



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 99 TO FACILITY OPERATING LICENSE NO. NPF-11 AND
AMENDMENT NO. 83 TO FACILITY OPERATING LICENSE NO. NPF-18
COMMONWEALTH EDISON COMPANY
LASALLE COUNTY STATION, UNITS 1 AND 2
DOCKET NOS. 50-373 AND 50-374

1.0 INTRODUCTION

In a letter dated February 22, 1993, as supplemented August 16, 1993, Commonwealth Edison Company (CECo), the licensee, proposed an amendment to the Technical Specifications (TS) for LaSalle County Station (LaSalle) Units 1 and 2. With the proposed amendment, LaSalle has requested that TS 3.8.1.1 footnote (*) be revised to include the continued operation of one unit for a period of 7 days while emergency diesel generator (EDG) 0 is out of service for the performance of planned maintenance and/or modification work. Currently, the footnote permits the 7-day allowed outage time only to perform two surveillance requirements (SRs) prescribed in TS.

In addition, CECo requested that SR 4.8.1.1.2.a.7 be clarified to allow an EDG to remain operable with only one air start subsystem pressurized. At present, SR 4.8.1.1.2.a.7 only requires "verifying the pressure in all diesel generator air start receivers to be greater than or equal to 200 psig." This means that a failure of one air start receiver (subsystem) could be interpreted as an EDG failure, and that interpretation requires (according to the unit TS) that the other three EDGs be started. The August 16, 1993 supplemental letter provided clarifying information and did not change the original no significant hazards consideration determination.

2.0 EVALUATION

The Nuclear Regulatory Commission staff (the staff or NRC) has reviewed the proposed 7-day limiting condition for operation (LCO) provision in TS 3.8.1.1 footnote (*) for EDG 0 and SR 4.8.1.1.2.a.7 for EDG starting air system. Our evaluation of each proposed TS change follows:

TS 3.8.1.1 footnote (*) on page 3/4 8-1a

Because EDG 0 is designed to supply the safety-related equipment of both units (i.e., a shared or swing EDG), action statement b of TS 3.8.1.1 requires shutdown of both units after three days when EDG 0 is found to be inoperable. By an amendment approved on February 7, 1989, NRC approved a footnote (*) on TS 3.8.1.1. With EDG 0 out of service, the footnote allows the continued

operation of one unit while the other unit is in cold shutdown, refueling, or defueled modes from three days to seven days only, for the purpose of performing two SRs prescribed in the TS. However, other EDG-related work, such as pre-planned maintenance and modification, and corrective maintenance which resulted from a valid EDG failure, remained in action statement b of the TS, which still requires the work to be completed within a 3-day LCO. The two SRs, which permitted the 7-day LCO with the footnote, are: SR 4.8.1.1.2.d.1, which allows disassembly and inspection of the diesel engine every 18 months per manufacturer's recommendations, and 4.8.1.1.2.f.1, which involves draining and cleaning the diesel fuel oil storage tank once every 10 years.

The licensee stated in its application that SR 4.8.1.1.2.d.1 is overly limiting, as the inspection scope covers only diesel engine work. It does not include any EDG support system work, such as generator, cooling water system, heat exchanger, generator breaker, ventilation, fuel transfer system, air start system, or protection system.

Also, the licensee stated that as the EDGs and their supporting systems accumulate more service time, the type of maintenance and recommended preventive maintenance becomes more involved, thus making it more difficult to complete the work within 72 hours. For work that takes longer than 72 hours, the licensee states that either the operational unit is required to be shut down or the work has to be divided into parts that could be completed within 72 hours. However, such division of work leads to EDG re-assembly and operability runs, followed by EDG teardown for the next parcel of work. The licensee finds that performing necessary work for EDG O within one 7-day outage, rather than within two shorter (3-day) outages, could eliminate redundant preparatory work, thus avoiding needless rework and unnecessary EDG operability test runs.

As the basis for the proposed amendment request, the licensee has referred to the comparative probabilistic risk assessment (PRA) study which CECO submitted for its previous amendment request. The study has demonstrated that replacing two shorter outages (three days) with one 7-day outage does not reduce overall EDG availability and poses no significant hazards. The staff reviewed the results of the study in CECO's previous amendment request and concurs with the licensee that no safety-significant additional risk would incur by extending the outage from the 3-day period to seven days.

