

Tutorial on Fundamentals of External Hazard Probabilistic Risk Assessment and Its Use in Risk- informed And Performance-based (RIPB) Applications

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CLOSING SUMMARY

- Seismic PRA methodology is mature for implementation of risk-informed and performance-based approaches – no inherent limitation to use risk-informed approaches (also true for other external hazards).
- Risk-informed and performance-based approaches are used for certain applications in operating reactors
- Seismic design basis for new reactors is based on the risk informed approaches and demonstration of overall performance goal is required.
- An approach that combines the approaches of NUREG/CR-7214 and ASCE 43 is a potential path forward and in line with overall risk informed and performance-based framework, such an approach will lead to:
 - More uniform and balanced risk profile;
 - Margin commensurate with the risk importance, avoid over or under conservatisms; and
 - Possibly cost savings