

Software Program to Ascertain Radionuclides Residual Concentration (SPARRC)

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*** Radionuclides Web Cast
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Overview

- Background
- Capabilities
- Demonstration
- Next Steps



Background

- SPARRC (Software Program to Ascertain Radionuclides Residual Concentration)
 - mass balance model
 - estimates uranium and radium concentration and volume of in waste streams and finished water
 - appropriate for pre-design decision making
- 1992 SAB Panel recommendations guided approach



Capabilities

- Current Visual Basic[®] application has 6 treatment technologies

Technology	Contaminants
Coagulation Filtration	Uranium/(Arsenic)
Lime Softening	Uranium/Radium
Ion Exchange	Uranium/Radium/(Barium)
Reverse Osmosis	Uranium/Radium/(TDS)
Activated Alumina	Uranium/(Arsenic)
Greensand Filtration	Radium/(Barium)



Capabilities

- Predictive, decision-making tool
 - Regional and State personnel
 - Utility operators
- Comparisons across technologies
 - Quantity and quality of wastes
 - Radionuclide removal efficiency
- Comparisons across operating parameters
 - Treatment optimization
 - Waste treatment or disposal planning



Lime Softening Demonstration



Next Steps

- External peer review
- Incorporate review comments and user data
 - SPARRC available at:
<http://www.npdespermits.com/sparrc/>
 - Users can upload field input and output data
 - Actual plant data help improve the precision and accuracy of SPARRC