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

February 26, 1985

James P. Gleason, Chairman
Administrative Judge
513 Gilmoure Drive
Silver Spring, MD 20901

Dr. Jerry R. Kline
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Mr. Glenn O. Bright
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

In the Matter of
CLEVELAND ELECTRIC ILLUMINATING COMPANY, ET AL.
(Perry Nuclear Power Plant, Units 1 and 2)
Docket Nos. 50-440 OL, 50-441 OL

Dear Administrative Judges:

For your information, I am providing you with recent NRC-CEI Correspondence regarding the new hydrogen control rule.

Sincerely,

Colleen P. Woodhead

Colleen P. Woodhead
Counsel for NRC Staff

Enclosures: As stated

cc w/ enclosures: Jay Silberg
Susan Hiatt
Terry Lodge

cc w/o enclosures: Rest of service list

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C Woodhead

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

FEB 2 0 1985

Docket No.: 50-440

Mr. Murray R. Edelman
Vice President - Nuclear Group
The Cleveland Electric Illuminating Company
P. O. Box 5000
Cleveland, Ohio 44101

Dear Mr. Edelman:

Subject: Acceptability of the Scope of Hydrogen Control Design and Analytical Information to be Provided to Support Full Power Licensing of Perry Nuclear Power Plant, Unit 1

Your letter dated February 5, 1985, requested that the NRC staff acknowledge the acceptability of the scope of the Perry plant-specific hydrogen control design and analytical information to be submitted in compliance with the recently published rulemaking (amendment to 10 CFR 50.44) in January 1985, in support of a full power license for Perry Unit 1. The plant-specific information to be provided prior to Unit 1 licensing is to include: (a) a detailed description of the igniter system to be installed (b) an analysis of containment pressure capacity and containment thermodynamic response to hydrogen combustion scenarios; and (c) a comparison of significant Perry design features with the Grand Gulf Nuclear Station design, previously accepted by the staff, to demonstrate that Perry Unit 1 will be safe to operate up to 100% of rated thermal (or full) power. In addition, the amended rule requires that the hydrogen igniter system be installed and operated prior to reactor operation in excess of 5% power.

The staff has reviewed the scope of the information described in your letter and its attachment and finds it acceptable for determining compliance with the hydrogen control requirements, pending an evaluation of the final analysis to be furnished by CEICO subsequent to Unit 1 licensing. This final analysis will be predicated on the results of the on-going Hydrogen Control Owners Group generic program analytical and test activities. It is requested that Perry hydrogen control design information be furnished no later than February 28, 1985 to support your currently projected (June 1985) fuel load date and schedule for operations above 5% of full power for Unit 1.

Sincerely,

Paul W O'Connor
for B.J.Y.
B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing

cc: See next page

PERRY

Mr. Murray R. Edelman
Vice President, Nuclear Group
The Cleveland Electric Illuminating Company
P. O. Box 5000
Cleveland, Ohio 44101

cc: Jay Silberg, Esq.
Shaw, Pittman, Potts & Trowbridge
1800 M Street, N. W.
Washington, D. C. 20006

Donald H. Hauser, Esq.
The Cleveland Electric
Illuminating Company
P. O. Box 5000
Cleveland, Ohio 44101

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

Regional Administrator
U. S. NRC, Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Donald T. Ezzone, Esq.
Assistant Prosecuting Attorney
105 Main Street
Lake County Administration Center
Painesville, Ohio 44077

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

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

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

P.O. BOX 5000 - CLEVELAND, OHIO 44101 - TELEPHONE (216) 622-9800 - ILLUMINATING BLDG. — 55 PUBLIC SQUARE

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MURRAY R. EDELMAN
VICE PRESIDENT
NUCLEAR

February 5, 1985
PY-CEI/NRR-0186 L

Mr. B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Perry Nuclear Power Plant
Docket Nos. 50-440; 50-441
Hydrogen Control

Dear Mr. Youngblood:

