

Mr. Garrett D. Edwards
 Director-Licensing, MC 62A
 PECO Energy Company
 Nuclear Group Headquarters
 Correspondence Control Desk
 P.O. Box No. 195
 Wayne, PA 19087-0195

July 29, 1999

**SUBJECT: LIMERICK GENERATING STATION, UNITS 1 AND 2 - ISSUANCE OF
 AMENDMENT RE: EMERGENCY DIESEL GENERATOR MAINTENANCE
 INSPECTION INTERVAL CHANGES (TAC NOS. MA4613 AND MA4614)**

Dear Mr. Edwards:

The Commission has issued the enclosed Amendment No. 136 to Facility Operating License No. NPF-39 and Amendment No. 101 to Facility Operating License No. NPF-85 for the Limerick Generating Station, Units 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated January 25, 1999.

These amendments revise the TS Surveillance Requirement frequencies for the emergency diesel generator maintenance inspection outages, the 24-hour endurance run and the hot restart test from 18 to 24 months.

A copy of our safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

ORIGINAL SIGNED BY:

Bartholomew C. Buckley, Sr. Project Manager, Section 2
 Project Directorate I
 Division of Licensing Project Management
 Office of Nuclear Reactor Regulation

Docket Nos. 50-352 and 50-353

- Enclosures: 1. Amendment No. 136 to License No. NPF-39
 2. Amendment No. 101 to License No. NPF-85
 3. Safety Evaluation

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

July 29, 1999

Mr. Garrett D. Edwards
Director-Licensing, MC 62A-1
PECO Energy Company
Nuclear Group Headquarters
Correspondence Control Desk
P.O. Box No. 195
Wayne, PA 19087-0195

SUBJECT: LIMERICK GENERATING STATION, UNITS 1 AND 2 - ISSUANCE OF
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A copy of our safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

A handwritten signature in cursive script that reads "Bartholomew C. Buckley".

Bartholomew C. Buckley, Sr. Project Manager, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-352 and 50-353

Enclosures: 1. Amendment No. 136 to
License No. NPF-39
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License No. NPF-85
3. Safety Evaluation

cc w/encls: See next page

Limerick Generating Station, Units 1 & 2

cc:

J. W. Durham, Sr., Esquire
Sr. V.P. & General Counsel
PECO Energy Company
2301 Market Street
Philadelphia, PA 19101

Manager-Limerick Licensing, 62A-1
PECO Energy Company
965 Chesterbrook Boulevard
Wayne, PA 19087-5691

Mr. James D. von Suskil, Vice President
Limerick Generating Station
Post Office Box 2300
Sanatoga, PA 19464

Plant Manager
Limerick Generating Station
P.O. Box 2300
Sanatoga, PA 19464

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
Limerick Generating Station
P.O. Box 596
Pottstown, PA 19464

Chairman
Board of Supervisors
of Limerick Township
646 West Ridge Pike
Linfield, PA 19468

Chief-Division of Nuclear Safety
PA Dept. of Environmental Resources
P.O. Box 8469
Harrisburg, PA 17105-8469

Director-Site Engineering
Limerick Generating Station
P.O. Box 2300
Sanatoga, PA 19464

Manager-Experience Assessment
Limerick Generating Station
P.O. Box 2300
Sanatoga, PA 19464

Library
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

Senior Manager-Operations
Limerick Generating Station
P.O. Box 2300
Sanatoga, PA 19464

Dr. Judith Johnsrud
National Energy Committee
Sierra Club
433 Orlando Avenue
State College, PA 16803



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

PECO ENERGY COMPANY

DOCKET NO. 50-352

LIMERICK GENERATING STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 136
License No. NPF-39

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by PECO Energy Company (the licensee) dated January 25, 1999, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and 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 rules and 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;
 - 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.

