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June 28, 2000

U.S. Nuclear Regulatory Commission  
ATTN: Mr. L. A. Reyes  
Regional Administrator, Region II  
Atlanta Federal Center  
61 Forsyth Street, SW Suite 23T85  
Atlanta, GA 30303-3415

Subject: Duke Energy Corporation  
Catawba Nuclear Station - Units 1 & 2  
Docket Nos. 50-413, 50-414  
McGuire Nuclear Station - Units 1 & 2  
Docket Nos. 50-369, 50-370  
Oconee Nuclear Station- Units 1, 2, & 3  
Docket Nos. 50-269, 50-270, 50-287  
Fire Barrier Penetration Seal Analysis

Reference: Letter, from M. S. Tuckman, Duke Energy Corporation  
to L. A. Reyes, U.S. Nuclear Regulatory Commission,  
dated August 4, 1998, re: Fire Barrier Penetration  
Seals

Dear Mr. Reyes:

This letter transmits the results of Duke Energy Corporation's  
Fire Barrier Penetration Seal Analysis. This information is  
being submitted to update the Region on actions being taken to  
address fire barrier penetration seal deficiencies, as described  
in the referenced letter. The following documents are attached:

1. Duke Engineering & Services Co. Document NO. 0003-23-0084-  
F16-005, "Duke Power Cure Time Fire Test Analysis"
2. Omega Point Laboratories, Project NO. 14980-106206,  
"Experimental Penetration Seal Fire Resistance Test"

The Omega Point Laboratories Report pertains to a 3-hour fire  
resistance evaluation of 14 different fire barrier penetration  
seal designs. It includes a description of the experimental fire  
test and the results. The Duke Engineering & Services Co.  
document contains a detailed analysis of performance of each  
penetration seal assembly and an in-depth failure modes analysis

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of the experimental penetration seals that did not meet the acceptance criteria.

A summary of the results is as follows:

- For small repairs, such as repenetrating to install additional cables, penetration seals can be declared operable 30 minutes after completing the installation.
- Silicone foam with non-optimal cell structure performs similar to silicone foam with optimal cell structure.
- For the Duke Energy seal configurations, sleeve extensions beyond the barrier surface must have damming board mechanically fastened.
- In addition, the experimental test was conducted at positive furnace pressure. The subsequent failure analysis developed a correlation between furnace pressure and the char rate of silicone foam.

There are no commitments in this submittal.

Please contact Doug Brandes at (704) 382-2933 if there are any questions on this information.

Sincerely,



M. S. Tuckman  
Senior Vice President, Nuclear Generation

Attachments

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xc: (w/ attachments)

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Attention: Document Control Desk

Washington, DC 20555-0001

(w/o attachments)

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bcc: (w/o attachments)

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