

APPLICATION FOR AMENDMENT
TO
FACILITY OPERATING LICENSE NO. NPF-3
FOR
DAVIS-BESSE NUCLEAR POWER STATION
UNIT NO. 1

Enclosed are forty-three (43) copies of the requested changes to the Davis-Besse Nuclear Power Station Unit No. 1 Facility Operating License No. NPF-3, together with the Safety Evaluation for the requested change.

The proposed changes include Section 3.8.1.1 and 4.8.1.1.2.

By /s/ R. P. Crouse
Vice President, Nuclear

Sworn and subscribed before me this 28th day of May, 1985.

/s/ Laurie A. Hinkle, nee (Brudzinski)
Notary Public - State of Ohio
My Commission Expires May 16, 1986

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Docket No. 50-346
License No. NPF-3
Serial No. 1142
May 28, 1985

Attachment

- I. Changes to Davis-Besse Nuclear Power Station Unit 1, Appendix A Technical Specifications Section 3.8.1.1 and 4.8.1.1.2.
 - A. Time required to Implement. This change is to be effective upon NRC approval.
 - B. Reason for Change (Facility Change Request 84-214, Rev. C).

The proposed changes are being submitted in accordance with Generic Letter 84-15, dated October 5, 1984 (Log No. 1546). The change is to improve diesel generator availability by reducing the number of cold fast starts and the surveillance testing of the synchronization with off site power.
 - C. Safety Evaluation
(See Attached)
 - D. Significant Hazard Consideration
(See Attached)

Safety Evaluation

This Amendment Request revises Tech. Spec. 3.8.1.1 (Action: a., b., and c.) and Surveillance Requirement 4.8.1.1.2 and is directed towards reducing the number of cold fast start surveillance tests for diesel generators which results in premature diesel engine degradation. The reliability of the emergency diesel generator (EDG) has been identified as being one of the main factors affecting the risk of a station blackout (see NRC Generic Letter 84-15). The proposed Tech. Spec. change is partially based on the NRC recommendations in the Generic Letter 84-15, and the DB-1 diesel testing record having a success rate greater than 95%. (Page 1 of letter to NRC, serial #1085, dated 10-5-84).

The safety function of Tech. Spec. 3.8.1.1 (Action: a., b., and c.) is to ensure the plant has reliable A.C. electrical power during all modes of station operation and shutdown conditions. The safety function of Surveillance Requirement 4.8.1.1.2 is to ensure the operability of the EDG to provide power for essential loads in the event of loss of offsite power.

Tech. Spec. 3.8.1.1 (Action: a., b., and c.) address the increased surveillance testing requirements during the inoperability of either EDG and/or offsite AC circuit. When one EDG is inoperable, the remaining EDG is required to be tested per Surveillance Requirement 4.8.1.1.2.a.4 (cold start to 900 rpm in ≤ 10 seconds) within 1 hour and at least once per 8 hours thereafter. This requirement to repeat the cold start testing of the operable EDG every 8 hours is excessive. If EDG 1-1 is removed from service (for preventative maintenance, etc.) EDG 1-2 is required to be started every 8 hours during the period when EDG 1-1 is inoperable. If EDG 1-1 would remain out of service for 72 hours (as permitted by Tech. Spec. 3.8.1.1) the EDG 1-2 could be started and stopped up to nine (9) times. NRC Generic Letter 84-15 appears to acknowledge that this testing frequency requirement is excessive in that the proposed revised EDG Tech. Specs. reflect a reduction in the frequency of testing during the inoperability of one EDG. Therefore, performing Surveillance Requirement 4.8.1.1.2.a.4 in Tech. Spec. 3.8.1.1 within 24 hours (Action: a.), within 8 hours (Action: b.), and within 8 hours and at least once per 8 hours thereafter (Action: c.) will reduce the frequency of testing the EDG during the inoperability of one EDG.

