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January 12, 1983

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Mr. W. C. Seidle, Chief
Reactor Project Branch #2
U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, TX 76011

SUBJECT: Arkansas Nuclear One - Units 1 & 2
Docket Nos. 50-313 and 50-368
License Nos. DPR-51 and NPF-6
Supplemental Response to Notice
of Violation and Deviation

Gentlemen:

Please refer to your letter on this subject dated November 12, 1982, in which you requested additional information providing details of how we concluded that the electrical conduit penetration of fire door frames, when sealed, provides protection at least equivalent to that required of the fire barriers.

We have reviewed fire rating practices and industry guidelines/standards such as ASTM E152, NFPA803, 251, and 252. Based on the results of this review, it is our judgement that conduit penetrations such as those in the door frames at ANO do not significantly affect the fire resistance ability of the door assemblies. In fact, we do not see significant difference between these penetrations and other penetrations through fire walls. In this respect, the procedures are essentially the same.

As for the door assemblies, they are rated in hours according to their ability to withstand a standard fire test, such as that described in ASTM E152 (no significant differences between other standards). That test requires a fire door to remain in its opening throughout the performance of the test without exceeding allowable movements or distortions at the door edges or latch location and without developing openings through the assembly. Although such testing for our particular case at hand has not been done, it is our engineering judgement a closed end rigid metal conduit penetrating the frame (not the door) in the quantity and locations at ANO will not cause a door to fail the ASTM E152 test and will not affect its performance with respect to fire resistance.

Concerning sealing of these penetrations, we have applied a non-shrink grout to the small opening around the 3/4-inch nominal diameter conduit on both sides of the door frame (drilled holes are approximately 1-inch diameter). This grout will serve to prevent the passage of hot gases, smoke, and flames from one side to the other. The grout is a typical high compressive type used at ANO for grouting around such items as wall pipe penetrations. As stated earlier, we consider this case, for all practical purposes, the same as a wall penetration. Therefore, the seal should be the same.

The fire door assemblies are approved by Underwriters' Laboratories (U.L.) for installation with or without grout filling of the frame. It is our information that the need for grouting (for this application) is an optior for the user to determine based upon the assembly stability required when installed. However, the presence, or not, of grouting in this area does not detract from the U.L. rating. We have made the obvious conclusion, therefore, that where the door frames are hollow as installed, only the openings at the conduit penetration (on both sides of the frame) need to be sealed. However, where the door frames have been filled for purposes of stability, the penetration must be sealed the full depth of the penetration.

We believe such a judgement is completely within our responsibility and, in this case, is entirely satisfactory and applicable. We have included for your review Specification CRD-C 588 for nonshrink grout, Specification C-2406 for application of the grout, and prints of drawings A-2508, A-2521 (SHT.1), and A-307 (SHT.1) which show typical sealing details of penetrations.

Also in your November 12, 1982, letter you referenced our telephone conversation of November 4, 1982, in which we requested to provide supplemental information concerning fire door 259. That information is provided as follows.

Fire door 259 does have conduit penetrating the door frame. Those penetrations have been sealed, and final inspection of the seals was performed on July 27, 1982.

Very truly yours,

John R. Marshall

John R. Marshall
Manager, Licensing

JRM:LVP:sl

Attachments