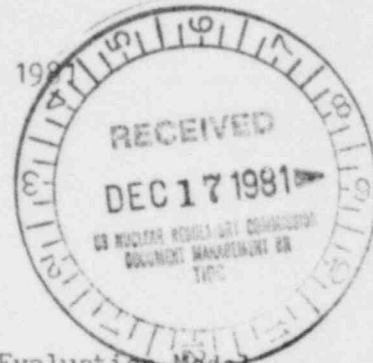


C-E Power Systems
Combustion Engineering, Inc.
1000 Prospect Hill Road
Windsor, Connecticut 06095

Tel. 203/688-1911
Telex 99297



December 15, 1987
LD-81-095



Mr. James R. Miller, Chief
Standardization & Special Projects Branch
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Changes to Combustion Engineering's ECCS Evaluation Model

Reference: (1) Letter LD-78-069 from A. E. Scherer to Dr. Denwood F. Ross,
September 18, 1978

Dear Mr. Miller:

Attached are five (5) proprietary copies of Enclosure 1-P (Copy Nos. 00001-00005) and five (5) non-proprietary copies of Enclosure 2-NP, entitled "C-E ECCS Evaluation Model Flow Blockage Analysis". Also enclosed is an affidavit attesting to the proprietary nature of the material.

The purpose of these documents is to describe changes in the representation of cladding failure and coolant flow blockage for LOCA licensing analysis as requested by the NRC. These changes consist of (1) new rupture temperature, rupture strain, and flow blockage models adopted from NUREG-0630, and (2) a new heat transfer model at and above the blocked region for reflood rates less than one inch per second. The impact of these model changes in regard to representation of the effects of flow blockage is illustrated by the results of an analysis for a C-E System 80 plant. This report demonstrates the conformance of the modified C-E ECCS Evaluation Model with the flow blockage requirements of 10CFR50, Appendix K.

C-E requests that the NRC review and approve these modifications to its approved Evaluation Model. It is our intent to utilize the improved model on analyses which are initiated subsequent to NRC approval.

Please note that this document supercedes in its entirety an earlier C-E submittal (Reference (1)). If you have any questions, please contact me or Mr. E. H. Kennedy of my staff at (203)688-1911, Extension 2828.

Very truly yours,

COMBUSTION ENGINEERING, INC.

A. E. Scherer
Director
Nuclear Licensing

NEED 2 r.d.s

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P207

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Enclosures as noted
8112180334 811215
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AFFIDAVIT PURSUANT

TO 10 CFR 2.790

Combustion Engineering, Inc.)
State of Connecticut)
County of Hartford) SS.:

I, A. E. Scherer depose and say that I am the Director, Nuclear Licensing of Combustion Engineering, Inc., duly authorized to make this affidavit, and have reviewed or caused to have reviewed the information which is identified as proprietary and referenced in the paragraph immediately below. I am submitting this affidavit in conformance with the provisions of 10 CFR 2.790 of the Commission's regulations for withholding this information.

The information for which proprietary treatment is sought is contained in the following document:

Enclosure 1-P to LD-81-095, C-E ECCS Evaluation Model Flow Blockage Analysis.

This document has been appropriately designated as proprietary.

I have personal knowledge of the criteria and procedures utilized by Combustion Engineering in designating information as a trade secret, privileged or as confidential commercial or financial information.

Pursuant to the provisions of paragraph (b) (4) of Section 2.790 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure, included in the above referenced document, should be withheld.

1. The information sought to be withheld from public disclosure are details of the C-E ECCS Evaluation Model, which is owned and has been held in confidence by Combustion Engineering.

2. The information consists of test data or other similar data concerning a process, method or component, the application of which results in a substantial competitive advantage to Combustion Engineering.

3. The information is of a type customarily held in confidence by Combustion Engineering and not customarily disclosed to the public. Combustion Engineering has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The details of the aforementioned system were provided to the Nuclear Regulatory Commission via letter DP-537 from F.M. Stern to Frank Schroeder dated December 2, 1974. This system was applied in determining that the subject documents herein are proprietary.

4. The information is being transmitted to the Commission in confidence under the provisions of 10 CFR 2.790 with the understanding that it is to be received in confidence by the Commission.

5. The information, to the best of my knowledge and belief, is not available in public sources, and any disclosure to third parties has been made pursuant to regulatory provisions or proprietary agreements which provide for maintenance of the information in confidence.

6. Public disclosure of the information is likely to cause substantial harm to the competitive position of Combustion Engineering because:

a. A similar product is manufactured and sold by major pressurized water reactors competitors of Combustion Engineering.

b. Development of this information by C-E required thousands of manhours of effort and tens of thousands of dollars. To the best of my knowledge and belief a competitor would have to undergo similar expense in generating equivalent information.

c. In order to acquire such information, a competitor would also require considerable time and inconvenience related to the development of an ECCS Evaluation Model.

d. The information required significant effort and expense to obtain the licensing approvals necessary for application of the information. Avoidance of this expense would decrease a competitor's cost in applying the information and marketing the product to which the information is applicable.

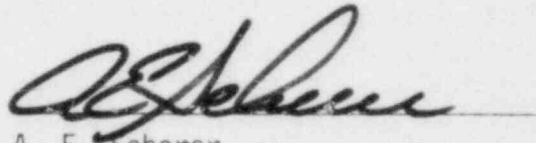
e. The information consists of details of the C-E ECCS Evaluation Model, the application of which provides a competitive economic advantage. The availability of such information to competitors would enable them to modify their product to better compete with Combustion Engineering, take marketing or other actions to improve their product's position or impair the position of Combustion Engineering's product, and avoid developing similar data and analyses in support of their processes, methods or apparatus.

f. In pricing Combustion Engineering's products and services, significant research, development, engineering, analytical, manufacturing, licensing, quality assurance and other costs and expenses must be included.

The ability of Combustion Engineering's competitors to utilize such information without similar expenditure of resources may enable them to sell at prices reflecting significantly lower costs.

g. Use of the information by competitors in the international marketplace would increase their ability to market nuclear steam supply systems by reducing the costs associated with their technology development. In addition, disclosure would have an adverse economic impact on Combustion Engineering's potential for obtaining or maintaining foreign licensees.

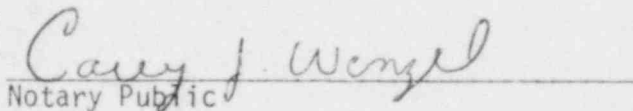
Further the deponent sayeth not.



A. E. Scherer
Director
Nuclear Licensing

Sworn to before me

this 15th day of December, 1981


Notary Public

CAREY J. WENZEL, NOTARY PUBLIC
State of Connecticut No. 59962
Commission Expires March 31, 1985