

**Risk Informed GSI-191
NRC RIC
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**Pilot Project Status
South Texas Project**

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Risk Informed GSI-191

- **Purpose:** 3-Year project to develop a risk informed approach to address and close the safety issues associated with GSI-191
- **Approach:** Innovative & creative risk informed method developed to merge engineering & science technology into Probabilistic Risk Assessment specific to GSI-191 issues per NRC SRM
- **Applicability:** Broad applicability to all licensees as a method for identifying dominant contributors and resolving safety issues associated with GSI-191; direct applicability to items in 10CFR50.46
- **Operational Considerations:** Risk informed method (RG 1.174) includes Defense-in-Depth and Safety Margin provisions; provides method to assess margins resulting from operability issues; identifies changes that produces maximum safety benefit

Current Status

- 3 Year Project commenced in 1st quarter 2011
- 2011 milestones met (RI approach constructed)
 - Initial Quantification Completed (1000s of break locations analyzed & resulting Δ CDF w/in non-risk significant region of RG 1.174)
 - Key sources of uncertainty identified (chemical effects, in-vessel effects)
- Technical issues are being addressed with NRC Staff through ongoing- interactions (public meetings)
- Uncertainties and conservatisms being further evaluated in 2012 with NRC Staff involvement
 - impact of chemical effects on strainer performance being further studied (additional chemical effects testing in 2012)
 - In-vessel effects being further evaluated
- Anticipate LAR to be submitted by end of 2012 (exemption to 10CFR50.46, long term coolable geometry provision)

Summary

- A risk informed method to close safety issues associated GSI-191 has been developed
- Risk Informed approach is robust, identifies dominant contributors to recirculation failures, and identifies safety improvements
- Further refinements in 2012 continue to indicate issues associated with GSI-191 are not safety significant
- Safety benefits/improvements can now be focused on the real contributors without the need for complete insulation replacements and associated worker exposures (i.e., REM)
