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NUCLEAR PRODUCTION DEPARTMENT

September 9, 1982

U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

Attention: Mr. Harold R. Denton, Director

Dear Mr. Denton:

SUBJECT: Hydrogen Control Owners Group
(HCOG)
BWR-6 Mark III
Report on Hydrogen Control
Accident Scenarios, Hydrogen
Generation Rates and Equipment
Requirements
File No.: 004, 008, 110
Correspondence No.: HGN-006

On behalf of the Mark III Hydrogen Control Owners Group (HCOG), I am submitting five copies of the enclosed document titled "Report on Hydrogen Control Accident Scenarios, Hydrogen Generation Rates and Equipment Requirements." A list of sponsors of this work is included in the report. The document is not submitted on any specific docket but HCOG members may endorse this study as applicable to their docket.

This report was previously submitted by the HCOG on April 8, 1982 (HGN-003). This final report includes the addition of the discussion on ATWS and reflood of the lower plenum. These sections have been identified as "Rev. 1" to distinguish the additions to the report that was transmitted in April.

The report contains the results of probabilistic studies conducted to establish scenarios most likely to produce large scale releases of hydrogen. The report also contains postulated hydrogen release rates based on boiling water reactor accident analysis computer codes. Finally, the report contains recommendations on equipment which should be capable of surviving accidents which lead to significant hydrogen generation events.

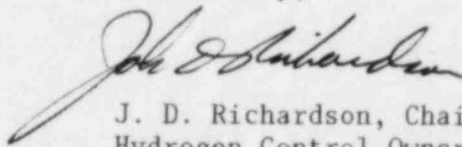
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The report should assist the NRC in defining credible design bases for accidents involving large scale hydrogen releases from a boiling water reactor in a Mark III containment. The report concludes that for a BWR6, the maximum credible zirconium-water reaction corresponds to approximately 12.5% of the cladding.

Yours truly,



J. D. Richardson, Chairman
Hydrogen Control Owners Group

RMS/SHH/JDR:lm
Attachments

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