

October 21, 1987

CORRECTED COPY

Docket No.: 50-440

Mr. Murray R. Edelman, Senior Vice President
Nuclear Group
The Cleveland Electric Illuminating Company
P. O. Box 5000
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Dear Mr. Edelman:

SUBJECT: TECHNICAL SPECIFICATION CHANGE REQUEST, DIESEL
GENERATOR SURVEILLANCE INTERVAL (TAC NO. 65904)

RE: Perry Nuclear Power Plant, Unit No. 1

The Commission has issued the enclosed Amendment No. 8 to Facility Operating License No. NPF-58 for the Perry Nuclear Power Plant, Unit No. 1. This amendment consists of changes to Attachment 2 of the License and to the Technical Specifications (TSs) in response to your application dated July 30, 1987.

This amendment revises the diesel generator inspection interval from every 18 months to every refueling outage. It also correctly references the most recent NRC Safety Evaluation Report relating to maintenance and surveillance program changes made pursuant to 10 CFR 50.59.

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

Timothy G. Colburn, Project Manager
Project Directorate III-1
Division of Reactor Projects-III, IV, V
& Special Projects

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P

Enclosures:

- Amendment No. 8 to License No. NPF-58
- Safety Evaluation

cc w/enclosures:
See next page

LA: PD31: DRSP
R INGRAM
10/14/87

PM: PD31: DRSP
T COLBURN
10/09/87
10/14

NRR/SPLB*
JCRAIG
10/ /87

D: PD31: DRSP
M VIRGILIO
10/14/87

OGC
Woodhead
10/15/87

* See attached.

Mr. Murray R. Edelman
The Cleveland Electric
Illuminating Company

Perry Nuclear Power Plant
Unit 1

cc:

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The Honorable Robert V. Orosz
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Public Utilities Commission
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Columbus, Ohio 43266-0573



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

CLEVELAND ELECTRIC ILLUMINATING COMPANY, ET AL

DOCKET NO. 50-440

PERRY NUCLEAR POWER PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 8
License No. NPF-58

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Cleveland Electric Illuminating Company, Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company, and Toledo Edison Company (the licensees) dated July 30, 1987, 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, Facility Operating License No. NPF-58 is hereby amended as follows:
 - A. Incorporate changes to the Technical Specifications as indicated in the attachment to this license amendment, and revise Paragraph 2.C.(2) of the license to read as follows:

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Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 8 are hereby incorporated into this license. Cleveland Electric Illuminating Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

- B. Revise Section 1 of Attachment 2 of the license to read as follows:
1. Changes to the maintenance and surveillance program for the TDI diesel engines, as identified and approved by the NRC staff in the safety evaluation report in the letter dated July 8, 1986, shall be subject to the provisions of 10 CFR 50.59.
 3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Martin J. Virgilio, Director
Project Directorate III-1
Division of Reactor Projects-III, IV, V
& Special Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 21, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 8

FACILITY OPERATING LICENSE NO. NPF-58

DOCKET NO. 50-440

Replace the following pages of the Appendix "A" Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change. Overleaf page provided to maintain document completeness.*

Remove

3/4 8-5

3/4 8-6

Insert

3/4 8-5

3/4 8-6*



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 8 TO FACILITY OPERATING LICENSE NO. NPF-58

CLEVELAND ELECTRIC ILLUMINATING COMPANY, ET AL

PERRY NUCLEAR POWER PLANT, UNIT NO. 1

DOCKET NO. 50-440

1.0 INTRODUCTION

By letter dated July 30, 1987, Cleveland Electric Illuminating Company, Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company, and Toledo Edison Company (the licensees) requested an amendment to Facility Operating License No. NPF-58 for the Perry Nuclear Power Plant, Unit No. 1. The proposed amendment would revise the interval for conducting the diesel generator inspection required by Technical Specification (TS) 4.8.1.1.2.e.1 from every 18 months to every refueling outage. It would also revise the reference to the NRC staff Safety Evaluation Report (SER) contained in Section 1 of Attachment 2 to NPF-58 from November 5, 1985, to July 8, 1986, the date of the staff's most recent SER approving the diesel generator maintenance/surveillance program.

2.0 EVALUATION

On July 8, 1986, the NRC staff transmitted its generic SER on the operability/reliability of Transamerica Delaval, Inc. (TDI) emergency diesel generators (EDGs) for the Perry Nuclear Power Plant, Units 1 and 2, to the licensees. This SER was developed based upon Technical Evaluation Reports (TERs) from our contractor, Pacific Northwest Laboratory (PNL). The staff concluded that the implementation of the TDI Owners Group and PNL recommendations concerning quality revalidation inspections, component modifications and replacement, load restrictions, operating precautions, etc. will establish the adequacy of the TDI diesel generators for nuclear service as required by General Design Criterion (GDC) 17. The staff further concluded that these programs (actions) would ensure that the design and manufacturing quality of the TDI diesel engines is within the range normally assumed for diesel engines designed and manufactured in accordance with 10 CFR 50, Appendix B. Continued reliability/operability of the TDI diesel engines for the 40-year life of the Perry Nuclear Power Plant, utilizing those engines, would be assured by implementation of the maintenance/surveillance program discussed in Section 2.3 of the SER.

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The technical resolution outlined by the staff's SER to address TDI reliability concerns involved implementation by the licensees of the following major elements:

- (1) Phase I: Resolution of known generic problem areas intended by the Owners Group to serve as a basis for the licensing of plants during the period prior to completion of Phase II of the Owners Group Program.
- (2) Phase II: A design review/quality revalidation (DR/QR) of a large set of important engine components to assure that their design and manufacture, including specifications, quality control and quality assurance, and operational surveillance and maintenance, are adequate.
- (3) Expanded engine tests and inspections as needed to support Phases I and II.