The change to surveillance test 4.8.1.1.2.a.5 from requiring that the diesel "is synchronized" to "can be synchronized" will improve reliability of the diesel generators because synchronization and loading the diesels during testing actually makes the diesel unavailable when needed. The diesel is operating in "droop" mode when it is in parallel to the offsite power. Therefore, loss of offsite power will cause the EDG to attempt to carry the offsite load and trip on over load before it can separate itself from the offsite power. By checking the EDG and verifying that it "can be synchronized" will retain the EDG's operability during surveillance testings.

SIGNIFICANT HAZARD CONSIDERATION

The proposed amendment request to reduce the number of cold fast starts of emergency diesel generators (EDG) and the surveillance testing of the generator synchronization with the offsite power source does not represent a significant hazard.

The NRC issued Generic Letter (84-15) dated July 2, 1984 (Log No. 1546) concerning proposed staff actions to improve and maintain diesel generator reliability. The letter identified as part of the Unresolved Safety Issue (USI) A-44 (Station Blackout), the reliability of diesel generators as being one of the main factors affecting the risk from station blackout. The NRC requested that the licensee respond to the letter (see TED response dated October 5, 1984, Serial No. 1085) and were encouraged to submit changes to their Technical Specifications to accomplish a reduction in the number of cold fast starts.

The NRC concluded in their Generic Letter that the frequency of fast starts test from ambient conditions of the EDG should be reduced. This amendment request for a reduction in cold fast starts of EDG from ambient conditions is in accordance with the Generic Letter. Also, included in the amendment request is verifying the EDC can be synchronized and loaded. This change results from reviewing the proposed Technical Specifications contained in the Generic Letter. This change will verify that the EDG "can be synchronized" and will retain the EDG Operability during the surveillance testing.

The granting of the request would not:

- 1) Involve a significant increase in the probability of consequences of an accident previously evaluated (10CFR50.92(C)(1).

The reduction in the number of cold fast starts and surveillance testing of the generator synchronization with the offsite power source is in accordance with the Generic Letter 84-15. The purpose of the Generic Letter is to improve the reliability of the EDG, there by maintaining all accident analysis assumed in the plant licensing. Therefore, this amendment request will not increase the probability or consequences of an accident previous evaluated.

- 2) Create the possibility of a new or different kind of accident previously evaluated 10CFR50.92(C)(2).

All accidents are still bounded by previous analysis and no new accidents are involved.

- 3) Involve a significant reduction in a margin of safety 10CFR50.91(C)(3).

All margins of safety assumed in previous analysis remain unchanged.

On the basis of the above, Toledo Edison has determined that the amendment request does not involve a significant hazard consideration.

Surveillance Requirement 4.8.1.1.2.a.4 presently requires that each EDG be demonstrated OPERABLE at least once per 31 days from an ambient (cold fast start) condition. This frequency of cold fast start tests has resulted in premature EDG engine wear (per information from the manufacturer, 500 hours of cold start operation is equivalent to 8000 hours of normal operation after warmup) and thereby reducing the reliability and availability of the EDG. However, the EDG operability cannot be ensured without any cold starts. Therefore, this proposed Tech. Spec. (4.8.1.1.2) revision will require the EDG cold fast start tests to be performed every 184 days and all other EDG starts for surveillance testing to be preceded by an engine pre-lube period and/or other warmup procedures recommended by the manufacturer. This is considered a good compromise by the NRC, TED, and the EDG manufacturer and should result in a net increase of overall EDG reliability and a reduction of EDG engine wear and mechanical stress.

Revising Tech. Spec. 3.8.1.1 and Surveillance Requirement 4.8.1.1.2 in combination will assist in the reduction of unnecessary wear of the EDGs. Since the concept of these Tech. Spec. changes are proposed by the NRC to improve the reliability of the EDG, and the safety function of Tech. Spec. 3.8.1.1 and Surveillance Requirement 4.8.1.1.2 is not changed, this is not an unreviewed safety question.

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