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

NOV 29 1979

MEMORANDUM FOR: R. Reid, Chief, Operating Reactors Branch #4, DOR

FROM: G. Lainas, Chief, Plant Systems Branch, DOR

SUBJECT: FIRE PROTECTION - CALVERT CLIFFS 1 AND 2 - TEST PROCEDURES TO QUALIFY CABLE AND PIPE PENETRATIONS

Facility: Calvert Cliffs Nuclear Power Plant
Licensee: Baltimore Gas and Electric Company
Docket Nos.: 50-317 and 50-318
Responsible Branch: ORB#4
Project Manager: E. Conner
Reviewing Branch: PSB
Status: SER issued. Evaluation of Incomplete Items ongoing.

By memorandum dated October 17, 1979, we presented our comments on the subject test procedures entitled "Test to Qualify Cable and Pipe Penetrations on Fire Walls and Floors for Calvert Cliffs Nuclear Power Plant." At a meeting on November 14, 1979, these comments were discussed with the licensee. Subsequent to this discussion, we have concluded that the portion of this test associated with demonstrating that silicone rubber insulated, glass braid covered and asbestos braid jacketed cables installed inside steel conduit can perform their functions during and after a severe fire will not give reasonable assurance that shutdown capability would be maintained during a real fire.

Although, the licensee is attempting to design a realistic conservative test, we believe the following issues will not be resolved by such a test:

a) Whether offgassing from the enclosed cable will cause the loss of function of connected electrical equipment;

b) Whether differential movement of conductors and conduit during a real fire can cause loss of function;

c) Whether water from fire fighting activities will cause loss of function;

d) Whether mechanical damage from fire fighting or post fire repair activities will cause loss of function;

e) Whether performance characteristics during the fire can be accurately simulated;

f) Whether the post fire service life can be predicted; and

g) Whether there is some factor not yet identified that would play a significant adverse role during a real fire.

We have no objection to the performance of the test to obtain additional information on the capability of this cable, however, the final in-plant installation should provide additional margin. We will require the licensee to enclose one division of safe shutdown cables in 3-hour fire barrier (or lower rating if it can be justified) in all areas containing both divisions of safe shutdown cables unless alternate means to shutdown the plant exists independent of cabling in the area.

G. Lainas, Chief
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