



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 203 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 July 28, 1995, the 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 (DBNPS) Technical Specifications (TS). The requested amendment would clarify the limiting condition for operation for TS 3.8.1.1 and 3.8.1.2 from "independent" circuit to "qualified" circuit; explain in the Bases the requirements for operability of an offsite circuit; delete the STAGGERED TEST BASIS scheduling requirement to perform emergency diesel generator surveillances; explain in the Bases an acceptable method for verification of Emergency Diesel Generator speed for surveillance requirements (SR) 4.8.1.1.2.a.4 and 4.8.1.1.2.c.4; remove a surveillance test extension that has expired for SR 4.8.1.1.1.b; add an exception for SR 4.8.1.1.2.c.5 and 4.8.1.1.2.c.7 to SR 4.8.1.2; and revise Bases 3.0.5 to reflect the clarification from "independent" circuit to "qualified" circuit.

2.0 EVALUATION

2.1 Qualified Circuits

The licensee proposes to revise TS Section 3/4.8.1.1, "Electrical Power Systems - A.C. Sources - Operating" and TS Section 3.8.1.2, "Electrical Power Systems - A.C. Sources - Shutdown" to replace the term "independent" circuit with "qualified" circuit and add the clarification that the qualified circuit is between the offsite transmission network and the onsite Class 1E A.C. electrical power distribution system. This terminology is consistent with NUREG-1430, Revision 1, "Improved Standard Technical Specifications for Babcock and Wilcox Plants."

The term "qualified circuit" would be added to the Bases 3/4.8, "Electrical Power Systems," as follows.

"Qualified offsite to onsite circuits are those that are described in the USAR and are part of the licensing basis for the plant."

An OPERABLE qualified offsite to onsite circuit consists of all breakers, transformers, switches, interrupting devices, cabling, and controls required to transmit power from the offsite transmission network to the onsite Class 1E essential buses.

An OPERABLE qualified offsite to onsite circuit consists of:

1. One OPERABLE 345 kV transmission line
2. One OPERABLE 345 - 13.8 kV startup transformer
3. One OPERABLE 13.8 kV bus, and
4. One OPERABLE 13.8 - 4.16 kV bus tie transformer.

Typically, the electrical power reserve source selector switches are selected to the two different startup transformers. However, under certain conditions it is appropriate to select both switches to the same startup transformer. The circuit in which the startup transformer does not have a reserve source selector switch pre-selected to it must still meet the requirements of having its 345 kV transmission line, startup transformer, 13.8 kV bus and bus tie transformer OPERABLE.

In the case where a 13.8 kV bus is powered from a startup transformer, the reserve source selector switch should be selected to the opposite startup transformer.

In MODES 1-4, if one of the required 13.8 kV - 4.16 kV bus tie transformers is inoperable, then one qualified offsite to onsite circuit is inoperable and the requirement of LCO 3.8.1.1.a is not met. The appropriate corresponding ACTION statement must be entered. The essential 4.16 kV buses remain OPERABLE while energized with one 13.8 kV - 4.16 kV bus tie transformer inoperable."

Additionally, the licensee proposes to revise Bases 3.0.5 to reflect the change from "independent circuit" to "qualified circuit."

These additions to the Bases clarify qualified circuit operability requirements, provide a discussion of the positioning of the reserve source selector switches and their effect on operability, and provide a discussion of the effect of the inoperability of a 13.8 kV - 4.16 kV bus tie transformer.

The staff has reviewed the proposed TS revisions against the guidance provided in NUREG-1430 and finds them acceptable. The revisions to the TS Bases are consistent with the guidance provided by NUREG-1430 and are consistent with the licensing bases as currently defined for DBNPS.

2.2 Elimination of STAGGERED TEST BASIS

The licensee proposes to eliminate the term "STAGGERED TEST BASIS" in surveillance scheduling requirements for the emergency diesel generators as

described in SR 4.8.1.1.2.a and SR 4.8.1.1.2.c and proposes wording that requires surveillance scheduling as conservative as the current requirements.

SR 4.8.1.1.2 currently requires "Each diesel generator shall be demonstrated OPERABLE: a. At least once per 31 days on a STAGGERED TEST BASIS if Surveillance Requirement 4.8.1.1.2.c has not been performed within the previous 31 days." The proposed revision is "Each diesel generator shall be demonstrated OPERABLE: a. at least once per 31 days, if Surveillance Requirement 4.8.1.1.2.c has not been performed within the previous 31 days."

