

August 22, 1991

Docket No. 50-440

**DISTRIBUTION:**

Mr. Michael D. Lyster, Vice President  
Nuclear - Perry  
The Cleveland Electric Illuminating  
Company  
10 Center Road  
Perry, Ohio 44081

Docket Files	NRC & Local PDRs
PDIII-3 r/f	JHannon
JZwolinski	PKreutzer
JHall	OGC-WF1
DHagan	GPA/PA
PDIII-3 Gray	GHill(4)
WandaJones	BBoger
ACRS(10)	CGrimes
OC/LFMB	DRP, Region III

Dear Mr. Lyster:

SUBJECT: AMENDMENT NO. 38 TO FACILITY OPERATING LICENSE NO. NPF-58  
(TAC NO. 75593)

The Commission has issued the enclosed Amendment No. 38 to Facility Operating License No. NPF-58 for the Perry Nuclear Power Plant, Unit No. 1. This amendment revises the Technical Specifications in response to your application dated December 14, 1989.

This amendment revises the surveillance frequency of TS 4.3.8.2 for the turbine control valves from weekly to monthly, in order to limit changes in plant power levels and to reduce the potential for inadvertent scrams due to testing.

A copy of the Safety Evaluation is also enclosed. Notice of issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

Original Signed By:

James R. Hall, Sr. Project Manager  
Project Directorate III-3  
Division of Reactor Projects III/IV/V  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 38 to License No. NPF-58
2. Safety Evaluation

cc w/enclosures:  
See next page

Office: LA/PDIII-3/DRPW  
Surname: PKreutzer  
Date: 7/18/91

PM/PDIII-3/DRPW  
JHall/rd  
7/19/91  
8/22/91

PD/PDIII-3/DRPW  
JHannon  
7/19/91

OGC-WF1  
8/15/91

9108280231 910822  
PDR ADDCK 05000440  
P PDR

**NRC FILE CENTER COPY**

JFOL  
111

CP1

August 22, 1991

Docket No. 50-440

DISTRIBUTION:

<u>Docket Files</u>	NRC & Local PDRs
PDIII-3 r/f	JHannon
JZwolinski	PKreutzer
JHall	OGC-WF1
DHagan	GPA/PA
PDIII-3 Gray	GHill(4)
WandaJones	BBoger
ACRS(10)	CGrimes
OC/LFMB	DRP, Region III

Mr. Michael D. Lyster, Vice President  
 Nuclear - Perry  
 The Cleveland Electric Illuminating  
 Company  
 10 Center Road  
 Perry, Ohio 44081

Dear Mr. Lyster:

SUBJECT: AMENDMENT NO. 38 TO FACILITY OPERATING LICENSE NO. NPF-58  
 (TAC NO. 75593)

The Commission has issued the enclosed Amendment No. 38 to Facility Operating License No. NPF-58 for the Perry Nuclear Power Plant, Unit No. 1. This amendment revises the Technical Specifications in response to your application dated December 14, 1989.

This amendment revises the surveillance frequency of TS 4.3.8.2 for the turbine control valves from weekly to monthly, in order to limit changes in plant power levels and to reduce the potential for inadvertent scrams due to testing.

A copy of the Safety Evaluation is also enclosed. Notice of issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

Original Signed By:

James R. Hall, Sr. Project Manager  
 Project Directorate III-3  
 Division of Reactor Projects III/IV/V  
 Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 38 to License No. NPF-58
2. Safety Evaluation

cc w/enclosures:  
 See next page

Office: LA/PDIII-3/DRPW  
 Surname: PKreutzer  
 Date: 7/16/91

PM/PDIII-3/DRPW  
 JHall/rd  
 7/19/91  
 8/22/91

PD/PDIII-3/DRPW  
 JHannon  
 7/19/91

OGC-WF1  
 8/15/91

Mr. Michael D. Lyster  
Cleveland Electric Illuminating Company

Perry Nuclear Power Plant  
Unit Nos. 1 and 2

cc:

Jay E. Silberg, Esq.  
Shaw, Pittman, Potts & Trowbridge  
2300 N Street, N.W.  
Washington, D.C. 20037

Mr. James W. Harris, Director  
Division of Power Generation  
Ohio Department of Industrial  
Relations  
P. O. Box 825  
Columbus, Ohio 43216

David E. Burke  
The Cleveland Electric  
Illuminating Company  
P. O. Box 5000  
Cleveland, Ohio 44101

The Honorable Lawrence Logan  
Mayor, Village of Perry  
4203 Harper Street  
Perry, Ohio 44081

Resident Inspector's Office  
U.S. Nuclear Regulatory Commission  
Parmly at Center Road  
Perry, Ohio 44081

