

ILLINOIS POWER COMPANY



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CLINTON POWER STATION, P.O. BOX 678, CLINTON, ILLINOIS 61727

November 1, 1985

Docket No. 50-461

Director of Nuclear Reactor Regulation
Attn: Mr. W. R. Butler, Chief
Licensing Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: Clinton Power Station Unit 1
Justification for Use of Other
Than Rigid Steel Conduit

Dear Mr. Butler:

The purpose of this letter is to clarify what types of conduit are used at Clinton Power Station (CPS). Most of the conduit used at CPS is heavy wall steel. The other types of conduit used are: electrical metallic tubing (EMT) conduit, aluminum conduit, and transite sleeves. The justification for each type of conduit and the internal sealing method used in fire rated barriers follows:

1. Transite sleeves are used in two penetrations only. These are located in the Division 3 battery room fire wall. Transite is a mixture of asbestos and a cement-like binder, which forms an excellent fire-proofing agent. Transite does not support combustion when tested as asbestos cement boards to the Underwriters Laboratories (UL) 723 "Test for Surface Burning Characteristics of Building Materials". It has a zero flame spread and zero smoke developed rating. The size of these sleeves is 4 inch and the wall thickness is 0.30 inch. These two penetrations will be internally sealed at the fire barrier with BISCO SF-60 fire sealant. Based on the fire resistant properties of Transite, the rating of the BISCO penetration seal will not be degraded and therefore we believe that the fire barrier should be acceptable.
2. Aluminum conduit is used in only 15 penetrations. The conduit sizes are 2, 3, and 4 inch Schedule 40.

This conduit will be internally sealed at the nearest access point on both sides away from the barrier.
BISCO Fire Test Report 748-195, dated June 24, 1985,

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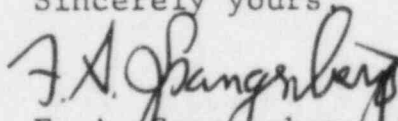
indicates that aluminum conduit sealed internally with BISCO SF-60 on both sides of the barrier can withstand an ASTM E-119 3-hour fire.

There are also two flexible aluminum conduit penetrations. These will be changed to rigid aluminum conduit penetrations and internally sealed with BISCO SF-60 material at the barrier.

3. Electrical metallic tubing (EMT), also known as thin wall conduit, is used in the plant for routing of communications, lighting and fire detection circuits. Most conduit used for this application is 3/4 inch diameter (0.049 inch thickness). The Underwriters Laboratories Building Materials Directory, January, 1985, lists UL approved firestop systems using EMT conduit 4 inch and smaller (i.e. System No. 83, Page 748). The EMT conduit is shown not sealed at the barrier. In the tested configuration, however, the EMT was capped on both sides of the barrier. At CPS EMT conduit will be sealed internally with BISCO fire sealant, such as SF-20, SF-60, SF-150NH, at the nearest access point on both sides of the penetration. It is Illinois Power Company's position that the use of the sealed EMT conduit will not degrade the level of protection required of the fire barrier based on the following:
 - a) EMT without internal fire seals is listed in UL's "Building Material Directory" under approved firestop systems as System No. 83.
 - b) CPS will seal EMT conduit with BISCO fire sealant in a configuration similar to that of BISCO Fire Test Report 748-195 performed on aluminum.
 - c) EMT melting point is 2700°F, which is much greater than aluminum's 1200°F.

Illinois Power Company considers the use of aluminum, transite, and EMT conduits to be acceptable based on the justifications given above. If you need any further information, please advise.

Sincerely yours



F. A. Spangenberg, Manager
Licensing and Safety

DWW/OV/jb

cc: B. L. Siegel, NRC Clinton Licensing Project Manager
NRC Resident Office
Regional Administrator, Region III US NRC
Illinois Department of Nuclear Safety