



Commonwealth Edison
1400 Opus Place
Downers Grove, Illinois 60515

May 16, 1990

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

Subject: LaSalle County Station Units 1 and 2
Proposed Amendment to Technical Specification
for Facility Operating License
Nos. NPF-11 and NPF-18
MRC Docket Nos. 50-373 and 50-374

Reference(s): See Attachment D

Dear Sir:

Pursuant to 10 CFR 50.90, Commonwealth Edison Company (CECo), is hereby applying for an amendment to Facility Operating License Nos. NPF-11 and NPF-18, Appendix A, Technical Specifications. The purpose of this Technical Specification change is to revise the single largest load reject value for the Division III Diesel Generator, and to clarify the requirements for Automatic Bypassing of Diesel Generator Trips on an ECCS Actuation Signal.

Attachment A contains background information and justification for the proposed change. Attachment B contains the proposed changes to the Technical Specifications. The proposed changes have been reviewed and approved by both On-Site and Off-Site Review committees in accordance with Commonwealth Edison Company procedures. This amendment request has been evaluated in accordance with 10 CFR 50.92(c) and it was determined that no significant hazards consideration exists. That evaluation is documented in Attachment C. Attachment D lists other documents referenced in this submittal.

Commonwealth Edison is notifying the State of Illinois of our application for amendment by transmitting a copy of this letter to the designated State Official.

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May 16, 1990

Please direct any questions you may have regarding this matter to this office.

Very truly yours,



W.E. Morgan
Nuclear Licensing Administrator

Attachments

cc: K. Palsifer - Project Manager, NRR
A. B. Davis - Regional Administrator, RIII
Senior Resident Inspector - LaSalle
Office of Facility Safety - IDNS

ATTACHMENT A

TECHNICAL SPECIFICATION AMENDMENT REQUEST

LASALLE COUNTY STATION UNITS 2 AND 3

BACKGROUND AND DISCUSSION

BACKGROUND

During the August 1989 NRC Safety System Functional Inspection at LaSalle Station (Reference a) it was identified that a discrepancy existed between Technical Specification 4.8.1.1.2.d.2&3 and the Updated Final Safety Analysis Report (UFSAR) Table 8.3-1, regarding the value of the engineered safety feature (ESF) Division 3 "single largest load" and "full load rejection" tests. The single largest load value in the technical specification is given as 2381 kW which equates to 3000 brake horse power (bhp)*, while the UFSAR gives the value as 3050 bhp. In the response to the NRC inspection report Commonwealth Edison committed (Reference b) to evaluate this discrepancy and to take any necessary corrective action. This evaluation (Exhibits 1&2) compared the technical specification load reject values for ESF Divisions 1, 2 and 3 with the values given in the UFSAR (References c, d and e). The evaluation determined that certain discrepancies existed between the technical specification surveillance test values and the UFSAR design criteria given for the Division 3 "single largest load reject" and "full load reject" test. The Divisions 1 and 2 technical specification values were found to be consistent with the UFSAR values. The Division 3 "full load reject" test value discrepancies were corrected in the April 1990 Amendment to the UFSAR. This was done by revising the UFSAR Table 8.3-1 loads on Division 3 buses to more accurately reflect the bus loads during a Unit 1 LOCA. The UFSAR Division 3 Unit 1 bus loading values were found to be more conservative than the technical specification surveillance value, this creating the discrepancy. To determine the loading, the actual name plate data was used where available and conservative data was used in the absence of available data. This submittal is proposing to revise the Technical Specification to resolve the "single largest load reject" test value discrepancy. The appropriate station surveillance procedures for the Division 3 diesel generators have been revised to use the more conservative limits, and the diesel generators have been successfully tested using the new procedure revisions.

LaSalle Station is additionally proposing a Technical Specification change to clarify the requirements for the Automatic Bypassing of the Diesel Generator (D/G) trips on an ECCs Actuation Signal.