The Honorable Robert V. Orosz  
Mayor, Village of North Perry  
North Perry Village Hall  
4778 Lockwood Road  
North Perry Village, Ohio 44081

Regional Administrator, Region III  
U.S. Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Attorney General  
Department of Attorney General  
30 East Broad Street  
Columbus, Ohio 43216

Frank P. Weiss, Esq.  
Assistant Prosecuting Attorney  
105 Main Street  
Lake County Administration Center  
Painesville, Ohio 44077

Radiological Health Program  
Ohio Department of Health  
1224 Kinnear Road  
Columbus, Ohio 43212

Ms. Sue Hiatt  
OCRE Interim Representative  
8275 Munson  
Mentor, Ohio 44060

Ohio Environmental Protection  
Agency  
DERR--Compliance Unit  
ATTN: Zack A. Clayton  
P. O. Box 1049  
Columbus, Ohio 43266-0149

Terry J. Lodge, Esq.  
618 N. Michigan Street, Suite 105  
Toledo, Ohio 43624

Mr. Phillip S. Haskell, Chairman  
Perry Township Board of Trustees  
4171 Main Street, Box 65  
Perry, Ohio 44081

John G. Cardinal, Esq.  
Prosecuting Attorney  
Ashtabula County Courthouse  
Jefferson, Ohio 44047

State of Ohio  
Public Utilities Commission  
East Broad Street  
Columbus, Ohio 43266-0573

Mr. Robert A. Newkirk  
Cleveland Electric  
Illuminating Company  
Perry Nuclear Power Plant  
P. O. Box 97, E-210  
Perry, Ohio 44081



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

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, ET AL.

DOCKET NO. 50-440

PERRY NUCLEAR POWER PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 38  
License No. NPF-58

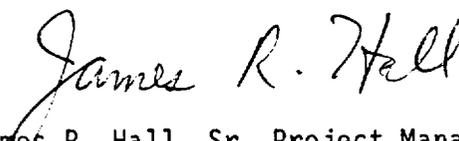
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by The Cleveland Electric Illuminating Company, Centerior Service Company, Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company, and Toledo Edison Company (the licensees) dated December 14, 1989, 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-58 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 38 are hereby incorporated into this license. The Cleveland Electric Illuminating 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.

FOR THE NUCLEAR REGULATORY COMMISSION



James R. Hall, Sr. Project Manager  
Project Directorate III-3  
Division of Reactor Projects III/IV/V  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of issuance: August 22, 1991

ATTACHMENT TO LICENSE AMENDMENT NO. 38

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 pages are provided to maintain document completeness.

Remove

3/4 3-96

3/4 3-97

Insert

3/4 3-96

3/4 3-97

TABLE 4.3.7.10-1 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING  
INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TABLE NOTATION

- \* At all times.
- \*\* During main condenser offgas treatment system operation.
- (1) The CHANNEL FUNCTIONAL TEST shall also demonstrate that control room alarm annunciation occurs if any of the following conditions exists:
  - 1. Instrument indicates measured levels above the alarm setpoint.
  - 2. Instrument indicates a downscale failure.
  - 3. Instrument controls not set in operate mode.
- (2) The initial CHANNEL CALIBRATION shall be performed using one or more of the reference standards certified by the National Bureau of Standards (NBS) or using standards that have been obtained from suppliers that participate in measurement assurance activities with NBS. These standards shall permit calibrating the system over its intended energy and measurement range. For subsequent CHANNEL CALIBRATION, sources that have been related to the initial calibration shall be used.
- (3) The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:
  - 1. One volume percent hydrogen, balance nitrogen, and
  - 2. Four volume percent hydrogen, balance nitrogen.
- (4) The iodine cartridges and particulate filters will be changed at least once per 7 days. Performance of this CHANNEL CHECK does not render the system inoperable, and the applicable ACTION statements need not be entered.

## INSTRUMENTATION

### 3/4.3.8 TURBINE OVERSPEED PROTECTION SYSTEM

#### LIMITING CONDITION FOR OPERATION

---

3.3.8 At least one turbine overspeed protection system shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

- a. With one turbine control valve or one turbine stop valve per high pressure turbine steam line inoperable, and/or with one turbine intercept or intermediate stop valve per low pressure turbine steam line inoperable, restore the inoperable valve(s) to OPERABLE status within 72 hours or close at least one valve in the affected steam line or isolate the turbine from the steam supply within the next 6 hours.
- b. With the above required turbine overspeed protection system otherwise inoperable, within 6 hours isolate the turbine from the steam supply.
- c. The provisions of Specification 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

---

4.3.8.1 The provisions of Specification 4.0.4 are not applicable.

4.3.8.2 The above required turbine overspeed protection system shall be demonstrated OPERABLE:

- a. At least once per 7 days by cycling each of the following valves through at least one complete cycle from the running position:
  1. Six low pressure turbine intercept valves, and
  2. Four high pressure turbine stop valves, and
  3. Six low pressure turbine intermediate stop valves.
- b. At least once per 31 days by cycling the four high pressure turbine control valves through at least one complete cycle from the running position.

