

August 18, 1988

Docket No. 50-440

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Mr. Alvin Kaplan, Vice President  
 Nuclear Group  
 The Cleveland Electric Illuminating  
 Company  
 10 Center Road  
 Perry, Ohio 44081

Dear Mr. Kaplan:

SUBJECT: TECHNICAL SPECIFICATION CHANGE REQUEST ON REACTOR COOLANT SYSTEM  
 LEAKAGE DETECTION SYSTEM (TAC NO. 67169), PERRY NUCLEAR POWER PLANT  
 UNIT 1

The Commission has issued the enclosed Amendment No. 16 to Facility Operating License No. NPF-58 for the Perry Nuclear Power Plant, Unit No. 1. This amendment consists of changes to the Technical Specifications (TS) in response to your application dated February 12, 1988 as amended May 20, 1988.

This amendment modifies TS 3.4.3.1 concerning acceptable reactor coolant system leakage detection methods and limiting conditions for operation.

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,

*/s/*

Timothy G. Colburn, Project Manager  
 Project Directorate III-3  
 Division of Reactor Projects - III, IV, V  
 & Special Projects

Enclosures:

1. Amendment No.16 to License No. NPF-58
2. Safety Evaluation

cc w/enclosures:  
 See next page

*DF01*  
*1/1*  
*subject to change noted*  
*UNSER*

Office: LA/PDIII-3  
 Surname: *PK* Kreutzer  
 Date: *7/29/88*

*TKC*  
 PM/PDIII-3  
 TColburn/tg  
*8/2/88*

PD/PDIII-3  
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*8/14/88*

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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. 16  
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, Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company, and Toledo Edison Company (the licensees) dated February 12 as amended May 20, 1988 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:

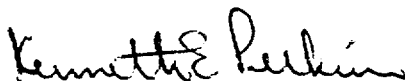
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(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 16 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



Kenneth E. Perkins, Director  
Project Directorate III-3  
Division of Reactor Projects - III,  
IV, V and Special Projects

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: August 18, 1988

ATTACHMENT TO LICENSE AMENDMENT NO.16

FACILITY OPERATING LICENSE NO. NPF-58

DOCKET NO. 50-440

Replace the following page of the Appendix "A" Technical Specifications with the attached page. The revised page is identified by Amendment number and contains vertical lines indicating the area of change. The overleaf page is provided to maintain document completeness.

Remove

3/4 4-9

Insert

3/4 4-9

## REACTOR COOLANT SYSTEM

### 3/4.4.3 REACTOR COOLANT SYSTEM LEAKAGE

#### LEAKAGE DETECTION SYSTEMS

#### LIMITING CONDITION FOR OPERATION

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3.4.3.1 The following reactor coolant system leakage detection systems shall be OPERABLE:

- a. The drywell floor drain sump and equipment drain sump flow monitoring system.
- b. Any 2 of the following:
  1. Drywell atmosphere particulate radioactivity monitoring system.
  2. Drywell atmosphere gaseous radioactivity monitoring system.
  3. Upper drywell air coolers condensate flow rate monitoring system.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

#### ACTION:

- a. With the drywell floor drain sump or equipment drain sump flow monitoring system inoperable, operation may continue for up to 30 days provided that the upper drywell coolers condensate flow rate monitoring system is one of the two systems OPERABLE per 3.4.3.1.b.
- b. With only one of the systems required by 3.4.3.1.b OPERABLE operations may continue for up to 30 days provided:
  1. The drywell floor drain sump and equipment drain sump flow monitoring system is OPERABLE.
  2. Grab samples of the drywell atmosphere are obtained and analyzed at least once per 24 hours.
- c. Otherwise be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

#### SURVEILLANCE REQUIREMENTS

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4.4.3.1 The reactor coolant system leakage detection systems shall be demonstrated OPERABLE by:

- a. Drywell atmosphere particulate and gaseous monitoring systems-performance of a CHANNEL CHECK at least once per 12 hours, a CHANNEL FUNCTIONAL TEST at least once per 31 days and a CHANNEL CALIBRATION at least once per 18 months.
- b. Drywell floor drain and equipment drain sump flow monitoring system-performance of a CHANNEL FUNCTIONAL TEST at least once per 31 days and a CHANNEL CALIBRATION at least once per 18 months.
- c. Upper drywell air coolers condensate flow rate monitoring system-performance of a CHANNEL FUNCTIONAL TEST at least once per 31 days and a CHANNEL CALIBRATION at least once per 18 months.

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATION

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3.4.3.2 Reactor coolant system leakage shall be limited to:

- a. No PRESSURE BOUNDARY LEAKAGE.
- b. 5 gpm UNIDENTIFIED LEAKAGE.
- c. 25 gpm IDENTIFIED LEAKAGE averaged over any 24-hour period.
- d. 0.5 gpm leakage per nominal inch of valve size up to a maximum of 5 gpm from any reactor coolant system pressure isolation valve specified in Table 3.4.3.2-1, at rated pressure.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

- a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
- b. With any reactor coolant system leakage greater than the limits in b and/or c, above, reduce the leakage rate to within the limits within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- c. With any reactor coolant system pressure isolation valve leakage greater than the above limit, isolate the high pressure portion of the affected system from the low pressure portion within 4 hours by use of at least one other closed manual or deactivated automatic or check\* valve, or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

\*

Which have been verified not to exceed the allowable leakage limit at the last refueling outage or after the last time the valve was disturbed, whichever is more recent.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 16 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 February 12, 1988, the Cleveland Electric Illuminating Company, et al. (licensees), requested an amendment to Facility Operating License No. NPF-58 for the Perry Nuclear Power Plant (PNPP) Unit No. 1. The proposed amendment would revise the limiting conditions for operation (LCO's) for the reactor coolant system leakage detection methods to increase flexibility for continuing operation with one or more leakage detection systems inoperable. Specifically, the proposed amendment would have allowed operation with the drywell air cooler condensate flow rate monitoring system inoperable for an indefinite period of time so long as the drywell floor drain sump was operable. The licensees' basis for this change was to take credit for redundancy between these two systems as all drywell air cooler condensate flow is part of the drywell floor drain sump flow.

