

SEP 3 1982

DCS-MS-016

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Docket Nos. 50-317
and 50-318

Mr. A. E. Lundvall, Jr.
 Vice President-Supply
 Baltimore Gas & Electric Company
 P. O. Box 1475
 Baltimore, Maryland 21203

Dear Mr. Lundvall:

By letters dated December 30, 1980 and August 31, 1982, you responded to the requirements of Item III.D.3.4 of NUREG-0737 regarding control room habitability for Calvert Cliffs Units 1 and 2. Our review of your submittals shows that you have adequately responded to NUREG-0737, Item III.D.3.4, and therefore we find your response acceptable. Our conclusion is predicated on your commitment to install a control room shield wall as described in Attachment 2 to your letter of December 30, 1980. Mr. M. Patterson, representing BG&E, indicated that the appropriate modification has been completed.

We consider this issued resolved, pending post implementation review by NRC, Region I. Our Safety Evaluation Report is enclosed.

Sincerely,

Original signed by
 Robert A. Clark

Robert A. Clark, Chief
 Operating Reactors Branch #3
 Division of Licensing

Enclosure:

1. Safety Evaluation Report

cc: See next page

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DATE	9/3/82	9/3/82	9/3/82	9/3/82	9/3/82	

Baltimore Gas and Electric Company

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF
NUCLEAR REACTOR REGULATION

CALVERT CLIFFS NUCLEAR POWER PLANT UNITS 1 and 2

DOCKET NOS. 50-317 AND 50-318

"CONTROL ROOM HABITABILITY"

Position

In accordance with Task Action Plan Item III.D.3.4, "Control Room Habitability," licensees shall assure that control room operators will be adequately protected against the effects of accidental release of toxic and radioactive gases and that the nuclear power plant can be safely operated or shut down under design basis accident conditions (Criterion 19, "Control Room," of Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50).

Staff Evaluation

In response to the requirements of the Task Action Plan (NUREG-0737), the licensee submitted a response to Item III.D.3.4 dated December 30, 1980. Additional information was submitted by letter dated August 27, 1982 in response to our request dated June 24, 1982. Under contract to the NRC, Pacific Northwest Laboratories (PNL) evaluated the information provided by the licensee against the guidance and requirements of Standard Review Plan Sections 2.2.1, 2.2.2, 2.2.3 and 6.4, and Regulatory Guides 1.78 and 1.95. In its submittal, the licensee committed to install a control room shield wall as identified in the attached PNL Letter report on Calvert Cliffs Units 1 and 2.

In addition to those actions proposed by the licensee, PNL recommended that the licensee perform the following additional measures:

- (1) Provide additional self-contained breathing apparatus (SCBA) units for the control room personnel sufficient to meet the guidance contained in Regulatory Guide 1.78,
- (2) Provide redundant dampers in the air intake and exhaust duct works which have direct access to the atmosphere, and
- (3) Apply a more conservative (larger infiltration leak rate) in determining the doses for the recirculation mode of control room ventilation operation.

With respect to Item (3) above, the licensee assumed 19 cfm unfiltered inleakage for the calculation of the radiation dose from airborne radioactivity. The staff has reviewed this concern and notes that Section III.A.8 of the licensee submittal of December 30, 1980 states:

"The control room is completely enclosed; there is no access to the control room from the auxiliary building. Also, double doors isolate the control room from the turbine building. Consequently, no additional in-leakage is assumed."

Based on the above, the staff concludes that the licensee's use of 19 cfm un-filtered inleakage is acceptable.

Items (2) and (3) were addressed in the licensee's letter of August 27, 1982 as follows:

- (1) Redundant dampers in the control room air intake and discharge provide positive isolation when the control room is in the recirculation mode. The control room smoke removal system has single dampers (one damper per path) that are normally closed and provide positive isolation. We conclude that the use of single dampers is sufficient for the smoke removal system. A second potential leakage path is associated with the control room kitchen air exhaust. While this duct has only a single damper, we conclude that the duct size is sufficiently small (12" x 8") so as to not represent a significant leakage path. Accordingly, the use of a single damper in this duct is sufficient.
- (2) The licensee has stated that sufficient SCBAs are available to the control room personnel to meet the requirements of Regulatory Guide 1.78. We find, therefore, that sufficient SCBA units are available to control room personnel and that the licensee should maintain this supply to meet the requirements of Regulatory Guide 1.78.

Conclusions

In reaching its conclusions, the staff reviewed the PNL findings as well as the licensee submittals in accordance with NUREG-0737. Based upon the staff reviews and the implementation of the licensee's commitments as discussed above and in the attached PNL letter, the staff concludes that the control room habitability systems are acceptable. The staff finds that the systems will provide safe, habitable conditions within the control room under both normal and accident radiation and toxic gas conditions, including loss-of-coolant accidents. The staff also concludes that occupancy can be maintained under accident conditions without personnel receiving radiation exposures in excess of 5 rem whole body, or its equivalent to any part of the body, for the duration of an accident. Therefore, with the inclusion of the previously identified modification, the control room design meets the criteria identified in Item No. III.D.3.4, "Control Room Habitability" of NUREG-0737 and is acceptable.

Attachment:
PNL Letter Report
dated March 30, 1982

Principal Contributors:
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