## INSTRUMENTATION

### 3/4.3.8 TURBINE OVERSPEED PROTECTION SYSTEM

#### LIMITING CONDITION FOR OPERATION

---

3.3.8 At least one turbine overspeed protection system shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

- a. With one turbine control valve or one turbine stop valve per high pressure turbine steam line inoperable, and/or with one turbine intercept or intermediate stop valve per low pressure turbine steam line inoperable, restore the inoperable valve(s) to OPERABLE status within 72 hours or close at least one valve in the affected steam line or isolate the turbine from the steam supply within the next 6 hours.
- b. With the above required turbine overspeed protection system otherwise inoperable, within 6 hours isolate the turbine from the steam supply.
- c. The provisions of Specification 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

---

4.3.8.1 The provisions of Specification 4.0.4 are not applicable.

4.3.8.2 The above required turbine overspeed protection system shall be demonstrated OPERABLE:

- a. At least once per 7 days by cycling each of the following valves through at least one complete cycle from the running position:
  1. Six low pressure turbine intercept valves, and
  2. Four high pressure turbine stop valves, and
  3. Six low pressure turbine intermediate stop valves.
- b. At least once per 31 days by cycling the four high pressure turbine control valves through at least one complete cycle from the running position.

INSTRUMENTATION

SURVEILLANCE REQUIREMENTS (Continued)

---

- c. At least once per 18 months by performance of a CHANNEL CALIBRATION of the turbine overspeed protection instrumentation.
- d. At least once per 40 months\* by disassembling at least one of each of the above valves and performing a visual and surface inspection of all valve seats, disks and stems and verifying no unacceptable flaws or excessive corrosion. If unacceptable flaws or excessive corrosion are found, all other valves of that type shall be inspected.

---

\*The initial surveillance test interval is extended on a one-time basis to the first refueling outage.

## INSTRUMENTATION

### 3/4.3.9 PLANT SYSTEMS ACTUATION INSTRUMENTATION

#### LIMITING CONDITION FOR OPERATION

---

---

3.3.9 The plant systems actuation instrumentation channels shown in Table 3.3.9-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.9-2.

APPLICABILITY: As shown in Table 3.3.9-1.

#### ACTION:

- a. With a plant system actuation instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.9-2, declare the channel inoperable and either place the inoperable channel in the tripped condition until the channel is restored to OPERABLE status with its trip setpoint adjusted consistent with the Trip Setpoint value, or declare the associated system inoperable.
- b. For the containment spray system:
  1. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for one trip system, place at least one inoperable channel in the tripped condition within one hour or declare the associated system inoperable.
  2. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for both trip systems, declare the associated system inoperable.
- c. For the feedwater system/main turbine trip system:
  1. With the number of OPERABLE channels one less than required by the Minimum OPERABLE Channels requirement, restore the inoperable channel to OPERABLE status within 7 days or be in at least STARTUP within the next 6 hours.
  2. With the number of OPERABLE channels two less than required by the Minimum OPERABLE Channels requirement, restore at least one of the inoperable channels to OPERABLE status within 72 hours or be in at least STARTUP within the next 6 hours.

## INSTRUMENTATION

### 3/4.3.9 PLANT SYSTEMS ACTUATION INSTRUMENTATION

#### LIMITING CONDITION FOR OPERATION

---

3.3.9 The plant systems actuation instrumentation channels shown in Table 3.3.9-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.9-2.

APPLICABILITY: As shown in Table 3.3.9-1.

#### ACTION:

- a. With a plant system actuation instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.9-2, declare the channel inoperable and either place the inoperable channel in the tripped condition until the channel is restored to OPERABLE status with its trip setpoint adjusted consistent with the Trip Setpoint value, or declare the associated system inoperable.
- b. For the containment spray system:
  1. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for one trip system, place at least one inoperable channel in the tripped condition within one hour or declare the associated system inoperable.
  2. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for both trip systems, declare the associated system inoperable.
- c. For the feedwater system/main turbine trip system:
  1. With the number of OPERABLE channels one less than required by the Minimum OPERABLE Channels requirement, restore the inoperable channel to OPERABLE status within 7 days or be in at least STARTUP within the next 6 hours.
  2. With the number of OPERABLE channels two less than required by the Minimum OPERABLE Channels requirement, restore at least one of the inoperable channels to OPERABLE status within 72 hours or be in at least STARTUP within the next 6 hours.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 38 TO FACILITY OPERATING LICENSE NO. NPF-58

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, ET AL.

