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# NRC NEWS

**U.S. NUCLEAR REGULATORY COMMISSION**

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## **NRC ANNOUNCES FIRST PHASE OF STATE-OF-THE-ART REACTOR CONSEQUENCE ANALYSIS**

The Nuclear Regulatory Commission is continuing its State-of-the-Art Reactor Consequence Analysis (SOARCA), which will be used to realistically predict the consequences of potential accidents at commercial U.S. reactors.

Under direction from the five-member Commission the staff will begin SOARCA's first phase, which will focus on ensuring the project's analysis methods mesh properly and have the data necessary for the most realistic results. This phase will study two sites, the boiling water reactors at Peach Bottom in Pennsylvania, and the pressurized water reactors at Surry in Virginia.

"Both sites have significant databases available from earlier studies, and this detailed information will make it easier to judge where the analysis can be improved," said Farouk Eltawila, Director of the Division of Risk Assessment and Special Projects in the NRC's Office of Nuclear Regulatory Research. "The results will also help us ensure we know what information we'll need from other sites."

Peach Bottom and Surry both volunteered to take part in the program. NRC staff will gather relevant information from the plants, then conduct the analysis along with contractors from Sandia National Laboratories. Once the staff finishes these analyses later this year, the Commission will examine the results and provide guidance on how to analyze the remaining reactor and containment designs at U.S. commercial nuclear power plants.

"We're undertaking this research to replace work that's almost 25 years old – studies that were so conservative that their predictions are not useful for characterizing results or guiding public policy. Those predictions have sometimes been misinterpreted and often misused," Eltawila said. "Today's computer-based analytical tools are much more capable of realistically evaluating potential nuclear power plant accidents, and this project should improve everyone's understanding of the realistic consequences of such potential accidents."

Nuclear power plant accidents are extremely unlikely; should one occur, existing plant components and procedures would mitigate most types of accidents. Nevertheless, it's important to understand an accident's possible consequences. The project will analyze U.S. reactors, incorporating more than 20 years of research to develop realistic estimates of possible consequences resulting from a

potential accident. The analyses will then use site-specific weather and population data to determine the effects on public health and safety. The results of these analyses will be compiled in a public document to be released once the entire project is complete in 2009.

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