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Writer's Direct Dial Number

July 11, 1980  
TLL 318

TMI Program Office  
Attn: Mr. John T. Collins, Deputy Director  
U. S. Nuclear Regulatory Commission  
c/o Three Mile Island Nuclear Station  
Middletown, Pennsylvania 17057

Dear Sir:

Three Mile Island Nuclear Station, Unit II (TMI-2)  
Operating License No. DPR-73  
Docket No. 50-320  
RCS Water Chemistry and Corrosion Control

This letter is prepared in response to your letter, NRC/TMI-80-94, dated May 27, 1980. In that letter, you addressed two (2) areas of concern: 1) Control of the dissolved O<sub>2</sub> (in the RCS), and 2) the validity of the values of the O<sub>2</sub>, as stated in our analysis, (based on our sampling techniques and instrument sensitivity). The purpose of this letter is to address your concerns and to provide a status on each of the above-mentioned concerns.

Control of the dissolved O<sub>2</sub> is maintained by H<sub>2</sub> overpressurization to ensure that there exists free Hydrogen in solution to provide a method of controlling excessive O<sub>2</sub> concentration. Free Hydrogen and free Oxygen are known to combine in a gamma flux field. With excess free Hydrogen, maintained by H<sub>2</sub> overpressure on the RCS, free Oxygen should be scavenged in such a manner that O<sub>2</sub> concentration in the RCS can be controlled. A computer program capable of analyzing H<sub>2</sub>/O<sub>2</sub> recombination in gamma flux fields has been obtained. It is anticipated that the results of our analysis will be available to the NRC on August 15, 1980.

We are in the process of installing an on-line O<sub>2</sub> measurement device, the orbisphere. The instrument will be installed as a component of the Nuclear Sampling System. Operational procedures governing the operation and testing of the device will be submitted in the near future with anticipated NRC approval by July 18, 1980. This procedure approval will permit system preoperational testing to be performed. It is anticipated that, based on the above schedule, the results of the testing program can be supplied to the NRC on August 1, 1980.

It is anticipated that the above information fully addresses your concerns.

Sincerely,  
/s/ G. K. Hovey

G. K. Hovey  
Director, TMI-II

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cc: B. J. Snyder

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