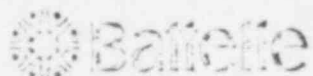


**POOR ORIGINAL**



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Telex 24-5434

May 22, 1979

Mr. Mark Cunningham  
Probabilistic Analysis Staff  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Dear Mark:

As you requested we have documented the analyses that were performed on a quick response basis by Battelle-Columbus for the Three Mile Island accident. Enclosed are writeups on:

- (1) MARCH/CORRAL Analyses of Hypothetical Meltdown Scenarios for Contingency Planning
- (2) Pebble Bed Calculations for Natural Circulation Through the Damaged Core
- (3) Hydrogen Explosion Analysis
- (4) External Cooling of Lower Head and Vessel.

These writeups, along with the writeup on "MARCH Simulation of First 190 Minutes of TMI Transient" which was mailed to you on May 14, summarize the principal efforts undertaken by Battelle-Columbus. Some effort was expended in other areas. On March 30, for example, we evaluated the probable hydraulic response to depressurization of a hydrogen bubble in the primary system. We also provided advice and comment on proposed vent/filter systems which were under consideration. These analyses were very specifically oriented to unique circumstances and we don't feel that they warrant further documentation.

Sincerely,

A handwritten signature in cursive script that reads "Richard S. Denning".

Richard S. Denning  
Research Leader

RSD:mjc  
Enc.

549092

xc: Mr. Joseph Murphy, NRC  
Mr. Gordon Edison, NRC  
Dr. Peter McGrath, NRC

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