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Constellation
Nuclear

Calvert Cliffs Nuclear Power Plant

A Member of the Constellation Energy Group

February 15, 2002

U. S. Nuclear Regulatory Commission Washington, DC 20555

- ATTENTION: Document Control Desk
- SUBJECT:Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
Notification of Use of GOTHIC Computer Code
- **REFERENCE:** (a) NRC Generic Letter 83-11, Supplement 1: Licensee Qualification for Performing Safety Analyses

Per guidelines provided in Nuclear Regulatory Commission (NRC) Generic Letter 83-11, Supplement 1 (Reference a), Calvert Cliffs Nuclear Power Plant (CCNPP) has implemented a change from the COPATTA computer code to the GOTHIC computer code to perform containment pressure and temperature analyses. This change has been evaluated under the requirements of 10 CFR 50.59 and was determined not to require NRC prior approval. This fulfills the Reference (a) requirement to inform the NRC of our change to the GOTHIC computer code. Documentation related to this change is available for NRC audit.

Generic Letter 83-11 details the regulatory expectations for eligible methods or codes, application procedures, training/personnel qualifications, benchmarking, quality assurance, and change control processes. Aside from providing direct guidance to the licensee on the requirements when establishing an in-house program, one significant note is that the NRC supplement also removes the requirement of licensee topical submission to the NRC. Below is a discussion of how the criteria in the generic letter supplement were met.

Eligibility: Nuclear Regulatory Commission has reviewed the submittals of several utilities and vendors and determined that the GOTHIC computer code is applicable to resolve containment response licensing issues. These include submittals by Duke Power, Entergy, and Westinghouse.

Application: Use of the GOTHIC computer code for containment analysis is consistent with the code qualifications and the NRC-approved application of the code. The code was used consistent with the Qualification Report and all appropriate technical guidance (i.e., Technical Manual, Users Manual, Installation and Operation Manual, etc.). An independent review of the analysis was performed.

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Training and Qualification of Licensee Personnel: Calvert Cliffs Nuclear Power Plant personnel have nearly a decade of experience with the GOTHIC computer code in resolving a variety of safety-related issues. In addition to excellent familiarity with the code, they have presented eight papers on the application of the GOTHIC computer code to GOTHIC advisory group meetings. Procedures have been developed for software quality assurance, verification, and validation of the code and the input data, as well as input file organization and training.

<u>Comparison Calculation</u>: A design calculation was prepared documenting extensive benchmarking of the GOTHIC computer code against the COPATTA codes for all limiting cases with excellent agreement, using identical inputs. In addition to the benchmark calculations, CCNPP personnel have modeled both Containment, and Reactor Coolant System-related cases and compared them with several other references, including Asea Brown Boveri, Inc. calculations and the plant simulator responses.

<u>Quality Assurance and Change Control</u>: All GOTHIC calculations have been developed under CCNPP's Quality Assurance Program.

Should you have questions regarding this matter, we will be pleased to discuss them with you.

Very truly yours,

CHC/GT/dlm

cc: R. S. Fleishman, Esquire J. E. Silberg, Esquire Director, Project Directorate I-1, NRC D. M. Skay, NRC H. J. Miller, NRC Resident Inspector, NRC R. I. McLean, DNR