



# VERMONT YANKEE NUCLEAR POWER CORPORATION

SEVENTY SEVEN GROVE STREET  
RUTLAND, VERMONT 05701

B.3.2.1  
WVY 80-172

REPLY TO:

ENGINEERING OFFICE

TURNPIKE ROAD

WESTBORO, MASSACHUSETTS 01581

TELEPHONE 617-366-9011

December 19, 1980

United States Nuclear Regulatory Commission  
Washington, D.C. 20555

Attention: Office of Nuclear Reactor Regulation  
Thomas A. Ippolito, Chief  
Operating Reactors Branch #2  
Division of Licensing

References: (a) License No. DPR-28 (Docket No. 50-271)  
(b) USNRC Letter dated January 13, 1978, Amendment 43  
to Facility Operating License

Dear Sir:

Subject: Fire Barrier Penetration Seals

This letter is intended to respond to the two letters you recently received from the Chemtrol Corporation. These letters allege a potential problem with the fire barrier penetration seals that they installed at Vermont Yankee. Chemtrol raised the concern that our seals might be rated for only one and one half hours instead of the required three hours. An investigation is underway to assess the acceptability of our seals. The major areas of investigation and current status of these investigations are as follows:

A. Penetration Inspection

As noted in the second Chemtrol letter, approximately 27 percent of the seals at Vermont Yankee are involved. Of that amount, approximately 80 percent are in the wall separating the Reactor Building from the Switchgear Room and Cable Spreading Room in the Control Building. All areas containing the potentially defective seals have been inspected with particular attention paid to the areas with the largest number of seals. This inspection was done by an NRC Inspection and Enforcement Inspector, the Vermont Yankee Resident Inspector, and the Yankee Nuclear Services Division fire protection engineer. The assessment of the

P

8012230 192

U.S. States Nuclear Regulatory Commission  
December 19, 1980  
Page 2

investigation was that no immediate action was required other than a close control of transient fire loading in those areas containing the largest amount of potential problem seals, the Switchgear Room, Cable Spreading Room, and the major Reactor Building Penetration Area.

B. Review of Existing Test Data

Chemtrol's test methods and data are being compared to those of GE (manufacturer of the foam used in our seals) and other companies. Chemtrol's test assembly does not appear to be typical of the Vermont Yankee penetrations, particularly in the ratio of the amount of sealant material to the amount of tray, conduit and cable in the penetration.

A preliminary review of the different foam manufacturers' tests leads us to believe that most of our penetration seals were installed in a more conservative manner than those tested by the foam manufacturers with apparently acceptable results.

C. Proof Testing of Vermont Yankee Seals

1. Chemtrol is analyzing actual component samples of the alleged defective material used in the seal assembly test that did not pass the three-hour rating.
2. Vermont Yankee will independently test a sample of the material from Item 1.
3. We will test a sample taken from one of the potential problem seals installed at Vermont Yankee.
4. GE is checking QA records on material used at Vermont Yankee and for the Chemtrol Test.
5. Tests done by other companies using the same material are being reviewed.

Vermont Yankee intends to maintain its commitment to provide three-hour rated fire barrier penetration seals. Based on the preliminary reviews we have done in Items A and B above, we do not feel, at this time, that there is a confirmed deficiency with our seals. The areas of greatest concern, the cable penetration areas between the Reactor Building, Cable Spreading Room and Switchgear Room area, are provided with fire detection and automatic suppression systems. The

U.S. States Nuclear Regulatory Commission  
December 19, 1980  
Page 3

Switchgear and Cable Spreading Rooms have an automatic CO<sub>2</sub> system with the Cable Spreading Room also having a second reserve shot capacity. The cable penetration area in the Reactor Building has a set stand-pipe sprinkler system for the floor below the penetrations to protect them from a fire originating in that area.

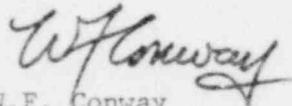
Should the continued investigations of Items A and B or the analyses of Item C indicate the possibility of a deficiency with our seals we will send additional samples of our seals for chemical analysis and/or reseal the defective penetrations with an acceptably tested material.

The schedule for completing our penetration evaluation is not firm at this moment. We desire to have reviews and tests of samples completed by the middle of January. If additional tests of Vermont Yankee's penetrations are called for, they would be completed by the end of March, 1981.

We trust the above information is acceptable to you. If you have further concerns or questions, please contact us.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION



W.F. Conway  
Vice President and  
Manager of Operations

WFC/jh