The licensees also submitted the proposed amendment under exigent circumstances in accordance with 10 CFR 50.91(a)(6) because the drywell air cooler condensate flow meter had recently become inoperable, placing the PNPP Unit 1 into a 30-day LCO. Insufficient time remained for a full 30-day notice in the Federal Register before the licensees would have been required to shut down the unit. The staff determined that the licensee met the emergency circumstances of 10 CFR 50.91(a)(5), however, the staff intended to offer a reduced (2-week) notice period in the Federal Register for the proposed issuance of this amendment and opportunity for hearing in order to avoid unnecessarily shutting down the plant.

Subsequent to their February 12, 1988 amendment request, Perry Unit No. 1 experienced an unplanned outage of sufficient duration to allow the licensees to repair the drywell air cooler condensate flowmeter. Therefore, the emergency circumstances associated with their request no longer existed. The licensees were informed in an April 21, 1988 request for additional information that the staff intended to wait until expiration of the full 30-day notice period in the Federal Register before taking action on their request.

In response to the staff's request for additional information, by letter dated May 20, 1988 the licensees revised their original amendment request.

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## 2.0 DISCUSSION AND EVALUATION

Regulatory Guide 1.45 (R.G. 1.45) "Reactor Coolant Pressure Boundary Leakage Detection Systems," dated May 1973 provides guidance for meeting General Design Criterion 30, "Quality of Reactor Coolant Pressure Boundary," of Appendix A to 10 CFR Part 50. This guide describes acceptable methods of establishing reactor coolant pressure boundary leakage detection systems for light-water reactors.

Regulatory Position C.3 of R.G. 1.45 states that at least three separate methods of leakage detection should be available. It further provides guidance on which systems should be available so as to provide both diversity and redundancy of leakage detection methods. Regulatory Position C.3 states that two of the three methods of leakage detection should be (1) sump level and flow monitoring and (2) airborne particulate radioactivity monitoring (this provides diversity, one method being a direct measurement of leakage in gallons per minute (gpm), the second being an indirect measure of radioactivity which could be converted to an expected leak rate). The third method may be condensate flow from air coolers or monitoring of airborne gaseous radioactivity (this provides redundancy with one of the two types of leakage detection methods listed above).

The staff has reviewed the licensees' May 20, 1988 submittal against the guidance contained in R.G. 1.45. The revised Technical Specifications require 3 of 4 leakage detection systems (drywell floor drain and equipment drain sump flow monitoring, and two of drywell atmosphere particulate monitoring, drywell atmosphere gaseous activity monitoring, drywell air cooler condensate flow rate monitoring) to be operable, at least one of which will provide direct indication in gpm of indicated leakage. The revised LCO's permit continued operation for 30 days with one of the required systems inoperable under conditions that provide suitable redundancy and diversity. Based upon its review, the staff finds that the licensees' proposed amendment meets the intent of the guidance contained in R.G. 1.45 and is therefore, acceptable.

## 3.0 COMMENTS RECEIVED

By letter dated March 3, 1988, comments concerning the licensees' submittal (February 12, 1988) were sent to the NRC by Ms. Susan L. Hiatt representing Ohio Citizens for Responsible Energy (OCRE). Ms. Hiatt had two comments. First, OCRE questioned whether a unit shutdown provided sufficient legal basis for classifying an amendment as an emergency or for justifying approval. Secondly, OCRE questioned why the amendment should be of permanent vice temporary duration and why the system could not be repaired or returned to service at the next unplanned shutdown or at the one occurring the previous week.

In response to the first comment, 10 CFR 50.91 (a)(5) provides "[w]here the Commission finds that an emergency situation exists, in that failure to act in a timely way would result in derating or shutdown of a nuclear unit, or in prevention of either resumption of operation or of increase in power output up to the plant's licensed power level it may issue a license amendment involving no significant hazards consideration without prior notice and opportunity for a hearing or for public comment." In the case of this particular amendment, since time existed (prior to requiring plant shutdown) for a short duration (2-week) notice in the Federal Register, the Commission chose to publish a 2-week notice prior to issuance of the amendment.



With respect to the second comment, the licensees did fix the component which resulted in the need for consideration of this amendment request as an emergency during the unplanned outage occurring the week prior to OCRE's letter. The reason for this proposed amendment being submitted on a permanent rather than temporary basis is that the design of the air cooler condensate flowmeter is such that clogging of the flowline occurs frequently (twice more prior to amendment issuance). If no unplanned outage were to occur prior to expiration of the 30-day LCO associated with this component, the licensees would be required to shut down or to submit a temporary license amendment request each time this occurred. While numerous temporary license amendments could be processed, it is more desirable to resolve the issue through issuance of a permanent license amendment.

### 3.0 ENVIRONMENTAL CONSIDERATION

This amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 or changes 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 the amendment involves no significant hazards consideration. Public comments were submitted on March 3, 1988 by Susan L. Hiatt representing Ohio Citizens for Responsible Energy and are addressed in this Safety Evaluation. Accordingly, the 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 the amendment.

### 4.0 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, 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: Timothy G. Colburn

Dated: August, 18, 1988

Mr. Alvin Kaplan  
The Cleveland Electric  
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