

April 2, 2010

MEMORANDUM TO: Chairman Jaczko
Commissioner Svinicki
Commissioner Apostolakis
Commissioner Magwood
Commissioner Ostendorff

FROM: Brian W. Sheron, Director */RA/*
Office of Nuclear Regulatory Research

SUBJECT: UPDATE ON THE STATE-OF-THE-ART REACTOR
CONSEQUENCE ANALYSES

The purpose of this memorandum is to provide an update on the staff activities regarding the State-of-the-Art Reactor Consequence Analyses (SOARCA) project. A detailed listing of the staff activities is given in the revised communication plan (ML100271726) that was provided to the Commission on January 28, 2010. The staff had planned to provide an update at a Commissioners' Technical Assistants briefing on March 18, 2010. However, we were informed that the briefing was deferred.

In SECY-08-0029 dated March 4, 2008, the staff recommended a) an approach for reporting latent cancer fatality (LCF) predictions and b) performing a peer review. The approach was to report LCF predictions as individual LCF risk for distance intervals of 0-10 miles, 0-50 miles, and 0-100 miles. In a Staff Requirements Memorandum dated September 10, 2008, the Commission approved the staff recommendations. Subsequently, two peer reviewers with expertise in offsite consequence analysis and emergency preparedness recommended not including the predictions for the 0-100 mile interval. The basis for their recommendation includes the historical use of the 0-10 mile and 0-50 mile intervals for cost-benefit analyses, severe accident mitigation alternatives evaluations, and the 10 and 50 miles distances are consistent with the emergency planning zones. Also, the results showed that the individual LCF risk is very low and continues to further decrease beyond 50 miles. As a result, no significant insights are revealed by reporting distances beyond about 50 miles. The staff found the recommendation to be of technical merit and discussed it with the SOARCA Steering Committee, which agreed that reporting the 0-100 mile prediction was not necessary. For this reason, the staff intends to include only the predictions for the 0-10 mile and 0-50 mile intervals in the SOARCA report (i.e., NUREG) in response to the peer reviewers' comment.

As indicated in the SOARCA communication plan of January 28, 2010, we are now providing the draft SOARCA report (i.e., draft NUREG) to the licensees of the Peach Bottom Atomic Power Station and the Surry Nuclear Station for a factual review. Consistent with the informal agreement made with licensees when they volunteered to participate, the two licensees are

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being requested to review the draft NUREG for any plant-specific factual errors only. The licensees have agreed not to release any of the SOARCA results publicly. The staff also plans to meet with the Advisory Committee on Reactor Safeguards (ACRS) in June and July 2010 to discuss the SOARCA results and to get its feedback before releasing the draft NUREG for the formal public comment period. The Office of Nuclear Regulatory Research will make the draft NUREG available to the public in conjunction with the ACRS meetings.

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| DATE | 3/30/10 | 3/30/10 | 4/02/10 |

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