

March 11, 1992

Docket No. 50-440

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

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Dear Mr. Lyster:

SUBJECT: AMENDMENT NO. 40 TO FACILITY OPERATING LICENSE NO. NPF-58
(TAC NO. M82302)

The Commission has issued the enclosed Amendment No. 40 to Facility Operating License No. NPF-58 for the Perry Nuclear Power Plant, Unit No. 1. This amendment revises the Technical Specifications (TSs) in response to your application dated December 18, 1991.

This amendment revises TS section 5.3.2 - Control Rod Assemblies - to allow the use of control rod designs employing hafnium metal as a neutron absorbing material.

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. 40 to License No. NPF-58
 - 2. Safety Evaluation
- cc w/enclosures:
See next page

Office: LA/PD3-3
Surname: PKreutzer
Date: 2/12/92

PM/PD3-3
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2/14/92

PD/PD3-3
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2/14/92

BC/SRXB
RJones
2/18/92

OGC
mip
2/18/92

DF01



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

March 11, 1992

Docket No. 50-440

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

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Sincerely,

A handwritten signature in cursive script that reads "James R. Hall".

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. 40 to License No. NPF-58
2. Safety Evaluation

cc w/enclosures:
See next page

Mr. Michael D. Lyster
Cleveland Electric Illuminating Company

cc:

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Perry, Ohio 44081

Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
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Mentor, Ohio 44060

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Prosecuting Attorney
Ashtabula County Courthouse
Jefferson, Ohio 44047

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

Perry Nuclear Power Plant
Unit Nos. 1 and 2

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

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

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

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

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

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

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

Mr. Robert A. Stratman
Cleveland Electric Illuminating
Company
Perry Nuclear Power Plant
Post Office Box 97, SB306
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. 40
License No. NPF-58

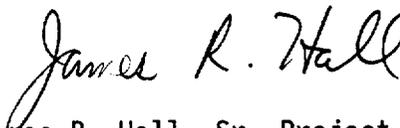
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by The Cleveland Electric Illuminating Company, Centerior Service Company, Duquesne Light Company, Ohio Edison Company, Pennsylvania Power Company, and Toledo Edison Company (the licensees) dated December 18, 1991, 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. 40 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: March 11, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 40

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.

