



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

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-373

LASALLE COUNTY STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 97
License No. NPF-11


1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by the Commonwealth Edison Company (the licensee), dated February 25, 1993, 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 enclosure 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. 97, 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.

3. This amendment is effective immediately to be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



James E. Dyer, Director
Project Directorate III-2
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 10, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 97

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 a vertical line indicating the area of change.

REMOVE

3/4 8-4

3/4 8-5

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3/4 8-4

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B 3/4 8-1a

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS

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. By sampling and analyzing stored and new fuel oil in accordance with the following:
 1. At least once per 92 days, and for new fuel oil prior to addition to the storage tanks, that a sample obtained and tested in accordance with the applicable ASTM Standards has:
 - a) A water and sediment content within applicable ASTM limits.
 - b) A kinematic viscosity at 40°C within applicable ASTM limits.
 2. At least every 31 days, and for new fuel oil prior to addition to the storage tanks, that a sample obtained in accordance with the applicable ASTM Standard has a total particulate contamination of less than 10 mg/l when tested in accordance with the applicable ASTM Standard.
- d. At least once per 18 months during shutdown by:
 1. Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.
 2. Verifying the diesel generator capability* to reject a load of greater than or equal to 1190 kW for diesel generator 0, greater than or equal to 638 kW for diesel generators 1A and 2A, and greater than or equal to 2421 kW for diesel generator 1B while maintaining engine speed less than or equal to 75% of the difference between nominal speed and the overspeed trip setpoint or 15% above nominal, whichever is less.
 3. Verifying the diesel generator capability* to reject a load of 2600 kW without tripping. The generator voltage shall not exceed 5000 volts during and following the load rejection.
 4. Simulating a loss of offsite power* by itself, and:

*All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period, as recommended by the manufacturer.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- a) For Divisions 1 and 2 and for Unit 2 Division 2:
 - 1) Verifying de-energization of the emergency busses and load shedding from the emergency busses.
 - 2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 13 seconds, energizes the auto-connected loads and operates for greater than or equal to 5 minutes while its generator is so loaded. After energization, the steady-state voltage and frequency of the emergency busses shall be maintained at 4160 ± 150 volts and 60 ± 1.2 Hz during this test.
- b) For Division 3:
 - 1) Verifying de-energization of the emergency bus.
 - 2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency bus with its loads within 13 seconds and operates for greater than or equal to 5 minutes while its generator is so loaded. After energization, the steady-state voltage and frequency of the emergency bus shall be maintained at 4160 ± 150 volts and 60 ± 1.2 Hz during this test.
5. Verifying that on an ECCS actuation test signal, without loss of offsite power, diesel generators 0, 1A, and 1B start* on the auto-start signal and operate on standby for greater than or equal to 5 minutes. The generator voltage and frequency shall be $4160 + 416, -150$ volts and $60 + 3.0, -1.2$ Hz within 13 seconds after the auto-start signal; the steady-state generator voltage and frequency shall be maintained within these limits during this test.
6. Simulating a loss of offsite power in conjunction with an ECCS actuation test signal,* and:
 - a) For Divisions 1 and 2:
 - 1) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

*All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period, as recommended by the manufacturer.

BASES

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 Part 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. ACTION statements have been included in the specification to cover all situations where either one A.C. source or a combination of two A.C. sources are inoperable. ACTION statements c, e, and f are intended to be followed to completion once entered and should not be exited until both A.C. sources are restored. 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 tests listed below are a means of determining whether new fuel oil is of the appropriate grade and has not been contaminated with substances that would have an immediate, detrimental impact on diesel engine combustion/operation. If results from these tests are within acceptable limits, the fuel oil may be added to the storage tanks without concern for contaminating the entire volume of fuel oil in the storage tanks. The tests, limits, and applicable American Society for Testing Materials (ASTM) standards are as follows:

- a. Sample the new fuel oil in accordance with ASTM-D4057-88;
- b. Verify in accordance with the tests specified in ASTM-D975-88 that the sample has a water and sediment content of less than or equal to 0.05 volume percent and a kinematic viscosity at 40 °C of greater than or equal to 1.9 but less than or equal to 4.1.

BASES

A.C. SOURCES and ONSITE POWER DISTRIBUTION SYSTEMS (Continued)

- c. Verify that the new fuel oil has a total particulate contamination of less than 10 mg/liter when tested in accordance with ASTM-D2276-89.