The station emergency power diesel generators at LaSalle Station have been equipped with the following automatic protective trips listed in Technical Specifications 4.8.1.1.2.d.7 and 4.8.1.1.2.d.13:

Engine overspeed, generator differential current, generator under frequency, low lube oil pressure, high jacket cooling temperature, generator reverse power, generator overcurrent, generator loss of field, and engine cranking lockout.

* (using the HPCS pumps name plate efficiency rating of 94%)

In addition to the above automatic trips the diesel generators are also equipped with emergency manual stop push buttons. These trips help to protect the diesel generators from damage due to failures of various system components, during normal operation. Under accident conditions (ECCS actuation signal present) all of the trips are required to be bypassed except for engine overspeed, generator differential current and the emergency manual stop. Technical Specifications 4.8.1.1.2.d.12 and 4.8.1.1.2.d.7 provide the requirements for periodically testing the operability of the D/G trips and the trip bypass circuitry. Technical Specification 4.8.1.1.2.d.7.b specifically outlines the surveillance requirements for the Diesel Generators. This surveillance verifies that the D/G automatic trips "except those stated" are automatically bypassed on an ECCS actuation signal.

The current Technical Specification for the Division 3 D/G's specifies the following automatic trips as not being automatically bypassed on an ECCS actuation signal. "Division 3 - engine overspeed, generator differential or overcurrent, and emergency manual stop."

As worded, the statement is misleading and could be interpreted to mean that both the generator differential current trip and the overcurrent trip are to be bypassed on an ECCS actuation signal. This interpretation of the requirement is contrary to regulatory requirements and actual plant design.

This submittal is proposing to clarify this Technical Specification Surveillance Requirement.

DISCUSSION

Technical Specification 4.8.1.1.2.d.2 tests the ability of the ESF Divisions 1, 2 and 3 diesel generators to reject a load equal to or greater than the "single largest load" on the bus without exceeding 75% of the difference between the nominal speed and the overspeed trip setpoint or 15% above the nominal speed, whichever is less. The Unit 1 and 2 high pressure core spray (HPCS) pumps, are the largest loads on the ESF Division 3 Buses 143 and 243 respectively.

From the performance curves for the HPCS pump in Figure 6.3-3 of the UFSAR (reference f) it was determined that the HPCS pumps can achieve a maximum brake horse power slightly in excess of 3000 bhp. This maximum value is between 3000 and 3500 bhp. UFSAR Tables 8.1-7 & 8 rate the Unit 1 and 2 HPCS pumps at 3000 bhp. UFSAR Table 8.3-1 indicates the coincidental loads for shutdown and LOCA operation and gives a higher value of 3050 bhp for the HPCS pumps. This value from Table 8.3-1 bounds the maximum brake horse power value determined from Figure 6.3-3 and thus provides a conservative value for use in determining the "single large load reject" test value. It is proposed that the technical specification value be increased to 2421 kW which equates to the more conservative UFSAR value

of 3050 bhp*. The proposed amendment increases the Unit 1 and 2 technical specification surveillance "single large load reject" test value for the Division 3 diesel generators (Technical Specification 4.8.1.1.2.d.2) to the more conservative value specified in UFSAR Table 8.3-1. This enhancement to the test program will help to assure the reliability and availability of the Division 3 diesel generators under all operating conditions. This enhancement will be accomplished by ensuring that the technical specification load reject test value is equal to or greater than the maximum load requirement for the HPCS pump which is the single largest Division 3 load.

In the Safety Evaluation Report (SER) for LaSalle Station (reference h, Section 8.3.1.1(3)), the diesel generator protective trip bypass system was evaluated. The SER required that the LaSalle diesel generator protective trip bypass system design meet the positions set forth in Branch Technical Position BTP ISCB-17 (reference i), in order to minimize the potential for a false diesel generator trip during accident conditions. The BTP in paragraph B.1 specifically states that, "The design of standby diesel generator systems should retain only the engine overspeed and the generator differential trips and bypass all other trips under accident conditions. Revision 2 of the BTP (reference j) indicated that the BTP had been superseded by Position 7 of Regulatory Guide 1.9 (reference g). The requirements outlined in the Regulatory Guide are basically the same as the BTP, which is consistent with the LaSalle Station design for the Division 3 diesel generator protective trip bypass system. This design being that all Division 3 diesel generator trips are bypassed under accident conditions with the exception of the engine overspeed, generator differential current and the emergency manual stop.

