

MAR 19 1984

Docket No.: 50-373

Mr. Dennis L. Farrar  
Director of Nuclear Licensing  
Commonwealth Edison Company  
P. O. Box 767  
Chicago, Illinois 60690

Dear Mr. Farrar:

Subject: Issuance Amendment No. 16 to Facility Operating License  
No. NPF-11 -La Salle County Station, Unit 1

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 16 to Facility Operating License No. NPF-11 for the La Salle County Station, Unit 1. This Amendment is in response to your letters dated December 9, 1983 and January 11, 1984. The Amendment changes the Technical Specifications concerning requirements for fast starts on the diesel generators, consistent with the provisions of the Unit 2 Technical Specifications.

A copy of the related safety evaluation supporting Amendment No. 16 to Facility Operating License NPF-11 is enclosed.

Sincerely,

Original signed by

A. Schwencer, Chief  
Licensing Branch No. 2  
Division of Licensing

Enclosures:

1. Amendment No. 16 to NPF-11
2. Safety Evaluation

cc w/enclosures:  
See next page

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

COMMONWEALTH EDISON COMPANY  
DOCKET NO. 50-373  
LA SALLE COUNTY STATION, UNIT 1  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 16  
License No. NPF-11

1. The Nuclear Regulatory Commission (the Commission or the NRC) having found that:
  - A. The application for amendment filed by the Commonwealth Edison Company, dated December 9, 1983 and January 11, 1984, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the regulations of the Commission;
  - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of the Facility Operating License No. NPF-11 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 16, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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3. This amendment is effective as of March 19, 1984.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by

A. Schwencer, Chief  
Licensing Branch No. 2  
Division of Licensing

Attachment:  
Changes to the Technical  
Specifications

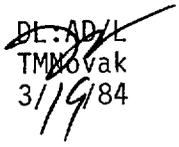
Date of Issuance: March 19, 1984

  
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ATTACHMENT TO LICENSE AMENDMENT NO. 16  
FACILITY OPERATING LICENSE NO. NPF-11  
DOCKET NO. 50-373

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

REMOVE

3/4 8-1

3/4 8-2

3/4 8-3

3/4 8-7

3/4 8-31

B 3/4 8-1

INSERT

3/4 8-1

3/4 8-2

3/4 8-3

3/4 8-7

3/4 8-31

B 3/4 8-1

### 3/4.8 ELECTRICAL POWER SYSTEMS

#### 3/4.8.1 A.C. SOURCES

##### A.C. SOURCES - OPERATING

##### LIMITING CONDITION FOR OPERATION

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3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

- a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and
- b. Separate and independent diesel generators 0, 1A, 2A and 1B with:
  1. For diesel generator 0, 1A and 2A:
    - a) A separate day fuel tank containing a minimum of 250 gallons of fuel.
    - b) A separate fuel storage system containing a minimum of 31,000 gallons of fuel.
  2. For diesel generator 1B, a separate fuel storage tank/day tank containing a minimum of 29,750 gallons of fuel.
  3. A separate fuel transfer pump.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

##### ACTION:

- a. With either one offsite circuit or diesel generator 0 or 1A of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirements 4.8.1.1.1a within one hour, and 4.8.1.1.2a.4, for one diesel generator at a time, within eight hours, and at least once per 8 hours thereafter; restore at least two offsite circuits and diesel generators 0 and 1A to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. With one offsite circuit and diesel generator 0 or 1A of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirements 4.8.1.1.1a within one hour, and 4.8.1.1.2a.4, for one diesel generator at a time, within six hours, and at least once per 8 hours thereafter; restore at least one of the inoperable A.C. sources to OPERABLE status within 12 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. Restore at least two offsite circuits and diesel generators 0 and 1A to OPERABLE status within 72 hours from the time of initial loss or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

## ELECTRICAL POWER SYSTEMS

### LIMITING CONDITION FOR OPERATION (Continued)

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#### ACTION (Continued)

