and its associated steam generator,

3. Decay Heat Removal Loop 1,*

4. Decay Heat Removal Loop 2.*

b. At least one of the above coolant loops shall be in operation.**

c. Not more than one decay heat removal pump may be operated with the sole suction path through DH-11 and DH-12 unless the control power has been removed from the DH-11 and DH-12 valve operator, or manual valves DH-21 and DH-23 are opened.

d. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

APPLICABILITY: MODES 3, 4 and 5

ACTION:

a. With less than the above required coolant loops OPERABLE, immediately initiate corrective action to return the required coolant loops to OPERABLE status as soon as possible, or be in COLD SHUTDOWN within 20 hours.

b. With none of the above required coolant loops in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required coolant loop to operation.

---

*The normal or emergency power source may be inoperable in MODE 5. This loop may not be selected in MODE 3 unless the primary side temperature and pressure are within the decay heat removal system's design conditions.

**The decay heat removal pumps may be de-energized for up to 1 hour provided (1) no operations are permitted that would cause dilution of the reactor coolant system boron concentration, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

3/4.4.1 REACTOR COOLANT LOOPS

The plant is designed to operate with both reactor coolant loops in operation, and maintain DNBR above 1.30 during all normal operations and anticipated transients. With one reactor coolant pump not in operation in one loop, THERMAL POWER is restricted by the Nuclear Overpower Based on RCS Flow and AXIAL POWER IMBALANCE, ensuring that the DNBR will be maintained above 1.30 at the maximum possible THERMAL POWER for the number of reactor coolant pumps in operation or the local quality at the point of minimum DNBR equal to 22%, whichever is more restrictive.

In MODE 3 when RCS pressure or temperature is higher than the decay heat removal system's design condition (i.e. 330 psig and 350°F), a single reactor coolant loop provides sufficient heat removal capability. The remainder of MODE 3 as well as in MODES 4 and 5 either a single reactor coolant loop or a DHR loop will be sufficient for decay heat removal; but single failure considerations require that at least two loops be OPERABLE. Thus, if the reactor coolant loops are not OPERABLE, this specification requires two DHR loops to be OPERABLE.

Natural circulation flow or the operation of one DHR pump provides adequate flow to ensure mixing, prevent stratification and produce gradual reactivity changes during boron concentration reductions in the Reactor Coolant System. The reactivity change rate associated with boron reduction will, therefore, be within the capacity of operator recognition and control.

3/4.4.2 and 3/4.4.3 SAFETY VALVES

The pressurizer code safety valves operate to prevent the RCS from being pressurized above its Safety Limit of 2750 psig. Each safety valve is designed to relieve 336,000 lbs per hour of saturated steam at the valve's setpoint.

The relief capacity of a single safety valve is adequate to relieve any overpressure condition which could occur during shutdown. In the event that no safety valves are OPERABLE, an operating DHR loop, connected to the RCS, provides overpressure relief capability and will prevent RCS overpressurization.

During operation, all pressurizer code safety valves must be OPERABLE to prevent the RCS from being pressurized above its safety limit of 2750 psig. The combined relief capacity of all of these valves is greater than the maximum surge rate resulting from any transient.

The relief capacity of the decay heat removal system relief valve is adequate to relieve any overpressure condition which could occur during shutdown. In the event that this relief valve is not OPERABLE, reactor coolant system pressure, pressurizer level and make up water inventory is limited and the capability of the high pressure injection system to inject water into the reactor coolant system is disabled to ensure operation within reactor coolant system pressure - temperature limits.

Demonstration of the safety valves' lift settings will occur only during shutdown and will be performed in accordance with the provisions of Section XI of the ASME Boiler and Pressure Code.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 92 TO FACILITY OPERATING LICENSE NO. NPF-3

TOLEDO EDISON 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 July 13, 1983, Toledo Edison Company (the licensee) requested changes to existing Technical Specification (TS) requirements and the associated basis for Decay Heat Removal (DHR).

The proposed changes affect TS pages 3/4 4-2 and B 3/4 4-1.

2.0 EVALUATION

Description of Change

A footnote is being added to TS 3/4.4, 3.4.1.2, "Reactor Coolant System Shutdown and Hot Standby," referencing the operability of Decay Heat Removal Loops 1 and 2 for Modes 3, 4 and 5 and stating, "This loop may not be selected in Mode 3 unless the primary side temperature and pressure are within the decay heat removal system's design conditions." Bases Section 3/4.4.1 is revised to include the DHR System design pressure and temperature limit values of 330 psig and 350°F, respectively.

Existing TS 3.4.1.2 requires that at least two of the following coolant loops be operable in Modes 3, 4 and 5:

a. Reactor Coolant Loop 1 and its associated steam generator
b. Reactor Coolant Loop 2 and its associated steam generator
c. Decay Heat Removal Loop 1
d. Decay Heat Removal Loop 2

Table 1.1 of the TSs defines Mode 3 as K_{eff} less than 0.99 and average coolant temperature greater than or equal to 280°F. TS 3.4.9.1, Figure 3.4-3, specifies Reactor Coolant System temperature and pressure limits during cooldown. Above 280°F the maximum allowable pressure increases linearly from 1550 psig to a maximum of 2275 psig at 367°F. The TSs contain no other restrictions on plant pressure in Mode 3. Thus, addition of the footnote restricting DHR System operability in Mode 3 is necessary to prevent system overpressurization.

In Modes 4 and 5, maximum allowable Reactor Coolant System pressures per TS 3.4.9.1 are 1550 psig and 549 psig, respectively; however, TS 3.4.2 requires that the DHR System relief valve be operable with a lift setpoint of less than or equal to 330 psig. Thus overpressure protection is provided in Modes 4 and 5 such that the proposed footnote need not be applicable to those modes.

The proposed revision to the basis clearly specifies the DHR System design conditions and is consistent with the proposed revision to TS 3.4.1.2.

We find the proposed revisions acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves changes in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. We have determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this 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 this amendment.

4.0 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: March 19, 1986

Principal Contributor: W. G. Guldemond