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March 30, 1982

L. G. Hulman, Chief
 Accident Evaluation Branch
 Division of Systems Integration
 Office of Nuclear Reactor Regulation
 U.S. Nuclear Regulatory Commission
 Washington, D.C. 20555



Dear Mr. Hulman:

FIN NO. B2323
 TMI ACTION PLAN: III.D.3.4
 CONTROL ROOM HABITABILITY EVALUATION
 CALVERT CLIFFS NUCLEAR POWER PLANT UNITS 1 & 2
 BALTIMORE GAS & ELECTRIC
 DOCKET NO. 50-317/318

Based upon PNL review of the information submitted by the licensee in response to NUREG-0660, NUREG-0737, and other NRC Guidance, the control room meets the requirements of SRP 2.2.1 - 2.2.2, 2.2.3, and 6.4; and, therefore, meets the requirements of General Design Criteria (GDC) 4, 5, and 19. The conclusions are based on the present plant system, implementation of modifications addressed by the licensee, and incorporation of the recommendations of this evaluation.

The licensee calculated radiation doses to the control room operators are within GDC 19 guidelines. In the December 30, 1980 submittal, the licensee stated that to ensure the external exposures are maintained below GDC-19 guidelines, "A new shield wall is being added (following a shielding analysis per NUREG-0578) to prevent any streaming through the pipe chase into the control room from below." The assumptions used for calculating the radiation dose from airborne radioactivity identified 19 cfm of unfiltered air inleakage. The licensee does not test the leakage into the control room. Therefore, a more conservative infiltration leak rate should be used in determining the doses during the recirculation mode. Additionally, the licensee needs to ensure that redundant dampers are placed in the air intake and exhaust ductworks which have direct access to the atmosphere.

The toxic chemical and gas analysis performed for the licensee indicated that the Calvert Cliffs plant would be habitable in the event of an accidental release of the hazardous and toxic gases and chemicals identified. Although this submittal indicates that no hazard exists, the licensee should consider placing sufficient self-contained breathing apparatus (SCBA) in the control room to satisfy the intent of Reg. Guide 1.78.

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Based on this submittal, implementation of the licensee's modifications, and incorporation of the above recommendations, we conclude that the control room habitability systems will provide safe, habitable conditions within the control room under both normal and accident conditions, including loss-of-coolant accidents, and that occupancy can be maintained under accident conditions. Therefore, the program meets the criteria identified in Item No. III.D.3.4, "Control Room Habitability" of NUREG-0737 and is, therefore, acceptable.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "D. W. Murphy", is written over a horizontal line.

D. W. Murphy, Ph.D.
Senior Research Scientist
Dosimetry Technology Section

DWM/jkr

cc: H.E.P. Krug, NRC
T.R. Quay, NRC