- c. With both of the above required offsite circuits inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.2a.4, for one diesel generator at a time, within eight hours, and at least once per 8 hours thereafter, unless the diesel generators are already operating; restore at least one of the inoperable offsite circuits to OPERABLE status within 24 hours or be in at least HOT SHUTDOWN within the next 12 hours. With only one offsite circuit restored to OPERABLE status, restore at least two offsite circuits to OPERABLE status within 72 hours from time of initial loss or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- d. With diesel generators 0 and 1A of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirements 4.8.1.1.1a within one hour and 4.8.1.1.2a.4, for one diesel generator at a time, within four hours and at least once per 8 hours thereafter; restore at least one of the inoperable diesel generators 0 and 1A to OPERABLE status within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. Restore both diesel generators 0 and 1A to OPERABLE status within 72 hours from time of initial loss or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- e. With diesel generator 1B of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirements 4.8.1.1.1a within one hour, and 4.8.1.1.2a.4, for one diesel generator at a time, within six hours, and at least once per 8 hours thereafter; restore the inoperable diesel generator 1B to OPERABLE status within 72 hours or declare the HPCS system inoperable and take the ACTION required by Specification 3.5.1.
- f. With diesel generator 2A of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirements 4.8.1.1.1a within one hour and 4.8.1.1.2a.4, for diesel generator 1A, within two hour, and at least once per 8 hours thereafter; restore the inoperable diesel generator 2A to OPERABLE status within 72 hours or declare standby gas treatment system subsystem B, Unit 2 drywell and suppression chamber hydrogen recombiner system, and control room and auxiliary electric equipment room emergency filtration system train B inoperable and take the ACTION required by Specifications 3.6.5.3, 3.6.6.1., and 3.7.2.

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS

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4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be:

- a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability, and
- b. Demonstrated OPERABLE at least once per 18 months during shutdown by manually transferring unit power supply from the normal circuit to the alternate circuit.

4.8.1.1.2 Each of the above required diesel generators shall be demonstrated OPERABLE:

- a. In accordance with the frequency specified in Table 4.8.1.1.2-1 on a STAGGERED TEST BASIS by:
  1. Verifying the fuel level in the day fuel tank.
  2. Verifying the fuel level in the fuel storage tank.
  3. Verifying the fuel transfer pump starts and transfers fuel from the storage system to the day fuel tank.
  4. Verifying the diesel starts from ambient condition and accelerates to 900 rpm + 5%, -2% in less than or equal to 13 seconds.\* The generator voltage and frequency shall be  $4160 \pm 150$  volts and  $60 + 3.0$ ,  $-1.2$  Hz within 13 seconds\* after the start signal.
  5. Verifying the diesel generator is synchronized, loaded to greater than or equal to 2600 kw within 60 seconds,\* and operates with this load for at least 60 minutes.
  6. Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.
  7. Verifying the pressure in all diesel generator air start receivers to be greater than or equal to 200 psig.
- b. At least once per 31 days and after each operation of the diesel where the period of operation was greater than or equal to 1 hour by checking for and removing accumulated water from the day fuel tanks.
- c. At least once per 92 days and from new fuel oil prior to addition to the storage tanks by verifying that a sample obtained in accordance with ASTM-D270-1975 has a water and sediment content of less than or equal to 0.05 volume percent and a kinematic viscosity @ 40°C of greater than or equal to 1.9 but less than or equal to 4.1 when tested in accordance with ASTM-D975-77, and an impurity level of less than 2 mg. of insolubles per 100 ml. when tested in accordance with ASTM-D2274-70.

\*These diesel generator starts from ambient conditions shall be performed at least once per 184 days in these surveillance tests. All other engine starts for the purpose of this surveillance testing shall be preceded by an engine prelube period and/or other warmup procedures recommended by the manufacturer so that mechanical stress and wear on the diesel engine is minimized.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- e. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting diesel generators 0, 1A and 1B simultaneously, during shutdown, and verifying that all three diesel generators accelerate to 900 rpm + 5, -2% in less than or equal to 13 seconds.
- f. At least once per 10 years by:
  - 1. Draining each fuel oil storage tank, removing the accumulated sediment and cleaning the tank using a sodium hypochlorite or equivalent solution, and
  - 2. Performing a pressure test of those portions of the diesel fuel oil system designed to Section III, subsection ND, of the ASME Code in accordance with ASME Code Section 11, Article IWD-5000.

