

May 26, 2000

Dr. Dana Powers, Chairman  
Advisory Committee on Reactor Safeguards  
U.S. Nuclear Regulatory Commission  
Washington D.C. 20555-0001

SUBJECT: DRAFT FINAL TECHNICAL STUDY OF SPENT FUEL POOL ACCIDENT RISK  
AT DECOMMISSIONING NUCLEAR POWER PLANTS

Dear Chairman Powers:

The staff would like to thank the Advisory Committee on Reactor Safeguards (ACRS) for meeting with us during the 471st meeting of the ACRS on April 5, 2000. Your comments and insights are appreciated. I am also responding to your letter of April 13, 2000, to the Commission regarding our meeting.

The staff has reviewed the ACRS's comments and has assessed their impact on the finalization of the subject report and the staff's activities associated with decommissioning rulemaking. The ACRS's comments, which pertain to a large loss of water from the spent fuel pool, affect the staff's report in four important areas: frequency of zirconium fires, acceptance criteria, timing of a zirconium fire, and the window of vulnerability for a zirconium fire.

To address your comments in these critical areas, the staff has defined additional technical work related to consequence analysis and thermal-hydraulic analysis that will be performed and included in the final report. The final report will address the effects of enhanced release of ruthenium under air oxidation conditions and the impact of the MELCOR Accident Consequence Code System code assumptions on plume-related parameters as they pertain to the acceptance criteria. Information pertaining to the timing of the zirconium fire due to zirconium hydride oxidation, zirconium nitrogen reactions, breakaway oxidation, and inter-metallic reactions and the window of vulnerability due to a partial draindown of the pool water will be discussed in the final report. Finally, the text of the report will be modified to clarify how the uncertainties in the risk analysis and the seismic analysis were addressed and how they affect the use of the results of the analysis.

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The staff believes that the additional technical work can be completed in a timely fashion such that our rulemaking schedule is not impacted. Therefore, the staff is proceeding with the rulemaking and will submit a rulemaking plan to the Commission at the end of June 2000.

Sincerely,

***/RA by Carl J. Paperiello Acting for/***

William D. Travers  
Executive Director  
for Operations

cc: Chairman Meserve  
Commissioner Dicus  
Commissioner Diaz  
Commissioner McGaffigan  
Commissioner Merrifield  
SECY  
OGC  
OCA  
OPA  
CFO  
CIO

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