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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
Comments on Resolution of Spent Fuel Storage Pool Safety Issues (TAC Nos. M96516 and M96517)

REFERENCES: (a) Letter to Mr. C. H. Cruse (BGE) from Mr. A. W. Dromerick (NRC), dated September 18, 1996, Resolution of Spent Fuel Storage Pool Safety Issues: Issuance of Final Staff Report and Notification of Staff Plans to Perform Plant-Specific, Safety Enhancement Backfit Analyses, Calvert Cliffs Nuclear Power Plant, Units 1 and 2 (TAC Nos. M96516 and M96517)

The Baltimore Gas and Electric Company is pleased to provide comments on the safety issues regarding the Spent Fuel Storage Pool. We support the efforts of the Nuclear Regulatory Commission to ensure that problems in cooling Spent Fuel Pools do not adversely affect operating reactors.

In the Plan for Resolving Spent Fuel Pool Action Plan Issues (an attachment to Reference a), Calvert Cliffs was identified as having Spent Fuel Pool systems and structures common to both units. While this is true, the effect of this configuration on the shut down of the operating unit is not as depicted in Reference (a). The attachment to Reference (a) states that this commonality creates three areas of concern.

1. **Concern**

   If the fuel for one unit is completely loaded into the Spent Fuel Pool, and cooling for the pool was lost as a result of a loss-of-coolant accident or a loss of offsite power, the decay heat rate could be sufficiently high that the pool could reach boiling in a short period of time. This situation is predicated on the assumption that the reactor being offloaded has been shut down for a short time after extended operation.

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Response

Calvert Cliffs does have a Spent Fuel Pool designated for each unit and the pools are in a common room. However, this arrangement does not create the situation and concerns described above. The two Spent Fuel Pools are not isolated from each other and, therefore, the water is free to circulate between the pools, a condition which exists in fact, but is not considered in design calculations. The normal lineup for Spent Fuel Pool cooling is to take water from one pool, pass it through a heat exchanger, and return it to the other pool. Since the water freely flows from one pool to the other, we are able to keep both pools cool with a single train of cooling, even when a full core is offloaded from one unit. Connecting the pools also creates a heat sink much larger than if fuel was offloaded into a single pool, and extends the time to boiling if cooling is lost. We have a reliable, redundant cooling system with each train powered by an emergency diesel generator. The diesel generator would supply power to the Spent Fuel Pool Cooling System within an hour following a loss of offsite power, therefore, we do not consider that boiling in the pool would be a problem at Calvert Cliffs.

2. **Concern**

Assuming that the situation in Concern 1 exists, the ventilation system for the Spent Fuel Pool area would carry the moisture-laden air to areas housing equipment important to bringing the operating unit to, and maintaining it in, a safe shutdown condition and disable that equipment.

Response

The Spent Fuel Pool has a dedicated ventilation system which takes air fro[illegible] the pool area and exhausts it outside the building through the main vent stack. Therefore, be[illegible]se the vent ducting only goes between these two points and does not open into any other roo[illegible] or spaces, moisture removed from the Spent Fuel Pool area will not impact any equipment [illegible]rtant to the operating reactor.

3. **Concern**

Assuming that the situation in Concern 1 exists, the moisture-laden air could disable equipment important to bringing the operating unit to, and maintaining it in, a safe shutdown condition through migration past non-airtight doors.

Response

The only spaces connecting to the Spent Fuel Pool area that contain equipment important to the safety of the operating unit are two motor control center (MCC) rooms. These rooms have doors which are normally shut, but are not airtight, and contain controls for some equipment important to bringing a reactor to a safe shutdown condition and maintaining it there. The motive force that would move large amounts of moisture from one room to another past a closed door is a difference in pressure between the rooms caused by the ventilation system. A loss-of-coolant accident by itself will not affect Spent Fuel Pool cooling or ventilation in the Spent Fuel Pool area. The Spent Fuel Pool ventilation creates a lower negative pressure in the Spent Fuel Pool area than in the MCC rooms and, therefore, airflow is from the MCC rooms to the Spent Fuel Pool area. A loss of offsite power would stop all ventilation at the same time it caused a loss of Spent Fuel Pool cooling; therefore, there would be no pressure difference between the Spent Fuel Pool area and the

MCC rooms, and no air exchange. When power is regained and the ventilation turned on, the Spent Fuel Pool area will be at a more negative pressure, therefore the moisture will not enter the MCC rooms. However, should moisture-laden air enter the MCC rooms on the Spent Fuel Pool level in a quantity great enough to be a concern, the MCCs are rated to 95% humidity, and no damage would be anticipated. Should the MCCs on this level become disabled by the moisture, there are redundant MCCs in rooms on the floor below, which would not be affected by moisture from the Spent Fuel Pool, and would serve redundant safe shutdown equipment.

In summary, the Calvert Cliffs Spent Fuel Pools are not subject to rapid heatup because the pools are interconnected and form a large heat sink. If the pools should heat up and release moisture to the atmosphere, the ventilation system would take the moisture directly outside via the main plant vent. Negative pressure created by the ventilation system in the Spent Fuel Pool area would prevent moisture-laden air from going past non-airtight doors and affecting the MCCs in rooms on the Spent Fuel Pool level. Should moisture enter those rooms, the design of the MCCs and redundant MCCs in other rooms give adequate protection for bringing a reactor to safe shutdown condition and maintaining it there. Therefore, we feel that the Spent Fuel Pool situation at Calvert Cliffs Nuclear Power Plant has been inaccurately described in Reference (a), and request that this plant be removed from the list of plants with problems in this area.

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

Very truly yours,

P. E. Katz

for
C. H. Cruse
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CHC/EMT/dlm

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