With this request, the licensee has not elaborated on the scope of EDG support system work that would be performed during the planned maintenance and modification. In response to a staff request for information, the licensee, in a letter of August 16, 1993, submitted the scope and description for the planned maintenance and/or modification work, and the approximate time needed to complete the job. After reviewing the proposed TS change and its supplemental information, the staff finds that:

- (1) By complementing the EDG engine work already permitted under SR 4.8.1.1.2.d.1, the proposed pre-planned (preventive) maintenance and/or modification activities represent the total EDG work necessary

for improving overall EDG availability. Our review of the time needed indicates that the work could take more than three days and the requested seven days would give the licensee a larger work window. According to the PRA study, no safety-significant additional risk would incur by extending the LCO from three days to seven days.

- (2) The extended allowed outage time could provide an opportunity to perform more comprehensive preventive maintenance, modifications, or inspection for EDG 0 and its supporting systems for any potential problems. This could reduce any potential failures expected while in operation or could minimize any repairs required under the corrective maintenance. This, in turn, would increase long-term reliability and the safety margin.
- (3) Before performing the pre-planned maintenance or modification, the licensee will retain the existing five compensatory conditions, which was committed to in the licensee's previous SR amendment request, shown on TS page 3/4 8-1a. Should any of the five conditions not be met, the appropriate TS action would be taken. This is to ensure that the plant can be safely shut down with the EDGs that remained operable.
- (4) Work necessitated as a result of EDG valid failures during a routine surveillance would not be allowed under this proposed amendment request.

On this basis, we conclude that the proposed TS 3.8.1.1 footnote (*), to include continued operation of one unit for a period of seven days for the performance of planned maintenance and/or modification while EDG 0 is out of service, is acceptable.

Surveillance Requirement 4.8.1.1.2.a.7

At present, SR 4.8.1.1.2.a.7 requires that the pressure in all diesel generator air start receivers be verified as greater than or equal to 200 psig. Since a failure of one air start receiver (subsystem) could be interpreted as an EDG failure, the unit TS requires that the other three EDGs must be started.

CECo proposes to change SR 4.8.1.1.2.a.7 so that the EDG remains operable during repairs, maintenance, modification, or surveillance on one air start subsystem, provided the other subsystem remains in service and meets the SR. The licensee based this request on the following: (1) there are two full-capacity air start subsystems for each EDG, (2) only one air start subsystem is required to ensure that the EDG will meet its design function, and (3) the required essential service system redundancy is met by each EDG, not by the redundancy of the supporting systems for each EDG. On this basis, the licensee contends that the failure of one air start subsystem should not be interpreted as a "failure to start" of the associated EDG or should not make the associated EDG "inoperable." Therefore, the licensee proposed that SR 4.8.1.1.2.a.7 be changed to "verifying the pressure in required diesel generator air start receivers to be greater than or equal to 200 psig."

We have reviewed Section 9.5.6, "Diesel-Generator Starting Air System," of the updated Final Safety Analysis Report (UFSAR) for the acceptance criteria and Section 9.6.3.3 of NUREG-0519 (the original LaSalle SER) basis for its acceptance. The acceptance of the EDG starting air system in NUREG-0519 has been based on the commitment of CECO to perform tests to ascertain the "five starts" capability acceptance criteria outlined in the UFSAR.

Our review of CECO's TS amendment correspondence of March 22, 1984, indicates that the licensee sought to delete a TS provision (item 13 of earlier TS) which required that all EDG air starting receivers be verified by starting up the EDG at least five times. The basis for deleting this TS requirement was that the five EDG startups on the stored air requirement has already been fulfilled during the preoperational test program, and the staff concurred that no additional periodic testing of the EDG associated with the starting air receivers is necessary as it was consistent with a GL 84-15 recommendation which reduces additional EDG startups.

On the basis of this information, we find that each air start subsystem meets the design requirement for the associated divisional EDG system. Thus, we concur with the licensee that the failure of one air start subsystem should not be considered as a "failure to start" of the associated EDG. On this basis, we conclude that the licensee's proposed SR 4.8.1.1.2.a.7, "verifying the pressure in required diesel generator air start receivers to be greater than or equal to 200 psig," is acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Illinois State official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. The NRC staff has determined that the amendments involve 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 the amendments involve no significant hazards consideration, and there has been no public comment on such finding (58 FR 36430). Accordingly, the amendments meet 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 amendments.

5.0 CONCLUSION

The Commission 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 the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: P. Kang, EELB

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