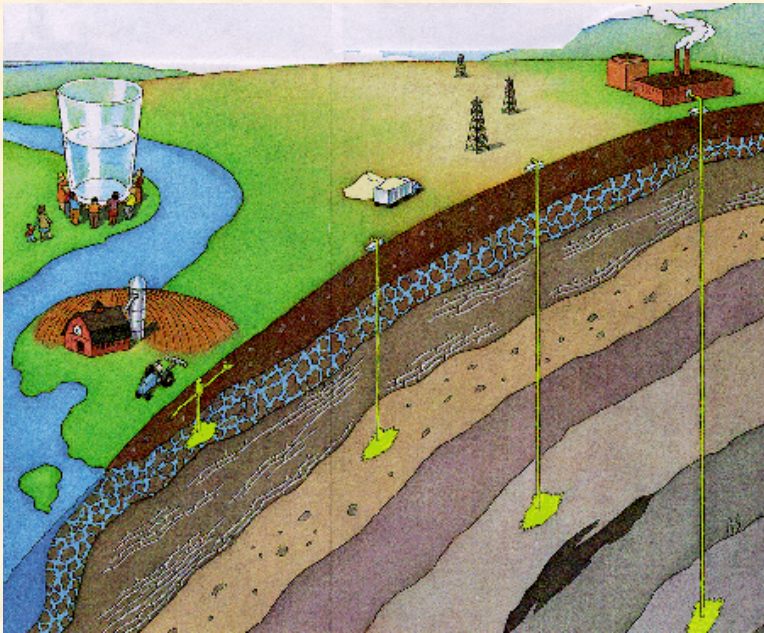


# The Underground Injection Control (UIC) Program



*Presentation for the  
Radionuclide Webcast*

August 4, 2004

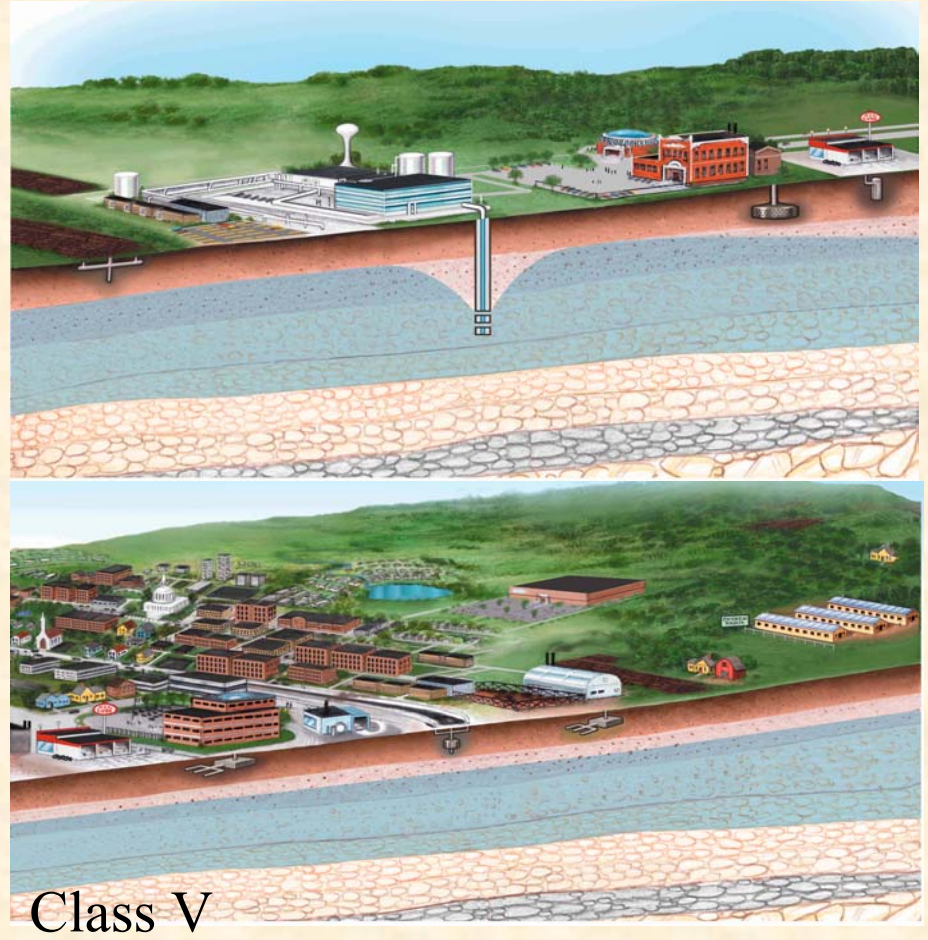
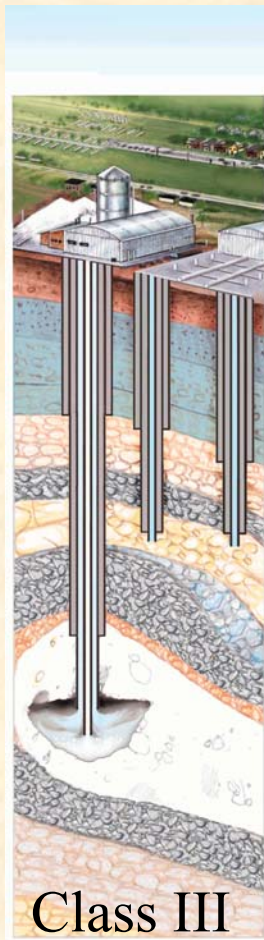
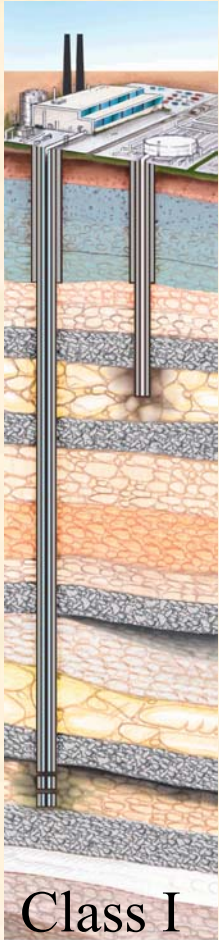
2-4 pm

