

April 23, 1996

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

SUBJECT: AMENDMENT NO. 211 TO FACILITY OPERATING LICENSE NO. NPF-3 -  
DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1 (TAC NO. M94809)

Dear Mr. Stetz:

The Commission has issued the enclosed Amendment No. 211 to Facility Operating License No. NPF-3 for the Davis-Besse Nuclear Power Station, Unit No. 1. The amendment revises the Technical Specifications (TS) in response to your application dated February 5, 1996.

This amendment clarifies TS 3/4.3.2.1, Table 3.3-3, Safety Features Actuation System Instrumentation, and revises Bases 3/4.3.1 and 3/4.3.2, Reactor Protection System and Safety System Instrumentation, to accurately reflect the design and actuation logic of the diesel generator load sequencer and the essential bus undervoltage relays.

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:

Linda L. Gundrum, 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. 211 to License No. NPF-3  
2. Safety Evaluation

cc w/encls: See next page

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Davis-Besse Nuclear Power Station  
Unit No. 1

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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. 211  
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 February 5, 1996, 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:

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(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 211, 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 90 days after issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

*Linda L. Gundrum*

Linda L. Gundrum, 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: April 23, 1996

ATTACHMENT TO LICENSE AMENDMENT NO. 211

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

3/4 3-11

3/4 3-12

3/4 3-12a

B 3/4 3-1

B 3/4 3-1a

Insert

3/4 3-11

3/4 3-12

3/4 3-12a

B 3/4 3-1

B 3/4 3-1a

TABLE 3.3-3 (Continued)

SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF UNITS</u>	<u>UNITS TO TRIP</u>	<u>MINIMUM UNITS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
<b>3. MANUAL ACTUATION</b>					
a. SFAS (except Containment Spray and Emergency Sump Recirculation)	2	2	2	1,2,3,4,6****	12
b. Containment Spray	2	2	2	1,2,3,4	12
<b>4. SEQUENCE LOGIC CHANNELS</b>					
a. Sequencer	4	2/BUS	2/BUS	1,2,3,4	15#
b. Essential Bus Feeder Breaker Trip (90%)	4*****	2/BUS	2/BUS	1,2,3,4	15#
c. Diesel Generator Start, Load shed on Essential Bus (59%)	4	2/BUS	2/BUS	1,2,3,4	15#
<b>5. INTERLOCK CHANNELS</b>					
a. Decay Heat Isolation Valve	1	1	1	1,2,3	13#
b. Pressurizer Heaters	2	2	2	3*****	14

3/4 3-11

Amendment No. 28, 37, 52,  
102, 135, 159, 211

TABLE 3.3-3 (Continued)  
TABLE NOTATION

- \* Trip function may be bypassed in this MODE with RCS pressure below 1800 psig. Bypass shall be automatically removed when RCS pressure exceeds 1800 psig.
- \*\* Trip function may be bypassed in this MODE with RCS pressure below 600 psig. Bypass shall be automatically removed when RCS pressure exceeds 600 psig.
- \*\*\* DELETED
- \*\*\*\* This instrumentation, or the containment purge and exhaust system noble gas monitor (with the containment purge and exhaust system in operation), must be OPERABLE during CORE ALTERATIONS or movement of irradiated fuel within containment to meet the requirements of Technical Specification 3.9.4. When using the containment purge and exhaust system noble gas monitor, SFAS is not required to be OPERABLE in MODE 6.
- \*\*\*\*\* All functional units may be bypassed for up to one minute when starting each Reactor Coolant Pump or Circulating Water Pump.
- \*\*\*\*\* When either Decay Heat Isolation Valve is open.
- # The provisions of Specification 3.0.4 are not applicable.