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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 Facility Operating License No. NPF-39 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 136, are hereby incorporated into this license. PECO Energy Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



James W. Clifford, Chief, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the
Technical Specifications

Date of Issuance: July 29, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 136

FACILITY OPERATING LICENSE NO. NPF-39

DOCKET NO. 50-352

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

3/4 8-4

3/4 8-6

Insert

3/4 8-4

3/4 8-6

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- b. By removing accumulated water:
 - 1) From the day tank at least once per 31 days and after each occasion when the diesel is operated for greater than 1 hour, and
 - 2) From the storage tank at least once per 31 days.
- c. By sampling new fuel oil in accordance with ASTM D4057-81 prior to addition to the storage tanks and:
 - 1) By verifying in accordance with the tests specified in ASTM D975-81 prior to addition to the storage tanks that the sample has:
 - a) An API Gravity of within 0.3 degrees at 60°F or a specific gravity of within 0.0016 at 60/60°F, when compared to the supplier's certificate or an absolute specific gravity at 60/60°F of greater than or equal to 0.83 but less than or equal to 0.89 or an API gravity at 60°F of greater than or equal to 27 degrees but less than or equal to 39 degrees.
 - b) A kinematic viscosity at 40°C of greater than or equal to 1.9 centistokes, but less than or equal to 4.1 centistokes, if gravity was not determined by comparison with the supplier's certification.
 - c) A flash point equal to or greater than 125°F, and
 - d) A clear and bright appearance with proper color when tested in accordance with ASTM D4176-82.
 - 2) By verifying within 31 days of obtaining the sample that the other properties specified in Table 1 of ASTM D975-81 are met when tested in accordance with ASTM D975-81 except that the analysis for sulfur may be performed in accordance with ASTM D1552-79 or ASTM D2622-82.
- d. At least once every 31 days by obtaining a sample of fuel oil from the storage tanks in accordance with ASTM D2276-78, and verifying that total particulate contamination is less than 10 mg/liter when checked in accordance with ASTM D2276-78, Method A, except that the filters specified in ASTM D2276-78, Sections 5.1.6 and 5.1.7, may have a nominal pore size of up to three (3) microns.
- e. At the following frequency by:
 - 1. Every 24 months subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with the Fairbanks Morse Owners Group recommendations and its manufacturer's recommendations for this class of standby service.
 - 2. Every 24 months verify each diesel generator's capability to reject a load of greater than or equal to that of its single largest post-accident load while maintaining voltage at 4285 ± 420 volts and frequency at 60 ± 1.2 hz and after steady state conditions are reached, voltage is maintained at 4280 ± 120 volts.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

8. a) Every 24 months verifying the diesel generator operates* for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to an indicated 2950-3050 kW** and during the remaining 22 hours of this test, the diesel generator shall be loaded to an indicated 2700-2800 kW**.
- b) Every 24 months verifying that, within 5 minutes of shutting down the diesel generator after the diesel generator has operated* for at least 2 hours at an indicated 2700-2800 kW**, the diesel generator starts*. The generator voltage and frequency shall reach 4280 ± 120 volts and 60 ± 1.2 Hz within 10 seconds after the start signal.
9. Every 24 months verifying that the auto-connected loads to each diesel generator do not exceed the 2000-hour rating of 3100 kW.
10. Every 24 months verifying the diesel generator's capability to:
 - a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power,
 - b) Transfer its loads to the offsite power source, and
 - c) Be restored to its standby status.
11. Every 24 months verifying that with the diesel generator operating in a test mode and connected to its bus, a simulated ECCS actuation signal overrides the test mode by (1) returning the diesel generator to standby operation, and (2) automatically energizes the emergency loads with offsite power.
12. Every 24 months verifying that the automatic load sequence timers are OPERABLE with the interval between each load block within $\pm 10\%$ of its design interval.

* This test shall be conducted in accordance with the manufacturer's recommendations regarding engine prelube and warmup procedures, and as applicable regarding loading and shutdown recommendations.

** This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring by the manufacturer or momentary variations due to changing bus loads shall not invalidate the test.