# UIC Program Background

- SDWA requires EPA to develop minimum federal regulations for state and tribal Underground Injection Control (UIC) Programs to protect underground sources of drinking water
- 33 states have applied for primary enforcement authority (Primacy); EPA directly implements the program in 17 states
- The UIC program's mission is to protect underground sources of drinking water from contamination by regulating the construction and operation of injection wells
- Primacy States may be more stringent than the minimum federal regulations



# Five Classes of Wells



# Waste Characteristics

- Systems need to determine if their waste is considered radioactive, hazardous, or non-hazardous before pursuing underground injection as a means for disposal
- Under the UIC regulations, “radioactive” refers to any waste containing radioactive concentrations that exceed those listed in 10 CFR 20, Appendix B, Table 2, Column 2
- These concentrations are:
  - 60 pCi/L for radium-226,
  - 60 pCi/L for radium-228, and
  - 300 pCi/L for uranium

# Single Family Septic Systems

- The UIC Program does not regulate single-family residential waste disposal systems such as single-family septic systems.
- However, EPA has the authority to “*take action*” on a residential waste disposal system if the system has the potential to introduce a contaminant into an underground source of drinking water whose presence “*may cause an imminent and substantial endangerment*” to public health (Section 1431 SDWA).



<b>Well Type</b>	<b>Injection Well Description</b>	<b>Considerations</b>
<b>Class I</b>	Wells that inject wastes underneath the lowermost formation containing an <i>underground source of drinking water</i> (USDW).	<ul style="list-style-type: none"> <li>•Stringent protective requirements</li> <li>•Very few Class I facilities can accept offsite waste</li> <li>•Disposal of slurries and solids allowed in limited circumstances</li> <li>•Can be expensive to construct</li> </ul>
<b>Class II</b>	Wells used to inject fluids associated with oil and natural gas recovery and storage of liquid hydrocarbons	<ul style="list-style-type: none"> <li>•Treatment residuals that are non-hazardous and non-radioactive may be disposed of into a Class II well if they are associated with oil and gas related production or the enhanced recovery of oil or natural gas.</li> </ul>
<b>Class III</b>	Wells associated with solution mining (e.g., extraction of uranium, copper, and salts)	<b><i>Not an option</i></b>
<b>Class IV</b>	Wells used to inject hazardous or radioactive waste into or above USDWs. These wells are banned.	<b><i>Not an option</i></b>
<b>Class V</b>	Class V - Any injection well that is not contained in Classes I to IV	<ul style="list-style-type: none"> <li>• Not an option for hazardous or radioactive waste disposal</li> <li>• Prohibited if its use will endanger a USDW per CFR 144.12 (cause an exceedance of any primary drinking water standard or otherwise adversely affect public health)</li> </ul>

# *For More Information...*

- USEPA Program Website:  
<http://www.epa.gov/safewater/>
- Primacy State and Regional UIC Contacts:  
<http://www.epa.gov/safewater/uic/states.html>
- Safe Drinking Water Hotline: 1-800-426-4791
- USEPA HQ UIC Contact:
  - Suzanne Kelly ([Kelly.suzanne@epa.gov](mailto:Kelly.suzanne@epa.gov))
  - 202-564-3887