



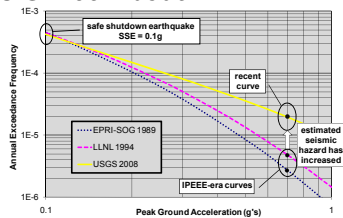
RIC 2011 Safety/Risk Assessment Results and Regulatory Approach to GI-199

Marty Stutzke, NRC/RES
Kamal Manoly, NRC/NRR
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What is GI-199 About?



Implications of Updated Probabilistic Seismic Hazard Estimates in Central and Eastern United States (CEUS) on Existing Plants

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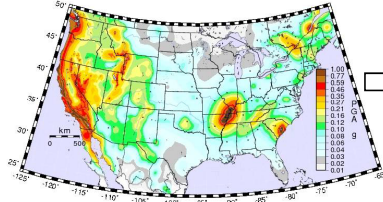


Safety/Risk Assessment Goals

- Determine, on a generic basis, if the risk associated with GI-199 warrants further investigation for potential imposition of cost-justified backfits.
- Provide a recommendation regarding the next step (i.e., continue to the Regulatory Assessment for identification and evaluation of potential generic, cost-justified backfits, be dropped due to low risk, or have other actions taken outside the Generic Issues Program - GIP).

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Seismic Hazard Variability



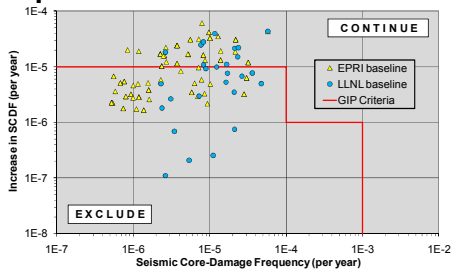
Need to estimate seismic risk for each CEUS plant

Peak ground acceleration — 2% in 50 year probability of exceedance. Source: earthquake.usgs.gov

Safety/Risk Assessment Approach

- For each CEUS plant,
- Combine mean seismic hazard curves
 - 1989: EPRI/SOG (EPRI NP-6395) – many plants
 - 1994: LLNL (NUREG-1488) – all plants
 - 2008: USGS – all plants
- With the mean plant-level fragility curve
- Developed from Individual Plant Examination – External Events (IPEEE) information to estimate seismic core-damage frequency (SCDF).

Comparison to GIP Criteria





Path Forward

- NRR lead with RES support
 - Issue has transitioned from the GI Program to Regulatory Office Implementation
 - Issued Information Notice 2010-018 to inform plants of the GI-199 Safety/Risk Assessment results
 - Develop a generic communication to request needed data
 - RES works with EPRI on method for plants that used Seismic Margins Analysis (SMA)
 - RES develops inputs for GI-199 regulatory analysis under a user need request

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Safety/Risk Assessment Summary

- Operating power plants are safe
- Though still small, some seismic hazard estimates have increased
- Assessment of GI-199 will continue
 - Information is needed to perform regulatory assessments
 - NRC will request the needed information

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For More Information

| Document | ADAMS Accession Number |
|---|------------------------|
| October 6, 2010 Meeting Information Package | ML102500242 |
| October 6, 2010 Meeting Presentation Slides | ML102770655 |
| GI-199 Safety/Risk Assessment Package | ML100270582 |
| NRC Information Notice 2010-018 | ML101970221 |
| NRC Information Notice 2010-019 | ML102160735 |

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Acronyms

- CEUS Central and Eastern United States
- DCPP Diablo Canyon Power Plant
- EPRI Electric Power Research Institute
- GIP Generic Issues Program
- IPEEE Individual Plant Examination of External Events
- LLNL Lawrence Livermore National Laboratory
- LTSP Long Term Seismic Program
- NRC U.S. Nuclear Regulatory Commission
- NRR Office of Nuclear Reactor Regulation, NRC
- RES Office of Nuclear Regulatory Research, NRC
- SCDF Seismic Core Damage Frequency
- SMA Seismic Margins Analysis
- USGS U.S. Geological Survey
