



THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

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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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Mr. B. J. Youngblood

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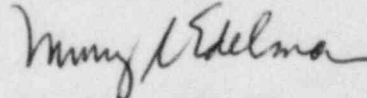
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With respect to the final analysis required by the rule, on December 14, 1984 the HCOG submitted a suitable program of research and analysis to justify the distributed igniter systems. The HCOG Program Plan is presently under staff review. CEI will 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.