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SUBJECT: Application for amends to licenses DPR-58 & DPR-74, revising
 TS, by modifying surveillance testing of EDG during refueling
 & normal operations.

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November 10, 1995

AEP:NRC:0896X

Docket Nos.: 50-315
50-316

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Donald C. Cook Nuclear Plant Units 1 and 2
TECHNICAL SPECIFICATION CHANGES
TO MODIFY SURVEILLANCE TESTING OF THE
EMERGENCY DIESEL GENERATORS
DURING REFUELING AND NORMAL OPERATIONS

This letter and its attachments constitute an application for amendment to the technical specifications (T/Ss) for Donald C. Cook Nuclear Plant units 1 and 2. Specifically, we are proposing to implement changes to modify surveillance testing for the emergency diesel generators (EDGs) during refueling and normal operations.

On June 15, 1995, we submitted a request for changes to the 18 month EDG 24 hour surveillance test (AEP:NRC:0896V). During subsequent discussions and reviews, NRR staff requested other beneficial changes to the EDG surveillance testing requirements. Specifically, these new changes involve the EDG monthly testing requirements and include measurement of voltage and frequency. In addition, the EDG 18 month surveillance now includes power factor monitoring. Therefore, this request for a change to the EDG T/S surveillance requirements supersedes our June 15, 1995, submittal in its entirety. However, the contents of attachments 4 and 5 of AEP:NRC:0896V have not been changed and are also included herein as attachments 4 and 5.

Attachment 1 provides a detailed description of the proposed changes, the justification for the changes, and our determination of no significant hazards consideration performed pursuant to 10 CFR 50.92. Attachment 2 contains the existing T/S pages marked to reflect the proposed changes. Attachment 3 contains the proposed T/S pages. Attachment 4 provides the supporting technical evaluation report.

ADD 11

In addition, this is a cost beneficial licensing action (CBLA) submittal and represents a high priority item since it will, once approved, result in a significant reduction in operating cost. The lifetime cost saving associated with this CBLA is approximately \$600,000, as detailed in Attachment 5.

We believe that the proposed changes will not result in (1) a significant change in the types of any effluent that may be released offsite, or (2) a significant increase in individual or cumulative occupational radiation exposure.

The additional proposed changes contained in this submittal have also been reviewed by the Plant Nuclear Safety Review Committee and will be reviewed by the Nuclear Safety and Design Review Committee at its next regularly scheduled meeting.

In compliance with the requirements of 10 CFR 50.91(b)(1), copies of this letter and its attachments have been transmitted to the Michigan Public Service Commission and to the Michigan Department of Public Health.

Sincerely,



E. E. Fitzpatrick

E. E. Fitzpatrick
Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 10th DAY OF November 1995

Lisa D. Hice
Notary Public

My Commission Expires: 6-28-99

eh

Attachments

cc: A. A. Blind
G. Charnoff
J. B. Martin
NFEM Section Chief
NRC Resident Inspector - Bridgman
J. R. Padgett

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ATTACHMENT 1 TO AEP:NRG:0896X

DESCRIPTION AND JUSTIFICATION OF CHANGES

10 CFR 50.92 ANALYSIS FOR CHANGES
TO THE DONALD C. COOK NUCLEAR PLANT
UNITS 1 AND 2 TECHNICAL SPECIFICATIONS

A. DESCRIPTION OF CHANGES

The changes proposed by this letter involve the emergency diesel generator (EDG) 18 month 24 hour surveillance test and monthly one hour surveillance test. The changes are described individually as follows:

Emergency Diesel Generator Surveillance Requirements

1. T/S: 4.8.1.1.2.a.4 (Units 1 and 2)
Page: 3/4 8-3 (Units 1 and 2)
 - 1) In agreement with NRC staff recommendations, delete the requirement to measure rpm and add the requirement to measure voltage and frequency in accordance with Standard Technical Specifications (NUREG-1431, Vol.1, Rev.1). Also, the voltage and frequency range to be specified by this T/S is consistent with the range provided in T/S 4.8.1.1.2.e.4.b.
 - 2) Replace the word "ambient" with the word "standby" in the associated footnote for consistency.
2. T/S: 4.8.1.1.2.a.5 (Units 1 and 2)
Page: 3/4 8-3 (Units 1 and 2)
 - 1) Delete and replace with the Standard Technical Specification requirement for testing at full-load instead of half-load testing. The proposed testing would be performed with the EDG synchronized to the grid.
 - 2) Add a footnote indicating that momentary load transients do not invalidate this test. This is consistent with Standard Technical Specifications.
3. T/S: 4.8.1.1.2.e.7 (Units 1 and 2)
Page: 3/4 8-6 (Units 1 and 2)
 - 1) Reduce the duration of the surveillance test from 24 hours to 8 hours and add the requirement to monitor power factor. Based on engineering evaluations, a power factor of 0.86 was selected to be representative of the actual design basis inductive loading that the EDG would experience.