This surveillance is an integral part of a comprehensive program to ensure the availability of high quality fuel oil for the diesel generators at all times. By testing for particulate on a 31-day basis, information regarding the condition of stored fuel oil can be obtained and trended.

Fuel oil degradation during long term storage shows up an increase in particulate, due mostly to oxidation. The presence of particulate does not mean the fuel oil will not burn properly in a diesel engine. The particulate can cause fouling of filters and fuel oil injection equipment, however, which can cause engine failure. If particulate is removed from stored fuel oil by circulating to oil through filters (other than diesel engine filters), the fuel oil can be restored to acceptable condition and its storage life extended indefinitely. By obtaining and trending particulate data, it is possible to determine when stored fuel oil cleanup will be necessary. This is done before the maximum allowable particulate concentration is reached.

Particulate concentrations should be determined in accordance with ASTM-D2276-89, Method A. This method involves a gravimetric determination of total particulate concentration in fuel oil and has a limit of 10 mg/l. It is acceptable to obtain a field sample for subsequent lab testing in lieu of field testing. In the case(s) where the total stored fuel oil volume is contained in two or more interconnected tanks, each tank must be considered and tested separately.

The frequency of this surveillance takes into consideration fuel oil degradation trends that indicate that particulate concentration is unlikely to change between frequency intervals.

There is no quantitative data regarding the capability of diesel engines to operate for prolonged periods of time with fuel oil particulate contamination in excess of 10 mg/l. Therefore, if this limit is reached, the associated diesel generator shall be declared inoperable. In practice, however, this should not present a problem since the concept behind this surveillance requirement is to establish fuel oil degradation trends, which will provide an alert to the need for corrective action prior to impacting on diesel generator operability.

The diesel generators are equipped with a pre-lubrication system which maintains a continuous flow of oil to the diesel engine moving parts while the engine is shutdown. The purpose of this system is to increase long term diesel generator reliability by reducing the stress and wear caused by frequent dry starting of the diesel generator. The diesel generator pre-lube may be accomplished either through, normal operation of the installed pre-lubrication system, or by manual pre-lubrication of the diesel generator in accordance with manufacturers instructions. Performance of an idle start of the diesel generator is not considered to be a means of pre-lubrication.



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

COMMONWEALTH EDISON COMPANY

DOCKET NO. 50-374

LASALLE COUNTY STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 81
License No. NPF-18

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by the Commonwealth Edison Company (the licensee), dated February 25, 1993, 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 enclosure to this license amendment and paragraph 2.C.(2) of the Facility Operating License No. NPF-18 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. 81, 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.

3. This amendment is effective immediately to be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



James E. Dyer, Director
Project Directorate III-2
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 10, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 81

FACILITY OPERATING LICENSE NO. NPF-18

DOCKET NO. 50-374

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

REMOVE

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B 3/4 8-1

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ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS

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. By sampling and analyzing stored and new fuel oil in accordance with the following:
 1. At least once per 92 days, and for new fuel oil prior to addition to the storage tanks, that a sample obtained and tested in accordance with the applicable ASTM Standards has:
 - a) A water and sediment content within applicable ASTM limits.
 - b) A kinematic viscosity at 40°C within applicable ASTM limits.
 2. At least every 31 days, and for new fuel oil prior to addition to the storage tanks, that a sample obtained in accordance with the applicable ASTM Standard has a total particulate contamination of less than 10 mg/l when tested in accordance with the applicable ASTM Standard.
- d. At least once per 18 months during shutdown by:
 1. Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.
 2. Verifying the diesel generator capability* to reject a load of greater than or equal to 1190 kW for diesel generator 0, greater than or equal to 638 kW for diesel generators 1A and 2A, and greater than or equal to 2421 kW for diesel generator 2B while maintaining engine speed less than or equal to 75% of the difference between nominal speed and the overspeed trip setpoint or 15% above nominal, whichever is less.
 3. Verifying the diesel generator capability* to reject a load of 2600 kW without tripping. The generator voltage shall not exceed 5000 volts during and following the load rejection.
 4. Simulating a loss of offsite power* by itself, and:

