February 29, 1988

Docket No. 50-346
Serial No. DB-88-008

Mr. Donald C. Shelton
Vice President, Nuclear
Toledo Edison Company
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Dear Mr. Shelton:

SUBJECT: AMENDMENT NO. 107 TO FACILITY OPERATING LICENSE NO. NPF-3: SURVEILLANCE DUE DATE EXTENSION FOR ELECTRICAL POWER SYSTEMS, A. C. SOURCES 13.8 KV BUS TRANSFER (TAC NO. 66967)

The Commission has issued the enclosed Amendment No. 107 to Facility Operating License No. NPF-3 for the Davis-Besse Nuclear Power Station, Unit No. 1. This amendment consists of a change to the Appendix A Technical Specifications (TS's) in response to your application dated January 20, 1988 (No. 1469).

This amendment revises the TS's to permit an extension of the next due date for performing the tests and inspections required by Surveillance Requirement 4.8.1.1.1 b from March 1, 1988, to April 1, 1988.

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

Sincerely,

/S/

Albert W. De Agazio, Project Manager
Project Directorate III-3
Division of Reactor Projects - III, IV, V & Special Projects

Enclosures:
1. Amendment No. 107to License No. NPF-3
2. Safety Evaluation

cc w/enclosures:
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

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. 107
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 January 20 1988, 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:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 107 , 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 April 1, 1988.

FOR THE NUCLEAR REGULATORY COMMISSION

Kenneth E. Perkins, Director
Project Directorate III-3
Division of Reactor Projects - III, IV, V, & Special Projects

Attachment: Changes to the Technical Specifications

Date of Issuance: February 29, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 107

FACILITY OPERATING LICENSE NO. NPF-3

DOCKET NO. 50-346

Replace the following page of the Appendix "A" Technical Specifications with the attached page. The revised page is identified by Amendment number and contains vertical lines indicating the area of change. The corresponding overleaf page is also provided to maintain document completeness.

Remove	Insert
3/4 8-2	3/4 8-2

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. Two independent circuits between the offsite transmission network and the onsite Class 1E distribution system, each consisting of:

1. One OPERABLE 345 KV transmission line,

2. One OPERABLE 345-13.8 KV startup transformer, and

3. One OPERABLE 13.8 KV bus, and

b. Two separate and independent diesel generators each with:

1. A separate day fuel tank containing a minimum volume of 4000 gallons of fuel,

2. A separate fuel storage system containing a minimum volume of 32,000 gallons of fuel, and

3. A separate fuel transfer pump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With either an offsite circuit or diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter and by performing Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours. Restore at least two offsite circuits and two diesel generators to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one offsite circuit and one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter and by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours. Restore at least one of the inoperable sources to OPERABLE status within 12 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore at least two

ACTION (Continued)

offsite circuits and two diesel generators to OPERABLE status within 72 hours from the time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With two of the above required offsite A.C. circuits inoperable, demonstrate the OPERABILITY of two diesel generators by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours and at least once per 8 hours thereafter, unless the diesel generators are already operating; restore at least one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. With only one offsite source restored, restore at least two offsite circuits to OPERABLE status within 72 hours from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

d. With two of the above required diesel generators inoperable, demonstrate the OPERABILITY of two offsite A.C. circuits by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter; restore at least one of the inoperable diesel generators to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore at least two diesel generators to OPERABLE status within 72 hours from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability, and

b. Demonstrated OPERABLE at least once per 18 months during shutdown by transferring (manually and automatically) unit power supply to each of the 345 KV transmission lines. **

4.8.1.1.2 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, by:

** The 18 month surveillance which is due on March 1, 1988 may be delayed until April 1, 1988

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 107 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 January 20, 1988, Toledo Edison Company (TED or the licensee) requested a change to Facility Operating License No. NPF-3, Appendix A Technical Specifications (TS's), for the Davis-Besse Nuclear Power Station, Unit No. 1. The change proposed would permit extension of the next due date for Surveillance Requirement (SR) 4.8.1.1.1.b which would otherwise be required to be performed not later than March 1, 1988. Specifically, the extension would extend the surveillance due dates for demonstrating the operable status of the required independent electrical circuits between the offsite transmission network and onsite Class 1E distribution system.

The surveillance requirements extended by the proposed amendment are to demonstrate operable the manual and automatic transfer of unit power supply to each of the 345 kV transmission lines.

2.0 DISCUSSION

SR 4.8.1.1.1 b requires that the manual and automatic transfer capability of the unit power supply to each of the 345 kV transmission lines be demonstrated operable. These surveillances must be performed at least once each 18 months while the unit is shut down. Specification 4.0.2 requires the performance of each SR within the specified time interval; however, any one interval is allowed to be as much as 1.25 times the specified surveillance interval, and the combined interval for any three consecutive surveillances is allowed to be as much as 3.25 times the surveillance interval.

SR 4.8.1.1.1 b must be performed no later than March 1, 1988, to comply with SR 4.0.2 a and not later than July 24, 1988, to comply with SR 4.0.2 b.

