EPRI Radiation Safety Program

Radiological Environmental Protection (REP) Research

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Radiation Safety Research Focus Areas

* Not prioritized

ALARA Strategies and Technologies

- Combines source term reduction technologies with typical dose reduction tools and work planning improvements to provide a comprehensive strategy for reducing dose to workers.

Radioactivity Generation and Control (Source Term Reduction) – Joint w/Chem.

- Understanding radioactivity and radiation field generation and transport processes and tools/technologies to improve control of radioactivity.

Radiation Safety Guidance

- Development and maintenance of guidelines, guides and sourcebooks for radiation protection, source term reduction, radiological environmental protection (which includes groundwater), and low level waste.

Radiation Measurements and Dosimetry for Workers and Public

- Investigates advanced radiation detection and monitoring technologies for site and environmental monitoring purposes. In addition, more accurate dose calculation methodologies will be investigated to improve the quantification of the dose to workers and the public

Effluent and Radwaste Minimization

- Investigates effluent (gaseous, liquid), groundwater remediation, and radwaste minimization technologies and management strategies. Also evaluates the impact to effluent and radwaste programs from changes in plant design or operational factors.

Optimization of Industrial and Radiological Safety (currently unfunded)

- Includes research related to the development of technologies and strategies that better meet the needs for an integrated approach to worker protection – radiological and industrial hazards.

Benchmarking and Trending (Fundamental)*

- Maintenance of databases for the Standard Radiation Monitoring Programs (SRMP/BRAC) and the industry low level waste benchmarking database, RadBench™.

Low Dose Radiation Health Effects*

- Investigates health effects from exposure to ionizing radiation to inform the development of radiation safety standards, radiation protection practices, and communication of risks to workers and the public.

Decommissioning Technology and Strategy*

- Investigates technologies and strategies to facilitate the development and execution of a safe, efficient, and cost-effective decommissioning program.

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2016-2018 Radiological Environmental Protection Projects by Research Focus Area

Radiation Safety Guidance

- Long Term Groundwater Monitoring Plan Optimization and Decommissioning Planning (2015-2016)
- Review of Radiation Safety Guidelines for Revision (2016-2018)
- Revision of GW Guideline and Soil and GW Remediation Guideline (2018-2019)

Radiation Measurement and Dosimetry for Workers and Public

- Hard to Measure Radionuclides in Effluents (2014-2016)
- Improved Accuracy and Updated Methodology for Determining Effluent Public Dose (2015-2017)

Effluent and Radwaste Minimization

- Impacts to Effluents and Radwaste from Radionuclides and Chemicals Generated from Non-Design Basis Materials (2017-2019)
- Tritium Removal and Reduction Technologies (2018-2019)
- Effect of KOH-based pH Program on Radiation Fields, Effluents, and Radwaste in Western PWRs (2018-2019)
- Impact of Fuel Material Changes on Radwaste and Corrosion Behavior (2018-2019)

Funded Work

*New Proposal

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