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CONTACT: [Scott Burnell](#), 301-415-8200

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NRC Seeks Public Input on Latest Results of Level 3 Probabilistic Risk Assessment Project

Nuclear Regulatory Commission staff is seeking [public comments](#) on the latest set of results from a multi-year project to fully analyze risk at a two-reactor nuclear power plant site.

This state-of-the-art analysis 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 in pools and dry storage casks. The work can also inform regulatory, policy, and technical issues related to advanced and new reactors.

The NRC's full-scope site Level 3 Probabilistic Risk Analysis project, which began in 2012, updates risk insights obtained from work done more than 30 years ago. The project examines a typical site with two large pressurized-water reactors and their 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 – or to justify new requirements. Nuclear power plants use PRA to discover and correct vulnerabilities, such as in fire protection, significantly improving reactor safety.

This set of results, covering earthquakes, internal fires and high winds while the reactors are at full power, make up Volume 4 of the project's eventual final report. This volume's analysis, considering the reference site's design and location, demonstrates how risks of a reactor accident fall below the NRC's safety regulations. The staff expects to continue releasing portions of the project through the middle of 2024 for review by the public and the agency's independent Advisory Committee on Reactor Safeguards.

Written comments on Volume 4 (and other background material) can be submitted through October 20 via [regulations.gov](#) under Docket ID NRC-2023-0140. They also can be mailed to the Office of Administration, Mail Stop TWFN 7 A60M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.