4.8.1.1.3 Reports - All diesel generator failures, valid or non-valid, shall be reported to the Commission pursuant to Specification 6.6.B. Reports of diesel generator failures shall include the information recommended in Regulatory Position C.3.b of Regulatory Guide 1.108, Revision 1, August 1977. If the number of failures in the last 100 valid tests, on a per nuclear unit basis, is greater than or equal to 7, the report shall be supplemented to include the additional information recommended in Regulatory Position c.3.b of Regulatory Guide 1.108, Revision 1, August 1977.

TABLE 4.8.1.1.2-1

DIESEL GENERATOR TEST SCHEDULE

<u>Number of Failures in Last 100 Valid Tests*</u>	<u>Test Frequency</u>
$\leq 1$	At least once per 31 days
2	At least once per 14 days
3	At least once per 7 days
$\geq 4$	At least once per 3 days

\*Criteria for determining number of failures and number of valid tests shall be in accordance with Regulatory Position C.2.e of Regulatory Guide 1.108, Revision 1, August 1977, where the last 100 tests are determined on a per nuclear unit basis. With the exception of the semi-annual fast start, no starting time requirements are required to meet the valid test requirements of Regulatory Guide 1.108.

## ELECTRICAL POWER SYSTEMS

### REACTOR PROTECTION SYSTEM ELECTRICAL POWER MONITORING

#### LIMITING CONDITION FOR OPERATION

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3.8.3.4 Two RPS electric power monitoring assemblies for each inservice RPS MG set or alternate power supply shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

- a. With one RPS electric power monitoring assembly for an inservice RPS MG set or alternate power supply inoperable, restore the inoperable power monitoring assembly to OPERABLE status within 72 hours or remove the associated RPS MG set or alternate power supply from service.
- b. With both RPS electric power monitoring assemblies for an inservice RPS MG set or alternate power supply inoperable, restore at least one electric power monitoring assembly to OPERABLE status within 30 minutes or remove the associated RPS MG set or alternate power supply from service.

#### SURVEILLANCE REQUIREMENTS

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4.8.3.4 The above specified RPS electric power monitoring assemblies shall be determined OPERABLE:

- a. By performance of a CHANNEL FUNCTIONAL TEST each time the plant is in COLD SHUTDOWN for a period of more than 24 hours, unless performed in the previous 6 months.
- b. At least once per 18 months by demonstrating the OPERABILITY of over-voltage, under-voltage, and under-frequency protective instrumentation by performance of a CHANNEL CALIBRATION including simulated automatic actuation of the protective relays, tripping logic and output circuit breakers and verifying the following setpoints.
  1. Over-voltage  $\leq$  132 VAC,
  2. Under-voltage  $\geq$  108 VAC,
  3. Under-frequency  $\geq$  57 Hz.

## 3/4.8 ELECTRICAL POWER SYSTEMS

### BASES

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#### 3/4.8.1 and 3/4.8.2 A.C. SOURCES and ONSITE POWER DISTRIBUTION SYSTEMS

The OPERABILITY of the A.C. and D.C. power sources and associated distribution systems during operation ensures that sufficient power will be available to supply the safety related equipment required for (1) the safe shutdown of the facility and (2) the mitigation and control of accident conditions within the facility. The minimum specified independent and redundant A.C. and D.C. power sources and distribution systems satisfy the requirements of General Design Criteria 17 of Appendix "A" to 10 CFR 50.

The ACTION requirements specified for the levels of degradation of the power sources provide restriction upon continued facility operation commensurate with the level of degradation. The OPERABILITY of the power sources are consistent with the initial condition assumptions of the accident analyses and are based upon maintaining at least Division I or II of the onsite A.C. and D.C. power sources and associated distribution systems OPERABLE during accident conditions coincident with an assumed loss of offsite power and single failure of one of the two onsite A.C. sources. Division III supplies the high pressure core spray (HPCS) system only.

