THE CLEVELAND ELECTRIC ILLUMINATING COMPANY
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Dalwyn R. Davidson
VICE PRESIDENT
SYSTEM ENGINEERING AND CONSTRUCTION

January 20, 1982

Mr. James G. Keppler,
Director, Region III
Office of Inspection and Enforcement
799 Roosevelt Road
Glen Ellyn, Illinois 60137

RE: Perry Nuclear Power Plant Docket Nos. 50-440, 50-441; Final Report on Rockbestos Coaxial Cable, Series R55-6-100 through R55-6-112 (RDC 35(81))

Dear Mr. Keppler:

This letter serves as a final report pursuant to 10CFR50.55(e) concerning potential failure of solid dielectric coaxial cable supplied by The Rockbestos Company. Initial notification relative to this report was made to Mr. Leonard McGregor of your office by Mr. William Kacer of The Cleveland Electric Illuminating Company (CEI) on August 20, 1981. An interim report was later submitted to you by CEI, in a letter dated September 18, 1981.

DESCRIPTION OF DEFICIENCY

The Rockbestos Company is supplying Class IE coaxial cable with both solid and cellular dielectric construction for use at the Perry Nuclear Power Plant. The report addresses a deficiency pertinent only to coaxial cable with solid dielectric construction - Rockbestos series R55-6-100 through R55-6-112.

The failure of this type coaxial cable was first identified by a Rockbestos customer during a laboratory test. Through subsequent testing and evaluation, Rockbestos determined that thermal expansion of the braided shield, solid dielectric and insulated conductor caused intermittent buckling and kinking of the cable at temperatures of 230°F and above.

Further, the high temperature and kinking resulted in thermal stress cracking of the conductor insulation potentially allowing the conductor to make contact with the cable shield creating a short circuit.

ANALYSIS OF SAFETY IMPLICATIONS

The Rockbestos solid dielectric cable is intended for use as Class IE instrumentation cable at the Perry Nuclear Power Plant. During an accident condition, the cable could be subjected to temperatures equal to or exceeding the temperature at which laboratory failure has been reported. Postulated subsequent failure of this cable could result in loss of essential containment monitoring capability.

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CORRECTIVE ACTION

After receipt of notification that Rockbestos was investigating a reported Laboratory test failure on their RSS-6-104 coaxial cable, initial actions were taken. These actions included verification that none of the type RSS series 100 cable had been released for installation, and initiation of Nonconformance Report P033-0079 to document the indeterminate qualification status. Following notification by Rockbestos that their series 100 coaxial cable will not meet class IE requirements in a high temperature accident condition, all cable of this type was dispositioned "scrap".

Any replacement coaxial cable intended for Class IE application at the Perry Nuclear Power Plant will be qualified in accordance with the requirements of IEEE 323 and 383.

Very truly yours,

Dalwyn R. Davidson

Dalwyn R. Davidson,
Vice President-System Engineering
and Construction

DRD/ap

cc: NRC Site Office

Director,
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

U. S. Nuclear Regulatory Commission
c/o Document Management Branch
Washington, D.C. 20555