Based on this discussion it is proposed that Technical Specification 4.8.1.1.2.d.7.b for Units 1 and 2 be amended to clearly state that all trips are to be bypasses under accident conditions except for; engine overspeed, generator differential current and the emergency manual stop button.

* (using the HPCS pumps name plate efficiency rating of 94%)

EXHIBIT 1

Diesel Generator Single Large Load Reject

<u>Diesel Generator</u>	<u>0</u>	<u>1A</u>	<u>2A</u>	<u>1B</u>	<u>2B</u>
Single Largest Load	LPCS Pump 1/2E21-C001*	RHR Pump 1E12-C002B	RHR Pump 2E12-C002B	HPCS Pump 1E22-C001	HPCS Pump 2E22-C001
Sources					
Pump Brake Horsepower U/FSAR Table 8.1-7 and 8	1500 HP	800 HP	800 HP	3000 HP	3000 HP
U/FSAR Table 8.3-1	1490 HP	765 HP	765 HP	3050 HP	Table Not Applicable
Vendor Pump Curve					
Design Point	1480 HP	760 HP	760 HP	Not Shown	2695 HP
Max Curve Point	1483 HP	775 HP	775 HP	3035 HP	3031 HP
Max Data Point	1491 HP	775 HP	769 HP	3000 HP	3031 HP
ELMS ●	1490 HP	765 HP	765 HP	3050 HP	3000 HP
Comparison					
Brake HP Used for Tech Spec Comparison	1491 HP	775 HP	775 HP	3050 HP	3050 HP
Pump Motor Eff from ELMS (nameplate data)	94%	93.3%	93.3%	94%	94%
Power into Motor from DG Converted to KW	1586 HP 1182 KW	831 HP 619 KW	831 HP 619 KW	3245 HP 2421 KW	3245 HP 2421 KW
Tech Spec Surveillance (4.8.1.1.2.d.2)	1190 KW	639 KW	638 KW	2381 KW	2381 KW
Tech Spec Adequate?	Yes	Yes	Yes	No	No
Recommendation	-	-	-		

Revise Tech Spec Surveillance
from 2381 KW to 2421 KW

Electrical Loads Monitoring System - Data Base for Tracking Electrical
Loads and Interconnections.

Diesel Generator Single Large Load Reject

- * 2E21-C001 power requirements are higher, more conservative, than 1E21-C001 and so are shown in this table.
- **ELMS 2E22-C001 brake horsepower value will be revised to 3050 HP to conservatively account for the pump curve by using the pump's maximum power plus some margin for graph reading difficulty.

EXHIBIT 2

Diesel Generator Full Load Reject

	<u>Division 1</u>	<u>Division 2</u>	<u>Division 3</u>
DG Ratings			
UFSAR Table 8.3-3			
30-Minute	3040 KW	3040 KW	3040 KW
7-Day	2987 KW	2987 KW	2987 KW
2000-Hour	2860 KW	2860 KW	2860 KW
Continuous	2600 KW	2600 KW	2600 KW
Tech Spec			
Surveillance	2600 KW	2600 KW	2600 KW
(4.8.1.1.2.d.3)			
UFSAR Table 8.3-1			
(values for the			
greater of Unit			
1 and 2 Bus Load)	2166 KW	2612 KW*	2719 KW
Tech Spec			
Adequate?	Yes	Yes	No
Bus load using			
ELMS loads,			
efficiencies			
and power			
factors	--	--	2597 KW
Tech Spec			
Adequate with			
UFSAR Table			
8.3-1 revised			
to 2597 KW?	--	--	Yes
Recommendation	--	--	Revise UFSAR Table 8.3-1 Division 3 load values using ELMS data

*Approximately 57% of the listed Unit 2 Division 2 loads are to be manually operated as required within the diesel generator rating.