



CHARLES CENTER • P. O. BOX 1475 • BALTIMORE, MARYLAND 21203

January 31, 1986

JOSEPH A. TIERNAN
VICE PRESIDENT
NUCLEAR ENERGY

U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, DC 20555

Attention: Mr. Ashok C. Thadani, Director
PWR Project Directorate #8
Division of PWR Licensing - B

Subject: Calvert Cliffs Nuclear Power Plant
Units 1 and 2; Dockets No. 50-317 and 50-318
Request for Approval of BG&E RETRAN Topical Report A-85-11

Gentlemen:

In Generic Letter 83-11, "Licensee Qualification for Performing Safety Analyses in Support of Licensing Actions", the NRC acknowledged and encouraged the efforts of utilities to develop the capability to perform their own safety analyses using large, complex thermal-hydraulic computer codes. In that letter the NRC emphasized the importance of quality assurance as it pertains to code development, maintenance, and verification, and stated that licensees should demonstrate their proficiency in using the code by performing code verification in-house and submitting a report to the NRC for review.

During the past three years, Baltimore Gas and Electric Company has been developing a system transient analysis capability for the Calvert Cliffs Nuclear Power Plant using the RETRAN thermal-hydraulic computer code. Our goal is to establish an NRC-recognized capability to perform best-estimate simulation of primary and secondary fluid system responses to normal operational transients and anticipated operational occurrences. This capability will primarily be used to support our evaluations of proposed changes and revisions to operating procedures. To document our RETRAN analysis capability, we have developed the enclosed topical report, "RETRAN Computer Code Reactor System Transient Analysis Model Qualification (Topical Report No. A-85-11)", dated January 31, 1986.

Our program for development and verification of an in-house RETRAN capability began with an effort to independently simulate, for audit purposes, accident sequences that were being modeled for Calvert Cliffs by Los Alamos National Laboratory in connection with the NRC's program for resolving USI A-49, Pressurized Thermal Shock. A comparison was thus obtained between our RETRAN model and the Los Alamos TRAC model for several transients, including runaway main feedwater to one steam generator and cooldown to RHR entry with auxiliary pressurizer spray. Further model development and code verification was achieved and documented by comparing measured plant data obtained from five actual plant transients to simulations of those transients using RETRAN. Finally, the capability of RETRAN to model plant transient response was verified by comparison with experimental data for two tests from the NRC's Loss-of-Fluid Test (LOFT) program.

H. Bernard 2 2

Add: April 1/12

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January 31, 1986

In summary, the results of the code verification studies documented in Topical Report A-85-11 were derived from comparisons with another benchmarked best-estimate code, plant operational data, and experimental data. We believe Topical Report A-85-11 adequately demonstrates BG&E's capability to perform system transient analysis for Calvert Cliffs.

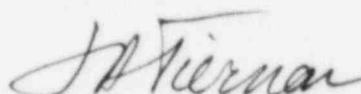
REQUEST FOR TOPICAL REPORT APPROVAL

Baltimore Gas and Electric Company hereby requests NRC approval of Topical Report A-85-11 for use in performing best-estimate transient analyses for the Calvert Cliffs Nuclear Power Plant. Twelve (12) copies of the report are herewith enclosed to facilitate your review.

FEE DETERMINATION

Persuant to 10 CFR 170.21, we are including BG&E Check No. 1902929 in the amount of \$20,000 to the NRC to cover the approval fee for this request.

Very truly yours,




J. A. Tiernan
Vice-President, Nuclear Energy

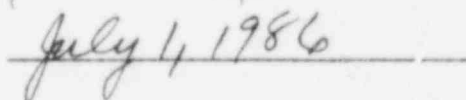
STATE OF MARYLAND :
 : TO WIT:
CITY OF BALTIMORE :

Joseph A. Tiernan, being duly sworn states that he is Vice President of the Baltimore Gas and Electric Company, a corporation of the State of Maryland; that he submits the foregoing request for the purposes therein set forth; that the statements made are true and correct to the best of his knowledge, information, and belief; and that he was authorized to submit the request on behalf of said Corporation.

WITNESS my Hand and Notarial Seal:


Notary Public

My Commission Expires:



JAT/BSM/dmk

Enclosure

cc: D. A. Brune, Esquire
J. E. Silberg, Esquire
D. H. Jaffe, NRC
T. Foley, NRC