As identified in our July 19,1984 letter, The Cleveland Electric Illuminating Company (CEI) continues to be actively involved in a program to resolve the degraded core hydrogen control issue. Our efforts include both plant-specific and generic activities through the Hydrogen Control Owners Group (HCOG), all of which have been directed toward compliance with the then proposed hydrogen control rulemaking. We are aware that amendments to 10 CFR Part 50, related to hydrogen control have recently been finalized. [50 Federal Register 3498 (January 25, 1985)] In addition to requiring a schedule for full compliance, the new rule requires a hydrogen control system, and a supporting preliminary analysis prior to operation above 5% power. [Ref. 10 CFR 50.44 (c)(3)(iv)(A) and (c)(3)(vii)(B)]. CEI has previously committed in Amendment 8 to the FSAR (Q&R 480.40), to installing a distributed igniter system at Perry. The purpose of this letter is to identify the information on hydrogen control that we will provide to support a full power operating license for the Perry Nuclear Power Plant (PNPP). Some of the information described in this letter is being submitted to facilitate the staff's review and exceeds what we believe is required by 50.44(c)(3)(vii)(B).

The scope of the PNPP information to be submitted as our evaluation, is identified in Attachment 1. It includes a detailed description of the igniter system, the analysis of containment ultimate capacity and a preliminary containment response analysis. Also included is a comparison of the significant PNPP design features to those of the Grand Gulf Nuclear Station; i.e., containment design, containment system, igniter system and equipment required to survive the hydrogen burn. The staff has determined for a similar plant, Grand Gulf, that similar systems provide a satisfactory basis for their decision to support interim operation at full power until final analysis is completed. This comparison is provided to demonstrate that Perry has similar systems and thus Perry is safe to operate at full power.

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With respect to the final analysis required by the rule, on December 14, 1984 the HCOG submitted a suitable program of research and analysis to justify the distributed igniter systems. The HCOG Program Plan is presently under staff review. CEI will endorse the approved HCOG Plan, which will serve as an update of the PNPP Hydrogen Control Program submitted in our July 1984 letter. In addition, as the results of the HCOG Program become available, CEI will address their applicability to PNPP as necessary. Thus, the PNPP final analysis will be completed on a schedule consistent with HCOG program.

We believe that submittal of the information described in this letter will provide a satisfactory basis for the staff's determination to support interim operation at full power until the final analysis has been completed. We request that the staff acknowledge the acceptability of this scope of information by February 15, 1985.

If you have any questions, please contact me.

Very truly yours,

Murray R. Edelman
Vice President
Nuclear Group

MRE:njc

Attachment

cc: Jay Silberg, Esq.
John Stefano (2)
J. Grobe

SCOPE OF THE PNPP PRELIMINARY EVALUATION FOR HYDROGEN CONTROL

A. HYDROGEN CONTROL SYSTEM DESIGN

This section of the report will include a description of the hydrogen ignition system design, which includes the location of igniters, the design criteria, the power supplies, system actuation criteria, and preoperational testing requirements.

B. ULTIMATE CAPACITY ANALYSIS

The report will include a reference to the detailed report on the PNPP containment ultimate capacity analysis and summarize the key conclusions from the report. Containment negative pressure capability and drywell positive and negative pressure capabilities will be addressed.

C. CONTAINMENT RESPONSE ANALYSIS

The report will include the detailed report on the analysis of the PNPP containment response to hydrogen combustion using the CLASIX-3 computer code, and a summary of the key conclusions from the report.

D. GRAND GULF DESIGN COMPARISON

This section of the report will include a comparison between Perry Nuclear Power Plant and Grand Gulf Nuclear Station for the key design features and analyses which establishes the similarity of the systems to provide a satisfactory basis for a decision to support operation at full power. The key design features and analysis which will be compared include:

1. Igniter System Design.
2. Containment structural capacity.
3. Containment and containment systems design.
4. Containment response analysis.
5. Equipment required to survive a hydrogen generation event.