SR 4.8.1.1.2 currently requires "Each diesel generator shall be demonstrated OPERABLE: c. At least once per 184 days on a STAGGERED TEST BASIS by:..." The proposed revision is "Each diesel generator shall be demonstrated OPERABLE: c. At least once per 184 days by...."

The staff has reviewed the wording change against the guidance of NUREG-1430 and finds the proposed changes acceptable.

2.3 Deletion of Footnote to SR 4.8.1.1.1.b

The licensee proposes to delete the footnote associated with SR 4.8.1.1.1.b which states, "The 18 month surveillance which is due on March 1, 1988 may be delayed until April 1, 1988," since the applicable date has past.

The staff finds this change is acceptable.

2.4 Addition of Exception to SR 4.8.1.2

The licensee proposes to add exceptions to performing SRs 4.8.1.1.2.c.5 and 4.8.1.1.2.c.7 to SR 4.8.1.2. TS 3/4.8.1.2 specifies the required A.C. power sources during shutdown. SR 4.8.1.2 states that the required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the SRs of 4.8.1.1.1 and 4.8.1.1.2. Currently, SR 4.8.1.2 excepts performance of 4.8.1.1.2.a.5, which requires verifying every 31 days that the generator is synchronized, loaded to greater than or equal to 1000 kW, and operates for greater than or equal to 60 minutes. SR 4.8.1.1.2.c was added by TS Amendment 97 to reduce the number of EDG cold starts. SR 4.8.1.1.2.c verifies the fast start capability of the EDGs once per 184 days rather than monthly as previously required. As part of this test, item c.5 requires verifying the generator is synchronized, loaded to greater than or equal to 1000 kW, and operates for greater than or equal to 60 minutes. SR 4.8.1.1.2.a.5 is similar to SR 4.8.1.1.2.c.5 but it allows EDG warm-up and is performed on a 31 day test frequency. SR 4.8.1.2 currently allows an exception for performing 4.8.1.1.2.a.5 because only one EDG is required in the TS mode of applicability (Modes 5 and 6) and it is not desirable to put the one OPERABLE EDG in a synchronized condition. SR 4.8.1.1.2.c.5 is a similar surveillance test for synchronizing and loading the EDGs as SR 4.8.1.2.a.5. Adding the exception to 4.8.1.2 of synchronizing and loading the EDGs under TS 4.8.1.1.2.c.5 is consistent with the exception to SR 4.8.1.2 for SR 4.8.1.1.2.a.5. Therefore, exception of SR 4.8.1.1.2.c.5 in SR 4.8.1.2 does not affect the safety function of the EDGs.

TS Amendment 75 added the existing exception to SR 4.8.1.2 for SR 4.8.1.1.2.a.7, verification that the automatic load sequence timer is operable. As discussed in the amendment's Safety Evaluation by the NRC Staff, the load sequencer tested by SR 4.8.1.1.2.a.7 is required to be operable only when the unit is in an operational mode other than cold shutdown (Mode 5) or refueling (Mode 6) per TS 3.3.2.3, Safety Features Actuation Instrumentation. SR 4.8.1.2 is applicable when the unit is in a cold shutdown or refueling. During cold shutdown and refueling operational modes, the load sequencer is not required as the reactor coolant system is sufficiently cooled down and depressurized eliminating the need to sequence the loading of emergency loads on the EDG. The surveillance test required by SR 4.8.1.1.2.c.7 is similar to SR 4.8.1.1.2.a.7. Therefore, adding the exception of this surveillance test does not affect the safety function of the EDGs.

The staff has reviewed the licensees' proposed changes and finds them in accordance with the guidance provided in NUREG-1430, Revision 1 and, therefore, acceptable.

2.5 Using Frequency to Verify EDG Speed

A proposed change to Bases 3/4.8 will allow the use of frequency measurement for verifying the EDG acceleration to 900 RPM as required by SR 4.8.1.1.2.a.4 and SR 4.8.1.1.2.c.4. Frequency is an equivalent measurement to speed or RPM.

The staff has reviewed the proposed change to use frequency measurements to determine EDG acceleration and found it consistent with NUREG-1430 Revision 1. The staff notes that procedures implementing the guidance contained in the proposed Bases should include the allowed tolerances, including instrument inaccuracies, for the frequency measurement.

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 (60 FR 56370). 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.

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Date: December 8, 1995