ACTION STATEMENTS

- ACTION 10 - With the number of OPERABLE functional units one less than the Total Number of Units, STARTUP and/or POWER OPERATION may proceed provided both of the following conditions are satisfied:
  - a. The inoperable functional unit is placed in the tripped condition within one hour.
  - b. The Minimum Units OPERABLE requirement is met; however, one additional functional unit may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1.
- ACTION 11 - With any component in the Output Logic inoperable, trip the associated components within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

TABLE 3.3-3 (Continued)

ACTION STATEMENTS

- ACTION 12 - With the number of OPERABLE Units one less than the Total Number of Units, restore the inoperable functional unit to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- ACTION 13 - a. With less than the Minimum Units OPERABLE and reactor coolant pressure  $\geq$  438 psig, both Decay Heat Isolation Valves (DH11 and DH12) shall be verified closed.
- b. With Less than the Minimum Units OPERABLE and reactor coolant pressure  $<$  438 psig operation may continue; however, the functional unit shall be OPERABLE prior to increasing reactor coolant pressure above 438 psig.
- ACTION 14 - With less than the Minimum Units OPERABLE and reactor coolant pressure  $<$  438 psig, operation may continue; however, the functional unit shall be OPERABLE prior to increasing reactor coolant pressure above 438 psig, or the inoperable functional unit shall be placed in the tripped state.
- ACTION 15 - a. With the number of OPERABLE units one less than the Minimum Units Operable per Bus, place the inoperable unit in the tripped condition within one hour. For functional unit 4.a the sequencer shall be placed in the tripped condition by physical removal of the sequencer module. The inoperable functional unit may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1.
- b. With the number of OPERABLE units two less than the Minimum Units Operable per Bus, declare inoperable the Emergency Diesel Generator associated with the functional units not meeting the required minimum units OPERABLE and take the ACTION required of Specification 3.8.1.1.

### 3/4.3 INSTRUMENTATION

#### BASES

#### 3/4.3.1 and 3/4.3.2 REACTOR PROTECTION SYSTEM AND SAFETY SYSTEM INSTRUMENTATION

The OPERABILITY of the RPS, SFAS and SFRCS instrumentation systems ensure that 1) the associated action and/or trip will be initiated when the parameter monitored by each channel or combination thereof exceeds its setpoint, 2) the specified coincidence logic is maintained, 3) sufficient redundancy is maintained to permit a channel to be out of service for testing or maintenance, and 4) sufficient system functional capability is available for RPS, SFAS and SFRCS purposes from diverse parameters.

The OPERABILITY of these systems is required to provide the overall reliability, redundance and diversity assumed available in the facility design for the protection and mitigation of accident and transient conditions. The integrated operation of each of these systems is consistent with the assumptions used in the accident analyses.

The surveillance requirements specified for these systems ensure that the overall system functional capability is maintained comparable to the original design standards. The periodic surveillance tests performed at the minimum frequencies are sufficient to demonstrate this capability.

The measurement of response time at the specified frequencies provides assurance that the RPS, SFAS, and SFRCS action function associated with each channel is completed within the time limit assumed in the safety analyses. No credit was taken in the analyses for those channels with response times indicated as not applicable.

Response time may be demonstrated by any series of sequential, overlapping or total channel test measurements provided that such tests demonstrate the total channel response time as defined. Sensor response time verification may be demonstrated by either 1) in place, onsite or offsite test measurements or 2) utilizing replacement sensors with certified response times.

The actuation logic for Functional Units 4.a., 4.b., and 4.c. of Table 3.3-3, Safety Features Actuation System Instrumentation, is designed to provide protection and actuation of a single train of safety features equipment, essential bus or emergency diesel generator. Collectively, Functional Units 4.a., 4.b., and 4.c. function to detect a degraded voltage condition on either of the two 4160 volt essential buses, shed connected loads, disconnect the affected bus(es) from the offsite power source and start the associated emergency diesel generator. In addition, if an SFAS actuation signal is present under these conditions, the sequencer channels for the two SFAS channels which actuate the train of safety features equipment powered by the affected bus will automatically sequence these loads onto the bus to prevent overloading of the emergency diesel generator. Functional Unit 4.a. has a

### 3/4.3 INSTRUMENTATION

#### BASES

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#### 3/4.3.1 and 3/4.3.2 REACTOR PROTECTION SYSTEM AND SAFETY SYSTEM INSTRUMENTATION (Continued)

total of four units, one associated with each SFAS channel (i.e., two for each essential bus). Functional Units 4.b. and 4.c. each have a total of four units, (two associated with each essential bus); each unit consisting of two undervoltage relays and an auxiliary relay.