*All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period, as recommended by the manufacturer.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- a) For Divisions 1 and 2 and for Unit 1 Division 2:
 - 1) Verifying de-energization of the emergency busses and load shedding from the emergency busses.
 - 2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 13 seconds, energizes the auto-connected loads and operates for greater than or equal to 5 minutes while its generator is so loaded. After energization, the steady-state voltage and frequency of the emergency busses shall be maintained at 4160 ± 150 volts and 60 ± 1.2 Hz during this test.
- b) For Division 3:
 - 1) Verifying de-energization of the emergency bus.
 - 2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency bus with its loads within 13 seconds and operates for greater than or equal to 5 minutes while its generator is so loaded. After energization, the steady-state voltage and frequency of the emergency bus shall be maintained at 4160 ± 150 volts and 60 ± 1.2 Hz during this test.
5. Verifying that on an ECCS actuation test signal, without loss of offsite power, diesel generators 0, 2A, and 2B start on the auto-start signal and operate on standby for greater than or equal to 5 minutes. The generator voltage and frequency shall be $4160 + 416, -150$ volts and $60 + 3.0, -1.2$ Hz within 13 seconds after the auto-start signal; the steady-state generator voltage and frequency shall be maintained within these limits during this test.
6. Simulating a loss of offsite power in conjunction with an ECCS actuation test signal,* and:
 - a) For Divisions 1 and 2:
 - 1) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

*All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period, as recommended by the manufacturer.

3/4.8 ELECTRICAL POWER SYSTEMS

BASES

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 Part 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. ACTION statements have been included in the specification to cover all situations where either one A.C. source or a combination of two A.C. sources are inoperable. ACTION statements c, e, and f are intended to be followed to completion once entered and should not be exited until both A.C. sources are restored. 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.

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- a. Sample the new fuel oil in accordance with ASTM-D4057-88;
- b. Verify in accordance with the tests specified in ASTM-D975-88 that the sample has a water and sediment content of less than or equal to 0.05 volume percent and a kinematic viscosity at 40 °C of greater than or equal to 1.9 but less than or equal to 4.1.

BASES

SOURCES and ONSITE POWER DISTRIBUTION SYSTEMS (Continued)

- c. Verify that the new fuel oil has a total particulate contamination of less than 10 mg/liter when tested in accordance with ASTM-D2276-89.

This surveillance is an integral part of a comprehensive program to ensure the availability of high quality fuel oil for the diesel generators at all times. By testing for particulate on a 31-day basis, information regarding the condition of stored fuel oil can be obtained and trended.

Fuel oil degradation during long term storage shows up an increase in particulate, due mostly to oxidation. The presence of particulate does not mean the fuel oil will not burn properly in a diesel engine. The particulate can cause fouling of filters and fuel oil injection equipment, however, which can cause engine failure. If particulate is removed from stored fuel oil by circulating to oil through filters (other than diesel engine filters), the fuel oil can be restored to acceptable condition and its storage life extended indefinitely. By obtaining and trending particulate data, it is possible to determine when stored fuel oil cleanup will be necessary. This is done before the maximum allowable particulate concentration is reached.

Particulate concentrations should be determined in accordance with ASTM-D2276-89, Method A. This method involves a gravimetric determination of total particulate concentration in fuel oil and has a limit of 10 mg/l. It is acceptable to obtain a field sample for subsequent lab testing in lieu of field testing. In the case(s) where the total stored fuel oil volume is contained in two or more interconnected tanks, each tank must be considered and tested separately.

The frequency of this surveillance takes into consideration fuel oil degradation trends that indicate that particulate concentration is unlikely to change between frequency intervals.

There is no quantitative data regarding the capability of diesel engines to operate for prolonged periods of time with fuel oil particulate contamination in excess of 10 mg/l. Therefore, if this limit is reached, the associated diesel generator shall be declared inoperable. In practice, however, this should not present a problem since the concept behind this surveillance requirement is to establish fuel oil degradation trends, which will provide an alert to the need for corrective action prior to impacting on diesel generator operability.

The diesel generators are equipped with a pre-lubrication system which maintains a continuous flow of oil to the diesel engine moving parts while the engine is shutdown. The purpose of this system is to increase long term diesel generator reliability by reducing the stress and wear caused by frequent dry starting of the diesel generator. The diesel generator pre-lube may be accomplished either through, normal operation of the installed pre-lubrication system, or by manual pre-lubrication of the diesel generator in accordance with manufacturers instructions. Performance of an idle start of the diesel generator is not considered to be a means of pre-lubrication.