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ELECTRIC ENGINEERING
DEPARTMENT

February 1, 1983

Director of Nuclear Reactor Regulation
Attention: Mr. R. A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Calvert Cliffs Nuclear Power Plant
Unit No. 1; Docket No. 50-317
Containment Tendon Surveillance Program

Gentlemen:

Enclosed for your information is one copy of the meeting minutes documenting the results of the meeting held at Bechtel's Gaithersburg office on December 2, 1982 to review the reanalysis of the Unit No. 1 containment building.

If you should have any questions, please contact us.

Very truly yours,

B. S. Montgomery
Engineer
Nuclear Licensing & Analysis Unit

BSM/smn
Enclosure

cc: Messrs. D. H. Jaffe, NRC (w/ encl)
N. D. Romney, NRC (w/ encl)
P. T. Kuo, NRC (w/ encl)

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CALVERT CLIFFS NUCLEAR POWER PLANT
UNITS 1 & 2
BALTIMORE GAS & ELECTRIC COMPANY
CONFERENCE NOTES #797

An engineering meeting was held on Wednesday, December 22, 1982 in the office of Bechtel Power Corporation, Gaithersburg, Md. with BG&E and the USNRC to discuss the subjects on the attached agenda.

Those in attendance were:

<u>USNRC</u>	<u>BG&E</u>	<u>Bechtel</u>
*D. H. Jaffe	*B. S. Montgomery	J. C. Ventura
N. D. Romney	M. Gahan	K. Y. Lee
P. T. Kuo		E. Thomas
		S. B. Daulat
		S. A. Close
		*M. Vogelfanger

*Part-time

The NRC opened the meeting with the following general comments:

1. The NRC feels that a review of the prestressing calculations would be the most expeditious way to close out the third year surveillance report review.
2. The purpose of the meeting would be for review and not a formal audit. There would be no published findings.
3. BG&E could stop the review if items came up other than those specified on the agenda.

Item 1

The use of the elastic moduli (E) for concrete at various stages of design development was discussed in detail. The sources of the E values used in the FSAR, original calculations, and re-evaluation were described. It was noted that the original design was not based on any testing or measurements as suggested by the agenda question. The NRC was satisfied with the use of the moduli of elasticity for the containment prestressing evaluation and now considers this item closed.

Item 2

Bechtel stated that both the design pressure and FSAR load combinations have been consistent throughout the design development of the containment prestress system. The only change which was made in the third year report was a minor adjustment in the prestress force which reflects the best and most current information. The NRC thought that the factor 1.5P was deleted from the load combinations. This was not correct. All load combinations for both original and the reanalysis were the same. The NRC was satisfied with this response and considers this item closed.

Item 3

The following document was reviewed in detail by the NRC.

"Studies of Concrete for Calvert Cliffs Nuclear Containment Vessel - 1½ inch Maximum Size Aggregate - Final Report" by David Pirtz, University of California at Berkley, August 19, 1971.

Upon completion of this review the NRC concluded that the actual construction design mix and mix used in the testing by Dr. Pirtz were comparable. A slight modification was made in the water content but cylinder tests for the construction and University of California laboratory tests were consistent. The NRC concluded that this item was closed.

Item 4

A detailed description of the design development of the prestressing system was presented by Bechtel. The discussion included items such as:

1. Values of the elastic moduli used in the original and re-analysis.
2. Description of prestress loss calculations and required prestress level at 40 years.
3. Description of the design margin which has been provided.
4. Consistency in the design criteria and specifications throughout the various phases of design development.

The NRC was satisfied with the discussion and now considers this item closed.

Conclusion

Following the review, the NRC was confident in the final design acceptability of the Calvert Cliffs containment and will be closing out the third year surveillance report upon completion of their Safety Evaluation Report (SER) preparation.