

Recent Activities Concerning PSHA



at the USNRC & OECD/NEA

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Overview



- Activities in Seismic PRA at the USNRC
 - PSHA as Input for PRA and Siting/Licensing of New NPPs
 - Licensing for ESPs for Four Sites
 - Licensing for COLs for Ten NPPs
 - Planning for the Next Generation of PSHAs
- Activities in PSHA at the OECD/NEA
 - Workshop on Seismic PSA at Jejun Island, South Korea (November 2006)
 - Workshop on PSHA in Lyon, France (April 2008)



Seismic PRA and PSHA

- Seismic PRAs Used to Resolve IPEEE; Required for New Reactors
 - Basic Guidance Provided in RGs and ANS Standards
- PSHA Provides the Basic Seismic Hazard Input
 - Basic Guidance Provided in RG 1.165 and New RG 1.208
 - Seismic Research Plan in Place
 - Developing Tools and Input for the Next Generation of PSHAs
 - USNRC Activities
 - New NEI Initiative



Current Use of PSHA

- The NRC is Committed to Using PSHA for Regulatory Purposes
- Past Uses To Develop IPEEE Guidance and Criteria
- Used by Industry for IPEEE Responses
- Used in Four ESP Applications
 - Three Reviews Completed and ESPs Granted
 - Fourth Review is Ongoing
- Used in Ten COL Applications at Six Sites
 - Acceptance Reviews are Ongoing



Research To Support the Next Generation of PSHAs



- USNRC Has Prepared a Seismic Research Plan (publicly available in ADAMS, under Accession No. ML072960789)
 - New Attenuation Models for Western U.S. by Community
 - New Attenuation Models for Central & Eastern U.S. by NRC Initiative
 - Development of a Uniform Time-History Database
 - Review of Senior Seismic Hazard Analysis Committee (SSHAC) Guidance
- Industry Initiative for Updated Seismic Source Database
 - NEI/EPRI
 - DOE



Recent Activities at OECD/NEA

- Seismic PSA Workshop at Jeju Island, South Korea
 - Growing International Use (Regulation or Guidance)
 - Multi-Unit PSAs (Need for Research on SSC Correlations)
 - Need for Research on Human Reliability Analysis and Data
 - Recommended Workshop To Address PSHA Issues
- PSHA Workshop in Lyon, France (Seismic Working Group)
 - Recent Findings and Developments in PSHA Methodologies and Applications
 - Management of Epistemic and Random/Aleatory Uncertainty
 - Issues Associated with Low-to-Moderate Seismicity Areas vs. Higher Seismicity Areas
 - Comparison of PSHA Results with Historic Data