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

PECO ENERGY COMPANY

DOCKET NO. 50-353

LIMERICK GENERATING STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 101
License No. NPF-85

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by PECO Energy Company (the licensee) dated January 25, 1999, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and 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 rules and 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;
 - 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 Facility Operating License No. NPF-85 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 101, are hereby incorporated in the license. PECO Energy Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



James W. Clifford, Chief, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the
Technical Specifications

Date of Issuance: July 29, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 101

FACILITY OPERATING LICENSE NO. NPF-85

DOCKET NO. 50-353

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

3/4 8-4

3/4 8-6

Insert

3/4 8-4

3/4 8-6

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- b. By removing accumulated water:
 - 1) From the day tank at least once per 31 days and after each occasion when the diesel is operated for greater than 1 hour, and
 - 2) From the storage tank at least once per 31 days.
- c. By sampling new fuel oil in accordance with ASTM D4057-81 prior to addition to the storage tanks and:
 - 1) By verifying in accordance with the tests specified in ASTM D975-81 prior to addition to the storage tanks that the sample has:
 - a) An API Gravity of within 0.3 degrees at 60°F or a specific gravity of within 0.0016 at 60/60°F, when compared to the supplier's certificate or an absolute specific gravity at 60/60°F of greater than or equal to 0.83 but less than or equal to 0.89 or an API gravity at 60°F of greater than or equal to 27 degrees but less than or equal to 39 degrees.
 - b) A kinematic viscosity at 40°C of greater than or equal to 1.9 centistokes, but less than or equal to 4.1 centistokes, if gravity was not determined by comparison with the supplier's certification.
 - c) A flash point equal to or greater than 125°F, and
 - d) A clear and bright appearance with proper color when tested in accordance with ASTM D4176-82.
 - 2) By verifying within 31 days of obtaining the sample that the other properties specified in Table 1 of ASTM D975-81 are met when tested in accordance with ASTM D975-81 except that the analysis for sulfur may be performed in accordance with ASTM D1552-79 or ASTM D2622-82.
- d. At least once every 31 days by obtaining a sample of fuel oil from the storage tanks in accordance with ASTM D2276-78, and verifying that total particulate contamination is less than 10 mg/liter when checked in accordance with ASTM D2276-78, Method A, except that the filters specified in ASTM D2276-78, Sections 5.1.6 and 5.1.7, may have a nominal pore size of up to three (3) microns.
- e. At the following frequency by:
 - 1) Every 24 months subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with the Fairbanks Morse Owners Group recommendations and its manufacturer's recommendations for this class of standby service.
 - 2) Every 24 months verify each diesel generator's capability to reject a load of greater than or equal to that of its single largest post-accident load while maintaining voltage at 4285 ± 420 volts and frequency at 60 ± 1.2 hz and after steady state conditions are reached, voltage is maintained at 4280 ± 120 volts.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

8. a) Every 24 months verifying the diesel generator operates* for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to an indicated 2950-3050 kW** and during the remaining 22 hours of this test, the diesel generator shall be loaded to an indicated 2700-2800 kW**.
- b) Every 24 months verifying that, within 5 minutes of shutting down the diesel generator after the diesel generator has operated* for at least 2 hours at an indicated 2700-2800 kW**, the diesel generator starts*. The generator voltage and frequency shall reach 4280 ± 120 volts and 60 ± 1.2 Hz within 10 seconds after the start signal.
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12. Every 24 months verifying that the automatic load sequence timers are OPERABLE with the interval between each load block within $\pm 10\%$ of its design interval.

* This test shall be conducted in accordance with the manufacturer's recommendations regarding engine prelube and warmup procedures, and as applicable regarding loading and shutdown recommendations.

