



## WESTCARB Annual Business Meeting

### Geologic Sequestration Washington's Progress on UIC Rule Development

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## Washington Climate Change Legislation: ESSB 6001

- Adopts the emissions-reduction goals and policy recommendations in Gov. Chris Gregoire's "Climate Change Challenge" executive order 07-02, issued Feb. 7, 2007.

WEST COAST REGIONAL CARBON SEQUESTRATION PARTNERSHIP



### ESSB 6001 Summary:

- The bill sets an Emissions Performance Standard (EPS) that limits electric utilities' ability to sign new or renewed long-term contracts with power plants whose greenhouse-gas emissions exceed those of a modern natural gas-fueled power plant.
- New facilities can meet the standard by sequestering (capturing and permanently storing) CO<sub>2</sub> emissions, but not by purchasing offsets.



### ESSB 6001 Summary: Geologic Sequestration

- Passed in April 2007
- Requires the Department of Ecology and Energy Facility Site Evaluation Council (EFSEC) to develop rules for the Geologic Sequestration of Carbon Dioxide.
- Rules must be adopted by June 30, 2008.



## Washington Water Pollution Control Ch 90.48 RCW

- Requires the Department of Ecology to prevent the pollution of all waters of the State, including “underground waters”.
- Requires a permit for the discharge of polluting materials into waters of the state.
- Limits permit duration to no more than 5 years.



## Water Quality Standards for Ground Water Ch 173-200 WAC

- Protects the existing quality of all Ground Waters, not just those with public water supply wells.
- Sets narrative and numeric ground water quality standards.
- Allows limited flexibility for “naturally non-potable ground water”
- ***Allows permit limits exceeding the standards only where necessary to provide greater benefit to the environment as a whole and to protect other media such as air, surface water, soil or sediments.***  
***[WAC 173-200-050(3)(b)(vi)]***



## Ch 173-218 WAC Underground Injection Control Program

- Existing Rules Prohibit the use of Class I, Class III and most Class IV injection wells.
- Controls the injection of any fluids, including Carbon Dioxide, into an aquifer.
- UIC wells are either rule authorized or require a State Waste Discharge Permit.



## ESSB 6001 requirements Air & Water Quality Programs

- Air Quality and Water Quality are working together in a single rule revision process.
- Stakeholders began meeting in August to assist in developing rule requirements.
- Rules must be filed for adoption by late January to meet our legislative due date (June 30, 2008).



## Ch 173-218 WAC, Rule Development for Geologic Sequestration of Carbon Dioxide

- Use existing Washington UIC permit structure:  
State Waste Discharge Permits
- Draft Standard modeled on:
  - Model Regulations developed by the Interstate Oil and  
Gas Compact Commission

AND

  - Federal UIC Rules for Class I Wells (40 CFR part 146)



## Ch 173-218 WAC, Rule Development for Geologic Sequestration of Carbon Dioxide

- Carbon Sequestration wells: Class V UIC wells.
- Are not “rule authorized” and must be permitted through  
the State Waste Discharge Permit Program.  
(Ch 173-216 WAC).
- May only inject into “Naturally Non-Potable Ground  
Water.



## Ch 173-218 WAC, Rule Development for Geologic Sequestration of Carbon Dioxide

- Injected Carbon Dioxide held in “Geologic Containment System”.
- Caprock must provide an effective barrier to prevent migration of carbon dioxide or non-potable water into shallower aquifers.
- Must include a program to identify leakage to the atmosphere, surface water or ground water.
- Wells and facilities must be constructed to withstand expected conditions and reactive fluids.

## Ch 173-218 WAC, Rule Development for Geologic Sequestration of Carbon Dioxide

- Pilot Studies for potential Geologic Sequestration projects are encouraged to collect site characterization, risk assessment and feasibility information.
- Pilot Studies may be permitted if:
  - Limited time duration (no more than 5 years).
  - Public Health and Environment are protected.
  - Intended to collect information, not full scale sequestration.

## Ch 173-218 WAC, Rule Development for Geologic Sequestration of Carbon Dioxide

- Carbon Sequestration Projects must have Closure and Post-Closure plans and include a financial assurance account to cover costs.
- Mitigation plans are required that identify trigger thresholds and corrective actions to be taken if the containment system is breached, if water quality is degraded or if carbon dioxide is released into the atmosphere.

## Geologic Sequestration in Washington Potential Issues

- Storage Rights:
  - Not defined or regulated.
- Liability:
  - Currently liability rests with operator.
  - Industry desire for some limits.

## Information on Rule Revision Ch 173-218 WAC, Geologic Sequestration

- Rules to be filed for adoption in January 2008.
- Background Information and Draft Rules can be viewed at: [http://www.ecy.wa.gov/laws-rules/activity/wac173407\\_218.html](http://www.ecy.wa.gov/laws-rules/activity/wac173407_218.html)
- All comments submitted by mid-December will be considered for the Draft.
- Additional comment period in formal process but limited changes are allowed.