

November 21, 1995

MEMORANDUM TO: Gail Marcus, Director
 Project Directorate III-3
 Division of Reactor Projects III/IV

FROM: José A. Calvo, Chief (Original signed by J. Calvo)
 Electrical Engineering Branch
 Division of Engineering

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION -
 THE ALLOWED OUTAGE TIME OF A.C. POWER
 SOURCES FOR DAVIS-BESSE STATION (TAC NO. M92532)

Plant: Davis-Besse Nuclear Power Station, Unit 1
 Licensee: Cleveland Electric Illuminating Company
 Review Status: Open

By letter dated June 1, 1995, Cleveland Electric Illuminating Company requested a Technical Specification change to revise the allowed outage time (AOT) in Technical Specification 3.8.1.1 - A.C. Power Sources, Operating from 72 hours to 7 days when one out of the two emergency diesel generator (EDG) is inoperable. The change also modifies Bases 3.0.5 to reflect the proposed 7 day EDG AOT. The Electrical Engineering Branch (EELB) has completed its preliminary review of the licensee's submittal. On the basis of our review, we have determined that there are outstanding areas which require greater clarification. The specific areas where additional information is required are discussed in the attachment. Please forward this Request for Additional Information (RAI) to the licensee expeditiously so that the outstanding issues can be resolved for the subject TS change.

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Docket No.: 50-346
 Attachment: As stated

CONTACT: R. Jenkins, NRR/DE
 415-2985

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1
DOCKET NO. 50-346
REQUEST FOR ADDITIONAL INFORMATION -
THE ALLOWED OUTAGE TIME FOR A.C. POWER SOURCES
(TAC NO. M92532)

In your submittal of June 1, 1995, you proposed to extend the allowed outage time (AOT) from 3 days to 7 days for each emergency diesel generator (EDG) in order to perform preventive maintenance (PM) or corrective maintenance (CM). The NRC staff has been considering the extensions of the EDG AOT on a plant-specific basis if the primary intent of the extending EDG AOT is to perform the manufacturer-recommended maintenance such as teardowns or preplanned preventive maintenance or modifications that would otherwise extend beyond the original AOT. Please address the following issues for the Davis-Besse Nuclear Power Station (DBNPS).

1. In your submittal of June 1, 1995 you stated that the transfer of a 13.8 kv bus between the three sources (i.e., three 345 kv lines) can be accomplished either manually or automatically. However, DBNPS Updated Final Safety Analysis Report (USAR) Section 8.3.1.1.2 states that automatic transfer occurs only from the normal to the reserve sources (i.e., the startup transformers) or between the two reserve power sources; the transfer from either of the startup transformers to the unit auxiliary transformer can only be done manually. Please describe how the third 345 kv power source (i.e., the unit auxiliary transformer) would become available to supply the 13.8 kv buses automatically in the event that both startup transformers would become inoperable. If the transfer can only be performed manually please provide an estimate of the time necessary to provide power to the 13.8 kv buses. Would the subject transfer be available in sufficient time following a loss of all onsite alternating current power supplies and the other offsite electric power circuits, to assure that specified acceptable fuel design limits and design conditions of the reactor coolant pressure boundary are not exceeded?
2. The staff is presently concerned that the extensions of EDG AOTs may increase the mean core damage frequency (CDF) for the station blackout (SBO) events, and impact its resolution. Provide the calculated CDF for SBO sequences without the extended allowed outage time (AOT), and the CDF for SBO sequences with the extended AOT. Also provide the overall unavailability of the EDGs used to calculate the CDFs for the SBO sequences requested.
3. Provide a discussion of the loss of offsite power events at your facility and include a quantitative discussion on how industry data on offsite power losses is compared with your facility. Also, provide the

major electrical component (i.e., buses, transformers, breakers and EDG) failure rates for the onsite and offsite power sources which were reviewed in the safety assessment.

4. Given that the majority of the 7-day AOT is required for the 6-year EDG surveillance/inspection (as opposed to the 18-month or 3-year inspection) would a more appropriate proposal for Davis-Besse be a 7-day AOT for the 6-year EDG inspection, and a 3-day AOT for other required maintenance and/or inspections? If not, why not?
5. The staff has recently granted an extension of an AOT to a plant that has installed a weather-protected tie-line from a hydro station used as an AAC source which will be substituted for the inoperable EDG during the extension. The extension was granted provided the certain conditions were met. As part of the rationale for the extended AOT change you credit the use of the Station Blackout Diesel Generator (SBODG). Please address each of the points below.
 - a. In your submittal of June 1, 1995 you state that an accident analysis shows that the loss of all A.C. power does not result in excessive pressure in the Reactor Coolant System (RCS) and the natural circulation characteristics of the RCS will assure core decay heat removal and a minimum core DNBR greater than 1.30. Given the above analysis and the use of the SBODG during postulated accidents please identify the operating procedures and the actions necessary to connect the SBODG to the essential buses in the event of a loss of offsite power and the failure of the other EDG.
 - b. During the special safety inspection (reference NRC Inspection Report No. 50-346/93019) conducted on the implementation of the Station Blackout Rule at Davis-Besse the team identified a concern regarding the DC ground detection system for the SBODG. The detection system may not detect high resistance or multiple grounds. These grounds could impact the operation of affected control circuits such that operators may be able to start the diesel generator. Identify efforts to address this 1993 inspection observation.
 - c. Removal from service of safety systems and important non-safety equipment, including offsite power sources, should be minimized during the EDG PM period. Why not identify this prerequisite in the revision to TS Bases 3.0.5?
 - d. Voluntary entry into an LCO action statement should not be scheduled when adverse weather is expected. Why not identify this prerequisite in the revision to TS Bases 3.0.5?

- e. If the SBODG will be utilized during the EDG PM period, the TS should contain requirements to demonstrate, before taking an EDG out for an extended period, that the SBODG is functional by verifying that the power source is capable of being connected to the safety bus associated with the inoperable EDG, and by verifying this capability of being connected to the safety bus every 8 hours thereafter. Please identify what means will ensure that the SBODG will be operational and functional during the EDG PM period.
- 6. In your submittal of June 1, 1995, your rationale for the proposed change cited the use of the SBODG and positive control of maintenance planning and scheduling activities. Please explain why the proposed revision to TS Bases 3.0.5 do not reflect the above rationale.