** This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring by the manufacturer or momentary variations due to changing bus loads shall not invalidate the test.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 136 AND 101 TO FACILITY OPERATING

LICENSE NOS. NPF-39 AND NPF-85

PECO ENERGY COMPANY

LIMERICK GENERATING STATION, UNITS 1 AND 2

DOCKET NOS. 50-352 AND 50-353

1.0 INTRODUCTION

By letter dated January 25, 1999, PECO Energy Company (the licensee) submitted a request for changes to the Limerick Generating Station, Units 1 and 2, Technical Specifications (TSs). The requested changes would revise the TS Surveillance Requirement (SR) frequencies for the emergency diesel generators (EDG) maintenance inspection outages, the 24-hour endurance run, and for the hot restart from 18 to 24 months. TS 4.8.1.1.2.e.1 currently requires the Limerick EDGs to be inspected in accordance with the manufacturer's recommendations at least once every 18 months. TS 4.8.1.1.2.e.8.a currently requires that every 18 months the EDGs operate under a specified load for at least 24 hours. TS 4.8.1.1.2.e.8.b currently requires that every 18 months each EDG restarts within 5 minutes of shutdown after it has been operated under the specified load for at least 2 hours.

2.0 EVALUATION

The current Limerick EDG overhaul inspection frequency of 18 months was established in consultation with the EDG manufacturer considering the previous 18-month refueling cycle. TS SR 4.8.1.1.2.e.1 currently requires surveillance, "Every 18 months [by] subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of standby service." TS SR 4.8.1.1.2.e.8.a currently requires surveillance, "Every 18 months [by] verifying the diesel generator operates for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to an indicated 2950-3050 kW" and during the remaining 22 hours of this test, the diesel generator shall be loaded to an indicated 2700-2800 kW", and TS 4.8.1.1.2.e.8.b currently requires surveillance "Every 18 months [by] verifying that, within 5 minutes of shutting down the diesel generator after the diesel has operated for at least 2 hours at an indicated 2700-2800 kW", the diesel generator starts. The generator voltage and frequency shall reach 4280+/- 120 volts and 60 +/- 1.2 Hz within 10 seconds after the start signal." This proposed change will extend the frequencies from 18 months to 24 months for the maintenance inspection outages, the 24-hour endurance test and also for the hot restart test.

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The staff had previously approved the frequency for TS SR 4.8.8.1.1.2.e. Items 2 through 7 and 9 through 13, from 18 months to a 24-month refueling cycle. At that time, the licensee did not propose TS changes for the EDG maintenance inspections, the 24-hour endurance run, and hot restart test because the EDG manufacturer had not yet approved a program for maintenance inspections on a 24-month cycle.

The frequency changes for EDG inspections are based on the implementation of comprehensive new programmatic improvements entitled, "Recommended Maintenance for Opposed Piston Diesel Engines in Nuclear Standby Service," Revision O, dated September 18, 1997. This program was developed by the Fairbanks Morse Owners Group (FMOG) and endorsed by Coltec Industries/Fairbanks Morse Engine Division. The licensee performed a detailed comparison of the current Limerick EDG procedures and the FMOG maintenance recommendations. In comparison to the licensee's current procedures, the FMOG program includes certain additional engine internal inspections, improved lube oil sampling and analysis, enhanced operator inspections, and trending of additional engine data. The licensee is implementing these changes in conjunction with the permanent extension of the periodic inspection frequency to 24 months. Limerick Units 1 and 2 currently perform the 24-hour endurance run and the hot restart test in conjunction with the maintenance inspection overhauls. The change to a 24-month interval for these SRs will maintain alignment with the Limerick EDG outage inspection frequency, as well as the current unit operating cycle duration of 24 months.

The staff has evaluated the licensee's submittal and determined that the changes align the frequencies of the EDG outage inspections, the 24-hour endurance run, and the hot restart test to the current plant operating cycle of 24 months. The changes are consistent with the preventive maintenance program developed by the FMOG and approved by the EDG manufacturer.

Based on the above evaluation, the staff concludes the additional engine internal inspections, improved lube oil sampling and analysis, enhanced operator inspections, and trending of additional engine data to further ensure similar EDG reliability and availability provide a basis for an interval increase to 24 months and the change is acceptable.

3.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change the 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 (64 FR 9196). 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 Contributors: N. K. Trehan
B. Buckley

Date: July 29, 1999