The OPERABILITY of the minimum specified A.C. and D.C. power sources and associated distribution systems during shutdown and refueling ensures that (1) the facility can be maintained in the shutdown or refueling condition for extended time periods and (2) sufficient instrumentation and control capability is available for monitoring and maintaining the unit status.

The surveillance requirements for demonstrating the OPERABILITY of the diesel generators are in accordance with the recommendations of Regulatory Guide 1.9, "Selection of Diesel Generator Set Capacity for Standby Power Supplies," March 10, 1971, with the exception noted in Appendix B to the FSAR, and Regulatory Guide 1.108, "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants," Revision 1, August 1977.

The diesel generator fast start surveillance requirements, based on a PRA study, are sufficient to demonstrate the onsite A.C. power system capability to mitigate the consequences of the design basis event for the plant, i.e., large LOCA coincident with a loss-of-offsite power, while minimizing the mechanical stress and wear on the diesel engine.

The surveillance requirements for demonstrating the OPERABILITY of the unit batteries are in accordance with the recommendations of Regulatory Guide 1.129, "Maintenance Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants," February 1978, and IEEE Std 450-1980, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Station and Substations."

Verifying average electrolyte temperature above the minimum for which the battery was sized, total battery terminal voltage onfloat charge, connection resistance values and the performance of battery service and discharge tests ensures the effectiveness of the charging system, the ability to handle high discharge rates and compares the battery capacity at that time with the rated capacity.



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

SAFETY EVALUATION  
AMENDMENT NO. 16 TO NPF-11  
LA SALLE COUNTY STATION, UNIT 1  
DOCKET NO. 50-373

Introduction

By letter dated December 9, 1983 and as modified by letter of January 11, 1984, Commonwealth Edison Company (the licensee) proposed an amendment that would change the La Salle Unit 1 Technical Specification requirements for fast starts on the diesel generators, consistent with the provisions of the La Salle Unit 2 Technical Specifications. The Technical Specification changes involve reduction in the number of required fast cold start surveillance testing of diesel generators. All surveillance testing not required to be performed at a fast cold start will be preceded by an engine prelube period and/or other warning procedures recommended by the diesel generator manufacturer.

Evaluation

The NRC staff has for some time had under review and assessment the method of diesel generator testing. The present method of testing does not take into consideration those manufacturer recommended preparatory actions such as prelubrication and all moving parts and warm-up procedures which are necessary to reduce engine wear, extend life and improve availability. The existing Technical Specifications require cold fast starts for surveillance testing which in many engine designs and operating practices subject the diesel engine to undue wear and stress on engine parts. Nuclear industry related groups such as Institute of Nuclear Power Operations and American Nuclear Insurer have expressed concern based on operation experience that cold fast start testing results in incremental degradation of diesel engines and that, if proper procedures covering warm-up prelubrication, loading/unloading, etc. were taken, an improvement in reliability and availability would be gained. While the requirements for cold fast starts is based on the emergency diesel generator's functional requirements in response to a loss-of-coolant accident coincident with a loss-of-offsite power, recent analyses by the staff indicate that two fast starts per year is a sufficient number to assure the required diesel generator reliability under design basis conditions. Thus, it is the NRC staff's technical judgement that an overall improvement in diesel engine reliability and availability can be gained by performing diesel generator starts for surveillance testing using engine prelube and other manufacturer recommended procedures to reduce engine stress and wear.

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The licensee has requested that the Technical Specification be changed in order to minimize the mechanical stress and wear on the diesel generators in that the fast starts will be required on a semi-annual basis. This is consistent with the NRC staff resolution of the fast cold start issue. The number and period of surveillance tests specified in the Technical Specifications remain unchanged. It is also the NRC staff's conclusion that the reliability of the diesels as determined will be improved by these improved testing methods.

#### Environmental Consideration

We have determined that this amendment does not authorize a change in effluent types or total amount nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that this amendment involves action which is insignificant from the standpoint of environmental impact, and pursuant to 10 CFR Section 51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

#### Conclusion

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: March 19, 1984

\*SEE PREVIOUS CONCURRENCES.

DL:LB#2/PM  
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ASchwencer\*  
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