Compilation of All Presentation Slides for Workshop on the NRC's Rulemaking for Groundwater Protection Requirements at *In Situ* Leach (ISL) Uranium Recovery Facilities

June 29, 2006











































Uranium Recovery Regulations are in 10 CFR 40, Appendix A

Appendix "A," has Thirteen Technical Criteria

I. Technical Criteria (selected criteria)

Criterion 5 – Groundwater Protection Standards

Criterion 7 - Preoperational Monitoring Criteria







EPA ISL GROUND WATER PROTECTION – EXISTING REGULATORY REQUIREMENTS

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2006 NRC Uranium ISL Rulemaking Workshop

Inited States invironmental Protection











UIC Regulations Relevant to Protecting USDWs at ISL Sites

- 144.51 Conditions applicable to all permits
 - Proper Operation and maintenance
 - -Recordkeeping
 - Monitoring
 - Plugging and abandonment







m-OR

• Contains oil or minerals

s water syst

- Its use is economically not practical
- Contaminated
- It is geologically unstable due to Class III activities





UMTRCA Program

- Under Uranium Mill Tailings Radiation Control Act, EPA developed environmental protection standards for uranium mill tailings impoundments in 40 CFR 192: Title I and Title II facilities
- Under UMTRCA definitions, standards also apply to any processing site for which NRC issues license after 1/1/78 for production of uranium or thorium product from ore. This has been interpreted by NRC in include ISLs



























































Site Characterization prior to new or satellite application

- Geology
 - Ore boundary
 - Geochemical description of mineralized zone
 - Fence diagrams
- Hydrology
 - Confining units, hydraulic isolation
 - porosity, hydraulic conductivity, formation thickness
- Meteorology
 - rainfall