PERRY NUCLEAR POWER PLANT, UNIT NO. 1

DOCKET NO. 50-440

1.0 INTRODUCTION

By letter dated December 14, 1989, the Cleveland Electric Illuminating Company (CEI) requested a change to the Technical Specifications (TSs) for the Perry Nuclear Power Plant, Unit 1. The proposed change would revise the surveillance frequency specified in TS 4.3.8.2 for the turbine control valves from weekly to monthly. The licensee's basis for the change is that the probability of generating a turbine missile at Perry would remain unchanged from that previously analyzed and approved by the NRC staff, while a benefit to safety would be realized by limiting the power changes necessary to conduct testing of the turbine valves. In addition, minor word changes were proposed to clarify the intent of the specification.

2.0 EVALUATION

According to Section 10.2.2.3 of the Perry Updated Safety Analysis Report (USAR), the turbine overspeed protection system is not safety-related and, as such, has no direct function in the safe shutdown of the reactor. However, a reliable, redundant fail-safe turbine overspeed system was incorporated into the plant's design for the protection of plant personnel and equipment. The turbine overspeed protection system greatly reduces the probability of turbine missile generation in the event of damage to the turbine or associated components, and consequently, the probability of damage to systems necessary for safe shutdown is also reduced. Additionally, the potential for a breach of the primary coolant boundary, and the resultant release of radioactivity to the environment, is minimized.

The purpose of the surveillances performed on the turbine overspeed protection system and the turbine steam valves that it controls (stop valves, control valves, intercept valves and intermediate stop valves) is to ensure a high degree of reliability of those components, such that the probability of a missile-generating turbine failure is kept acceptably low. Table 3.1 of Supplement 3 to the Perry Safety Evaluation Report (NUREG-0887) specifies the staff's acceptance criteria for the probability of turbine missile generation, which for Perry is 1.0E-5 per year. In a safety evaluation dated August 23, 1989, the staff accepted the licensee's calculated turbine missile generation probability of 6.2E-6 per year, which met the specified

criteria. The licensee's calculation was performed in accordance with a staff-approved General Electric methodology. For the calculation, a monthly test frequency for the turbine control valves was conservatively assumed; therefore, the proposal to change the TS surveillance frequency from weekly to monthly will not impact the previously approved analysis.

The failure of a turbine control valve is bounded by the scenarios analyzed in the Perry USAR that result in a turbine trip. Extending the surveillance interval for the turbine control valves from weekly to monthly may actually reduce the probability of test-related valve failures, although failures may not be detected as promptly. However, both of these factors are likely to have only a slight impact on the reliability of the valves. Therefore, the proposed change would not affect the existing accident analysis.

In the submittal of December 14, 1989, the licensee indicated that a reduction in the control valve test frequency could improve operational safety by reducing perturbations to reactor operating conditions and by reducing the period of time that the reactor would be more vulnerable to an inadvertent scram during testing. Current testing of the control valves requires a reduction to 90% power, while testing of the other turbine steam valves could possibly be conducted at power levels above 95%. A smaller change in power level to conduct testing would have a reduced impact on other operating parameters including feedwater flow and reactor pressure, thus reducing the likelihood of transients. Also, the current testing causes a 1/2 scram signal to be initiated as the control valves are cycled, thus a reduction in test frequency would result in a slightly lower probability for an inadvertent scram. The staff agrees that a reduction in test frequency of these valves could result in an improvement to plant safety.

The licensee has also proposed an editorial change to the format of Surveillance Requirement 4.3.8.2. This change removes the references to the turbine overspeed protection subsystems and specifies the monthly surveillance frequency for the turbine control valves separately from the weekly frequency for the other turbine valves. This change does not modify any current test requirements (other than the control valve test frequency discussed previously) and more closely conforms to the format of the Standard Technical Specifications.

Based on the above evaluation, the staff finds the proposed changes to Section 4.3.8.2 of the Perry Unit 1 Technical Specifications to be acceptable.

### 3.0 STATE CONSULTATION

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

### 4.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area as

defined in 10 CFR Part 20 or a change to a surveillance requirement. The staff has 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 (55 FR 4282). 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.

#### 5.0 CONCLUSION

The staff 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: James R. Hall, NRR

Date: August 22, 1991