The Davis-Besse Nuclear Power Station is currently operating at power. Shutdown is scheduled for March 11, 1988 to enter the fifth refueling outage. To perform the scope of work necessary to satisfy SR 4.8.1.1.1 b, it would be necessary to shut down the station 11 days sooner than planned. Shutdown for the refueling outage was previously scheduled for mid-February 1988, but in early January 1988 it was rescheduled for March 11, 1988. This later date for shutdown has created the need to consider the extension of the due date for the subject surveillance tests.

3.0 EVALUATION

In Modes 1 through 4, the Davis-Besse TS's require two operable, independent circuits between the offsite transmission network and the Class 1E distribution system. SR 4.8.1.1.1 b. requires that these circuits be demonstrated operable at least once per 18 months by transferring unit power supply to each of the 345 kV transmission lines. The transfer is to be demonstrated for both the manual transfer capability and the automatic transfer capability. The TS requirement further specifies the test to be done while the unit is shut down because performing this test while the unit is at power potentially could challenge plant safety systems should a failure occur. Shutdown is considered to be while the unit is in Modes 5 or 6.

The licensee states that this SR was last done on April 14, 1986, and, therefore, the tests must be done not later than March 1, 1988. This due date is 687 days from the last surveillance and complies with TS 4.0.2 a.

The 18-month test interval for the 13.8 kV bus transfer was selected to be consistent with the maximum anticipated interval between refueling outages; and the interval is based on engineering judgment to achieve the dual goals of the need to conduct periodic surveillance tests (to verify operability within a time interval which does not exceed the mean time to failure for the subject equipment) but not not so frequent as to interfere substantially with unit availability. The tolerances on the individual and consecutive intervals are intended to ensure that the reliability of the equipment associated with the surveillance activity is not likely to be significantly degraded beyond that obtained from the nominal specified interval.

In its application, TED asserts that the operability of the manual transfer capability for the 13.8 kV breakers has been demonstrated successfully several times since the surveillance requirement was last performed. Additionally, the licensee asserts that, as a result of several plant trips, the automatic transfer capability from the normal source to the selected offsite source has also been demonstrated.

The A.C. power supply is designed to provide reliable redundant sources of power to the onsite power distribution system in the event of a turbine trip or when the plant is shut down. The 13.8 kV buses are normally supplied power from the auxiliary transformer connected to the station generator. In the event of a turbine generator trip, the 13.8 kV buses are fast-transferred to the preselected 345 kV offsite power source through a startup transformer.

If the preselected power supply is not available, the 13.8 kV bus goes dead and the corresponding emergency diesel-generator automatically starts and picks up the safety-related loads. The 13.8 kV bus will not shift to the alternate startup transformer.

If a 13.8 kV bus is being supplied through a startup transformer and the offsite power fails, the 13.8 kv bus will automatically fast-transfer to the alternate startup transformer if preselected by the operator.

On September 6, 1987, following a plant trip, the fast transfer feature on one of the Class 1E distribution system 13.8 kV breakers failed. Because the trip and subsequent plant recovery was complicated by a sequence of unrelated malfunctions, the NRC sent an Augmented Inspection Team (AIT) to the site to investigate the circumstances related to that event. The AIT reported its findings in Inspection Report 50-346/87025(AIT) dated October 1, 1987.

The AIT investigations revealed that the procedures in effect for conducting surveillance testing of the fast transfer features described above would only demonstrate operability of the transfer from one startup transformer to the other but would not demonstrate operability of the transfer from the auxiliary transformer to the selected startup transformer as required by SR 4.8.1.1.1.b.

Prior to restart after this event, post-maintenance testing of the breakers and other controls related to the fast transfer capability was performed. This testing did demonstrate both fast transfer features. On December 7, 1987, the fast transfer from the auxiliary transformer to the correct offsite power source functioned successfully in response to a plant trip.

TED is requesting an extension to the current due dates for the surveillances discussed above of 31 days. This extension would permit the unit to continue operation at power until the scheduled refueling outage of March 11, 1988. The staff believes that an extension of 31 days will not increase significantly the probability of undetected degradation of equipment related to the fast transfer capability.

4.0 FINDINGS

Based upon the details discussed above, the staff has concluded that the proposed extension of no more than 31 days represents a small increase in the currently allowable 687 days interval between surveillance tests. Further, since the prior surveillance tests were not conducted such as to demonstrate the fast transfer of power from the auxiliary transformer to the offsite transmission system, the length of the interval since the last surveillance test has no significance. Following the September 6, 1987 event the licensee conducted a successful post maintenance demonstration of the fast transfer of power from the auxiliary transformer to the startup transformer. Following the December 7, 1987 trip this same fast transfer capability functioned properly. Therefore, the staff finds the licensee's request to extend the due date for SR 4.8.1.1.1.b. until April 1, 1988, is acceptable.

5.0 ENVIRONMENTAL CONSIDERATION

This amendment involves changes to 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 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 nor environmental assessment need be prepared in connection with the issuance of this amendment.

6.0 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, 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.

Principal Contributor: A. De Agazio

Dated: February 29, 1988