



NRC NEWS

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NRC Seeks Public Input on Level 3 Probabilistic Risk Assessment Project

Nuclear Regulatory Commission staff wants to hear the public's views regarding the first set of results from a multi-year project to fully analyze risk at a reference two-reactor nuclear power plant site.

This state-of-practice probabilistic risk assessment can provide valuable insights into the risks associated with accidents involving one or more reactors at a site, as well as other radioactive material such as spent fuel submerged in pools and dry storage casks. The work can also inform regulatory, policy, and technical issues pertaining to advanced and new reactors.

The NRC's full-scope site Level 3 Probabilistic Risk Assessment project, which began in 2012, updates risk insights obtained from work done more than 30 years ago. The project examines a reference site with two large pressurized-water reactors and associated spent fuel. The Level 3 PRA project builds on Level 1 (possible reactor core damage scenarios) and Level 2 (possible radioactive material release scenarios) analyses to estimate potential health effects and economic impacts.

The NRC combines PRA results with traditional engineering methods when regulating nuclear power plants and other civilian uses of radioactive material. The NRC uses PRA insights to focus its efforts on the issues most important to safety. The agency also uses PRA to confirm that new or revised rules are rigorous enough to cover uncertainties – and to justify new requirements. Nuclear power plants use PRA to discover and correct subtle vulnerabilities, such as in fire protection, significantly improving reactor safety.

The staff is issuing project results in batches to allow for a thorough review by the agency's independent Advisory Committee on Reactor Safeguards. The first set of results, covering in-plant events and flooding while the reactors are at full power, make up Volume 3 of the project's eventual final report. This volume's analysis, considering the reference site's design and location, shows the potential public effects of a reactor accident fall well below the NRC's stringent health and safety goals. The staff expects to continue releasing portions of the project for public and ACRS review through early 2024.

NRC staff will consider written comments on Volume 3x (and other background material) until June 21, following the publication of a [notice](#) in the Federal Register. Please include Docket ID NRC-2022-0085 with your comment, via regulations.gov or via mail to Office of Administration, Mail Stop TWFN 7 A60M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.