- 2) Modify the footnote associated with the asterisk at the end of 4.8.1.1.2.e.7 to reflect the reduction of the surveillance test from 24 hours to 8 hours.
- 3) Add a footnote indicating that momentary transients outside the load and power factor ranges do not invalidate this test. This is consistent with Standard Technical Specifications.

B. JUSTIFICATION FOR CHANGES

The proposed changes involve the EDG 18 month 24 hour surveillance test and the monthly one hour surveillance test which are implemented by plant procedures. The proposed changes are designed to reduce operating costs, increase outage scheduling flexibility, reduce shutdown risk, increase diesel life, and provide consistency with the Standard Technical Specifications without reducing the effectiveness of the surveillance tests.

Specifically, reducing the surveillance time from 24 to 8 hours would significantly improve outage performance without reducing EDG reliability. Based on examination of Cook Nuclear Plant test data from 1974 to 1994, it is clear that extensive run times beyond the point where the EDG is started, loaded to 3500KW, and achieves an equilibrium condition provide little insight regarding EDG reliability (see Attachment 4). The engine steady-state characteristics are achieved in approximately 2 hours and the dominant failure modes of the EDG are expected to occur within this period. In addition, review of the 24 hour test data from 1974 to 1994 does not indicate any abnormal conditions that would have prevented the diesel from completing its mission during an actual emergency demand. Therefore, as described in Attachment 4, reduction of the test duration from a 24 to an 8 hour period will maintain an equivalent level of confidence in EDG reliability and may actually improve overall EDG reliability (see Attachment 4, Section 3.5).

Presently, the EDG is tested monthly on a resistive load bank capable of achieving only half-load conditions. In accordance with the Standard Technical Specifications, the proposed change will require that the EDG is synchronized to the system grid and operated at full-load (3500KW) every month. During this test, an operator is continuously monitoring the diesel control panel and can, if necessary, return the EDG back to standby status. As such, the EDG will remain operable during the test.

Also, in accordance with Standard Technical Specifications, the monthly test will be modified to require voltage and frequency monitoring instead of monitoring rpm. A word change is proposed for

the T/S footnote as described in item 1 above and a footnote is being added as described in item 3. These proposed changes are considered administrative and are designed to conform to the Standard Technical Specifications.

C. 10 CFR 50.92 CRITERIA

Per 10 CFR 50.92, a proposed change does not involve a significant hazards consideration if the change does not:

1. involve a significant increase in the probability or consequences of an accident previously evaluated,
2. create the possibility of a new or different kind of accident from any accident previously evaluated, or
3. involve a significant reduction in a margin of safety.

Criterion 1

The safety function of the EDGs is to supply AC electrical power to plant safety systems whenever the preferred AC power supply is unavailable. Through surveillance requirements, the ability of the EDGs to meet their load and timing requirements is tested and the quality of the fuel and the availability of the fuel supply are monitored. Reduction of the 24 hour run to 8 hours will not reduce the surveillance effectiveness and will sufficiently exercise the EDG and its support systems to identify potential conditions that could lead to performance degradation (See Attachment 4). Further, monthly full-load testing will provide confidence in diesel reliability and performance capability. Based on these considerations, it is concluded that the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

Criterion 2

The proposed changes do not involve physical changes to the plant or changes in plant operating configuration. The changes only involve EDG surveillance test requirements. These changes will not affect EDG operability and are designed to improve surveillance effectiveness. Also, paralleling the diesel to the system grid during normal operations has been performed to fulfill monthly surveillance requirements when the resistive load banks were not available.

It is recognized that, during the 1 hour monthly surveillance test period, the diesel could be exposed to electrical system transients (e.g., transients induced by inclement weather conditions) which could cause the

paralleled diesel output breaker to trip open. Such a scenario, although unlikely, is mitigated by the availability of the alternate EDG which is placed in the auto start mode prior to the surveillance. In addition, during testing, an operator is continuously monitoring the diesel control panel and can, if necessary, reset the affected EDG lockout relays to restore EDG availability. Therefore, it is concluded that the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

Criterion 3

Although the duration of the EDG 18 month 24 hour surveillance test would be reduced, the EDG components will continue to be sufficiently exercised such that the ability to detect incipient and degraded conditions will be maintained (See Attachment 4, Figure 2). Also, the added review of diesel reactive loading ensures that test conditions closely match potential emergency conditions. In addition, the monthly full-load testing will provide confidence in diesel reliability and performance capability without impacting diesel operability. During the monthly test, the impact on plant safety due to potential exposure to transient grid conditions is considered to be insignificant based on the likelihood of such transients coincident with the testing and the mitigating factors discussed in Criterion 2 above.

Based on the above considerations, it is concluded that the proposed changes do not involve a significant reduction in a margin of safety.

ATTACHMENT 2 TO AEP:NRC:0896X

EXISTING TECHNICAL SPECIFICATION
PAGES MARKED TO REFLECT PROPOSED CHANGES

