

BDBA and Multi-Module Risk



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October 2011



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Background

- NRC Advanced Reactor Policy Statement (SECY-08-0130)
- NRC SMR Policy Issues Document (SECY-10-0034)
- Plant Characteristics
 - Highly robust design with very low core damage frequency ($<1 \times 10^{-7}$ for internal reactor events)
 - Additional fission product barriers
 - Small source term
 - Multi-module plant
 - Shared systems
 - Reliance on passive safety systems

Issues

- No applicable NRC guidance on quantitative risk metrics for advanced passive plants
- Selection of a limited set of BDBAs to be analyzed for NuScale plant

Pre-Application Outcomes

- Feedback on criteria for selection of initiating events to be included in the PRA, including risk metrics
- Feedback on set of BDBAs to be included in the DCA

Pre-Application Engagement

- Pre-application workshop introducing BDBA and multi-module risk
 - Event selection
 - Risk metrics
 - Severe accident phenomenon
- Technical report on severe accident analysis