

Risk-based Design of Seismic Isolation Systems for Nuclear Power Plants

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Abstract

Seismic isolation is a relatively mature technology that is suitable for the protection of structures, systems and components in safety-related nuclear facilities. The presentation will describe recent developments in the United States to implement isolation in nuclear facilities, including the writing of risk-oriented standards for analysis and design of isolated nuclear structures, and the development, verification and validation of advanced numerical models for elastomeric and sliding isolators, and their implementation in the NQA-1 codes ABAQUS and LS-DYNA. The possible applications of isolation to components and systems in next generation small modular and liquid metal reactors will be described.