Central Mail

Consumers Power Company

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Mr J G Keppler, Regional Director
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Region III
799 Roosevelt Road
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MIDLAND PROJECT
DOCKET NO 50-329, 50-330
IE BULLETIN 77-07
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IE Bulletin 77-07 requested that Consumers Power Company conduct an investigation into the use of containment electrical penetrations used in safety related systems and respond to Items 1.0 through 3.2 of the above bulletin. Our response keyed to your item numbers follows:

1.0 We plan to use containment electrical penetrations that are similar to the General Electric Series 100, in that they depend upon a glass-filled epoxy sealant and a dry nitrogen pressure environment to ensure that the electrical and pressure characteristics are maintained to preserve functional capability as required by the plant's safety analysis report. The manufacturer of the penetrations is Bunker Ramo Corporation, Amphenol SAMS Division, Chatsworth, California. The Amphenol model number for the type of assemblies that will be supplied is 50013093.

1.1 Not applicable, see 1.0 above.

1.2 The transition connector pins or feed-through conductors that are embedded in the epoxy material are uninsulated. These feed-throughs are specially crimped to insulated conductors which are in turn terminated at connectors or terminal blocks provided for external cable connection. Additional potting of epoxy material is provided around the crimped connections primarily to provide mechanical stress relief for the crimp connection.

2.0 The manufacturer will pressurize each penetration assembly with dry nitrogen prior to shipment to a maximum pressure of 100 psig. A positive pressure will be maintained during shipping, storage, and installation.

3.0 There is a need, as determined by the vendor, to maintain a positive pressure in the penetration sealing cavity during normal operation to assure functionability during a LOCA.

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3.1 The penetration assemblies will be qualified through prototype testing which will simulate LOCA environmental conditions. The testing program will comply with IEEE Std 317-1972/RG 1.63 dated 10/73 and IEEE Std 323-1974/RG 1.89 dated 11/74. The environmental test plan is described in the Midland FSAR, Table 3.11-4, Qualification Test 10.

A quality assurance program, meeting the requirements of Appendix B to 10 CFR Part 50, is implemented in the design, construction and testing of the penetration assemblies.

3.2 The vendor's quality assurance and qualification test programs, implemented to verify the penetration assemblies' ability to perform their design function under LOCA conditions, adequately satisfy applicable NRC regulations.

SHH/jbg

CC: Director, NRC Office of Inspection & Enforcement
Director of Nuclear Reactor Regulation