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REPLY TO:
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B.3.2.1
WVY 80-69

April 29, 1980

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

Attention: Office of Nuclear Reactor Regulation
Mr. Thomas A. Ippolito, Chief
Operating Projects Branch #2
Division of Project Management

Reference: (a) License No. DPR-28 (Docket No. 50-271)
(b) Letter W. F. Conway (VYNPC) to T. A. Ippolito (USNRC) dated April 1, 1980
(c) Letter, R. L. Smith (VYNPC) to T. A. Ippolito (USNRC) dated April 24, 1980

Subject: NUREG 0578 Hydrogen Monitoring

Dear Sir:

The Vermont Yankee Nuclear Power Corporation (VYNPC) has evaluated methods of meeting the recommendation of NUREG 0578 concerning the monitoring of hydrogen concentration in the reactor containment during the post-accident period. During this evaluation, discussion with your staff concerning the ability of the existing monitoring equipment to meet the NUREG 0578 requirements has resulted in the submittal of additional and more detailed information in references (b) and (c). A telephone conference held Friday, April 25 between members of your staff and VYNPC personnel addressed the final outstanding questions and led to a conditional approval, by those staff members, for the continued use of the existing monitoring system. This letter provides a formal response to the questions answered verbally during the telecon as follows:

Question: Are the hydrogen monitors qualified for the post-accident steam environment?

Response: Both detectors are located outside the reactor containment and are not subjected to the post-accident steam environment.

Question: Are the detectors qualified for the expected post-accident radiation exposure?

Response: Both detectors are qualified, by specification, to 10^6 Rads. The Delphi unit is located in the reactor building where the 180 day post accident cumulative dose is calculated to be 10^5 Rads. The MSA

unit is located outside of the reactor building where the dose is considerably reduced from the levels found in the reactor building.

Question: What provision alerts the operator to the potential for an erroneous reading on the MSA unit when the hydrogen concentration exceeds 4%?

Response: Plant operating procedures will be revised to alert the operator to this problem. The Delphi unit is, and will continue to be, the preferred instrument.

Question: Concerning the time to get accurate indication after the instrument is turned on, how do you resolve the discrepancy between the 2-3 hours stated in the manufacturers instructions and the less than one minute response time found by testing at Vermont Yankee?

Response: VYNPC will investigate this matter with the manufacturer of the Delphi instrument, but, whatever the results, will operate the instrument in a manner which will guarantee the rapid availability of an accurate reading.

With the formal submittal of the above responses, VYNPC assumes that the presently installed equipment can be used to satisfy the hydrogen monitoring requirement of NUREG 0578 as discussed in Reference (b) and in subsequent discussions with your staff.

We trust you will find this information acceptable. Should you have any questions, please feel free to contact us.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION

L. H. Heider
Vice President

RLS/srw