An SFRCS channel consists of 1) the sensing device(s), 2) associated logic and output relays (including Isolation of Main Feedwater Non Essential Valves and Turbine Trip), and 3) power sources.

The SFRCS response time for the turbine stop valve closure is based on the combined response times of main steam line low pressure sensors, logic cabinet delay for main steam line low pressure signals and closure time of the turbine stop valves. This SFRCS response time ensures that the auxiliary feedwater to the unaffected steam generator will not be isolated due to a SFRCS low pressure trip during a main steam line break accident.

Safety-grade anticipatory reactor trip is initiated by a turbine trip (above 45 percent of RATED THERMAL POWER) or trip of both main feedwater pump turbines. This anticipatory trip will operate in advance of the reactor coolant system high pressure reactor trip to reduce the peak reactor coolant system pressure and thus reduce challenges to the pilot operated relief valve. This anticipatory reactor trip system was installed to satisfy Item II.K.2.10 of NUREG-0737. The justification for the ARTS turbine trip arming level of 45% is given in BAW-1893, October, 1985.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 211 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 February 5, 1996, the licensees propose revising the Technical Specifications (TS) for Davis-Besse, Unit 1, which clarify TS 3/4.3.2.1, Table 3.3-3, Safety Features Actuation System (SFAS) Instrumentation and the associated bases to reflect accurately the designs and actuation logic of the diesel generator load sequencer and the essential bus undervoltage relays.

2.0 EVALUATION

The license amendment proposes revisions to Table 3.3-3 of Technical Specification 3/4.3.2.1, Safety Features Actuation System Instrumentation, for Functional Unit 4.a Sequencer, Functional Unit 4.b Essential Bus Feeder Breaker Trip (90%), Functional Unit 4.c Diesel Generator Start, Load Shed on Essential Bus (59%), and the associated Bases to clarify their design and actuation logic.

Functional Units 4.a, 4.b, and 4.c are designed to provide protection and actuation of a single train of safety features equipment, essential bus or emergency diesel generator. Collectively, the functional units function to detect a degraded voltage condition on either of the two 4160 volt essential buses, shed the connected loads, disconnect the affected buses from the offsite power source and start the associated emergency diesel generator. If a SFAS actuation signal is present under degraded voltage conditions, the sequencer channels for the two SFAS channels which actuate the train of safety features equipment powered by the affected bus will automatically sequence these loads onto the bus to prevent overloading of the emergency diesel generator. Functional Unit 4.a has a total of four units, one associated with

each SFAS channel (i.e. two for each essential bus). Functional Units 4.b and 4.c each have a total of four units (two associated with each essential bus).

The TS Action Statement for Functional Unit 4 is revised to be Action 15, which states that with the number of operable units one less than the minimum number of units operable per bus, place the inoperable unit in the tripped condition within one hour. For Functional Unit 4.a, the sequencer shall be placed in the tripped condition by physical removal of the sequencer module. The inoperable functional unit may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1. With the number of operable units two less the minimum number of units operable per bus, declare inoperable the emergency diesel generator associated with the functional unit not meeting the required minimum units operable and take the Action required of Specification 3.8.1.1.

Based on the above, the staff concludes that the proposed TS revisions are merely clarifications based on the actual SFAS design, and do not alter the original intent of the approved TS. The licensees' proposed revision of the TS Section for SFAS is, therefore, acceptable.

### 3.0 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.

### 4.0 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 (61 FR 10397). 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.

### 5.0 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 Contributor: F. Gee

Date: April 23, 1996