BALTIMORE
GAS AND
ELECTRIC

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

ELECTRIC ENGINEERING
DEPARTMENT

December 22, 1983

The Regional Administrator
U.S. NRC Region 1
631 Park Avenue
King of Prussia, PA 19406

Dear Sir:

Subject: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 and 2
License Nos. DPR-53 and 69
Nonroutine Radiological Environmental
Operation Report

This report is submitted in compliance with the requirements of Appendix B Environmental Technical Specification Section 5.6.2.b.

Oyster samples were collected during November, 1983 from the Camp Conoy sampling location, and analyzed for gamma-emitting radionuclides as required. The results of the analyses showed the presence of Ag-110m with a concentration of 125 $\pm$ 7 pCi/Kg(wet). The oyster samples collected during the same period from the Kenwood Beach sampling location (the background location) showed a Ag-110m concentration of $\leq$ 9 pCi/Kg(wet).

The release rate of radioactive effluents during the period of interest was well within the allowable release limit specified in the Environmental Technical Specification (ETS) Section 2.3 Liquid Effluents, Specification A.7. The maximum concentration of Ag-110m, in the effluent prior to discharge into the Bay, was a small fraction of the limit specified in 10 CFR Part 20, Appendix B, for unrestricted areas.

Oysters have a natural tendency to highly bioccncentrate environmental silver. As a result of this bioconcentration, oyster muscle tissue show radioactive silver as observed in samples collected during 1983. These levels are reportable on the basis of the Calvert Cliffs ETS exceedance criterion which is "ten times the background", where "background" is the "minimum detectable concentration" in the control sample.

IE23
1/0

For the period of interest in 1983, the monthly percent capacity factors for both Units were as follows:

Period	Unit 1	Unit 2
Nov. 1983	0	79.21%

The Calvert Cliffs Unit 1 was shut down on October 1, 1983 for planned maintenance work; namely, a general inspection/maintenance and refueling. Following completion of this planned maintenance work, Unit 1 is expected to be brought back on-line by early January, 1984.

The processed radwaste, from the combined waste processing system for Units 1 and 2, was released into the circulating water prior to discharge into the Bay. The radwaste may be released at a design rate that can range from 10 GPM to a maximum of 120 GPM. In practice, the releases are made at a predetermined rate depending upon the measured concentration of radionuclides in the radwaste, the ETS limits, as well as the established ALARA objectives. Using the circulating-water-pump data for the period of interest, it is estimated that at the maximum release rate, the radwaste concentration is decreased at least by a factor of about 1×10^{4} prior to discharge into the Bay.

Based on the Ag-110m concentration observed in oyster samples, the potential total dose commitment to the GI-Tract and the Whole Body of a maximum exposed individual (with the consumption rate of 5 kilogram/year and the dose conversion factors as recommended in Reg. Guide 1.109, Rev. 1, October 1977) is estimated at less than 0.04 mrem and less than 0.6×10^{-4} mrem, respectively.

These doses are small fractions (the total potential dose is less than 0.2%) of the permissible limit of 25 mrem/year to members of the general public as set forth in 40 CFR Part 190 "Environmental Radiation Protection Standards for Nuclear Power Operations", and are therefore considered to be of insignificant consequence to the health and safety of the public.

Very truly yours,

Gary R. Fuhrman

Gary R. Fuhrman, Director
Environmental Programs

GRF/few

cc: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. Randy A. Roig
Power Plant Siting Program
State of Maryland

Mr. R. E. Architzel
NRC Resident Inspector
Calvert Cliffs