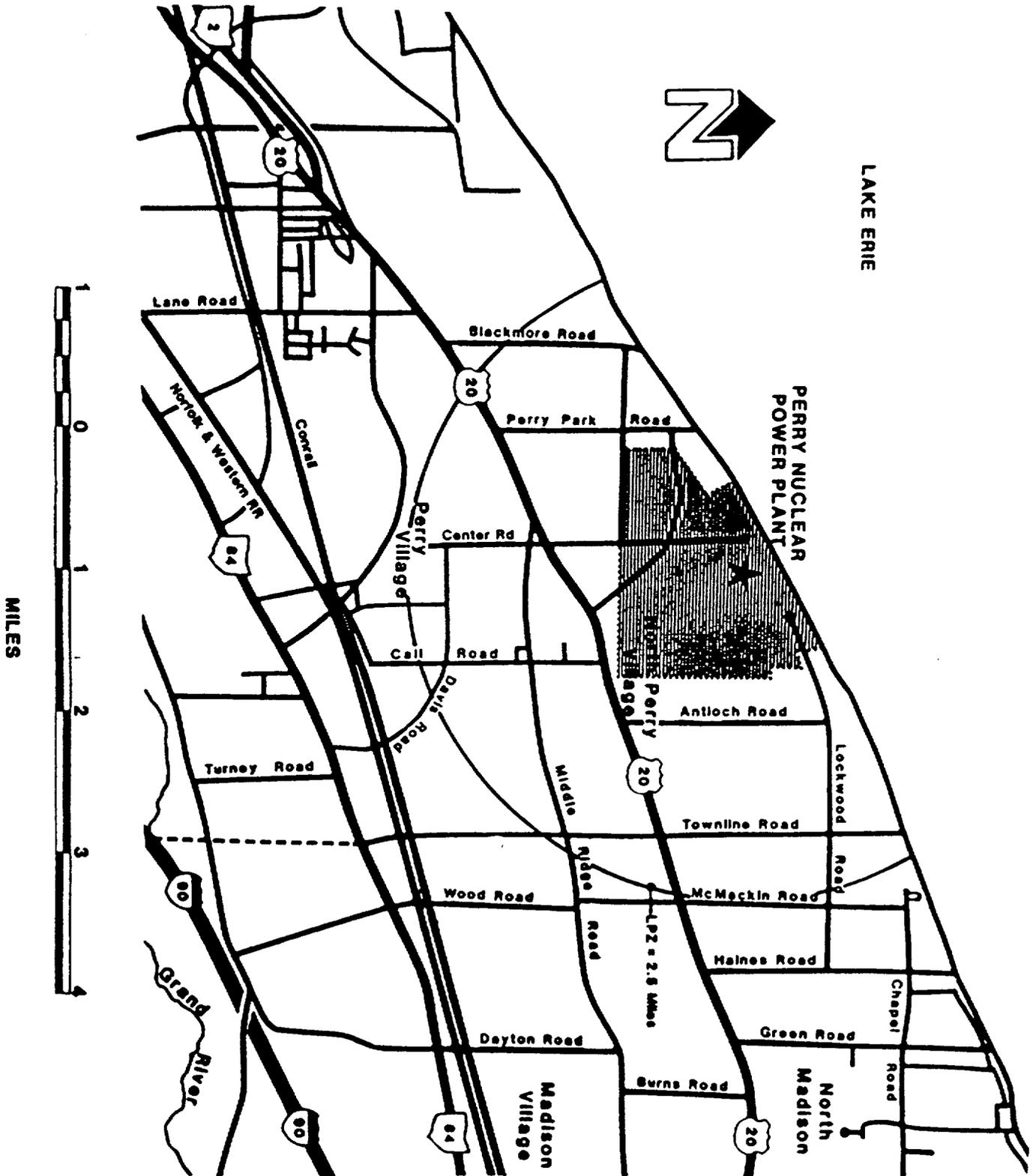
Remove

5-4

Insert

5-4

LOW POPULATION ZONE
FIGURE 5.1.2-1



DESIGN FEATURES

DESIGN TEMPERATURE AND PRESSURE (Continued)

- b. Maximum internal temperature:
 - 1. Drywell 330°F.
 - 2. Suppression pool 185°F.
- c. Maximum external to internal differential pressure:
 - 1. Drywell 21 psid.
 - 2. Containment 0.8 psid.

SECONDARY CONTAINMENT

5.2.3 The secondary containment consists of the annulus between the shield building and the primary containment and has a minimum free volume of 392,548 cubic feet.

5.3 REACTOR CORE

FUEL ASSEMBLIES

5.3.1 The reactor shall contain 748 fuel assemblies. Each assembly shall consist of a matrix of Zircaloy clad fuel rods with an initial composition of slightly enriched uranium dioxide (UO_2) as fuel material. Fuel assemblies shall be limited to those fuel designs approved by the NRC Staff for use in BWR's.

CONTROL ROD ASSEMBLIES

5.3.2 The reactor core shall contain 177 control rod assemblies. Each assembly shall consist of a cruciform array of neutron absorbing material. The control material shall be boron carbide powder (B_4C) and/or hafnium metal and have a nominal absorber length of 143.7 inches.

5.4 REACTOR COOLANT SYSTEM

DESIGN PRESSURE AND TEMPERATURE

- 5.4.1 The reactor coolant system is designed and shall be maintained:
- a. In accordance with the code requirements specified in Section 5.2 of the FSAR, with allowance for normal degradation pursuant to the applicable Surveillance Requirements,
 - b. For a pressure of:
 - 1. 1250 psig on the suction side of the recirculation pump.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 40 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 18, 1991, the Cleveland Electric Illuminating Company (the licensee) requested an amendment to Facility Operating License No. NPF-58 for the Perry Nuclear Power Plant, Unit 1. The proposed amendment would revise Technical Specification (TS) 5.3.2 - Control Rod Assemblies - to provide a more general design description, thereby allowing the licensee to install control rods of newer design that have been reviewed and approved for use by the NRC staff on a generic basis.

2.0 EVALUATION

The proposed changes to TS 5.3.2 would allow the use of hafnium metal and/or boron carbide powder as the neutron absorbing control material(s) in the control rod assemblies. The current wording allows only boron carbide powder. In addition, a nominal absorber length of 143.7 inches is specified versus the current statement that implies that every individual tube will contain that same length of absorber material (some designs approved by the staff include tubes in a given control rod that do not contain the absorber material for their full length). Finally, the specific reference to the cruciform stainless steel sheath would be deleted, as not all of the currently approved control rod designs include a sheath.

The licensee intends to install several control rods containing hafnium during the upcoming third refueling outage. The use of hafnium does not significantly change the neutronic or mechanical characteristics of the control rods, and more recent designs have many advantages. These advantages include increased neutron absorbing material for longer life, improved resistance to intergranular stress corrosion cracking, and a reduction in the amount of radioactive cobalt released into plant piping systems. The proposed changes will not affect the existing requirement to have 177 cruciform-shaped control rods installed, nor the existing requirements for control rod scram insertion times and operability. The control rods to be installed will be of a type previously approved by the NRC staff and will be physically compatible with the existing rod design. The new design will be properly reflected in

the licensee's reload analysis, which is performed using an NRC-approved methodology, and the existing margins of safety will be preserved and verified by the licensee in accordance with the 10 CFR 50.59 review process.

Based on the above discussion, the staff finds the proposed changes to TS 5.3.2 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 (57 FR 2601). 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: J. R. Hall

Date: March 11, 1992