These programs are supplemental to the requirements which must normally be satisfied (e.g. Regulatory Guide 1.108).

The staff also concluded that several of the Phase I program diesel engine components merited special emphasis in the area of load restrictions and/or maintenance and surveillance. For the Perry facility, load restrictions discussed in Supplemental SER No. 8 were incorporated into the Perry Unit 1 TSs, and critical maintenance/surveillance actions were cited as License Conditions.

The licensees have stated that the Phase I and Phase II programs have been implemented for the Perry TDI EDGs as discussed in the staff's SER. Further, the licensees have stated that the Owners Group maintenance and surveillance recommendations, as described in Appendix II, Revision 2, of the DR/QR Report, have also been implemented for Perry TDI EDGs. The proposed revision to the TSs regarding the surveillance interval for the diesel generators would change the interval from once every 18 months to once every refueling outage. This is in conformance with the interval recommended by the Owners Group in Revision 2 of the DR/QR report for the Perry facility. Therefore, it is acceptable.

The NRC staff has required that any future revision to the maintenance/surveillance program would be subject to the provisions of 10 CFR 50.59 in view of the importance of this program in ensuring the operability/reliability of the engines over the long term. This was made a license condition as part of the full power license Attachment 2 requirements. The proposed amendment updates this license condition by referencing the July 8, 1986, letter and generic SER. This is merely an administrative change and is, therefore, acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to a surveillance requirement. We have determined that the amendment involves 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets 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 this amendment.

4.0 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.

Principal Contributor: T. Colburn

Dated: October 21, 1987

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

7. Verifying the pressure in all air start receivers for each diesel generator to be greater than or equal to 210 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 tank.
 - c. At least once per 92 days by checking for and removing accumulated water from the fuel oil storage tanks.
 - d. At least once per 92 days and from new fuel oil prior to its addition to the storage tanks by verifying that a sample obtained in accordance with ASTM-D270-1975 meets the following minimum requirements in accordance with the tests specified in ASTM-D975-1977:
 - 1) A water and sediment content of less than or equal to 0.05 volume percent;
 - 2) A saybolt universal viscosity at 100°F of greater than or equal to 32.6 sus, but less than or equal to 40.1 sus;
 - 3) An API gravity as specified by the manufacturer at 60°F of greater than or equal to 26 degrees, but less than or equal to 36 degrees;
 - 4) An impurity level of less than 2 mg of insolubles per 100 ml when tested in accordance with ASTM-D2274-70; analysis shall be completed within 7 days after obtaining the sample but may be sampled and analyzed after the addition of new fuel oil; and
 - 5) The other properties specified in Table 1 of ASTM-D975-1977 and Regulatory Guide 1.137, Revision 1, October 1979, Position 2.a., when tested in accordance with ASTM-D975-1977; analysis shall be completed within 14 days after obtaining the sample but may be sampled and analyzed after the addition of new fuel oil.
 - e. At least once per 18 months*, ** during shutdown, by:
 1. Subjecting the diesel to an inspection in accordance with instructions 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 1400 kw (LPCS pump) for diesel generator Div 1, greater than or equal to 725 kw (RHR B pump or RHR C pump)

* For any start of a diesel, the diesel must be loaded in accordance with the manufacturer's recommendations.

**Except 4.8.1.1.2.e.1 to be performed every refueling outage, for the Div 1 and Div 2 diesel generators.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

7. Verifying the pressure in all air start receivers for each diesel generator to be greater than or equal to 210 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 tank.
- c. At least once per 92 days by checking for and removing accumulated water from the fuel oil storage tanks.
- d. At least once per 92 days and from new fuel oil prior to its addition to the storage tanks by verifying that a sample obtained in accordance with ASTM-D270-1975 meets the following minimum requirements in accordance with the tests specified in ASTM-D975-1977:
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**Except 4.8.1.1.2.e.1 to be performed every refueling outage, for the Div 1 and Div 2 diesel generators.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- for diesel generator Div 2, and greater than or equal to 2200 kw (HPCS pump) for diesel generator Div 3 while maintaining speed less than nominal speed plus 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 5800 kw for diesel generators Div 1 and Div 2 and 2600 kw for diesel generator Div 3 without tripping. The generator voltage shall not exceed 4784 volts for Div 1 and Div 2 and 5000 volts for Div 3 during and following the load rejection.
 4. Simulating a loss of offsite power by itself, and:
 - a) For divisions 1 and 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 10 seconds, energizes the auto-connected loads through the load sequence (individual load timers) 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 ± 420 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 the permanently connected loads within 13 seconds and operates for greater than or equal to 5 minutes while its generator is so loaded. After energization, the steady

*All diesel generator starts for the purpose of this Surveillance Requirement may be preceded by an engine prelube period. The diesel generator start (10 sec)/load (60 sec) 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 may be preceded by other warmup procedures recommended by the manufacturer so that the mechanical stress and wear on the diesel engine is minimized.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

for diesel generator Div 2, and greater than or equal to 2200 kw (HPCS pump) for diesel generator Div 3 while maintaining speed less than nominal speed plus 75% of the difference between nominal speed and the overspeed trip setpoint or 15% above nominal, whichever is less.

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 - 2) Verifying the diesel generator starts* on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected loads through the load sequence (individual load timers) 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 ± 420 volts and 60 ± 1.2 Hz during this test.
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 - 1) Verifying de-energization of the emergency bus.
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